NETGEAR

FS752TP Smart Switch

Hardware Installation Guide

350 East Plumeria Drive
San Jose, CA 95134
USA

May 2011
202-10813-01
v1.0

Technical Support

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Revision History

Publication Part Number	Version	Publish Date	Comments
202-10813-01	v1.0	May 2011	First publication

Contents

1 Introduction

Congratulations on the purchase of your NETGEAR® ProSafe™ FS752TP Smart Switch! Your FS752TP switch is a state-of-the-art, high-performance, IEEE-compliant network solution designed for users who require a large number of ports and want the power of Gigabit connectivity to eliminate bottlenecks, boost performance, and increase productivity. There are 48 twisted-paired ports with four gigabit ports (two are combo ports with SFP GBIC slots) on the front panel of the switch. To simplify installation, the switch is shipped ready for use out of the box.

The *FS752TP Smart Switch Hardware Installation Guide* describes how to install and power on the FS752TP. The information in this manual is intended for readers with intermediate computer and Internet skills.

This chapter serves as an introduction to the FS752TP and provides the following information:

Overview

The NETGEAR FS752TP Smart Switch has:

- 48 Fast Ethernet RJ45 PoE ports with auto sensing, supporting 10/100M speed. Ports 1-4 provide maximum power of 30W and ports 5-48 provide maximum power of 15.4W. The total PoE power budge is 384W.
- 2 Gigabit combo ports with auto sensing, supporting 10/100/1000M speed on RJ45 and 100/1000M on SFP.
- 2 10/100/1000M Gigabit Uplink Ports

Available memory types of the switch are the following:

- 16 bit 64 MB DDR SDRAM memory
- 16 MB Serial flash for Application Code and OS

The switch can store up to two images in FLASH. It can be configured to boot with the image of the user's choice.

Using these Gigabit slots, you can create high-speed connections to a server or network backbone. For example, you can:

- Connect switches to each other with high-speed links
- Link to high-speed servers
- Provide 10/100/1000M copper and 1000M fiber connectivity

The NETGEAR FS752TP Smart Switch also provides the benefit of administrative management with a complete package of features for the observation, configuration, and control of the network. With a Web-based Graphical User Interface (GUI), the switch's many capabilities can be viewed and used in a simple and intuitive manner. The switch's management features include configuration for port and switch information, VLAN for traffic control, port trunking for increased bandwidth, and Class of Service (CoS) for traffic prioritization. These features provide better understanding and control of the network. Initial discovery of the switch on the network requires the Smart Control Center program, a utility that runs on a PC.

The NETGEAR FS752TP Smart Switch is a standard 1U chassis high/17" rack mounted in a wiring closet or equipment room. It is IEEE-compliant and offers low latency for high-speed networking. All ports can automatically negotiate to the highest speed. This capability makes the switch ideal for environments that have a mix of Ethernet, Fast Ethernet, or Gigabit Ethernet devices. In addition, all RJ-45 ports operate in half-duplex or full-duplex mode. The maximum segment length is 328 feet (100 meters) over Category 5 Unshielded Twisted-Pair (UTP) cable.

Features

The following list identifies the key features supported by the FS752TP:

- The 10/100/1000 Base-T ports are auto-sensing using RJ-45 UTP connectors.
- Auto MDI/MDI-X sensing and auto-negotiation is supported on all ports.
- Full-duplex flow control.
- Half-duplex back pressure control.
- Head-of-line blocking prevention .
- MAC aging.
- Static MAC addresses entry and dynamic MAC addresses learning.
- VLANs
  - IEEE 802.1Q up to 128 VLAN entries.
- Protected ports functionality which is similar to Port based VLANs.
- 802.3ad Link Aggregation.
- Setting LAGs manually or dynamically using LACP.
- Auto-Voice VLAN.
- Port mirroring (many to one), including the ability to Mirror RX, TX, or both.
- CoS and QoS.
- Broadcast, Multicast, and Unknown Unicast storm protection by specifying the threshold as a percentage of port-speed.
- Spanning Tree (IEEE 802.1d).
- IEEE 802.1s MSTP and IEEE 802.1w, Rapid Reconfiguration Spanning Tree.
- L4 QoS ACL.
- Policy-based DiffServ.
- NETGEAR Green product series power-saving features:
  - Per port automatic power down when the port link is down.

Package Contents

Figure 1 shows the package contents of the FS752TP Smart Switch.

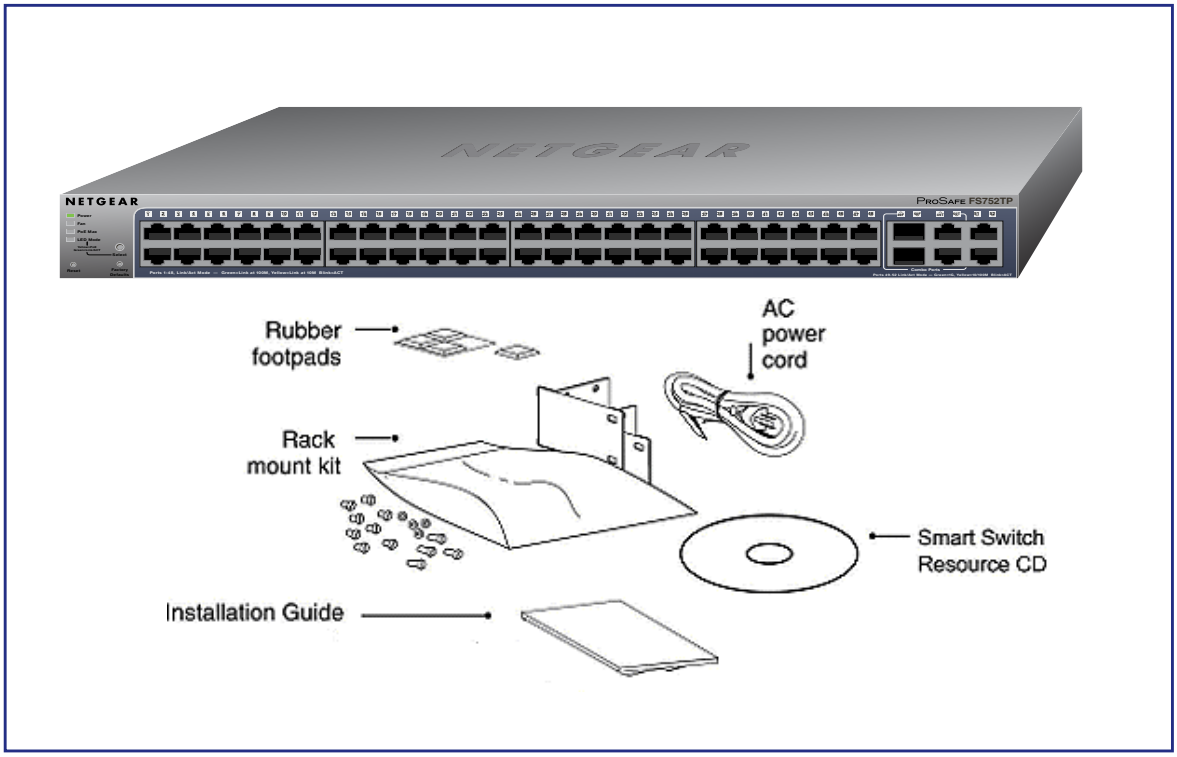


Figure 1. Package Contents

Verify that the package contains the following:

- FS752TP Smart Switch
- Rubber footpads for tabletop installation
- Rackmounting kits
- Power cord
- Installation guide
- Smart Switch Resource CD with NETGEAR Smart Control Center and User's Manual

If any item is missing or damaged, contact the place of purchase immediately.

2. Physical Description

This chapter describes the FS752TP Smart Switch hardware features. Topics include:

- *FS752TP Front-Panel and Back-Panel Configuration*
- *LED Designations*
- *Device Hardware Interfaces*

FS752TP Front-Panel and Back-Panel Configuration

The FS752TP has:

- 48 10/100 Mbps copper ports
- Ports 49, 50 with RJ45 connectors that support 10/100/1000 Mbps
- Ports 51 and 52 with RJ45 connectors that support 10/100/1000 Mbps only
- Two SFP ports (Combo ports). The SFP combo ports are shared with copper ports 49 and 50. If the SFP combo ports are in use, copper ports 49 and 50 are inactive.

Each port is capable of sensing the line speed and negotiating the duplex mode with the link partner automatically.

Figure 2 illustrates the front panel of the NETGEAR FS752TP.

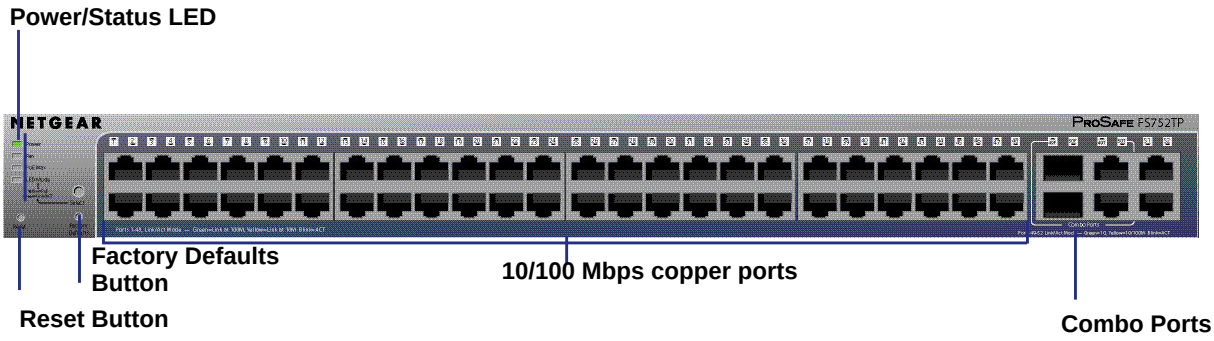


Figure 2. Front Panel

The front panel contains the following:

- 48 RJ-45 connectors for 10/100 Mbps autosensing Fast Ethernet switching ports
- Two SFP combo Gigabit Ethernet switching ports
- Two dedicated 1000 Mbps Gigabit Ethernet switching ports
- Reset button to restart the device
- Recessed Factory Defaults button to restore the device back to the factory defaults
- Link, Speed, and Activity LEDs for each port
- Power and Status LED
- Fan
- PoE Max LED which is activated when less than 7W of the available PoE power remain unused.
- LED Mode

Figure 3 illustrates the NETGEAR FS752TP back panel.

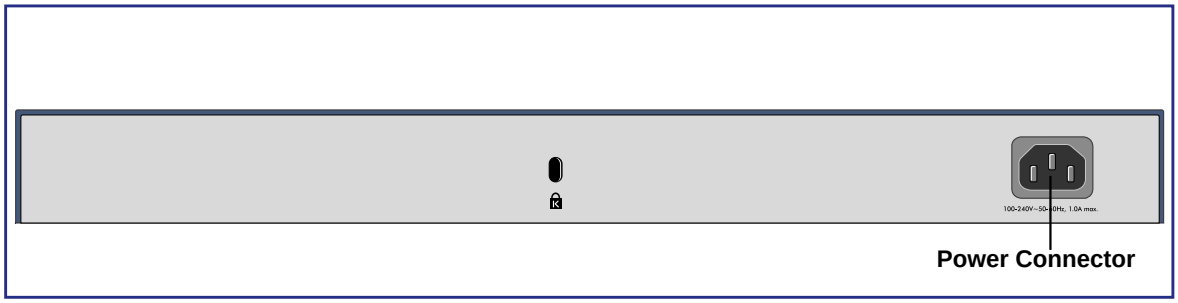


Figure 3. Back Panel

The back panel contains a power connector.

LED Designations

The front panel supports a number of LEDs that indicate basic status of the unit and individual ports, and are intended to assist in local fault diagnosis.

System LEDs

The System LEDs are located on the left side of the front panel.

Power LEDs

The Power LED is a bi-color LED that serves as an indicator of power and diagnostic statues. The following indications are given by the LED state.

LED	Designation
Power	• **Solid Green**—Device is powered on, run-time code is up and running. • **Solid Yellow**—System is in the bootup stage. • **Off**—Power is not supplied to the device.

Fan LED

The Fan LED is a yellow LED that indicates the fan status. The following indications are given by the LED state.

LED	Designation
Fan	• **Solid Yellow**—Fan has failed. • **Off**—Fan operating normally.

Max PoE LED

The following indications are given by the LED state.

LED	Designation
Max PoE	• **Solid Yellow**—Indicates less than 7 watts of power is available. • **Blinking Yellow**—Indicates the PoE MAX LED was active in the previous two minutes. • **Off**—There is at least 7 watts of PoE power available for another device.

LED Mode LED

The following indications are given by the LED state.

LED	Designation
LED Mode	• **Solid Green**—Indicates port LEDs are in Ethernet mode. • **Solid Yellow**—Indicates port LEDs are in PoE mode.

Port LEDs

10/100M Fast Ethernet Ports

Each 10/100M port has a single bicolor LED. There are two operating modes, Ethernet mode and PoE mode for the port LED. The mode can be selected by the LED mode switch provided near the system LEDs. The possible states and associated meaning are shown in the tables below.

Table 1. Ethernet Mode

State	Designation
Solid Green	A valid 100 Mbps link is established on the port.
Blinking Green	Packets transmission or reception occurring on the port and the link is 100 Mbps.
Solid Yellow	A valid 10 Mbps link is established on the port.
Blinking Yellow	Packets transmission or reception occurring on the port and the link is 10 Mbps.
Off	No link is established on the port.

Table 2. PoE Mode

State	Designation
Solid Green	The PoE powered device (PD) is connected and the port is supplying power successfully.
Solid Yellow	Indicates one of the following failures resulted in stopping power to that port: • Short circuit on PoE power circuit. • PoE power demand exceeds power available. • PoE current exceeds PD's classification. • Out of proper voltage band (44~57 VDC for 802.3af, 50~57 VDC for at).
Off	No PoE powered device connected.

10/100/1000M Gigabit Ports

Each 10/100/1000M copper port has one LED per port. The possible states and associated meaning are shown in the table below.

Table 3. Link/ACT/Speed LED

State	Designation
Solid Green	A valid 1000 Mbps link is established on the port.
Blinking Green	Packets transmission or reception occurring on the port at 1000 Mbps.
Solid Yellow	A valid 10/100 Mbps link is established on the port.
Blinking Yellow	Packets transmission or reception occurring on the port at 10/100 Mbps.
Off	No link is established on the port.

If port 49, 50 port media changes to SFP, the copper port LED will change to the OFF status.

100/1000M SFP Ports

Each SFP port has one LED. The possible states and associated meaning are shown in the table below.

Table 4. SFP LED

State	Designation
Solid Green	A valid 1000 Mbps link is established on the SFP port.
Blinking Green	Packets transmission or reception occurring on the port and the link is 1000 Mbps.
Solid Yellow	A valid 100 Mbps link is established on the SFP port.
Blinking Yellow	Packets transmission or reception occurring on the port and the link is 100 Mbps.
Off	No link is established on the port.

If port 49, 50 port media changes to Copper, the SFP port LED will change to the OFF status.

Device Hardware Interfaces

RJ-45 Ports

RJ-45 ports are autosensing ports. When inserting a cable into an RJ-45 port, the switch automatically ascertains the maximum speed (10, 100, or 1000 Mbps) and duplex mode (half-duplex or full-duplex) of the attached device. All ports support only unshielded twisted-pair (UTP) cable terminated with an 8-pin RJ-45 plug.

To simplify the procedure for attaching devices, all RJ-45 ports support Auto Uplink. This technology allows attaching devices to the RJ-45 ports with either straight-through or crossover cables. When inserting a cable into the switch's RJ-45 port, the switch automatically:

- Senses whether the cable is a straight-through or crossover cable.
- Determines whether the link to the attached device requires a "normal" connection (such as when connecting the port to a PC) or an "uplink" connection (such as when connecting the port to a router, switch, or hub).
- Configures the RJ-45 port to enable communications with the attached device, without requiring user intervention. In this way, the Auto Uplink technology compensates for setting uplink connections, while eliminating concern about whether to use crossover or straight-through cables when attaching devices.

SFP Ports

To enable you to have fiber connections on your network, there are two SFP ports that accommodate standard SFP transceiver modules, which are sold separately. Two SFP ports are combo ports and share connections with two RJ-45 ports, ports 49 and 50.

Only one type of connection of a combo port can be active at any time. For example, if SFP port 49 is in use, copper port 49 is not active.

Note: If both connectors of a combo port are connected to other devices, only the fiber port is active.

Reset Button

The Smart Switch has a Reset button on the front panel to allow you to manually reboot the switch. This action is equivalent to powering the unit off and back on. The software detects the operation of the button and performs a full hardware reset of the CPU and switch subsystems. The last saved configuration is loaded into the switch as it resets. To operate the Reset button, insert a device such as a paper clip into the opening to press the recessed button. The front-panel LEDs should extinguish and light again as the switch performs its Power On Self Test (POST).

Factory Defaults Button

The Smart Switch has a Factory Defaults button on the front panel so that you can remove the current configuration and return the device to its factory settings. To operate the Factory Defaults button, insert a device such as a paper clip into the opening to press the recessed button for over two seconds. The switch restores all settings to the factory default configuration and then resets. Settings including the password, VLAN settings, and port configurations are removed.

Applications

3

Your FS752TP Smart Switch is designed to provide flexibility in configuring your network connections. It can be used as your only network traffic-distribution device or with 10 Mbps, 100 Mbps, and 1000 Mbps hubs and switches.

Desktop Switching

The FS752TP can be used as a desktop switch to build a small network that enables users to have 100 Mbps access to a file server. With full-duplex enabled, the switch uplink port (port 49 to 52) connected to the server can provide 2000 Mbps throughput.

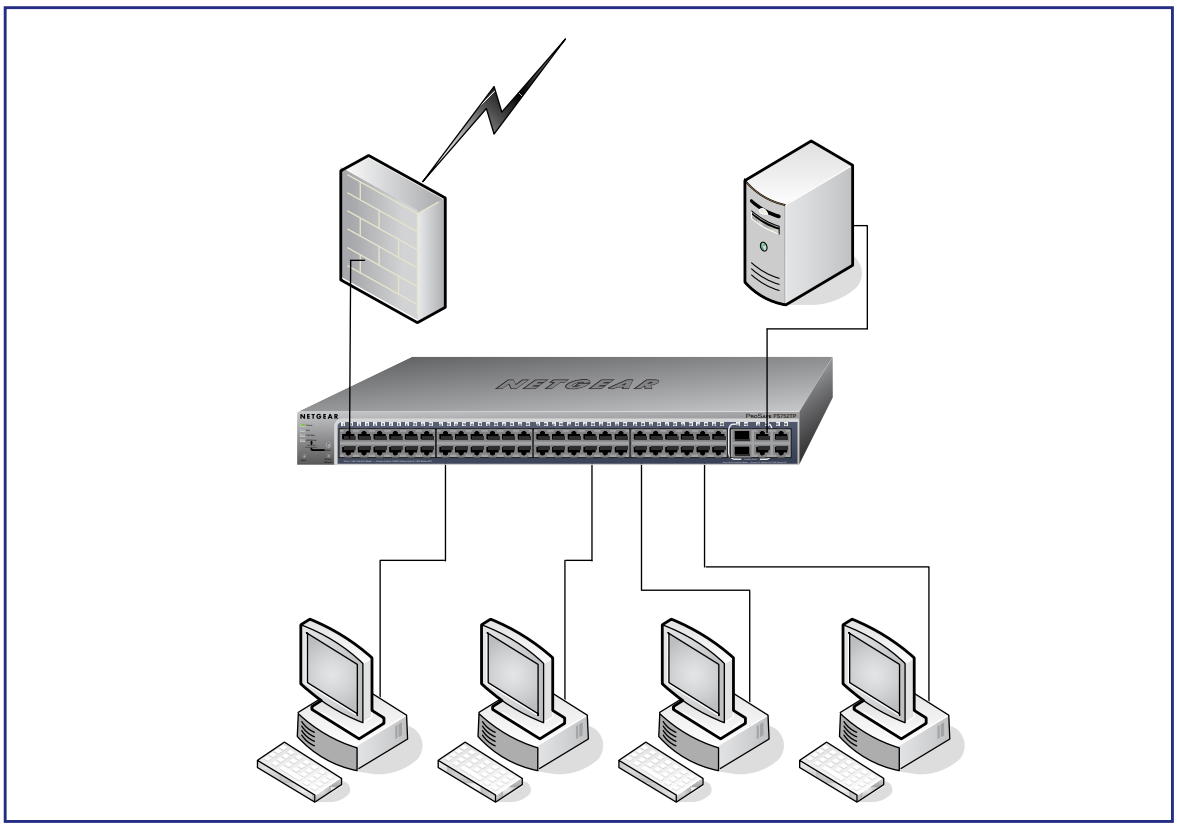


Figure 4. Desktop Switching

4 Installation

This chapter describes the installation procedures for your FS752TP Smart Switch. Switch installation involves the following steps:

Step 1: Preparing the Site

Before you install the switch, ensure the operating environment meets the site requirements in the following table.

Characteristics	Requirements
Mounting	• **Desktop installations** - Provide a flat table or shelf surface. • **Rackmount installations** - Use a 19-inch (48.3-centimeter) EIA standard equipment rack that is grounded and physically secure. The rackmount kit supplied with the switch is also required.
Access	Locate the switch in a position that allows access to the front-panel RJ-45 ports, view the front-panel LEDs, and access the power connector.
Power source	Provide a power connection cord. Power specifications for the switch are shown in **Appendix A**. Ensure the AC outlet is not controlled by a wall switch, which can accidentally turn off power to the outlet and the switch.
Environmental	• **Temperature** - Install the switch in a dry area, with ambient temperature between 0 and 50ºC (32ºF and 122ºF). Keep the switch away from heat sources such as direct sunlight, warm air exhausts, hot-air vents, and heaters. • **Operating humidity** - The installation location should have a maximum relative humidity of 90%, non-condensing. • **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 there is adequate airflow in the room or wiring closet where the switch is installed. • **Operating conditions** - Keep the switch at least 6 ft. (1.83 meters) away from nearest source of electromagnetic noise, such as a photocopy machine.

Rackmount Considerations

If the switch will be rack mounted, be aware of the considerations in the following table.

Characteristics	Requirements
Elevated Operating Ambient	If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.
Reduced Air Flow	Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
Mechanical Loading	Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

Characteristics	Requirements
Circuit Overloading	Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
Reliable Earthing	Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

Step 2: Installing the Switch

The FS752TP can be used on a flat surface or mounted in a standard network equipment 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. They also provide ventilation space between stacked switches.

Installing the Switch in a Rack

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

1. Attach the supplied mounting brackets to the side of the switch.
2. Insert the screws provided in the rackmount kit through each bracket and into the bracket mounting holes in the switch.
3. Tighten the screws with a #1 Phillips screwdriver to secure each bracket.
4. Align the mounting holes in the brackets with the holes in the rack, and insert two pan-head screws with nylon washers through each bracket and into the rack.
5. Tighten the screws with a #2 Phillips screwdriver to secure mounting brackets to the rack.

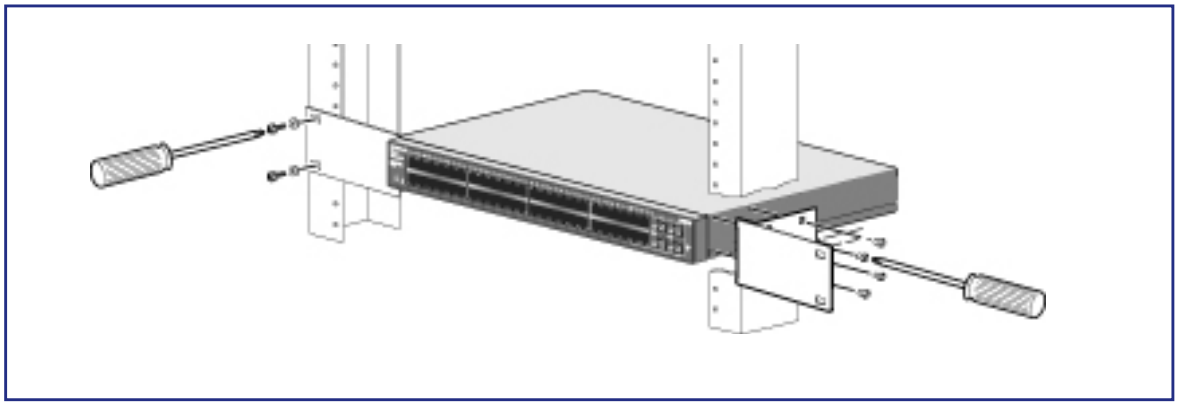


Figure 5. Rack Mount

Step 3: Checking the Installation

Before applying power to the switch, perform the following steps:

- Inspect the equipment thoroughly.
- Verify that all cables are installed correctly.
- Check cable routing to make sure cables are not damaged or creating a safety hazard.
- Ensure all equipment is mounted properly and securely.

Step 4: Connecting Devices to the Switch

The following procedure describes how to connect PCs to the switch's RJ-45 ports. The FS752TP contains Auto Uplink technology, which allows the attaching of devices using either straight-through or crossover cables.

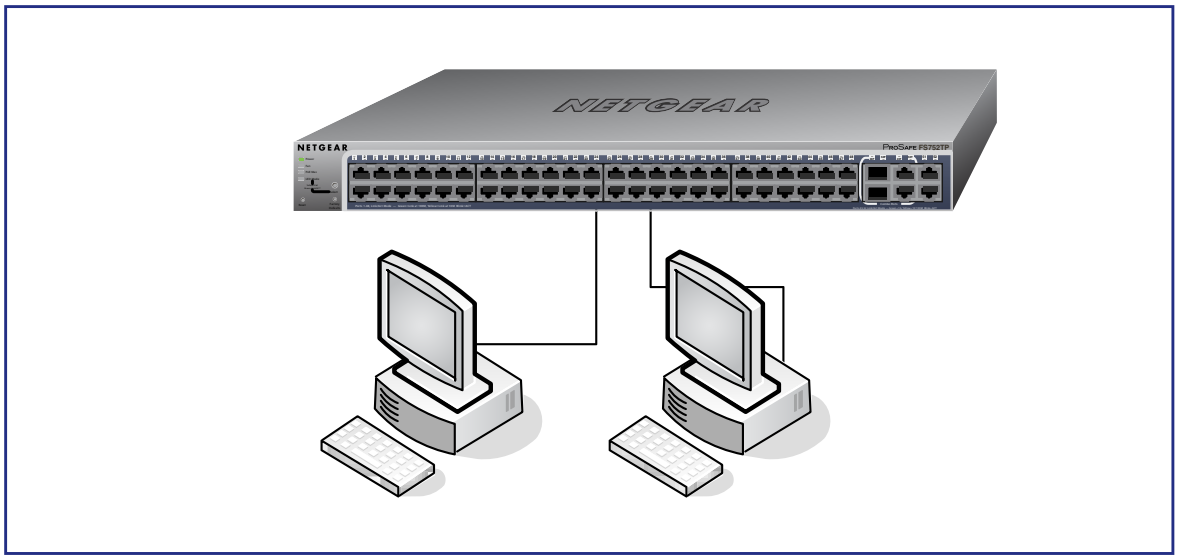


Figure 6. Connecting Devices to the Switch

Connect each PC to an RJ-45 network port on the Switch front panel (**Figure 6**). Use Category 5 (Cat5) Unshielded Twisted-Pair (UTP) cable terminated with an RJ-45 connector to make these connections.

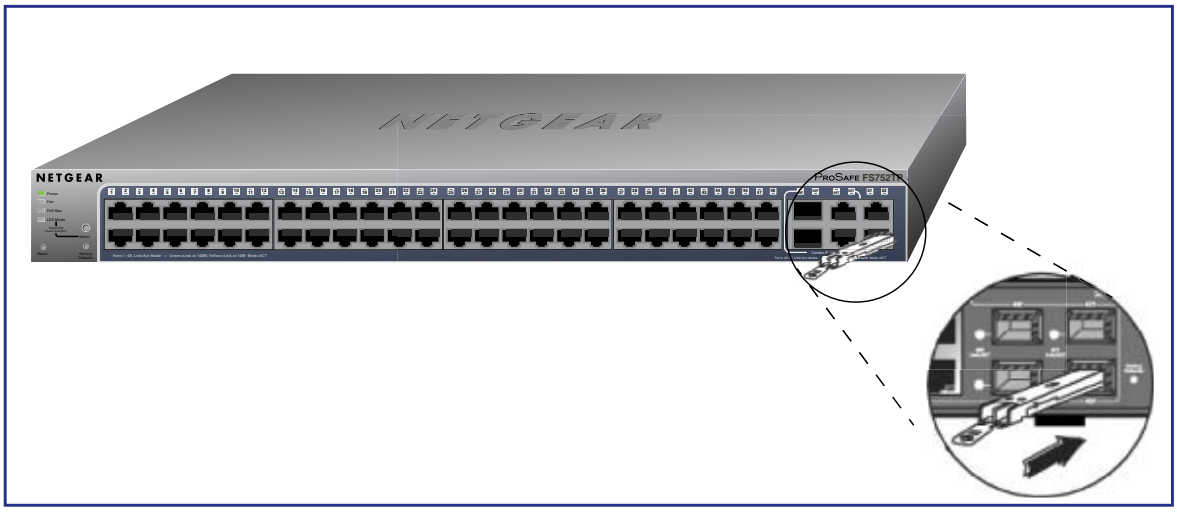
Note: Ethernet specifications limit the cable length between the switch and the attached device to 100m (328 ft.).

Step 5: Installing an SFP Transceiver Module

The following procedure describes how to install an optional SFP transceiver module into one of the SFP ports of the switch.

Note: Contact your NETGEAR sales office to buy these modules. If you do not want to install an SFP module, skip this procedure.

To install an SFP transceiver, insert the transceiver into the SFP port. Press firmly on the flange of the module to seat it securely into the connector. You can install up to two additional Gigabit Ethernet modules using this procedure.



Step 6: Applying AC Power

The FS752TP Smart Switch does not have an ON/OFF switch. Power must be controlled by the power cord connection.

Before connecting the power cord, select an AC outlet that is not controlled by a wall switch, which can turn off power to the switch. After selecting an appropriate outlet, use the following procedure to apply AC power:

1. Connect the end of the power connection cable to the power receptacle on the back of the switch.
2. Connect the AC power connection cable into a power source such as a wall socket or power strip.

When applying power, the Power LED on the switch's front panel illuminates.

If the Power LED does not go on, check that the power cable is plugged in correctly and that the power source is good. If this does not resolve the problem, refer to **Appendix A**.

Step 7: Managing the Switch using a Web Browser or the PC Utility

The FS752TP contains software for viewing, changing, and monitoring the way it works. This management software is not required for the switch to work. The ports can be used without using the management software. However, the management software enables the setup of VLAN and trunking features and also improves the efficiency of the switch, which results in the improvement of its overall performance as well as the performance of the network.

After powering up the switch for the first time, the Smart Switch can be configured using a Web browser or a program called Smart Control Center. For more information about managing the switch, see the *FS752TP Software Administration Manual* on the Smart Switch Resource CD.

Note: The switch is configured with a default IP address of 192.168.0.239 and a subnet mask of 255.255.255.0.

Troubleshooting

A

This chapter provides information about troubleshooting the NETGEAR Smart Switch. Topics include the following:

- *Troubleshooting Chart*
- *Additional Troubleshooting Suggestions*

Troubleshooting Chart

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

Symptom	Cause	Solution
Power LED is off.	No power is received.	Check the power cord connections and the connected device. Ensure 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. Ensure all cables used are correct and comply with Ethernet specifications. Check for a defective PC adapter card, cable, or port by testing them in an alternate environment where all products are functioning.
File transfer is slow or performance degradation is a problem.	Half-duplex or full-duplex setting on the switch and the connected device are not the same.	Make sure the attached device is set to auto-negotiate.
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. Ensure 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. After you connect to the switch management interface, you can configure the Spanning Tree Protocol (STP) to prevent network loops.

Additional Troubleshooting Suggestions

If the suggestions in Troubleshooting Chart do not resolve the problem, refer to the troubleshooting suggestions in this section.

Network Adapter Cards

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

Configuration

If problems occur after altering the network configuration, restore the original connections and determine the problem by implementing the new changes, one step at a time. Ensure that cable distances, repeater limits, and other physical aspects of the installation do not exceed the Ethernet limitations.

Switch Integrity

If required, verify the integrity of the switch by resetting the switch. To reset the switch, remove the AC power from the switch and then reapply AC power. If the problem continues, contact NETGEAR technical support. In North America, call 1-888-NETGEAR. If you are outside of North America, please refer to the support information card included with your product.

Auto-Negotiation

The RJ-45 ports negotiate the correct duplex mode, speed, and flow control if the device at the other end of the link supports auto negotiation. If the device does not support auto negotiation, the switch determines only the speed correctly, and the duplex mode defaults to half-duplex.

Technical Specifications

B

Network Protocol and Standards Compatibility

IEEE 802.3 10BASE-T

IEEE 802.3u 100BASE-TX

IEEE 802.3ab 1000BASE-T

IEEE 802.3z 1000BASE-X

IEEE 802.3x full-duplex flow control

Management

Windows 2000 + XP, Vista; Windows 7, Microsoft Explorer 7.0 or above

IEEE 802.1Q VLAN

IEEE 802.3ad Link Aggregation

IEEE 802.1D Spanning Tree Protocol

IEEE 802.1w Rapid Spanning Tree Protocol

IEEE 802.1X Port Security

IEEE 802.1AB LLDP

IEEE 802.3s MSTP

SNMP v1, v2c, and v3

HTTP and HTTPS

Port Mirroring (RX, TX, and Both)

IGMP Snooping v1/v2/v3

IEEE 802.1p Class of Service (CoS)

SNTP (Simple Network Time Protocol) 3 servers. Disabled by default.

Jumbo Frame Support (9K)

Interface

48 Fast Ethernet RJ-45 PoE ports with auto sensing, supporting 10/100M speed. Ports 1-4 provide maximum power of 30W and ports 5-48 provide maximum power of 15.4W. The total PoE power budge is 384W.

Two Gigabit combo ports with auto sensing, supporting 10/100/1000M speed on RJ45 and 100/1000M on SFP

Two dedicated Gigabit Uplink Ports

LEDs

Per RJ-45 port: Speed/Link/Activity

Per SFP port: Speed/Link/Activity

Per device: Power

Performance Specifications

Forwarding modes: Store-and-forward

Bandwidth: 17.6 Gbps

Address database size: 8K media access control (MAC) addresses per system

Mean Time Between Failure (MTBF): 230,731 hours at 25°C

Power Supply

100 VAC–240 VAC/50 Hz–60 Hz, 8A Max, universal input

PoE Output

PoE total output power is 384 Watts

Physical Specifications

Dimensions (H x W x D): 1.7 x 17.3 x 12.4/43 x 440 x 316 (in/mm)

Weight: 4.87 kg (10.74 lbs)

Environmental Specifications

Operating temperature: 0°C to 50°C (32°F to 122°F)

Operating humidity: 10% to 90% maximum relative humidity, noncondensing

Storage temperature: –20°C to 70°C (–4°F to 158°F)

Storage humidity: 5% to 95% maximum relative humidity, noncondensing

Electromagnetic Emissions

CE Class A, including EN 55022 (CISPR 22), EN 55024, and EN 61000-1

FCC Part 15 Class A

VCCI Class A

C-Tick

KC

CCC

Safety

UL/cUL

CE EN 60950-1

CCC

CB

Notification of Compliance

C

NETGEAR Wired Products

Regulatory Compliance Information

This section includes user requirements for operating this product in accordance with National laws for usage of radio spectrum and operation of radio devices. Failure of the end-user to comply with the applicable requirements may result in unlawful operation and adverse action against the end-user by the applicable National regulatory authority.

This product's firmware limits operation to only the channels allowed in a particular Region or Country. Therefore, all options described in this user's guide may not be available in your version of the product.

FCC Requirements for Operation in the United States

FCC Information to User

This product does not contain any user serviceable components and is to be used with approved antennas only. Any product changes or modifications will invalidate all applicable regulatory certifications and approvals

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Guidelines for Human Exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Declaration Of Conformity

We, NETGEAR, Inc., 350 East Plumeria Drive, San Jose, CA 95134, declare under our sole responsibility that the FS752TP Smart Switch complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions:

- This device may not cause harmful interference, and

- This device must accept any interference received, including interference that may cause undesired operation.

FCC Radio Frequency Interference Warnings & Instructions

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment 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 methods:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an electrical outlet on a circuit different from that which the radio receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Modifications made to the product, unless expressly approved by NETGEAR, Inc., could void the user's right to operate the equipment.

Canadian Department of Communications Radio Interference Regulations

This digital apparatus, FS752TP Smart Switch, does not exceed the Class B limits for radio-noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

European Union

The FS752TP Smart Switch complies with essential requirements of EU EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC as supported by applying the following test methods and standards:

- EN55022: 2006 / A1: 2007
- EN55024: 1998 / A1: 2001 / A2 : 2003
- EN60950-1: 2005 2nd Edition
- EN 61000-3-2:2006
- EN 61000-3-3:1995 w/A1: 2001+A2: 2005

GPL License Agreement

GPL may be included in this product; to view the GPL license agreement go to *ftp://downloads.netgear.com/files/GPLnotice.pdf.*

For GNU General Public License (GPL) related information, please visit *http://support.netgear.com/app/answers/detail/a_id/2649 .*

Index

V

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