



USER GUIDE



**EZ Switch™ 10/100/1000
8-Port Gigabit Ethernet Switch**

SMC8508T



EZ Switch™ 10/100/1000 User Guide

From SMC's EZ line of high-quality workgroup LAN solutions

SMC[®]

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FCC - CLASS A

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 instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CE MARK DECLARATION OF CONFORMANCE FOR EMI AND SAFETY (EEC)

This is a class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



Declaration of Conformity (DoC) can be obtained from www.smc.com -> support -> download

ABOUT THIS GUIDE

PURPOSE

This guide details the hardware features of the switch, including the physical and performance-related characteristics, and how to install the switch.

AUDIENCE

The guide is intended for use by network administrators who are responsible for installing and setting up network equipment; consequently, it assumes a basic working knowledge of LANs (Local Area Networks).

CONVENTIONS

The following conventions are used throughout this guide to show information:



NOTE: Emphasizes important information or calls your attention to related features or instructions.



CAUTION: Alerts you to a potential hazard that could cause loss of data, or damage the system or equipment.



WARNING: Alerts you to a potential hazard that could cause personal injury.

REVISION HISTORY

This section summarizes the changes in each revision of this guide.

SEPTEMBER 2014 REVISION

This is the first revision of this guide.

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OVERVIEW

The SMC EZ Switch 10/100/1000 SMC8508T is an 8-port unmanaged 10/100/1000 Mbps Gigabit Ethernet switch with a metal-case chassis that brings the speed of copper to the desktop. The switch includes a new green-saving 802.3az feature that consumes less power than non-green Ethernet switches, without reducing network performance. Powered by an external AC-DC adapter, the switch uses fan-less cooling and is completely quiet in operation.

The SMC8508T switch forwards data at up to 10 times the speed of 100Mbps networks, which reduces transfer times of large data files and boosts bandwidth-intensive applications, thereby significantly enhancing overall network performance. Jumbo frame support enables more efficient data transfers with data packets up to 9K Bytes in size.

The switch is easy to install, either on a desktop or in a rack, and is an ideal solution for network migration with its 10/100/1000 Mbps Auto MDI/MDIX ports.

EEE SUPPORT

The switch supports green 802.3az Energy-Efficient Ethernet to reduce power consumption and energy costs.

FAN-LESS DESIGN

The switch utilizes a fan-less design for a noise-free operation that will not disturb anyone nearby.

OTHER FEATURES

- ◆ Complies with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab standards.
- ◆ 8 10/100/1000 Mbps auto-sensing RJ-45 ports supporting Auto-MDI/MDIX.
- ◆ All ports support full/half-duplex transfer mode for 10/100 Mbps and full-duplex transfer mode for 1000 Mbps.

- ◆ Supports IEEE 802.3x flow control for full-duplex mode and backpressure for half-duplex transfer mode.
- ◆ Non-blocking switching architecture that forwards and filters packets at full wire-speed for maximum throughput.
- ◆ Supports MAC address auto-learning and auto-aging.
- ◆ LED indicators for displaying power, link, speed and activity.
- ◆ Desktop and rack-mountable steel case.
- ◆ External AC-DC power adapter.

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HARDWARE DESCRIPTION

This chapter describes the front panel, rear panel, and LED indicators of the switch.

FRONT PANEL

The front panel of SMC8508T consists of switch LED indicators and 8 10/100/1000 Mbps RJ-45 ports.

Figure 1: SMC8508T Switch Front Panel



PORT AND SYSTEM STATUS LEDs

The switch includes a display panel for key system and port indications that simplify installation and network troubleshooting. The LEDs, which are located on the front panel, are described in the following table.

Table 1: System and Port Status LEDs

| LED | Condition | Status |
|----------|-------------------|---|
| Power | On Green | The external power supply is operating normally. |
| | Off | The switch has no power connected. |
| Link/Act | On Green | Port has established a valid 10/100/1000 Mbps connection. |
| | On Blinking Green | Blinking indicates activity. |
| | Off | There is no valid link on the port. |

Table 1: System and Port Status LEDs (Continued)

| LED | Condition | Status |
|-------|-----------|---|
| 1000M | On Green | Port has established a valid 1000 Mbps connection. Blinking indicates activity. |
| | Off | There is no valid link on the port. |

RJ-45 PORTS

The switch contains 8 1000BASE-T RJ-45 ports. All ports support automatic MDI/MDI-X operation, so you can use straight-through cables for all network connections to PCs or servers, or to other switches or hubs.

Each of these ports support auto-negotiation, so the optimum transmission mode (half or full duplex), and data rate (10, 100, or 1000 Mbps) is selected automatically.

Each port also supports IEEE 802.3x auto-negotiation of flow control, so the switch can automatically prevent port buffers from becoming saturated.

REAR PANEL

The rear panel of the switch features a DC power socket.

Figure 2: SMC8508T Switch Rear Panel

POWER CONNECTOR

The switch must be powered with its supplied AC-DC power adapter. Failure to do so results in voiding of any warranty supplied with the product. The power adapter automatically adjusts to any voltage between 100~240 volts at 50 or 60 Hz, and supplies 12 V/1 A DC power to the unit.

3

INSTALLING THE SWITCH

Before installing the switch, verify that you have all the items listed under "Package Contents." If any of the items are missing or damaged, contact your local SMC distributor. Also be sure you have all the necessary tools and cabling before installing the switch.

PACKAGE CONTENTS

The following contents should be found in your package:

- ◆ One SMC8508T Switch
- ◆ One AC-DC power adapter
- ◆ This User Guide
- ◆ Rackmount Kit
- ◆ Four Rubber Foot Pads



NOTE: Make sure that the package contains the above items. If any of the listed items are damaged or missing, please contact your distributor.



CAUTION: Do not plug a phone jack connector in the RJ-45 port. This may damage this device.

Les raccordeurs ne sont pas utilisés pour le système téléphonique!

PRECAUTIONS

To ensure a long-term and stable performance of the switch, pay attention to the following before installation.

SAFETY REQUIREMENTS

- ◆ Before cleaning the switch, disconnect the power supply. Do not clean the switch using a wet cloth, and never use any other liquid for cleaning.
- ◆ Take waterproof measures during storage, transportation and operation of the equipment.
- ◆ Use only the AC-DC power adapter and power cord provided with the switch.
- ◆ Make sure the voltage of the power supply meets the requirement of the input voltage of the switch.
- ◆ Do not push any objects into the openings of the switch.
- ◆ Ensure the vent holes are well ventilated and unblocked.
- ◆ Do not open or remove the cover of the switch.

LOCATION REQUIREMENTS

When you choose a location for the switch, follow these guidelines:

- ◆ Install the switch on a flat and stable surface that can support the entire weight of the switch with all fittings.
- ◆ Locate the switch far from strong electromagnetic field generators (such as motors), vibration, dust, and direct exposure to sunlight.
- ◆ To ensure adequate air flow around the switch. At least 10 cm (4 inches) of space at the front and rear of the switch is needed for ventilation.
- ◆ Make sure that the switch will be accessible and that the cables can be easily connected.

- ◆ Position the switch away from water and moisture sources, be sure to provide an acceptable temperature and humidity operating environment.

INSTALLATION

This switch can be either installed in a standard 19-inch mountable rack or located on a desktop.



CAUTION: Please unplug the power cord before installing or removing the switch.

DESKTOP INSTALLATION

To install the switch on the desktop, follow these steps:

1. Set the switch on a flat surface strong enough to support the entire weight of the switch with all fittings.
2. Remove the adhesive backing papers from the rubber feet.
3. Turn the switch over and attach the supplied rubber feet to the recessed areas on the bottom at each corner of the switch.

Figure 3: Attaching Rubber Feet



4. Upright the switch and set in the desired location, making sure there is enough ventilation space on all sides for proper air flow
5. Connect the switch to a power source with the provided power cord. See [“Powering On” on page 19](#).



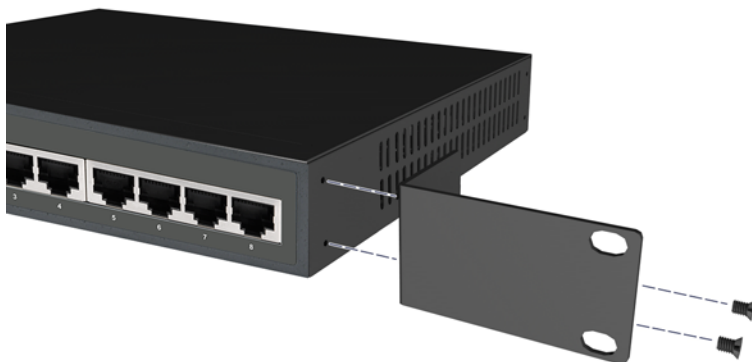
CAUTION: Avoid placing anything heavy on the switch.

RACK INSTALLATION

To install the switch in an EIA standard-sized, 19-inch rack, follow the instructions described below:

1. Secure the supplied rack-mounting brackets to each side of the switch with supplied screws, as illustrated in the following figure.

Figure 4: Attaching Brackets



2. Use suitable screws (not provided) to secure the brackets to the rack, as illustrated in the following figure.

Figure 5: Mounting the Switch



3. Connect the switch to a power source with the provided power cord. See [“Powering On” on page 19](#).

POWERING ON

The SMC8508T switch is powered by connecting its AC-DC power adapter to an AC power outlet. Before plugging in the AC-DC adapter, verify that the AC power outlet can provide 100 to 240 VAC, 50-60 Hz.

To connect the switch to a power source:

1. Plug the AC-DC power adapter's DC jack into the socket on the switch's rear panel, and then plug the adapter into an appropriate AC electrical outlet.

Figure 6: AC-DC Power Adapter and DC Power Socket



2. Check the LED indicators on the switch front panel as the unit is powered on to verify that power is being received. If not, recheck the AC-DC power adapter connections at the AC supply source and back panel power input connector.

CONNECTING NETWORK DEVICES

The switch is designed to be connected to 10, 100, or 1000 Mbps network cards in PCs and servers, as well as to other switches and hubs.

CABLING GUIDELINES

The RJ-45 ports on the switch support automatic MDI/MDI-X pinout configuration, so you can use standard straight-through twisted-pair cables to connect to any other network device (PCs, servers, switches, routers, or hubs).

Each device requires an unshielded twisted-pair (UTP) cable with RJ-45 connectors at both ends. Use Category 5 or better for 100BASE-TX connections, and Category 3 or better for 10BASE-T connections.

CONNECTING TO PCs, SERVERS, HUBS AND SWITCHES

1. Attach one end of a twisted-pair cable segment to the device's RJ-45 connector.
2. Attach the other end of the cable segment to an available port on the switch.

Make sure each twisted pair cable does not exceed 100 meters (328 ft) in length.

3. As each connection is made, the relevant port LED (on the switch) corresponding to each port will turn on green to indicate that the connection is valid.

DIAGNOSING SWITCH INDICATORS

THE POWER LED IS OFF

- ◆ Make sure the AC-DC power adapter is connected to the switch and power source properly.
- ◆ Make sure the power source is ON.

THE LINK/ACT LED IS OFF WHEN A DEVICE IS CONNECTED TO THE CORRESPONDING PORT

- ◆ Make sure that the cable connectors are firmly plugged into the switch and the device.
- ◆ Make sure the connected device is turned on and working properly.
- ◆ The cable must be less than 100 meters long (328 feet).
- ◆ Check the port on the attached device and cable connections for possible defects. Replace the defective cable if necessary.

POWER AND COOLING PROBLEMS

If the power indicator does not turn on when the AC-DC power adapter is plugged in, you may have a problem with the power outlet, or AC-DC power adapter. However, if the unit powers off after running for a while, check for loose power connections, power losses or surges at the power outlet. If you still cannot isolate the problem, the AC-DC power adapter may be defective.

INSTALLATION

Verify that all system components have been properly installed. If one or more components appear to be malfunctioning (such as the AC-DC power adapter or network cabling), test them in an alternate environment where you are sure that all the other components are functioning properly.

B

SPECIFICATIONS

PHYSICAL CHARACTERISTICS

STANDARDS

IEEE 802.3 10BASE-T
IEEE 802.3u 100BASE-TX
IEEE 802.3ab 1000BASE-T

TOPOLOGY

Star

PROTOCOL

CSMA/CD

DATA TRANSFER RATE

Ethernet: 10 Mbps (half/full duplex)
Fast Ethernet: 100 Mbps (half/full duplex)
Gigabit Ethernet: 1000 Mbps (full duplex)

NETWORK MEDIA (CABLE)

10BASE-T: UTP Category 3, 4, 5 cable (maximum 100 m)
EIA/TIA-568 100 STP (maximum 100 m)
100BASE-TX: UTP Category 5, 5e cable (maximum 100 m)
EIA/TIA-568 100 STP (maximum 100 m)
1000BASE-T: UTP Category 5e, 6 cable (maximum 100 m)
EIA/TIA-568 100 STP (maximum 100 m)

NUMBER OF PORTS

8 10/100/1000 Mbps auto-negotiation RJ-45 ports

LED INDICATORS

Power, Link/Act, 1000M

TRANSFER METHOD

Store-and-Forward

MAC ADDRESS LEARNING

Automatically learning, automatically aging

FRAME FILTER RATE

10BASE-T: 14881 pps/port

100BASE-TX: 148810 pps/port

1000BASE-T: 1488100 pps/port

FRAME FORWARD RATE

10BASE-T: 14881 pps/port

100BASE-TX: 148810 pps/port

1000BASE-T: 1488100 pps/port

THROUGHPUT

11.9 Mpps

SWITCHING DATABASE

8K MAC address entries

BUFFER MEMORY

2 M bit/device

POWER ADAPTER

12 V, 1 A

DIMENSIONS

19.7 x 11.6 x 3.7 cm (7.75 x 4.56 x 1.45 in.)

WEIGHT

581 g (1.28 lb)

FEATURES

IEEE 802.3az

Jumbo Frames: 9216 Bytes

TEMPERATURE

Operating: 0 to 50 °C (32 to 122 °F)

Storage: -40 to 70 °C (-40 to 158 °F)

HUMIDITY

Operating: 10% to 90% (non-condensing)

Storage: 5% to 90% (non-condensing)

ELECTROMAGNETIC COMPATIBILITY

CE

FCC

CB

CUL

IMMUNITY

EN55024

IEC61000-4/2/3/4/5/6/8/11

EMISSIONS

FCC Class B, EN55022/EN61000-3-2/3

SAFETY

LVD (EN60950)



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