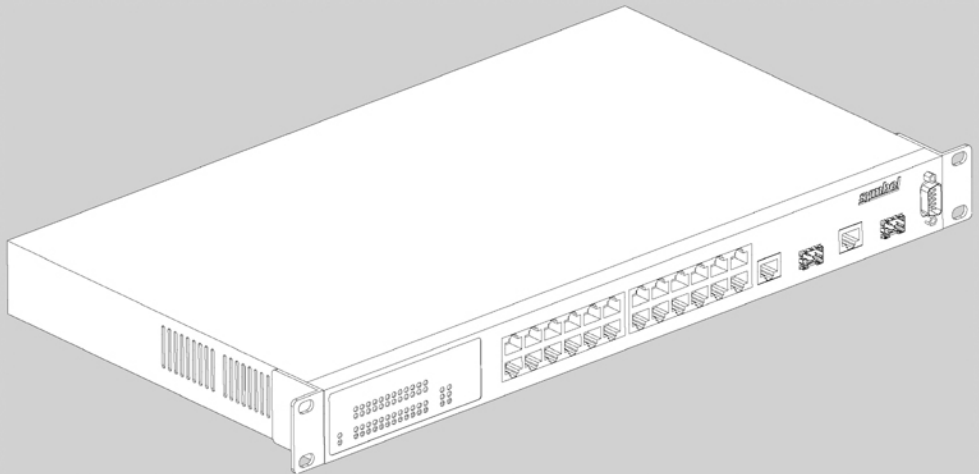# ES3000

Ethernet Switch

Quick Installation Guide

symbol™
The Enterprise Mobility Company™

To the Installer

This guide is intended for the technician responsible for installing the Symbol ES3000 Ethernet Switch. It is also assumed that the technician is familiar with Ethernet LAN-based networking concepts. The Symbol ES3000 Ethernet Switch is available in the following models:

- ES3000-PWR (supporting PoE) - Part Number ES-3000-PWR-10-WW
- ES3000 (non PoE) - Part Number ES-3000-10-WW

The purpose of this document is to provide specifications, features and guidelines for the installer to use during installation. This document does not give site-specific installation instructions. Refer to www.symbol.com for accessing the ES3000 User Guide (for general device configuration information) and the ES3000 Advanced Concept Guide (for advanced configuration information unique to the ES3000).

Document Conventions

Before working on any equipment, be aware of the hazards associated with its installation and use. Also, become familiar with standard practices for preventing accidents.

Indicates tips, hints and special requirements.

Care is required. Disregarding cautions can cause data loss or equipment damage.

Indicates a potentially dangerous condition or procedure that only Symbol-trained personnel should attempt to correct or perform.

Power Cord Set

Only use a power cord approved for its intended country of operation:

U.S.A. and Canada	The cord set must be UL-approved and CSA certified.
	The minimum specification for the flexible cord is:
	No. 18AWG
	Type SV or SJ
	3-conductor
	The cord set must have a rated current capacity of at least 15A.
	The attachment plug must be an earth-grounding type with a NEMA 5-15P (15A, 125V) or NEMA 6-15P (15A, 250V) configuration.
Denmark	The supply plug must comply with section 107-2-D1, standard DK2-1a or DK2-5a.
Switzerland	The supply plug must comply with SEV/ASE 1011.
Others	The power cord shall meet local regulation requirement, if any.

The appliance coupler (the connector to the unit and not the wall plug) must have a configuration for mating with an EN60320/IEC320 appliance inlet.

Warnings

- Only trained and qualified personnel are allowed to install this equipment.
- Remove any jewelry (rings, watches, necklaces, etc.) while installing this equipment.
- Install this equipment in racks with appropriate dimensions and weight allowances. Verify racks are anchored and do not install in a way that can cause the equipment to tip and break. Damage to the device or bodily injury can occur from equipment not appropriately mounted and secured.
- Verify the unit and any device connected to it is properly wired and grounded.
- Attach only approved power cords to the device. Verify connecting power circuits have appropriate overload protection.
- Verify the power connector is accessible at all times during the operation of the equipment.
- Do not work with equipment power circuits in dimly lit spaces.
- Do not install this equipment or work with its power circuits during thunderstorms or weather conditions where power surges can exist.
- Verify adequate ventilation around the device, and that ambient temperatures meet equipment operation specifications.
- For plugable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.

Introduction

The Symbol ES3000 Ethernet Switch provides centralized management of network components across the wired network infrastructure. The Ethernet Switch connects directly to distributed LAN resources (network switch or managed hubs). The rack-mountable design allows easy installation with other network components.

The Ethernet Switch provides several features to assist in an efficient system installation:

- LED Indicators-indicate status for power and the condition of the Ethernet ports.
- Front-Mounted Ethernet Ports-allows easy access to Ethernet cabling.
- Serial Console Port - allows installers and administrators to connect directly to the device's command line interface (CLI).

Specifications

Width	482.6 mm with mounting brackets	
	440 mm without mounting brackets	
Height	44 mm (1RU)	
Depth	256 mm	
Weight	PoE version 8.95 lbs. (with rack brackets)	
	PoE version 8.80 lbs. (without rack brackets)	
	Non PoE version 7.90 lbs. (with rack brackets)	
	Non PoE version 7.75 lbs. (without rack brackets)	
Max Power Consumption	100VAC - 240VAC, 50Hz/60Hz, 3.5A (PoE)	
	100VAC - 240VAC, 50Hz/60Hz, 1.5A (non PoE)	
Operating Temperature	0º to 40ºC	
Operating Humidity	10% to 85% (without condensation)	
MTBF	ES-3000-PWR-10-WW	140,000 hours @ 25 C
	ES-3000-10-WW	355,000 hours @ 25 C
	FIBER-3000-1S-WW	1,250,000 hours @ 25 C

Installation

Preparing for Site Installation

Site preparation for the ES3000 Ethernet Switch installation begins with a site survey and network analysis. Review the site survey reports to determine specific equipment placement, site-specific port capacity and power drops. Ensure the installation area is free of dust and dirt.

Review the following guidelines for site preparation:

- Assign installation responsibility to appropriate personnel.
- Identify where all installed components are located.
- Verify appropriate rack mounting requirements.
- Arrange for a sufficient number of power drops to support the equipment installation.
- Verify adequate ventilation to all installed equipment.
- Identify and prepare Ethernet and TCP/IP and serial port connections.
- Verify cable lengths are within maximum allowable distances for optimal signal transmission.

Package Contents

Inspect the package contents and report any missing or damaged items to the Symbol sales representative. The package (for both the PoE and non-PoE Ethernet Switch models) should contain the following:

- ES3000 Ethernet Switch
- Quick Installation Guide
- Rack-mounting brackets
- Power cord (optional)
- Null-modem serial cable.

Supplying Power

To cable the ES3000 Ethernet Switch to receive power:

1. Connect the supplied AC power cord to the power connector on the rear of the Ethernet Switch.
2. Plug the cord into a standard AC outlet with a voltage range from 100VAC to 240VAC.

   The Ethernet Switch immediately receives power.

Administration of the ES3000 Ethernet Switch

There are three management user interfaces on the switch: menu-driven, CLI, and Web. The menu-driven and CLI interfaces are accessed using a direct serial connection or via Telnet over an Ethernet connection. The Web interface is reached via HTTP over an Ethernet connection to the switch.

	Menu-Driven UI	**CLI**	**Web UI**
Via direct serial connection	yes	yes	no
Via Ethernet connection	yes, via Telnet	yes, via Telnet	yes, via HTML

Managing the switch remotely (via Telnet or Web) requires the switch to have an IP address assigned to it. The administrator must know what that IP address is. By default, the switch is configured to use DHCP to obtain its IP address. If the IP address assigned to the switch from the DHCP server can be determined, use any of the management interfaces. If not, access the switch via direct serial connection to determine the IP address assigned via DHCP. If a DHCP server is not available on the network, access the switch via direct serial connection to assign an IP address to the switch.

To configure or determine the IP address on the switch via direct serial connection:

1. Use Hyperterminal (or other communications utility) to secure a connection to the ES3000 Ethernet Switch.
2. Configure the terminal emulation application and operating system to support the following serial port specifications:

   Terminal Type: VT-100

   Bits per second: 19200

   Data bits: 8

Parity: None

Stop bits: 1

Flow control: None

3.   Hit the return key <Enter> to display the ES3000 logon screen.

4.   Enter a user name of **admin** and password of **symbol**. Press Enter.

5.   Select **System Admin** from the main menu. Press Enter.

6.   Select **Access** from the System Admin menu. Press Enter.

7.   Select **IP Config** from the Access menu. Press Enter.

The **System IP Configuration Menu** displays.

To use the ES3000 Web Management interface to configure the device:

> A network connection is required between the device and the host to use the Web Management interface to configure the device.
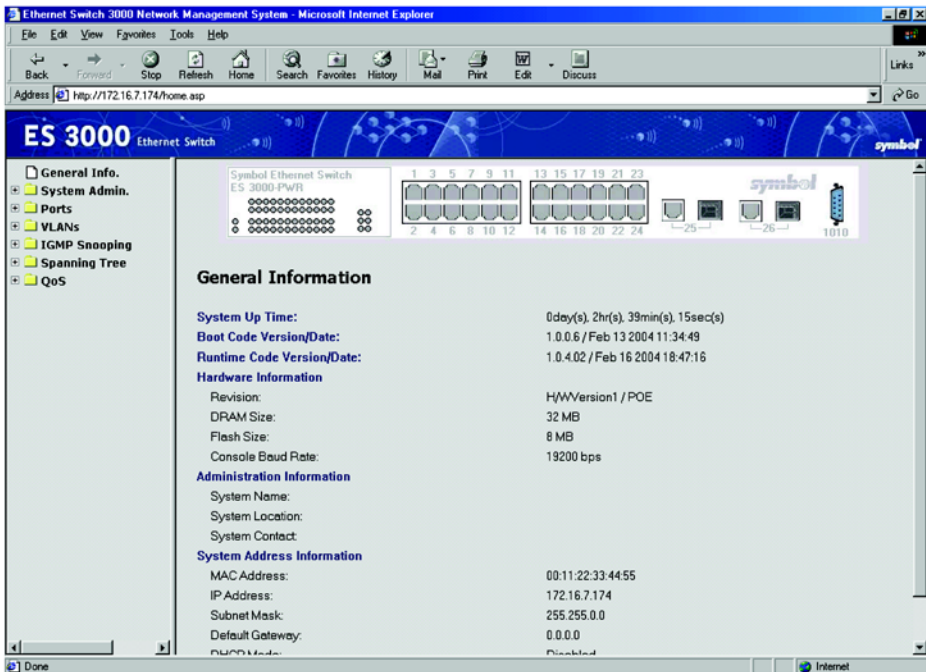
1.   Access the Web interface (using a Web browser) by entering the switch IP address into the address bar. Press Enter.

Internet Explorer 5.0 or later or Netscape Navigator 6.0 or later is required.

2. Enter a user name of **admin** and password of **symbol**. Press OK.

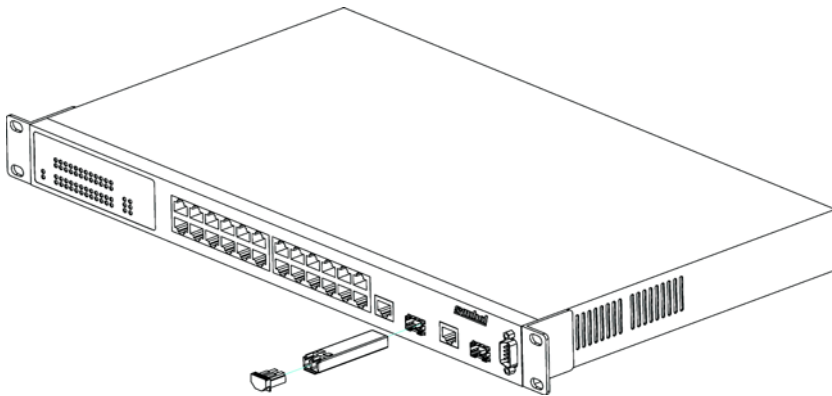The Web interface **General Information** page displays.

Once the ES3000 user interface has been accessed using either the menu, CLI or Web interfaces, refer to the ES3000 User Manual for advanced device configuration information. Go to http://www.symbol.com/services/downloads to access the guide.

Installing a SFP Fiber Transceiver

The ES3000 Ethernet Switch supports a SFP (small form factor pluggable) fiber channel transceiver used in fiber channel cable installations.

To install the SFP Fiber Transceiver:

1. Remove the rubber plug protecting the optics on the transceiver.
2. Insert the transceiver into the fiber transceiver cage available on ports 25 or 26 on the ES3000 Ethernet Switch.

3. Ensure one of the following two cable types is used when connecting fiber cable to the ES3000 Ethernet Switch:
   - LC 62.5um/125um multimode fiber optic cable
   - LC 50um/125um multimode fiber optic cable
4. Consult the system administrator for cable length and installation specifications unique to the installation environement.

If removing the SFP transceiver, disengage locking mechanism on SFP transceiver carefully before removing the transceiver from the ES3000 Ethernet Switch.

Customer Support

Symbol Technologies provides its customers with prompt and accurate customer support. Use the Symbol Support Center as the primary contact for any technical problem, question or support issue involving Symbol products. If the Symbol Customer Support specialists cannot solve a problem, access to all technical disciplines within Symbol becomes available for further assistance and support. Symbol Customer Support responds to calls by email, telephone or fax within the time limits set forth in individual contractual agreements.

When contacting Symbol Customer Support, please provide the following information:

- Serial number of unit
- Model number or product name
- Software type and version number

North American Contacts

Inside North America, contact Symbol at:

For sales and product information:

> Symbol Technologies, Inc.
> One Symbol Plaza
> Holtsville, New York 11742-1300
> Telephone: 1-631-738-2400/1-800-SCAN 234
> Fax: 1-631-738-5990

For product support and service:

> Symbol Global Support Center:
> Telephone: 1-800-653-5350,
> +1-631-738-6213 (Outside North America)
> Fax: 631-563-5410
> Email: support@symbol.com

International Contacts

Outside North America, contact Symbol at:
Symbol Technologies, Inc.
Symbol Place
Winnersh Triangle, Berkshire, RG41 5TP
United Kingdom
Telephone: 0800-328-2424 (Inside UK),
+44 118 945 7529 (Outside UK)

For other sales offices use the Symbol Services Web site for contact information

http://www.symbol.com/services/howto/howto_contact_us.html

Web Support Sites

Comprehensive On-line support is available at the MySymbolCare Web site. Registration is free and a variety of services can be linked through this web-portal.

MySymbolCare

http://www.symbol.com/services/msc

Symbol Services Homepage

http://www.symbol.com/services

Symbol Software Updates

http://www.symbol.com/services/downloads

Symbol Developer Program Web site

http://devzone.symbol.com

Additional Information

Obtain additional information by contacting Symbol at:
Telephone: 1-800-722-6234 (Inside North America),
+1-631-738-5200 (Inside/Outside North America)
http://www.symbol.com/

Regulatory Information

All Symbol devices are designed to be compliant with rules and regulations in locations they are sold and will be labeled as required.

Any changes or modifications to Symbol Technologies equipment, not expressly approved by Symbol Technologies, could void the user's authority to operate the equipment.

Laser Devices

The laser module complies with US 21CFR1040.10 & 1040.11 and EN60825-1:1994+A11+A2. The laser classification is marked on the SFP Module.

Class 1 Laser devices are not considered to be hazardous when used for their intended purpose. The following statement is required to comply with US and international regulations:

Caution: Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.

Radio Frequency Interference Requirements - FCC

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 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.

Radio Frequency Interference Requirements - Canada

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Marking and European Economic Area (EEA)

Class A ITE
WARNING
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.

Statement of Compliance

Symbol Technologies, Inc., hereby declares that this device is in compliance with all the applicable Directives, 89/336/EEC, 73/23/EEC. A Declaration of Conformity may be obtained from http://www2.symbol.com/doc/

Copyright

Patents

This product is covered by one or more of the following U.S. and foreign Patents:

4,593,186; 4,603,262; 4,607,156; 4,652,750; 4,673,805; 4,736,095; 4,758,717; 4,760,248; 4,806,742; 4,816,660; 4,845,350;
4,896,026; 4,897,532; 4,923,281; 4,933,538; 4,992,717; 5,015,833; 5,017,765; 5,021,641; 5,029,183; 5,047,617; 5,103,461;
5,113,445; 5,130,520; 5,140,144; 5,142,550; 5,149,950; 5,157,687; 5,168,148; 5,168,149; 5,180,904; 5,216,232; 5,229,591;
5,230,088; 5,235,167; 5,243,655; 5,247,162; 5,250,791; 5,250,792; 5,260,553; 5,262,627; 5,262,628; 5,266,787; 5,278,398;
5,280,162; 5,280,163; 5,280,164; 5,280,498; 5,304,786; 5,304,788; 5,306,900; 5,324,924; 5,337,361; 5,367,151; 5,373,148;
5,378,882; 5,396,053; 5,396,055; 5,399,846; 5,408,081; 5,410,139; 5,410,140; 5,412,198; 5,418,812; 5,420,411; 5,436,440;
5,444,231; 5,449,891; 5,449,893; 5,468,949; 5,471,042; 5,478,998; 5,479,000; 5,479,002; 5,479,441; 5,504,322; 5,519,577;
5,528,621; 5,532,469; 5,543,610; 5,545,889; 5,552,592; 5,557,093; 5,578,810; 5,581,070; 5,589,679; 5,589,680; 5,608,202;
5,612,531; 5,619,028; 5,627,359; 5,637,852; 5,664,229; 5,668,803; 5,675,139; 5,693,929; 5,698,835; 5,705,800; 5,714,746;
5,723,851; 5,734,152; 5,734,153; 5,742,043; 5,745,794; 5,754,587; 5,762,516; 5,763,863; 5,767,500; 5,789,728; 5,789,731;
5,808,287; 5,811,785; 5,811,787; 5,815,811; 5,821,519; 5,821,520; 5,823,812; 5,828,050; 5,848,064; 5,850,078; 5,861,615;
5,874,720; 5,875,415; 5,900,617; 5,902,989; 5,907,146; 5,912,450; 5,914,478; 5,917,173; 5,920,059; 5,923,025; 5,929,420;
5,945,658; 5,945,659; 5,946,194; 5,959,285; 6,002,918; 6,021,947; 6,029,894; 6,031,830; 6,036,098; 6,047,892; 6,050,491;
6,053,413; 6,056,200; 6,065,678; 6,067,297; 6,082,621; 6,084,528; 6,088,482; 6,092,725; 6,101,483; 6,102,293; 6,104,620;
6,114,712; 6,115,678; 6,119,944; 6,123,265; 6,131,814; 6,138,180; 6,142,379; 6,172,478; 6,176,428; 6,178,426; 6,186,400;
6,188,681; 6,209,788; 6,209,789; 6,216,951; 6,220,514; 6,243,447; 6,244,513; 6,247,647; 6,308,061; 6,250,551; 6,295,031;
6,308,061; 6,308,892; 6,321,990; 6,328,213; 6,330,244; 6,336,587; 6,340,114; 6,340,115; 6,340,119; 6,348,773; D305,885;
D341,584; D344,501; D359,483; D362,453; D363,700; D363,918; D370,478; D383,124; D391,250; D405,077; D406,581;
D414,171; D414,172; D418,500; D419,548; D423,468; D424,035; D430,158; D430,159; D431,562; D436,104.
5,912,662; 6,011873; 6,080,001; 6,234,389; 6,193,152B1;

Invention No. 55,358; 62,539; 69,060; 69,187 (Taiwan); No. 1,601,796; 1,907,875; 1,955,269 (Japan); European Patent 367,299; 414,281; 367,300; 367,298; UK 2,072,832; France 81/03938; Italy 1,138,713   3/02

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72E-67923-01 Revision A