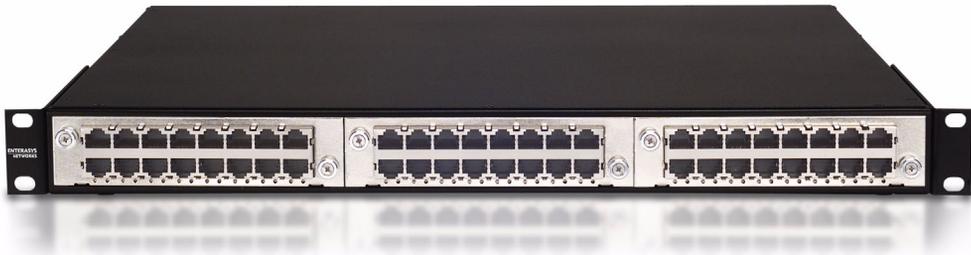


Mid-Span Power Hub 24-Port User's Guide





Electrical Hazard: Only qualified personnel should perform installation procedures.

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Enterasys Networks, Inc.
50 Minuteman Road
Andover, MA 01810

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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.

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 uses, generates, and can radiate radio frequency energy and if not installed in accordance with the operator's manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference in which case the user will be required to correct the interference at his own expense.

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This product complies with the following: 47 CFR Parts 2 and 15, CSA C108.8, 89/336/EEC, EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024, AS/NZS CISPR 22, and VCCI V-3.

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Application of Council Directive(s): **89/336/EEC**
73/23/EEC

Manufacturer's Name: **Enterasys Networks, Inc.**

Manufacturer's Address: **50 Minuteman Road**
Andover, MA 01810
USA

European Representative Address: **Enterasys Networks, Ltd.**
Nexus House, Newbury Business Park
London Road, Newbury
Berkshire RG14 2PZ, England

Conformance to Directive(s)/Product Standards: **EC Directive 89/336/EEC**
EN 55022
EN 55024
EC Directive 73/23/EEC
EN 60950

Equipment Type/Environment: **Networking Equipment, for use in a Commercial**
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About This Guide

Purpose

This guide provides information and procedures on hardware installation, setup, configuration, and management of the Enterasys Networks 24-Port Mid-Span Power Hub.



Note: This guide applies to the following products:

- BL-69524ENT, which is the chassis complete with three eight-port modules
- BL-69224ENT, which is the chassis without modules

Who Should Use This Guide



Electrical Hazard: Only qualified personnel should perform the installation procedures described in this guide.

This guide is intended for administrative and technical personnel responsible for installing and managing Enterasys Networks products.

To use this guide effectively, you should have a working knowledge of Local Area Networking (LAN) concepts and wireless LAN access infrastructures. In addition, you should have:

- A working knowledge of basic electronics and mechanical assembly.
- An understanding of local operating and troubleshooting procedures.
- An understanding of related local building codes.

Document Conventions

Throughout this guide the following symbols are used to call attention to important information.



Note: Calls the reader's attention to any item of information that may be of special importance.



Caution: Contains information essential to avoid damage to the equipment.



Electrical Hazard: Warns against an action that could result in the presence of an electrical hazard.

Getting Help

For additional support related to the Mid-Span Power Hub or this document, contact Enterasys Networks using one of the following methods:

World Wide Web	http://www.enterasys.com/support
Phone	603-332-9400 1-800-872-8440 (toll-free in U.S. and Canada) For the Enterasys Networks Support toll-free number in your country: http://www.enterasys.com/support/gtac-all.html
Internet mail	support@enterasys.com
To send comments or suggestions concerning this document to the Technical Writing Department: techwriting@enterasys.com	
To expedite your message, please type [techwriting] in the subject line, and include the document Part Number in the email message.	

Before contacting Enterasys Networks for technical support, have the following information ready:

- Your Enterasys Networks service contract number
- A description of the failure
- A description of any action(s) already taken to resolve the problem (e.g., changing mode switches, rebooting the unit, etc.)
- The serial and revision numbers of all involved Enterasys Networks products in the network

- A description of your network environment (layout, cable type, etc.)
- Network load and frame size at the time of trouble (if known)
- The device history (i.e., have you returned the device before, is this a recurring problem, etc.)
- Any previous Return Material Authorization (RMA) numbers

Functions and Features

The BL-69524ENT, Enterasys Networks' 24-port Mid-Span Power Hub, supports applications in which AC power is difficult to access, such as VoIP phones, wireless LAN access points, or IP network cameras.

The Enterasys 24-port Mid-Span Power Hub acts as a "patch panel" and adds ~48 VDC to unused (non-data) wires in standard Category 5, 5e, or 6 Ethernet cable. The power unit delivers both data and power over a single standard Ethernet cable.

Main features of the 24-port Mid-Span Power Hub:

- Fully hot-swappable module banks
- Remote power feeding; powered devices receive power over the Ethernet cable
- Centralized power distribution; one powered device can be connected to a single in-line unit
- IEEE 802.3af standard powering scheme
- Acts as a normal patch panel and places ~48 VDC on unused Ethernet pins
- Total power available: 15.6 W per port per IEEE specification
- Automatic power-control circuitry to detect a powered device before providing power
- Fused power surge protection

Port Indicators

Each port has its own LEDs, which display the following:

- Detect/Power Forwarding (blue)
- Power from Chassis (green)

For information on Troubleshooting, refer to [Table 3-1](#) on page 3-1.

Installation and Connection



Electrical Hazard: Only qualified personnel should install or service this unit.

Verifying the Kit

Unpack the unit and verify that you have all of the following items (see [Figure 2-1](#)):

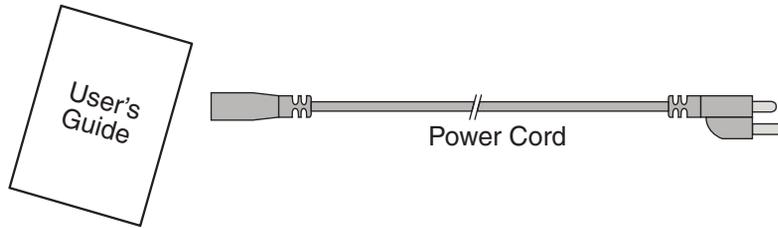
- Enterasys' 24-port Mid-Span Power Hub
- Power Cord
- User's Guide

Kit Contents

Figure 2-1 Contents of the BL-69524ENT Kit



BL-69524ENT 24-Port Mid-Span Power Hub



Technical Considerations

The Enterasys Networks 24-port Mid-Span Power Hub may be placed on a shelf or mounted in a standard 48.26-centimeter (19-inch) rack.

Before you mount the unit to a fixed location, consider the following:

- Determine optimal placement.
- Collect and document network information as required.
- Ensure that the length of cable from the Ethernet network source to the powered device does not exceed 100 meters.



Note: The unit is not a repeater and does not amplify the Ethernet data signal.



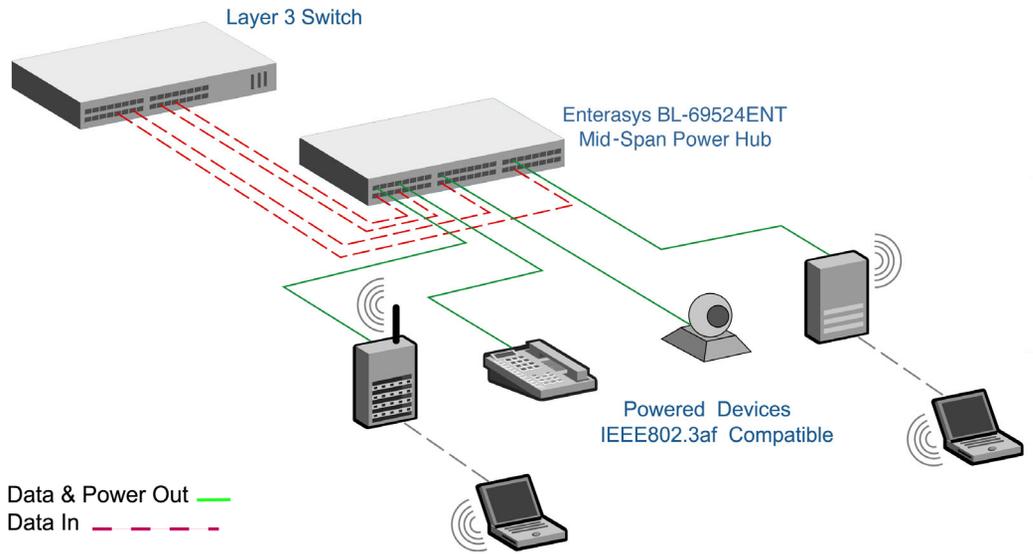
Caution: Observe the following requirements when mounting the Enterasys Networks 24-port Mid-Span Power Hub:

- This unit is intended for installation in a wiring closet.
- Connect the unit to a grounding type AC outlet (100-240 VAC), using the standard power cord shipped with the unit, or a user-supplied UPS (uninterruptible power supply).
- Allow for easy access to disconnect the unit from the AC outlet if necessary.
- Do not cover the unit or block the airflow with any other objects. Keep the unit away from excessive heat, humidity, vibration, and dust.
- Ensure that installation conforms to local regulations.

Configuration for the 24-Port Mid-Span Power Hub

Figure 2-2 shows a typical configuration for the Enterasys 24-port Mid-Span Power Hub operating with 802.3af appliances. To ensure EMC compliance and compliance with Class A requirements, use Category 5, 5e, or 6 shielded twisted pair straight-through cables.

Figure 2-2 Typical Configuration for a 24-Port Mid-Span Power Hub



Powering Up

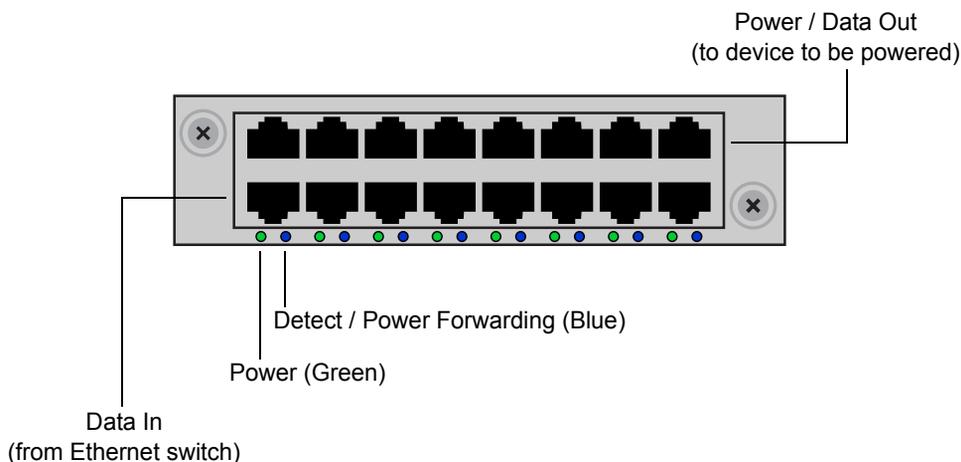
Simply plug one end of the power cord into the unit, and the other end into a grounded AC power source. Units are typically connected to a power strip or other power outlet that may be cycled on and off. An uninterruptible power supply may also be used.

Check to make sure each module installed displays a green Power LED (see [Figure 2-3](#)). Verify that any module that does not display a green Power LED is properly seated in the chassis backplane.

If problems exist, refer to the troubleshooting checklist in [Chapter 3, Troubleshooting](#).

If you require assistance, contact Enterasys Networks using one of the methods described in [“Getting Help”](#) on page x.

Figure 2-3 Module Bank for the 24-Port Mid-Span Power Hub



Troubleshooting

Refer to [Table 3-1](#) for a checklist of problems and recommended actions to resolve the problem. If additional support is needed, refer to “[Getting Help](#)” on page x.

Table 3-1 Troubleshooting Checklist

Problem	Recommended Action
Unit is plugged into the Enterasys Mid-Span Power Hub, but main power LED is “off.”	<p>Verify the use of a good AC cable with a good ground connection.</p> <p>Verify that the AC is “hot” and that voltage is between 100 VAC to 264 VAC (50 Hz to 60 Hz).</p> <p>For the 24-port Mid-Span Power Hub, if the internal fan is working, there may be an internal circuitry fault or internal voltage that is out of specification. If the fan is not working, there may be an internal power supply fault.</p>
Unit is plugged in and running, but the fans are not working.	<p>Verify that all fan openings are clear.</p> <p>Verify that the metal case is not damaged.</p> <p>Verify that there are no loose parts inside the Mid-Span Power Hub.</p> <p>If needed, check and replace fuse at the inlet plug 10 A rated fuse.</p>
The Mid-Span Power Hub operates but one of the powered devices does not work.	<p>Verify that you are using a standard UTP Cat. 5, 5e, or 6 cable, including all eight wires (four pairs). Try to move the same load into a different port on the same hub. If it works, there is probably a faulty port or bad RJ45 port connection. If possible, try to connect the load device into a different hub. Try using a different Ethernet cable; if it works, there is probably a faulty connection over the long cable, or a bad RJ45 connection.</p>

Table 3-1 Troubleshooting Checklist (continued)

Problem	Recommended Action
<p>The Mid-Span Power Hub operates and the load device works, but there is no data link.</p>	<p>Verify that the Detect/Power Forwarding (blue) LED for the port is “on.” Verify that the Mid-Span Power Hub is connected to the Ethernet network with a good connection.</p> <p>Verify that the Ethernet cable is Category 5, 5e, or 6 and is less than 100 meters in length from the Ethernet source to the load.</p> <p>Try to connect a different device over the same port. If it works and a link is established, there is probably a faulty data link in the load.</p> <p>Try to reconnect the load into a different output port (remember to move the input port accordingly). If it works, there is probably a faulty output or input port in the Mid-Span Power Hub or a bad RJ45 connection.</p>
<p>The Mid-Span Power Hub operates, but one of the ports is powering a load without turning the “Power” LED on.</p>	<p>Move the load into a different output port. If the LED turns “on,” there is a fault in the previous output port.</p>



Hardware Specifications

Regulatory Compliance Standards

This equipment meets the following safety and electromagnetic compatibility (EMC) requirements:

Safety	UL 60950, CSA C22.2 No. 60950, 73/23/EEC, EN 60950, IEC 60950
Electromagnetic Compatibility (EMC)	47 CFR Parts 2 and 15, CSA C108.8, 89/336/EEC, EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024, AS/NZS CISPR 22, VCCI V-3

Product Standards

This equipment meets the following product standards:

Standards	IEEE 802.3af
-----------	--------------

Model BL-69524ENT

- 24 female RJ45 data input ports
- Shielded jacks for Category 5 or greater UTP (two pair wire) or 100-ohm STP (two pair wire)
- Distance: Up to 100 meters, standard Ethernet distance
- 24 female RJ45 Data+Power on Ethernet (Power over Ethernet) output ports

Physical/Mechanical Specifications

Table A-1 provides physical and mechanical specifications for the 24-port Mid-Span Power Hub.

Table A-1 Physical and Mechanical Specifications

Item	Specification
Chassis Type	48.26 cm (19.0 in.) rackmount with 3 modules
Chassis Size	44.45 cm W x 41.28 cm D x 4.45 cm H (17.5 in. W x 16.25 in. D x 1.75 in. H)
Module Type	Removable, hot swappable
Weight	9.0 kg (20.0 lbs)

LED Indicators/Module

Table A-2 provides module LED states and their definitions.

Table A-2 LED States and Their Definitions

LED Color	Status
Blue	Detect/Power Forwarding
Green	Power from Chassis

Physical/Environmental Specifications

Table A-2 provides physical and environmental specifications for the BL-69524ENT 24-port Mid-Span Power Hub.

Table A-3 Physical and Environmental Specifications

Item	Specification
Operating Temperature	0° C to 40° C (32° to 105° F)
Storage Temperature	-10° C to 60° C (14° F to 140° F)
Relative Humidity	10% to 90% non-condensing
Operating Altitude	-1,000 to 10,000 feet

Electrical Specifications

AC Power Input

Voltage	90–264 V autoranging (46 Hz–63 Hz)
Connector	3-pin with ground
Chassis grounding	yes
Power supply	single

DC Port Power Output

Power enabling	IEEE 802.3af
Power pins	Unused pairs, pins 4,5(+), 7,8(-)
Maximum power/port	15.6 W
Maximum power, all ports active	24 ports at 15.6 W each
Module-to-module isolation	1500 Vrms
Overload protection	If current reaches 400–450 mA for 300–400 milliseconds, then the port shuts down.

