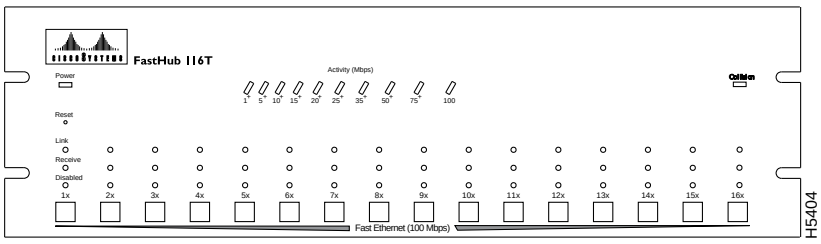
CHAPTER 1

Introduction

The FastHub 116T is a 100Base-T compatible, standalone, 16-port, unmanaged Class II repeater supporting the 100Base-TX physical layer.

Figure 1-1 FastHub 116T Repeater



The FastHub 116T can be used to create Power Workgroups, facilitate high-density switch aggregation, or interconnect centrally located servers.

The FastHub 116T operates in a manner similar to that of a standard 10Base-T repeater. A packet received on any one of the 16 Fast Ethernet ports is transmitted, or repeated, out the other 15 ports. Visual indicators provide a measure of activity in Megabits per second, (Mbps), the FastHub 116T collision rate, and per port Link, Receive and Disabled status.

Key Features

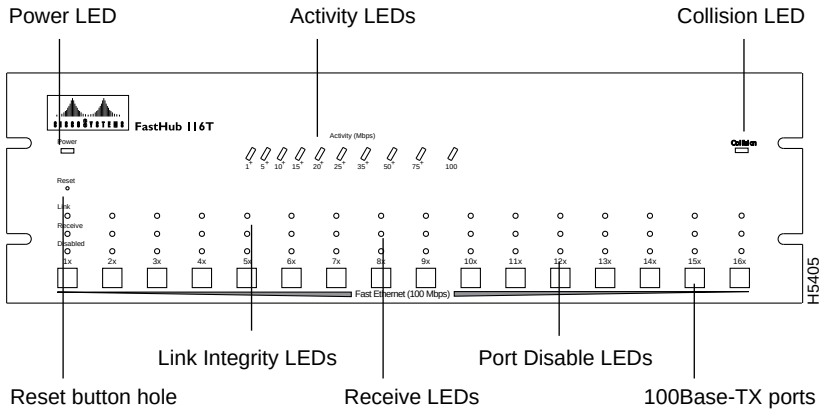
The FastHub 116T provides the following key features:

- Compatible with 100Base-T draft standard for interoperability with other 100Base-T products
- 100-Mbps peak and aggregate throughput for high-performance data transfers
- Low port-port latency (.45 microseconds) minimizes delay during data transfers
- 100Base-TX media interface for direct connections to Category 5 UTP (Unshielded Twisted Pair)
- 16 ports meets node number requirements for emerging high-performance LAN applications
- Three light-emitting diodes (LEDs) per port for Link Integrity Test, Receive Activity and Port Enabled/Disabled, and Collision Indicator provide a comprehensive and convenient visual management system
- Logarithmic activity LED shows average throughput in Mbps for quickly gauging network loading and performance
- No software to load or configure ensures simple and trouble-free installation and operation
- Recessed reset button prevents accidental system reset and allows easy access from the front of the unit

FastHub 116T Front Panel

The FastHub front panel contains all of the network connectors and LEDs for easy access.

Figure 1-2 FastHub 116T Front Panel

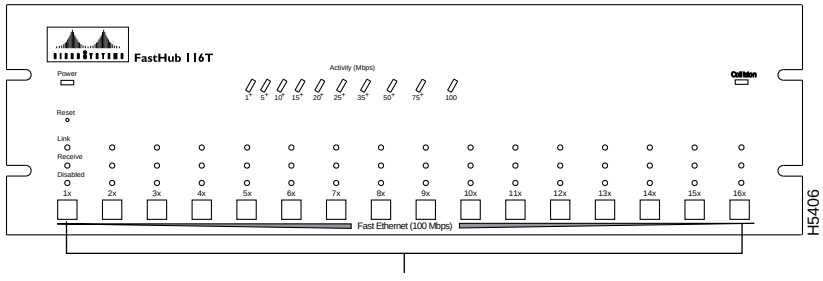


FastHub 116T features are described in the following sections.

Fast Ethernet Ports

The 16100Base-TX ports provide 100 Mbps of bandwidth for connection to a server or workstation, Cisco Systems Catalyst 1700, or other 100Base-TX hub. 100Base-TX ports are shown in Figure 1-3 below.

Figure 1-3 The FastHub 116T Fast Ethernet Ports

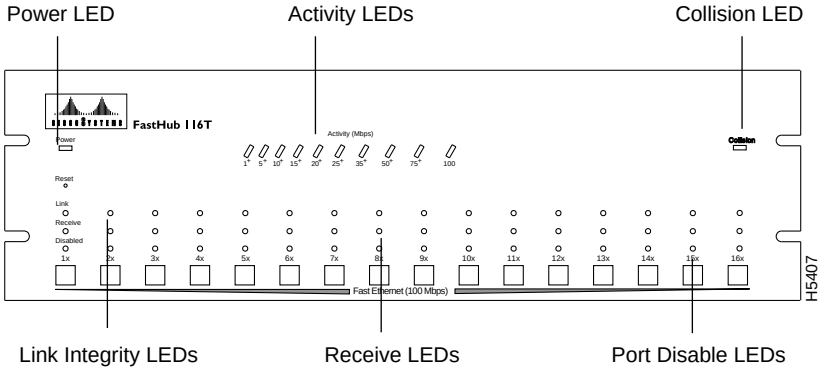


These ports support direct connection to any 100Base-TX compatible hub or adapter using UTP Category 5 cabling.

FastHub 116T LEDs

FastHub 116T has a comprehensive set of LEDs that allow easy and fast troubleshooting. The FastHub 116T has a Power LED, Activity Meter LEDs, and Status LEDs. These LEDs are shown in Figure 1-4 and described in the following section.

Figure 1-4 The FastHub 116T LEDs



Power LED

The Power LED lights if the FastHub 116T is turned on. If the LED does not light when powered up, refer to the “Troubleshooting” chapter.

Link LEDs

Link LEDs provide an indication that an external port is connected to a functioning 100Base-TX link. This LED remains OFF until energy is detected on the cable and the contents of the energy pass the 100Base-TX link monitor function. Once a link has been established and the link LED is ON, any improper activity causes the link LED to blink OFF. The link LED will stay OFF if the port shows signs of being disconnected.

Receive LEDs

Receive activity on each port is indicated by the Receive LEDs. The Receive LEDs blink upon packet receipt regardless of the status of the port—even if the port is disabled.

Disabled LEDs

The Disabled LED is OFF unless a jabber or autopartition error (as defined in the IEEE 802.3 100Base-T specification) is detected, in which case, the LED blinks ON. There is one disabled LED per port.

A jabber condition is sensed when a port continuously receives for more than 660 microseconds. A port is partitioned when it experiences 63 consecutive collisions.

Collision LED

The Collision LED provides a single visual indication of the frequency of collisions for all 16 ports. Packets received simultaneously on two or more ports will result in a collision.

Activity Meter LEDs

The Activity Meter LED helps you measure the bandwidth utilization of the FastHub 116T at a glance. The meter displays current bandwidth activity.

The LEDs are updated based on the activity as measured in Mbps. The measurement is averaged over a period of 100 milliseconds.

Table 1-1 shows the associated bandwidth for each of the 10 LEDs.

Table 1-1 Activity Meter LED Information

LED	Mbps Activity
Left	1+
	5+
	10+
	15+
	20+
	25+
	35+
	50+
	75+
Right	100

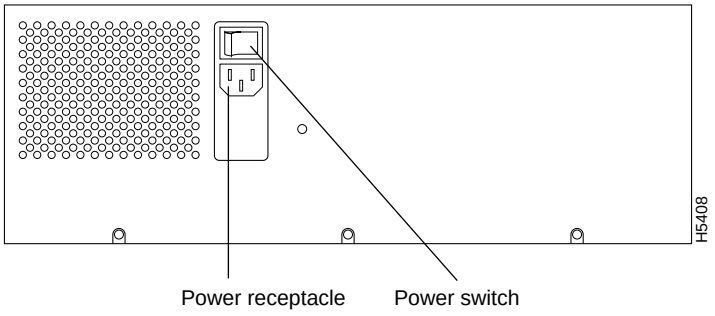
FastHub 116T Reset Switch

The reset button restarts the FastHub 116T. The reset switch has the same effect as powering the FastHub 116T off and on and can be activated by pushing a thin implement into the hole.

FastHub Rear Panel

The power switch, power receptacle, and fuse are located on the rear panel as shown in Figure 1-5 below.

Figure 1-5 The FastHub 116T Rear Panel



Power Switch

The power switch is depicted in Figure 1-5 and turns the FastHub 116T on and off without removing the power cord.

Power Receptacle

The FastHub power supply is an auto-ranging unit supporting input voltages between 100-220 VAC. The power cord should be plugged into the power receptacle located on the rear panel of the FastHub 116T as shown in Figure 1-5.

Fuse

The fuse is located under the power receptacle. For replacement, use a 3-amp, 250-volt fuse only.