

Chapter 1 Introduction

Thanks for your purchase of the scalable 10/100/1000Mbps Ethernet Switches. Through modular upgrades, the switches offer flexible port density and optional Gigabit Ethernet uplinks. It is also equipped with an MII slot in the rear of the chassis, which offers an alternative connection for users, such as 100BaseFX.

In addition to the traditional console and telnet interfaces, the Switches provide a user-friendly Web browser interface. With an on-board HTTP server and Java implementation, users can access the box with the use of popular browsers such as Netscape Navigator and Microsoft I.E.. The expandable 16-port Ethernet Switch also supports firmware upgrades using the tftp protocol.

The following topics briefly describe the functional overview of this scalable 10/100/1000 Ethernet Switch:

- Features
- Front/Rear Panel Description
- LED Definitions
- Management

1.1 Features

- 16 10BaseT/100BaseTX Auto-negotiation UTP Ports
- Back Pressure flow control for half-duplex operation
- 802.3x flow control for full duplex operation
- Port Mirroring
- One MII slot
- Console Port (VT100)
- Extensive System LED and Per Port LEDs
- 12K-Entry Address Cache.
- Hardware Assisted RMON Statistic Collection
- 802.1Q based VLAN
- QoS through dual priority and support for 802.1p
- IGMP ready
- Telnet Remote Login
- Web-Based Management
- On-Board HTTP Server
- Network Boot/Software Upload
- SNMP based Network Management

- MIB II (RFC1213)
 - Ethernet Interface MIB (RFC1643)
 - Bridge MIB (RFC1493)
 - Enterprise MIB
 - 4-Group RMON (RFC 1757)
- Transparent Bridge (IEEE 802.1d)
 - Spanning Tree Protocol
 - Hardware assisted address learning
 - Auto Aging
 - Static Address entry

1.2 Front Panel Descriptions

The front panel (see Figure 1-1) contains all the Ethernet ports, LEDs. There is one System LED, and three LEDs for each port on the front panel. Detailed definitions can be found in the next section.

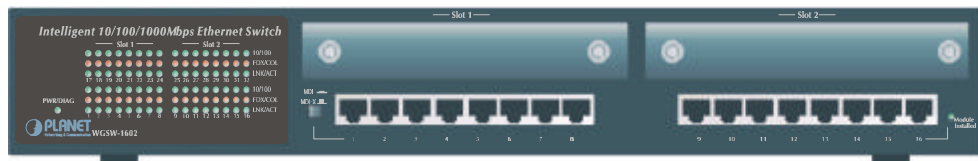


Figure 1-1: Front Panel

1.3 Rear Panel Descriptions



Figure 1-2: Rear Panel

The rear panel (see Figure 1-2) contains an AC power receptacle, power switch, MII panel and a console port. The MII shares a port at the switch fabric with Port 16. With an MII module is plugged in, port 16 is disabled automatically.

1.4 LED Definitions

1.4.1 System LED

One LED is used to show the general operating status of the system.

- **System:**

Off	System is not powered up
Green	System is in operation
Yellow	System is in boot mode
Red	System fails during the initialization

The normal sequence after power-on or system reset is Green (Initialization success), then Yellow (booting up applications) and lastly Green again meaning the system is ready.

1.4.2 Port LEDs

There are three LEDs for each port. Their definitions are summarized as follows:

- **10/100Mbps**

Off	10Mbps (Default)
Solid Green	100Mbps

- **Full/Col**

Off	Half Duplex operation (Default)
Solid Green	Full Duplex operation
Blinking Amber	Collisions detected for Half Duplex operation.

- **Link/Act**

Off	Port is link down
Solid Green	Port is link up and no traffic
Blinking Green	Port is link up and with traffic

1.4.3 MII Module LED

There is a MII indicator LED near port 16. When a MII module is installed, the LED will light up and port 16 will be disabled.

- **100 Base-FX**

Off	No MII module installed.
Solid Green	A MII module is installed. (Port 16 will be disabled)

1.5 Management

There are different methods by which a user can manage the Switch:

1.5.1 Web-based interface

Currently, users can configure the switch, monitor the LED panel, and display the statistics graphically with the Netscape Navigator browser version 4.0 or higher and Microsoft IE version 4.01 or higher. With Internet access, users can link directly from the local switch's home. The Web-based interface is implemented using Java, which provides true interactive management. Detail description is in the WEB-BASED MANAGEMENT chapter.

1.5.2 Menu driven interface via console or Telnet

Users can also access the switch in a more traditional way by connecting a PC or terminal to the serial console port or by Telnet across the network. The user interface is menu driven so users need not follow certain command syntax. The menus are organized in a manner similar to the web-based interface. Detail description is in the CONSOLE INTERFACE chapter.

1.5.3 SNMP network management platforms

Since the switch supports SNMP, users can manage the Switch with an SNMP-compatible management station running platforms such as HP OpenView. It also supports a comprehensive set of MIB extensions along with MIB II, Ethernet MIB, the 802.1d bridge MIB, and the 4-group RMON.

SNMP v.1 is implemented. The SNMP agent decodes the incoming SNMP messages and responds to these requests with MIB objects that are stored in the database. For the statistics and counters of MIB Objects, the SNMP agent periodically (every 5 seconds) updates the MIB Objects.

1.5.4 MIBs

The system supports the following MIBs:

1. MIB II
2. Ethernet Interface MIB
3. Bridge MIB
4. 4 groups RMON
 - The Ethernet Statistics Group

- The Ethernet History Group
 - The Alarm Group
 - The Event Group
5. Enterprise MIB
- CommGroup : Allows users to configure the community database.
 - HostGroup : Allows users to configure the hosts
 - MiscGroup : Allows users to configure miscellaneous items
 - SpanGroup : Allows users to configure Spanning Tree
 - ConfigGroup : Allows users to configure the system