FCC ID: I88PRESTIGE314

Prestige 314

P314 Broadband Access Gateway With Hub

User's Guide

Version 3.20

June 2000

ZyXEL

TOTAL INTERNET ACCESS SOLUTION

Prestige 314

P314 Broadband Access Gateway With Hub

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Federal Communications Commission (FCC) Interference Statement

This device complies with Part 15 of 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 operations.

This equipment has been tested and found to comply with the limits for a CLASS B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

If this equipment does cause harmful interference to radio/television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and the receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Notice 1

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

Notice 2

Shielded RS-232 cables are required to be used to ensure compliance with FCC Part 15, and it is the responsibility of the user to provide and use shielded RS-232 cables.

Information for Canadian Users

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operation, and safety requirements. The Industry Canada does not guarantee that the equipment will operate to a user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly. The customer should be aware that the compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

For their own protection, users should ensure that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution

Users should not attempt to make such connections themselves, but should contact the appropriate electrical inspection authority or electrician, as appropriate.

Note

This digital apparatus does not exceed the class A limits for radio noise emissions from digital apparatus set out in the radio interference regulations of Industry Canada.

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Part I:

Getting Started

Chapters 1-3 are structured as a step-by-step guide to help you connect, install and setup your Prestige to operate on your network and access the Internet.

Chapter 1
Getting to Know Your Prestige

This chapter introduces the main features and applications of the Prestige.

1.1 The Prestige 314 Broadband Access Gateway With Hub

The Prestige 314 is a dual Ethernet Broadband Access Gateway with an integrated 4-port hub and advanced network management features. It is designed for home offices and small businesses to easily and quickly access the Internet via Cable/ADSL modem or broadband router. ZyXEL's Prestige 314 provides not only ease of installation and Internet access, but also a complete solution to efficiently manage data traffic on your network. The embedded web configurator is a breeze to operate and totally independent of the operating system platform you use.

1.2 Features of The Prestige 314

The following are the essential features of the Prestige 314.

Broadband WAN Connection with Integrated Four Port Hub

The P314 sports a 10Mbps Ethernet port for a cable or xDSL modem connection as well as an integrated hub allowing up to 4 computers on your network to enjoy super-fast Internet access without the need for an additional hub.

Dynamic DNS Support

With Dynamic DNS support, you can have a static hostname alias for a dynamic IP address, allowing the host to be more easily accessible from various locations on the Internet. You must register for this service with a Dynamic DNS client to use this service.

IP Multicast

Traditionally, IP packets are transmitted in two ways - unicast or broadcast. Multicast is a third way to deliver IP packets to a group of hosts. IGMP (Internet Group Management Protocol) is the protocol used to support multicast groups. The latest version is version 2 (see RFC2236). Both versions 1 and 2 are supported by the Prestige.

Packet Filtering

The Packet Filtering mechanism blocks unwanted traffic from entering/leaving your network.

PPPoE

PPPoE facilitates the interaction of a host with a broadband modem to achieve access to high-speed data networks via a familiar "dial-up networking" user interface.

Dynamic DNS Support

With Dynamic DNS support, you can have a static hostname alias for a dynamic IP address, allowing the host to be more easily accessible from various locations on the Internet.
If you want to utilize this service, you must register for this service with a Dynamic DNS client.

PPTP Support

Point-to-Point Tunneling Protocol (PPTP) is a network protocol that enables secure transfer of data from a remote client to a private server, creating a Virtual Private Network (VPN) using TCP/IP-based networks PPTP supports on-demand, multi-protocol, and virtual private networking over public networks, such as the Internet.

Full Network Management

Your Prestige offers you a variety of options for network management. It supports password protected local and remote network management via the console port or a telnet connection using SMT (System Management Interface) or the Embedded Web Configurator. It also supports FTP (File Transfer Protocol) server for remote management, TFTP (Trivial FTP), SNMP (Simple Network Management Protocol) and CI (Command Interpreter) mode.

Auto-negotiating 10/100Mbps Ethernet

The LAN interface automatically detects if it's on a 10 or a 100 Mbps Ethernet.

Single User Account (SUA)

SUA is ZyXEL's version of NAT (Network Address Translation) which enables multiple users to share a single ISP account, thereby accessing the Internet for the cost of a single IP address.

DHCP (Dynamic Host Configuration Protocol)

The Prestige supports DHCP Server and Client (RFC 2131 and RFC 2132). The Prestige's DHCP server capability allows you to automatically assign TCP/IP settings to a workstation on your LAN. The Prestige's DHCP client capability allows it to get automatically its IP address from the ISP on the WAN.

RoadRunner Support

In addition to standard cable modem services, the Prestige supports Time Warner's RoadRunner Service.

Logging and Tracing

The Prestige has the following features:

- Built-in message logging and packet tracing.
- Unix syslog facility support.

Upgrade Prestige Firmware via LAN

The firmware of the Prestige 314 can be upgraded via the LAN.

Embedded FTP and TFTP Servers

The Prestige's embedded FTP and TFTP servers enable faster firmware upgrade as well as configuration file backup and restoration.

1.3 Broadband Internet Access via Cable or xDSL Modem

A cable modem or xDSL modem can be connected to the Prestige 10M WAN Ethernet port and up to four computers can be connected to the four Prestige 10/100M LAN Ethernet ports for super-fast broadband Internet access. The Prestige provides not only the high speed Internet access but also a complete solution to efficiently manage data traffic on your network.

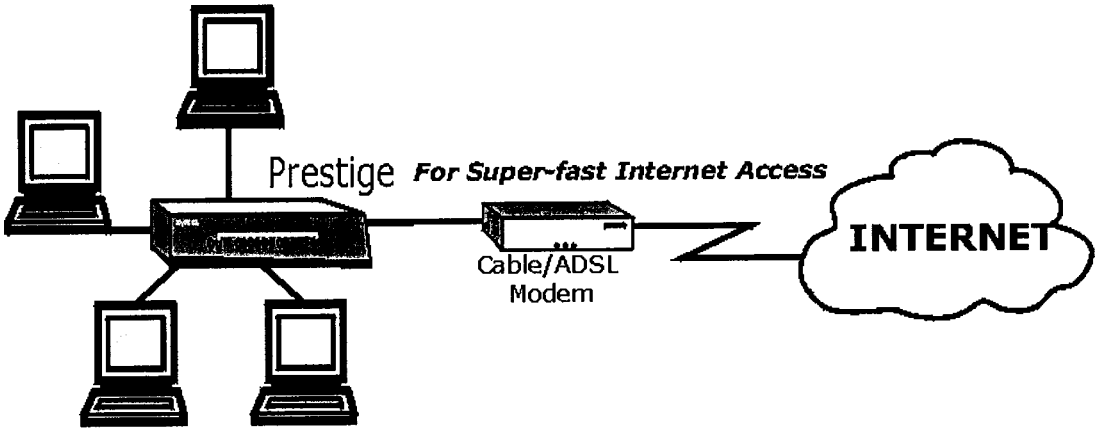


Figure 1-1 Internet Access

Chapter 2
Hardware Installation & Initial Setup

This chapter shows you how to connect the hardware and perform the initial setup.

2.1 Front Panel LEDs and Back Panel Ports

2.1.1 Front Panel LEDs

The LEDs on the front panel indicate the operational status of the Prestige.

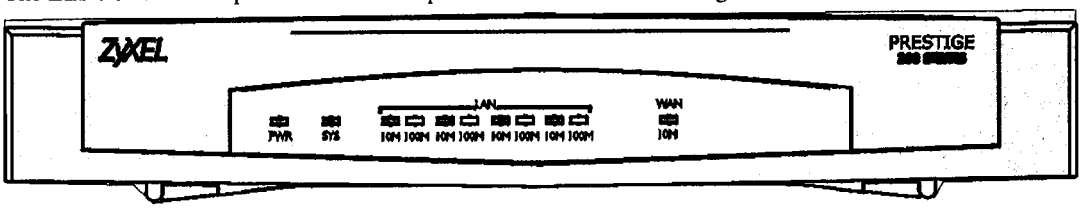


Figure 2-1 Front Panel

The following table describes the LED functions:

Table 2-1 LED functions

LEDs	Function	Indicator Status	Active	Description
PWR	Power	Green	On	The power adapter is connected to the Prestige.
SYS	System		Off	The system is not ready or failed.
			On	The system is ready and running.
			Flashing	The system is rebooting.
10M LAN	LAN	Green	Off	The 10M LAN is not connected.
			On	The Prestige is connected to a 10M LAN.
			Flashing	The 10M LAN is sending/receiving packets.
100M LAN		Orange	Off	The 100M LAN is not connected.
			On	The Prestige is connected to a 100Mbps LAN.
			Flashing	The 100M LAN is sending/receiving packets.

LEDs	Function	Indicator Status	Active	Description
WAN	WAN	Green	Off	The WAN Link is not ready, or has failed.
			On	The WAN Link is ok.
			Flashing	The 10M WAN link is sending/receiving packets.

2.2 Prestige 314 Rear Panel and Connections

The following figure shows the rear panel of your Prestige 314 and the connection diagram.

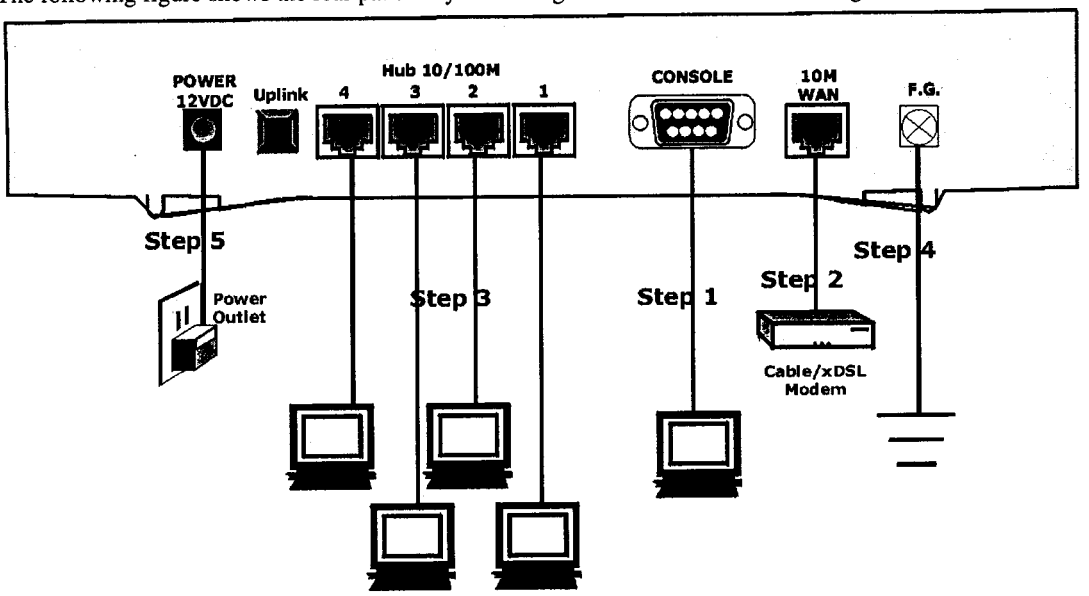


Figure 2-2 Prestige Rear Panel and Connections

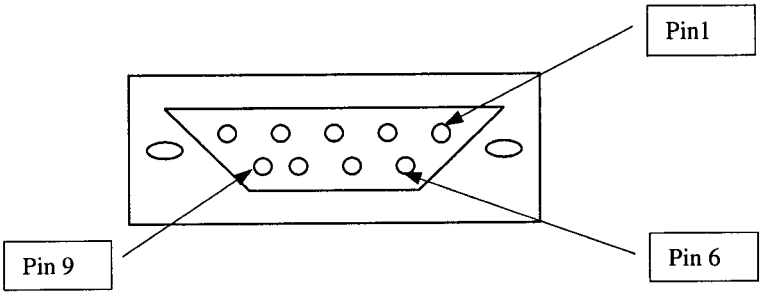
This section outlines how to connect your Prestige 314 to the LAN and the WAN. In the case of connecting a Cable Modem you must connect the coaxial cable from your cable service to the threaded coaxial cable connector on the back of the cable modem. Connect an xDSL Modem to the xDSL Wall Jack. Please also *see Appendix C* for important safety instructions on making connections to the Prestige.

Step 1. Connecting the Console Port

For the initial configuration of your Prestige, you need to use terminal emulator software on a workstation and connect it to the Prestige through the console port. Connect the 9-pin (smaller) end of the console cable to the console port of the Prestige and the 25-pin (bigger) end to a serial port (COM1, COM2 or other COM

Appendix B
Hardware Specifications

Power Specification	I/P AC 120V / 60Hz ; O/P DC 12V 1200 mA
MTBF	100000 hrs
Operation Temperature	0º C ~ 40º C
Ethernet Specification for WAN	10Mbit Half Duplex
Ethernet Specification for LAN	10/100 Mbit Half / Full Auto-negotiation
Console Port RS – 232	Pin 1 = NON ; Pin 2 = DTE-RXD; Pin 3 = DTE-TXD; Pin 4 = DTE-DTR; Pin 5 = GND; Pin 6 = DTE-DSR; Pin 7 = DTE-RTS; Pin 8 = DTE-CTS; PIN 9 = NON. See Figure below



WAN/LAN Cable Pin Layout: Straight-Through			Crossover		
(Switch)		(Adapter)	(Switch)		(Switch)
1 IRD +	———	1 OTD +	1 IRD +	———	1 IRD +
2 IRD -	———	2 OTD -	2 IRD -	———	2 IRD -
3 OTD +	———	3 IRD +	3 OTD +	———	3 OTD +
6 OTD -	———	6 IRD -	6 OTD -	———	6 OTD -

Appendix C
Important Safety Instructions

The following safety instructions apply to the Prestige:

1. Be sure to read and follow all warning notices and instructions.
2. The maximum recommended ambient temperature for the Prestige is 40°C (104°F). Care must be taken to allow sufficient air circulation or space between units when the Prestige is installed inside a closed rack assembly. The operating ambient temperature of the rack environment might be greater than room temperature.
3. Installation in a rack without sufficient airflow can be unsafe.
4. Racks should safely support the combined weight of all equipment.
5. The connections and equipment that supply power to the Prestige should be capable of operating safely with the maximum power requirements of the Prestige. In case of a power overload, the supply circuits and supply wiring should not become hazardous. The input rating of the Prestige is printed on the nameplate.
6. The AC adapter must plug in to the right supply voltage, i.e. 120VAC adapter for North America and 230VAC adapter for Europe. Make sure that the supplied AC voltage is correct and stable. If the input AC voltage is over 10% lower than the standard may cause the Prestige to malfunction.
7. Installation in restricted access areas must comply with Articles 110-16, 110-17, and 110-18 of the National Electrical Code, ANSI/NFPA 70.
8. Do not allow anything to rest on the power cord of the AC adapter, and do not locate the product where anyone can walk on the power cord.
9. Do not service the product by yourself. Opening or removing covers can expose you to dangerous high voltage points or other risks. Refer all servicing to qualified service personnel.
10. Generally, when installed after the final configuration, the product must comply with the applicable safety standards and regulatory requirements of the country in which it is installed. If necessary, consult the appropriate regulatory agencies and inspection authorities to ensure compliance.
11. A rare condition can create a voltage potential between the earth grounds of two or more buildings. If products installed in separate building are interconnected, the voltage potential can cause a hazardous condition. Consult a qualified electrical consultant to determine whether or not this phenomenon exists and, if necessary, implement corrective action before interconnecting the products. If the equipment is to be used with telecommunications circuit, take the following precautions:
    - Never install telephone wiring during a lightning storm.
    - Never install telephone jacks in a wet location unless the jack is specially designed for wet locations.
    - Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
    - Use caution when installing or modifying telephone lines (other than a cordless telephone) during an electrical storm. There is a remote risk of electric shock from lightning.

Appendix D
Power Adapter Specs

AC Power Adapter Specifications
North America
AC Power Adapter model MW48-1201200 Input power: AC120Volts/60Hz Output power: DC12Volts/1.2A Power consumption: 9 W Plug: North American standards Safety standards: UL, CUL (UL 1310, CSA C22.2 No.233-M91)
AC Power Adapter model AD48-1201200DUY Input power: AC120Volts/60Hz Output power: DC12Volts/1.2A Power consumption: 9 W Plug: North American standards Safety standards: UL, CUL (UL1950, CSA C22.2 NO. 234-M90)
European Union
AC Power Adapter model AD-1201200DV Input power: AC230Volts/50Hz, Output power: DC12Volts/1.2A Power consumption: 9 W Plug: European Union standards Safety standards: TUV, CE (EN 60950)
AC Power Adapter model JAD-121200E Input power: AC230Volts/50Hz, Output power: DC12Volts/1.2A Power consumption: 9 W Plug: European Union standards Safety standards: TUV, CE (EN 60950)
UK
AC Power Adapter model AD-1201200DK Input power: AC230Volts/50Hz, Output power: DC12Volts/1.2A Power consumption: 9 W Plug: United Kingdom standards Safety standards: TUV, CE (EN 60950, BS7002)

Japan
AC Power Adapter model JOD-48-1124 Input power: AC100Volts/ 50/60Hz/ 27VA Output power: DC12Volts/1.2A Power consumption: 9 W Plug: Japan standards Safety standards: T-Mark
Australia and New Zealand
AC Power Adapter model AD-1201200DS Input power: AC240Volts/50Hz/0.2A Output power: DC12Volts/1.2A Power consumption: 9 W Plug: Australia and New Zealand standards Safety standards: NATA (AS 3260)