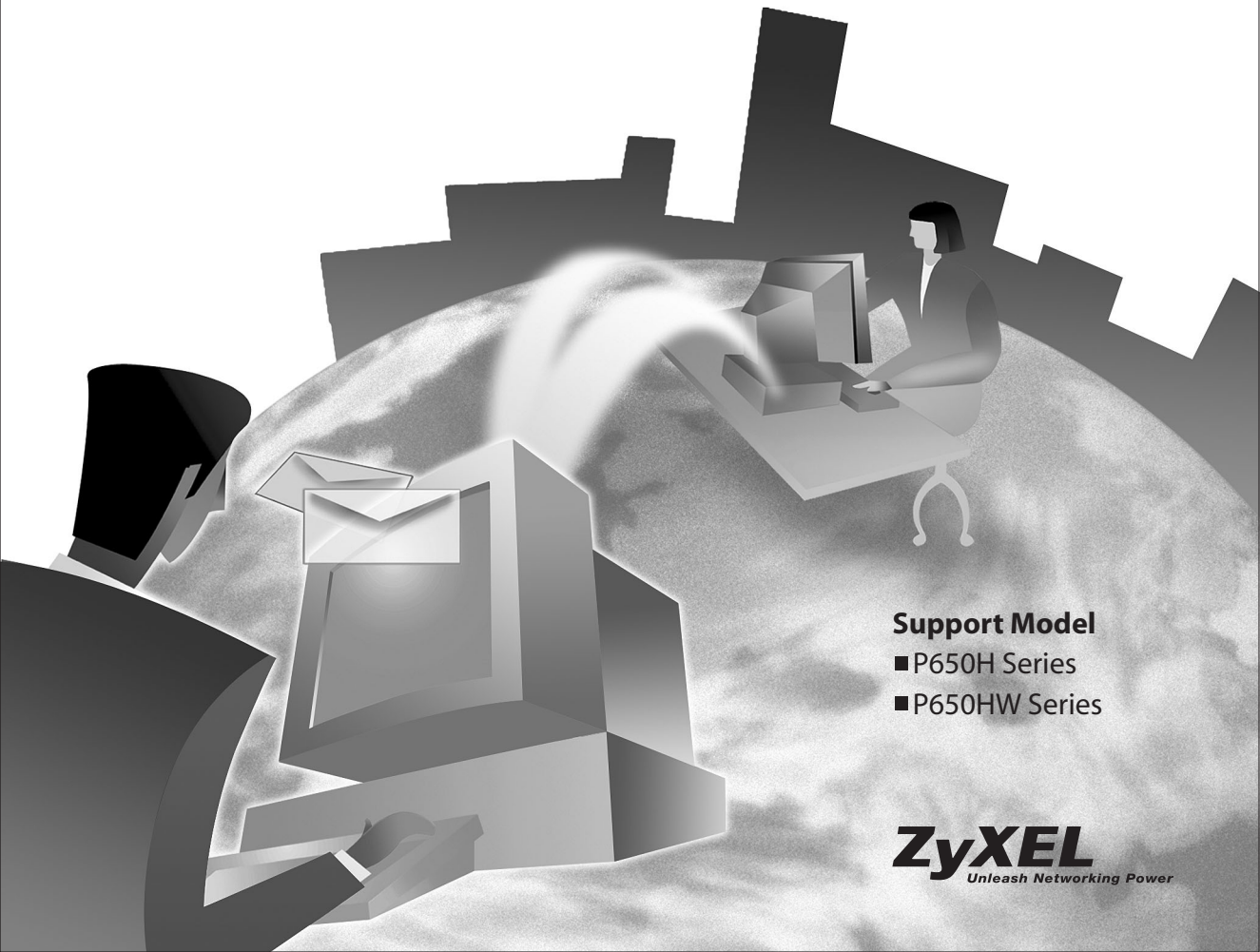
ADSL Internet Access Device

Prestige 650

Compact Guide

English Version



Support Model

- P650H Series
- P650HW Series

ZyXEL

Unleash Networking Power

Table of Contents

1 Introducing the Prestige

The Prestige 650H/HW ADSL router is the ideal all-in-one device for small networks connecting to the Internet via ADSL. Key features of the Prestige include wireless LAN, NAT, Remote Management and UPnP. See your *User's Guide* for more details on all Prestige features.

You should have an Internet account already set up and have been given most of the following information.

INTERNET ACCOUNT INFORMATION
Your device's WAN IP Address (if given): _____
DNS Server IP Address (if given): Primary _____, Secondary _____
Virtual Path Identifier (**VPI**): _____
Virtual Channel Identifier (**VCI**): _____

INTERNET ACCOUNT INFORMATION			
Multiplexing (VC-based or LLC-based):		☐ **VC**	☐ **LLC**
Encapsulation:			
❍	**RFC 1483**		
❍	**ENET ENCAP**	Ethernet Encapsulation Gateway IP Address: _____	
❍	**PPPoA**	User Name: _____	Password: _____
❍	**PPPoE**	Service Name: _____	
		User Name: _____	Password: _____

2 Hardware

2.1 Rear Panel Connections

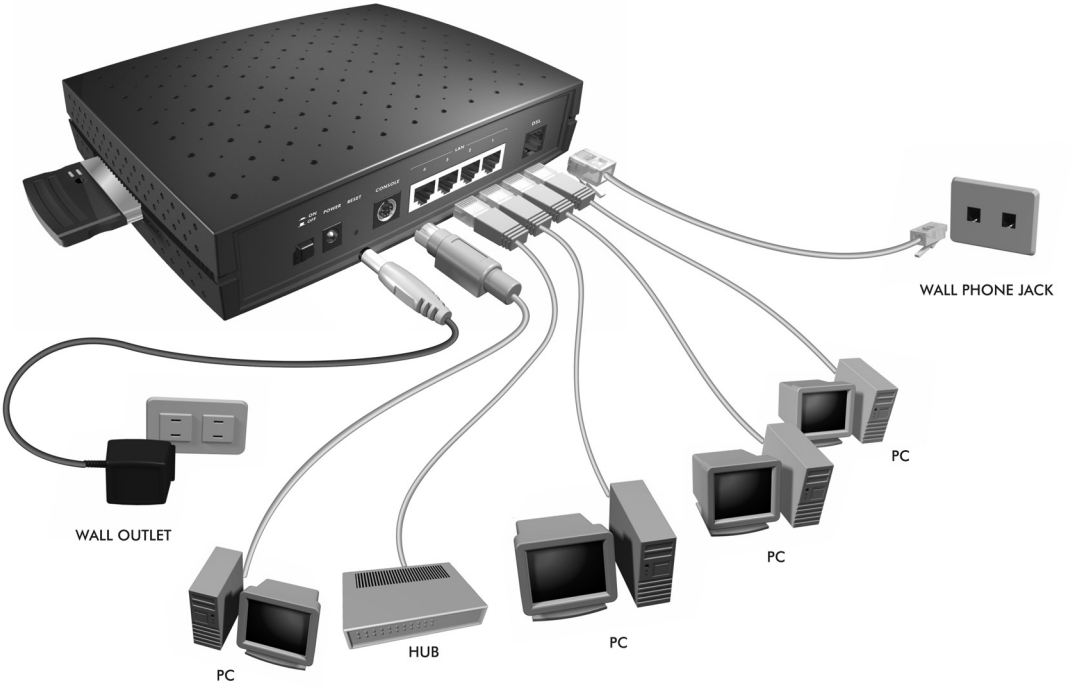


Figure 1 Prestige Hardware Connections

Table 1 Prestige Rear Panel Description

LABEL	DESCRIPTION
1. DSL	Connect to a telephone jack using the included phone wire.
2. LAN 1..4	Connect to a computer/external hub using an Ethernet cable.
3. POWER	Connect to a power source using the power adapter for your region (see your *User's Guide*).
After you've made the connections, connect the power cable to a power supply and push in the power button to turn on the Prestige. The **PWR** LED turns on. The **SYS** LED blinks while performing system testing and then turns steady on if the testing is successful. A **LAN** LED turns on if a LAN port is properly connected.	
CONSOLE	Connect to a serial port (COM port) on your computer using the RS-232 end (the big end) of the console cable (optional part). Connect the other end to the Prestige CONSOLE port.
RESET	You only need to use this button if you've forgotten the Prestige's password. It returns the Prestige to the factory defaults (password is 1234, LAN IP address 192.168.1.1 etc.; see your *User's Guide* for details).

2.2 Inserting a PCMCIA Wireless LAN Card

To add optional wireless LAN capabilities, you need a ZyAIR series wireless LAN PCMCIA card.

Step 1. Locate the slot labeled **Wireless LAN** on the Prestige.

Step 2. With its pin connector facing the slot and the LED side facing upwards, slide the ZyAIR wireless LAN card into the slot.

Never force, bend or twist the wireless LAN card into the slot.

Step 3. Restart the Prestige. The **WLAN** LED should turn on.

2.3 The Front Panel LEDs

Figure 2 Prestige Front Panel

Refer to the following table for more detailed LED descriptions.

Table 2 Front Panel LED Description

LED	COLOR	STATUS	DESCRIPTION
PWR	Green	On	The Prestige is receiving power.
		Off	The Prestige is not receiving power.
SYS	Green	On	The Prestige is functioning properly.
		Blinking	The Prestige is rebooting.
		Off	The system is not ready or has malfunctioned.
	Red	On	Power to the Prestige is too low.
PPPoE	Green	On	The connection to the PPPoE server is up.
		Off	There is no connection to the PPPoE server.
LAN 1-4	Green	On	The Prestige has a successful 10Mb Ethernet connection.
		Blinking	The Prestige is sending/receiving data.
		Off	The Prestige does not have 10Mb Ethernet connection.
	Orange	On	The Prestige has a successful 100Mb Ethernet connection.
		Blinking	The Prestige is sending/receiving data.
		Off	The Prestige does not have 100Mb Ethernet connection.
WLAN	Green	On	Wireless link is ready.
		Off	Wireless link is not ready or has failed.
		Blinking	The Prestige is sending/receiving data through the WLAN.
DSL	Green	On	The Prestige is linked successfully to a DSLAM.
		Blinking	The Prestige is initializing the DSL line.
		Off	The DSL link is down.
ACT	Green	Blinking	The Prestige is sending/receiving data.
		Off	The system is ready, but is not sending/receiving data.

3 Setting Up Your Computer's IP Address

Skip this section if your computer is already set up to accept a dynamic IP address. This is the default for most new computers.

The Prestige is already set up to assign your computer an IP address. Use this section to set up your computer to receive an IP address or assign it a static IP address in the 192.168.1.2 to 192.168.1.254 range with a subnet mask of 255.255.255.0. This is necessary to ensure that your computer can communicate with your Prestige.

Your computer must have an Ethernet card and TCP/IP installed. TCP/IP should already be installed on computers using Windows NT/2000/XP, Macintosh OS 7 and later operating systems.

3.1 Windows 2000/NT/XP

1. In Windows XP, click **start**, **Control Panel**. In Windows 2000/NT, click **Start**, **Settings**, **Control Panel**.
2. In Windows XP, click **Network Connections**.

   In Windows 2000/NT, click **Network and Dial-up Connections**.
3. Right-click **Local Area Connection** and then click **Properties**.
4. Select **Internet Protocol (TCP/IP)** (under the **General** tab in Win XP) and click **Properties**.
5. The **Internet Protocol TCP/IP Properties** screen opens (the **General tab** in Windows XP).

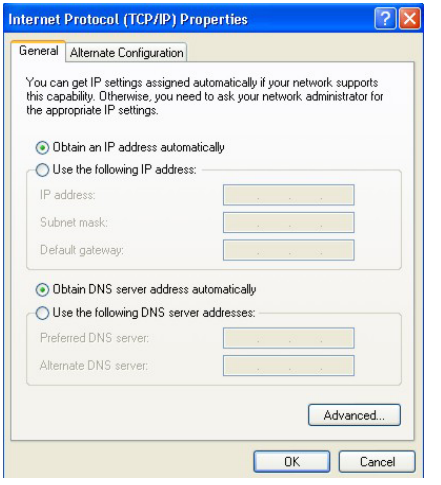
   - To have your computer assigned a dynamic IP address, click **Obtain an IP address automatically**.

   If you know your DNS sever IP address(es), type them in the **Preferred DNS server** and/or **Alternate DNS server** fields.

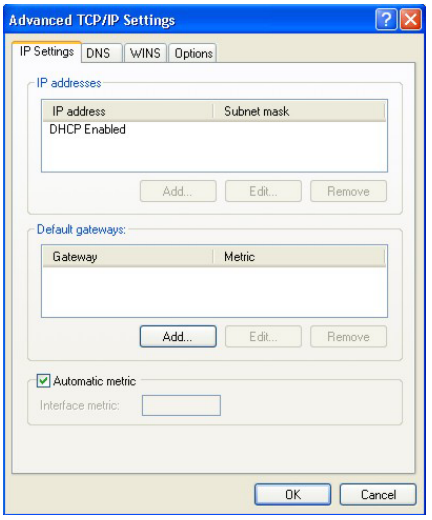
   -To configure a static IP address, click **Use the following IP Address** and fill in the **IP address** (choose one from192.168.1.2 to 192.168.1.254), **Subnet mask** (255.255.255.0), and **Default gateway** (192.168.1.1) fields.

   Then enter your DNS server IP address(es) in the **Preferred DNS server** and/or **Alternate DNS server** fields.

   If you have more than two DNS servers, click **Advanced**, the **DNS** tab and then configure them using **Add**.



6. Click **Advanced**. Remove any previously installed gateways in the **IP Setting**s tab and click **OK** to go back to the **Internet Protocol TCP/IP Properties** screen.



7. Click **OK** to close the **Internet Protocol (TCP/IP) Properties** window.

8. Click **OK** to close the **Local Area Connection Properties** window.

3.2 Checking/Updating Your Computer's IP Address

1. In the computer, click **Start**, (**All) Programs**, **Accessories** and then **Command Prompt**.
2. In the **Command Prompt** window, type "ipconfig" and then press **ENTER** to verify that your computer's IP address is in the correct range (192.168.1.2 to 192.168.1.254) with subnet mask 255.255.255.0. This is necessary in order to communicate with the Prestige.

Refer to your *User's Guide* for detailed IP address configuration for other Windows and Macintosh computer operating systems.

3.3 Testing the Connection to the Prestige

1. Click **Start**, (**All**) **Programs**, **Accessories** and then **Command Prompt**.
2. In the **Command Prompt** window, type "ping" followed by a space and the IP address of the Prestige (192.168.1.1 is the default).

3. Press **ENTER** and the following screen displays.

```
C:\>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time=10ms TTL=254
Reply from 192.168.1.1: bytes=32 time<10ms TTL=254
Reply from 192.168.1.1: bytes=32 time<10ms TTL=254
Reply from 192.168.1.1: bytes=32 time<10ms TTL=254

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  10ms, Average =  2ms
```

Your computer can now communicate with the Prestige using the **LAN** port.

4 Configuring Your Prestige

This *Compact Guide shows* you how to use the web configurator only. See your *User's Guide* for background information on all Prestige features and SMT (System Management Terminal) configuration.

4.1 Accessing Your Prestige Via Web Configurator

Step 1. Launch your web browser. Enter "192.168.1.1" as the web site address.

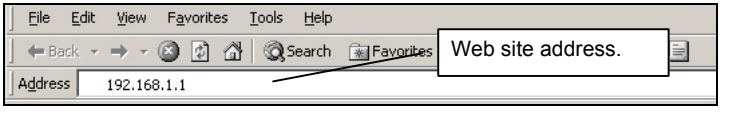


Figure 3 Entering Prestige LAN IP Address in Internet Explorer

Step 2. An **Enter Network Password** window displays. Enter the user name ("admin" is the default), password ("1234" is the default) and click **OK**.

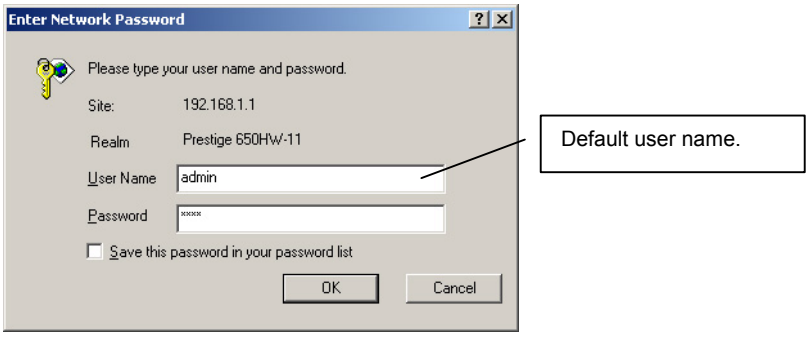


Figure 4 Web Configurator: Password Screen

Step 3. You should now see the web configurator **Site Map** screen.

- Click **Wizard Setup** to begin a series of screens to configure your Prestige for the first time.
- Click a link under **Advanced Setup** to configure advanced Prestige features.
- Click a link under **Maintenance** to see Prestige performance statistics, upload firmware and back up, restore or upload a configuration file.
- Click **Logout** in the navigation panel when you have finished a Prestige management session.

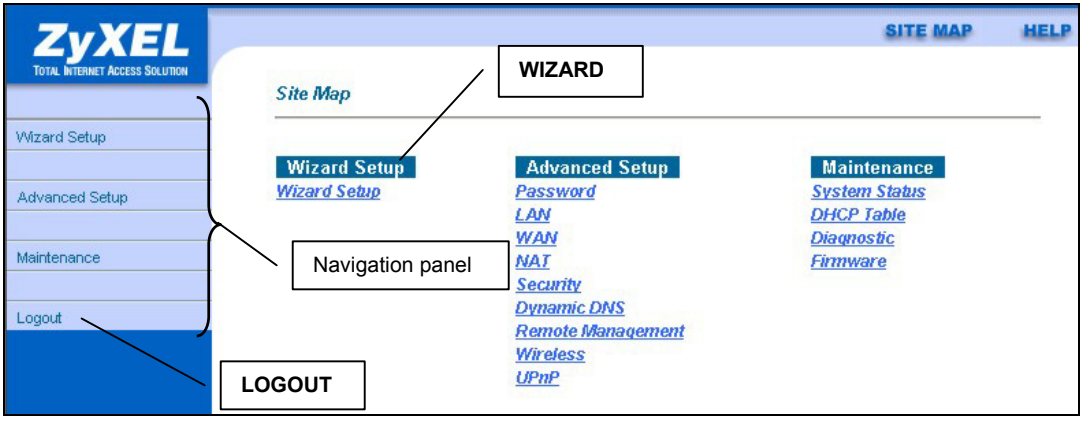


Figure 5 Web Configurator: Site Map Screen

The Prestige automatically logs you out if it is left idle for five minutes; press ENTER **to log back in again.**

4.2 Common Screen Command Buttons

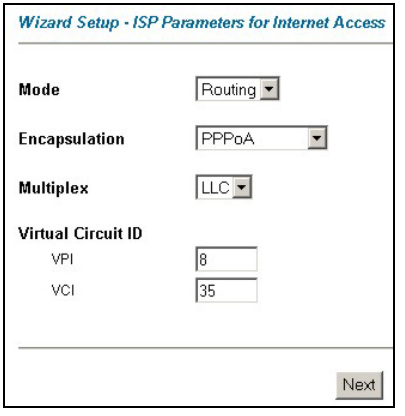
The following table shows common command buttons found on many web configurator screens.

Apply	Click **Apply** to save your changes back to the Prestige.
Reset/Cancel	Click **Reset** or **Cancel** to begin configuring this screen afresh.

4.3 Internet Access Using the Wizard

Use the Wizard Setup screens to configure your system for Internet access settings and fill in the fields with the information in the *Internet Account Information* table. Your ISP may have already configured some of the fields in the wizard screens for you.

Step 1. In the **Site Map** screen click **Wizard Setup** to display the first wizard screen.



From the **Mode** drop-down list box, select **Routing** (default) if your ISP allows multiple computers to share an Internet account. Otherwise select **Bridge**.

Select the encapsulation type your ISP uses from the **Encapsulation** drop-down list box. Choices vary depending on what you select in the **Mode** field.

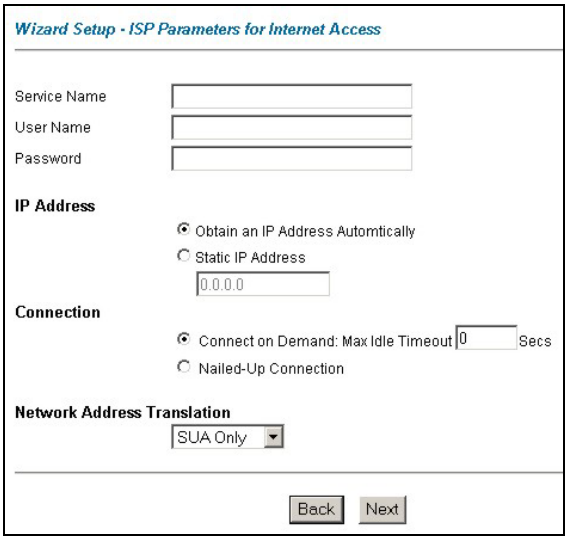
Select the multiplexing method used by your ISP from the **Multiplex** drop-down list box.

Enter the correct Virtual Path Identifier (VPI) and Virtual Channel Identifier (VCI) numbers supplied by your ISP in the **VPI** and **VCI** fields. These fields may already be configured.

Click **Next**.

Figure 6 Wizard Screen 1

Step 2. The second wizard screen varies depending on what mode and encapsulation type you use. All screens shown are with routing mode. Configure the fields and click **Next** to continue.



If your ISP provides the name of your PPPoE service provider, enter it in the **Service Name** field.

Enter the user name and password *exactly* as your ISP assigned them.

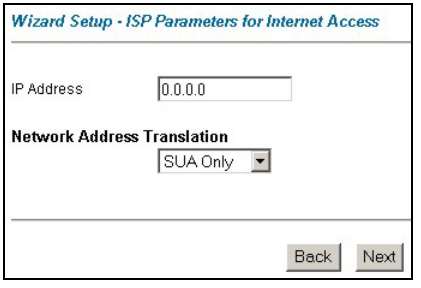
Select **Obtain an IP Address Automatically** if you have a dynamic IP address; otherwise select **Static IP Address** and type your ISP assigned IP address in the text box below.

Select **Connect on Demand** when you don't want the connection up all the time and specify an idle time-out period (in seconds) in the **Max. Idle Timeout** field.

Select **Nailed-Up Connection** when you want your connection up all the time. The Prestige will try to bring up the connection automatically if it is disconnected.

Figure 7 Internet Connection with PPPoE

From the **Network Address Translation** drop-down list box, select **SUA Only**, **Full Feature** or **None**. Refer to the *Network Address Translation* section for more information.

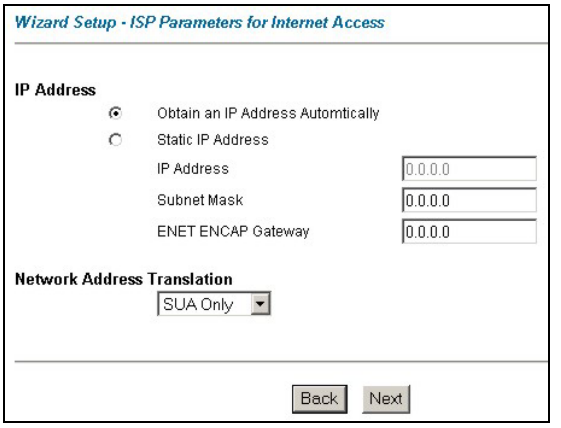


Enter the IP address given by your ISP in the **IP Address** field.

The IP Address field is not available for bridge mode.

Refer to *Figure 7* for description of the **Network Address Translation** field.

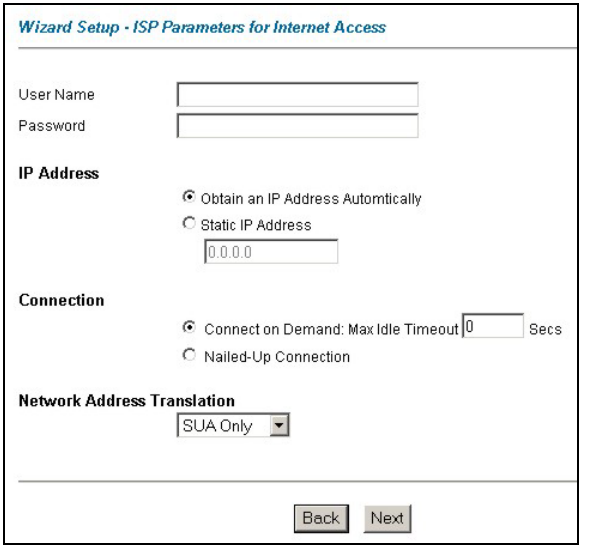
Figure 8 Internet Connection with RFC 1483



In the **ENET ENCAP Gateway** field, enter the gateway IP address given by your ISP.

Refer to *Figure 7* for other field descriptions.

Figure 9 Internet Connection with ENET ENCAP



Refer to *Figure 7* for field descriptions.

The IP Address **and** Network Address Translation **fields are *not* available for bridge mode.**

Figure 10 Internet Connection with PPPoA

Step 3. Verify the settings in the screen shown next. To change the LAN information on the Prestige, click **Change LAN Configurations**. Otherwise click **Save Settings** to save the configuration and skip to step 5.

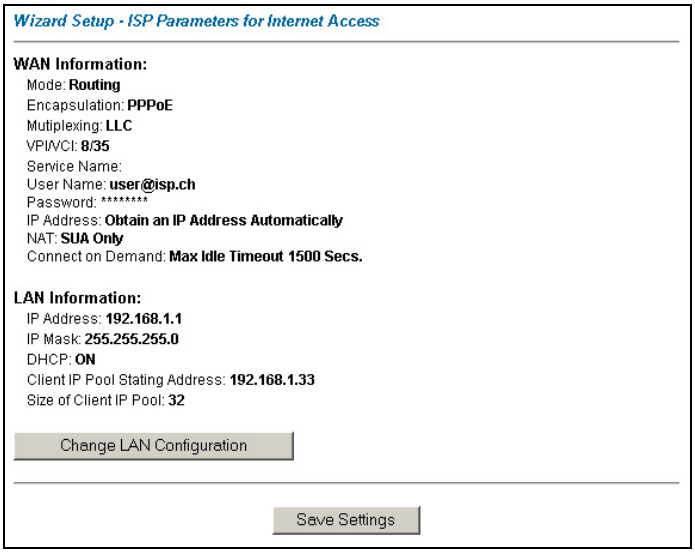


Figure 11 Wizard Screen 3

Step 4. If you want to change your Prestige LAN settings, click **Change LAN Configuration** to display the screen as shown next.

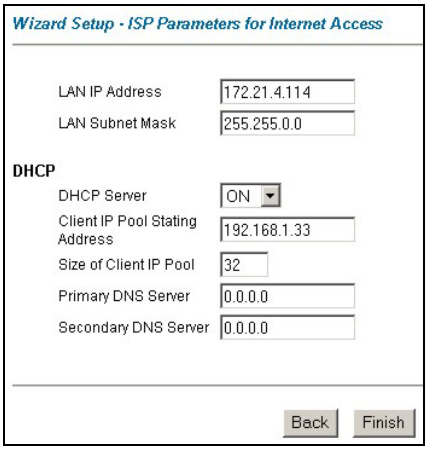


Figure 12 Wizard: LAN Configuration

Enter the IP address of your Prestige in dotted decimal notation in the **LAN IP Address** field. For example, 192.168.1.1 (factory default).

If you change the Prestige's LAN IP address, you must use the *new* IP address if you want to access the web configurator again.

Enter a subnet mask in dotted decimal notation in the **LAN Subnet Mask** field.

From the **DHCP Server** drop-down list box, select **On** to allow your Prestige to assign IP addresses, an IP default gateway and DNS servers to computer systems that support the DHCP client. Select **Off** to disable DHCP server.

When DHCP server is used, set the following items:

Specify the first of the contiguous addresses in the IP address pool in the **Client IP Pool Starting Address** field.

Specify the size or count of the IP address pool in the **Size of Client IP Pool** field.

Enter the IP address(es) of the DNS server(s) in the **Primary DNS Server** and/or **Secondary DNS Server** fields.

Step 5. The Prestige automatically tests the connection to the computer(s) connected to the LAN ports. To test the connection from the Prestige to the ISP, click **Start Diagnose**. Otherwise click **Return to Main Menu** to go back to the **Site Map** screen.

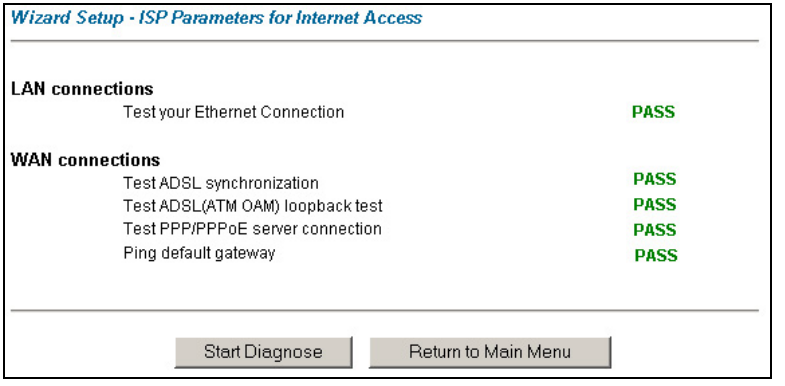


Figure 13 Wizard Screen 4

4.4 Test Your Internet Connection

Launch your web browser and navigate to www.zyxel.com. Internet access is just the beginning. Refer to the *User's Guide* for more detailed information on the complete range of Prestige features. If you cannot access the Internet, open the web configurator again to confirm that the Internet settings you configured in the Wizard Setup are correct.

5 Advanced Configuration

This section shows how to configure some of the advanced features of the Prestige.

5.1 Wireless LAN Setup

A wireless LAN (WLAN) provides a flexible data communications system that you can use to access various services (the Internet, email, printer services, etc.) on the wired network without additional expensive network cabling infrastructure. In effect, a wireless LAN environment provides you the freedom to stay connected to the wired network while moving in the coverage area.

To configure wireless settings, click **Advanced Setup** in the navigation panel, **Wireless** and then click the **Wireless** link.

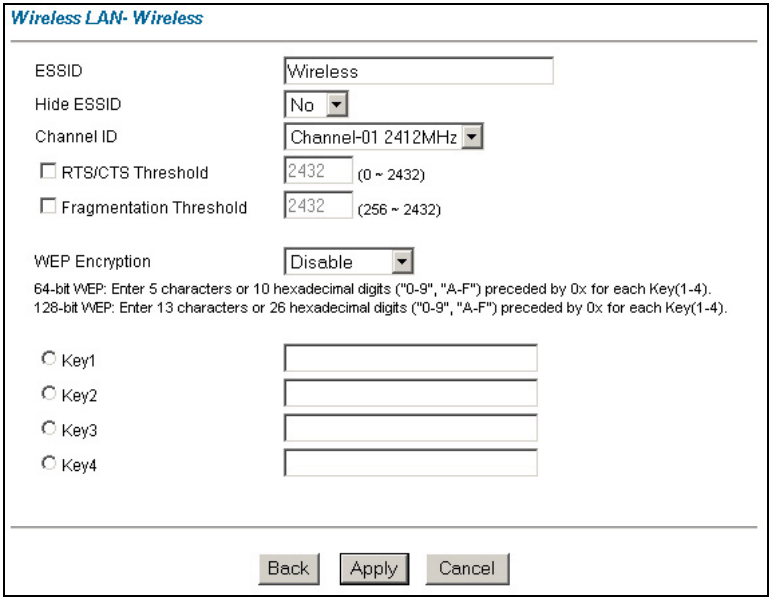


Figure 14 Wireless LAN: Wireless

The following table describes the fields in this screen.

Table 3 Wireless LAN: Wireless

LABEL	DESCRIPTION
ESSID	(Extended Service Set IDentity) The ESSID is a unique name to identify the Prestige in the wireless LAN. Wireless clients associating to an Access Point (the Prestige) must have the same ESSID. Enter a descriptive name (up to 32 printable 7-bit ASCII characters).
Hide ESSID	Select **Yes** to hide the ESSID so a wireless client cannot obtain the ESSID through passive scanning. Select **No** to make the ESSID visible so a wireless client can obtain the ESSID through passive scanning.
Channel ID	The range of radio frequencies used by IEEE 802.11b wireless devices is called a channel. Set the operating frequency/channel depending on your particular region. Select a channel from the drop-down list box. Adjacent APs with overlapping coverage areas should use different channels to reduce crosstalk. Crosstalk occurs when the radio signals from access points overlap and interfere with one another degrading performance.
RTS/CTS Threshold	Select this option to enable the RTS (Request To Send)/CTS (Clear To Send) threshold to minimize collisions. Enter a value between 0 and 2432. The default is 2432. Request To Send is the threshold (number of bytes) for enabling the RTS/CTS handshake. Data with its frame size larger than this value will perform the RTS/CTS handshake. Setting this attribute to be larger than the maximum MSDU (MAC Service Data Unit) size turns off the RTS/CTS handshake.
Fragmentation Threshold	Fragmentation Threshold is the maximum data fragment size that can be sent.
WEP Encryption	WEP (Wired Equivalent Privacy) encrypts data frames before transmitting them over the wireless network. Select **Disable** allows all wireless computers to communicate with the access points without any data encryption. Select **64-bit WEP** or **128-bit WEP** and then configure the keys in the fields provided to activate data encryption.
Key 1 to Key 4	The WEP keys are used to encrypt data. Both the Prestige and the wireless clients must use the same WEP key for data transmission. If you chose 64-bit WEP, then enter any 5 characters (ASCII string) or 10 hexadecimal characters ("0-9", "A-F"). If you chose 128-bit WEP, then enter 13 characters (ASCII string) or 26 hexadecimal characters ("0-9", "A-F"). Select only one key to be activated at any one time.

The wireless clients and Prestige must use the same ESSID, channel ID and WEP encryption key (if WEP is enabled) for wireless communication.

5.2 Wireless LAN Security Setup

For added security, set your Prestige to check the MAC address of the wireless client device against a list of allowed or denied MAC addresses.

To set up the MAC address list for wireless LAN, click **Advanced Setup** in the navigation panel, **Wireless** and then click the **MAC Filter** link.

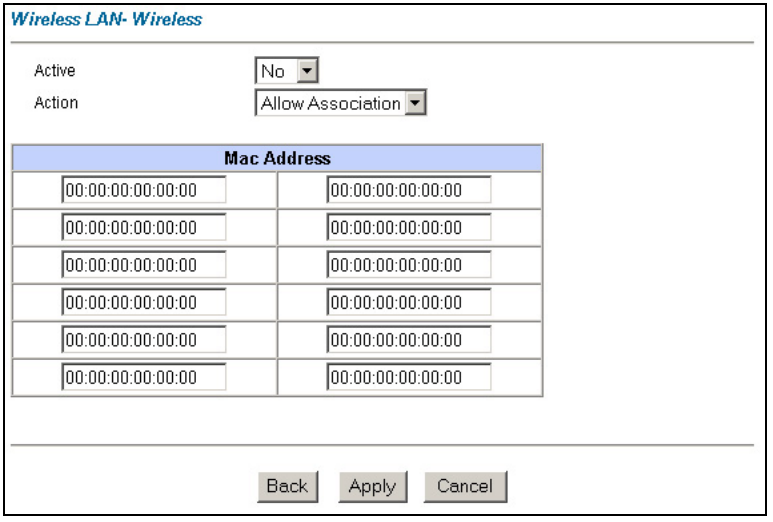


Figure 15 Wireless LAN: MAC Address Filter

The following table describes the fields in this screen.

Table 4 Wireless LAN: MAC Address Filter

FIELD	DESCRIPTION
Active	Select **Yes** from the drop down list box to enable MAC address filtering.

Table 4 Wireless LAN: MAC Address Filter

FIELD	DESCRIPTION
Action	Define the filter action for the list of MAC addresses in the **MAC Address** table. Select **Deny Association** to block access to the router, MAC addresses not listed will be allowed to access the router Select **Allow Association** to permit access to the router, MAC addresses not listed will be denied access to the router.
MAC Address	Enter the list of MAC addresses in this table.

5.3 Network Address Translation Overview

NAT (Network Address Translation - NAT, RFC 1631) is the translation of the IP address of a host in a packet. For example, the source address of an outgoing packet, used within one network is changed to a different IP address known within another network.

If you have a single public IP address then select **SUA Only** in the **NAT-Mode** screen (see *Figure 16*). If you have multiple public IP addresses then you may use full feature mapping types (see the *User's Guide* for more details).

NAT supports five types of IP/port mapping. They are:

1. **One-to-One**: One-to-one mode maps one local IP address to one global IP address. Note that port numbers do not change for One-to-one NAT mapping type.
2. **Many-to-One**: Many-to-One mode maps multiple local IP addresses to one global IP address.
3. **Many-to-Many Overload**: Many-to-Many Overload mode maps multiple local IP addresses to shared global IP addresses.
4. **Many-to-Many No Overload**: Many-to-Many No Overload mode maps each local IP address to unique global IP addresses.
5. **Server**: This type allows you to specify inside servers of different services behind the NAT to be accessible to the outside world.

5.4 Configuring SUA Server

An SUA server set is a list of inside (behind NAT on the LAN) servers, for example, web or FTP, that you can make visible to the outside world even though SUA makes your whole inside network appear as a single computer to the outside world.

Step 1. From the main screen click **Advanced Setup** and then **NAT** to open the **NAT-Mode** screen. Select **SUA Only**.

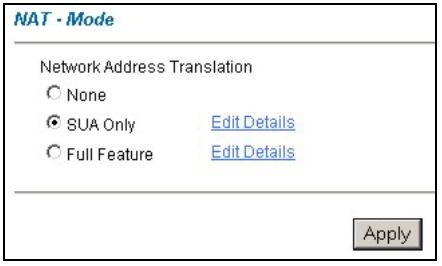


Figure 16 NAT: Mode

Step 2. Click **Edit Details**.

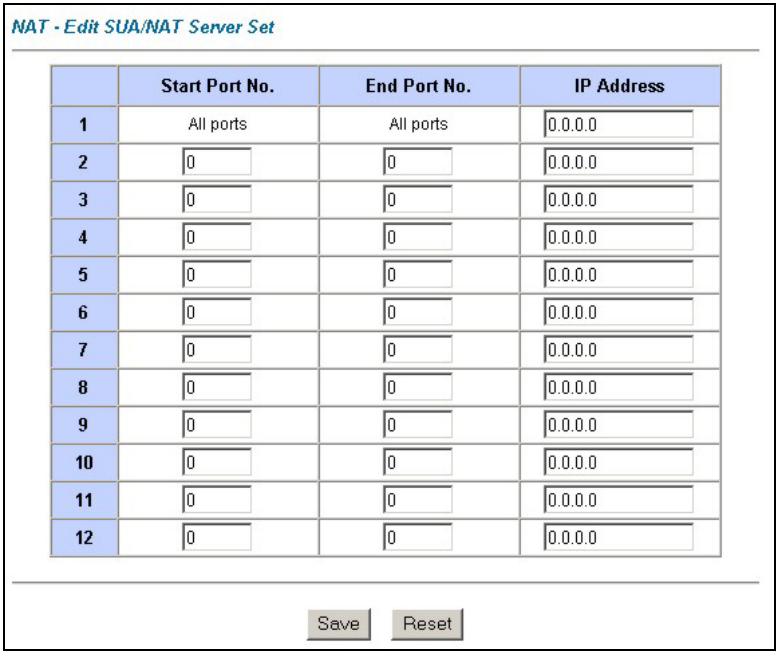


Figure 17 SUA/NAT Server

The following table describes the fields in this screen.

Table 5 SUA/NAT Server

LABEL	DESCRIPTION
Start Port No.	Type a port number in this field. To forward only one port, type the port number again in the **End Port** field. To forward a series of ports, type the start port number here and the end port number in the **End Port** field.
End Port No.	Type a port number in this field. To forward only one port, type the port number in the **Start Port** field above and then type it again in this field. To forward a series of ports, type the last port number in a series that begins with the port number in the **Start Port** field above.
IP Address	Enter the inside IP address of the server here.

5.5 UPnP Overview

Universal Plug and Play (UPnP) is a distributed, open networking standard that uses TCP/IP for simple peer-to-peer network connectivity between devices. A UPnP device can dynamically join a network, obtain an IP address, convey its capabilities and learn about other devices on the network. In turn, a device can leave a network smoothly and automatically when it is no longer in use.

All UPnP-enabled devices may communicate freely with each other without additional configuration. Disable UPnP if this is not your intention.

Windows ME and Windows XP support UPnP. See the Microsoft website for information about other Microsoft operating systems.

Make sure you apply Microsoft's UPnP security patch before enabling the UPnP feature. Refer to the Microsoft website.

5.6 Configuring UPnP

Click **Advanced Setup** and then **UPnP** to open the **UPnP** screen.

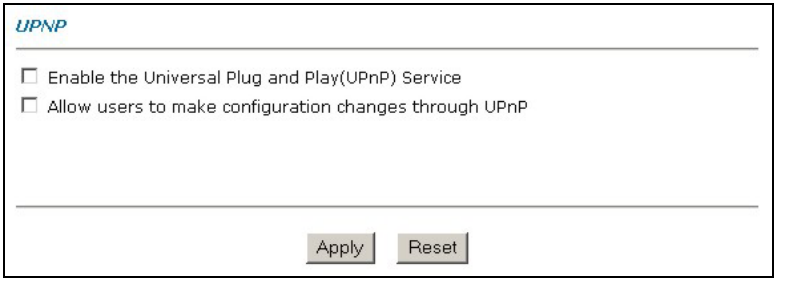


Figure 18 UPnP

The following table describes the fields in this screen.

Table 6 UPnP

FIELD	DESCRIPTION
Enable the Universal Plug and Play (UPnP) Service	Select this checkbox to activate UPnP. Be aware that anyone could use a UPnP application to open the web configurator's login screen without entering the Prestige's IP address (although you must still enter the password to access the web configurator).
Allow users to make configuration changes through UPnP	Select this check box to allow UPnP-enabled applications to automatically configure the Prestige so that they can communicate through the Prestige, for example by using NAT Traversal, UPnP applications automatically reserve a NAT forwarding port in order to communicate with another UPnP enabled device; this eliminates the need to manually configure port forwarding for the UPnP enabled application.

6 Troubleshooting

Table 7 Troubleshooting

PROBLEM	CORRECTIVE ACTION
None of the LEDs turn on when you turn on the Prestige.	Make sure that you have the correct power adapter connected to the Prestige and plugged in to an appropriate power source. Check all cable connections. If the LEDs still do not turn on, you may have a hardware problem. In this case, you should contact your local vendor.
Cannot access the Prestige from the LAN.	Check the cable connection between the Prestige and your computer or hub. Refer to the *Rear Panel Connections* section for details. Ping the Prestige from a LAN computer. Make sure your computer Ethernet adapter is installed and functioning properly.
Cannot ping any computer on the LAN.	If the LAN LEDs are all off, check the cable connections between the Prestige and your LAN computers. Verify that the IP address, subnet mask of the Prestige and the LAN computers are in the same IP address range.
Cannot ping any computer on the WLAN	Make sure the wireless card is properly inserted in the Prestige and the **WLAN** LED is on. Make sure the wireless card on the wireless client is working properly. Check that both the Prestige and wireless client(s) are using the same ESSID, channel and WEP keys (if WEP encryption is activated).

Table 7 Troubleshooting

Cannot get a WAN IP address from the ISP.	The WAN IP is provided after the ISP verifies the MAC address, host name or user ID. Find out the verification method used by your ISP and configure the corresponding fields. If the ISP checks the user ID, check your service type, user name, and password in the **WAN** screen.
Cannot access the Internet.	Verify the Internet connection settings in the **WAN** screen. Make sure you entered the correct user name and password. For wireless clients, check that both the Prestige and wireless client(s) are using the same ESSID, channel and WEP keys (if WEP encryption is activated).

ZyXEL

Unleash Networking Power

Corporate Headquarters
ZyXEL Communications Co.
Tel: +886-3-578-3942
Fax: +886-3-578-2439
Email: sales@zyxel.com.tw
http://www.zyxel.com
http://www.zyxel.com.tw

North America
ZyXEL Communications Inc.
Tel: +1-714-632-0882
Fax: +1-714-632-0858
Email: sales@zyxel.com
http://www.zyxel.com

Germany
ZyXEL Deutschland GmbH.
Tel: +49 2405 6909 0
Fax: +49 2405 6909 99
Email: sales@zyxel.de
http://www.zyxel.de

Denmark
ZyXEL Communications A/S
Tel: +45 39 55 07 00
Fax: +45 39 55 07 07
Email: sales@zyxel.dk
http://www.zyxel.dk

Norway
ZyXEL Communications A/S
Tel: +47 22 80 61 80
Fax: +47 22 80 61 81
Email: sales@zyxel.no
http://www.zyxel.no

Sweden
ZyXEL Communications A/S
Tel: +46 31 744 77 00
Fax: +46 31 744 77 01
Email: sales@zyxel.se
http://www.zyxel.se

Finland
ZyXEL Communications Oy
Tel: +358-9-4780 8400
Fax: +358-9-4780 8448
Email: sales@zyxel.fi

65-020-650024