Prestige 662H/HW Series

ADSL 2+ 4 Port Security Gateway

Quick Start Guide

Version 3.40
September 2004

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1 Introducing the Prestige

The Prestige 662H/HW ADSL 2/2+ Security Gateway is the ideal all-in-one device for small networks connecting to the Internet via ADSL. Key features of the Prestige include NAT, bandwidth management, firewall and anti-virus packet scan. The Prestige 662HW comes with built-in IEEE 802.11g Wireless LAN capability that provides wireless LAN connection without the expense of network cabling infrastructure. 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**): _____		
Multiplexing (VC-based or LLC-based):	☐ **VC**	☐ **LLC**
Encapsulation: (choose one below)		
❍ **RFC 1483**		
❍ **ENET ENCAP**	Ethernet Encapsulation Gateway IP Address: _____	
❍ **PPPoA**	User Name: _____	Password: _____
❍ **PPPoE**	Service Name: _____	
	User Name: _____	Password: _____

Certifications

1. Go to www.zyxel.com
2. Select your product from the drop-down list box on the ZyXEL home page to go to that product's page.
3. Select the certification you wish to view from this page.

2 Hardware

2.1 Rear Panel Connections

Figure 1 Prestige 662HW Rear Panel

Figure 2 Prestige 662H Rear Panel

Table 1 Rear Panel Description

LABEL	DESCRIPTION
1. DSL	Connect to a telephone jack using the included telephone wire.
2. LAN 1/DMZ.. 4	Connect to a computer/external hub using an Ethernet cable.
3. POWER 12V DC	Connect to a power source using only the included power adaptor for your region (see your *User's Guide*).

Table 1 Rear Panel Description

LABEL	DESCRIPTION
After you've made the connections, connect the power adaptor to a power supply and push in the power button to turn on the Prestige. The **PWR/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.	
CON/AUX switch CON/AUX port	Only connect this port if you want to configure the Prestige using the SMT via console port see your User's Guide for details. Set this switch to the **CON** side to use the **CON/AUX** port as a console port for local device configuration and management. Connect the RJ-45 end of the console cable to the console port of the Prestige and the other end to a serial port (COM1, COM2 or other COM port) on your computer. Your computer should have a terminal emulation communications program (such as HyperTerminal) set to VT100 terminal emulation, no parity, 8 data bits, 1 stop bit, no flow control and 9600 bps port speed. The console port is also an auxiliary WAN port. Push the **CON/AUX** switch to **AUX** and connect the **CON/AUX** port to your modem or TA.
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 The Front Panel LEDs

Figure 3 Prestige 662HW Front Panel

Figure 4 Prestige 662H Front Panel

Refer to the following table for more detailed LED descriptions.

Table 2 Front Panel LED Description

LED	COLOR	STATUS	DESCRIPTION
PWR/SYS	Green	On	The Prestige is receiving power and functioning properly.
		Blinking	The Prestige is rebooting.
	Red	On	Power to the Prestige is too low.
		Blinking	The Prestige is receiving power but not functioning properly.
		Off	The system is not ready or has malfunctioned.
LAN 1/DMZ-4	Green	On	The Prestige has a successful 10Mb Ethernet connection.
		Blinking	The Prestige is sending/receiving data.
	Amber	On	The Prestige has a successful 100Mb Ethernet connection.
		Blinking	The Prestige is sending/receiving data.
		Off	The LAN is not connected.
WLAN	Green	On	The Prestige is ready, but is not sending/receiving data through the wireless LAN.
		Blinking	The Prestige is sending/receiving data through the wireless LAN.
		Off	The wireless LAN is not ready or has failed.
DSL/ACT	Green	Fast Blinking	The Prestige is sending/receiving non-PPP data.

Table 2 Front Panel LED Description

LED	COLOR	STATUS	DESCRIPTION
		Slow Blinking	The Prestige is initializing the DSL line.
		On	The system is ready, but is not sending/receiving non-PPP data.
	Amber	On	The connection to the PPPoE server is up.
		Blinking	The Prestige is sending/receiving PPP data.
		Off	The DSL link is down.
CON/AUX	Green	On	The **CON/AUX** switch is set to **CON**, the **CON/AUX** port is connected to a management computer and someone is logged into the Prestige.
	Orange	On	The **CON/AUX** switch is set to **AUX** and the **CON/AUX** port has an Internet connection through a dial-up modem.
		Blinking	The **CON/AUX** switch is set to **AUX** and the **CON/AUX** port is sending or receiving data through a dial-up modem or ISDN TA.
		Off	The CON/AUX link is not ready, or has failed.

3 Internet Access With Zero Configration

With the Prestige's Zero Configuration, you can access the Internet easily. Simply connect a computer to the Prestige and access the Internet without changing the network settings (such as the IP address and subnet mask) of the computer.

Step 1. Make the hardware connections and turn on the Prestige (refer to the *Rear Panel Connections* section).

Step 2. Wait until the **DSL/ACT** LED turns steady on. Launch your web browser and navigate to a web site (for example, www.zyxel.com). The Prestige automatically detects and configures your Internet connection. This may take about two minutes.

Step 3. If you have a PPPoE or PPPoA connection type, a screen displays prompting you to enter your Internet account username and/or password. Enter the username, password and/or service name exactly as provided by your ISP. Click **Apply**.

Step 4. You should be able to access the Internet. Otherwise, follow the on-screen instructions to solve the problem(s). Refer to the rest of this guide or the *User's Guide* to manually configure your Prestige for Internet connection and other advanced settings.

4 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 setting for most new computers) or has a static private IP address.

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.

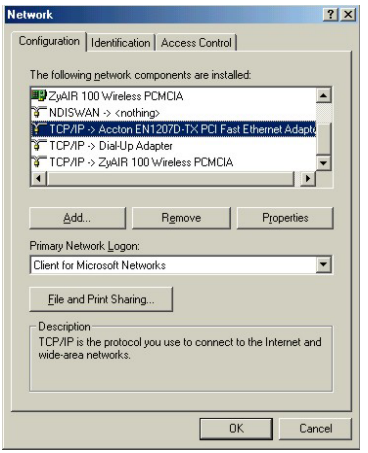
4.1 Windows 95/98/Me

1. Click **Start**, **Settings**, **Control Panel** and double-click the **Network** icon to

open the **Network** window.

2. The **Network** window **Configuration** tab displays a list of installed components. You need a network adapter, the TCP/IP protocol and Client for Microsoft Networks.

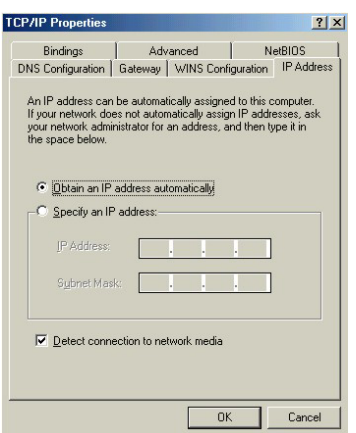
3. In the **Network** window **Configuration** tab, select your network adapter's TCP/IP entry and click **Properties**.



4. Click the **IP Address** tab.

   -If your IP address is dynamic, select **Obtain an IP address automatically**.

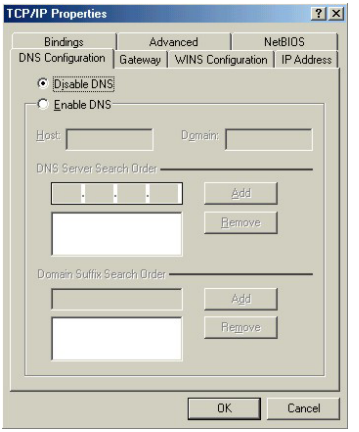
   -If you have a static IP address, select **Specify an IP address** and type your information into the **IP Address** and **Subnet Mask** fields.



5. Click the **DNS Configuration** tab.

   -If you do not know your DNS information, select **Disable DNS**.

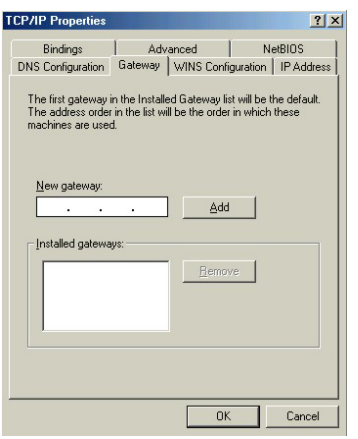
   -If you know your DNS information, select **Enable DNS** and type the information in the fields below (you may not need to fill them all in).



6. Click the **Gateway** tab.

   -If you do not know your gateway's IP address, remove previously installed gateways.

   -If you have a gateway IP address, type it in the **New gateway field** and click **Add**.



7. Click **OK** to save and close the **TCP/IP Properties** window.
8. Click **OK** to close the **Network** window. Insert the Windows CD if prompted.
9. Turn on your Prestige and restart your computer when prompted.

Verifying Your Computer's IP Address

1. Click **Start** and then **Run**.

2. In the **Run** window, type "winipcfg" and then click **OK** to open the **IP Configuration** window.

3. Select your network adapter. You should see your computer's IP address, subnet mask and default gateway.

4.2 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**.

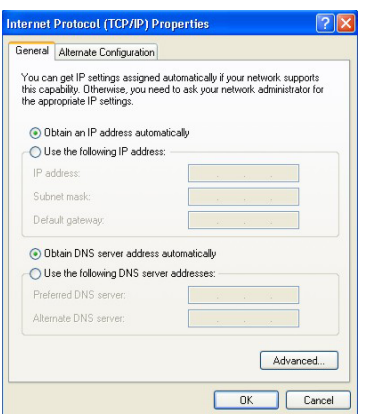
4. Select **Internet Protocol (TCP/IP)** (under the **General** tab in Win XP) and click **Properties**.

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.

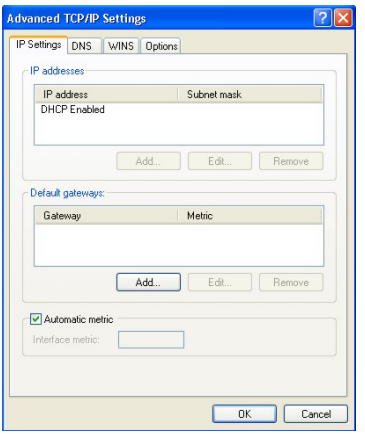
   -To configure a static IP address, click **Use the following IP Address** and fill in the **IP address** (choose one from192.168.1.2 to 192.168.1.254), **Subnet mask** (255.255.255.0), and **Default gateway** (192.168.1.1) fields.



   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 Settings** 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.

4.3 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.

4.4 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.

5 Configuring Your Prestige

***This Quick Start 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.**

Web configurator screens for Prestige 662HW-61 are shown. Screens vary slightly for different Prestige models.

5.1 Accessing Your Prestige Via Web Configurator

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

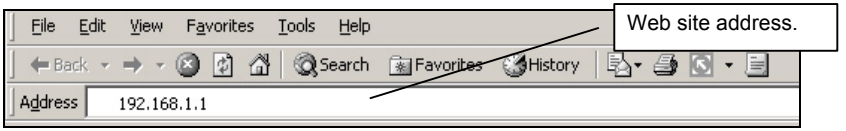


Figure 5 Entering Prestige LAN IP Address in Internet Explorer

Step 2. A window displays. Enter the password ("1234" is the default). Click **Login** to proceed to a screen asking you to change your password. Click **Cancel** to revert to the default password in the password field

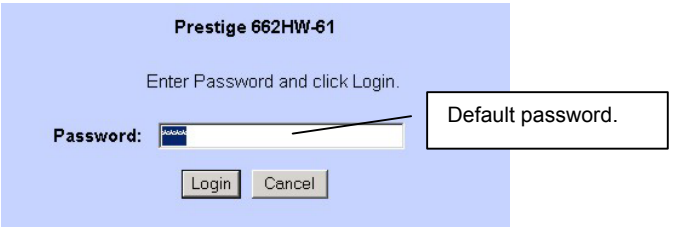
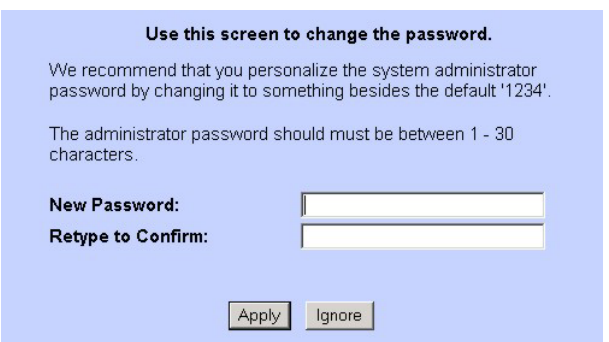


Figure 6 Web Configurator: Password Screen

Step 3. It is highly recommended you change the default password! Enter a new password, retype it to confirm and click **Apply**; alternatively click **Ignore** to proceed to the main menu if you do not want to change the password now.

If you do not change the password, the following screen appears every time you log in.



Step 4. 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.

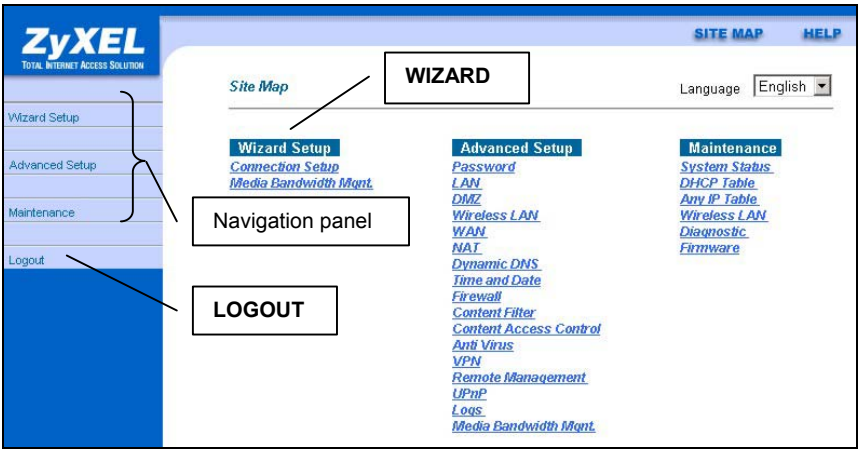


Figure 7 Web Configurator: Site Map Screen

The Prestige automatically times out after five minutes of inactivity. Simply log back into the Prestige if this happens to you.

5.2 Common Screen Command Buttons

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

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

5.3 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.

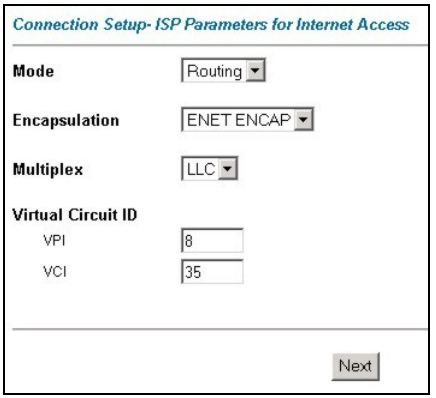


Figure 8 Internet Access: Wizard Screen 1

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**.

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.

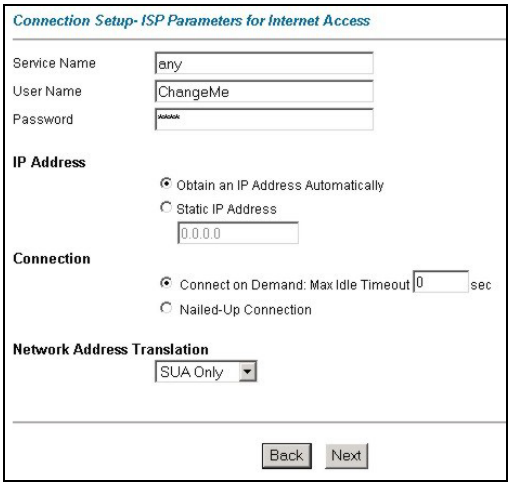


Figure 9 Internet Connection with PPPoE

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

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.

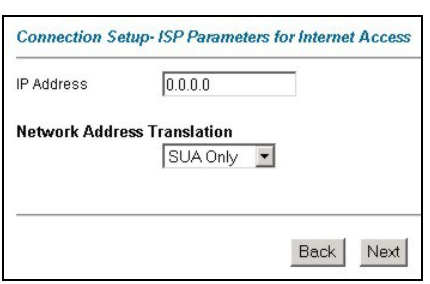


Figure 10 Internet Connection with RFC 1483

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 9* for description of the **Network Address Translation** field.

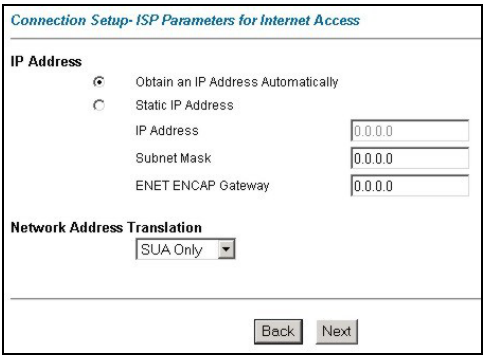


Figure 11 Internet Connection with ENET ENCAP

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

Refer to *Figure 9* for other field descriptions.

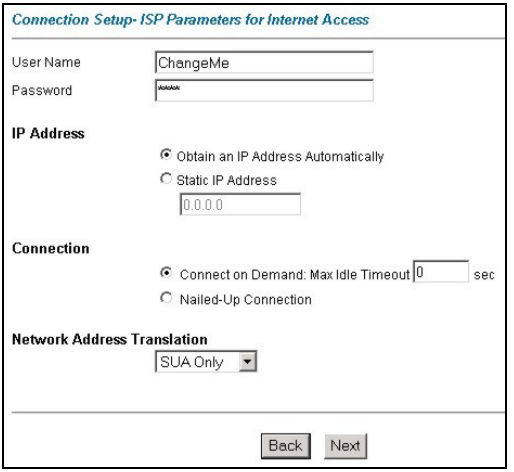


Figure 12 Internet Connection with PPPoA

Refer to *Figure 9* for field descriptions.

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

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.

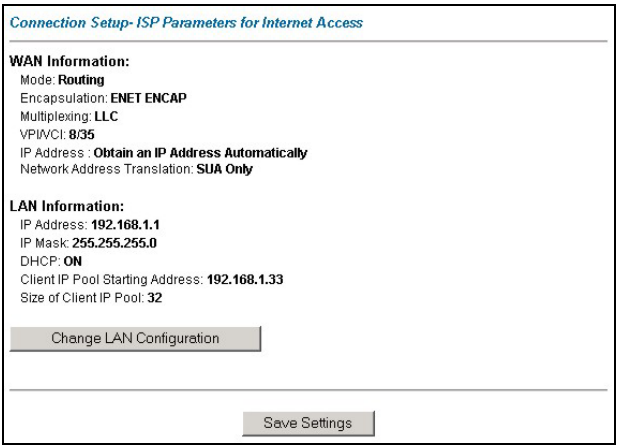


Figure 13 Internet Access: Wizard Screen 3

Step 5. If you want to change your Prestige LAN settings, click **Change LAN Configuration** to display the screen as shown next.

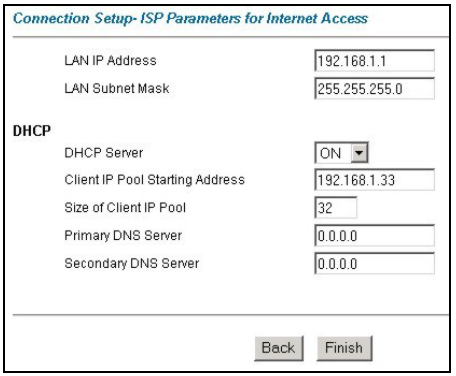


Figure 14 Wizard: LAN Configuration

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 6. 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.

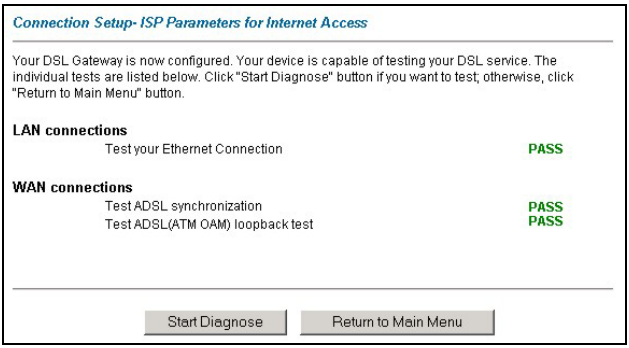


Figure 15 Internet Access: Wizard Screen 4

5.4 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.

5.5 Media Bandwidth Management Using the Wizard

The web configurator's **Media Bandwidth Magnt.** screens under **Wizard Setup** allows you to specify bandwidth classes based on an application (or service). You can allocate specific amounts of bandwidth capacity (bandwidth budgets) to different bandwidth classes.

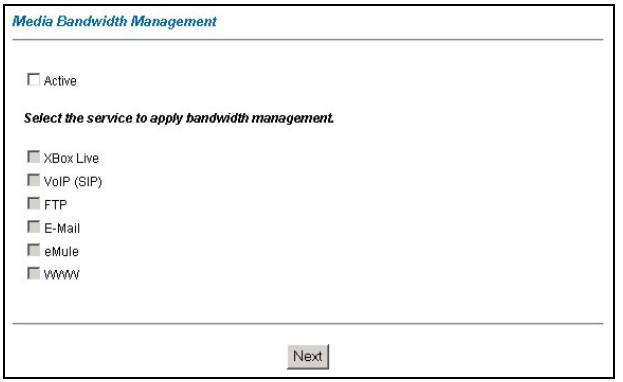
The Prestige applies bandwidth management to traffic that it forwards out through an interface. The Prestige does not control the bandwidth of traffic that comes into an interface.

Bandwidth management applies to all traffic flowing out of the Prestige through the interface, regardless of the traffic's source.

Traffic redirect or IP alias may cause LAN-to-LAN traffic to pass through the Prestige and be managed by bandwidth management.

Refer to *User's Guide* for more information and advanced configuration.

Step 1. Click **Media Bandwidth Mgnt.** under **Wizard Setup** in the SITE MAP screen.



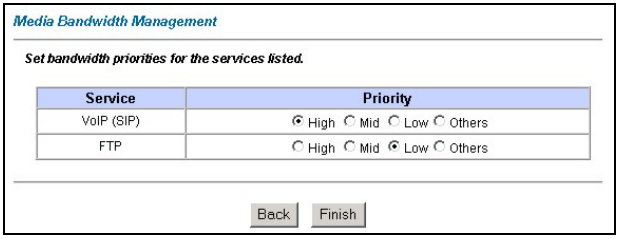
Select the **Active** check box to have the Prestige apply bandwidth management to traffic going out through the Prestige's WAN, LAN or WLAN port.

Create bandwidth management classes by selecting the service(s) from the list provided in the second wizard screen.

Click **Next**.

Figure 16 Media Bandwidth Mgnt.: Wizard Screen 1

Step 2. Use the third bandwidth management wizard screen to select the priorities that you want to apply to the service(s) you select in the previous wizard screen.



Select **High**, **Mid** or **Low** priority for each service to have your Prestige use a priority for traffic that matches that service.

The advanced **Class Configuration** screen allows you to edit these rule configurations. See the User's Guide.

Figure 17 Media Bandwidth Mgnt.: Wizard Screen 3

If the rules set up in this wizard are changed in the advanced **Class Configuration** screen, then the service priority radio button will be set to **Others**.

Click **Finish**.

Step 3. You have finished configuration of Media Bandwidth Management using the wizard screens. You may now continue configuring your device.

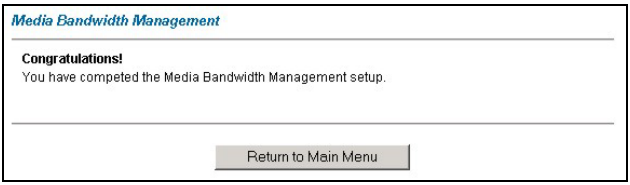


Figure 18 Media Bandwidth Mgnt.: Wizard Complete

6 Advanced Configuration

This section shows how to configure some of the advanced features[1] of the Prestige.

6.1 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.

The WLAN screens are only available when a WLAN card is installed.

To configure wireless settings, click **Advanced Setup**, **Wireless LAN** and then click **Wireless**.

[1] The wireless LAN features apply to Prestige 662HW models only.

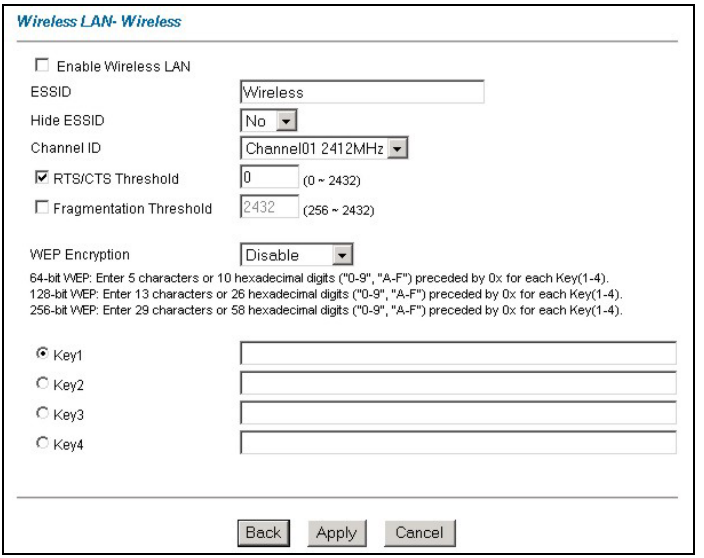


Figure 19 Wireless LAN: Wireless

The following table describes the fields in this screen.

Table 3 Wireless LAN: Wireless

LABEL	DESCRIPTION
Enable Wireless LAN	The wireless LAN is turned off by default, before you enable the wireless LAN you should configure some security by setting MAC filters and/or 802.1x security; otherwise your wireless LAN will be vulnerable upon enabling it. Select the check box to enable the wireless LAN.
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).

Table 3 Wireless LAN: Wireless

LABEL	DESCRIPTION
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 radio frequency used by IEEE 802.11b wireless devices is called a channel. Select a channel from the drop-down list box.
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**, **128-bit WEP** or **256-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 ASCII characters or 10 hexadecimal characters ("0-9", "A-F"). If you chose **128-bit WEP**, then enter 13 ASCII characters or 26 hexadecimal characters ("0-9", "A-F"). If you chose **256-bit WEP**, then enter 29 ASCII characters or 58 hexadecimal characters ("0-9", "A-F"). You must configure all four keys, but only one key can be activated at any one time. The default key is key 1.

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

6.2 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 LAN** and then click the **MAC Filter** link.

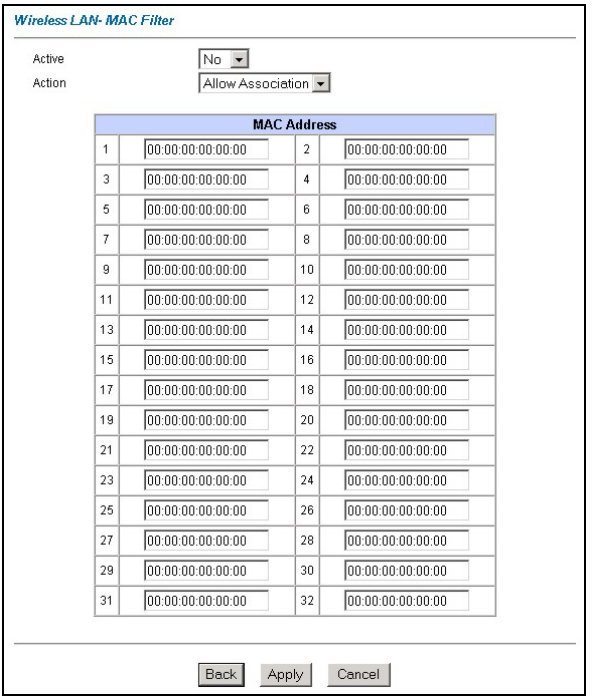


Figure 20 Wireless LAN: MAC Address Filter

The following table describes the fields in this screen.

Table 4 Wireless LAN: MAC Address Filter

LABEL	DESCRIPTION
Active	Select **Yes** from the drop down list box to enable MAC address filtering.
Action	Define the filter action for the list of MAC addresses in the **MAC Address** table. Select **Deny Association** to block access to the Prestige, MAC addresses not listed will be allowed to access the Prestige Select **Allow Association** to permit access to the Prestige, MAC addresses not listed will be denied access to the Prestige.
MAC Address	Enter the MAC addresses (in XX:XX:XX:XX:XX:XX format) of the wireless station that are allowed or denied access to the Prestige.

6.3 802.1x and WPA Overview

Wi-Fi Protected Access (WPA) is a subset of the IEEE 802.11i security specification draft. Key differences between WPA and WEP are user authentication and improved data encryption. WPA applies IEEE 802.1x and Extensible Authentication Protocol (EAP) to authenticate wireless clients using an external RADIUS database. You can't use the Prestige's local user database for WPA authentication purposes since the local user database uses MD5 EAP which cannot be used to generate keys.

WPA improves data encryption by using Temporal Key Integrity Protocol (TKIP), Message Integrity Check (MIC) and IEEE 802.1x. Temporal Key Integrity Protocol (TKIP) uses 128-bit keys that are dynamically generated and distributed by the authentication server. It includes a per-packet key mixing function, a Message Integrity Check (MIC) named Michael, an extended initialization vector (IV) with sequencing rules, and a re-keying mechanism.

To change your Prestige's authentication settings, click the **Wireless LAN** link under **Advanced Setup** and then the **802.1x/WPA** tab. The screen varies by the wireless port control and key management protocol you select.

6.4 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 21*). 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.

6.5 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**.

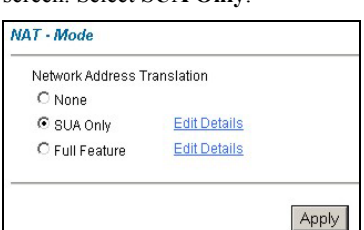


Figure 21 NAT: Mode

Step 2. Click **Edit Details**.

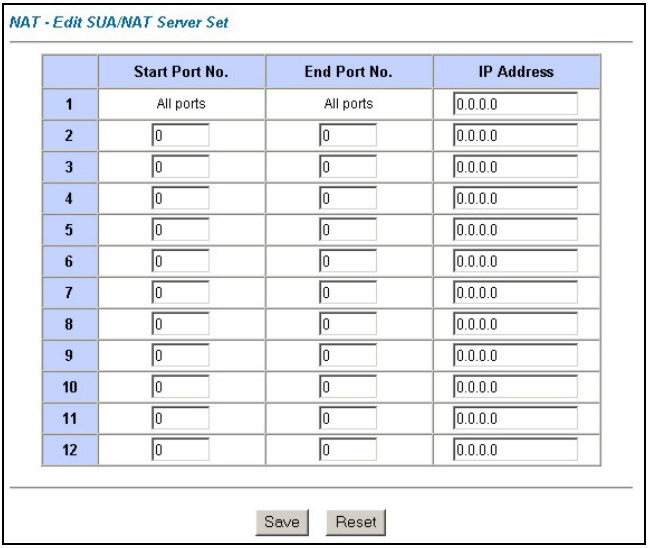


Figure 22 SUA/NAT Server

The following table describes the labels 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.

6.6 Firewall Overview

The Prestige firewall is a stateful inspection firewall and is designed to protect against Denial of Service attacks when activated. The Prestige's purpose is to allow a private Local Area Network (LAN) to be securely connected to the Internet. The Prestige can be used to prevent theft, destruction and modification of data, as well as log events, which may be important to the security of your network. The Prestige also has packet-filtering capabilities.

When activated, the firewall allows all traffic to the Internet that originates from the LAN, and blocks all traffic to the LAN that originates from the Internet. In other words the Prestige will:

- Allow all sessions originating from the LAN to the WAN
- Deny all sessions originating from the WAN to the LAN

Local Network to Internet Set rules are local network to Internet firewall rules. The default is to forward all traffic from your local network to the Internet.

The following figure illustrates a Prestige firewall application.

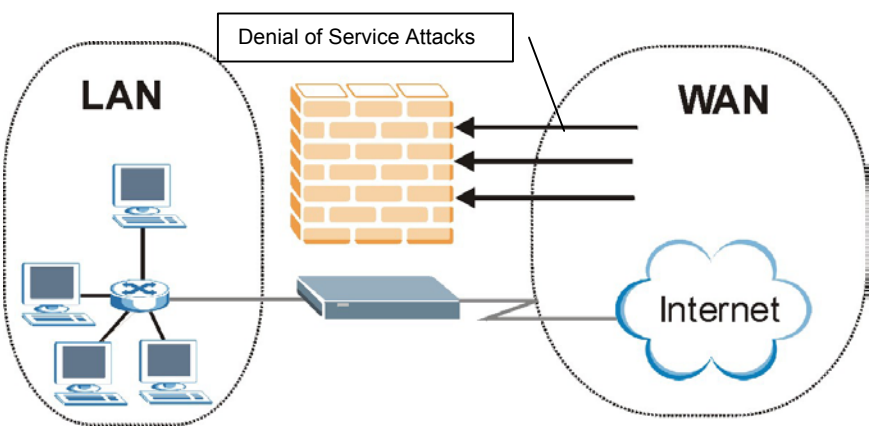


Figure 23 Prestige Firewall Application

6.7 Enabling the Firewall with Default Policy

From the main screen, click **Firewall** and then **Default Policy** to display the following screen. Activate the firewall by selecting the **Firewall Enabled** check box as seen in the following screen.

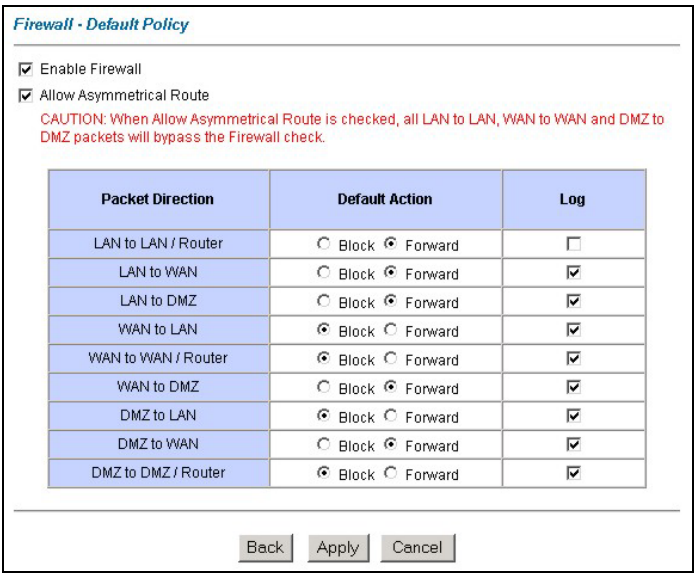


Figure 24 Firewall: Default Policy

The following table describes the labels in this screen.

Table 6 Firewall: Default Policy

LABEL	DESCRIPTION
Firewall Enabled	Select this check box to activate the firewall. The Prestige performs access control and protects against Denial of Service (DoS) attacks when the firewall is activated.
Allow Asymmetrical Route	Select this check box to have the Prestige firewall permit the use of triangle route topology on the network. See the appendix for more on triangle route topology.

Table 6 Firewall: Default Policy

LABEL	DESCRIPTION
Packet Direction	This is the direction of travel of packets. Firewall rules are grouped based on the direction of travel of packets to which they apply. For example, **LAN to LAN/Router** means packets traveling from a computer/subnet on the LAN to either another computer/subnet on the LAN interface of the Prestige or the Prestige itself.
Default Action	Use the radio buttons to select whether to **Block** (silently discard) or **Forward** (allow the passage of) packets that are traveling in the selected direction.
Log	Select the check box to create a log (when the above action is taken) for packets that are traveling in the selected direction and do not match any of the rules below.
Back	Click **Back** to return to the previous screen.
Apply	Click **Apply** to save your changes back to the Prestige.
Cancel	Click **Cancel** to begin configuring this screen afresh.

6.8 Procedure for Configuring Firewall Rules

The ordering of your rules is very important as rules are applied in turn.

Click on **Firewall**, then **Rule Summary** to bring up the following screen. This screen is a summary of the existing rules. Note the order in which the rules are listed.

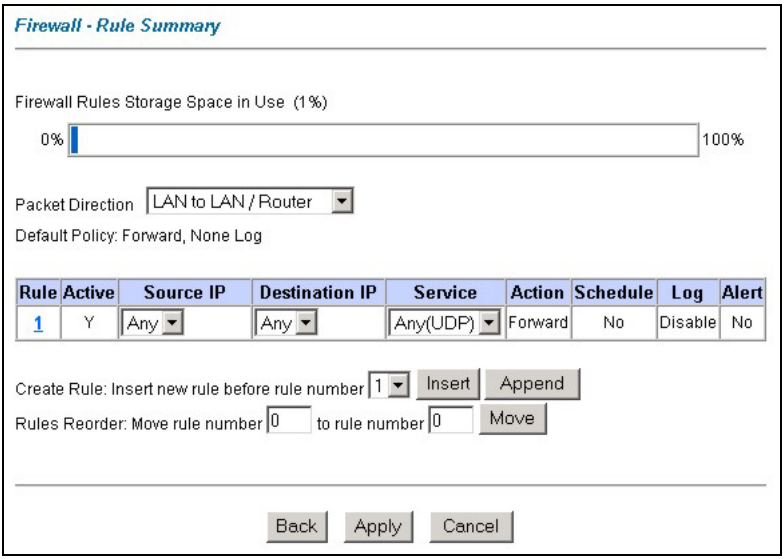


Figure 25 Firewall: Rule Summary

The following table describes the labels in this screen.

Table 7 Firewall: Rule Summary

LABEL	DESCRIPTION
Firewall Rules Storage Space in Use	This read-only bar shows how much of the Prestige's memory for recording firewall rules it is currently using. When you are using 80% or less of the storage space, the bar is green. When the amount of space used is over 80%, the bar is red.
Packet Direction	Use the drop-down list box to select a direction of travel of packets for which you want to configure firewall rules.
Default Policy	This field displays the default action and log policy you selected in the **Default Rule** screen for the packet direction shown in the field above.
The following read-only fields summarize the rules you have created that apply to traffic traveling in the selected packet direction. The firewall rules that you configure (summarized below) take priority over the general firewall action settings above.	

Table 7 Firewall: Rule Summary

LABEL	DESCRIPTION
Rule	This is your firewall rule number. The ordering of your rules is important as rules are applied in turn. Click a rule's number to go to the **Firewall Edit Rule** screen to configure or edit a firewall rule.
Active	This field displays whether a firewall is turned on (**Y**) or not (**N**).
Source IP	This drop-down list box displays the source addresses or ranges of addresses to which this firewall rule applies. Please note that a blank source or destination address is equivalent to **Any**.
Destination IP	This drop-down list box displays the destination addresses or ranges of addresses to which this firewall rule applies. Please note that a blank source or destination address is equivalent to **Any**.
Service	This drop-down list box displays the services to which this firewall rule applies. Please note that a blank service type is equivalent to **Any**. See *User's Guide* for more information.
Action	This is the specified action for that rule, either **Block** or **Forward**. Note that **Block** means the firewall silently discards the packet.
Schedule	This field tells you whether a schedule is specified (**Yes**) or not (**No**).
Log	This field shows you whether a log is created when packets match this rule (**Enabled**) or not (**Disable**).
Alert	This field tells you whether this rule generates an alert (**Yes**) or not (**No**) when the rule is matched.
Insert/Append	Type the index number for where you want to put a rule. For example, if you type "6", your new rule becomes number 6 and the previous rule 6 (if there is one) becomes rule 7. Click **Insert** to add a new firewall rule before the specified index number. Click **Append** to add a new firewall rule after the specified index number.
Move	Type a rule's index number and the number for where you want to put that rule. Click **Move** to move the rule to the number that you typed. The ordering of your rules is important as they are applied in order of their numbering.
Back	Click **Back** to return to the previous screen.

Table 7 Firewall: Rule Summary

LABEL	DESCRIPTION
Apply	Click **Apply** to save your changes back to the Prestige.
Cancel	Click **Cancel** to begin configuring this screen afresh.

Follow these directions to create a new rule.

Step 1. In the **Rule Summary** screen, type the index number for where you want to put the rule. For example, if you type "6", your new rule becomes number 6 and the previous rule 6 (if there is one) becomes rule 7.

Step 2. Click **Insert** to display this screen and refer to the following table for information on the labels.

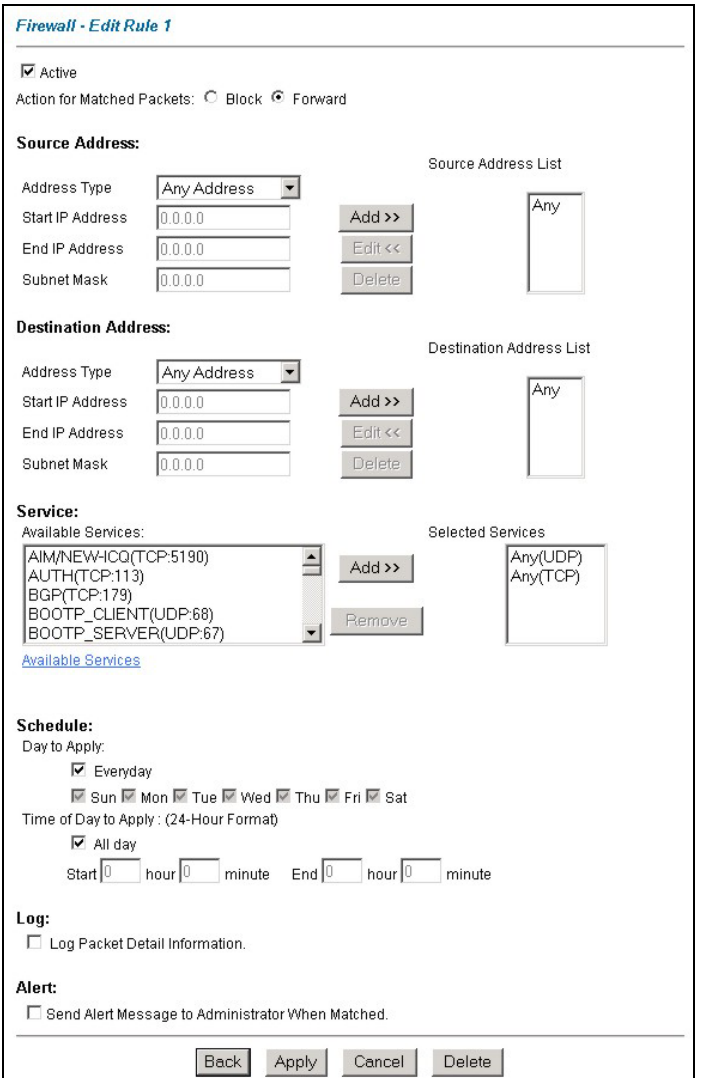


Figure 26 Creating/Editing A Firewall Rule

The following table describes the labels in this screen.

Table 8 Firewall: Edit Rule

LABEL	DESCRIPTION
Active	Select this option to enable this firewall rule.
Action for Matched Packet	Use the radio button to select whether to discard (**Block**) or allow the passage of (**Forward**) packets that match this rule.
Source/Destination Address	
Address Type	Do you want your rule to apply to packets with a particular (single) IP, a range of IP addresses (e.g., 192.168.1.10 to 192.169.1.50), a subnet or any IP address? Select an option from the drop-down list box that includes: **Single Address**, **Range Address**, **Subnet Address** and **Any Address**.
Start IP Address	Enter the single IP address or the starting IP address in a range here.
End IP Address	Enter the ending IP address in a range here.
Subnet Mask	Enter the subnet mask here, if applicable.
Add	Click **Add** to add a new address to the **Source** or **Destination Address** box. You can add multiple addresses, ranges of addresses, and/or subnets.
Edit	To edit an existing source or destination address, select it from the box and click **Edit**.
Delete	Highlight an existing source or destination address from the **Source** or **Destination Address** box above and click **Delete** to remove it.
Services	
Available/ Selected Services	Please see *User's Guide* for more information on services available. Highlight a service from the **Available Services** box on the left, then click **Add>>** to add it to the **Selected Services** box on the right. To remove a service, highlight it in the **Selected Services** box on the right, then click **Remove**.
Available Service	Click the **Available Services** link to bring up the screen that you use to configure a new custom service that is not in the predefined list of services.

Table 8 Firewall: Edit Rule

LABEL	DESCRIPTION
Schedule	
Day to Apply	Select everyday or the day(s) of the week to apply the rule.
Time of Day to Apply (24-Hour Format)	Select **All Day** or enter the start and end times in the hour-minute format to apply the rule.
Log	
Log Packet Detail Information	This field determines if a log for packets that match the rule is created (**Enable**) or not (**Disable**). Go to the **Log Settings** page and select the **Access Control** logs category to have the Prestige record these logs.
Alert	
Send Alert Message to Administrator When Matched	Select the check box to have the Prestige generate an alert when the rule is matched.
Back	Click **Back** to return to the previous screen.
Apply	Click **Apply** to save your customized settings and exit this screen.
Cancel	Click **Cancel** to exit this screen without saving.
Delete	Click **Delete** to remove this firewall rule and return to the **Firewall Rule Summary** screen.

7 Troubleshooting

Table 9 Troubleshooting

PROBLEM	CORRECTIVE ACTION
None of the LEDs turn on when you turn on the Prestige.	Make sure that you have the correct power adaptor 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.

Table 9 Troubleshooting

PROBLEM	CORRECTIVE ACTION
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 (Prestige 662HW only)	Make sure 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).
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 Setup** screen.
Cannot access the Internet.	Verify the Internet connection settings in the **WAN Setup** 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).