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Zhone 6218-i3 4-Port Wi-Fi Ethernet Router

User Manual *Version 1.0*

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General Information

The 4-Port Wireless Ethernet Router features 4 LAN ports for added convenience and accessibility.

Package Contents

Included in the package is one of each of the following—

- 4-Port Wireless Ethernet Router
- 12V 1.5A power adapter
- RJ-11 telephone cable
- RJ-45 Ethernet cable
- User Manual

Important Safety Instructions

- Place your router on a flat surface close to the cables in a location with sufficient ventilation.
- To prevent overheating, do not obstruct the ventilation openings of this equipment.
- Plug this equipment into a surge protector to reduce the risk of damage from power surges and lightning strikes.
- Operate this equipment only from an electrical outlet with the correct power source as indicated on the adapter.
- Do not open the cover of this equipment. Opening the cover will void any warranties on the equipment.
- Unplug equipment first before cleaning. A damp cloth can be used to clean the equipment. Do not use liquid / aerosol cleaners or magnetic / static cleaning devices.

Front Panel View



LED	Mode	Indication
Power	Solid	Router is powered on.
	No light	Router is not powered. Check if the router is plugged in and if the power switch is turned on.
Status	Solid	Connection established. The router is able to communicate with your ISP via ADSL.
	Flashing	The router is trying to connect to your ISP.
Link	Solid	ADSL is connected.
	No light	ADSL is not connected. The ALARM led will be red.
	Blinking	The router is connected to ADSL.
LAN1-LAN4	Solid	Router is connected to the LAN.
	No light	No connection to the LAN. Check if the LAN cable is connected to the router.
	Blinking	LAN traffic
AP	Solid	Wireless is enabled.
	No light	Wireless is disabled.
	Blinking	There is wireless traffic.

Back Panel View



NOTE: The below port descriptions are listed as they appear on the back panel from left to right.

Port	Description
Power	Connects to a 15VAC 1A power adapter.
Reset / Default	Restart —press the button for less than 4 seconds. Default settings —press the button for 4 seconds or longer.
LAN1-LAN4	RJ-45 connects the unit to an Ethernet device such as a PC or a switch.
Phone	RJ-11 cable connects to telephone (no external splitter necessary; unit has internal splitter).
Line	RJ-11 cable connects between telephone and the LINE port using a splitter (not included) if needed.

Installing the Router

Connect the ADSL Line and Telephone

- Connect one end of an RJ-11 cable from your ADSL connection and the other end to the LINE port of the router using a splitter if needed.

NOTE: See connections on the installation diagram.

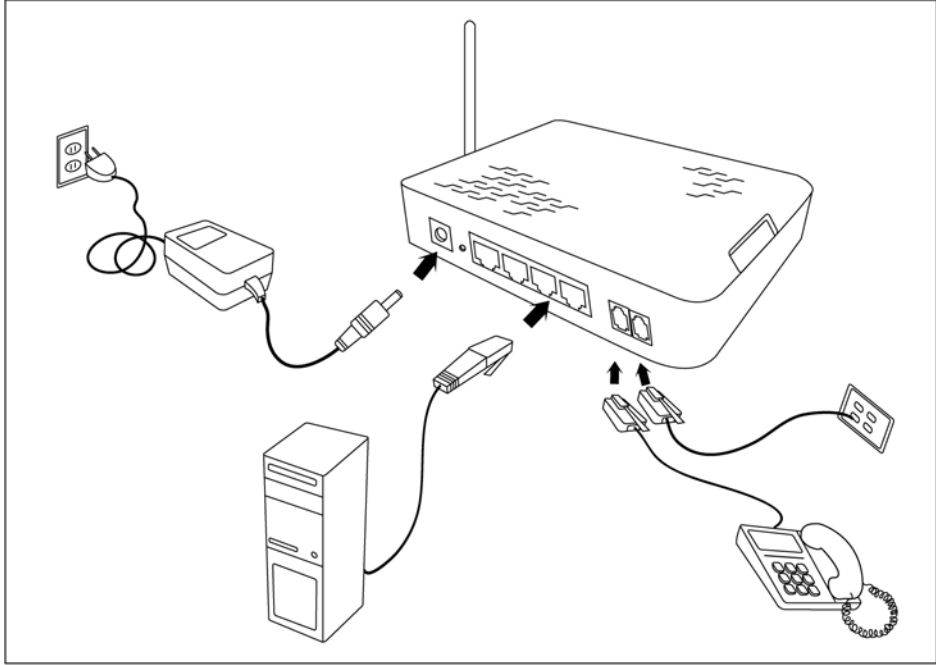
Connect the PC to the Router

- To use the Ethernet connection, connect the Ethernet cable from the computer directly to the router.
- Connect one end of the Ethernet cable to one of the 4 ports labeled LAN (LAN1 - LAN4) on the back of the router and attach the other end to the Ethernet port of your computer.

Connect the Power Adapter

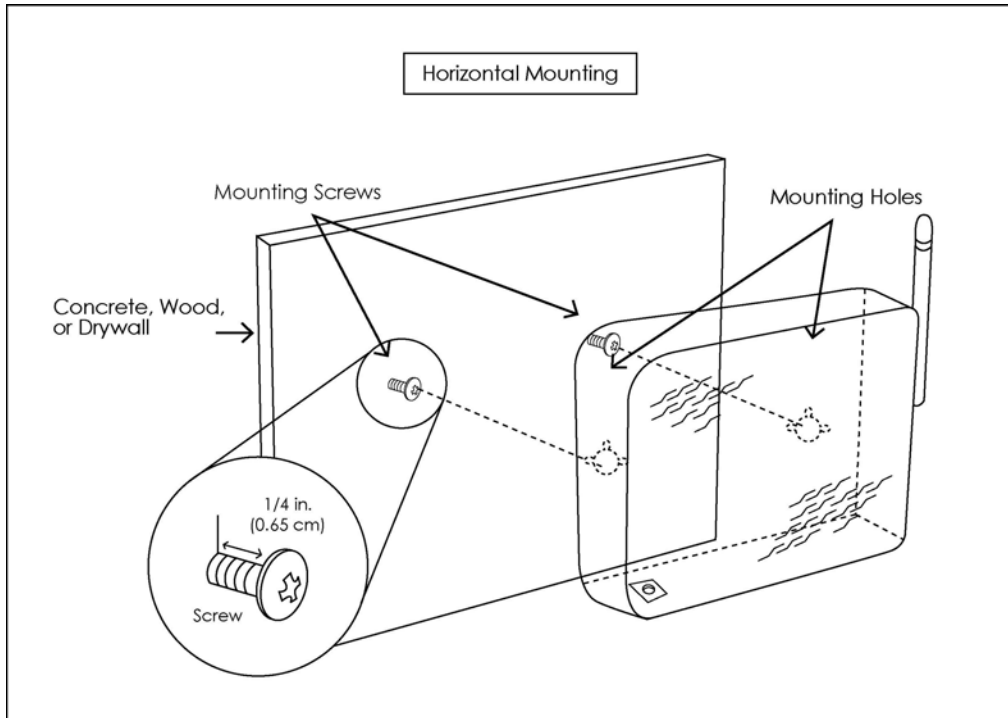
- Complete the process by connecting the AC power adapter to the POWER connector on the back of the device and plug the adapter into a wall outlet or power strip. Then turn on and boot up your PC and any LAN devices, such as hubs or switches, and any computers connected to them.

Installation Diagram



Mounting the Router

The router can be mounted on the wall with the screws provided. Mounting can be done on wall material including concrete, wood, or drywall. Select an appropriate location free from obstructions or any possible interference. Make sure the cables can be easily attached to the router without strain. The illustration below shows how to mount the router horizontally on a wall.



Configuring Your Computer

Prior to accessing the router through the LAN or the USB port, note the following necessary configurations—

- Your PC's TCP/IP address: **192.168.1.__**(the last number is any number between 2 and 254)
- The router's default IP address: **192.168.1.1**
- Subnet mask: **255.255.255.0**

Below are the procedures for configuring your computer. Follow the instructions for the operating system that you are using.

Windows 2000

1. In the Windows taskbar, click on the Start button and point to Settings, Control Panel, and Network and Dial-up Connections (in that order).
2. Click on Local Area Connection. When you have the Local Area Connection Status window open, click on **Properties**.
3. Listed in the window are the installed network components. If the list includes Internet Protocol (TCP/IP), then the protocol has already been enabled, and you can skip to Step 10.
4. If Internet Protocol (TCP/IP) does not appear as an installed component, then click on **Install**.
5. In the Select Network Component Type window, click on protocol and then the **Add** button.
6. Select Internet Protocol (TCP/IP) from the list and then click on **OK**.
7. If prompted to restart your computer with the new settings, click **OK**.
8. After your computer restarts, click on the Network and Dial-up Connections icon again, and right click on the Local Area Connection icon and then select Properties.
9. In the Local Area Connection Properties dialog box, select Internet Protocol (TCP/IP) and then click on **Properties**.
10. In the Internet Protocol (TCP/IP) Properties dialog box, click in the radio button labeled **Use the following IP address** and type 192.168.1.x (where x is any number between 2 and 254) and 255.255.255.0 in the IP address field and Subnet Mask field.
11. Click on **OK** twice to save your changes and then close the **Control Panel**.

Windows XP

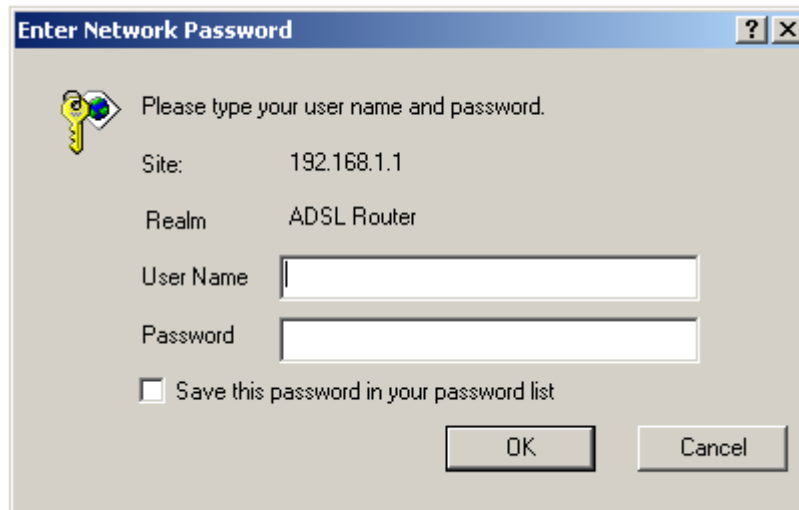
1. In the Windows taskbar, click on the Start button and point to Settings and then click Network Connections.
2. In the Network Connections window, right click on the Local Area Connection icon and click on properties.
3. Listed in the Local Area Connection window are the installed network components. Make sure the box for Internet Protocol (TCP/IP) is checked and then click on **Properties**.
4. In the Internet Protocol (TCP/IP) Properties dialog box, click in the radio button labeled **Use the following IP address** and type 192.168.1.x (where x is any number between 2 and 254) and 255.255.255.0 in the IP address field and Subnet Mask field.
5. Click on **OK** twice to save your changes and then close the **Control Panel**.

Log in to the Router

This section will explain how to log in to your router using the following steps—

1. Launch your web browser.
2. Enter the URL <http://192.168.1.1> in the address bar and press Enter.

A login screen like the one below will be displayed after you connect to the user interface.



Enter Network Password

Please type your user name and password.

Site: 192.168.1.1

Realm: ADSL Router

User Name:

Password:

Save this password in your password list

OK Cancel

3. Enter your user name and password, and then click on **OK** to display the user interface.



NOTE: There are two default user name and password combinations. The **user / user** name and password combination can display device status, but cannot change or save configurations. The **admin / admin** combination can perform all functions. Passwords can be changed at any time.

Device Info

This section describes the system information that can be accessed using the menu items under Device Info.

Summary

Access the general information of the router by clicking on “**Summary**” under “**Device Info**”. It shows details of the router such as the version of the software, bootloader, LAN IP address, etc. It also displays the current status of your DSL connection as shown below—



PARADYNE[®]
ADSL CPE

Device Info

Paradyne Firmware:	03.00.34
Product Name:	6218-I3-xxx
Serial Number:	N/A
Hardware Version:	N/A
Board ID:	WLAN-F
Software Version:	3-06-06-2900.A2pB022g2.d19b
Bootloader (CFE) Version:	1.0.37-6.5
Wireless Driver Version:	3.131.35.4.cpe2.0
MAC Address:	00:E0:18:00:00:01

This information reflects the current status of your DSL connection.

Line Rate - Upstream (Kbps):	
Line Rate - Downstream (Kbps):	
LAN IP Address:	192.168.1.1
Default Gateway:	
Primary DNS Server:	192.168.1.1
Secondary DNS Server:	192.168.1.1

WAN

Access the WAN status report from the router by clicking on “WAN” under “Device Info”. Below is how the screen will look once a WAN connection is set up.

The screenshot shows the Paradyne ADSL CPE web interface. The left sidebar contains a navigation menu with the following items: Welcome, Device Info (Summary, WAN, Statistics, Route, ARP, DHCP), Quick Setup, Advanced Setup, Wireless, Diagnostics, and Management. The main content area is titled "WAN Info" and displays a table with the following data:

VPI/VCI	Con. ID	Category	Service Name	Interface Name	Protocol	IGMP	QoS	State	Status	IP Address
0/35	1	UBR	br_0_35	nas_0_35	Bridge	N/A	Disabled	Enabled	ADSL Link Down	

Statistics

LAN Statistics

Access the LAN statistics from the router by clicking on the “LAN” item under “Statistics”

The screenshot shows the Paradyne ADSL CPE web interface. The left sidebar contains a navigation menu with the following items: Welcome, Device Info (Summary, WAN, Statistics, Route, ARP, DHCP), Quick Setup, Advanced Setup, Wireless, Diagnostics, and Management. The main content area is titled "Statistics -- LAN" and displays a table with the following data:

Interface	Received				Transmitted			
	Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
Ethernet	125677	1026	0	0	324581	1026	0	0
Wireless	0	0	0	0	5694	42	0	0

Below the table is a button labeled "Reset Statistics".

WAN Statistics

Access the WAN statistics from the router by clicking on the “WAN” item under “Statistics”.

The screenshot shows the Paradyne ADSL CPE web interface. On the left is a navigation tree with 'Statistics' expanded to 'WAN'. The main content area is titled 'WAN Statistics' and contains a table with the following data:

Service	VPI/VCI	Protocol	Interface	Received				Transmitted			
				Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
br_0_35	0/35	Bridge	nas_0_35	0	0	0	0	5641	42	0	42

Below the table is a 'Reset Statistics' button.

ATM Statistics

Access ATM statistics from the router by clicking on the “ATM” item under “Statistics”.

The screenshot shows the Paradyne ADSL CPE web interface with 'Statistics -- ATM' selected. It displays three tables of statistics:

ATM Interface Statistics

In Octets	Out Octets	In Errors	In Unknown	In Hec Errors	In Invalid Vpi Vci Errors	In Port Not Enable Errors	In PTI Errors	In Idle Cells	In Circuit Type Errors	In OAM RM CRC Errors	In GFC Errors
0	0	0	0	0	0	0	0	0	0	0	0

AAL5 Interface Statistics

In Octets	Out Octets	In Ucast Pkts	Out Ucast Pkts	In Errors	Out Errors	In Discards	Out Discards
0	0	0	0	0	0	0	0

AAL5 VCC Statistics

VPI/VCI	CRC Errors	SAR Timeouts	Oversized SDUs	Short Packet Errors	Length Errors
0/35	0	0	0	0	0

A 'Reset Statistics' button is located at the bottom of the statistics section.

ADSL Statistics

You can view ADSL statistics by clicking on the “ADSL” item under “Statistics”. Information contained in this screen is useful for troubleshooting and diagnostics of connection problems.

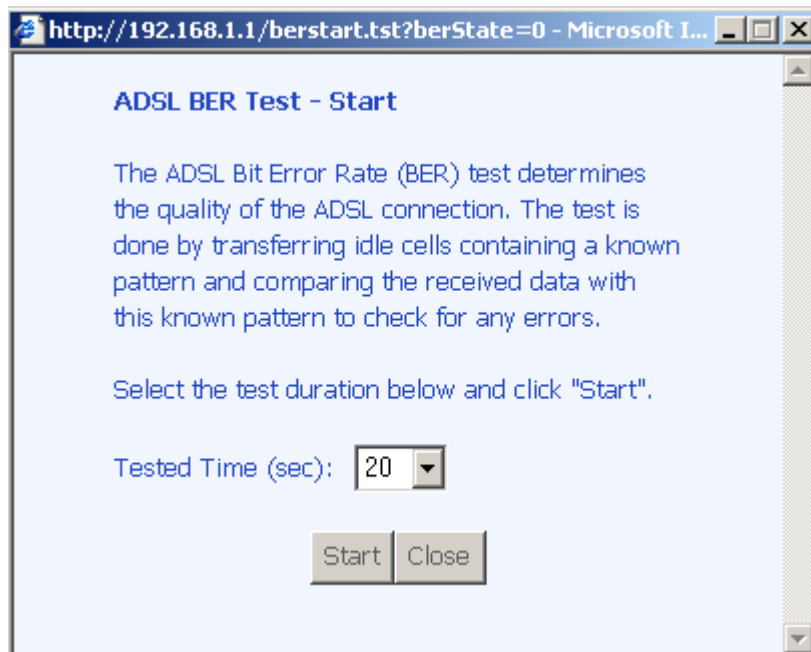
The screenshot shows the Paradyne ADSL CPE web interface. The top banner features the Paradyne logo and 'ADSL CPE'. On the left is a navigation tree with categories like Device Info, Summary, WAN, Statistics, Route, ARP, DHCP, Quick Setup, Advanced Setup, Wireless, Diagnostics, and Management. The 'ADSL' item under 'Statistics' is highlighted. The main content area is titled 'Statistics -- ADSL' and displays a table of various metrics. At the bottom, there are two buttons: 'ADSL BER Test' and 'Reset Statistics'.

	Downstream	Upstream
Mode:	N/A	N/A
Type:	N/A	N/A
Line Coding:	N/A	N/A
Status:	Link Down	
Link Power State:	LO	
	Downstream	Upstream
SNR Margin (dB):	N/A	N/A
Attenuation (dB):	N/A	N/A
Output Power (dBm):	N/A	N/A
Attainable Rate (Kbps):	N/A	N/A
Rate (Kbps):		
K (number of bytes in DMT frame):	N/A	N/A
R (number of check bytes in RS code word):	N/A	N/A
S (RS code word size in DMT frame):	N/A	N/A
D (interleaver depth):	N/A	N/A
Delay (msec):	N/A	N/A
Super Frames:	N/A	N/A
Super Frame Errors:	N/A	N/A
RS Words:	N/A	N/A
RS Correctable Errors:	N/A	N/A
RS Uncorrectable Errors:	N/A	N/A
HEC Errors:	N/A	N/A
OCD Errors:	N/A	N/A
LCD Errors:	N/A	N/A
Total Cells:	N/A	N/A
Data Cells:	N/A	N/A
Bit Errors:	N/A	N/A
Total ES:	N/A	N/A
Total SES:	N/A	N/A
Total UAS:	N/A	N/A

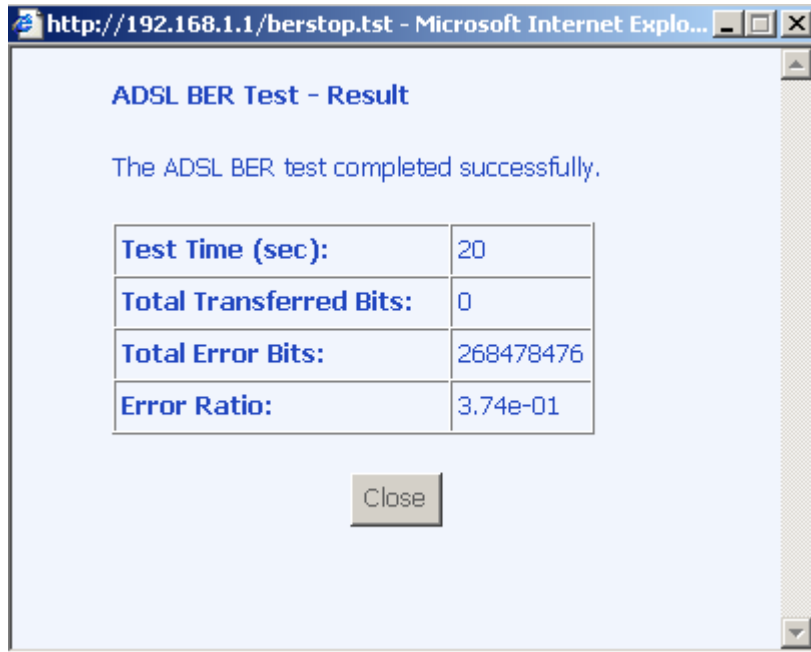
ADSL BER Test

A **Bit Error Rate Test (BER Test)** is a test that reflects the ratio of error bits to the total number transmitted.

If you click on the **ADSL BER Test** button at the bottom of the ADSL Statistics page, the following pop-up screen will appear allowing you to set the tested time and to begin the test.



Below is an ADSL BER Test result screen displaying information about the test and the error bits and ratio.



Route

Access the routing status report from the router by clicking on the “Route” item under “Device Info”.



The screenshot displays the Paradyne ADSL CPE web interface. The left sidebar shows a navigation tree with 'Device Info' expanded to 'Route'. The main content area is titled 'Device Info -- Route' and includes a legend for flags: U - up, ! - reject, G - gateway, H - host, R - reinstate, D - dynamic (redirect), M - modified (redirect). Below the legend is a table with the following data:

Destination	Gateway	Subnet Mask	Flags	Metric	Service	Interface
192.168.1.0	0.0.0.0	255.255.255.0	U	0		br0

ARP

Access the ARP status report from the router by clicking on the “ARP” item under “Device Info”. ARP (Address Resolution Protocol) maps the IP address to the physical address, labeled *HW Address* (the MAC address) and helps to identify computers on the LAN.



The screenshot displays the Paradyne ADSL CPE web interface. The left sidebar shows a navigation tree with 'Device Info' expanded to 'ARP'. The main content area is titled 'Device Info -- ARP' and contains a table with the following data:

IP Address	Flags	HW Address	Device
192.168.1.4	Complete	00:07:40:FD:1C:F9	br0

DHCP

Access the DHCP Leases screen by clicking “DHCP” under “Statistics”. This shows the computers, identified by the hostname and MAC address that have acquired IP addresses by the DHCP server with the time that the lease for the IP address is up.

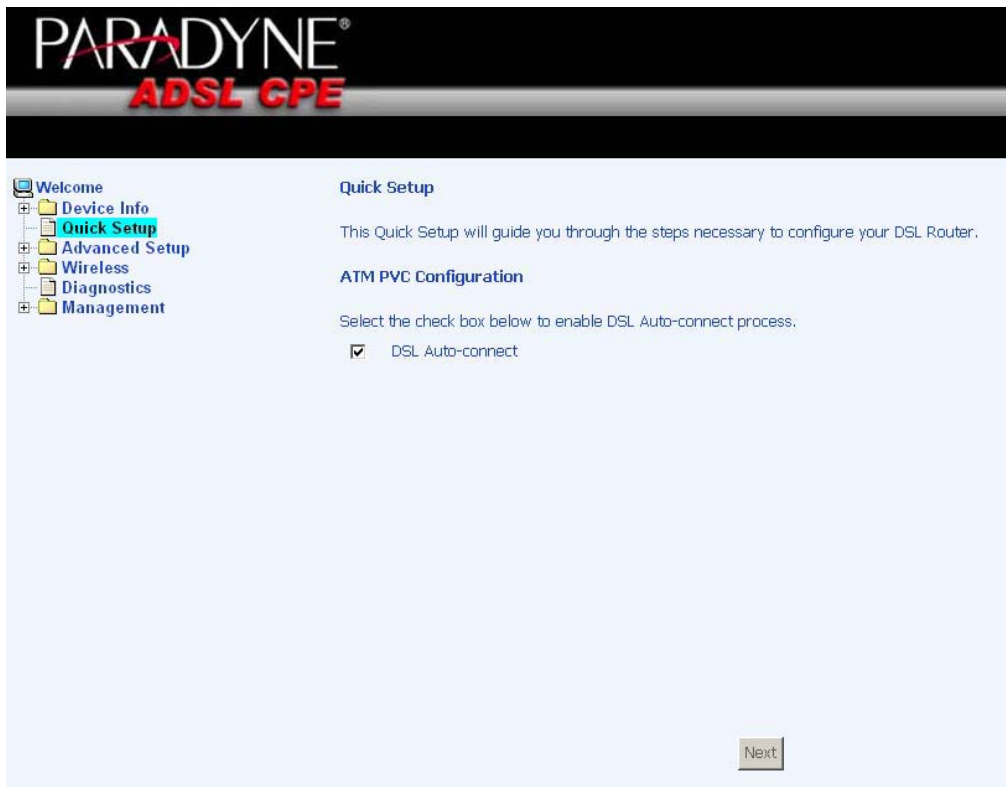


Quick Setup

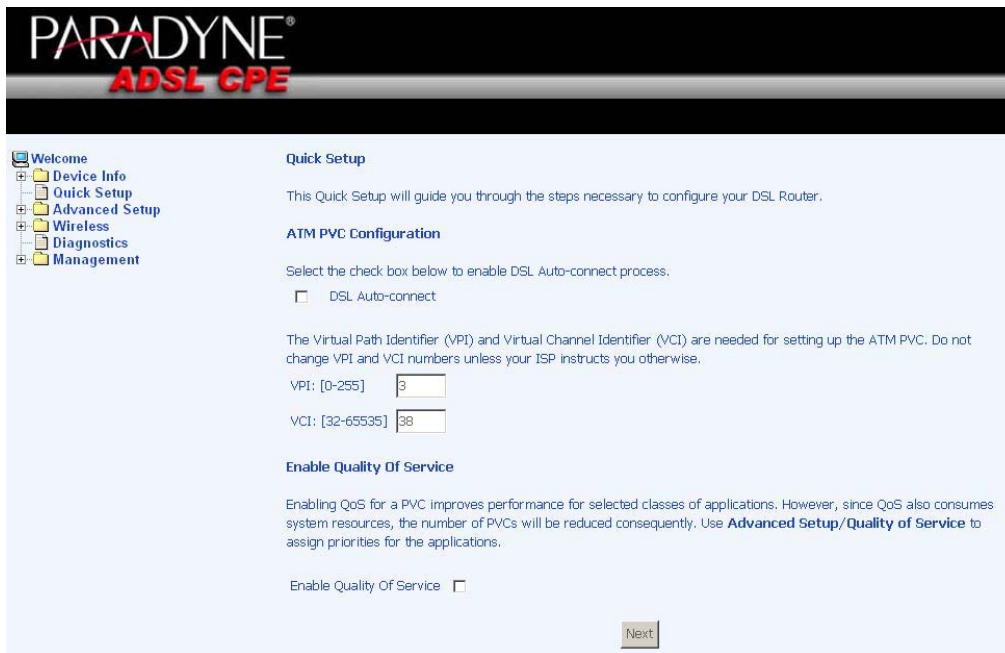
This section will explain how to quickly configure the router for the sole purpose of connecting to the Internet.

ATM PVC Configuration

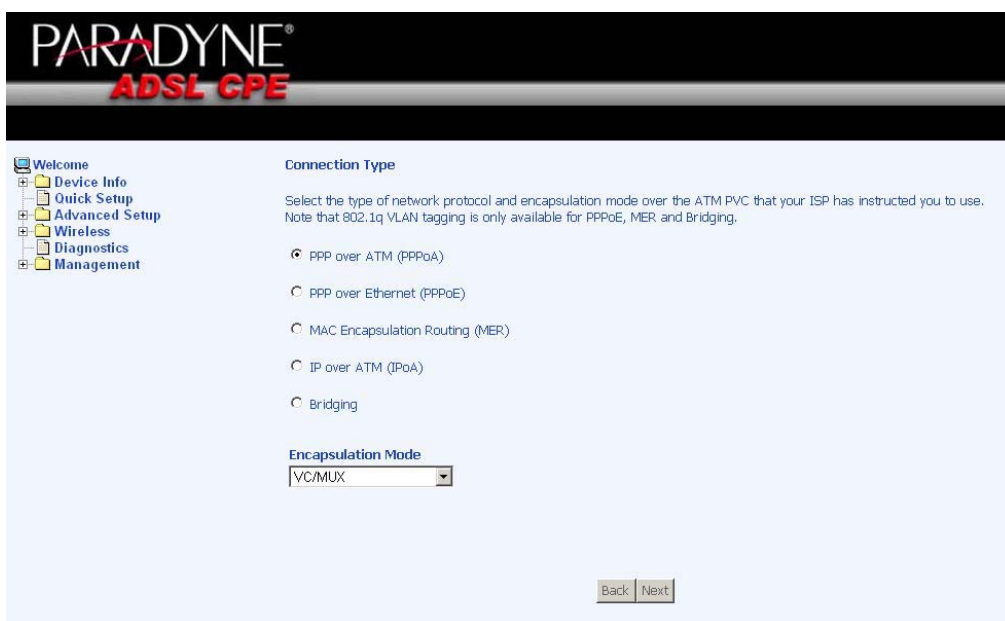
To enable the auto-connect process, click on the box labeled DSL Auto-connect, a process that will automatically detect the first usable PVC and automatically detect PPPoE, PPPoA, and Bridge Protocol (with DHCP Server available). To continue, click on the **Next** button.



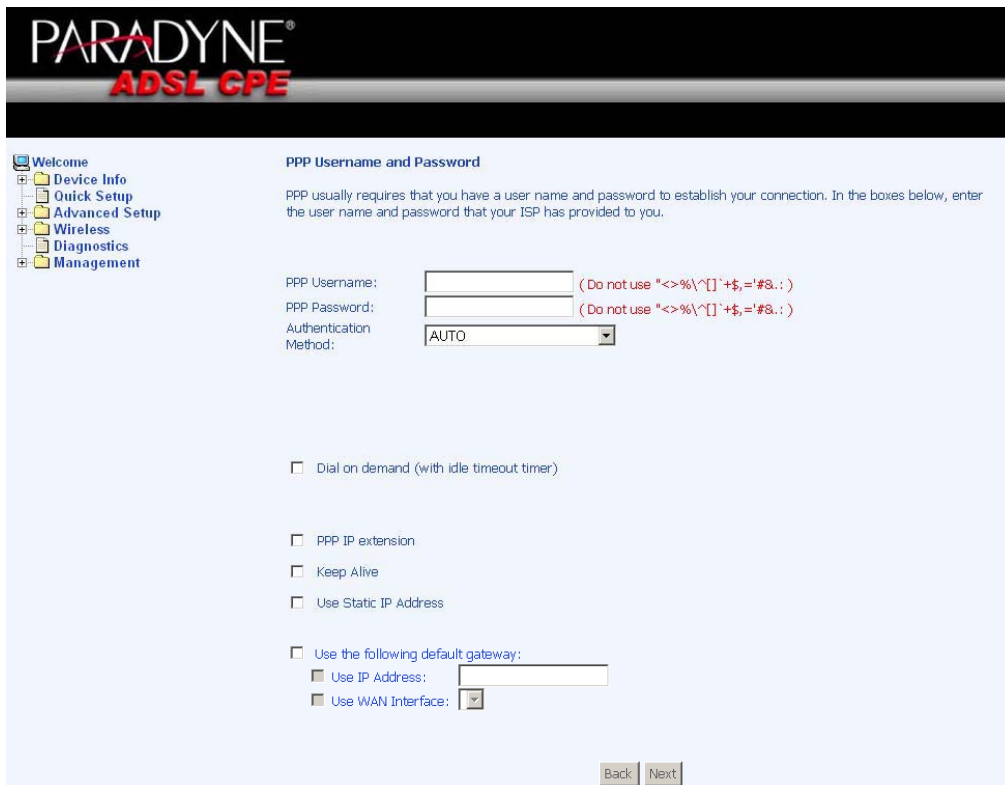
If you uncheck the *DSL Auto-connect* box, the resulting screen is seen below. Enter the VPI / VCI as indicated by your ISP and decide whether or not to enable quality of service and click on **Next**.



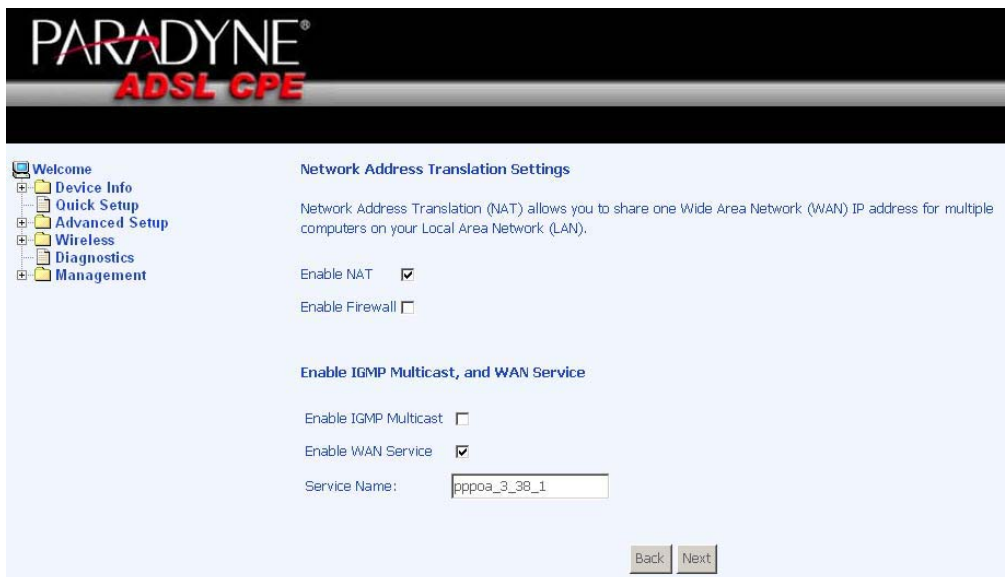
Following is the Connection Type screen where you select the type of network protocol and encapsulation mode over the ATM PVC that your ISP has instructed you to use. The following is a PPPoA example. Click on **Next** to continue.



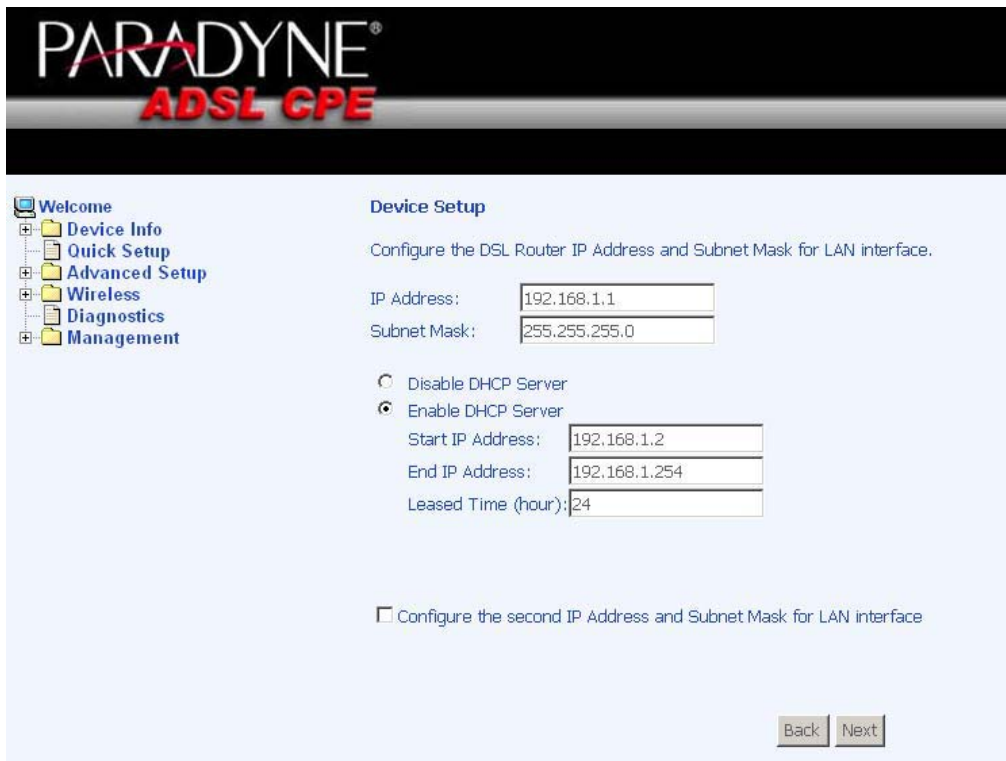
Enter the PPP username and password as given by your ISP. Then decide if you will be using any features such as *dial on demand*, *PPP IP extension*, *keep alive* and then click on **Next**.



The next step is to configure the Network Address Translation (NAT) settings. For the example, NAT will be enabled. The remaining fields are left as default and then click on **Next** to continue.



You can configure the DSL Router IP address and Subnet Mask for the LAN interface to correspond to your LAN's IP Subnet. If you want the DHCP server to automatically assign IP addresses, then enable the DHCP server and enter the range of IP addresses that the DHCP server can assign to your computers. Disable the DHCP server if you would like to manually assign IP addresses. Click on **Next** to continue.



The next screen allows you to enable or disable the router’s wireless option. Also be sure to enter the SSID and click on **Next** to continue.



After all of the WAN configurations have been made, the *WAN Setup Summary* screen displays all WAN settings that you have made. Check that the settings are correct before clicking on the **Save / Reboot** button. Clicking on **Save / Reboot** will save your settings and restart your router.

- Welcome
- Device Info
- Quick Setup
- Advanced Setup
- Wireless
- Diagnostics
- Management

WAN Setup - Summary

Make sure that the settings below match the settings provided by your ISP.

VPI / VCI:	3 / 38
Connection Type:	PPPoA
Service Name:	pppoa_3_38_1
Service Category:	UBR
IP Address:	Automatically Assigned
Service State:	Enabled
NAT:	Enabled
Firewall:	Disabled
IGMP Multicast:	Disabled
Quality Of Service:	Disabled

Click "Save/Reboot" to save these settings and reboot router. Click "Back" to make any modifications.
NOTE: The configuration process takes about 1 minute to complete and your DSL Router will reboot.

Back

Save/Reboot

Advanced Setup

This section of the setup is an advanced version of the quick setup. If you want to make specific configurations to your router such as firewall, port mapping, quality of service, DNS, etc., consider going through this advanced setup for a more comprehensive configuration.

WAN

Configure the WAN settings as provided by your ISP.

VPI/VCI	Con. ID	Category	Service	Interface	Protocol	IGMP	QoS	VlanId	State	Remove	Edit	Action
3/38	1	UBR	pppoa_3_38_1	ppp_3_38_1	PPPoA	Disabled	Disabled	N/A	Enabled	<input type="checkbox"/>	Edit	Up

Click on the **Add** button if you want to add a new connection for the WAN interface. The ATM PVC Configuration screen follows as seen below. The ATM PVC Configuration screen allows you to configure an ATM PVC identifier (VPI and VCI) and select a service category.

VPI: [0-255]

VCI: [32-65535]

Service Category:

Enable Quality Of Service

Enabling packet level QoS for a PVC improves performance for selected classes of applications. QoS cannot be set for CBR and Realtime VBR. QoS consumes system resources; therefore the number of PVCs will be reduced. Use **Advanced Setup/Quality of Service** to assign priorities for the applications.

Enable Quality Of Service

Find out the following values from your ISP before you change them.

- **VPI:** Virtual Path Identifier. The valid range is 0 to 255.
- **VCI:** Virtual Channel Identifier. The valid range is 32 to 65535.
- **Service Category:** Five classes of traffic are listed—
 - **UBR Without PCR** (*Unspecified Bit Rate without Peak Cell Rate*)—UBR service is suitable for applications that can tolerate variable delays and some cell losses. Applications suitable for UBR service include text/data/image transfer, messaging, distribution, and retrieval and also for remote terminal applications such as telecommuting.
 - **UBR With PCR** (*Unspecified Bit Rate with Peak Cell Rate*)--
 - **CBR** (*Constant Bit Rate*)—used by applications that require a fixed data rate that is continuously available during the connection time. It is commonly used for uncompressed audio and video information such as videoconferencing, interactive audio (telephony), audio / video distribution (e.g. television, distance learning, and pay-per-view), and audio / video retrieval (e.g. video-on-demand and audio library).
 - **Non Realtime VBR** (*Non-Real-time Variable Bit Rate*)—can be used for data transfers that have critical response-time requirements such as airline reservations, banking transactions, and process monitoring.
 - **Realtime VBR** (*Real-time Variable Bit Rate*)—used by time-sensitive applications such as real-time video. Rt-VBR service allows the network more flexibility than CBR.

Connection Type

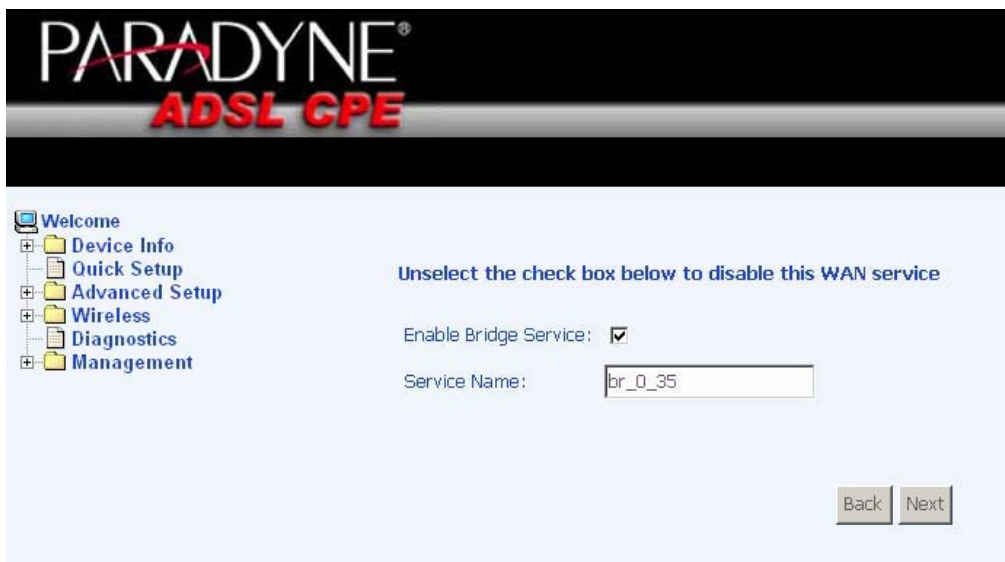
This screen shows the below types of network protocols and encapsulation modes—

- PPP over ATM (PPPoA)
- PPP over Ethernet (PPPoE)
- MAC Encapsulation Routing (MER)
- IP over ATM (IpoA)
- Bridging

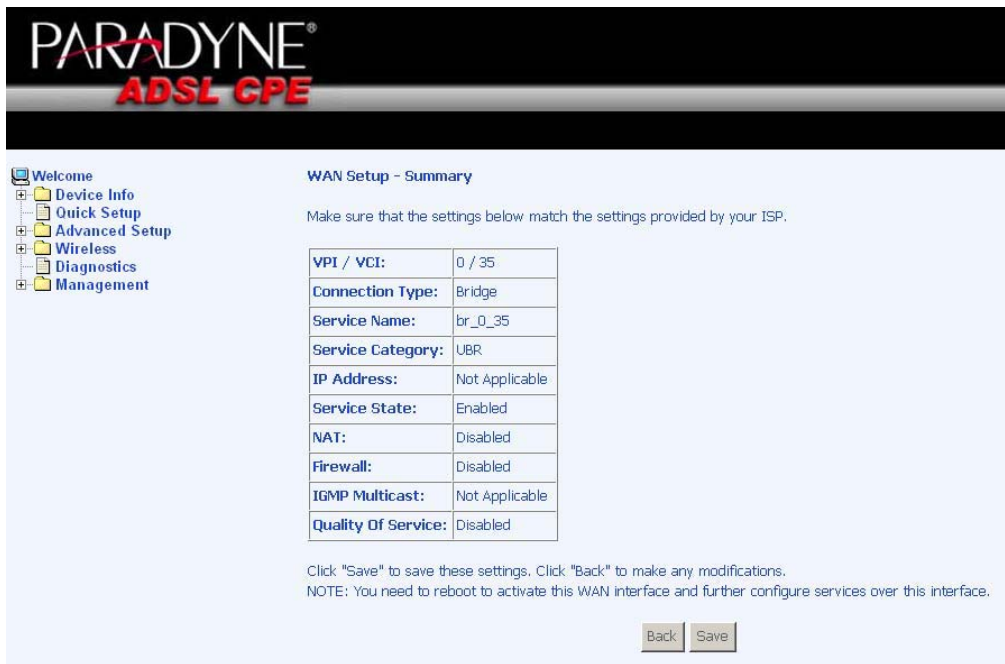
Select the mode that your ISP has instructed you to use and click on **Next**.



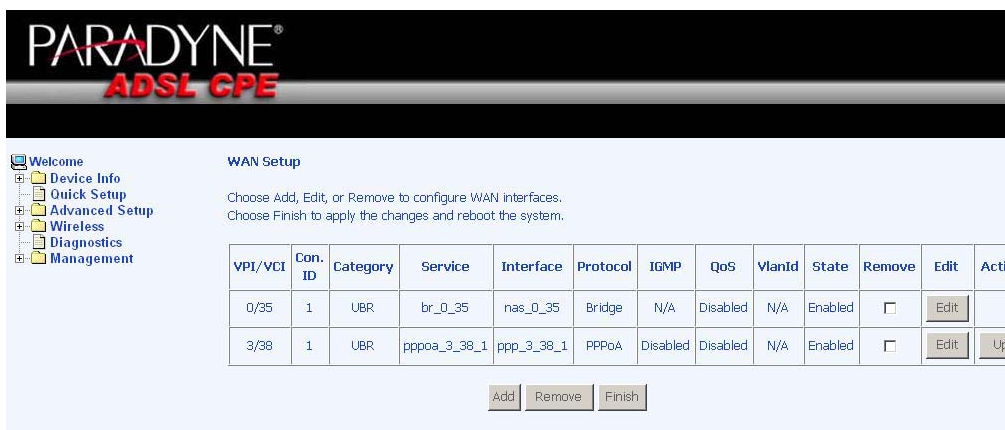
After you click on **Next**, the below screen appears allowing you disable the bridge service if desired.



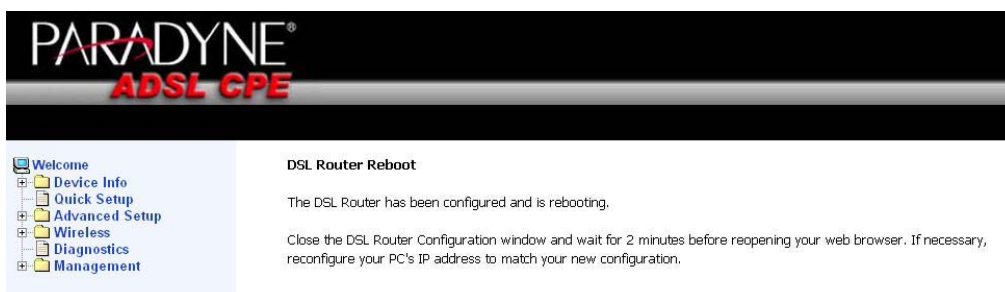
When the settings are complete, the next screen shows a **WAN Setup - Summary** screen displaying the WAN configurations made. Click on **Save** to save the settings.



After the settings are saved, the below screen will follow displaying the WAN settings that you made with the option to **Add** or **Remove** any of the connections that you have made. When satisfied with the settings click on the **Finish** button.



After selecting the **Finish** button, the below screen will appear. At this point, the router will reboot to save the changes made.



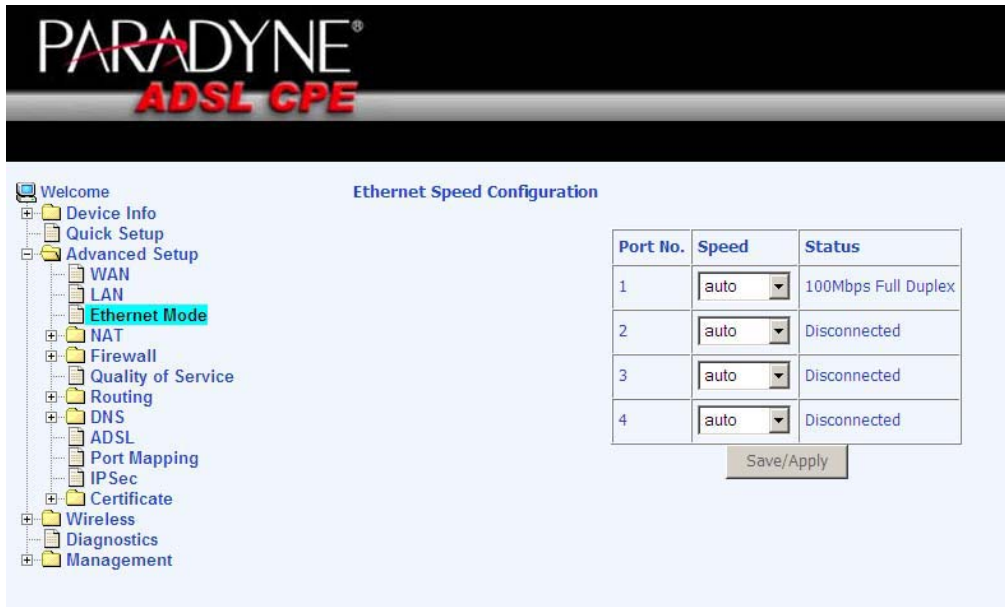
LAN Local Area Network (LAN) Setup

You can configure the DSL Router IP address and Subnet Mask for the LAN interface to correspond to your LAN's IP Subnet. If you want the DHCP server to automatically assign IP addresses, then enable the DHCP server and enter the range of IP addresses that the DHCP server can assign to your computers. Disable the DHCP server if you would like to manually assign IP addresses. Click on **Next** to continue. The **Save** button only saves the LAN configuration data, but does not apply the configurations. Select the **Save/Reboot** button to save the LAN configuration data and reboot the router and apply the new configurations.

The screenshot shows the Paradyne ADSL CPE web interface. The top banner features the Paradyne logo and 'ADSL CPE'. On the left is a navigation tree with categories like Welcome, Device Info, Quick Setup, Advanced Setup, WAN, LAN (highlighted), NAT, Firewall, Quality of Service, Routing, DNS, ADSL, Port Mapping, IPSec, Certificate, Wireless, Diagnostics, and Management. The main content area is titled 'Local Area Network (LAN) Setup'. It contains a descriptive paragraph, input fields for IP Address (192.168.1.1) and Subnet Mask (255.255.255.0), radio buttons for 'Enable UPnP' (checked), 'Disable DHCP Server', and 'Enable DHCP Server' (selected). Below these are input fields for Start IP Address (192.168.1.2), End IP Address (192.168.1.254), and Leased Time (hour) (24). A checkbox at the bottom is labeled 'Configure the second IP Address and Subnet Mask for LAN interface'. At the bottom right are 'Save' and 'Save/Reboot' buttons.

Ethernet Mode

Ethernet mode allows you to select the speed of your Ethernet connection. Modes include—auto, 100 full, 100 half, 10 full and 10 half. If you select “auto” then the router will use the common mode that all the connected interfaces can operate at.

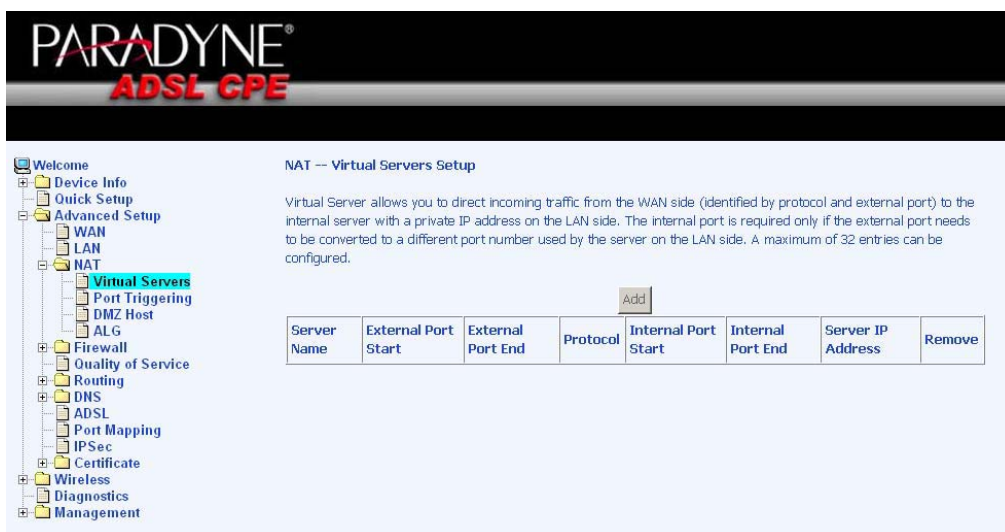


NAT

If you enable NAT (Network Address Translation), you can configure the Virtual Server, Port Triggering, and DMZ Host.

Virtual Servers

A virtual server allows you to direct incoming traffic from the WAN side to a specific IP address on the LAN side. The following figure shows the screen that allows you to configure your virtual server(s). Click on the **Add** button to configure a virtual server.



Select the virtual server from the drop-down list and complete the server IP address, then click on the **Save / Apply** button.

PARADYNE[®]
ADSL CPE

Welcome

- Device Info
- Quick Setup
- Advanced Setup
 - WAN
 - LAN
 - NAT
 - Virtual Servers
 - Port Triggering
 - DMZ Host
 - ALG
 - Firewall
 - Quality of Service
 - Routing
 - DNS
 - ADSL
 - Port Mapping
 - IPSec
 - Certificate
- Wireless
- Diagnostics
- Management

NAT -- Virtual Servers

Select the service name, and enter the server IP address and click "Save/Apply" to forward IP packets for this service to the specified server. NOTE: The "Internal Port End" cannot be changed. It is the same as "External Port End" normally and will be the same as the "Internal Port Start" or "External Port End" if either one is modified.

Remaining number of entries that can be configured:32

Server Name:
 Select a Service:
 Custom Server:

Server IP Address:

External Port Start	External Port End	Protocol	Internal Port Start	Internal Port End
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>

The following screen appears after you save your selection. To add additional virtual servers, click on the **Add** button. If you need to remove any of the server names, select the check box and click on the **Remove** button.



NAT -- Virtual Servers Setup

Virtual Server allows you to direct incoming traffic from the WAN side (identified by protocol and external port) to the internal server with a private IP address on the LAN side. The internal port is required only if the external port needs to be converted to a different port number used by the server on the LAN side. A maximum of 32 entries can be configured.

Add Remove

Server Name	External Port Start	External Port End	Protocol	Internal Port Start	Internal Port End	Server IP Address	Remove
MSN Messenger	6891	6901	TCP	6891	6901	192.168.1.5	<input type="checkbox"/>
MSN Messenger	1863	1963	TCP	1863	1963	192.168.1.5	<input type="checkbox"/>
MSN Messenger	1863	1863	UDP	1863	1863	192.168.1.5	<input type="checkbox"/>
MSN Messenger	5190	5190	UDP	5190	5190	192.168.1.5	<input type="checkbox"/>
MSN Messenger	6901	6901	UDP	6901	6901	192.168.1.5	<input type="checkbox"/>

Port Triggering

Click on the Add button to add Port Triggering to your Internet application.



NAT -- Port Triggering Setup

Some applications require that specific ports in the Router's firewall be opened for access by the remote parties. Port Trigger dynamically opens up the 'Open Ports' in the firewall when an application on the LAN initiates a TCP/UDP connection to a remote party using the 'Triggering Ports'. The Router allows the remote party from the WAN side to establish new connections back to the application on the LAN side using the 'Open Ports'. A maximum of 32 entries can be configured.

Add

Application Name	Trigger		Open		Remove
	Protocol	Port Range	Protocol	Port Range	
		Start End		Start End	

The below screen appears when you click on **Add** allowing you to select the application that you want to set the port settings for. After a selection has been made, click on the **Save / Apply** button.



NAT -- Port Triggering

Some applications such as games, video conferencing, remote access applications and others require that specific ports in the Router's firewall be opened for access by the applications. You can configure the port settings from this screen by selecting an existing application or creating your own (Custom application) and click "Save/Apply" to add it.
Remaining number of entries that can be configured:32

Application Name:
 Select an application:
 Custom application:

Trigger Port Start	Trigger Port End	Trigger Protocol	Open Port Start	Open Port End	Open Protocol
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>	TCP
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>	TCP
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>	TCP
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>	TCP
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>	TCP
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>	TCP
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>	TCP
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>	TCP
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>	TCP
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>	TCP

The below screen appears after you save your selections. You will be able to add or remove selections made by clicking on the **Add** and **Remove** buttons.



NAT -- Port Triggering Setup

Some applications require that specific ports in the Router's firewall be opened for access by the remote parties. Port Trigger dynamically opens up the 'Open Ports' in the firewall when an application on the LAN initiates a TCP/UDP connection to a remote party using the 'Triggering Ports'. The Router allows the remote party from the WAN side to establish new connections back to the application on the LAN side using the 'Open Ports'. A maximum of 32 entries can be configured.

Application Name	Protocol	Trigger Port Range		Open Port Range		Remove	
		Start	End	Start	End		
Net2Phone	UDP	6801	6801	UDP	6801	6801	<input type="checkbox"/>

DMZ Host

You can define the IP address of the DMZ Host on this screen. Enter the IP address and click on **Save / Apply**.



ALG

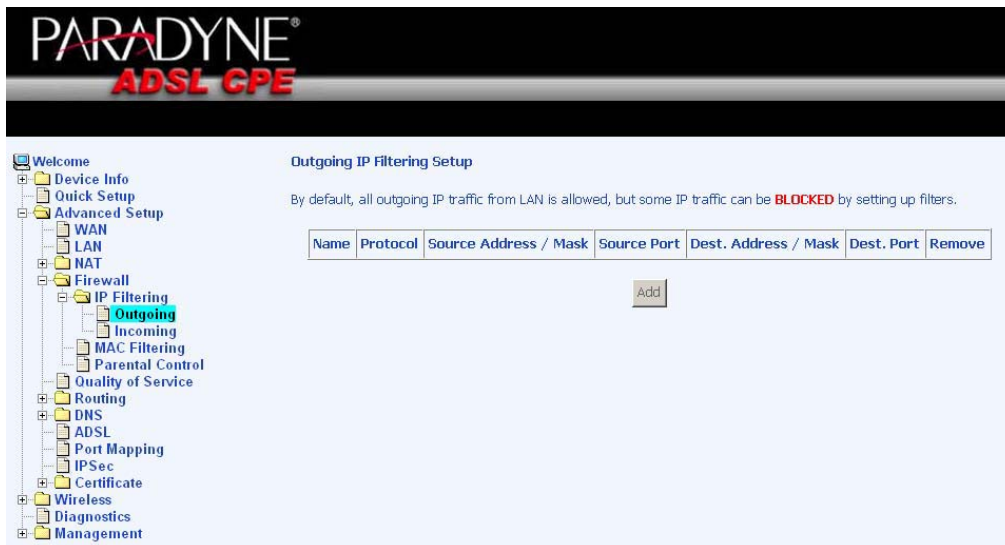
ALG, Application Layer Gateway can be used to allow firewall traversal with SIP. To enable voice packets to successfully pass through firewalls and NATs, click on the *SIP enabled* checkbox.



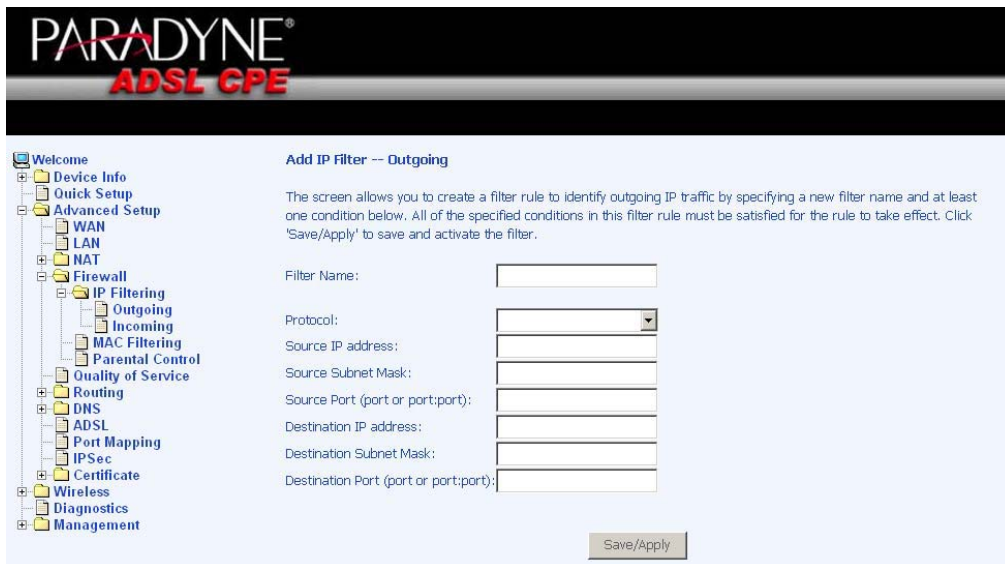
Firewall

IP Filtering—Outgoing

The outgoing filter will block the LAN traffic from entering the WAN side. Click on the **Add** button to create filters.



The below screen will appear when you click on **Add**. Input the filter name, source information (from the LAN side), and destination information (from the WAN side). Then click on **Save / Apply**.



The following screen appears when you **Save / Apply** the IP filter. The screen lists the IP filters that were added from the previous screen. To change your settings, click on the **Add** or **Remove** buttons. The Remove button appears only when you have an existing IP filter already set up.



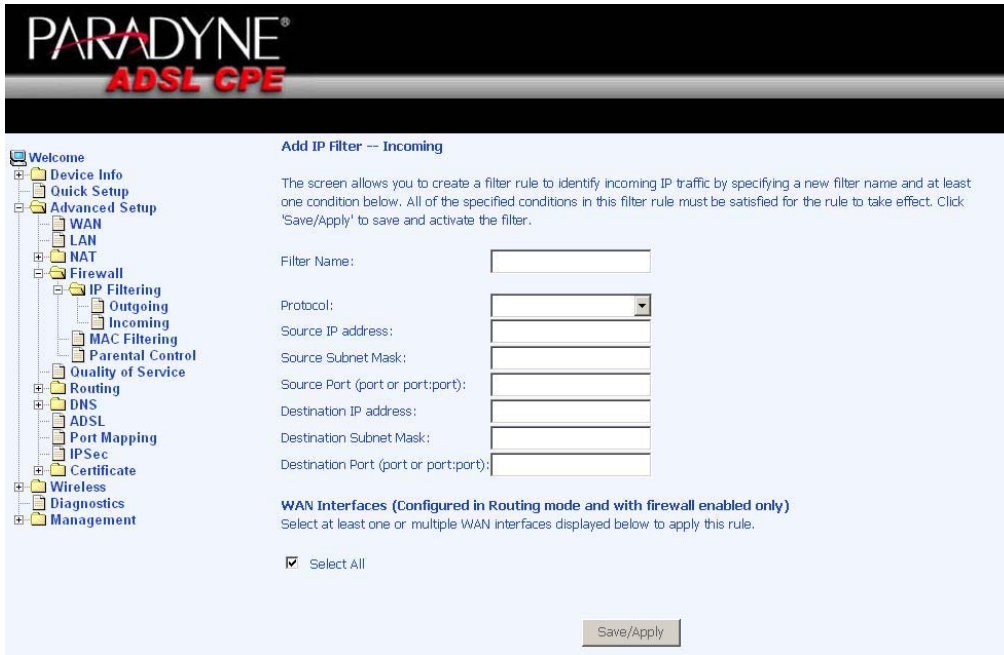
IP Filtering—Incoming

Incoming IP filter filters the WAN traffic to the LAN side. Click on the **Add** button to add incoming filter settings.



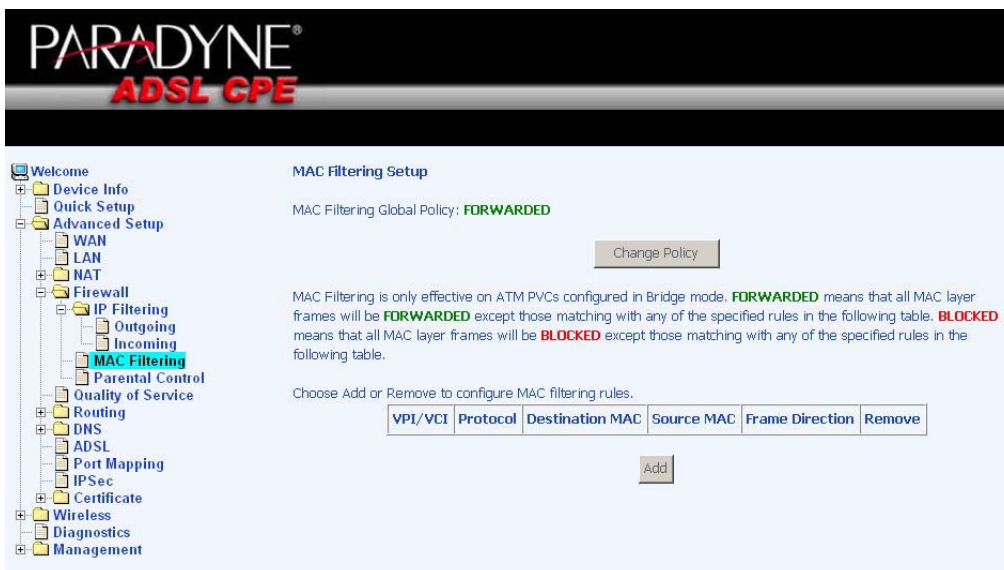
Enter a filter name, information about the source address (from the WAN side), and information about the destination address (to the LAN side). Select the protocol and WAN interface, then click on **Save/Apply** to add the setting.

You can view and delete the incoming filter settings from this screen.



MAC Filtering

MAC filtering can forward or block traffic by MAC address. You can change the policy or add settings to the MAC filtering table using the MAC Filtering Setup screen.



If you click on **Change Policy**, a confirmation dialog allows you to verify your change.



If you want to add a setting to the MAC filtering table, enter the Source and Destination MAC address, and select protocol type, frame direction, and WAN interface. Then click on **Save / Apply** to save it.



After you save the settings, a screen showing the settings will appear. On this screen you will be able to view and delete MAC filtering rules.

Parental Control

In a home setting, parents can also restrict the day of the week certain computers can access the router. Click on **Add** to set up the restrictions.



After you click you **Add**, you will see the below screen. You will be able to enter the MAC address of the PC that you wish to place on a time of day restriction. Click on **Save / Apply** to save the settings and to continue.

