108M 802.11g Wireless LAN Router

CAMEO WLG-2210 User's Manual

Regulatory notes and statements

Wireless LAN, Health and Authorization for use

Radio frequency electromagnetic energy is emitted from Wireless LAN devices. The energy levels of these emissions however are far much less than the electromagnetic energy emissions from wireless devices like for example mobile phones. Wireless LAN devices are safe for use frequency safety standards and recommendations. The use of Wireless LAN devices may be restricted in some situations or environments for example:

·On board of airplanes, or

·In an explosive environment, or

·In case the interference risk to other devices or services is perceived or identified as harmful

In case the policy regarding the use of Wireless LAN devices in specific organizations or environments (e.g. airports, hospitals, chemical/oil/gas industrial plants, private buildings etc.) is not clear, please ask for authorization to use these devices prior to operating the equipment.

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that

to which the receiver is connected.

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

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IMPORTANT NOTE: FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

We declare that the product is limited in CH1-CH11 for 2.4G band by specific firmware controlled by the manufacturer and is not user changeable.

TABLE OF CONTENT

ABOUT THIS GUIDE 1
Purpose 1
Terms/Usage 1
Overview of this User' s Guide 1
INTRODUCTION 2
Applications: 2
Features: 3
UNPACKING AND SETUP 4
Unpacking 4
Setup 4
HARDWARE INSTALLATION 5
Front Panel 5
Rear Panel 6
Hardware connections 7
Connecting the WLAN Router 7
Check the installation 7
PC NETWORK TCP/IP SETTING 8
Windows 95/98/ME 8
Windows 2000 9
Windows XP 10
CONFIGURATION 11
Login to the WLAN Router through Wireless LAN 11
Login to the WLAN Router 11
Using the Web Browser 11
Setup Wizard 12
Manual Setup 21
2.1 LAN Setting 21
2.1.1 LAN & DHCP Server 21
2.1.2 WAN 22
2.1.3 Password 23
2.1.4 Time 23
2.1.5 Dynamic DNS 24
2.2 Wireless 25
2.2.1 Basic 25
2.2.2 Authentication 26
2.2.3 Advanced 28
2.3 Status 29
2.3.1 Device Information 29
2.3.2 Log 30
2.3.3 Log Setting 31
2.3.4 Statistic 32
2.3.5 Wireless 32
2.4 Routing 33
2.4.1 Static 33

2.4.2 Dynamic 34
2.4.3 Routing Table 34
2.5 Access 35
2.5.1 Filters 35
2.5.4 Virtual Server 41
2.5.5 Special AP 42
2.5.6 DMZ 43
2.5.7 Firewall Rule 44
2.6 Management 45
2.6.1 SNMP 45
This screen enables you to configure the SNMP. 45
2.6.2 Remote Management 46
2.7 Tools 47
2.7.1 Reset 47
TECHNICAL SPECIFICATIONS 49

ABOUT THIS GUIDE

Congratulations on your purchase of this 108Mbps Super-G™ Wireless LAN Router. This integrated access device combines Internet gateway functions with wireless LAN and Fast Ethernet switch. It provides a complete solution for Internet surfing and office resources sharing, and it is easy to configure and operate for every users.

Purpose

This manual discusses how to install the 108Mbps Super-G™ Wireless LAN Router.

Terms/Usage

In this guide, the term "the WLAN Router" refers to your 108Mbps Super-G™ Wireless LAN Router.

Overview of this User's Guide

Introduction. Describes the 108Mbps Super-G™ Wireless LAN Router and its features.

Unpacking and Setup. Helps you get started with the basic installation of the 108Mbps Super-G™ Wireless LAN Router.

Identifying External Components. Describes the front panel, rear panel and LED indicators of the 108Mbps Super-G™ Wireless LAN Router.

Connecting the Router. Tells how you can connect the 108Mbps Super-G™ Wireless LAN Router to your xDSL/Cable Modem.

Technical Specifications. Lists the technical (general, physical and environmental, performance and Routers settings) specifications of the 108Mbps Super-G™ Wireless LAN Router.

INTRODUCTION

With the explosive growth of the Internet, accessing information and services at any time, day or night has become a standard requirement for most people. The era of the standalone PC is waning. Networking technology is moving out of the exclusive domain of corporations and into homes with at least two computers.

This integrated access device combines Internet gateway functions with wireless LAN and Fast Ethernet switch. Designed for the business and home, it saves you the cost of installing a separate modem and ISP line for each computer, while providing ready connection for the users, with or without the network wires.

Broadband network access is also gaining ground. However, allowing more than two computers to access the Internet at the same time means less affordable, higher costs. Thus, there is a need to share one legal IP address over a single Internet connection to link the home with the Internet.

The scarcity of IP addresses and using a shared Internet connection through an Internet sharing device can solve high network access costs. All linked computers can make full use of broadband capabilities over such a device.

This device not only comes equipped with a wide range of features, but also can be installed and configured right out of the box. This device supports a simple local area network and Internet access share, offering great cost savings.

The local area network connects up home computers while also allowing any of the computers to access the Internet, share resources, or play online games—the basis of the family computing lifestyle.

Applications:

Broadband Internet access:

Several computers can share one high-speed broadband connection through wireless or wired (WLAN, LAN and WAN-Internet).

Resource sharing:

Share resources such as printers, scanners and other peripherals.

File sharing:

Exchange data, messages, and distribute files thus making good use of hard disk space.

Online gaming:

Through the local area network, online gaming and e-commerce services can be easily setup.

Firewall:

A built-in firewall function — for security and anti-hack system.

Features:

- High speed data transfer rate
- Supports NAT for share 1 IP address to all LAN/WLAN users.
- Supports PPPoE and PPTP protocol for Dial-Up ADSL.
- Supports 64/128 bit WEP Encryption
- Supports WPA-PSK, WPA2-PSK, WPA, WPA2 security
- Supports DHCP Server / Client.
- Supports UPnP (Universal Plug and Play).
- Supports Virtual Server mapping.
- Supports Packet filtering.
- Supports Protocol filtering
- Support Domain filtering
- Supports DNS
- Simple Firewall protection.
- Upgradeable firmware for future function.
- Simple setting using Setup Wizard.
- Easy configuration via WEB Browser.

UNPACKING AND SETUP

This chapter provides unpacking and setup information for the 108Mbps Super-G™ Wireless LAN Router.

Unpacking

Open the box of the WLAN Router and carefully unpack it. The box should contain the following items:

- One 108Mbps Super-G™ Wireless LAN Router
- One dipole antenna
- One external power adapter
- One CD-ROM with this User' s Guide

If any item is found missing or damaged, please contact your local reseller for replacement.

Setup

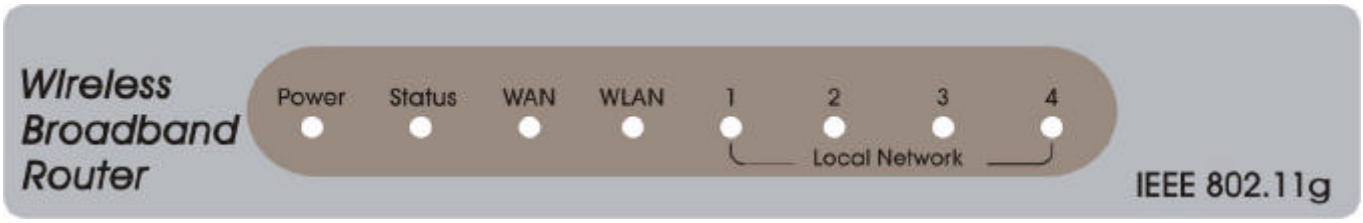
The setup of the WLAN Router can be performed properly using the following methods:

- The power outlet should be within 1.82 meters (6 feet) of the Broadband Router.
- Visually inspect the DC power jack and make sure that it is fully secured to the power adapter.
- Make sure that there is proper heat dissipation from and adequate ventilation around the Broadband Router. Do not place heavy objects on the Broadband Router.
- Fix the direction of the antennas. Try to place the Wireless Router in a position that can best cover your wireless network. Normally, the higher you place the antenna, the better the performance will be. The antenna' s position enhances the receiving sensitivity.

HARDWARE INSTALLATION

Front Panel

The figure below shows the front panel of the 108Mbps Super-G™ Wireless LAN Router.



Front Panel

Power

This indicator lights green when the hub is receives power, otherwise it is off.

Status

This indicator blinking green means the WLAN Router is working successful. Otherwise, this indicator always on or off means the function of the WLAN Router is fail.

WAN (Link/ACT)

The indicators light green when the WAN port was connected to an xDSL/Cable modem successfully.

The indicators blink green while the WAN port was transmitting or receiving data on the xDSL/Cable modem.

WLAN (ACT)

This indicator lights green when there are wireless devices connected and transmitting data to the WLAN Router.

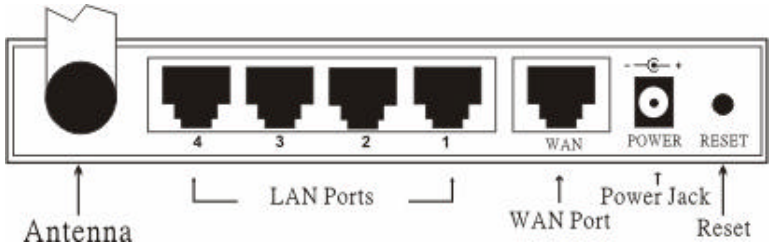
Local Network (Link/ACT)

These indicators light green when the LAN ports were connected successfully.

These indicators blinking green while the LAN ports were accessing data.

Rear Panel

The figure below shows the rear panel of the 108Mbps Super-G™ Wireless LAN Router.



Rear Panel

Antenna

There is one 2dBi Gain Antenna in the rear panel for wireless connection.

LAN (1-4)

Four RJ-45 10/100Mbps Auto-MDIX ports for connecting to either 10Mbps or 100Mbps Ethernet connections.

WAN

In the four port broadband router, there is an RJ-45 10/100Mbps Auto-MDIX port for the WAN that will fit the xDSL/Cable modem's specification need.

DC IN

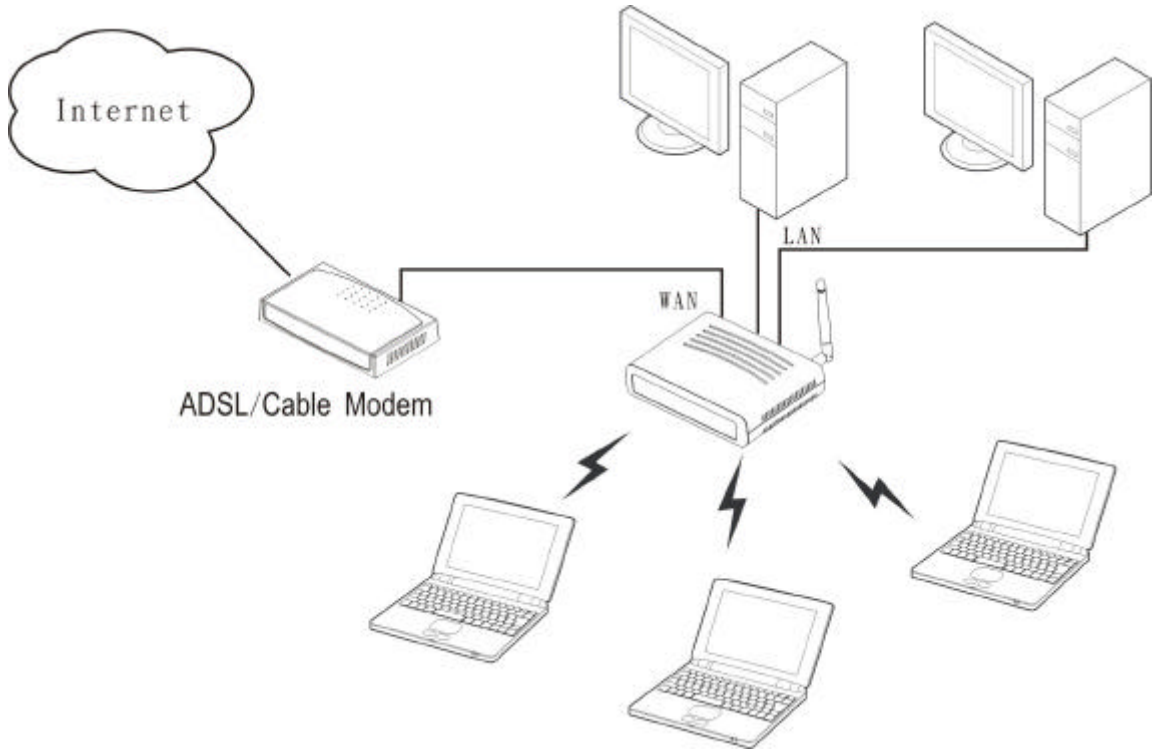
Plug the power adapter to this power jack

RESET

Use a pin-shape item to push to reset this device to factory default settings. It will be useful too when the manager forgot the password to login, but the setting will be back to default setting.

Hardware connections

Connecting the WLAN Router



1. Plug in one end of the network cable to the WAN port of the WLAN Router.
2. Plug in the other end of the network cable to the Ethernet port of the xDSL or Cable modem.
3. Use another network cable to connect to the Ethernet card on the computer system; the other end of the cable connects to the LAN port of the WLAN Router. Since the 108Mbps Super-G^{TM} Wireless LAN Router has four ports, you can connect up to four computers directly to the unit. There you do not have to buy a switch to connect these computers since one WLAN Router functions both as a connection-sharing unit and as a switch.

Check the installation

The control LEDs of the WLAN Router are clearly visible and the status of the network link can be seen instantly:

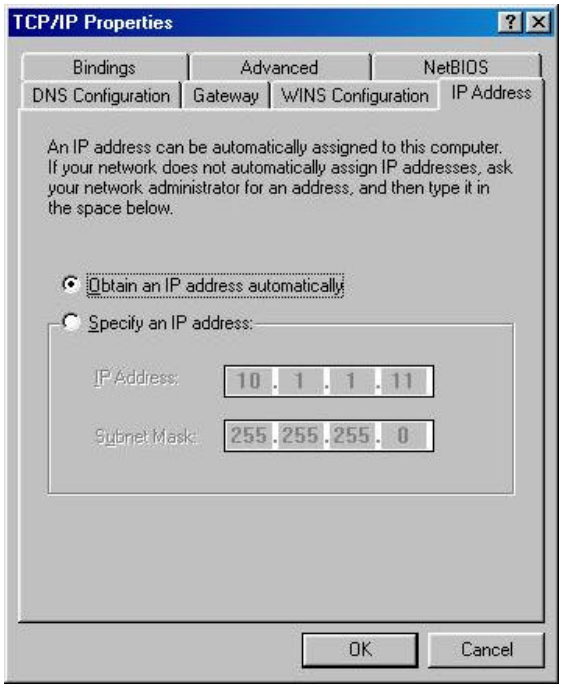
1. With the power source on, once the device is connected to the broadband modem, the Power, System, LAN, WLAN and WAN port LEDs of the WLAN Router will light up indicating a normal status.
2. While the WAN is link up to the ADSL/Cable modem, the WAN port's LED will light up.
3. While the LAN is link up to the computer system, the LAN port's LED will light up.

PC NETWORK TCP/IP SETTING

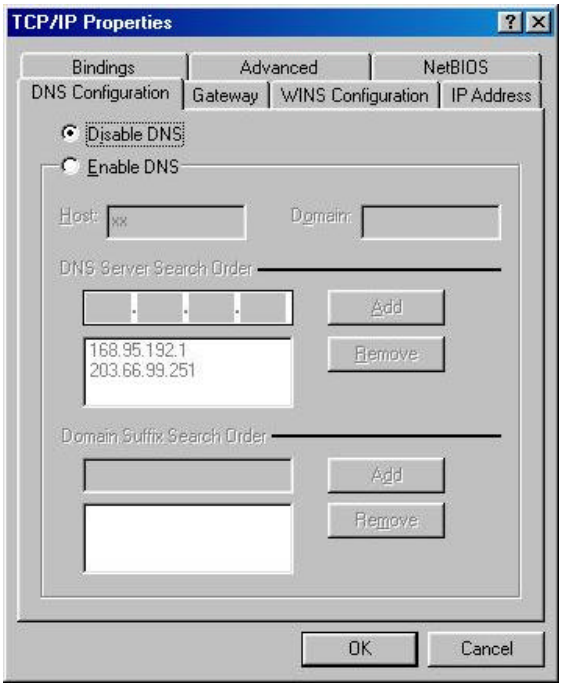
The network TCP/IP settings differ based on the computer's operating system (Win95/98/ME/NT/2000/XP) and are as follows.

Windows 95/98/ME

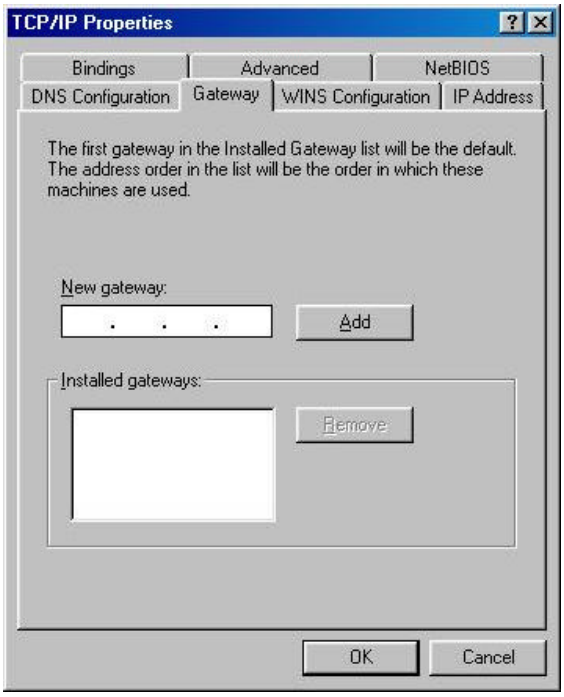
1. Click on the "**Network neighborhood**" icon found on the desktop.
2. Click the right mouse button and a context menu will be show.
3. Select "**Properties**" to enter the TCP/IP setting screen.
4. Select "**Obtain an IP address automatically**" on the "**IP address**" field.



5. Select "**Disable DNS**" in the "**DNS**" field.



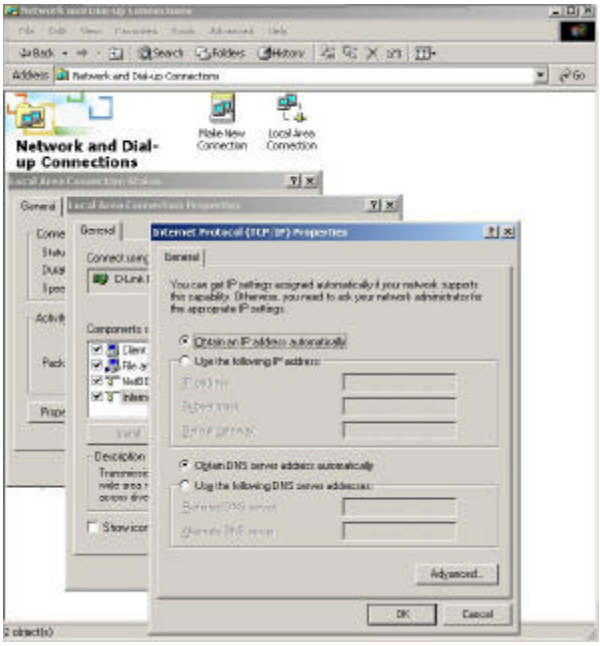
6. Select "**None**" for the "**Gateway address**" field.



Windows 2000

Double click on the "**My computer**" icon on the desktop. When "**My computer**" window opens, open the "**Control panel**" and then open the "**Network dialup connection**" applet. Double click on the "Local area network connection" icon. Select "Properties" to enter the TCP/IP setting window.

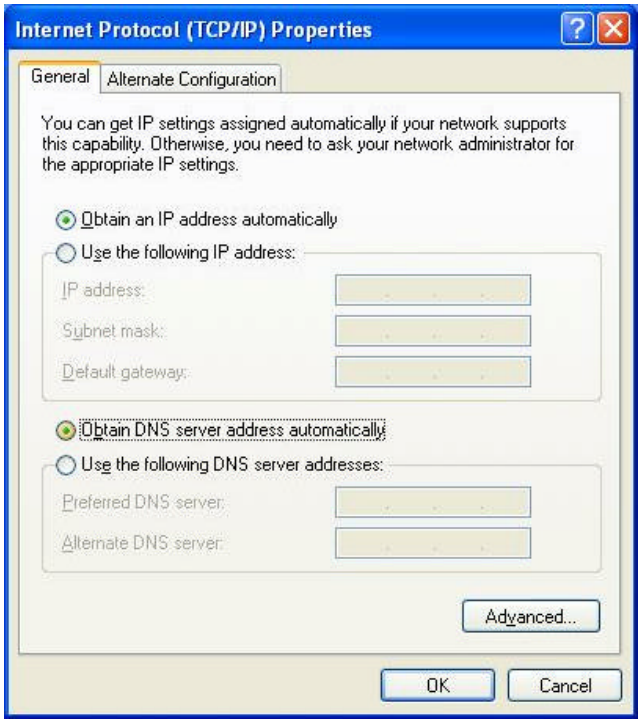
1. In the "**Local area network status**" window, click on "**Properties**."
2. In the "**Local area network connection**" window, first select TCP/IP setting and then select "**Properties**."
3. Set both "**IP address**" and "**DNS**" to **Automatic configuration**.



Windows XP

Point the cursor and click the right button on the “My Network Place” icon.
Select “properties” to enter the TCP/IP setting window.

1. Set “**IP address**” to “**Obtain an IP address automatically**.”
2. Set “**DNS**” to “**Obtain DNS server address automatically**.”



CONFIGURATION

First make sure that the network connections are functioning normally.

This WLAN Router can be configured using Internet Explorer 5.0 or newer web browser versions.

Login to the WLAN Router through Wireless LAN

Before configuring the WLAN Router through WLAN, make sure that the SSID, Channel and the WEP is set properly.

The default setting of the WLAN Router that you will use:

- ✓ SSID: default
- ✓ Channel: 6
- ✓ Security: disable

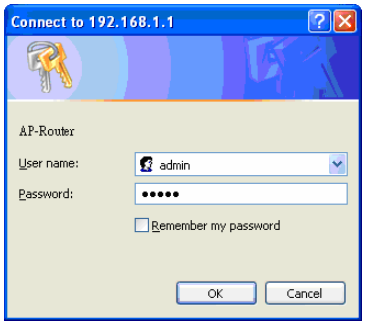
Login to the WLAN Router

Before you configure this device, note that when the WLAN Router, make sure the host PC must be set on the **IP subnetwork** that can be accessed by the xDSL/Cable modem. For example, when the default network address of the xDSL/Cable modem Ethernet interface is 192.168.1.x, then the host PC should be set at 192.168.1.xxx (where xxx is a number between 2 and 254), and the default subnet mask is 255.255.255.0.

Using the Web Browser

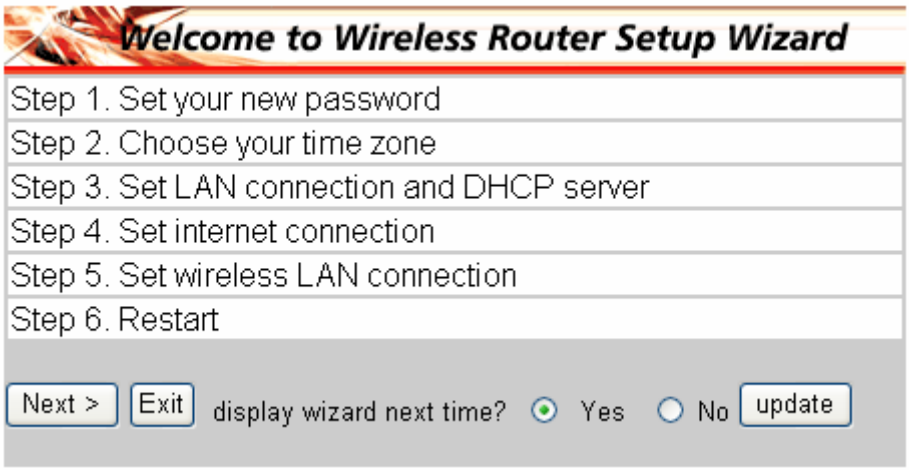
1. Open Internet Explorer 5.0 or above Internet browser.
2. Enter IP address ***http://192.168.1.1*** (the factory-default IP address setting) to the URL web address location.

3. When the following dialog box appears, enter the user name and password to login to the main configuration window, the default username and password is "***admin***".



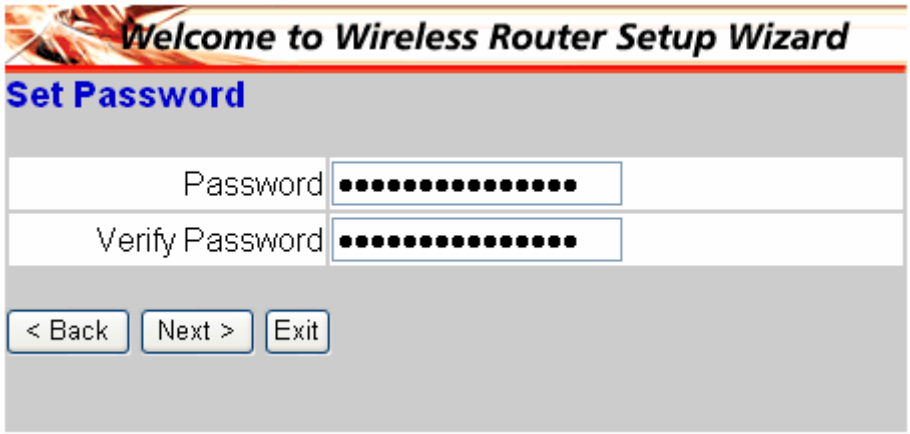
Setup Wizard

Setup wizard is provided as the part of the web configuration utility. User can simply follow the step-by-step process to get the wireless router configuration ready to run in 6 easy steps by clicking on the “Wizard” button on the function menu. The following screen will appear. Please click “Next” to continue.



Step 1: Set up new Password

User can change the password and then click “Next” to continue.

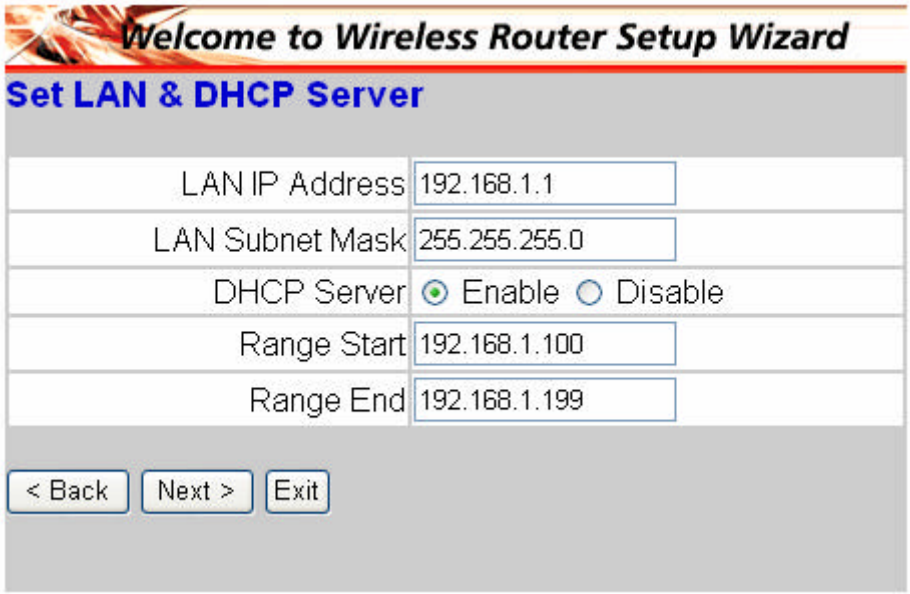


Step 2: Choose time zone

Select the time zone from the drop down list. Please click “Next” to continue.

Step 3: Set LAN connection and DHCP server

Set user’s IP address and mask. The default IP is 192.168.1.1. If user likes to enable DHCP, please click “Enabled”. DHCP enabled is able to automatically assign IP addresses. Please assign the range of IP addresses in the fields of “Range start” and “Range end”. Please click “Next” to continue.

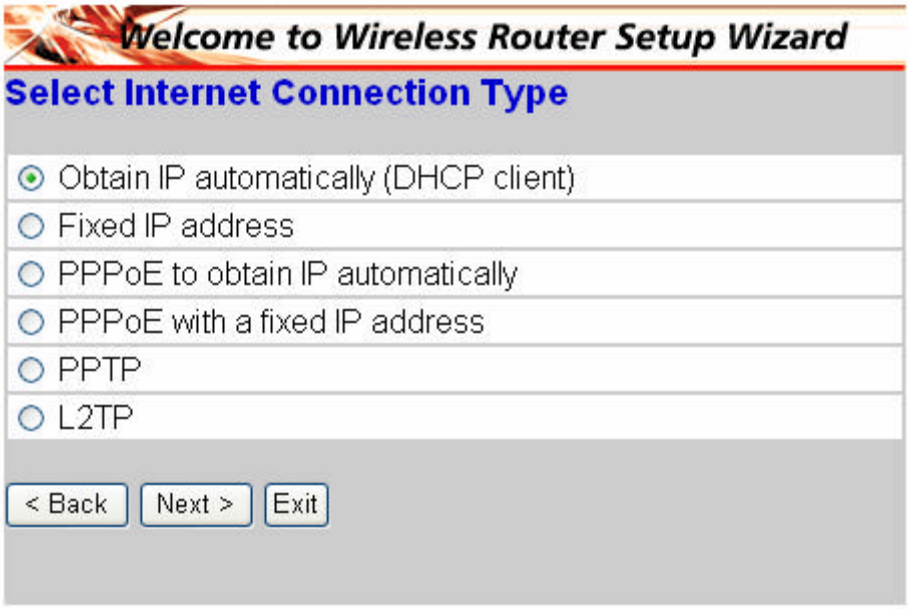


Step 4: Set Internet connection

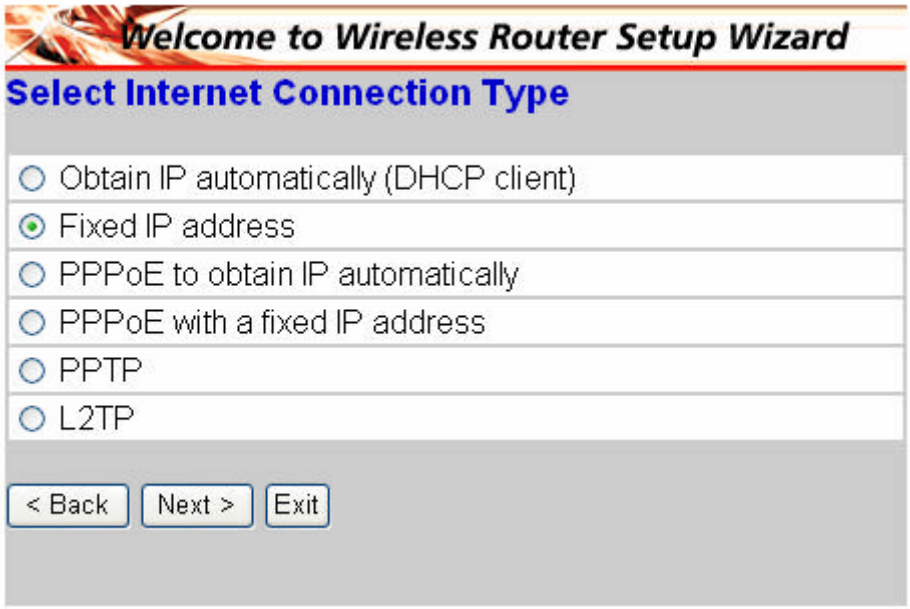
Select how the router will set up the Internet connection: Obtained IP automatically; Fixed IP address; PPPoE to obtain IP automatically; PPPoE with a fixed IP address; PPTP.

Obtain IP automatically (DHCP client):

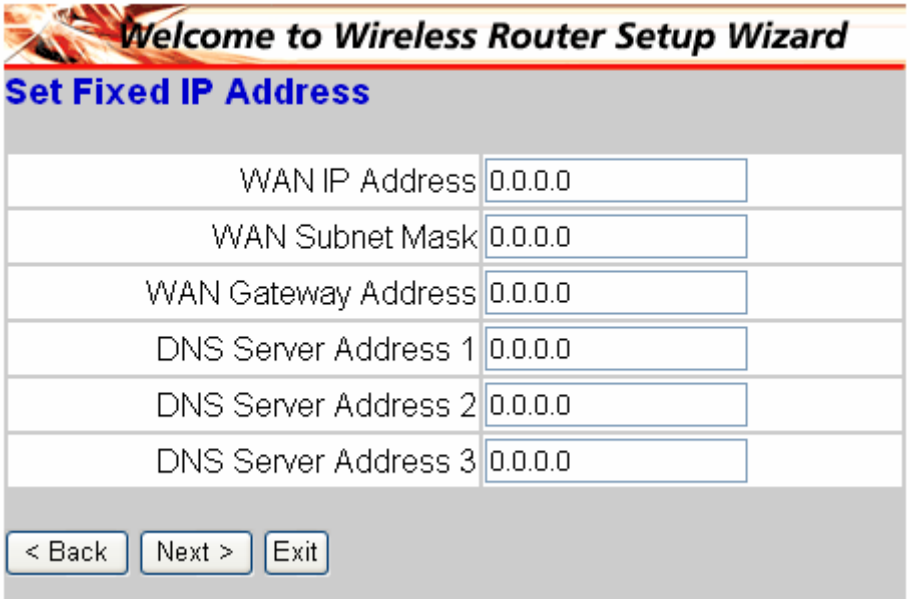
If user has enabled DHCP server, choose "Obtain IP automatically (DHCP client)" to have the WLAN Router assign IP addresses automatically.



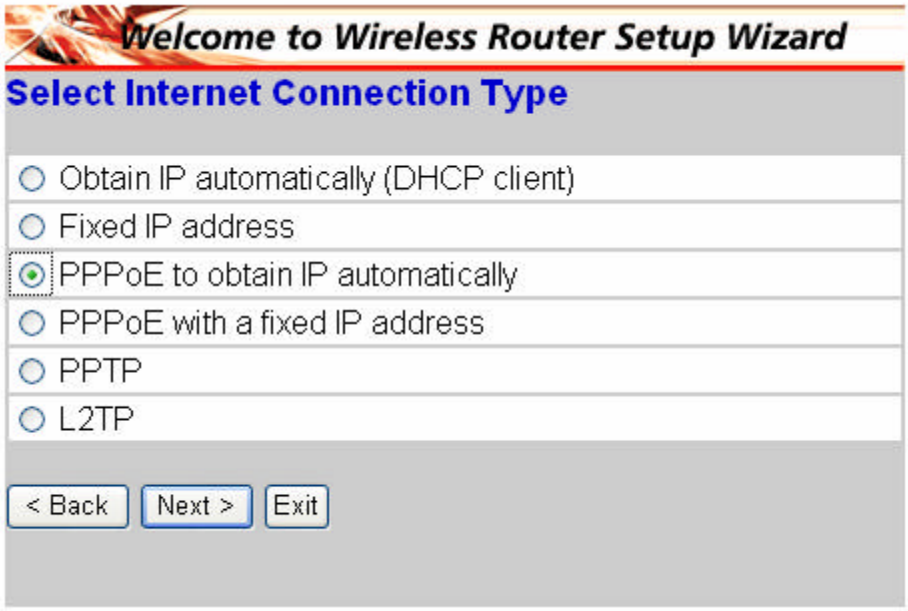
Fixed IP Address:



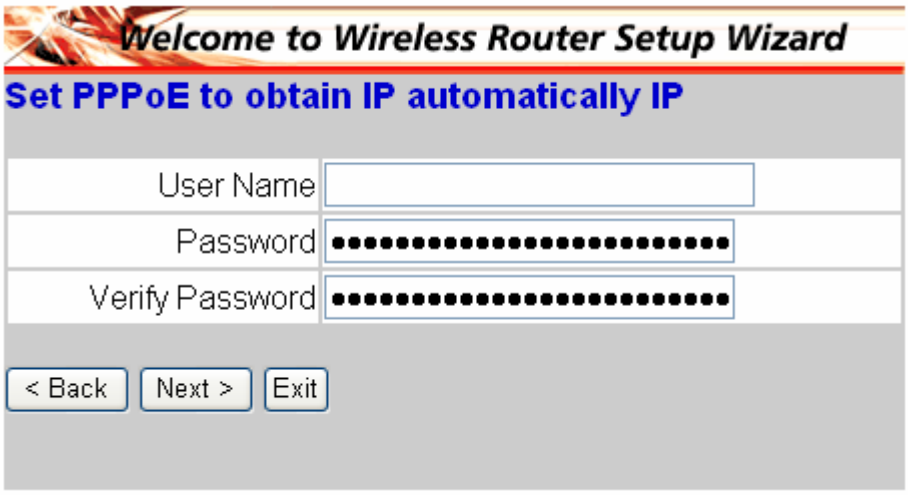
If the Internet Service Providers assign a fixed IP address, choose this option and enter the assigned IP address, subnet mask, gateway IP and DNS IP addresses for the WLAN Router.



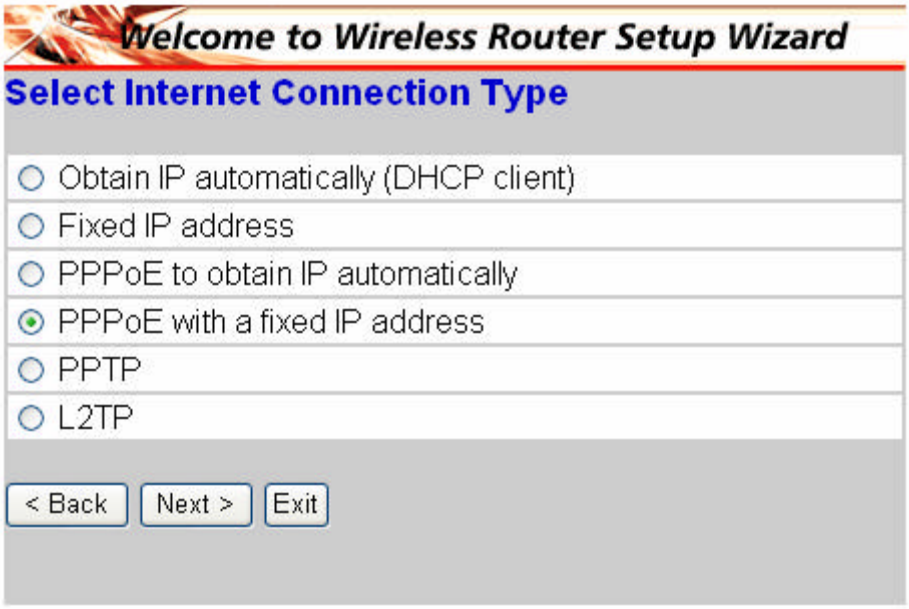
PPPoE to obtain IP automatically:



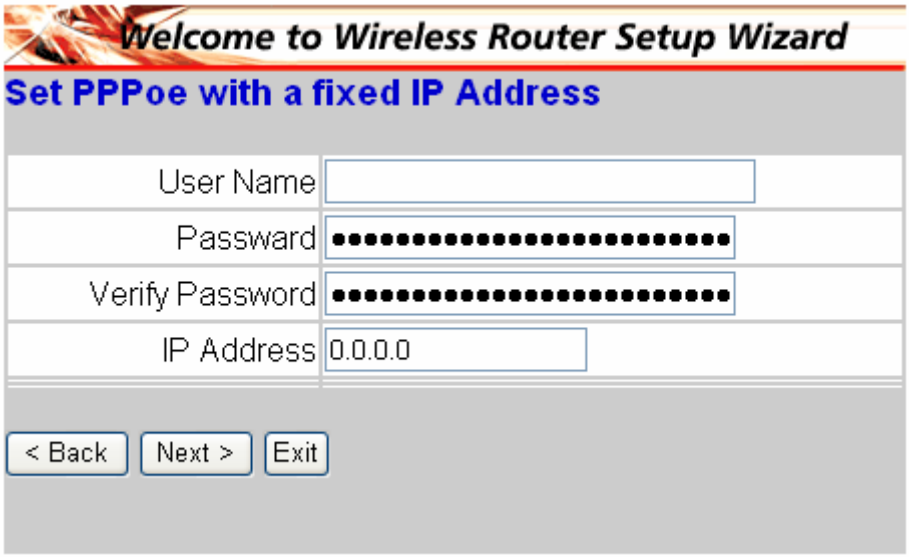
If connected to the Internet using a PPPoE (Dial-up xDSL) Modem, the ISP will provide a Password and User Name, and then the ISP uses PPPoE. Choose this option and enter the required information.



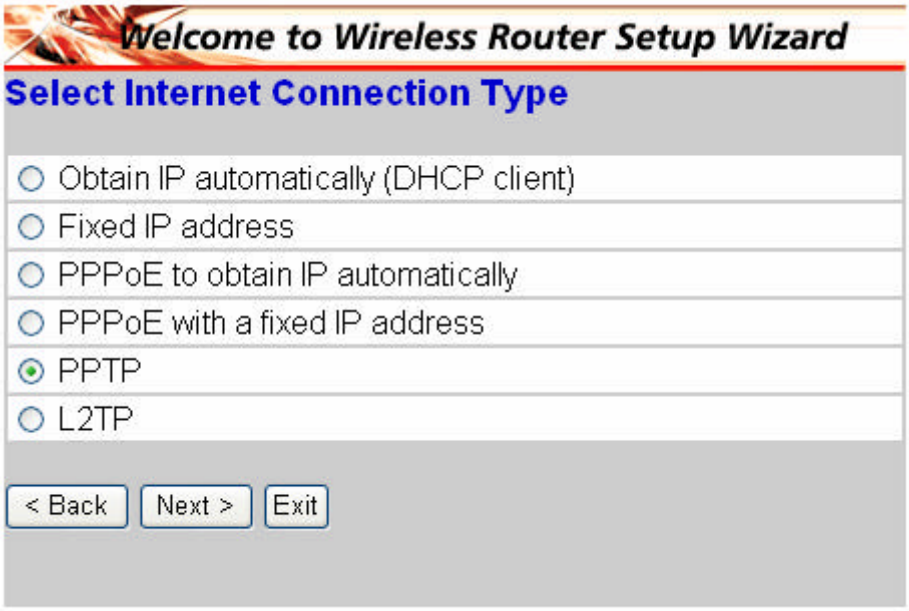
PPPoE with a fixed IP address:



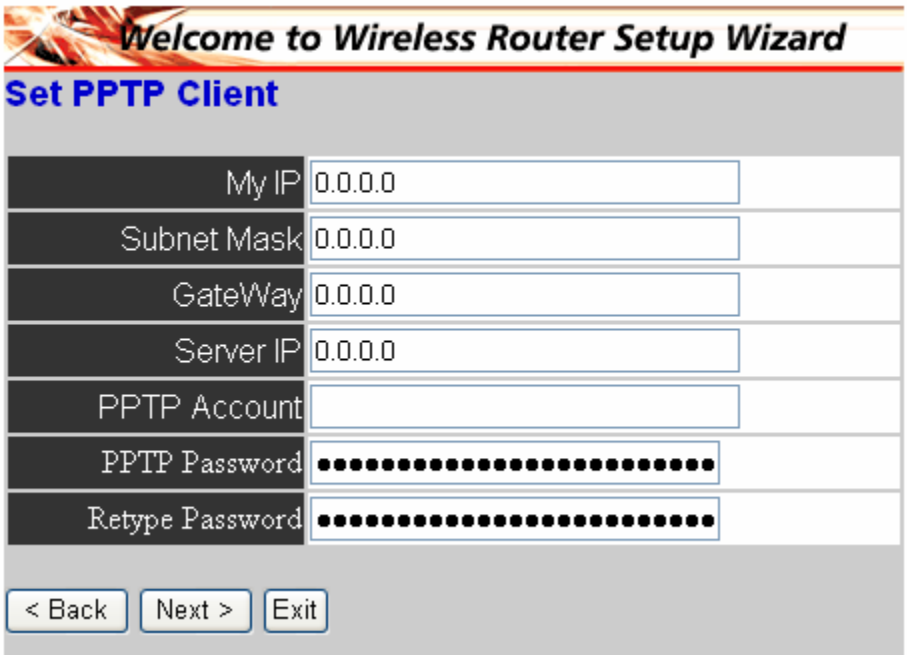
If connected to the Internet using a PPPoE (Dial-up xDSL) Modem, the ISP will provide a Password, User Name and a Fixed IP Address, choose this option and enter the required information.



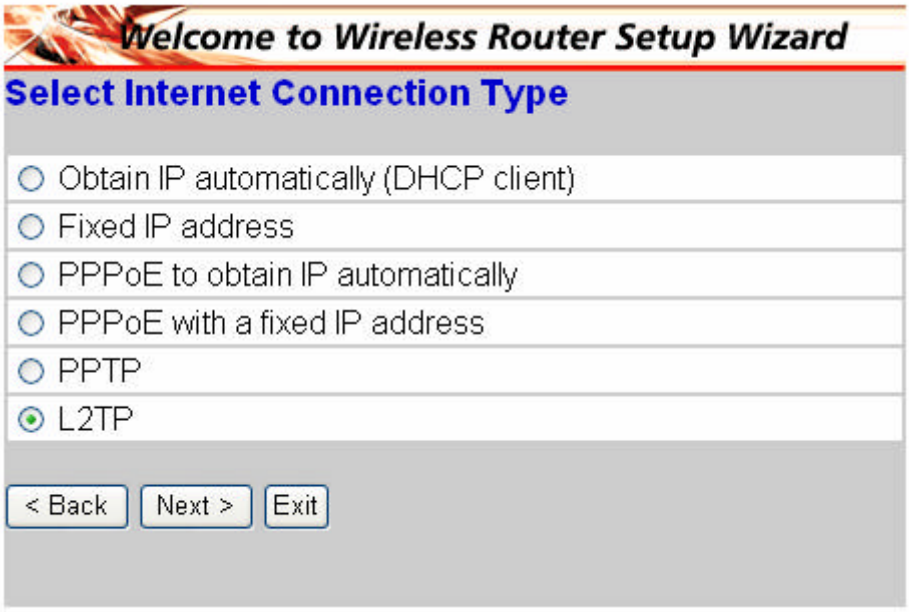
PPTP:



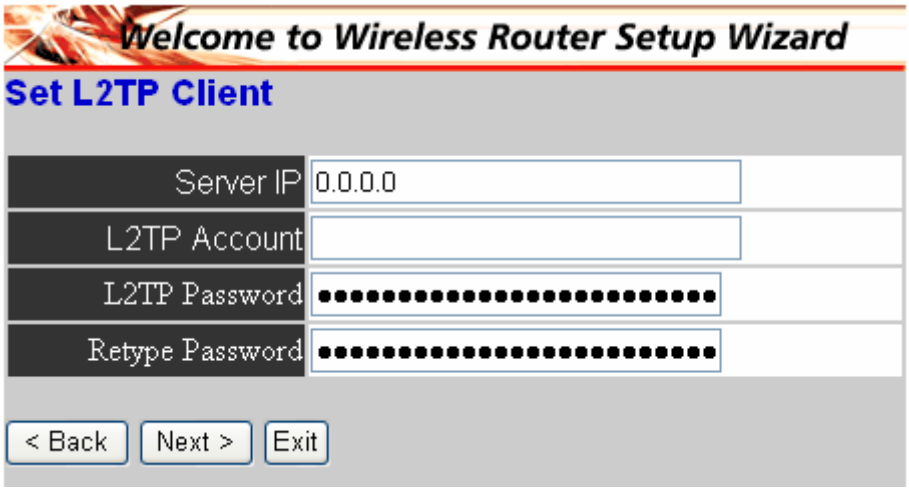
If connected to the Internet using a (PPTP) xDSL Modem, enter the your IP Address, Subnet Mask, Gateway, Server IP, PPTP Account and PPTP Password, Your Subnet Mask required by your ISP in the appropriate fields. If your ISP has provided you with a Connection ID, enter it in the Connection ID field, otherwise, leave it zero.



L2TP:

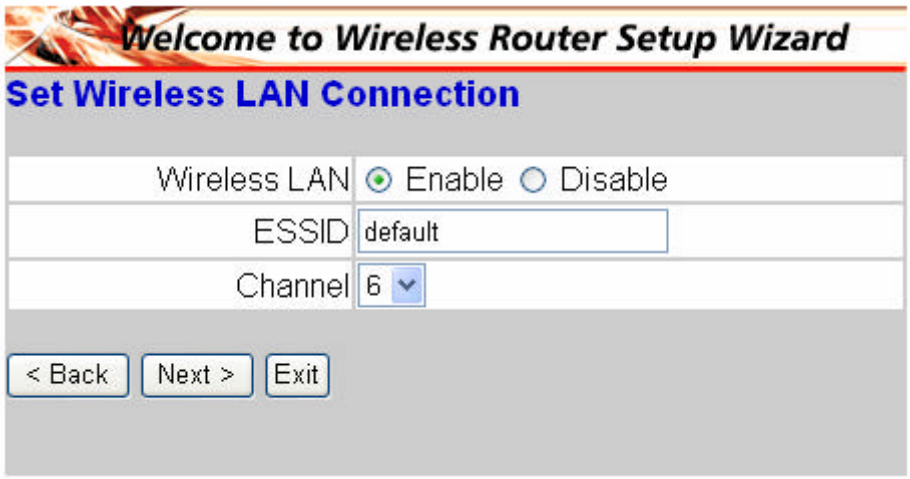


If connected to the Internet using a L2TP (Dial-up xDSL) Modem, the ISP will provide a Server IP. Account and Password. Choose this option and enter the required information.



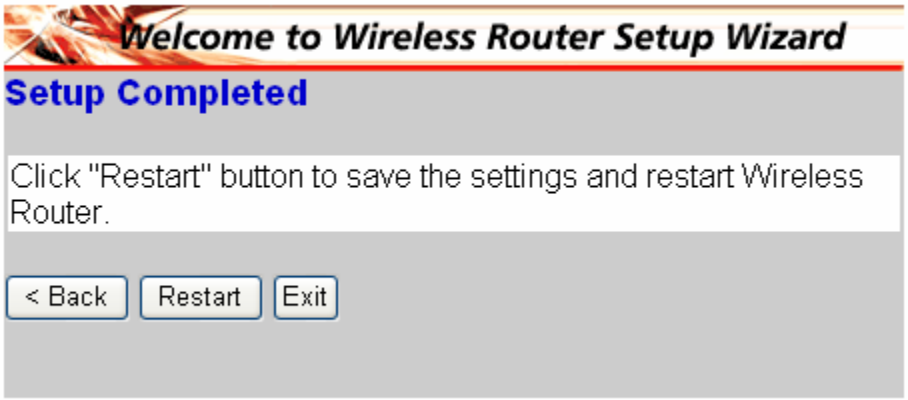
Step 5: Set Wireless LAN connection

Click “Enable” to enable wireless LAN. If user enables the wireless LAN, type the SSID in the text box and select a communications channel. The SSID and channel must be the same as wireless devices attempting communication to the router.



Step 6: Setup completed

The Setup wizard is now completed. The new settings will be effective after the Wireless router restarted. Please click “Restart” to reboot the router. If user does not want to make any changes, please click “Exit” to quit without any changes. User also can go back to modify the setting by clicking “Back”.



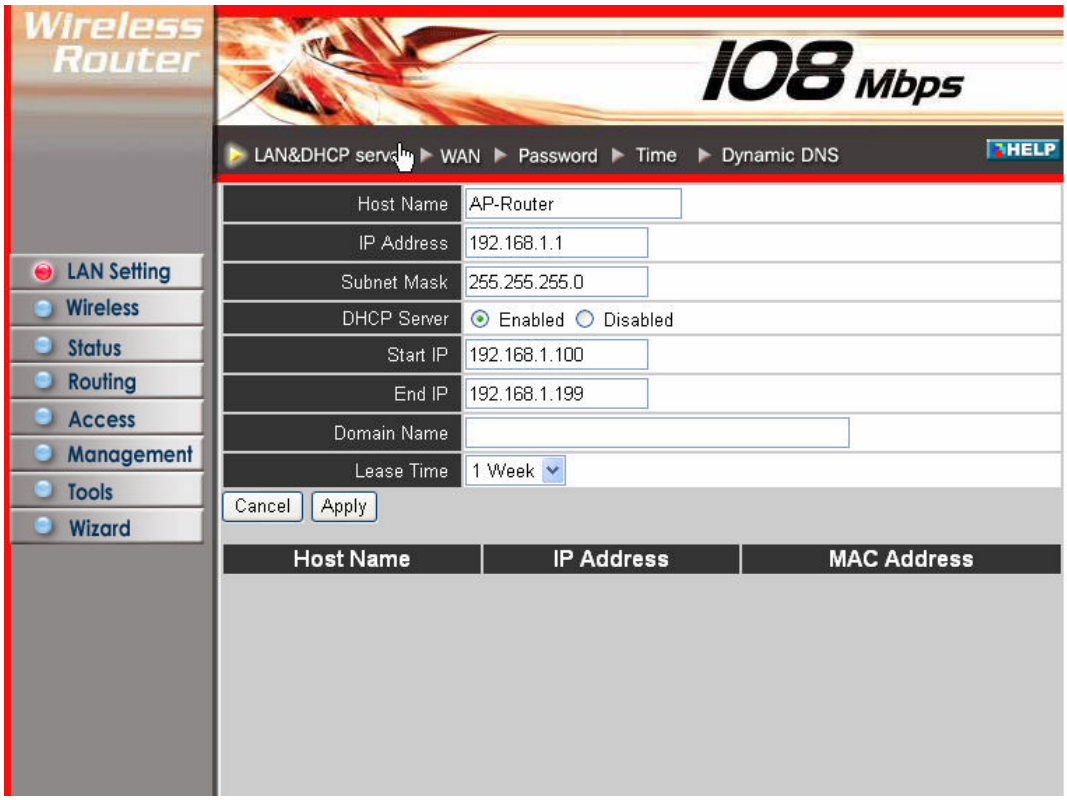
Advanced configuration

LAN Setting

The screen enables user to configure the LAN & DHCP Server, set WAN parameters, create Administrator and User passwords, and set the local time, time zone, and dynamic DNS.

LAN & DHCP Server

This page leads to set LAN and DHCP properties, such as the host name, IP address, subnet mask, and domain name. LAN and DHCP profiles are listed in the DHCP table at the bottom of the screen.



Host Name: Type the host name in the text box. The host name is required by some ISPs. The default host name is "AP-Router."

IP Address: This is the IP address of the router. The default IP address is 192.168.1.1.

Subnet Mask: Type the subnet mask for the router in the text box. The default subnet mask is 255.255.255.0.

DHCP Server: Enables the DHCP server to allow the router to automatically assign IP addresses to devices connecting to the LAN. DHCP is enabled by default.

All DHCP client computers are listed in the table at the bottom of the screen, providing the host name, IP address, and MAC address of the client.

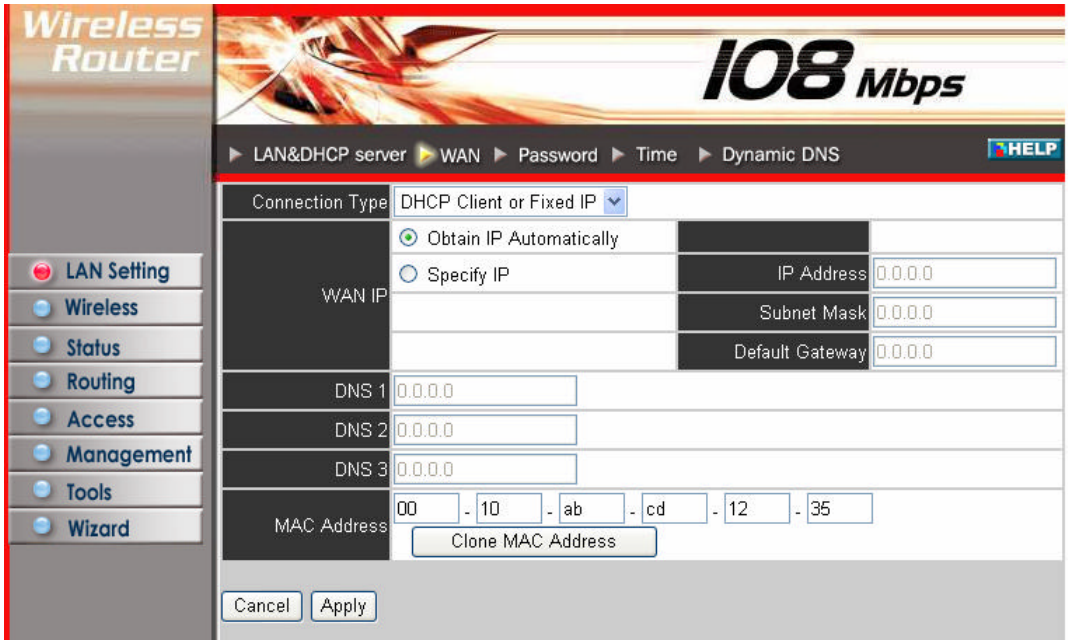
Start IP: Type an IP address to serve as the start of the IP range that DHCP will use to assign IP addresses to all LAN devices connected to the router.

End IP: Type an IP address to serve as the end of the IP range that DHCP will use to assign IP addresses to all LAN devices connected to the router.

Domain Name: Type the local domain name of the network in the text box. This item is optional.

WAN

This screen enables user to set up the router WAN connection, specify the IP address for the WAN, add DNS numbers, and enter the MAC address.



Connection Type: Select the connection type, either DHCP client, Fixed IP, PPPoE, PPTP or L2TP from the drop-down list.

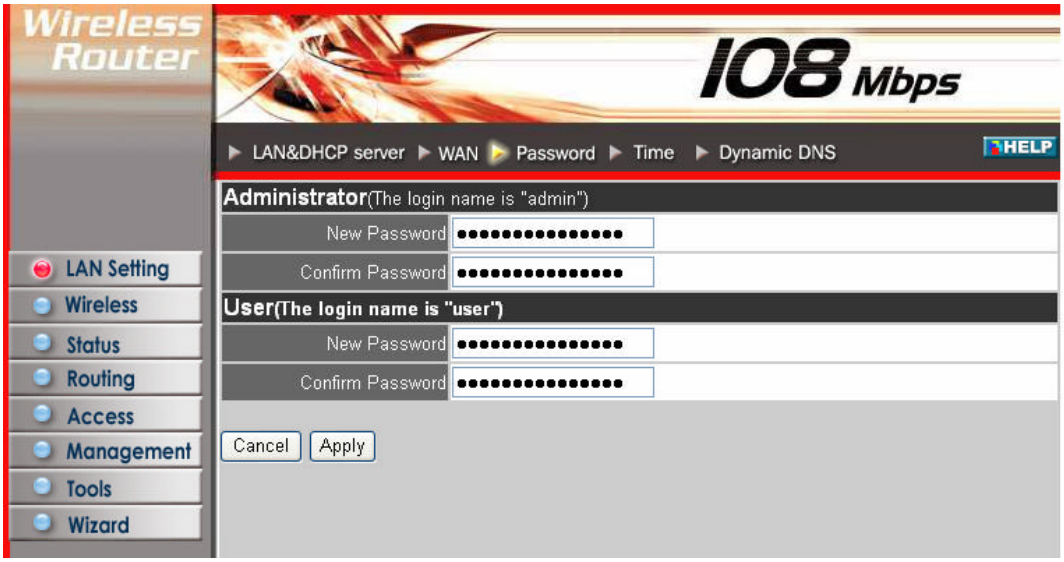
WAN IP: Select whether user wants to specify an IP address manually, or want DHCP to obtain an IP address automatically. When Specify IP is selected, type the IP address, subnet mask, and default gateway in the text boxes. User's ISP will provide with this information.

DNS 1/2/3: Type up to three DNS numbers in the text boxes. User's ISP will provide with this information.

MAC Address: If required by user's ISP, type the MAC address of the router WAN interface in this field.

Password

This screen enables user to set administrative and user passwords. These passwords are used to gain access to the router interface.

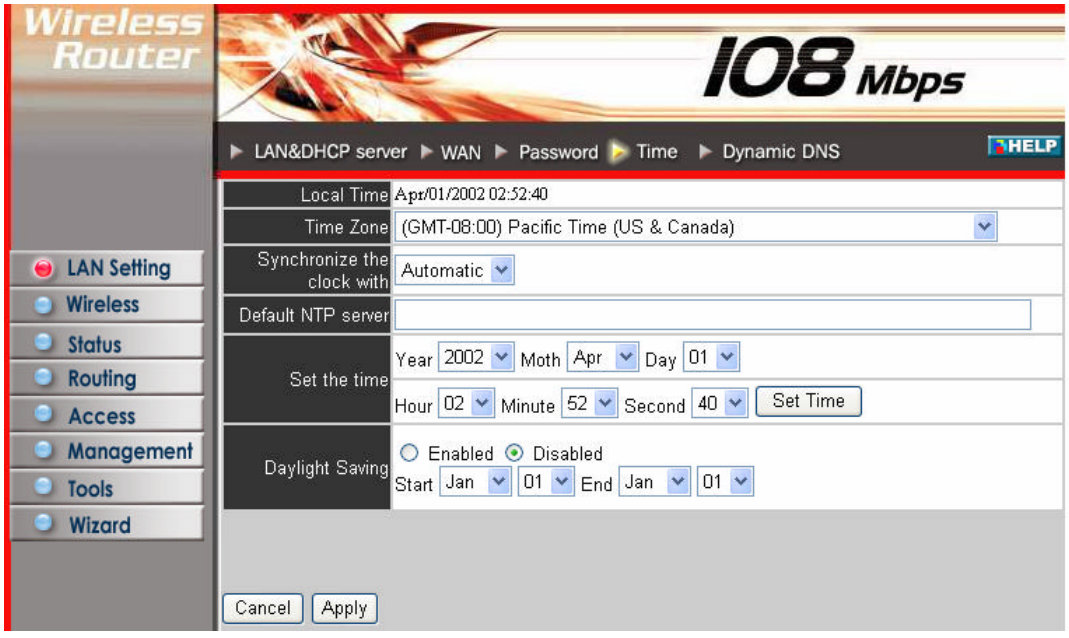


Administrator: Type the password the Administrator will use to log in to the system. The password must be typed again for confirmation. The authority if Administrator allow user configuration of the WLAN Router.

User: Type the password the User will use to log in to the system. The password must be typed again for confirmation. The authority if User only allow user viewing current configuration of the WLAN Router.

Time

This screen enables user to set the time and date for the router's real-time clock, select properly time zone, and enable or disable daylight saving.



Local Time: Displays the local time and date.

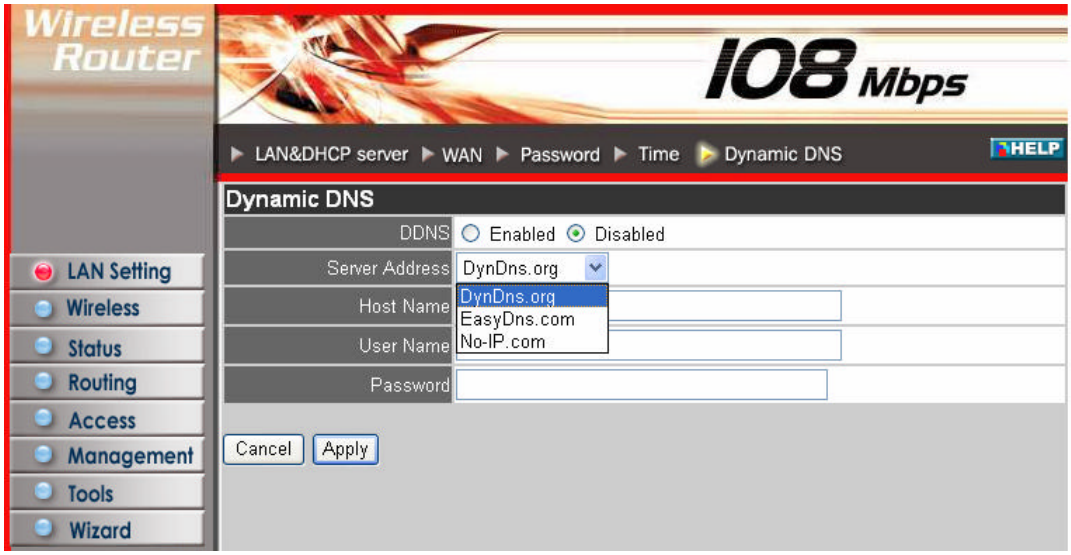
Default NTP server: The Simple Network Time Protocol (SNTP) server allows the WLAN Router to synchronize the system clock to the global Internet through the SNTP Server. Specify the NTP domain name or IP address in the text box.

Time Zone: Select the time zone from the drop-down list.

Daylight Saving: Enables user to enable or disable daylight saving time. When enabled, select the start and end date for daylight saving time.

Dynamic DNS

This allows the DDNS server what your current IP address is when you are on-line. You firstly need to register your preferred DNS on the DDNS providers. Then, please select the DDNS address in the Server Address and fill the related information in the below fields: Host Name, User Name and Password.

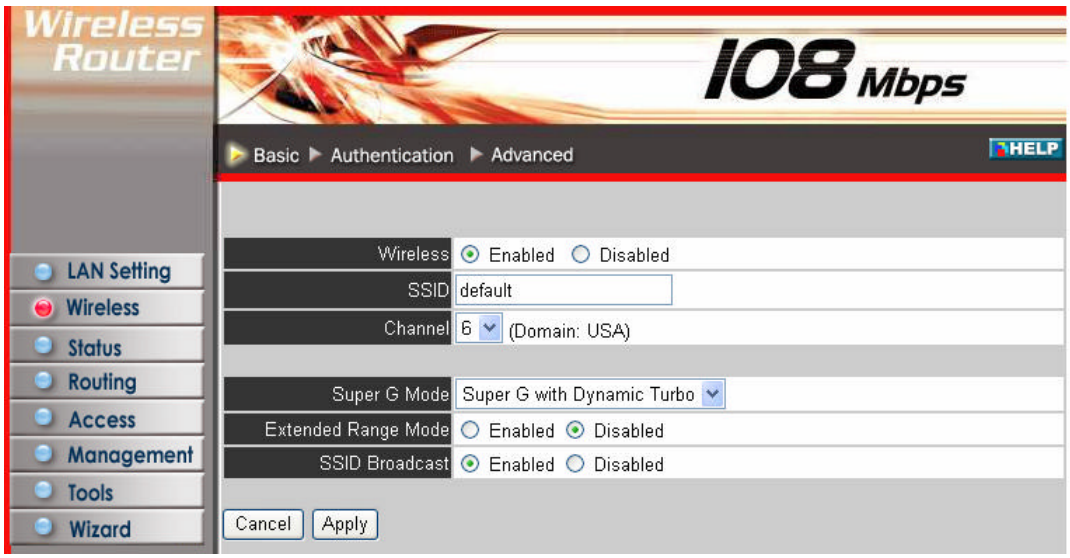


Wireless

This section enables user to configuration the wireless communications parameters for the WLAN Router.

Basic

This page allow user to enable and disable the wireless LAN function, create a SSID, and select the channel for wireless communications.



Enable/Disable: Enables and disables wireless LAN via the WLAN Router.

SSID: Type an SSID in the text box. The SSID of any wireless device must match the SSID typed here in order for the wireless device to access the LAN and WAN via the router.

Channel: Select a transmission channel for wireless communications. The channel of any wireless device must match the channel selected here in order for the wireless device to access the LAN and WAN via the router.

Super G mode: From the drop list, if you like to use Super-G™ to enhance the speed, there are three options on Super-G™ mode: *Super G without turbo*; *Super G with Dynamic turbo* and *Super G with Static turbo*. The turbo mode indicates the combination of two channels to enhance the throughput. Super G without turbo indicates that it is on Super G mode without the channel's combination. Dynamic turbo is able to automatically detect if any 'Super-G™ based' product is available. If no, the connection is via 'normal' G. Static turbo means it will not go back to 'normal' G once it starts.

Extended Range Mode: Enable and disable wireless LAN via router.