PLANET
Networking & Communication

Wireless LAN

User's Manual

WNRT-617G

150Mbps 802.11n Wireless 3G Router

Copyright

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 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 or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio technician for help.

FCC Caution:

To assure continued compliance, (example-use only shielded interface cables when connecting to computer or peripheral devices) any changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

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

(2) This Device must accept any interference received, including interference that may cause undesired operation.

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

Federal Communication Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 inches) during normal operation.

R&TTE Compliance Statement

This equipment complies with all the requirements of DIRECTIVE 1999/5/CE OF THE EUROPEAN PARLIAMENT AND THE COUNCIL OF 9 March 1999 on radio equipment and telecommunication terminal Equipment and the mutual recognition of their conformity (R&TTE).

The R&TTE Directive repeals and replaces in the directive 98/13/EEC (Telecommunications Terminal Equipment and Satellite Earth Station Equipment) As of April 8, 2000.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

National Restrictions

This device is intended for home and office use in all EU countries (and other countries following the EU directive 1999/5/EC) without any limitation except for the countries mentioned below:

Country	Restriction	Reason/remark
Bulgaria	None	General authorization required for outdoor use and public service
France	Outdoor use limited to 10 mW e.i.r.p. within the band 2454-2483.5 MHz	Military Radiolocation use. Refarming of the 2.4 GHz band has been ongoing in recent years to allow current relaxed regulation. Full implementation planned 2012
Italy	None	If used outside of own premises, general authorization is required
Luxembourg	None	General authorization required for network and service supply(not for spectrum)
Norway	Implemented	This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Ålesund
Russian Federation	None	Only for indoor applications

Note: Please don't use the product outdoors in France

WEEE regulation

To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

Revision

User’s Manual for PLANET 802.11n Wireless 3G Router

Model: WNRT-617G

Rev: 1.0 (March, 2011)

Part No. EM-WNRT617G_v1.0 (2081-E50210-000)

CONTENTS

Chapter 1. Product Introduction

1.1 Package Contents

The following items should be contained in the package:

- WNRT-617G Wireless 3G Router
- Power Adapter
- Antenna
- Ethernet Cable
- Quick Installation Guide
- CD-ROM (User's Manual included)

If there is any item missed or damaged, please contact the seller immediately.

1.2 Product Description

The Wireless 3G Router delivers exceptional range and speed, which can fully meet the need of Small Office/Home Office (SOHO) networks and the users demanding higher networking performance.

3G/WAN Broadband Connection

The Wireless 3G Router, WNRT-617G, provides 3G and WAN (xDSL, static IP, or dynamic IP) two kinds of broadband connection to get on the Internet. You can access the Internet no matter at home or outside on business. Automatic 3G/WAN fail-over feature just provides non-stop internet connection.

Multiple Wireless Network Technologies for Greater Access

PLANET WNRT-617G features 802.11n radio with 1T1R antenna technology compliant with 802.11b/g/n standards. Compared with general wireless routers, the WNRT-617G offers more powerful and flexible capability for LAN client to access Internet with management functions.

Incredibly High Speed

Our 3G Router provides a speed of up to 150Mbps which is 3X fast of traditional 11g products, surpassing 11g performance and enabling the use of high bandwidth-consuming applications such as HD Videos.

Wide Range of Wireless Security Support

To secure the wireless communication, the WNRT-617G supports up-to-date encryption, WPA-PSK/WPA2-PSK with TKIP/AES. In order to simplify the security settings, the WNRT-617G supports Wi-Fi Protected Setup (WPS) configuration with PBC/PIN methods. By just clicking the

button, the secure connection between AP and wireless client will be built immediately.

Advanced Firewall Security

The WNRT-617G supports NAT function to allow multiple users to access Internet via a single legal IP. It also provides Virtual Server for LAN PC to act as an application server and offer certain service to the clients on Internet. Furthermore, the SPI (Stateful Packet Inspection) firewall protects your Intranet PCs from unauthorized accesses and many kinds of DoS attacks from the Internet. In the aspect of firewall, the WNRT-617G supplies IP-based and MAC-based access control, and prevent possible hackers attack.

Easy Setup

The WNRT-617G provides a total solution for the home and the SOHO users. With the MIMO 11n wireless technology, it's easy to combine the wireless devices with existing wired network.

1.3 Product Features

- **IEEE Compliant Wireless LAN & LAN**
  - Compliant with IEEE 802.11n wireless technology capable of up to 150Mbps data rate
  - Backward compatible with 802.11b/g standard
  - Equipped with four LAN ports (10/100Mbps) and one WAN port (10/100Mbps), Auto MDI/MDI-X supported
- **3G / 3.75G Mobile Internet Connection**
  - Dual Network Interfaces: WAN port for cable or wired DSL service + 3G mobile connection
  - Compatible with UMTS / HSPA / EVDO Mobile Network
- **Fixed-network Broadband Router**
  - Supported connection types: Dynamic IP/ Static IP / PPPoE / Telstra Big Pond / L2TP / PPTP
  - Support Static Routing, WDS, UPnP, Dynamic DNS
- **Secure Network Connection**
  - Support Wi-Fi Protected Setup (WPS)
  - Advanced security: 64/128/152-bit WEP, WPA/WPA2 and WPA-PSK/WPA2-PSK(TKIP/AES encryption), 802.1x
  - Support NAT firewall features, with SPI function to protect against DoS attacks.
  - Support IP / Protocol-based access control and MAC Filtering
- **Advanced Networking function for Specific Application**
  - Support multiple sessions IPSec, L2TP and PPTP VPN pass-through
  - Support Virtual Server, ALG, DMZ and UPnP for various networking applications
  - Support DHCP Server

- **Easy Installation & Management**
  - Web-based UI for and Quick setup for easy configuration
  - Remote Management allows configuration from a remote site
  - System status monitoring includes DHCP Client, System Log

1.4 Product Specification

Product	**WNRT-617G** 150Mbps 802.11n Wireless 3G Router	
Hardware Specification		
Interface	WAN Port:	1 x 10/100Mbps Auto MDI/MDI-X RJ45 port
	LAN Port:	4 x 10/100Mbps Auto MDI/MDI-X RJ45 ports
	USB port	1 x USB 2.0 port
Antenna	Gain:	1 x Detachable RP-SMA Connector 1 x 5dBi SMA antenna included in the package
	Orientation:	Omni-directional
Power Button	Power On/Off button at rear panel	
WPS / Reset Button	WPS / Reset button at front panel Push for above 5 seconds to reset to factory default setting	
LED Indicators	PWR, SYS, WLAN, LAN x 4, WAN, 3G, WPS with green light	
Material	Plastic	
Dimension (W x D x H)	174 x 110 x 23 mm	
Weight	200g	
Power Requirement	12V DC, 1A	
Wireless interface Specification		
Standard	Compliance with IEEE 802.11b/g/n	
Frequency Band	2.4~2.4835GHz	
Extend Frequency	DSSS	
Modulation Type	DBPSK, DQPSK, QPSK, CCK and OFDM (BPSK/QPSK/16-QAM/ 64-QAM)	
Data Transmission Rates	11n: 135/121.5/108/81/54/40.5/27/13.5Mbps 130/117/104/78/52/39/26/13Mbps 65/58.5/52/39/26/19.5/13/6.5Mbps (Dynamic) 11g: 54/48/36/24/18/12/9/6Mbps (Dynamic) 11b: 11/5.5/2/1Mbps (Dynamic)	
Transmission Distance	Indoor up to 100m outdoor up to 300m (it is limited to the environment)	
Channel	America/ FCC: 2.414~2.462GHz (11 Channels) Europe/ ETSI: 2.412~2.472GHz (13 Channels) Japan/ TELEC: 2.412~2.484GHz (14 Channels)	
RF Power	High: 18 dBm (max) Middle: 15 dBm	

	Low: 12 dBm
Receive Sensitivity	130M: -68dBm@10% PER 108M: -68dBm@10% PER 54M: -68dBm@10% PER 11M: -85dBm@8% PER 6M: -88dBm@10% PER 1M: -90dBm@8% PER
Wireless Management Features	
Wireless Operation Mode	AP, WDS (AP+Bridge)
Encryption Security	WEP (64/128/152-bit) encryption security
	WPA-PSK / WPA2-PSK (TKIP/AES) WPA / WPA2 (TKIP/AES) WPA / WPA2 enterprise mode (802.1x authentication)
Wireless Security	Provide wireless LAN ACL (Access Control List) filtering
	Wireless MAC address filtering
	Support WPS(WIFI Protected Setup)
	Enable/Disable SSID Broadcast
Wireless Advanced	Support 802.11e WMM (Wi-Fi Multimedia)
	Support Wireless Roaming
	Provide Wireless Statistics
Router Features	
Internet Connection Type	Shares data and Internet access for users, supporting following internet access: ■ PPPoE / Russia PPPoE ■ Dynamic IP ■ Static IP ■ Telstra Big Pond ■ PPTP / Russia PPTP ■ L2TP / Russia L2TP
Firewall	NAT firewall with SPI (Stateful Packet Inspection)
	NAT with ALG (Application Layer Gateway)
	Built-in NAT server supporting Virtual Server, and DMZ
	Built-in firewall with IP address filtering, Domain Name filtering, and MAC address filtering
	Support ICMP-FLOOD, UDP-FLOOD, TCP-SYN-FLOOD filter, DoS protection
Routing Protocol	Static Routing
VPN Pass-through	PPTP, L2TP, IPSec
LAN	Built-in DHCP server supporting static IP address distributing
	Support UPnP, Dynamic DNS
	Support Flow Statistics
	IP & MAC Binding
	IP / Protocol-based Bandwidth Control
	Session Number: Max 5210

System Management	Web-based (HTTP) management interface
	Remote management
	SNTP time synchronize
	Easy firmware upgrade
	System Log supports auto mail and save to local host
OS Compatibility	Windows 7(32-bit/64-bit) Windows Vista (32-bit/64-bit) Windows XP Mac OS X 10.4 and higher
Standards Conformance	
IEEE Standards	IEEE 802.11n (1T1R, up to 150Mbps) IEEE 802.11g IEEE 802.11b IEEE 802.11i IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3x Flow Control
Others Protocols and Standards	CSMA/CA, CSMA/CD, TCP/IP, DHCP, ICMP, NAT, PPPoE, SNTP

Chapter 2. Hardware Installation

Please follow the instructions below to build the wireless network connection between WNRT-617G and your computers.

2.1 Hardware Description

2.1.1 The Front Panel

The front panel provides a simple interface monitoring the router. Figure 2-1 shows the front panel of WNRT-617G.

Front Panel

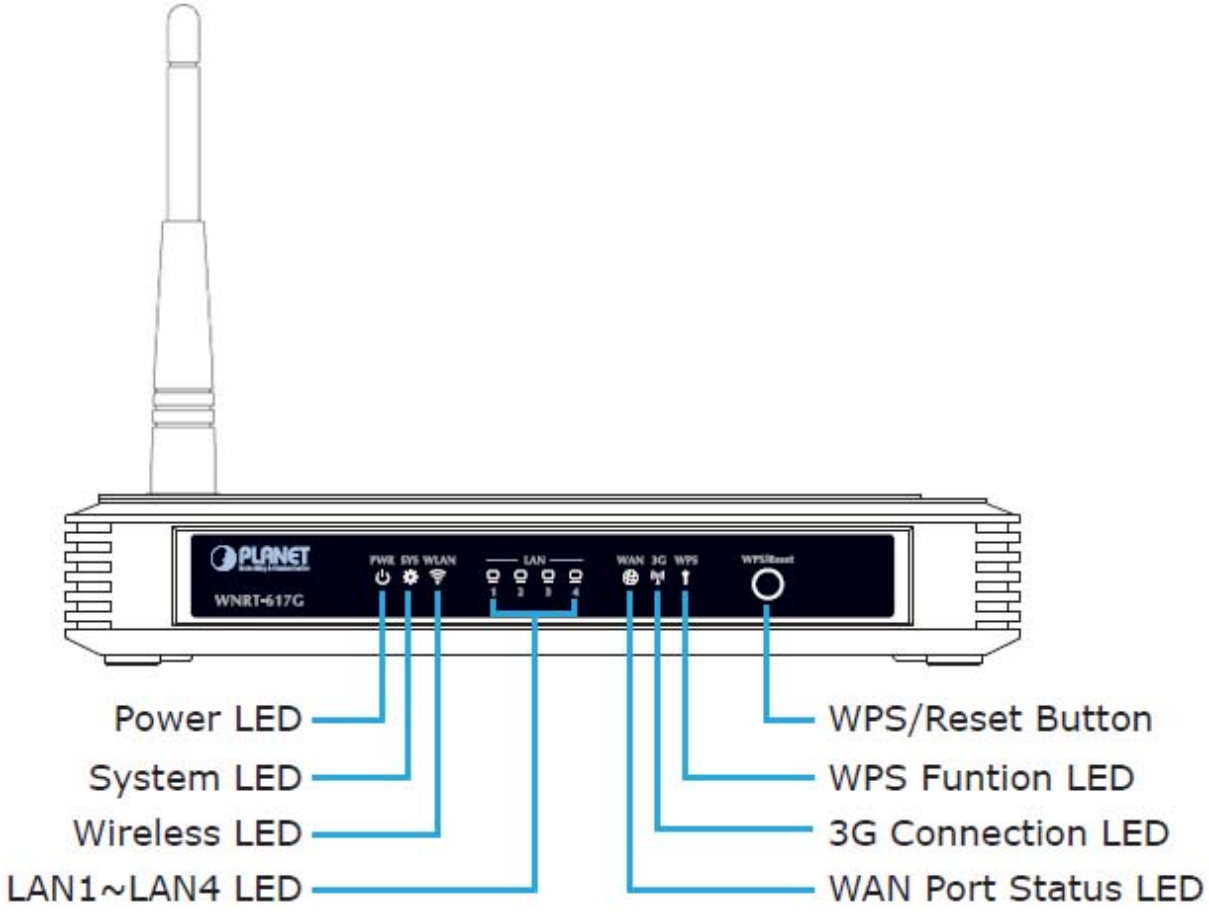


Figure 2-1 WNRT-617G Front Panel

WPS/Reset Button

ACTIVE	TIME
WPS	Press and hold the button less than 5 seconds for WPS configuration
Reset	Press and hold the button more than 8 seconds to the factory default setting

2.1.2 LED Indications

The LEDs on the front panel indicate instant status of port links, wireless data activity, system power; and help monitor and troubleshoot when needed. Figure 2-2 and Table 2-1 show the LED indications of the Wireless Router.

LED Definition

Figure 2-2 WNRT-617G Front Panel

LED	Status	Function
PWR	On	Power is on.
	Off	Power is off.
SYS	On	The Router is initializing.
	Flashing	The Router is working properly.
	Off	The Router has a system error.
WLAN	Flashing	The Wireless function is enabled.
	Off	The Wireless function is disabled.
LAN1-4	On	A device is linked to the corresponding port but there is no activity.
	Flashing	An active device is linked to the corresponding port.
	Off	No device is linked to the corresponding port.
WAN	On	A device is linked to the corresponding port but there is no activity.
	Flashing	An active device is linked to the corresponding port.
	Off	No device is linked to the WAN port.
3G	On	The USB 3G modem is connected.
	Flashing	Data is received or sent through the 3G modem.
	Off	No device is linked to the USB port.
WPS	Slow Flashing	A wireless device is connecting to the network by WPS function. This process will last for about 2 minutes.
	On	A wireless device has been successfully added to the network by WPS function. The LED will keep on for about 5 minutes.
	Quick Flashing	A wireless device has failed to be added to the network by WPS function.

Table 2-1 The LEDs indication

Note

1. When a device has been successfully added to the network by WPS function, the WPS LED will keep on for about 5 minutes and then turn off.
2. When pressing and holding the WPS/Reset Button for more than 5 seconds, you will reset the router.

The Rear Panel

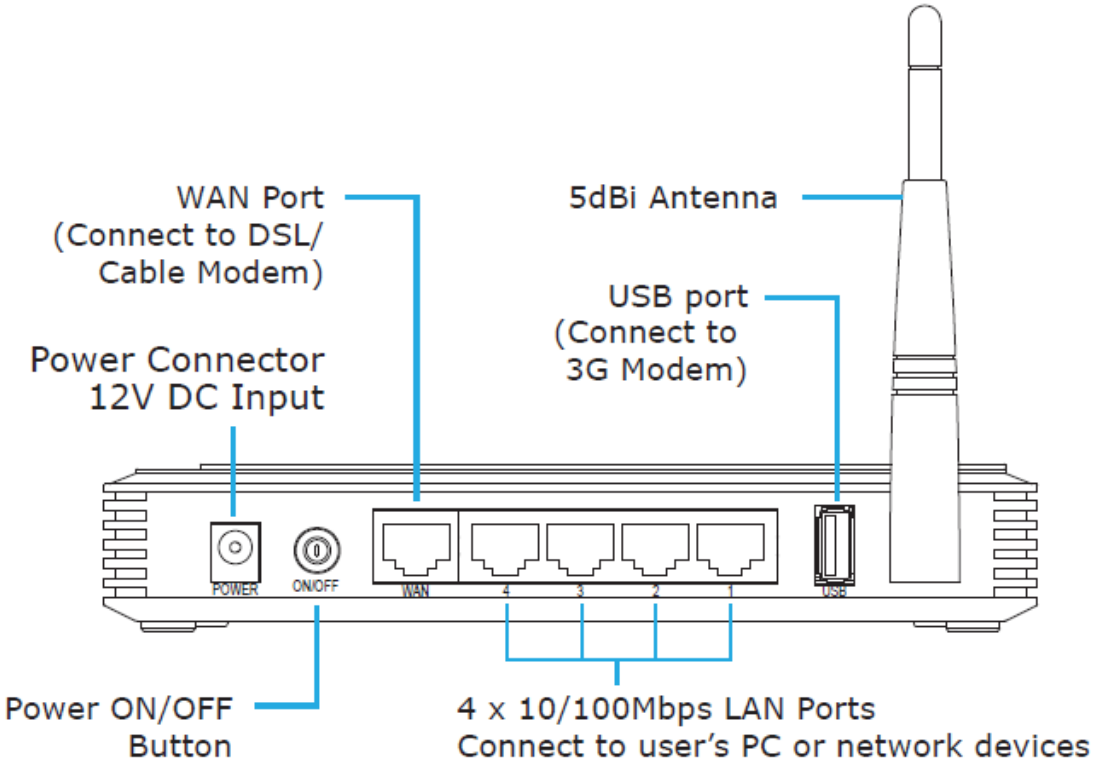


Figure 2-3 Rear Panel

Interface	Function
POWER	The Power socket is where you will connect the power adapter. Please use the power adapter provided with WNRT-617G.
ON/OFF	The button of the power.
WAN	Connect to the DSL/cable Modem, or Ethernet
1,2,3,4 (LAN)	Connect to the user's PC or network devices
USB	Connect to the USB 3G modem

Table 2-2 The Interface indication

Chapter 3. Connecting the Router

3.1 System Requirements

- Broadband Internet Access Service (DSL/Cable/Ethernet connection)
- One DSL/Cable Modem that has an RJ-45 connector (not necessary if the Router is connected directly to the Ethernet.)
- PCs with a working Ethernet Adapter and an Ethernet cable with RJ-45 connectors
- PC of subscribers running Windows 98/ME, NT4.0, 2000/XP, Windows Vista / Win 7, MAC OS 9 or later, Linux, UNIX or other platform compatible with **TCP/IP** protocols
- Above PC installed with WEB Browser

It is recommended to use Internet Explore 7.0 or above to access the Router.

3.2 Installing the Router

Before installing the Router, make sure your PC is connected to the Internet through the broadband service successfully at this moment. If there is any problem, please contact your local ISP. After that, please install the Router according to the following steps. Don't forget to pull out the power plug and keep your hands dry.

Step 1. Power off your PC, Cable/DSL Modem, and the Router.

Step 2. Locate an optimum location for the Router. The best place is usually at the center of your wireless network.

Step 3. Adjust the direction of the antenna. Normally, upright is a good direction.

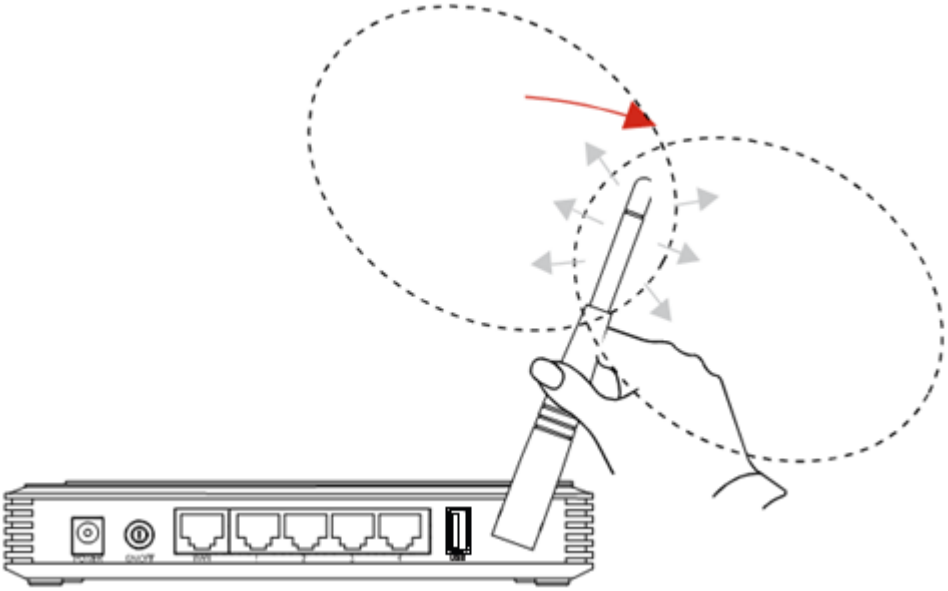


Figure 3-1 Adjust the direction of the antenna

Step 4. Connect the PC or Switch/Hub in your LAN to the LAN Ports (Yellow ports) of the Router with Ethernet cable, shown in Figure 3-2.

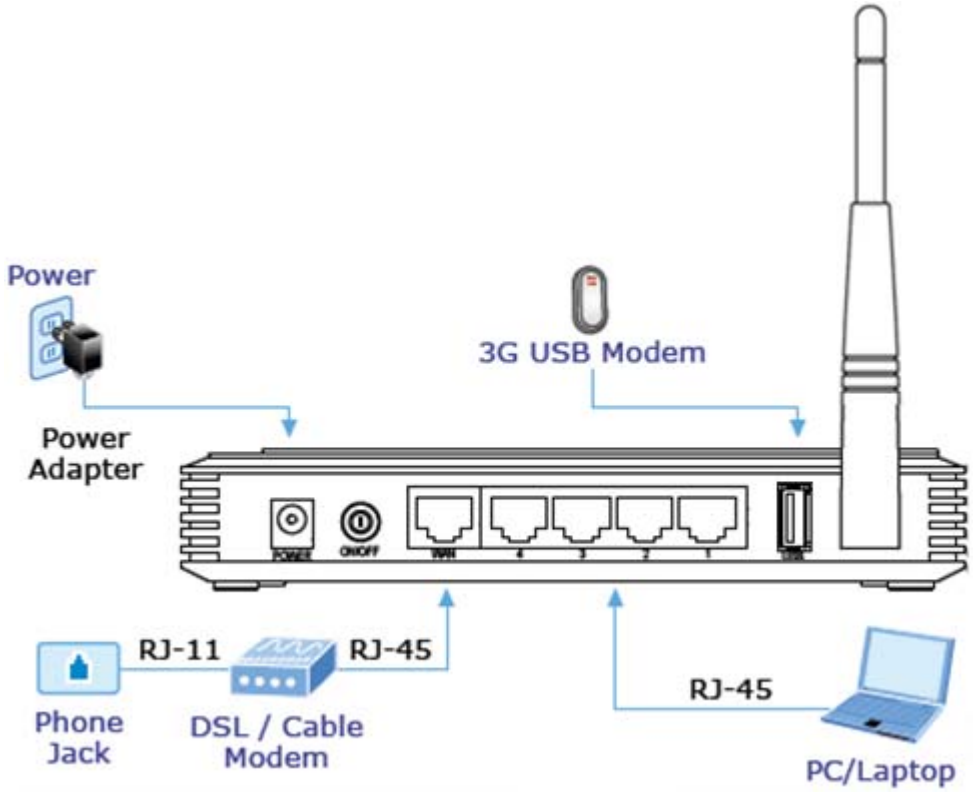


Figure 3-2 Hardware Installation of the WNRT-617G Wireless Router

Step 5. Connect the power adapter to the power socket on the Router, and the other end into an electrical outlet. Then power on the Router.

Step 6. Power on your PC and Cable/DSL Modem.

Chapter 4. Quick Installation Guide

This chapter will show you how to configure the basic functions of your Wireless 3G Router using **Quick Setup** within minutes.

A computer with wired Ethernet connection to the Wireless Router is required for the first-time configuration.

4.1 Manual Network Setup - TCP/IP Configuration

The default IP address of the WNRT-617G is **192.168.1.1**. And the default Subnet Mask is 255.255.255.0. These values can be changed as you desire. In this guide, we use all the default values for description.

Connect the local PC to the LAN ports of the Router. And then you can configure the IP address for your PC in the following two ways.

- **Obtain an IP address automatically**
- **Configure the IP address manually**

In the following sections, we'll introduce how to install and configure the TCP/IP correctly in **Windows XP**. First, make sure your Ethernet Adapter is working, and refer to the Ethernet adapter's manual if needed.

4.1.1 Obtain an IP Address Automatically

Summary:

- Set up the TCP/IP Protocol in "**Obtain an IP address automatically**" mode on your PC.
- Then the WNRT-617G built-in DHCP server will assign IP address to the PC automatically.

1. Install TCP/IP component

1) On the Windows taskbar, click the **Start** button, point to **Settings**, and then click **Control Panel**.
2) Click the **Network and Internet Connections** icon, and then click on the **Network Connections** tab in the appearing window.
3) Right click the icon shown below, select Properties on the prompt window.

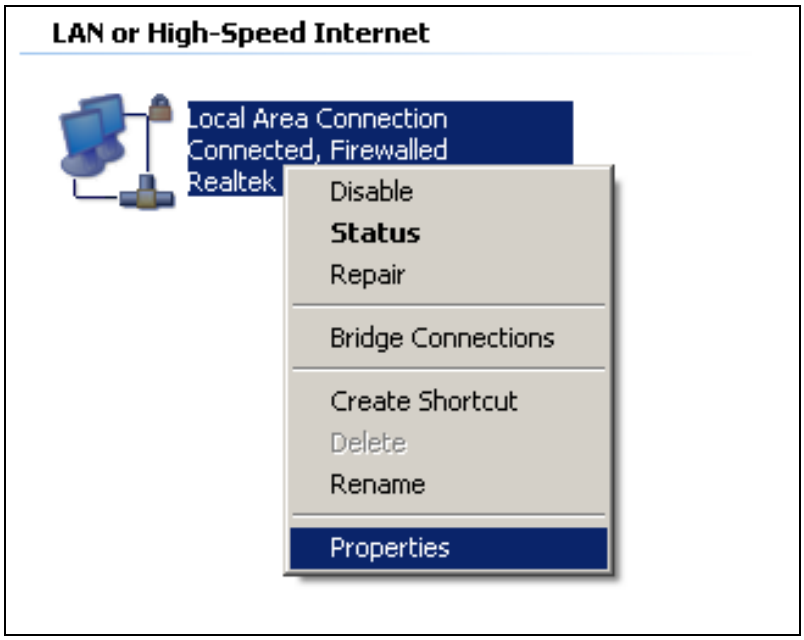


Figure 4-1

4) In the prompt window shown below, double click on the **Internet Protocol (TCP/IP)**.

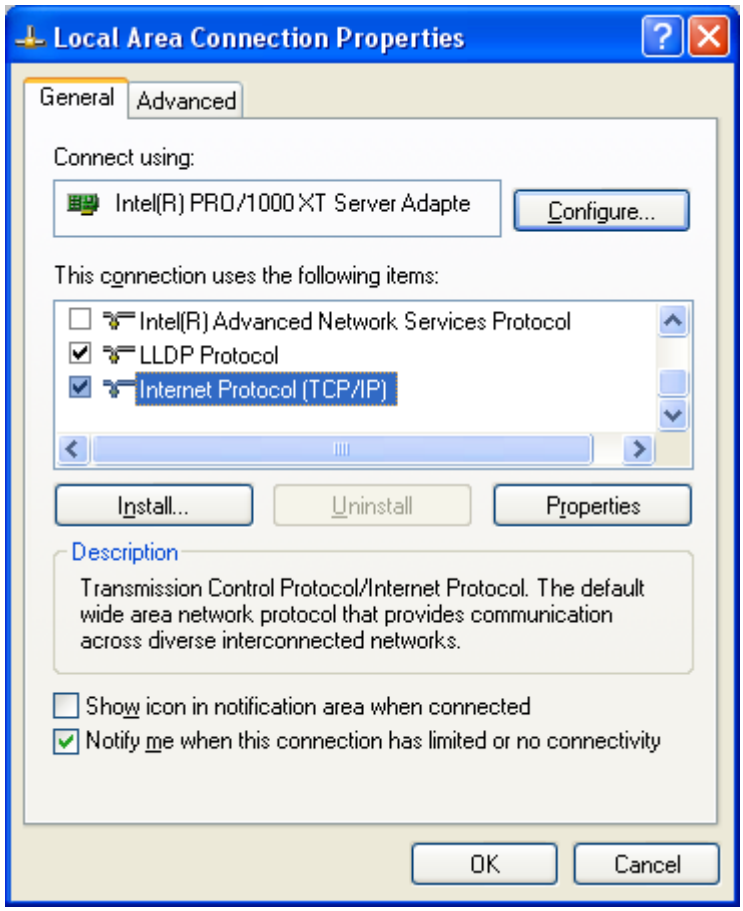


Figure 4-2

5) The following **TCP/IP Properties** window will display and the **IP Address** tab is open on this window by default.

2. Setting IP address automatically

Select **Obtain an IP address automatically**, Choose **Obtain DNS server automatically**, as shown in the Figure below:

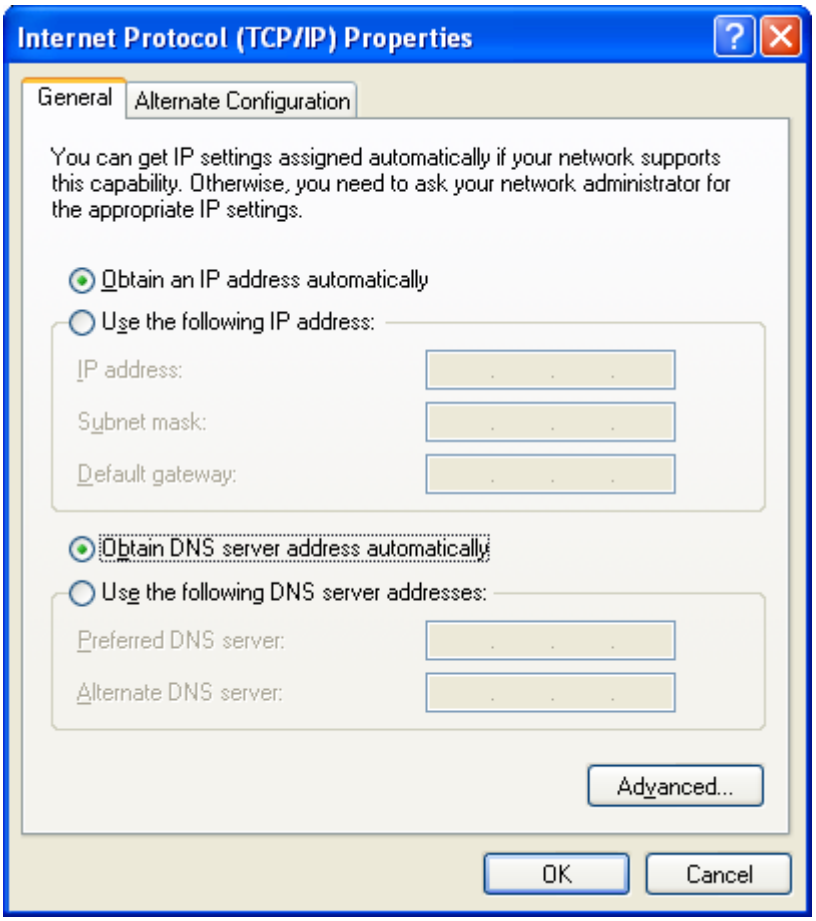


Figure 4-3

Now click **OK** to save your settings.

4.1.2 Configure the IP Address Manually

Summary:

- Set up the TCP/IP Protocol for your PC.
- Configure the network parameters. The IP address is 192.168.1.xxx ("xxx" is any number from 2 to 254), Subnet Mask is 255.255.255.0, and Gateway is 192.168.1.1 (The Router's default IP address)

1 Select **Use the following IP address** radio button.

2 If the Router's LAN IP address is 192.168.1.1, enter IP address 192.168.1.x (x is from 2 to 254), and **Subnet mask** 255.255.255.0.

3 Enter the Router's LAN IP address (the default IP is 192.168.1.1) into the **Default gateway** field.

4 Select **Use the following DNS server addresses** radio button. In the **Preferred DNS Server** field, you can enter the DNS server IP address which has been provided by your ISP

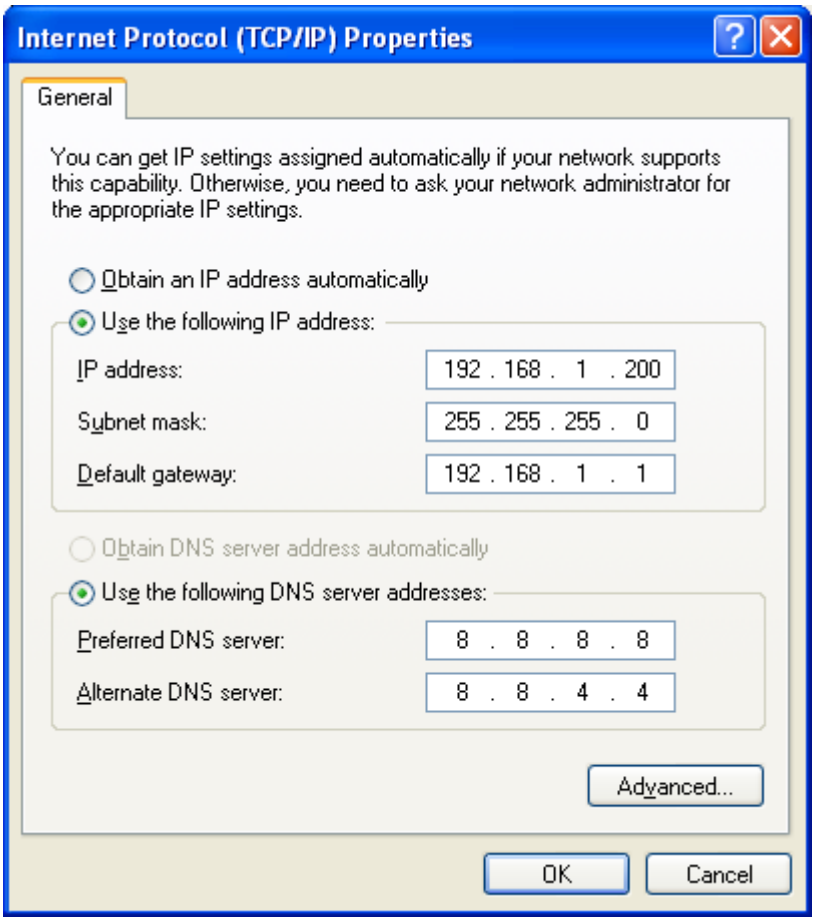


Figure 4-4

Now click **OK** to save your settings.

Now, you can run the Ping command in the **command prompt** to verify the network connection between your PC and the Router. The following example is in **Windows XP** OS. Please follow the steps below:

1. Click on **Start > Run**.

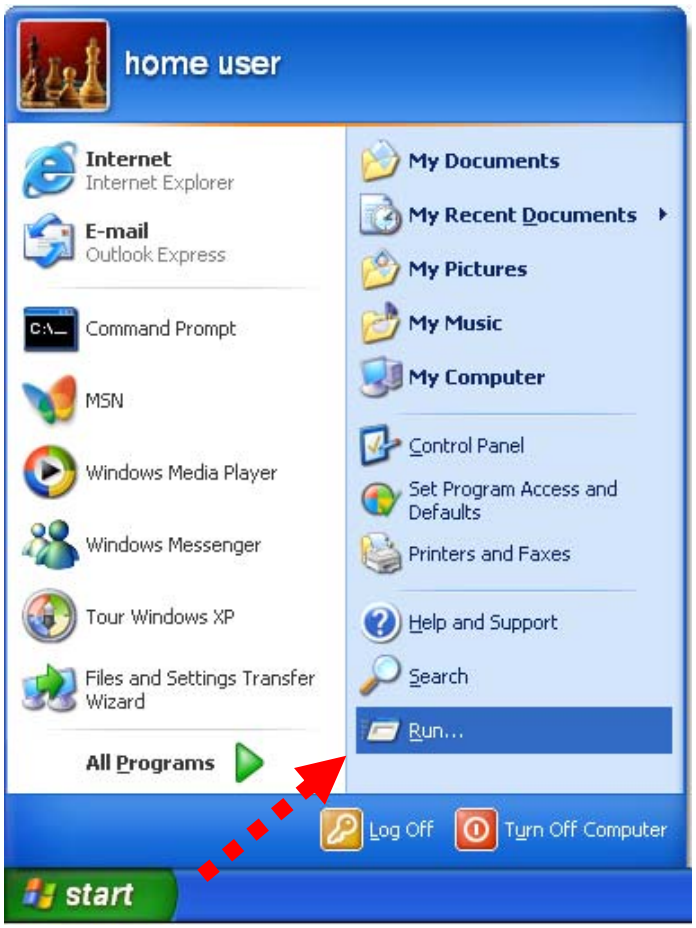


Figure 4-5

2. In the run box type "**cmd**" and click OK. (Windows Vista users type "**cmd**" in the Start .Search box.)At the prompt.

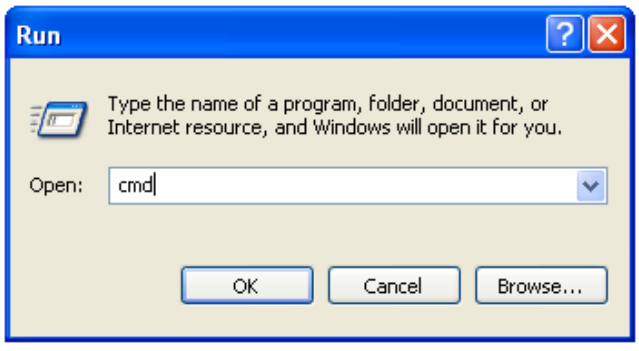


Figure 4-6

Open a command prompt, and type ***ping 192.168.1.1***, and then press **Enter**.

- If the result displayed is similar to Figure 4-7, it means the connection between your PC and the Router has been established well.

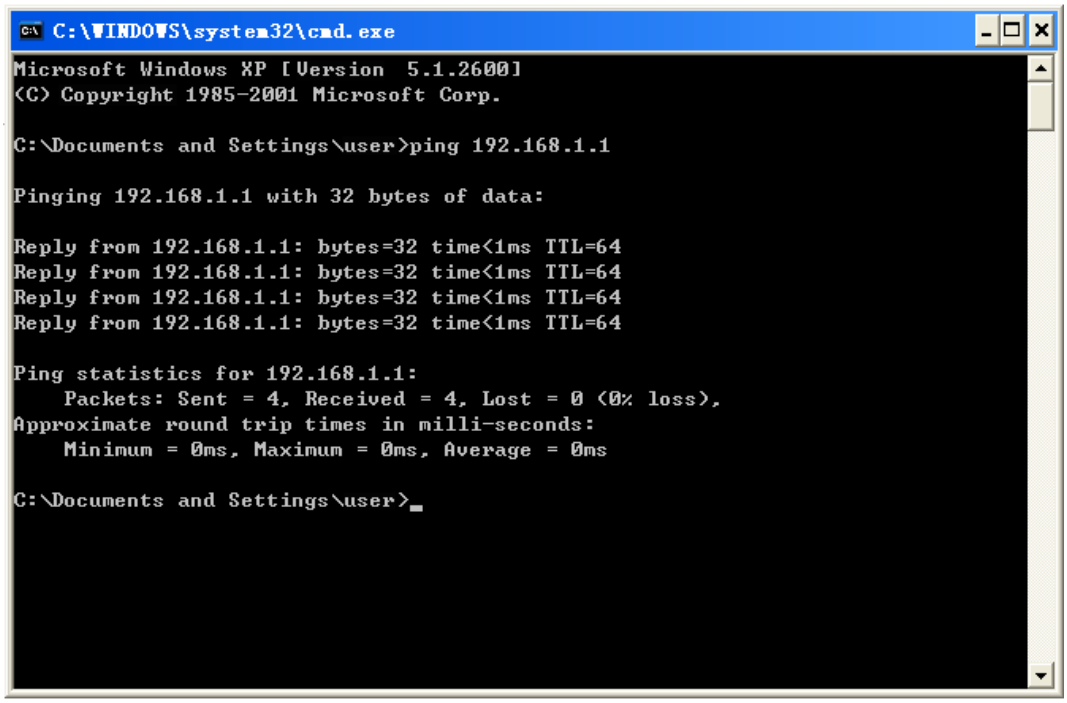


Figure 4-7 Success result of Ping command

- If the result displayed is similar to Figure 4-8, it means the connection between your PC and the Router has failed.

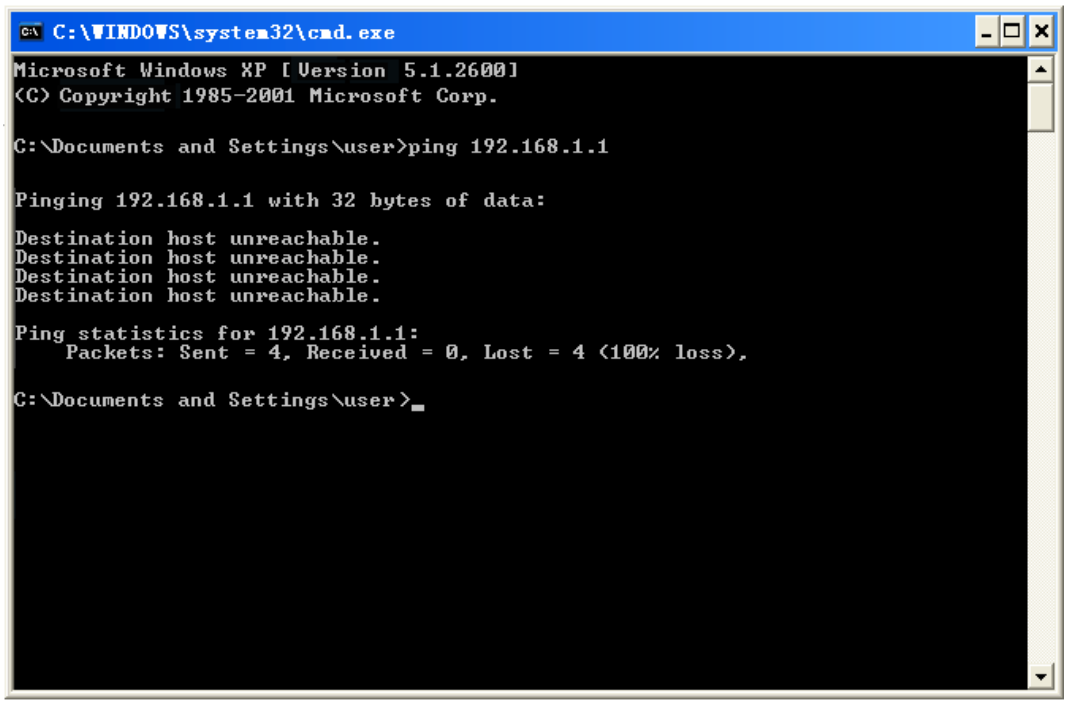


Figure 4-8 Failure result of Ping command

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your router. Some firewall software programs may block a DHCP request on newly installed adapters.

1. The 1/2/3/4 LEDs of LAN ports which you link to on the Router and LEDs on your PC's adapter should be lit.
2. If the Router's IP address is 192.168.1.1, your PC's IP address must be within the range of 192.168.1.2 ~ 192.168.1.254.

4.2 Starting Setup in Web UI

It is easy to configure and manage the WNRT-617G with web browser.

Step 1. To access the configuration utility, open a web-browser and enter the default IP address http://192.168.1.1 in the address field of the browser.

Figure 4-9 Login the Router

After a moment, a login window will appear. Enter **admin** for the User Name and Password, both in lower case letters. Then click the **OK** button or press the **Enter** key.

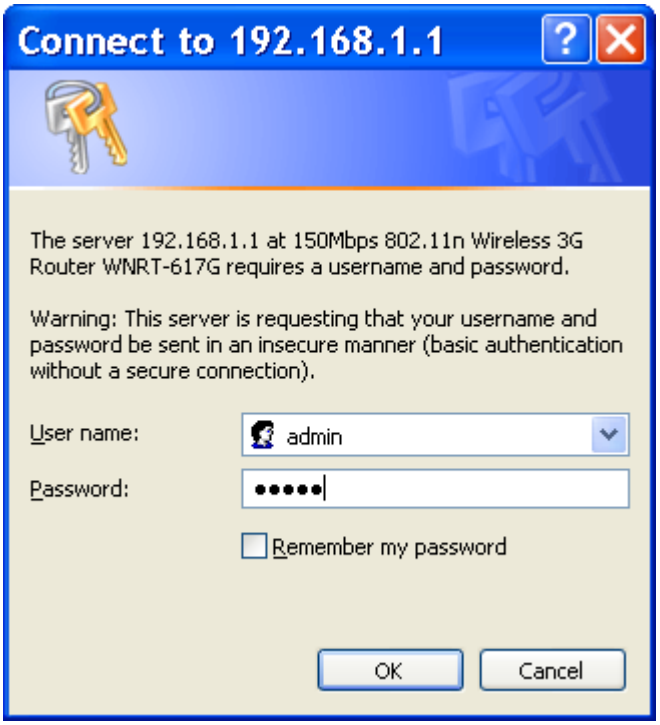


Figure 4-10 Login Window

Default User name: **admin**

Default Password: **admin**

Note

If the above screen does not pop up, it may mean that your web-browser has been set to a proxy. Go to Tools menu>Internet Options>Connections>LAN Settings, in the screen that appears, cancel the Using Proxy checkbox, and click OK to finish it.

After entering the username and password, the main screen appears as Figure 4-11

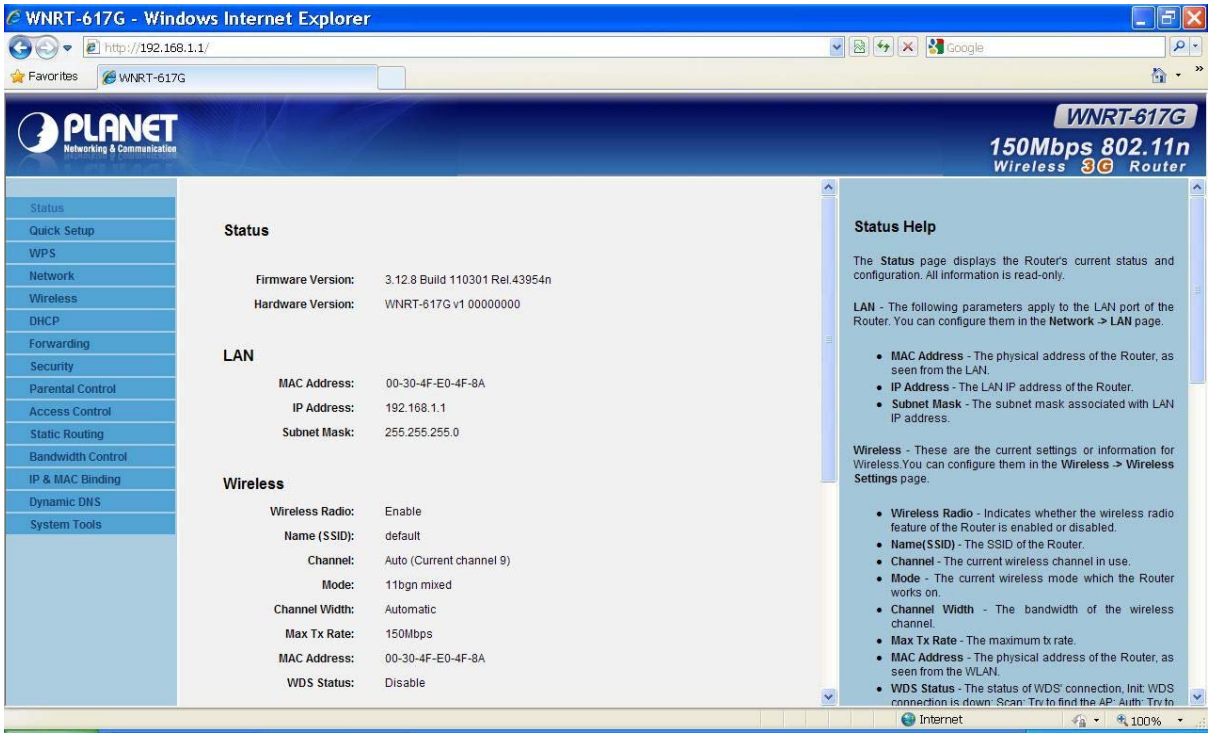


Figure 4-11 WNRT-617G Web UI Screenshot

Step 2. After successfully login in, you can click the **Quick Setup** to quickly configure your Router.

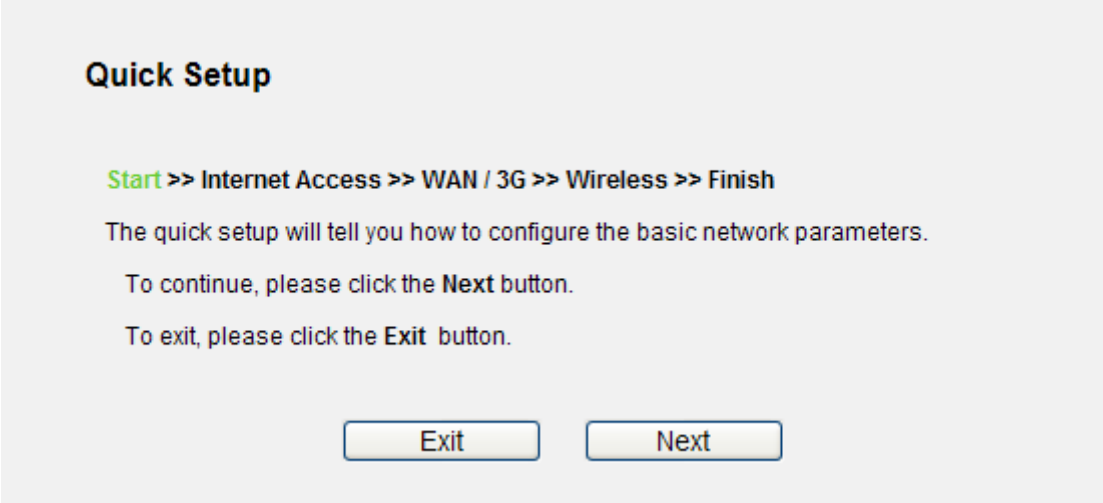


Figure 4-12 Quick Setup

Click **Next**, and then **Internet Access** page will appear, shown in Figure 4-13.

Step 3. Select a desired Internet Access mode and then click **Next**. The configuration for each mode is similar. Here we take **3G Preferred** mode for example. Please refer to the procedures below to configure the other modes.

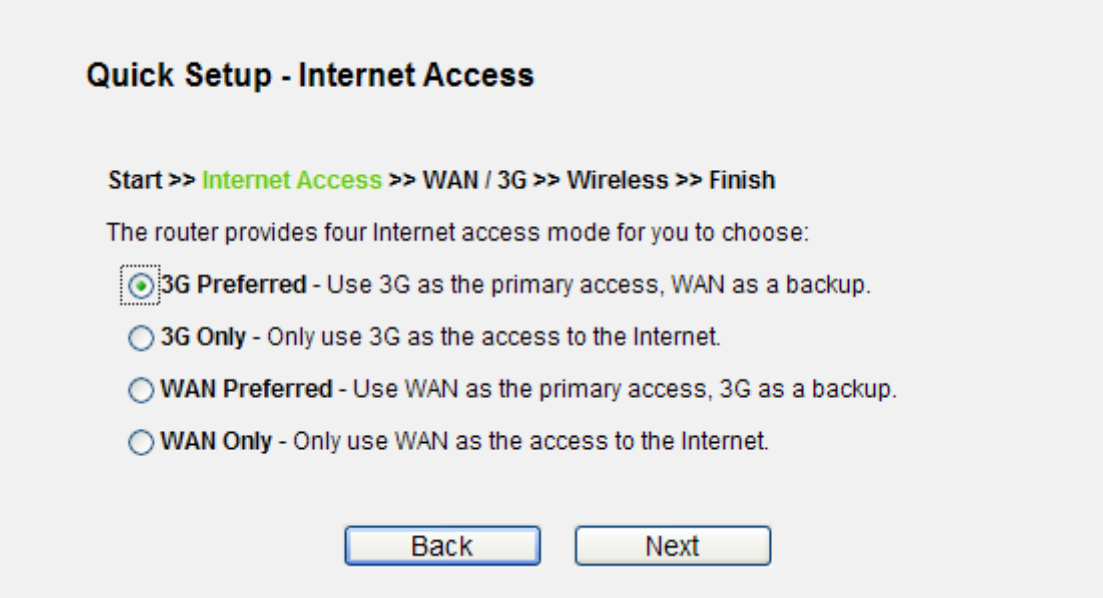


Figure 4-13 Choose Internet Access Mode

The page includes the following fields:

Object	Description
3G Preferred	In this mode, the router will try 3G access first. If 3G access fails and WAN access is valid, or if no 3G USB modem is inserted, the router would switch to WAN access. Once the router succeeds to connect to the 3G network, the router would stop the WAN connection and switch back to 3G access immediately.
3G Only	In this mode, the router will try 3G access only. WAN access is disabled.
WAN Preferred	In this mode, the router will try WAN access first. If the WAN access fails, and 3G access is valid, the router would switch to 3G access. Once the router succeeds to connect to the WAN network, the router would stop the 3G connection and switch back to WAN access immediately.
WAN Only	In this mode, the router will try WAN access only. 3G access is disabled.

Step 4. The next screen will appear as shown in Figure 4-16. After finishing the configuration on this page, click **Next** to continue,

Note

Please configure the PIN code of the 3G modem first and save the settings before insert your USB 3G Modem to the router. Otherwise, the USB 3G modem will be locked possibly for trying the wrong PIN code over three times.

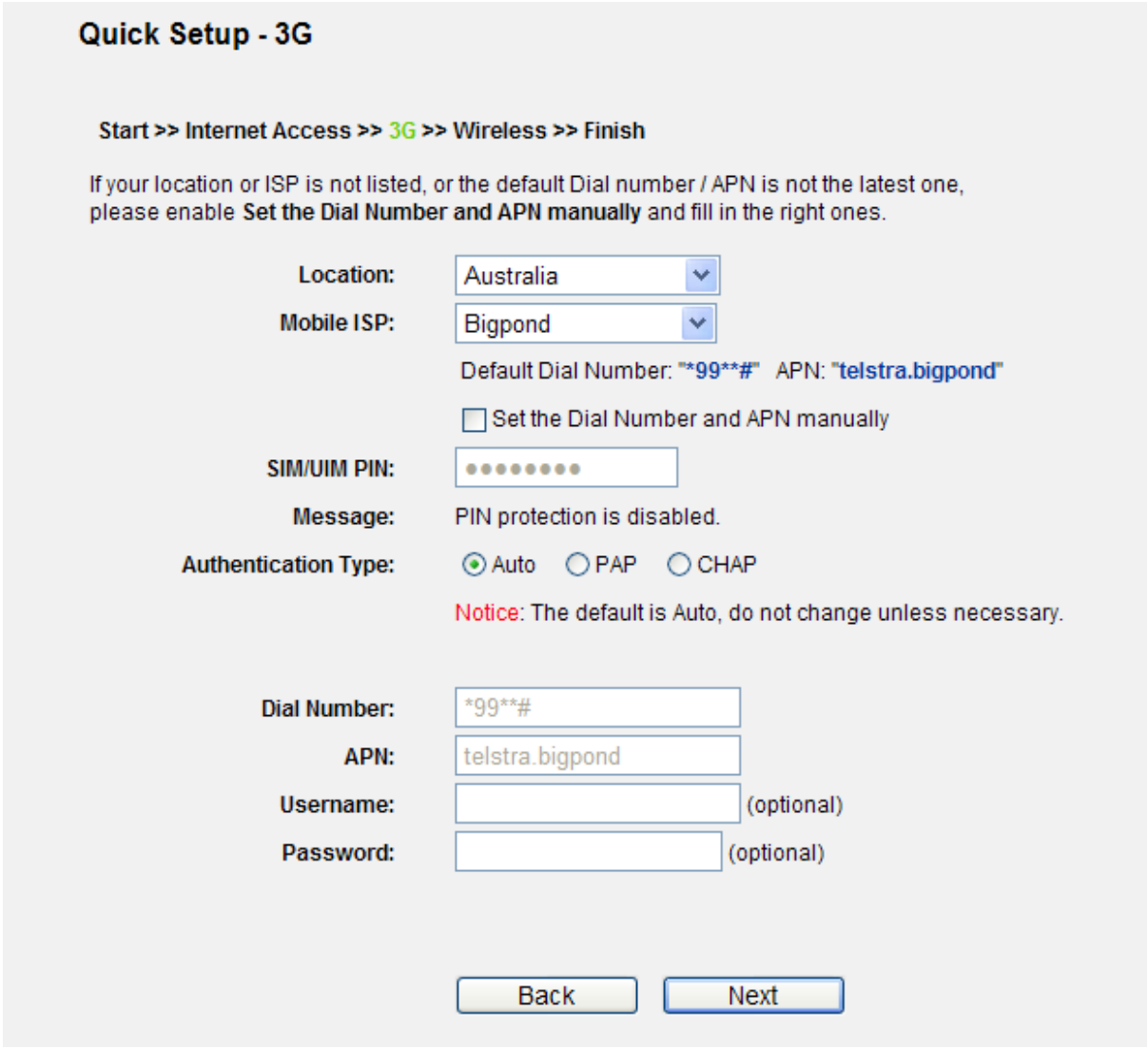


Figure 4-14

The page includes the following fields:

Object	Description
Location	Select the country where you're using the 3G modem.
Mobile ISP	Select the ISP (Internet Service Provider) you apply to for 3G service. The router will show the default Dial Number and APN of that ISP. If your ISP is not listed in the **Mobile ISP**, check the box before **Set the**

	Dial Number and APN manually and manually fill the Dial Number and APN blanks below.
Set the Dial Number and APN manually	Check the box and fill the Dial Number and APN blanks below if your ISP is not listed in the **Mobile ISP** list or the default values are not the latest ones.
SIM/UIM PIN	Enter the PIN code if the SIM/UIM Protection is enabled. Please note that 3 times of wrong PIN code will lock your SIM/UIM card. You need to unlock it on the PC using PUK code.
Message	The PIN information of your SIM/UIM card.
Authentication Type	Some ISPs need a specific authentication type, so please confirm it with your ISP or keep it Auto.
Dial Number & APN	Fill these two parameters manually after **Set the Dial Number and APN manually** is checked.
Username & Password	Enter the Username and Password provided by your ISP. These fields are optional but case-sensitive.

Step 5. You will then see the Figure 4-15. Select **Auto-Detect**, the Router will automatically detect the connection type your ISP provides. Make sure the cable is plugged into the WAN port before detection. The appropriate configuration page will be displayed when an active Internet service is successfully detected by the Router.

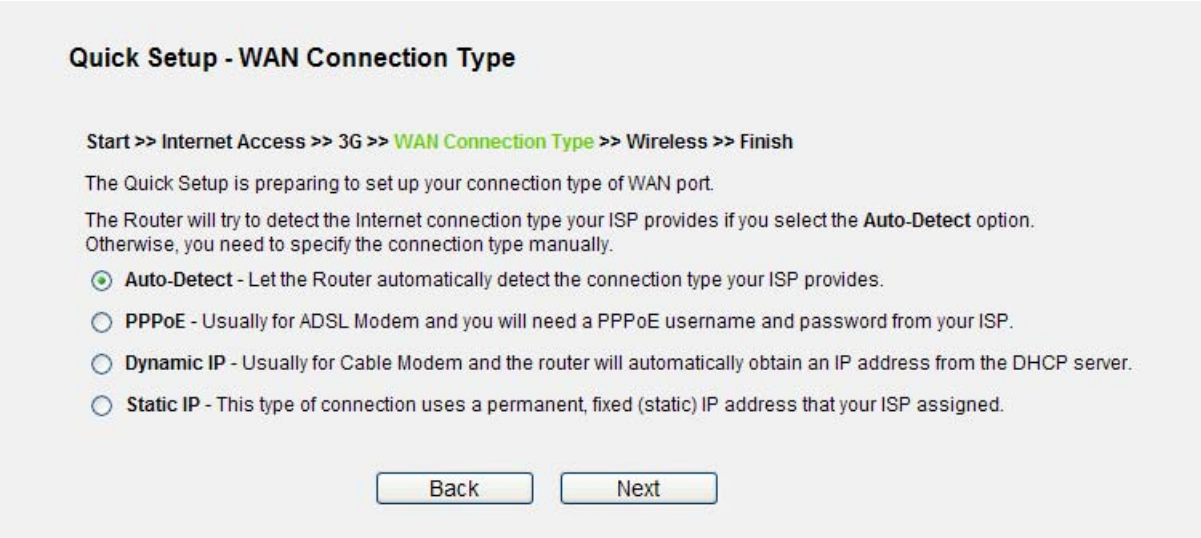


Figure 4-15

- If the connection type detected is **PPPoE**, the next screen will appear as shown in Figure 4-16. Enter the **User Name** and **Password** provided by your ISP. These fields are case-sensitive. If you have difficulty with this process, please contact your ISP.

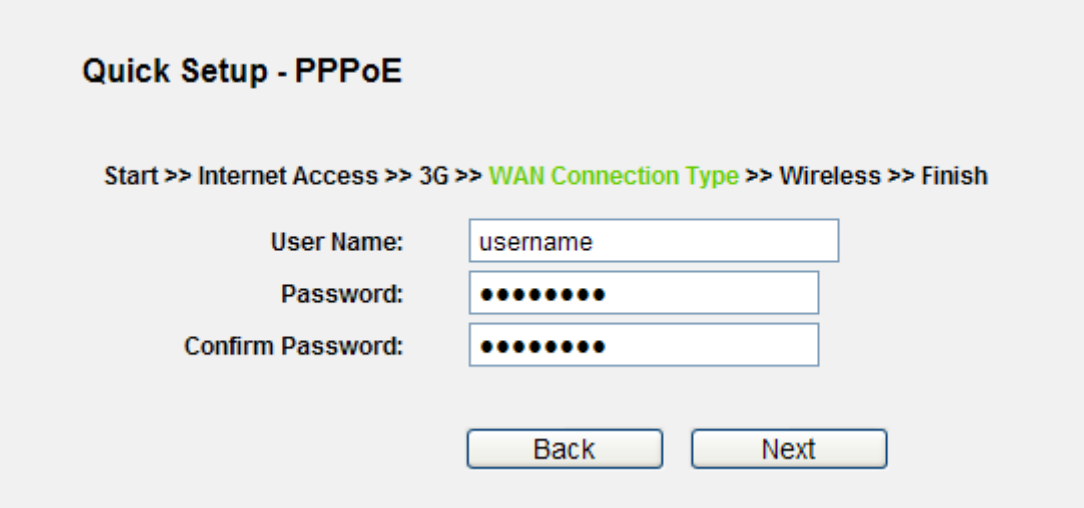


Figure 4-16 Quick Setup – PPPoE

- If the connection type detected is Dynamic IP, the next screen will appear as shown in Figure 4-18. Then you can go on with the wireless configuration.
- If the connection type detected is Static IP, the next screen will appear as shown in Figure 4-17. Enter the parameters in the corresponding blanks.

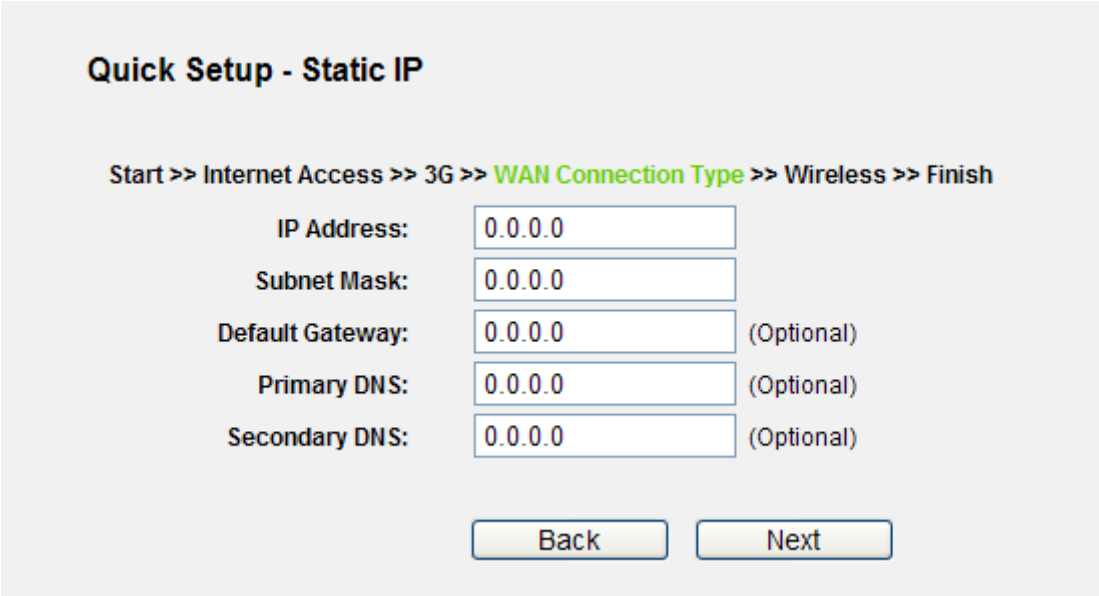


Figure 4-17 Quick Setup - Static IP

Step 6. Click **Next** to continue, the Wireless settings page will appear as shown in Figure 4-18.

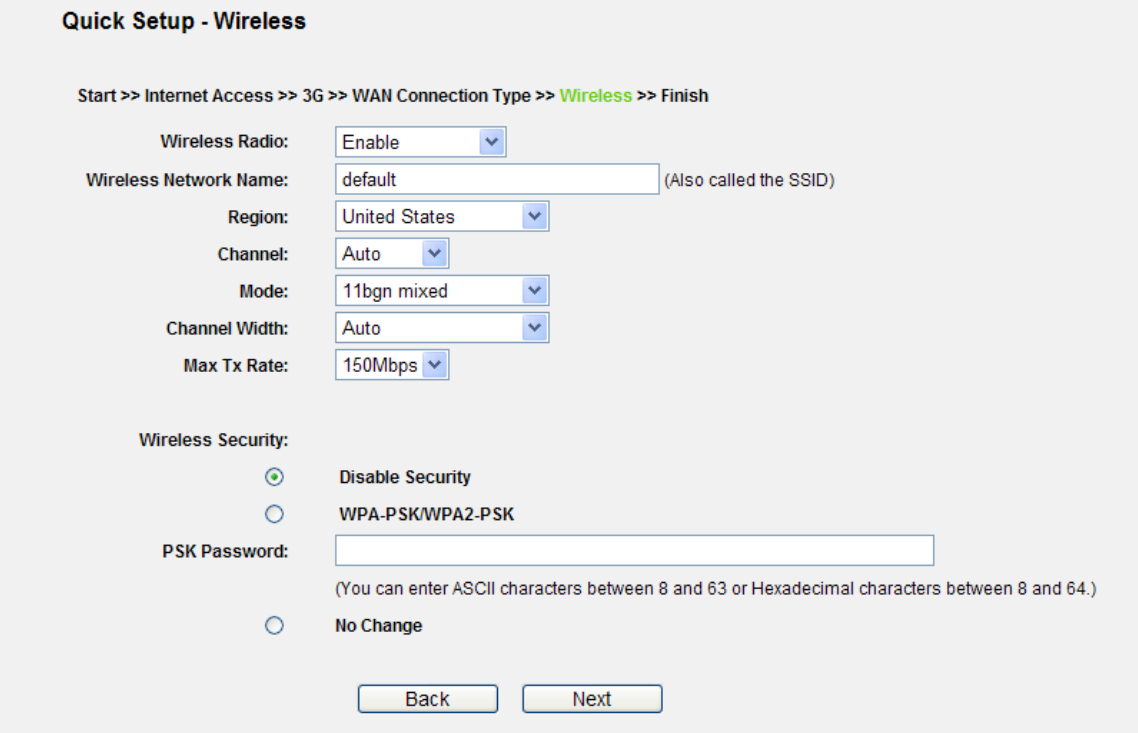


Figure 4-15 Quick Setup – Wireless

The page includes the following fields:

Object	Description
Wireless Radio	Enable or disable the wireless radio choosing from the pull-down list.
Wireless Network Name	Enter a value of up to 32 characters. The same Wireless Network Name (SSID: Service Set Identification) must be assigned to all wireless devices in your network. Considering your wireless network security, the default SSID is set to be default. This value is case-sensitive. For example, *PLANET* is NOT the same as planet.
Region	Select your region from the pull-down list. This field specifies the region where the wireless channel of the router can be used.
Channel	This field determines which operating frequency will be used. The default channel is set to **Auto**, so the router will choose the best channel automatically. It is not necessary to change the wireless channel unless you notice interference problems with another nearby access point.
Mode	This field determines the wireless mode which the Router works on.
Channel Width	Select any channel width from the pull-down list. The default setting is automatic, which can adjust the channel width for your clients automatically.
Max Tx Rate	You can limit the maximum transmission rate of the Router through this field.

Wireless Security	**Disable Security**	The wireless security function can be enabled or disabled. If disabled, the wireless stations will be able to connect to the Router without encryption. It is recommended strongly that you choose one of following options to enable security.
	WPA-PSK/WPA2-PSK	**WPA-PSK/WPA2-PSK -** Select WPA based on pre-shared passphrase. **PSK Password** - You can enter **ASCII** or **Hexadecimal** characters. For **ASCII**, the key can be made up of any numbers 0 to 9 and any letters A to Z, the length should be between 8 and 63 characters. For **Hexadecimal**, the key can be made up of any numbers 0 to 9 and letters A to F, the length should be between 8 and 64 characters. Please also note the key is case-sensitive.
	No Change	If you choose this option, wireless security configuration will not change.

These settings are only for basic wireless parameters. For advanced settings, please refer to Section 5.6: "Wireless".

Step 7. Click the **Next** button. You will then see the **Finish** page.

If you don't make any change on the **Wireless** page, you will see the **Finish** page as shown in Figure 4-19. Click the **Finish** button to finish the **Quick Setup**.

Figure 4-16 Quick Setup – Finish

If there is something changed on the **Wireless** page, you will see the **Finish** page as shown in Figure 4-20. Click the **Reboot** button to make your wireless configuration to take effect and finish the **Quick Setup**.

Figure 4-7 Quick Setup – Finish

After the rebooting, please check whether you can access the Internet or not in the 5.2 Status page.

Chapter 5. Configuring the Router

This chapter will show each Web page's key functions and the configuration way.

5.1 Login

After successfully login, you will see the fifteen main menus on the left of the Web-based utility. On the right, there are the corresponding explanations and instructions.

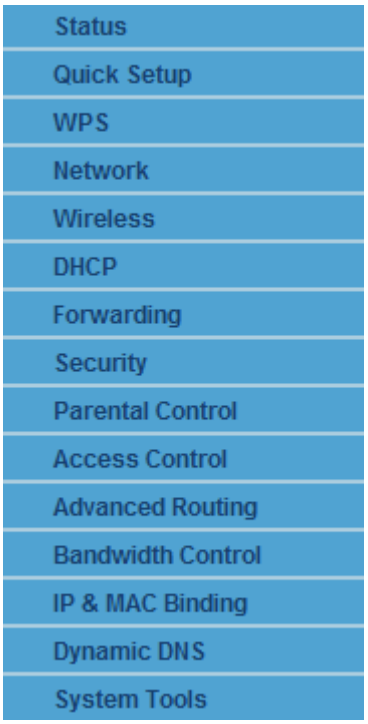


Figure 5-1

The detailed explanations for each Web page's key function are listed below.

5.2 Status

The Status page provides the current status information about the Router. All information is read-only.

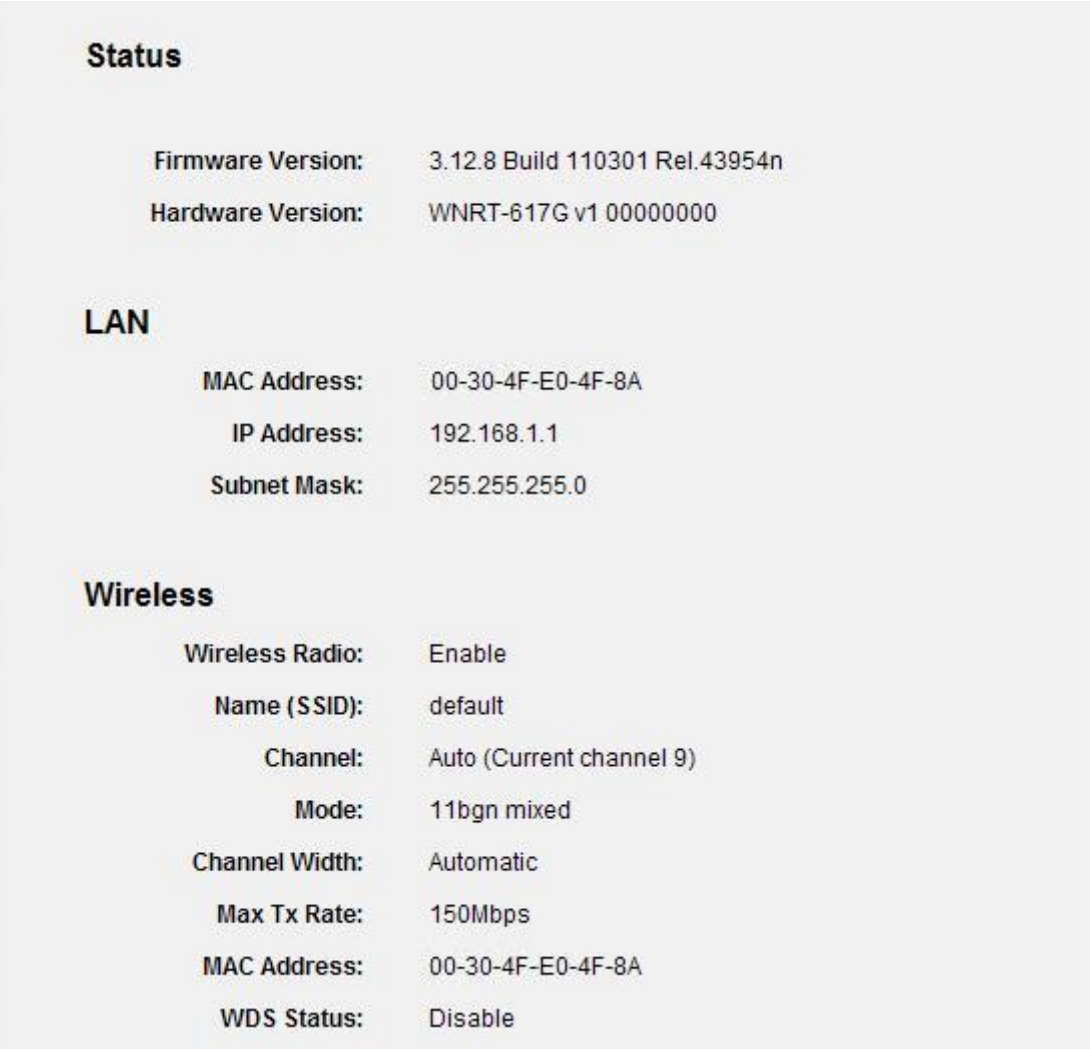


Figure 5-2 Router Status

5.3 Quick Setup

Please refer to Section 4.2: Starting Setup in Web UI.

5.4 WPS

This section will guide you to add a new wireless device quickly to an existing network by **WPS (Wi-Fi Protected Setup)** function.

Step 1. Choose menu "**WPS**", you will see the next screen (shown in Figure 5-3).

Figure 5-3 WPS

The page includes the following fields:

Object	Description
WPS Status	Enable or disable the WPS function here.
Current PIN	The current value of the Router's PIN displayed here. The default PIN of the Router can be found in the label or User Guide.
Restore PIN	Restore the PIN of the Router to its default.
Gen New PIN	Click this button, and then you can get a new random value for the Router's PIN. You can ensure the network security by generating a new PIN.
Add device	You can add the new device to the existing network manually by clicking this button.

Table 5-1

Step 2. To add a new device:

If the wireless adapter supports Wi-Fi Protected Setup (WPS), you can establish a wireless connection between wireless adapter and Router using either Push Button Configuration (PBC) method or PIN method.

Note

To build a successful connection by WPS, you should also do the corresponding configuration of the new device for WPS function meanwhile.

I. By Push Button Configuration (PBC)

If the wireless adapter supports Wi-Fi Protected Setup and the Push Button Configuration (PBC) method, you can add it to the network by PBC with the following two methods.

Step 1: Press the WPS/Reset Button on the front panel of the Router.

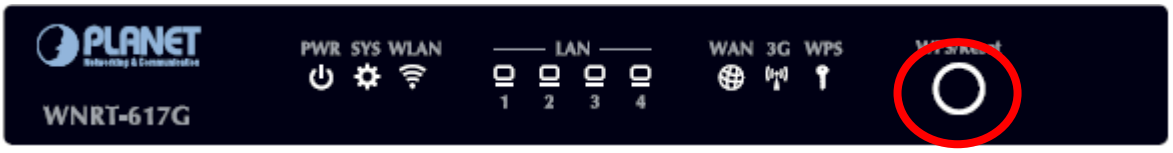


Figure 5-4

Or you can keep the default WPS Status as Enabled and click the Add device button in Figure 5-3, then the following screen will appear.

Figure 5-5

Choose **Press the button of the new device in two minutes,** and click **Connect.**

Note

When pressing and holding the WPS/Reset Button on the router for more than 5 seconds, you will reset the router.

Step 2: Press and hold the WPS Button equipped on the adapter directly for 2 or 3 seconds. Or you can click the WPS button with the same function in the configuration utility of the adapter.

Step 3: Wait for a while until the next screen appears. Click **Finish** to complete the WPS configuration.

II. By PIN

If the new device supports Wi-Fi Protected Setup and the PIN method, you can add it to the network by PIN with the following two methods.

Method One: Enter the PIN of your Wireless adapter into the configuration utility of the Router

Step 1: Keep the default WPS Status as **Enabled** and click the **Add device** button in Figure 5-3, then the following screen will appear.

Figure 5-6

Step 2: Choose **Enter the new device's PIN** and enter the PIN code of the wireless adapter in the field behind **PIN** in the above figure. Then click **Connect.**

Note: The PIN code of the adapter is always displayed on the WPS configuration screen.

Step 3: For the configuration of the wireless adapter, please choose the option that you want to **enter PIN into the Router** in the configuration utility of the WPS, and click **Next.**

Method Two: Enter the PIN of the Router into the configuration utility of your Wireless adapter

Step 1: Get the Current PIN code of the Router in Figure 5-3 (each Router has its unique PIN code).

Step 2: For the configuration of the wireless adapter, please choose the option that you want to **enter the PIN of the Router** in the configuration utility of the Wireless adapter, and enter it into the field. Then click **Next.**

Note

The default PIN code of the Router can be found in WPS configuration screen as Figure 5-3.

Step 3. You will see the following screen when the new device has successfully connected to the network.

Figure 5-7

Note

1. The WPS LED on the Router will light green for about 5 minutes if the device has been successfully added to the network.
2. The WPS function cannot be configured if the Wireless Function of the Router is disabled. Please make sure the Wireless Function is enabled before configuring the WPS.

5.5 Network

There are five submenus under the Network menu (shown in Figure 5-8): **Internet Access, 3G, WAN, MAC Clone, LAN**. Click any of them, and you will be able to configure the corresponding function.

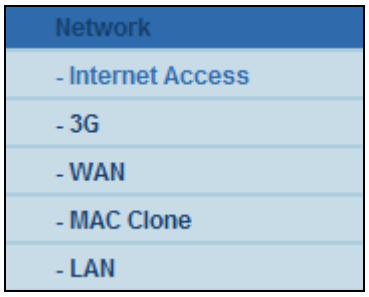


Figure 5-8 The Network menu

5.5.1 Internet Access

Choose menu "**Network→Internet Access**", you can configure the access mode on the screen below.

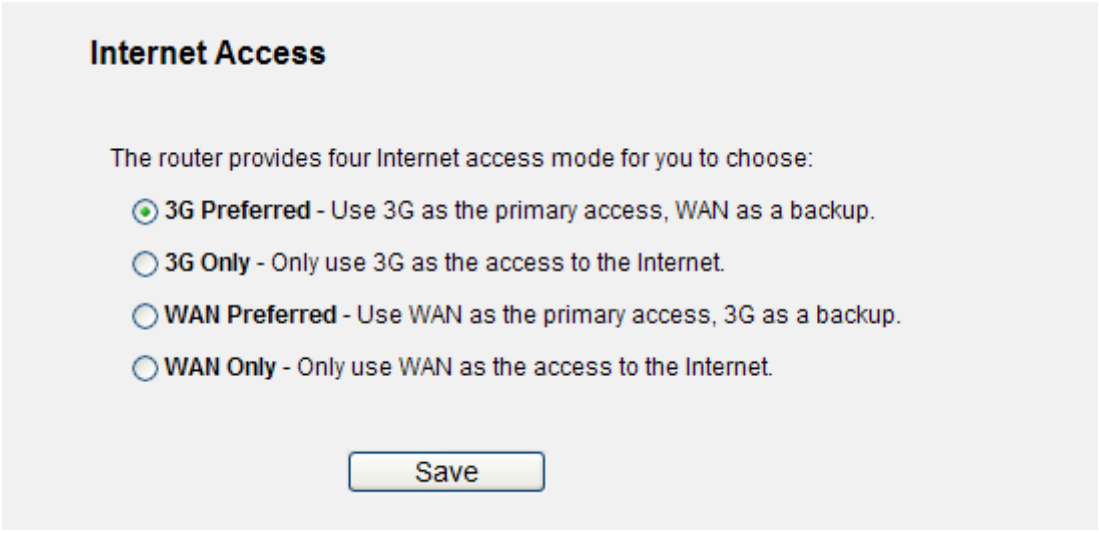


Figure 5-9 Internet Access Mode

The page includes the following fields:

Object	Description
3G Preferred	In this mode, the router will try 3G access first; When 3G access fails and WAN access is valid, or when no 3G USB modem is inserted, the router would switch to WAN access; When the router succeeds to connect to the 3G network, the router would stop the WAN connection and switch back to 3G access immediately.

3G Only	In this mode, the router will try 3G access only. WAN access is disabled.
WAN Preferred	In this mode, the router will try WAN access first; When the WAN access fails, and 3G access is valid, the router would switch to 3G access; When the router succeeds to connect to the WAN network, the router would stop the 3G connection and switch back to WAN access immediately.
WAN Only	In this mode, the router will try WAN access only. 3G access is disabled.

Table 5-2

Click the **Save** button to save your settings.

5.5.2 3G

Choose menu "**Network→3G**", you can configure parameters for 3G function on the screen below. Please do not insert the 3G USB Modem to the router before configure the settings. When the USB modem is unplugged, corresponding information will be shown as in Figure 5-10.

Note

1. 3G settings are unavailable when the Internet Access mode is set to WAN Only mode. Please change settings on **Internet Access** if you want to use 3G.
2. Please configure the PIN code of the 3G modem first and save the settings before insert your USB 3G Modem to the router. Otherwise, the USB 3G modem will be locked possibly for trying the wrong PIN code over three times.

There are already many kinds of 3G USB modem embedded in the router. The USB modem parameters will be set automatically if it is supported by the Router. If your USB modem inserted is supported by the Router, then its model name will be shown in the 3G USB Modem field. Otherwise, "Unknown Modem" will be shown instead. Please visit our website to get the latest USB modems compatibility list.

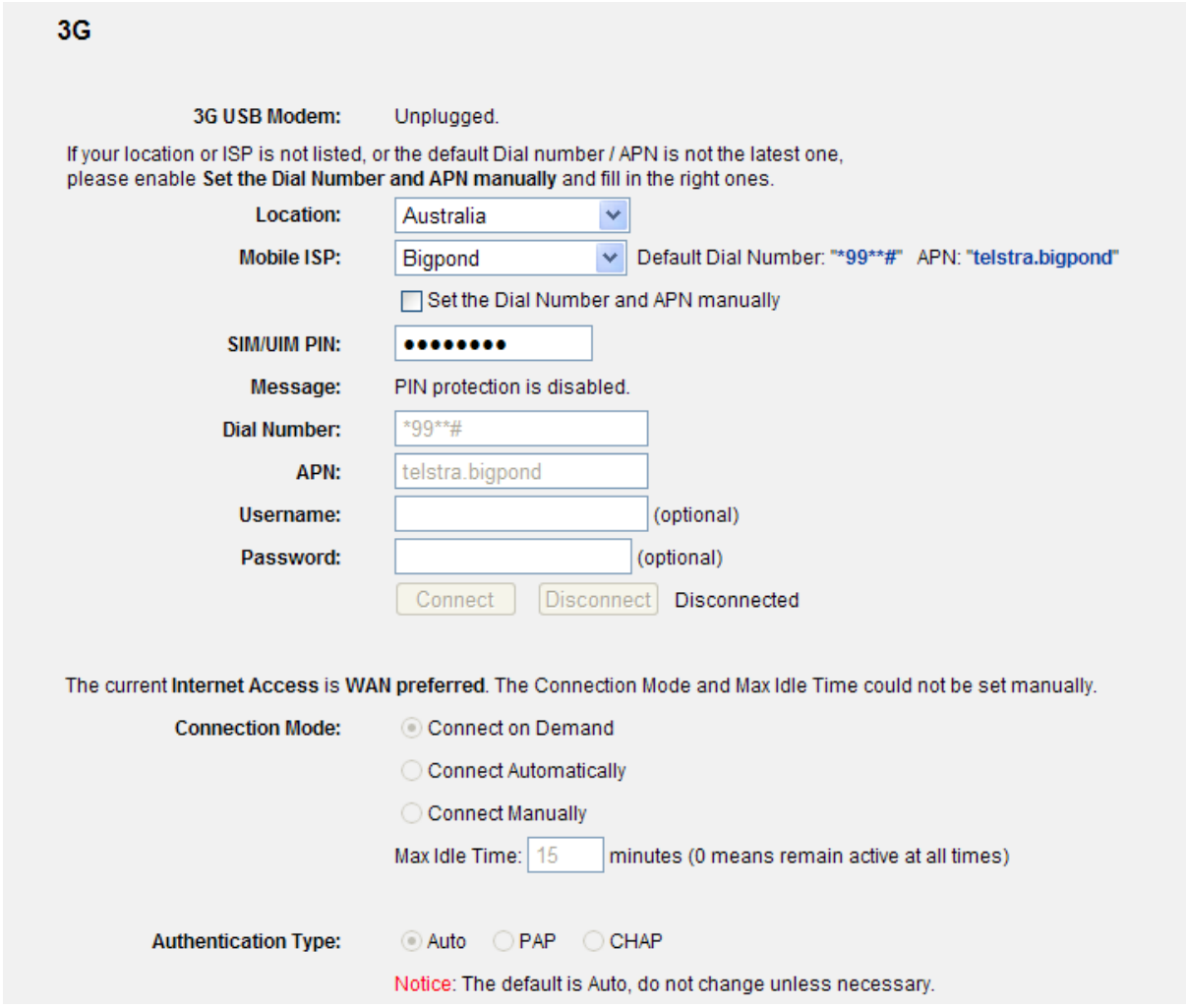


Figure 5-10 3G

The page includes the following fields:

Object	Description
Location	Please select the location where you're enjoying the 3G Modem.
Mobile ISP	Please select the ISP (Internet Service Provider) you apply to for 3G service. The router will show the default Dial Number and APN of that ISP.
Set the Dial Number and APN manually	Check the box and fill the Dial Number and APN blanks below if your ISP is not listed in the **Mobile ISP** list or the default values are not the latest ones.
SIM/UIM PIN	Enter the PIN code if the SIM/UIM Protection is enabled. Please note that 3 times of wrong PIN code will lock your SIM/UIM card. You need to unlock it on the PC using PUK code. ☞ **Note:** No matter how many digits of the PIN code you input, there are always eight digits displayed in this field after saving the settings.
Message	The PIN information of your SIM/UIM card.
Dial Number	Enter the Dial Number provided by your ISP.
APN	Enter the APN (Access Point Name) provided by your ISP.
Username/Password	Enter the Username and Password provided by your ISP. These fields are case-sensitive.
Click the **Connect** button to connect to your 3G network.	

Connection Mode	**Connect on Demand**	You can configure the Router to disconnect your Internet connection after a specified period of the Internet connectivity (**Max Idle Time**). If your Internet connection has been terminated due to inactivity, **Connect on Demand** enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. If you want your Internet connection to remain active at all times, enter **0** in the **Max Idle Time** field. Otherwise, enter the number of minutes you want to have elapsed before your Internet connection terminates.
	Connect Automatically	Connect automatically after the Router is disconnected.
	Connect Manually	You can configure the Router to make it connect or disconnect manually. After a specified period of inactivity (**Max Idle Time**), the Router will disconnect your Internet connection, and not be able to re-establish your connection automatically as soon as you attempt to access the Internet again. If you want your Internet connection to remain active at all times, enter **0** in the **Max Idle Time** field. Otherwise, enter the number in minutes that you wish to have the Internet connecting last unless a new link requested.
Authentication Type	Some ISPs need a specific authentication type, so please confirm it with your ISP or keep it Auto.	
MTU Size	The default MTU (Maximum Transmission Unit) size is 1480 bytes, which is usually fine. For some ISPs, you need modify the MTU. This should not be done unless you are sure it is necessary for your ISP.	
Use the following DNS Servers	If your ISP specifies a DNS server IP address for you, click the checkbox, and fill the **Primary DNS** and **Secondary DNS** blanks below. The Secondary DNS is optional. Otherwise, the DNS servers will be assigned dynamically from ISP.	

Table 5-3

Click the **Save** button to save your settings.

Click the **Modem Settings** button if your 3G USB Modem is not supported by the Router, and then you will see the screen as shown in Figure 5-11. Parameters of your USB modem can be configured on this page.

Note

Sometimes the connection cannot be disconnected although you specify a time to **Max Idle Time** because some applications visit the Internet continually in the background.

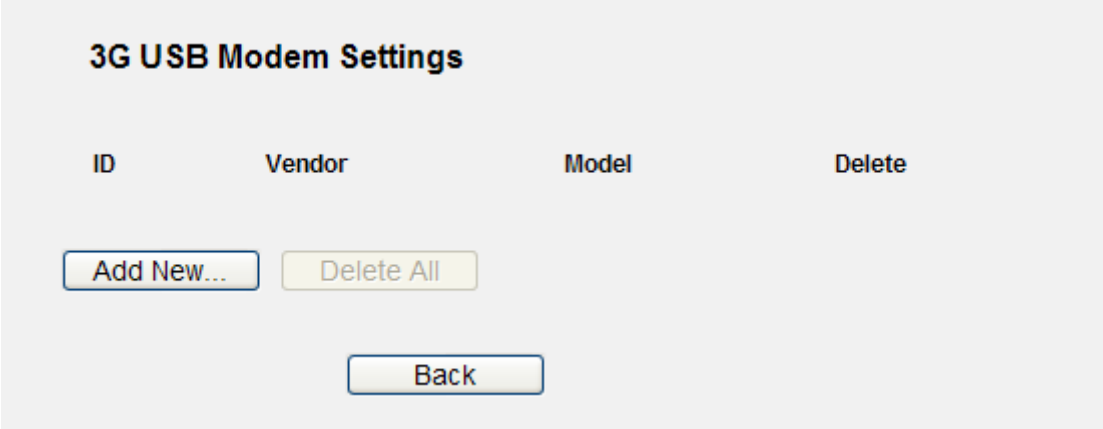


Figure 5-11 3G USB Modem Settings

There are already many kinds of 3G USB modem embedded in the router. The USB modem parameters will be set automatically if it is supported by the router. But when the router finds the 3G USB modem "unknown", it will prompt you to set these parameters. The router can identify your "unknown" 3G modem if the correct parameters are in the list. We suggest you do the "3G USB Modem Setting" only in such circumstance.

To add 3G USB Modem entries, follow the steps below.

1. Download the most recent 3G USB modem configuration file from our website.
2. Click the **Add New...** button in Figure 5-11, and then you will see Figure 5-12.
3. Click **Browse…** to select the path name where you save the downloaded file on the computer into the File blank.

4. Click the **Upload** button to upload the configuration.

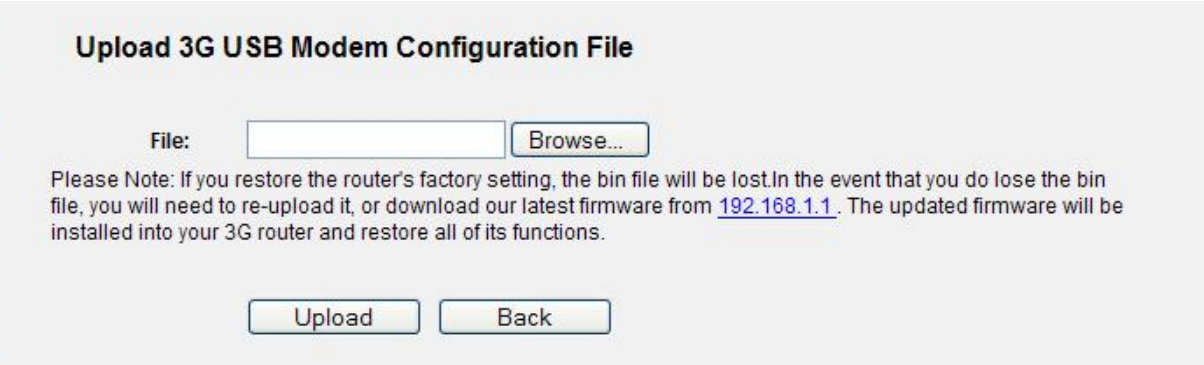


Figure 5-12 Add or Modify a 3G USB Modem Entry

5.5.3 WAN

Choose menu "**Network→WAN**", you can configure the IP parameters of the WAN on the screen below.

Note

If you don't know how to choose the appropriate connection type, click the **Detect** button to allow the Router to automatically search your Internet connection for servers and protocols. The connection type will be reported when an active Internet service is successfully detected by the Router. This detect result is for your reference only. To make sure the connection type your ISP provides, please refer to the ISP. The various types of Internet connections that the Router can detect are as follows:

- **PPPoE -** Connections which use PPPoE that requires a user name and password.
- **Dynamic IP -** Connections which use dynamic IP address assignment.
- **Static IP -** Connections which use static IP address assignment.

The Router can not detect PPTP / L2TP / BigPond connections with your ISP. If your ISP uses one of these protocols, then you must configure your connection manually.

■ **Dynamic IP**

1. If your ISP provides the DHCP service, please choose **Dynamic IP** type, and the Router will automatically obtain IP parameters from your ISP. You can see the page as follows (Figure 5-13):

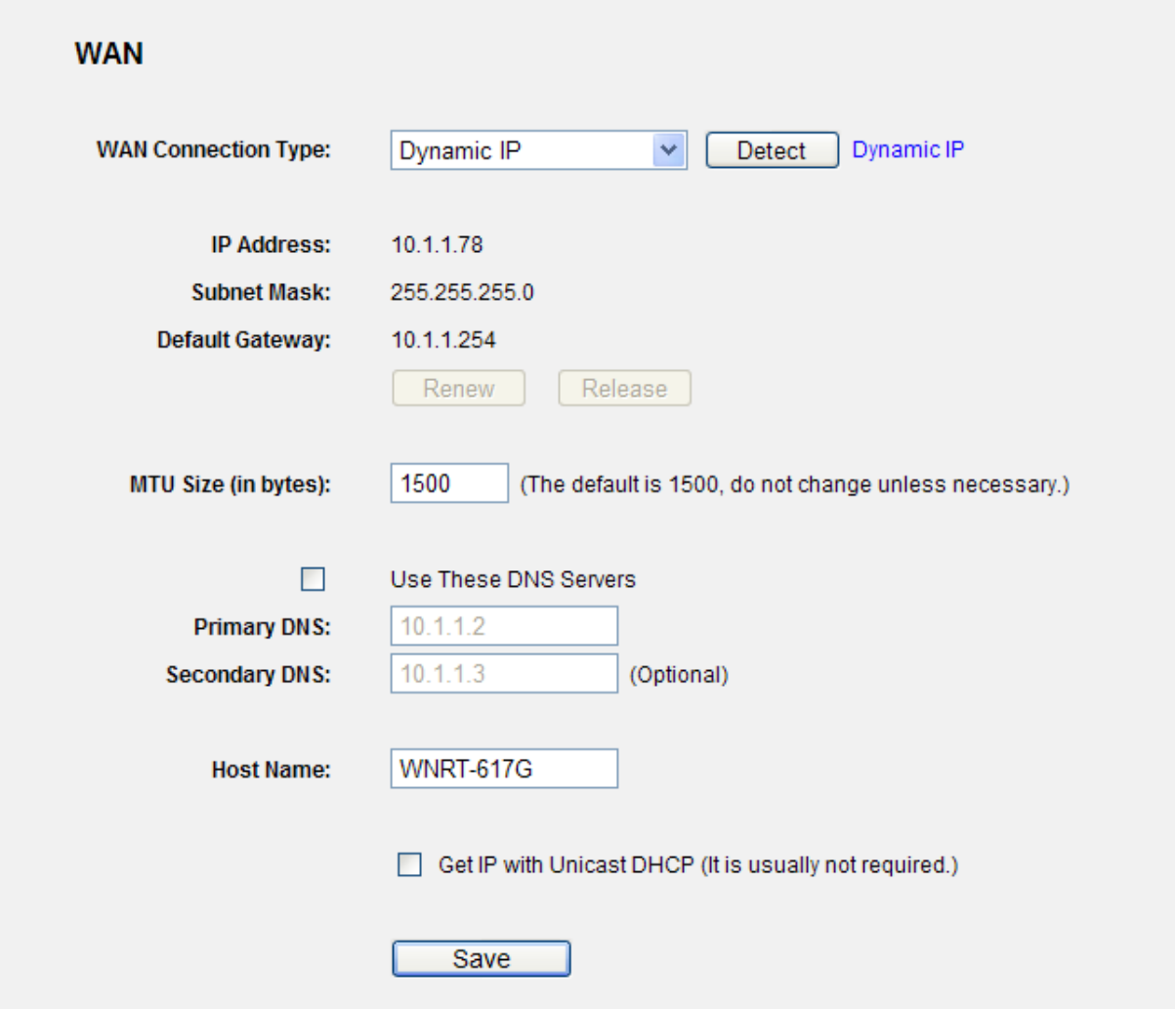


Figure 5-13 WAN - Dynamic IP

This page displays the WAN IP parameters assigned dynamically by your ISP, including IP address, Subnet Mask, Default Gateway, etc. Click the **Renew** button to renew the IP parameters from your ISP. Click the **Release** button to release the IP parameters.

Object	Description
MTU Size	The normal **MTU** (Maximum Transmission Unit) value for most Ethernet networks is 1500 Bytes. It is not recommended that you change the default **MTU Size** unless required by your ISP.
Use These DNS Servers	If your ISP gives you one or two DNS addresses, select **Use These DNS Servers** and enter the primary and secondary addresses into the correct fields. Otherwise, the DNS servers will be assigned dynamically from your ISP.
Host Name	This option specifies the Host Name of the Router.
Get IP with Unicast	A few ISPs' DHCP servers do not support the broadcast applications. If you cannot get the IP Address normally, you can choose this option. (It

DHCP	is rarely required.)

Table 5-4

If you get "Address not found" error when you access a Website, it is likely that your DNS servers are set up improperly. You should contact your ISP to get the correct DNS server address.

■ **Static IP**

2. If your ISP provides a static or fixed IP Address, Subnet Mask, Gateway and DNS setting, select **Static IP**. The Static IP settings page will appear, shown in Figure 5-1.

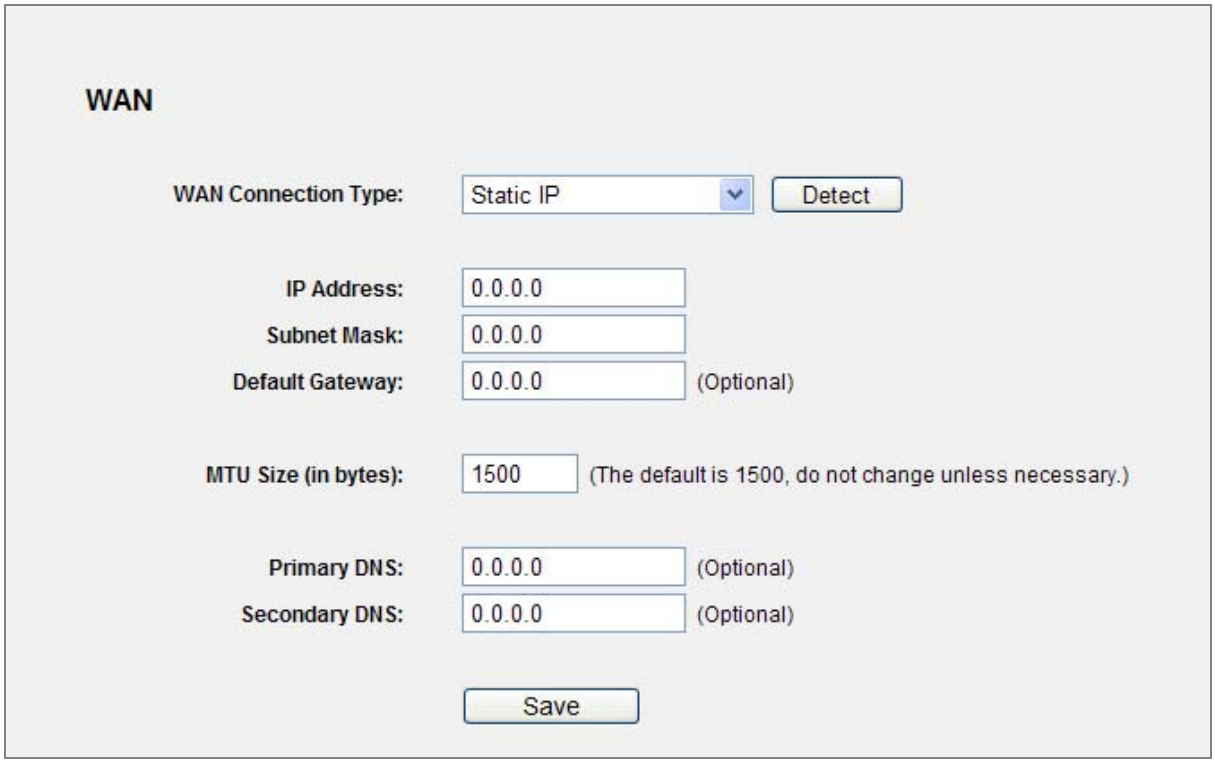


Figure 5-14 WAN - Static IP

The page includes the following fields:

Object	Description
IP Address	Enter the IP address in dotted-decimal notation provided by your ISP.
Subnet Mask	Enter the subnet Mask in dotted-decimal notation provided by your ISP, usually is 255.255.255.0
Default Gateway	(Optional) Enter the gateway IP address in dotted-decimal notation

	provided by your ISP.
MTU Size	The normal **MTU** (Maximum Transmission Unit) value for most Ethernet networks is 1500 Bytes. It is not recommended that you change the default **MTU Size** unless required by your ISP.
Primary/Secondary DNS	(Optional) Enter one or two DNS addresses in dotted-decimal notation provided by your ISP.

Table 5-5

■ **PPPoE / Rusia PPPoE**

3. If your ISP provides a PPPoE / Russia PPPoE connection, select **PPPoE/Russia PPPoE** option. And enter the following parameters (Figure 5-1):

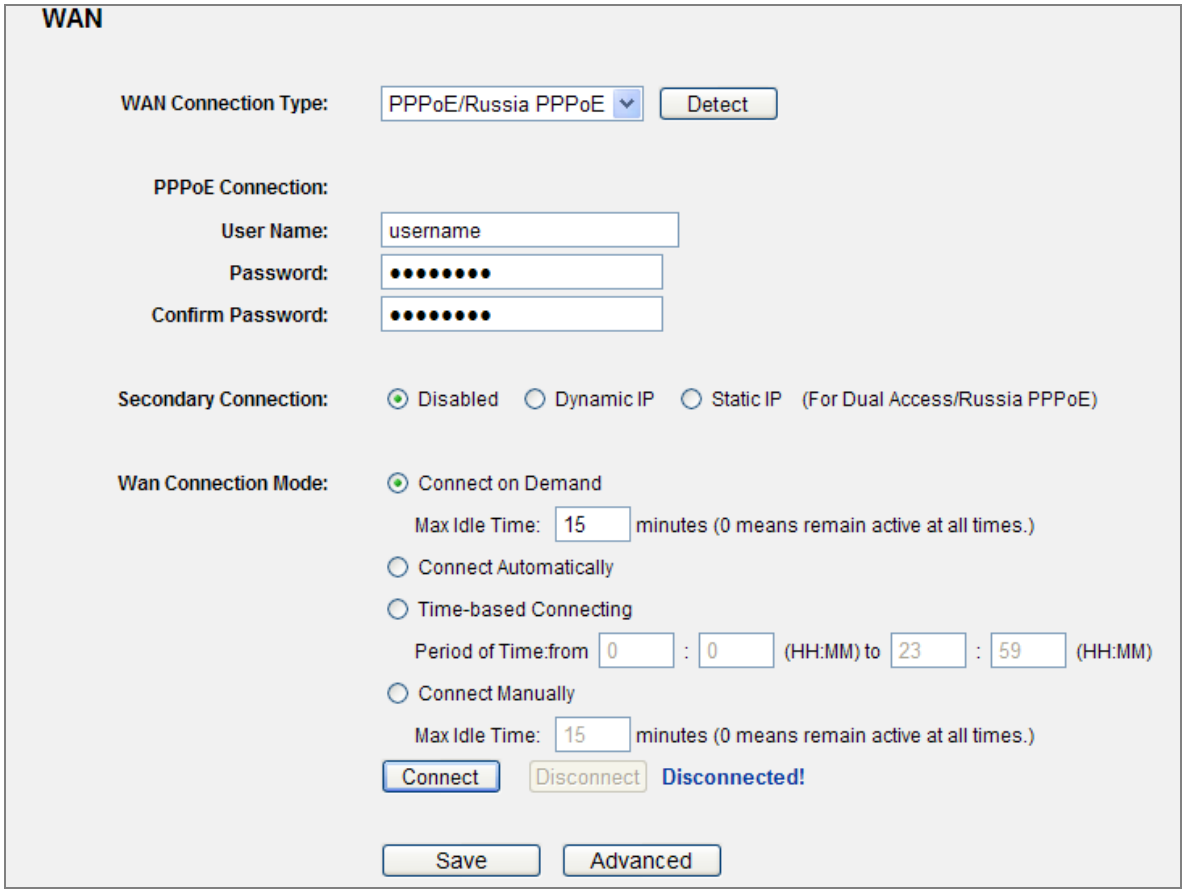


Figure 5-15 WAN – PPPoE

The page includes the following fields:

Object	Description	
User Name/Password	Enter the User Name and Password provided by your ISP. These fields are case-sensitive.	
Secondary Connection	**Disabled**	The Secondary Connection is disabled by default, so there is PPPoE connection only. This is recommended.
	Dynamic IP	You can check this radio button to use Dynamic IP as the secondary connection to connect to the local area network provided by ISP.
	Static IP	You can check this radio button to use Static IP as the secondary connection to connect to the local area network provided by ISP.
Connect on Demand	In this mode, the Internet connection can be terminated automatically after a specified inactivity period (**Max Idle Time**) and be re-established when you attempt to access the Internet again. If you want your Internet connection to keep active all the time, please enter "0" in the **Max Idle Time** field. Otherwise, enter the number of minutes you want to have elapsed before your Internet access disconnects.	
Connect Automatically	The connection can be re-established automatically when it was down.	
Time-based Connecting	The connection will only be established in the period from the start time to the end time (both are in HH:MM format). ☞ **Note:** Only when you have configured the system time on **System Tools -> Time** page can the **Time-based Connecting** function take effect.	
Connect Manually	You can click the **Connect/ Disconnect** button to connect/disconnect immediately. This mode also supports the **Max Idle Time** function as **Connect on Demand** mode. The Internet connection can be disconnected automatically after a specified inactivity period and re-established when you attempt to access the Internet again.	

Table 5-6

Sometimes the connection cannot be terminated although you specify a time to Max Idle Time, since some applications are visiting the Internet continually in the background.

If you want to do some advanced configurations, please click the **Advanced** button, and the page shown in Figure 5-16 will then appear:

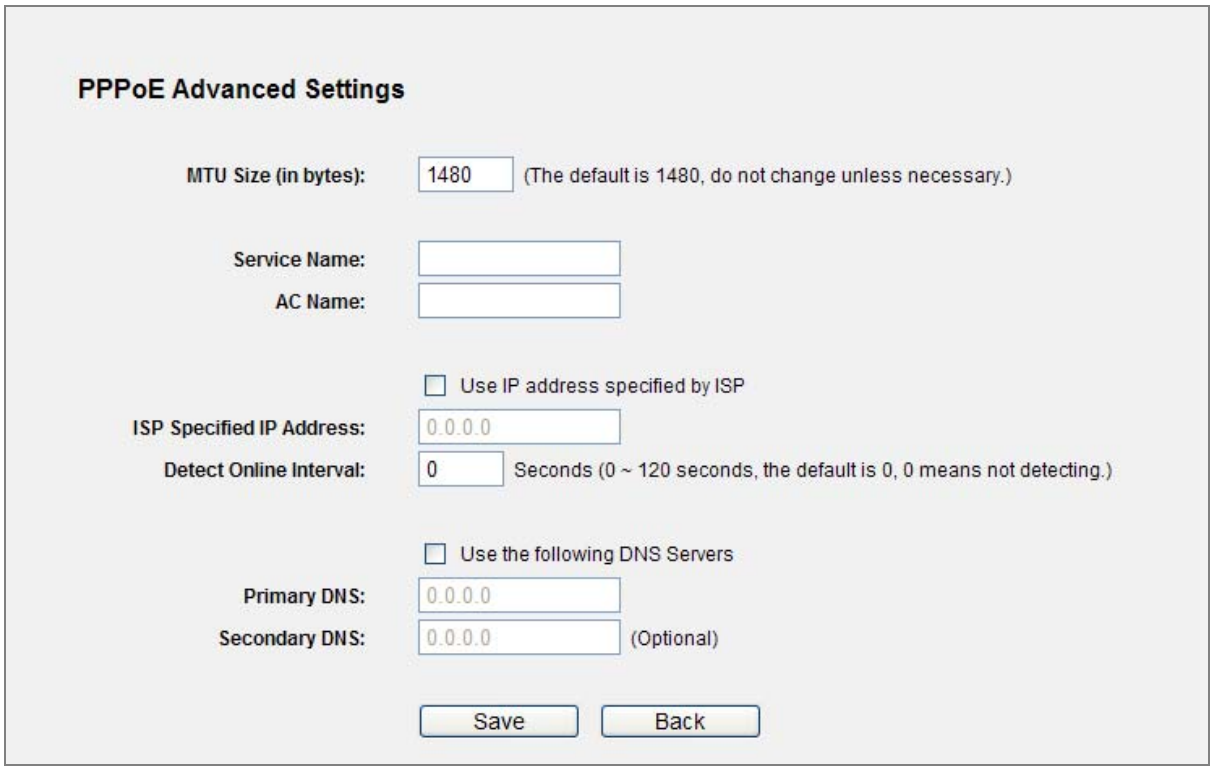


Figure 5-16 PPPoE Advanced Settings

The page includes the following fields:

Object	Description
MTU Size	The default MTU size is "1480" bytes, which is usually fine. It is not recommended that you change the default **MTU Size** unless required by your ISP.
Service Name/AC Name	The service name and AC (Access Concentrator) name, which should not be configured unless you are sure it is necessary for your ISP. In most cases, leaving these fields blank will work.
ISP Specified IP Address	If your ISP does not automatically assign IP addresses to the Router during login, please click "**Use IP address specified by ISP**" check box and enter the IP address provided by your ISP in dotted-decimal notation.
Detect Online Interval	The Router will detect Access Concentrator online at every interval. The default value is "0". You can input the value between "0" and "120". The value "0" means no detect.
DNS IP address	If your ISP does not automatically assign DNS addresses to the Router during login, please click "**Use the following DNS servers**" check box and enter the IP address in dotted-decimal notation of your ISP's primary DNS server. If a secondary DNS server address is available, enter it as well.

Table 5-7

Click the **Save** button to save your settings.

■ **BigPond Cable**

4. If your ISP provides BigPond Cable (or Heart Beat Signal) connection, please select **BigPond Cable**. And you should enter the following parameters (Figure 5-17):

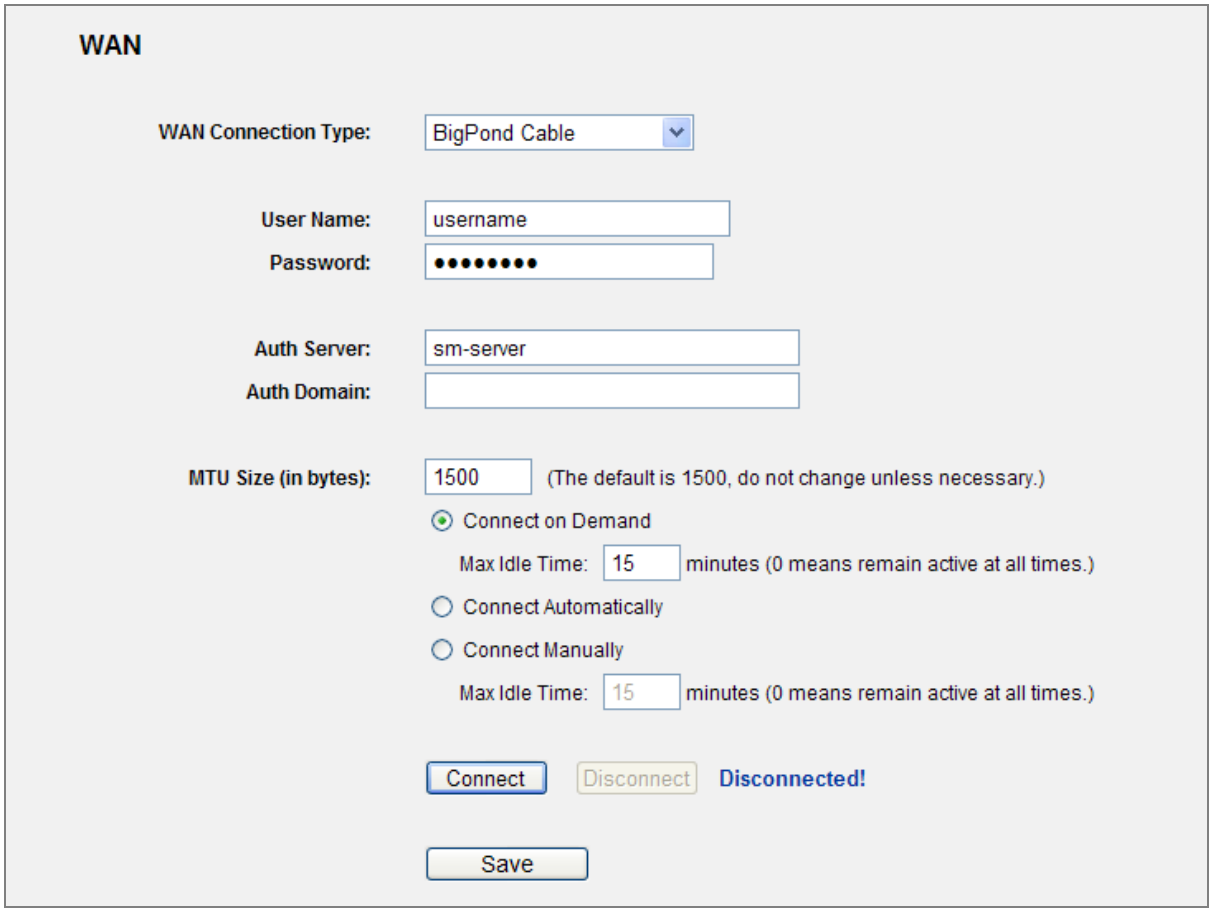


Figure 5-17

The page includes the following fields:

Object	Description
User Name/Password	Enter the User Name and Password provided by your ISP. These fields are case-sensitive.
Auth Server	Enter the authenticating server IP address or host name.
Auth Domain	Type in the domain suffix server name based on your location. e.g. NSW / ACT - **nsw.bigpond.net.au** VIC / TAS / WA / SA / NT - **vic.bigpond.net.au**

	QLD - **qld.bigpond.net.au**
MTU Size	The normal **MTU** (Maximum Transmission Unit) value for most Ethernet networks is 1500 Bytes. It is not recommended that you change the default **MTU Size** unless required by your ISP.
Connect on Demand	In this mode, the Internet connection can be terminated automatically after a specified inactivity period (**Max Idle Time**) and be re-established when you attempt to access the Internet again. If you want your Internet connection to keep active all the time, please enter "0" in the **Max Idle Time** field. Otherwise, enter the number of minutes you want to have elapsed before your Internet access disconnects.
Connect Automatically	The connection can be re-established automatically when it was down.
Connect Manually	You can click the **Connect/Disconnect** button to connect/disconnect immediately. This mode also supports the **Max Idle Time** function as **Connect on Demand** mode. The Internet connection can be disconnected automatically after a specified inactivity period and re-established when you attempt to access the Internet again. Click the **Connect** button to connect immediately. Click the **Disconnect** button to disconnect immediately.

Table 5-8

Click the **Save** button to save your settings.

Sometimes the connection cannot be terminated although you specify a time to **Max Idle Time**, since some applications are visiting the Internet continually in the background.

■ **L2TP / Russia L2TP**

5. If your ISP provides L2TP / Russia L2TP connection, please select **L2TP/Russia L2TP** option. And enter the following parameters (Figure 5-18):

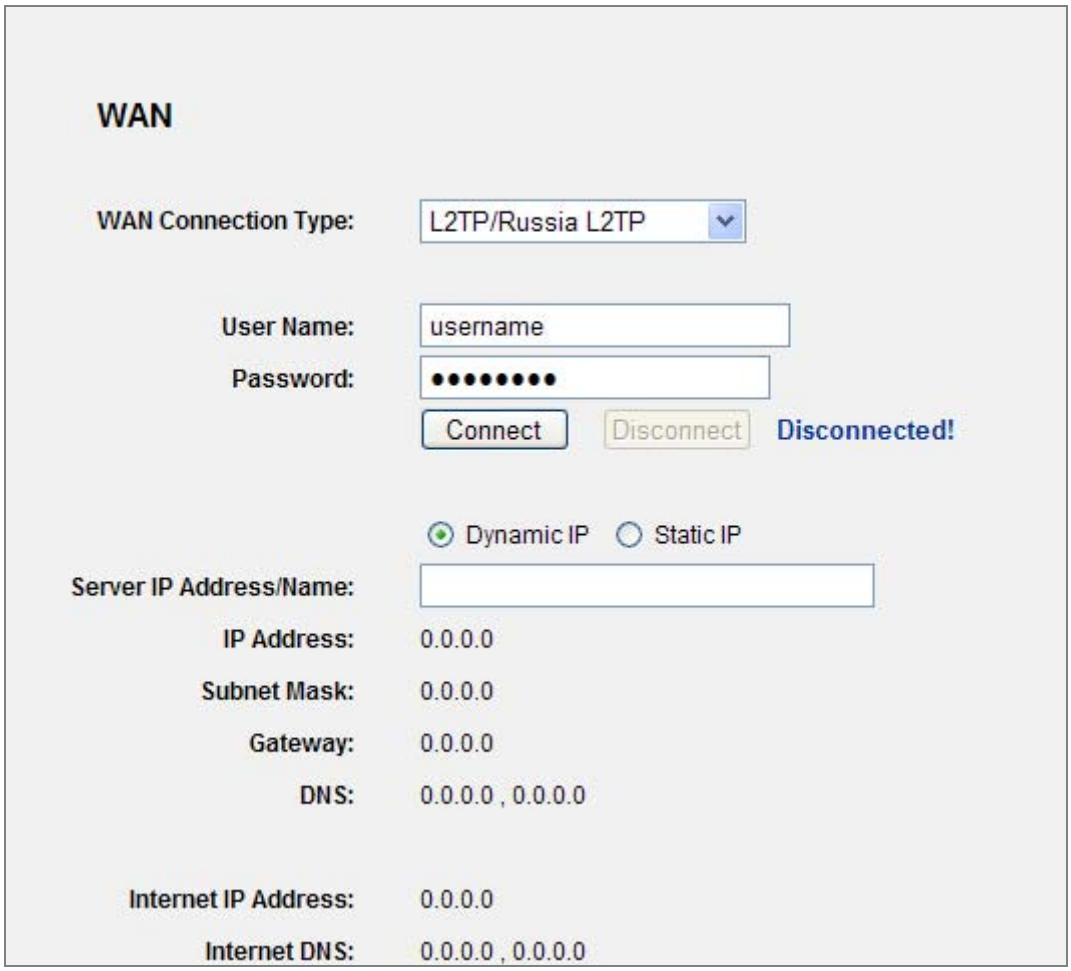


Figure 5-18 L2TP Settings

The page includes the following fields:

Object	Description
User Name/Password	Enter the User Name and Password provided by your ISP. These fields are case-sensitive.
Dynamic IP/ Static IP	Choose either as you are given by your ISP. Click the **Connect** button to connect immediately. Click the **Disconnect** button to disconnect immediately.
Connect on Demand	You can configure the Router to disconnect from your Internet connection after a specified period of inactivity (**Max Idle Time**). If your Internet connection has been terminated due to inactivity, **Connect on Demand** enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. If you

	wish to activate **Connect on Demand**, click the radio button. If you want your Internet connection to remain active at all times, enter 0 in the **Max Idle Time** field. Otherwise, enter the number of minutes you want to have elapsed before your Internet connection terminates.
Connect Automatically	Connect automatically after the Router is disconnected. To use this option, click the radio button.
Connect Manually	You can configure the Router to make it connect or disconnect manually. After a specified period of inactivity (**Max Idle Time**), the Router will disconnect from your Internet connection, and you will not be able to re-establish your connection automatically as soon as you attempt to access the Internet again. To use this option, click the radio button. If you want your Internet connection to remain active at all times, enter "0" in the **Max Idle Time** field. Otherwise, enter the number in minutes that you wish to have the Internet connecting last unless a new link is requested.

Table 5-9

Click the **Save** button to save your settings.

Sometimes the connection cannot be terminated although you specify a time to **Max Idle Time**, since some applications are visiting the Internet continually in the background.

■ **PPTP / Russia PPTP**

6. If your ISP provides PPTP / Russia PPTP connection, please select **PPTP/Russia PPTP** option. And enter the following parameters (Figure 5-19):

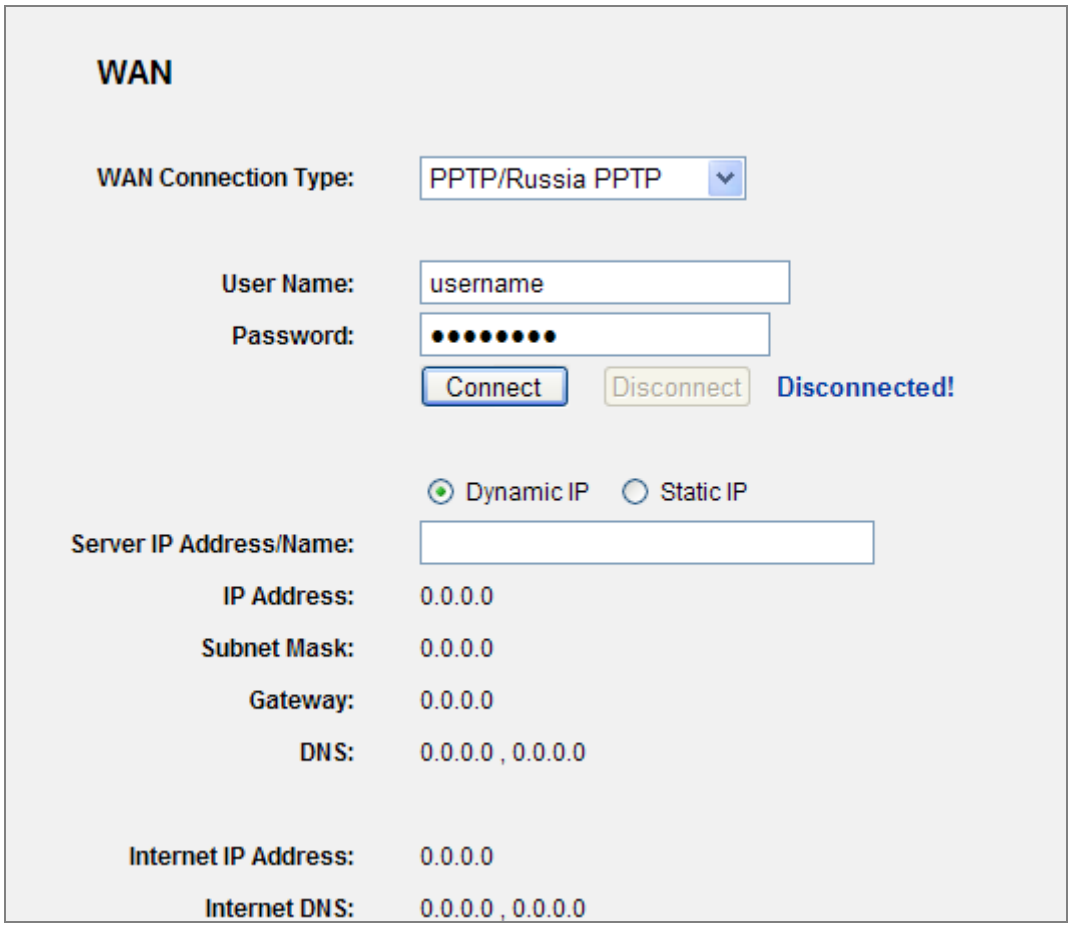


Figure 5-19 PPTP Settings

The page includes the following fields:

Object	Description
User Name/Password	Enter the User Name and Password provided by your ISP. These fields are case-sensitive.
Dynamic IP/ Static IP	Choose either as you are given by your ISP and enter the ISP's IP address or the domain name. If you choose static IP and enter the domain name, you should also enter the DNS assigned by your ISP. And click the **Save** button. Click the **Connect** button to connect immediately. Click the **Disconnect** button to disconnect immediately.
Connect on Demand	You can configure the Router to disconnect from your Internet connection after a specified period of inactivity (**Max Idle Time**). If your

	Internet connection has been terminated due to inactivity, **Connect on Demand** enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. If you wish to activate **Connect on Demand**, click the radio button. If you want your Internet connection to remain active at all times, enter 0 in the **Max Idle Time** field. Otherwise, enter the number of minutes you want to have elapsed before your Internet connection terminates.
Connect Automatically	Connect automatically after the Router is disconnected. To use this option, click the radio button.
Connect Manually	You can configure the Router to make it connect or disconnect manually. After a specified period of inactivity (**Max Idle Time**), the Router will disconnect from your Internet connection, and you will not be able to re-establish your connection automatically as soon as you attempt to access the Internet again. To use this option, click the radio button. If you want your Internet connection to remain active at all times, enter "0" in the **Max Idle Time** field. Otherwise, enter the number in minutes that you wish to have the Internet connecting last unless a new link is requested.

Table 5-10

Sometimes the connection cannot be terminated although you specify a time to **Max Idle Time**, since some applications are visiting the Internet continually in the background.

5.5.4 LAN

Choose menu "**Network→LAN**", you can configure the IP parameters of the LAN on the screen as below.

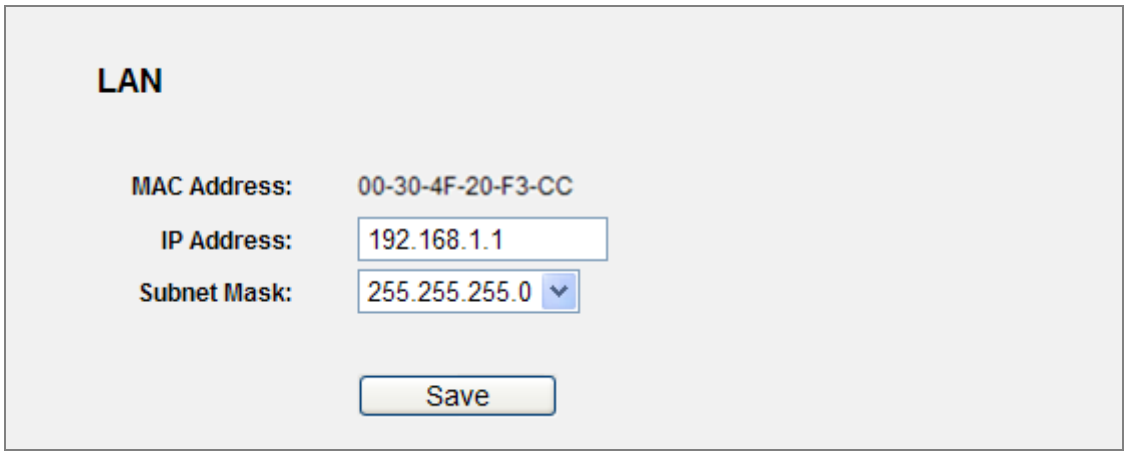


Figure 5-20 LAN

The page includes the following fields:

Object	Description
MAC Address	The physical address of the Router, as seen from the LAN. The value can't be changed.
IP Address	Enter the IP address of your Router or reset it in dotted-decimal notation (factory default: 192.168.1.1).
Subnet Mask	An address code that determines the size of the network. Normally use 255.255.255.0 as the subnet mask.

Table 5-11

Note

1. If you change the IP Address of LAN, you must use the new IP Address to login the Router.
2. If the new LAN IP Address you set is not in the same subnet, the IP Address pool of the DHCP server will change accordingly at the same time，while the Virtual Server and DMZ Host will not take effect until they are re-configured.

5.5.5 MAC Clone

Choose menu "**Network→MAC Clone**", you can configure the MAC address of the WAN on the screen below, Figure 5-21:

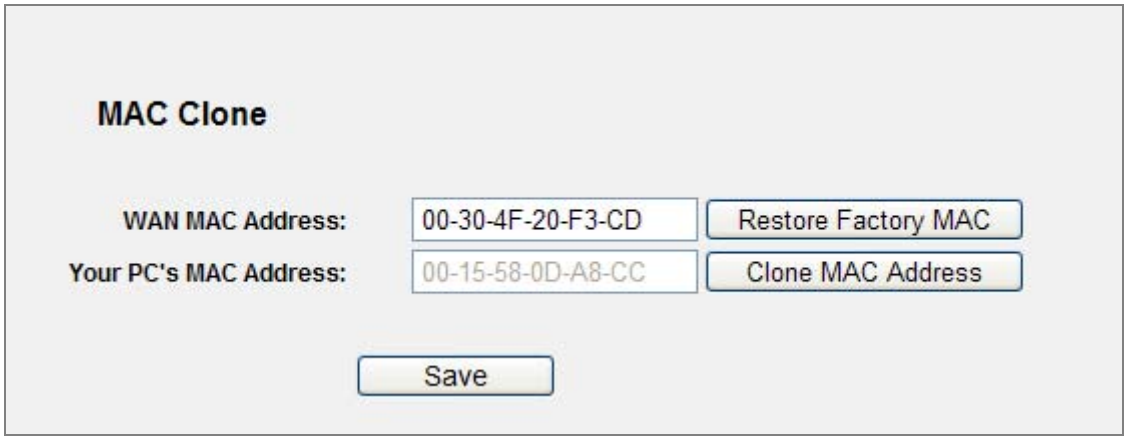


Figure 5-21 MAC Address Clone

Some ISPs require that you register the MAC Address of your adapter. Changes are rarely needed here.

The page includes the following fields:

Object	Description
WAN MAC Address	This field displays the current MAC address of the WAN port. If your ISP requires you to register the MAC address, please enter the correct MAC address into this field in XX-XX-XX-XX-XX-XX format(X is any hexadecimal digit). Click **Restore Factory MAC** to restore the MAC address of WAN port to the factory default value.
Your PC's MAC Address	This field displays the MAC address of the PC that is managing the Router. If the MAC address is required, you can click the **Clone MAC Address** button and this MAC address will fill in the **WAN MAC Address** field.

Table 5-12

Click the **Save** button to save your settings.

Note: Only the PC on your LAN can use the **MAC Address Clone** function.

5.6 Wireless

There are five submenus under the Wireless menu (shown in Figure 5-22): **Wireless Settings**, **Wireless Security, Wireless MAC Filtering, Wireless Advanced** and **Wireless Statistics.** Click any of them, and you will be able to configure the corresponding function.

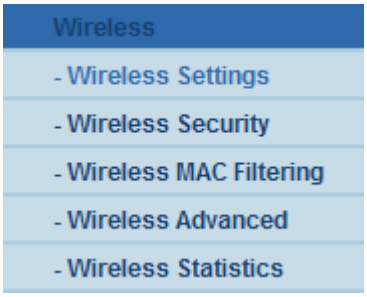


Figure 5-22 Wireless menu

5.6.1 Wireless Settings

Choose menu "**Wireless→Wireless Settings**", you can configure the basic settings for the wireless network on this page.

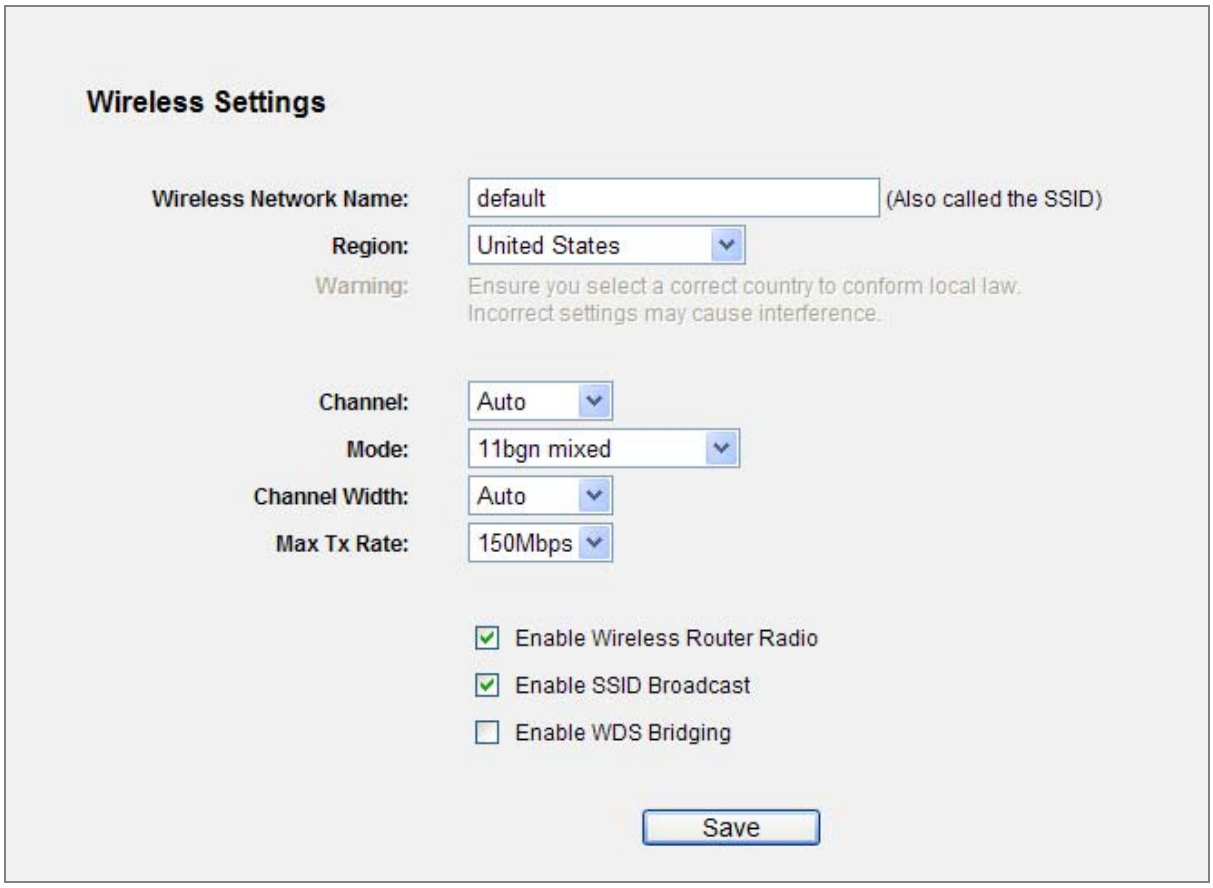
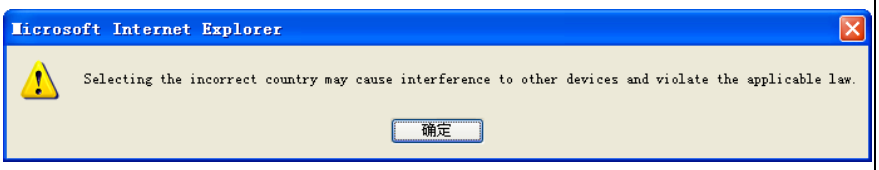


Figure 5-23 Wireless Settings

The page includes the following fields:

Object	Description
Wireless Network Name (SSID)	Enter a value of up to 32 characters. The same name of SSID (Service Set Identification) must be assigned to all wireless devices in your network. Considering your wireless network security, the default SSID is set to be default. This value is case-sensitive. For example, *PLANET* is NOT the same as *planet*.
Region	Select your region from the pull-down list. This field specifies the region where the wireless function of the Router can be used. It may be illegal to use the wireless function of the Router in a region other than one of those specified in this field. If your country or region is not listed, please contact your local government agency for assistance. When you select your local region from the pull-down list, click the **Save** button**,** then the Note Dialog appears. Click **OK**.  Note Dialog **Note:** Limited by local law regulations, version for North America does not have region selection option.
Channel	This field determines which operating frequency will be used. The default channel is set to **Auto**, so the AP will choose the best channel automatically. It is not necessary to change the wireless channel unless you notice interference problems with another nearby access point.
Mode	Select the desired mode. The default setting is 11bgn mixed. **11b only, 11g only, 11n only, 11bg mixed, 11bgn mixed.** It is strongly recommended that you set the Mode to **802.11b&g&n**, and all of 802.11b, 802.11g, and 802.11n wireless stations can connect to the Router.
Channel width	Select any channel width from the pull-down list. The default setting is automatic, which can adjust the channel width for your clients automatically.

Max Tx Rate	You can limit the maximum tx rate of the Router through this field.
Enable Wireless Router Radio	The wireless radio of this Router can be enabled or disabled to allow wireless stations access.
Enable SSID Broadcast	When wireless clients survey the local area for wireless networks to associate with, they will detect the SSID broadcast by the Router. If you select the **Enable SSID Broadcast** checkbox, the Wireless Router will broadcast its name (SSID) on the air.

Table 5-13

Note

If 11b only, 11g only, or 11bg mixed is selected in the Mode field, the Channel Width selecting field will turn grey and the value will become 20M, which is unable to be changed.

Object	Description
Enable WDS	Check this box to enable WDS. With this function, the Router can bridge two or more WLANs. If this checkbox is selected, you will have to set the following parameters as shown below. Make sure the following settings are correct.

Table 5-14

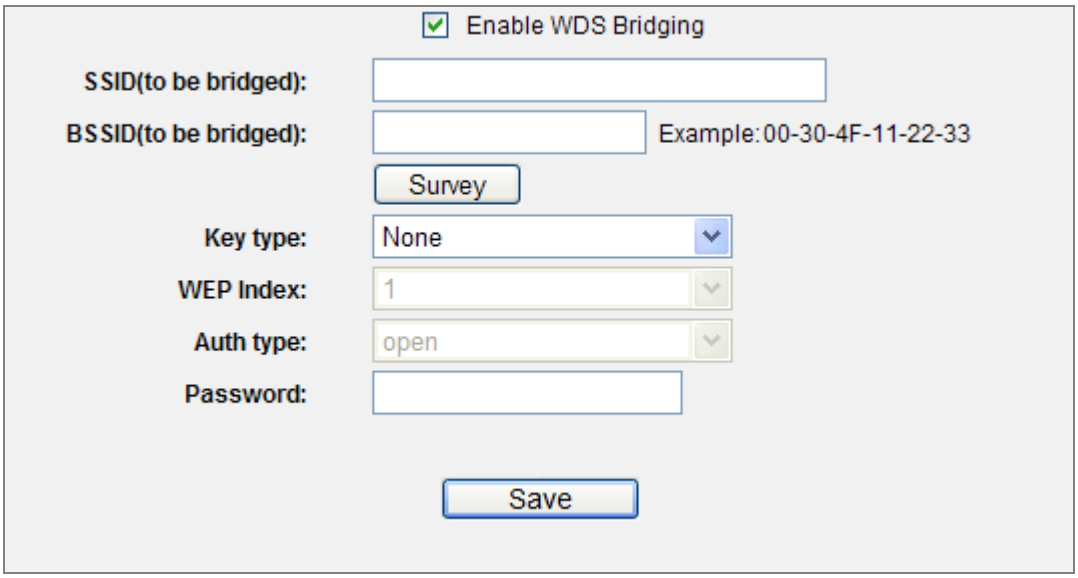


Figure 5-24

The page includes the following fields:

Object	Description
SSID(to be bridged)	The SSID of the AP your Router is going to connect to as a client. You can also use the search function to select the SSID to join.
BSSID(to be bridged)	The BSSID of the AP your Router is going to connect to as a client. You can also use the search function to select the BSSID to join.
Search	Click this button, you can search the AP which runs in the current channel.
Key type	This option should be chosen according to the AP's security configuration. It is recommended that the security type is the same as your AP's security type.
WEP Index	This option should be chosen if the key type is WEP(ASCII) or WEP(HEX).It indicates the index of the WEP key.
Auth Type	This option should be chosen if the key type is WEP(ASCII) or WEP(HEX).It indicates the authorization type of the Root AP.
Password	If the AP your Router is going to connect needs password, you need to fill the password in this blank.

Table 5-15

5.6.2 Wireless Security

Choose menu "**Wireless→Wireless Security**", you can configure the security settings of your wireless network.

There are five wireless security modes supported by the Router:

- **WEP (Wired Equivalent Privacy)**
- **WPA (Wi-Fi Protected Access)**
- **WPA2 (Wi-Fi Protected Access 2)**
- **WPA-PSK (Pre-Shared Key)**
- **WPA2-PSK (Pre-Shared Key)**

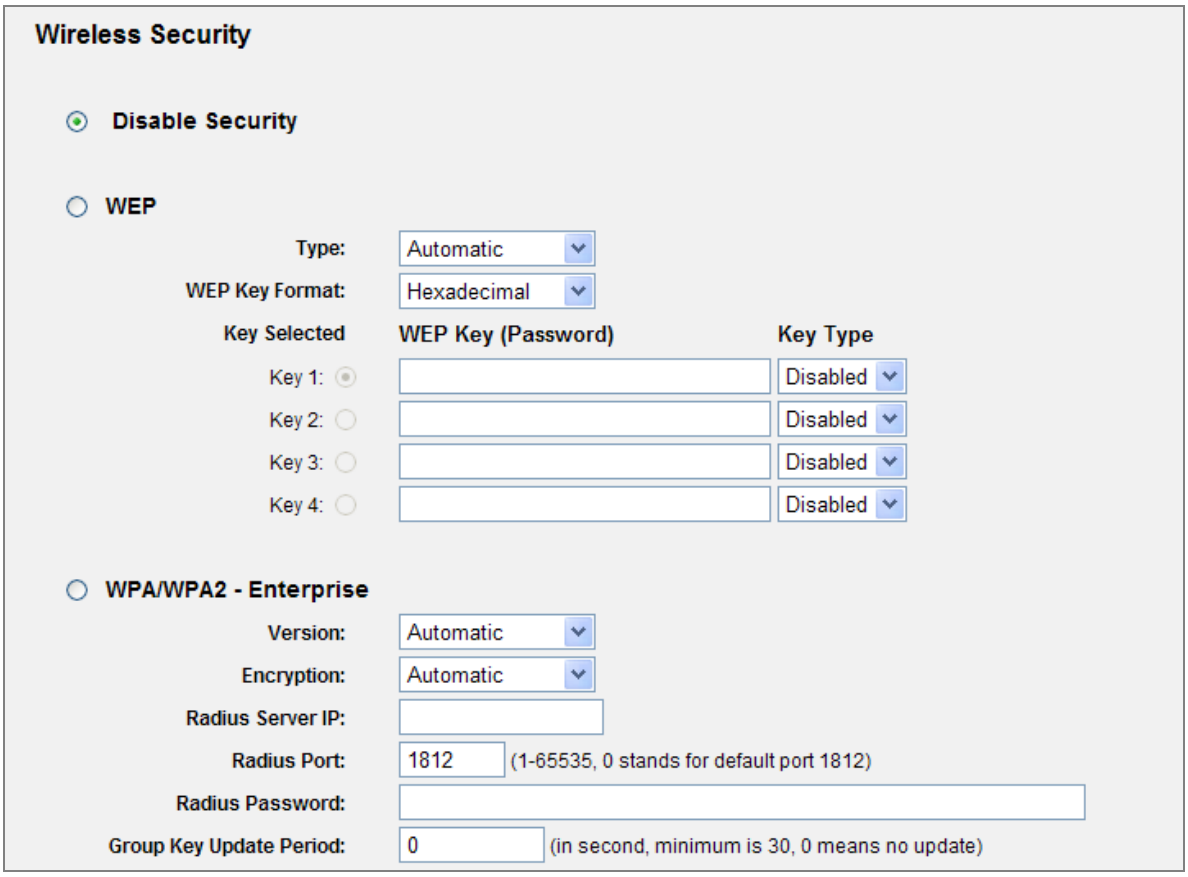


Figure 5-2

The page includes the following fields:

Object	Description
Disable Security	If you do not want to use wireless security, select this check box, but it's strongly recommended to choose one of the following modes to enable security.

Table 5-16

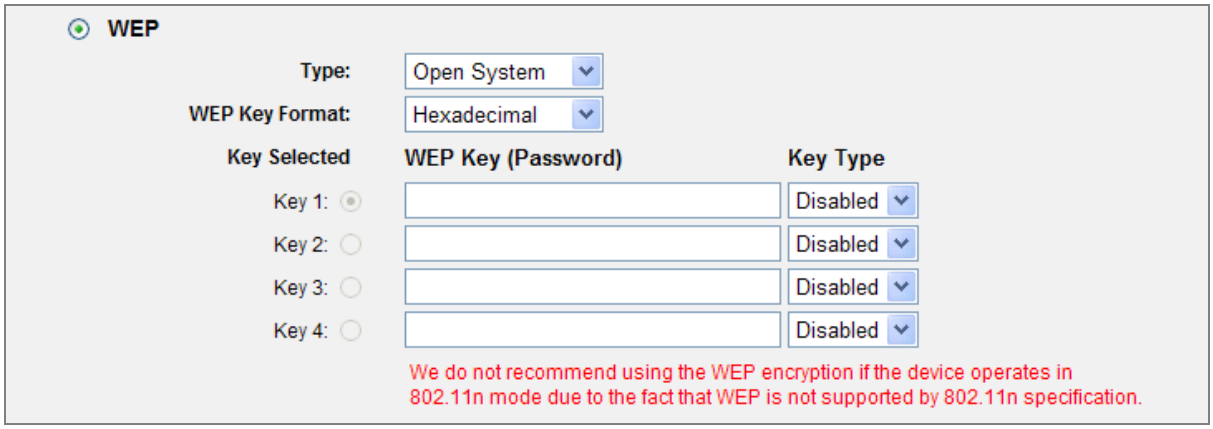


Figure 5-3

Object	Description	
WEP	It is based on the IEEE 802.11 standard. If you select this check box, you will find a notice in red as show in Figure 5-3.	
Type	you can choose the type for the WEP security on the pull-down list. The default setting is **Automatic**, which can select **Open System** or **Shared Key** authentication type automatically based on the wireless station's capability and request.	
WEP Key Format	**Hexadecimal** and **ASCII** formats are provided. **Hexadecimal** format stands for any combination of hexadecimal digits (0-9, a-f, A-F) in the specified length. **ASCII** format stands for any combination of keyboard characters in the specified length.	
WEP Key	Select which of the four keys will be used and enter the matching WEP key that you create. Make sure these values are identical on all wireless stations in your network.	
Key Type	You can select the WEP key length (**64-bit**, or **128-bit**, or **152-bit**.) for encryption. "**Disabled**" means this WEP key entry is invalid.	
	64-bit	You can enter 10 hexadecimal digits (any combination of 0-9, a-f, A-F, zero key is not promoted) or 5 ASCII characters.
	128-bit	You can enter 26 hexadecimal digits (any combination of 0-9, a-f, A-F, zero key is not promoted) or 13 ASCII characters.
	152-bit	You can enter 32 hexadecimal digits (any combination of 0-9, a-f, A-F, zero key is not promoted) or 16 ASCII characters.

Table 5-17

Note

If you do not set the key, the wireless security function is still disabled even if you have selected Shared Key as Authentication Type.

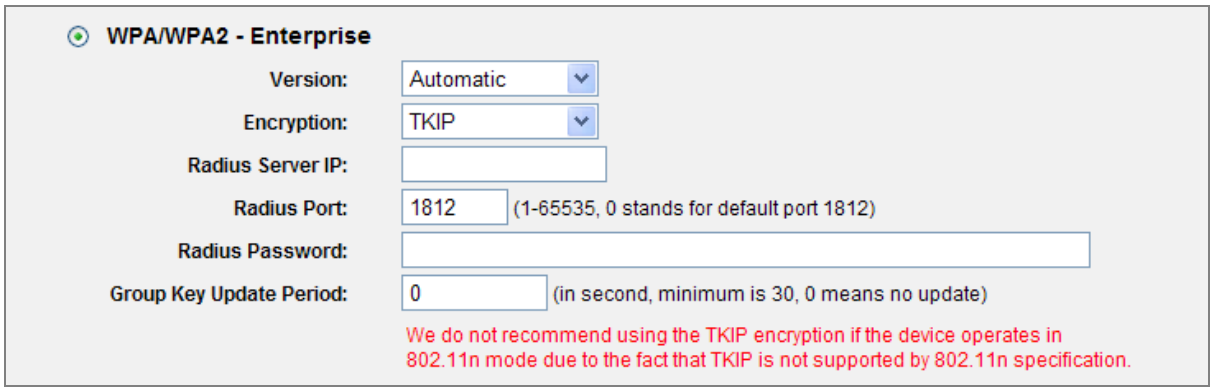


Figure 5-4 WPA/WPA2 Configuration Screenshot

The page includes the following fields:

Object	Description
WPA/WPA2	It is based on Radius Server.
Version	you can choose the version of the WPA security on the pull-down list. The default setting is **Automatic**, which can select **WPA (**Wi-Fi Protected Access) or **WPA2 (**WPA version 2) automatically based on the wireless station's capability and request.
Encryption	You can select either **Automatic**, or **TKIP** or **AES.**
Radius Server IP	Enter the IP address of the Radius Server.
Radius Port	Enter the port that radius service used.
Radius Password	Enter the password for the Radius Server.
Group Key Update Period	Specify the group key update interval in seconds. The value should be 30 or above. Enter 0 to disable the update.

Table 5-18

Note

If you check the WPA/WPA2 radio button and choose TKIP encryption, you will find a notice in red as shown in Figure 5-4.

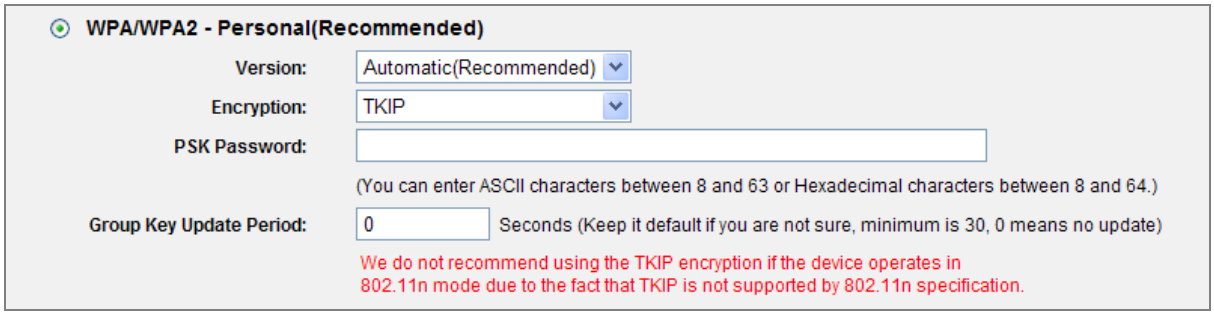


Figure 5-5

The page includes the following fields:

Object	Description
WPA-PSK/WPA2-PSK	It's the WPA/WPA2 authentication type based on pre-shared passphrase.
Version	you can choose the version of the WPA-PSK security on the drop-down list. The default setting is **Automatic**, which can select **WPA-PSK (**Pre-shared key of WPA) or **WPA2-PSK** (Pre-shared key of WPA) automatically based on the wireless station's capability and request.
Encryption	When **WPA-PSK** or **WPA** is set as the Authentication Type, you can select either **Automatic**, or **TKIP** or **AES** as Encryption.
PSK Password	You can enter ASCII characters between 8 and 63 characters or 8 to 64 Hexadecimal characters.
Group Key Update Period	Specify the group key update interval in seconds. The value should be 30 or above. Enter 0 to disable the update.

Table 5-19

Note

If you check the **WPA-PSK/WPA2-PSK** radio button and choose TKIP encryption, you will find a notice in red as shown in Figure 5-28.

Be sure to click the **Save** button to save your settings on this page.

5.6.3 Wireless MAC Filtering

Choose menu "**Wireless→MAC Filtering**", you can control the wireless access by configuring the Wireless MAC Address Filtering function, shown in Figure 5-6.

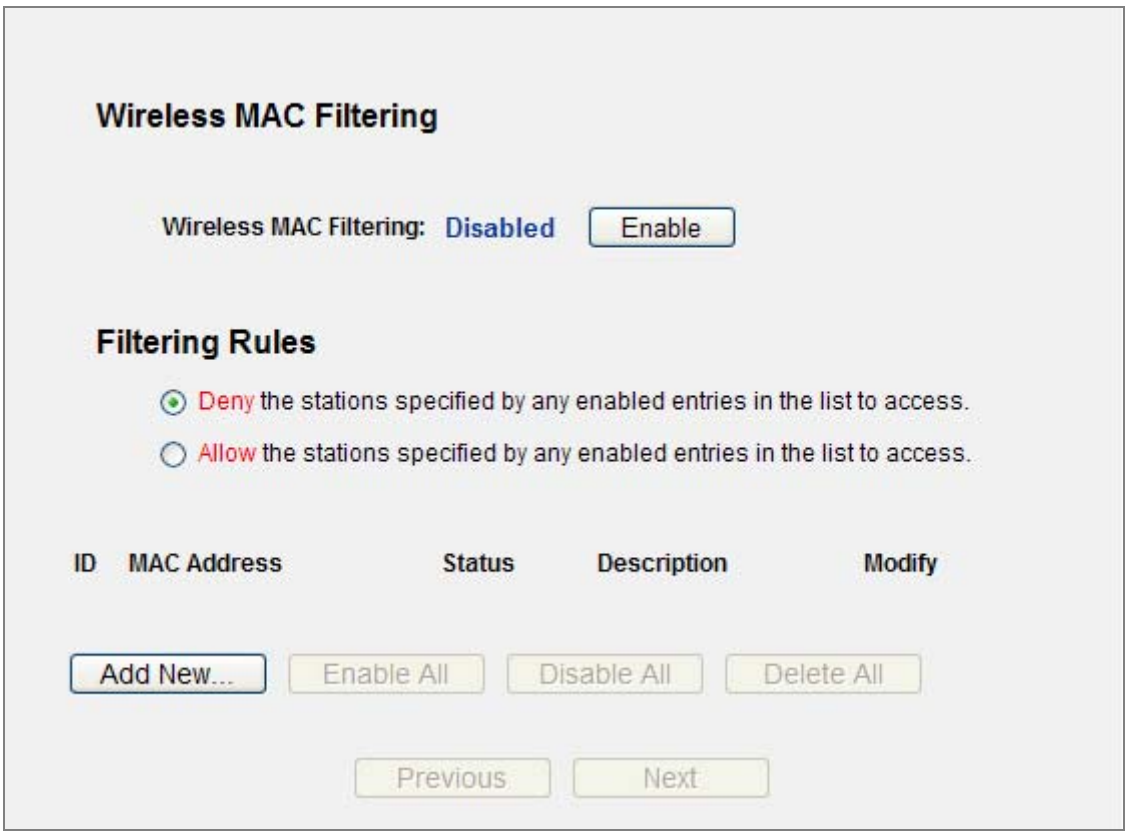


Figure 5-6 Wireless MAC address Filtering

To filter wireless users by MAC Address, click **Enable**. The default setting is **Disable**.

Object	Description
MAC Address	The wireless station's MAC address that you want to filter.
Status	The status of this entry either **Enabled** or **Disabled**.
Description	A simple description of the wireless station.

Table 5-20

To Add a Wireless MAC Address filtering entry, click the **Add New…** button. The "**Add or Modify Wireless MAC Address Filtering entry"** page will appear, shown in Figure 5-7:

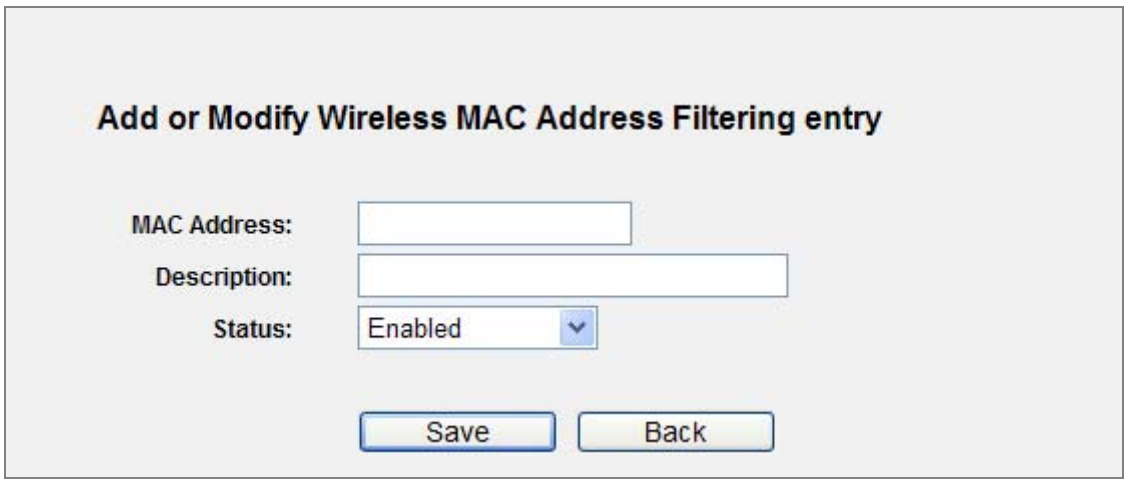


Figure 5-7 Add or Modify Wireless MAC Address Filtering entry

To add or modify a MAC Address Filtering entry, follow these instructions:

Step 1. Enter the appropriate MAC Address into the **MAC Address** field. The format of the MAC Address is XX-XX-XX-XX-XX-XX (X is any hexadecimal digit). For example: 00-30-4F-11-22-33.

Step 2. Enter a simple description of the wireless station in the **Description** field. For example: Wireless station A.

Step 3. **Status -** Select **Enabled** or **Disabled** for this entry on the **Status** pull-down list.

Step 4. Click the **Save** button to save this entry.

To modify or delete an existing entry:

Step 1. Click the **Modify** in the entry you want to modify. If you want to delete the entry, click the **Delete**.

Step 2. Modify the information.

Step 3. Click the **Save** button.

Click the **Enable All** button to make all entries enabled

Click the **Disabled All** button to make all entries disabled.

Click the **Delete All** button to delete all entries

Click the **Next** button to go to the next page

Click the **Previous** button to return to the previous page.

For example: If you desire that the wireless station A with MAC address 00-30-4F-11-22-33 and the wireless station B with MAC address 00-30-4F-1A-2B-3C are able to access the Router, but all the other wireless stations cannot access the Router, you can configure the **Wireless MAC Address Filtering** list by following these steps:

Step 1. Click the **Enable** button to enable this function.

Step 2. Select the radio button: **Deny the stations not specified by any enabled entries in the list to access** for **Filtering Rules.**

Step 3. Delete all or disable all entries if there are any entries already.

Step 4. Click the **Add New...** button and enter the MAC address 00-30-4F-11-22-33 /00-30-4F-1A-2B-3C in the **MAC Address** field, then enter wireless station A/B in the **Description** field, while select **Enabled** in the **Status** pull-down list. Finally, click the **Save** and the **Back** button.

The filtering rules that configured should be similar to the following list:

Figure 5-31

5.6.4 Wireless Advanced

Choose menu "**Wireless→Wireless Advanced**", you can configure the advanced settings of your wireless network.

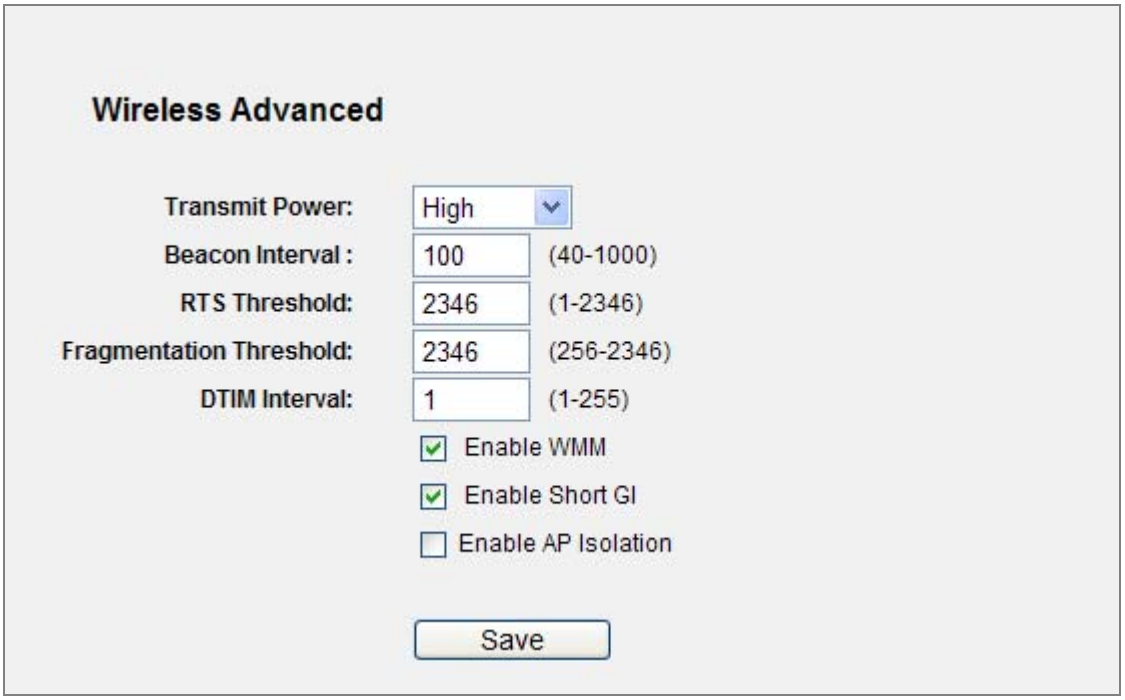


Figure 5-8 Wireless Advanced

The page includes the following fields:

Object	Description
Transmit Power	Here you can specify the transmit power of Router. You can select High, Middle or Low which you would like. High is the default setting and is recommended.
Beacon Interval	Enter a value between 20-1000 milliseconds for Beacon Interval here. The beacons are the packets sent by the router to synchronize a wireless network. Beacon Interval value determines the time interval of the beacons. The default value is 100.
RTS Threshold	Here you can specify the RTS (Request to Send) Threshold. If the packet is larger than the specified RTS Threshold size, the router will send RTS frames to a particular receiving station and negotiate the sending of a data frame. The default value is 2346.
Fragmentation Threshold	This value is the maximum size determining whether packets will be fragmented. Setting the Fragmentation Threshold too low may result in poor network performance since excessive packets. 2346 is the default

	setting and is recommended.
DTIM Interval	This value determines the interval of the Delivery Traffic Indication Message (DTIM). A DTIM field is a countdown field informing clients of the next window for listening to broadcast and multicast messages. When the Router has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. You can specify the value between 1-255 Beacon Intervals. The default value is 1, which indicates the DTIM Interval is the same as Beacon Interval.
Enable WMM	**WMM** function can guarantee the packets with high- priority messages being transmitted preferentially. It is strongly recommended enabled.
Enable Short GI	This function is recommended for it will increase the data capacity by reducing the guard interval time.
Enabled AP Isolation	This function can isolate wireless stations on your network from each other. Wireless devices will be able to communicate with the Router but not with each other. To use this function, check this box. AP Isolation is disabled by default.

Table 5-21

If you are not familiar with the setting items in this page, it's strongly recommended to keep the provided default values; otherwise it may result in lower wireless network performance.

5.6.5 Wireless Statistics

Choose menu "**Wireless→Wireless Statistics**", you can see the MAC Address, Current Status, Received Packets and Sent Packets for each connected wireless station.

Figure 5-9 The Router attached wireless stations

The page includes the following fields:

Object	Description
MAC Address	The connected wireless station's MAC address
Current Status	The connected wireless station's running status, one of **STA-AUTH / STA-ASSOC / STA-JOINED / WPA / WPA-PSK / WPA2 / WPA2-PSK / AP-UP / AP-DOWN / Disconnected**
Received Packets	Packets received by the station
Sent Packets	Packets sent by the station

Table 5-22

You cannot change any of the values on this page. To update this page and to show the current connected wireless stations, click on the **Refresh** button.

If the numbers of connected wireless stations go beyond one page, click the **Next** button to go to the next page and click the **Previous** button to return the previous page.

Note

This page will be refreshed automatically every 5 seconds.

5.7 DHCP

There are three submenus under the DHCP menu (shown in Figure 5-10): **DHCP Settings**, **DHCP Clients List** and **Address Reservation.** Click any of them, and you will be able to configure the corresponding function.

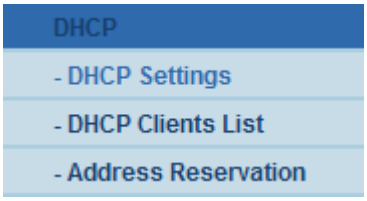


Figure 5-10 The DHCP menu

5.7.1 DHCP Settings

Choose menu "**DHCP→DHCP Settings**", you can configure the DHCP Server on the page (shown in Figure 5-11).The Router is set up by default as a DHCP (Dynamic Host Configuration Protocol) server, which provides the TCP/IP configuration for all the PC(s) that are connected to the Router on the LAN.

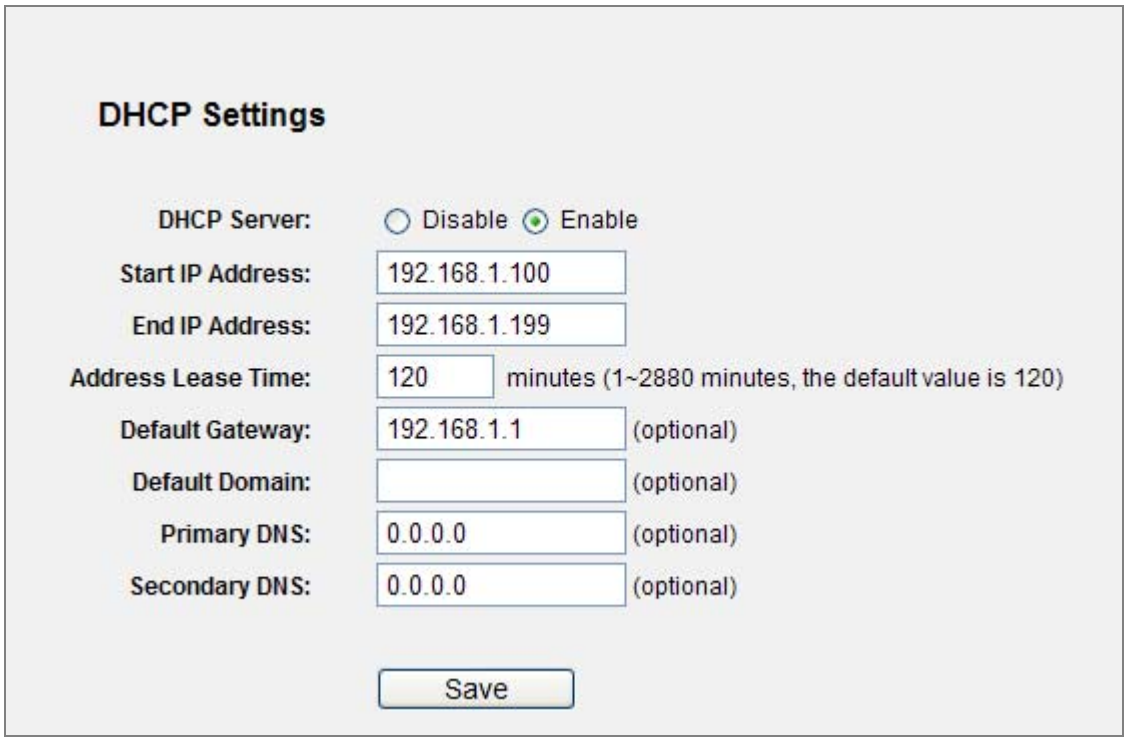


Figure 5-11 DHCP Settings

The page includes the following fields:

Object	Description
DHCP Server	**Enable** or **Disable** the DHCP server. If you disable the Server, you must have another DHCP server within your network or else you must

	configure the computer manually.
Start IP Address	Specify an IP address for the DHCP Server to start with when assigning IP addresses. 192.168.1.100 is the default start address.
End IP Address	Specify an IP address for the DHCP Server to end with when assigning IP addresses. 192.168.1.199 is the default end address.
Address Lease Time	The **Address Lease Time** is the amount of time a network user will be allowed connection to the Router with their current dynamic IP Address. Enter the amount of time in minutes and the user will be "leased" this dynamic IP Address. After the time is up, the user will be automatically assigned a new dynamic IP address. The range of the time is 1 ~ 2880 minutes. The default value is 120 minutes.
Default Gateway	(Optional.) Suggest to input the IP address of the LAN port of the Router, default value is 192.168.1.1
Default Domain	(Optional.) Input the domain name of your network.
Primary DNS	(Optional.) Input the DNS IP address provided by your ISP. Or consult your ISP.
Secondary DNS	(Optional.) Input the IP address of another DNS server if your ISP provides two DNS servers.

Table 5-23

To use the DHCP server function of the Router, you must configure all computers on the LAN as "Obtain an IP Address automatically" mode.

5.7.2 DHCP Clients List

Choose menu "**DHCP→DHCP Clients List**", you can view the information about the clients attached to the Router in the next screen (shown in Figure 5-12).

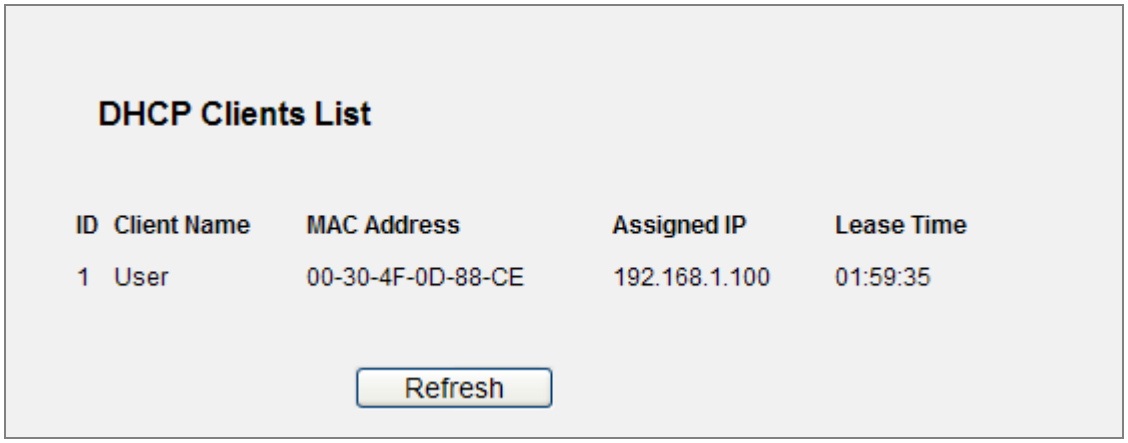


Figure 5-12 DHCP Clients List

The page includes the following fields:

Object	Description
ID	The index of the DHCP Client
Client Name	The name of the DHCP client
MAC Address	The MAC address of the DHCP client
Assigned IP	The IP address that the Router has allocated to the DHCP client.
Lease Time	The time of the DHCP client leased. After the dynamic IP address has expired, a new dynamic IP address will be automatically assigned to the user.

Table 5-24

You cannot change any of the values on this page. To update this page and to show the current attached devices, click the **Refresh** button.

5.7.3 Address Reservation

Choose menu "**DHCP→Address Reservation**", you can view and add a reserved addresses for clients via the next screen (shown in Figure 5-13).When you specify a reserved IP address for a PC on the LAN, that PC will always receive the same IP address each time when it accesses the DHCP server. Reserved IP addresses should be assigned to the servers that require permanent IP settings.

Figure 5-13 Address Reservation

The page includes the following fields:

Object	Description
MAC Address	The MAC address of the PC for which you want to reserve IP address.
Assigned IP Address	The IP address of the Router reserved.
Status	The status of this entry either **Enabled** or **Disabled**.

Table 5-25

To Reserve IP addresses:

Step 1. Click the **Add New …** button.

Step 2. Enter the MAC address (in XX-XX-XX-XX-XX-XX format.) and IP address in dotted-decimal notation of the computer you wish to add.

Step 3. Click the **Save** button when finished.

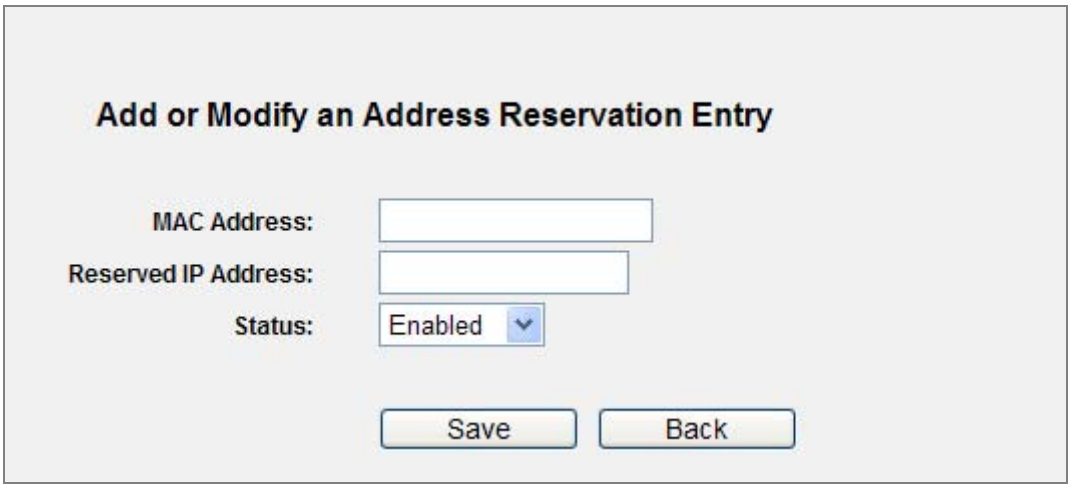


Figure 5-14 Add or Modify an Address Reservation Entry

To modify or delete an existing entry:

Step 1. Click the **Modify** in the entry you want to modify. If you want to delete the entry, click the **Delete**.

Step 2. Modify the information.

Step 3. Click the **Save** button.

Click the **Enable/ Disabled All** button to make all entries enabled/disabled

Click the **Delete All** button to delete all entries

Click the **Next** button to go to the next page and Click the **Previous** button to return the previous page.

5.8 Forwarding

There are four submenus under the Forwarding menu (shown in Figure 5-15): **Virtual Servers**, **Port Triggering**, **DMZ** and **UPnP**. Click any of them, and you will be able to configure the corresponding function.

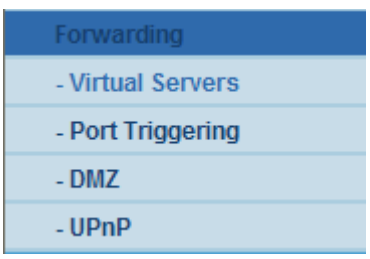


Figure 5-15 The Forwarding menu

5.8.1 Virtual Servers

Choose menu "**Forwarding→Virtual Servers**", you can view and add virtual servers in the next screen (shown in Figure 5-16). Virtual servers can be used for setting up public services on your LAN, such as DNS, Email and FTP. A virtual server is defined as a service port, and all requests from the Internet to this service port will be redirected to the computer specified by the server IP. Any PC that was used for a virtual server must have a static or reserved IP Address because its IP Address may be changed when using the DHCP function.

Figure 5-16 Virtual Servers

The page includes the following fields:

Object	Description
Service Port	The numbers of External Ports. You can type a service port or a range of service ports (in XXX – YYY format, XXX is the start port number, YYY is the end port number).
IP Address	The IP Address of the PC providing the service application.
Protocol	The protocol used for this application, either **TCP**, **UDP**, or **All** (all protocols supported by the Router).
Status	The status of this entry either **Enabled** or **Disabled**.

Table 5-26

To setup a virtual server entry:

Step 1. Click the **Add New…** button.

Step 2. Select the service you want to use from the Common Service Port list. If the **Common Service Port** list does not have the service that you want to use, type the number of the service port or service port range in the **Service Port** box.

Step 3. Type the IP Address of the computer in the **IP Address** box.

Step 4. Select the protocol used for this application, either **TCP** or **UDP**, or **All**.

Step 5. Select the **Enable** check box to enable the virtual server.

Step 6. Click the **Save** button.

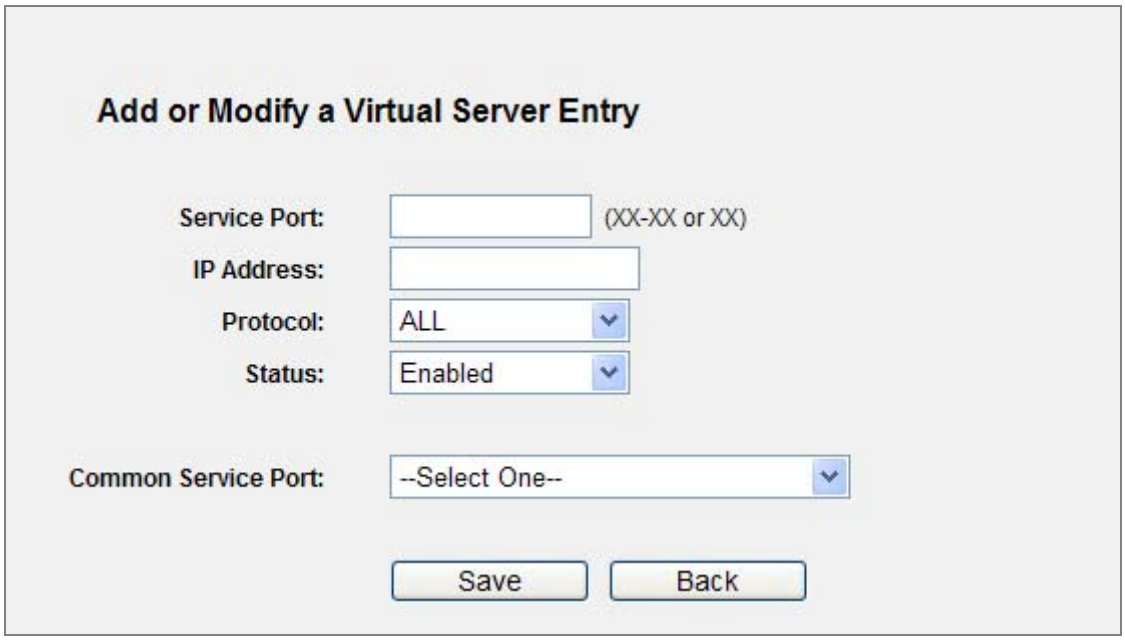


Figure 5-17 Add or Modify a Virtual Server Entry

Note

If your computer or server has more than one type of available service, please select another service, and enter the same IP Address for that computer or server.

To modify or delete an existing entry:

Step 1. Click the **Modify** in the entry you want to modify. If you want to delete the entry, click the **Delete**.

Step 2. Modify the information.

Step 3. Click the **Save** button.

Click the **Enable/ Disabled All** button to make all entries enabled/ disabled.

Click the **Delete All** button to delete all entries.

Click the **Next** button to go to the next page and click the **Previous** button to return the previous page.

If you set the service port of the virtual server as 80, you must set the Web management port on System Tools –> Remote Management page to be any other value except 80 such as 8080. Otherwise there will be a conflict to disable the virtual server.

5.8.2 Port Triggering

Choose menu "**Forwarding→Port Triggering**", you can view and add port triggering in the next screen (shown in Figure 5-18). Some applications require multiple connections, like Internet games, video conferencing, Internet calling and so on. These applications cannot work with a pure NAT Router. Port Triggering is used for some of these applications that can work with an NAT Router.

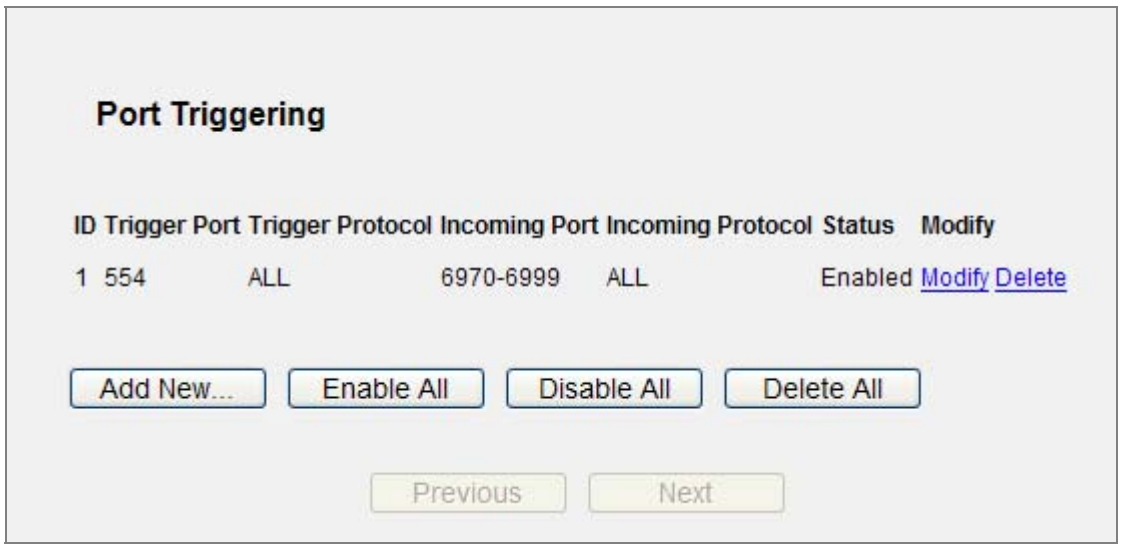


Figure 5-18 Port Triggering

Once the Router is configured, the operation is as follows:

1. A local host makes an outgoing connection using a destination port number defined in the Trigger Port field.
2. The Router records this connection, opens the incoming port or ports associated with this entry in the Port Triggering table, and associates them with the local host.
3. When necessary the external host will be able to connect to the local host using one of the ports defined in the **Incoming Ports** field.

The page includes the following fields:

Object	Description
Trigger Port	The port for outgoing traffic. An outgoing connection using this port will "Trigger" this rule.
Trigger Protocol	The protocol used for Trigger Ports, either **TCP**, **UDP**, or **All** (all protocols supported by the Router).
Incoming Ports Range	The port or port range used by the remote system when it responds to the outgoing request. A response using one of these ports will be forwarded to the PC that triggered this rule. You can input at most 5 groups of ports (or port section). Every group of ports must be set apart with ",". For example, 2000-2038, 2050-2051, 2085, 3010-3030.

Incoming Protocol	The protocol used for Incoming Ports Range, either **TCP** or **UDP,** or **ALL** (all protocols supported by the Router).
Status	The status of this entry either **Enabled** or **Disabled**.

Table 5-27

To add a new rule, follow the steps below.

Step 1. Click the **Add New…** button, the next screen will pop up as shown in Figure 5-19.

Step 2. Select a common application from the **Common Applications** drop-down list, then the **Trigger Port** field and the **Incoming Ports** field will be automatically filled. If the **Common Applications** do not have the application you need, enter the **Trigger Port** and the **Incoming Ports** manually.

Step 3. Select the protocol used for Trigger Port from the **Trigger Protocol** drop-down list, either **TCP**, **UDP**, or **All**.

Step 4. Select the protocol used for Incoming Ports from the **Incoming Protocol** drop-down list, either **TCP** or **UDP**, or **All.**

Step 5. Select **Enable** in **Status** field.

Step 6. Click the **Save** button to save the new rule.

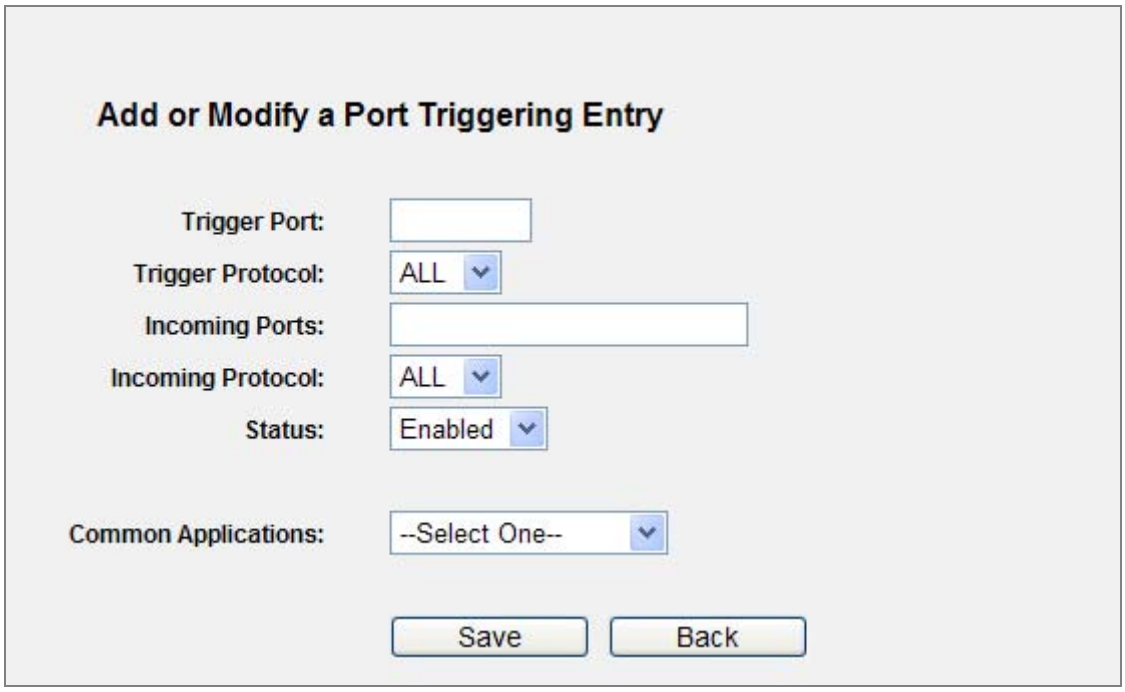


Figure 5-19 Add or Modify a Triggering Entry

To modify or delete an existing entry:

1. Click the **Modify** in the entry you want to modify. If you want to delete the entry, click the **Delete**.
2. Modify the information.
3. Click the **Save** button.

Click the **Enable All** button to make all entries enabled

Click the **Disabled All** button to make all entries disabled.

Click the **Delete All** button to delete all entries

1) When the trigger connection is released, the according opening ports will be closed.
2) Each rule allowed to be used only by one host on LAN synchronously. The trigger connection of other hosts on LAN will be refused.
3) Incoming Port Range cannot overlap each other.

5.8.3 DMZ

Choose menu "**Forwarding→DMZ**", you can view and configure DMZ host in the screen (shown in Figure 5-20).The DMZ host feature allows one local host to be exposed to the Internet for a special-purpose service such as Internet gaming or videoconferencing. DMZ host forwards all the ports at the same time. Any PC whose port is being forwarded must have its DHCP client function disabled and should have a new static IP Address assigned to it because its IP Address may be changed when using the DHCP function.

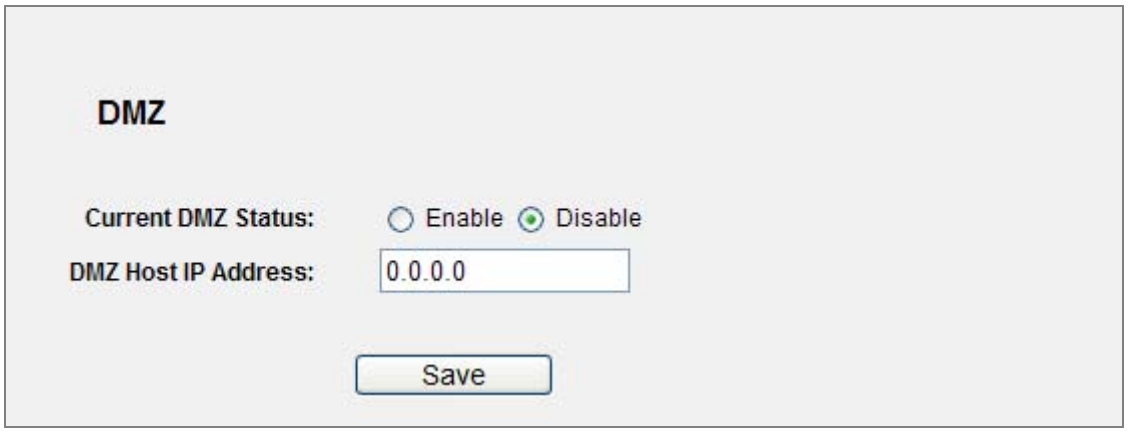


Figure 5-20 DMZ

To assign a computer or server to be a DMZ server:

Step 1. Click the **Enable** radio button

Step 2. Enter the local host IP Address in the **DMZ Host IP Address** field

Step 3. Click the **Save** button.

Note

After you set the DMZ host, the firewall related to the host will not work.

5.8.4 UPnP

Choose menu "**Forwarding→UPnP**", you can view the information about **UPnP**(Universal Plug and Play) in the screen (shown in Figure 5-21).The UPnP feature allows the devices, such as Internet computers, to access the local host resources or devices as needed. UPnP devices can be automatically discovered by the UPnP service application on the LAN.

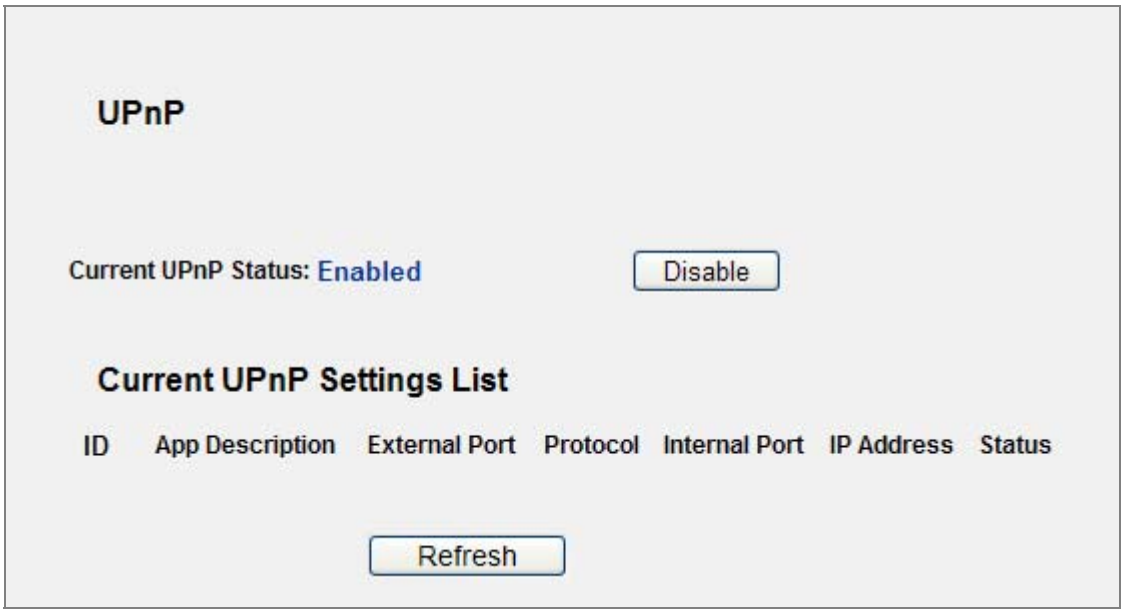


Figure 5-21 UPnP Setting

The page includes the following fields:

Object	Description
Current UPnP Status	UPnP can be enabled or disabled by clicking the **Enable** or **Disable** button. As allowing this may present a risk to security, this feature is enabled by default.
Current UPnP Settings List	This table displays the current UPnP information. • **App Description -**The description provided by the application in the UPnP request • **External Port -** External port, which the router opened for the

	application. • **Protocol -** Shows which type of protocol is opened. • **Internal Port -** Internal port, which the router opened for local host. • **IP Address -** The UPnP device that is currently accessing the router. • **Status -** The port's status displayed here. "Enabled" means that port is still active. Otherwise, the port is inactive.

Table 5-28

Click **Refresh** to update the Current UPnP Settings List.

5.9 Security

There are four submenus under the Security menu as shown in Figure 5-22: **Basic Security**, **Advanced Security**, **Local Management** and **Remote Management.** Click any of them, and you will be able to configure the corresponding function.

Figure 5-22 The Security menu

5.9.1 Basic Security

Choose menu "**Security → Basic Security**", you can configure the basic security in the next screen.

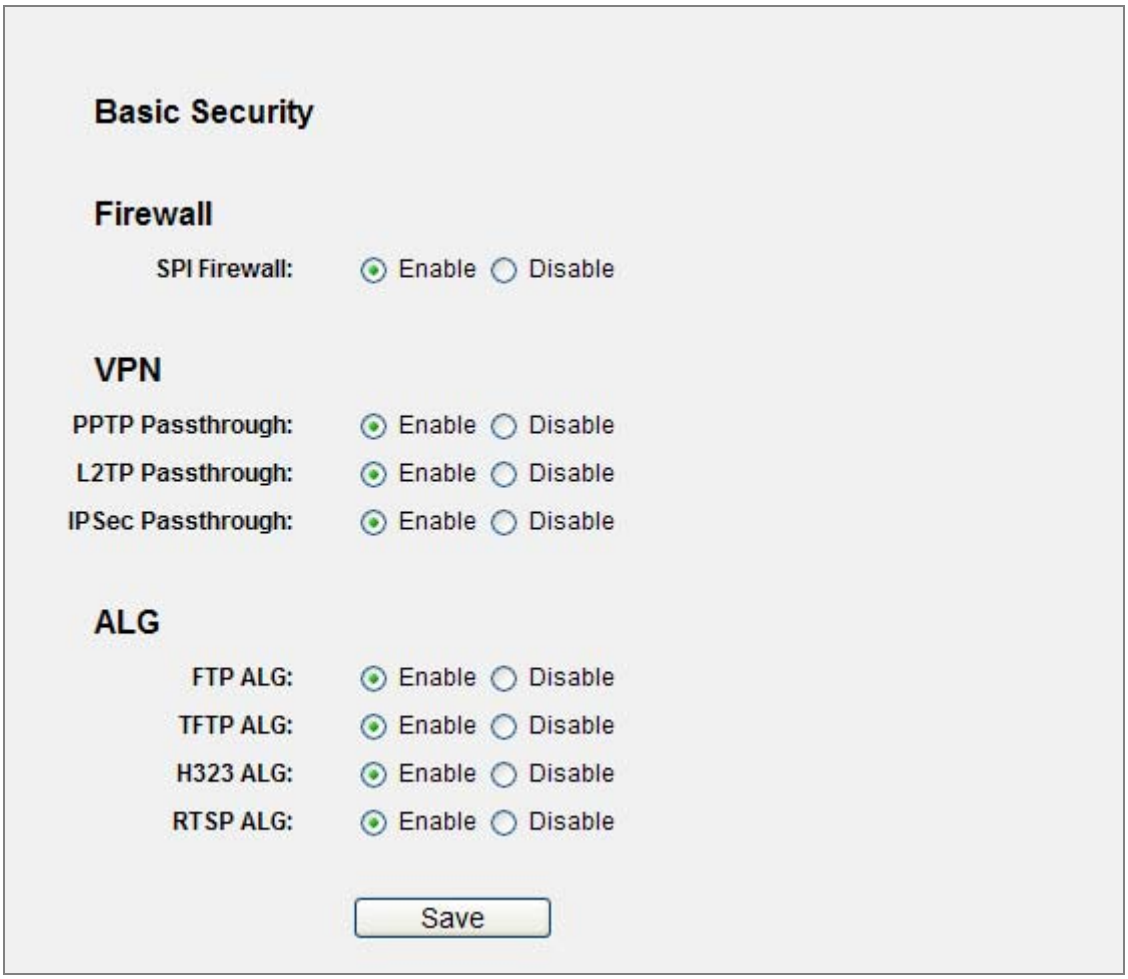


Figure 5-23 Basic Security

The page includes the following fields:

Object	Description
Firewall	A firewall protects your network from the outside world. Here you can enable or disable the Router's firewall. • **SPI Firewall -** SPI (Stateful Packet Inspection, also known as dynamic packet filtering) helps to prevent cyber attacks by tracking more state per session. It validates that the traffic passing through the session conforms to the protocol. SPI Firewall is enabled by factory default. If you want all the computers on the LAN exposed to the outside world, you can disable it.
VPN	VPN Passthrough must be enabled if you want to allow VPN tunnels using IPSec, PPTP, or L2TP protocols to pass through the Router's firewall.

	• **PPTP Passthrough -** Point-to-Point Tunneling Protocol (PPTP) allows the Point-to-Point Protocol (PPP) to be tunneled through an IP network. To allow PPTP tunnels to pass through the Router, keep the default, **Enabled**. • **L2TP Passthrough -** Layer 2 Tunneling Protocol (L2TP) is the method used to enable Point-to-Point sessions via the Internet on the Layer 2 level. To allow L2TP tunnels to pass through the Router, keep the default, **Enabled**. • **IPSec Passthrough -** Internet Protocol Security (IPSec) is a suite of protocols for ensuring private, secure communications over Internet Protocol (IP) networks, through the use of cryptographic security services. To allow IPSec tunnels to pass through the Router, keep the default, **Enabled**.
ALG	It is recommended to enable Application Layer Gateway (ALG) because ALG allows customized Network Address Translation (NAT) traversal filters to be plugged into the gateway to support address and port translation for certain application layer "control/data" protocols such as FTP, TFTP, H323 etc. • **FTP ALG -** To allow FTP clients and servers to transfer data across NAT, keep the default **Enable.** • **TFTP ALG -** To allow TFTP clients and servers to transfer data across NAT, keep the default **Enable.** • **H323 ALG -** To allow Microsoft NetMeeting clients to communicate across NAT, keep the default **Enable**.

Table 5-29

Click the **Save** button to save your settings.

5.9.2 Advanced Security

Choose menu "**Security → Advanced Security**", you can protect the Router from being attacked by TCP-SYN Flood, UDP Flood and ICMP-Flood in the screen as shown in Figure 5-24.

Figure 5-24 Advanced Security

The page includes the following fields:

Object	Description
Packets Statistics Interval (5~60)	The default value is 10. Select a value between 5 and 60 seconds from the drop-down list. The Packets Statistics Interval value indicates the time section of the packets statistics. The result of the statistics is used for analysis by SYN Flood, UDP Flood and ICMP-Flood.
DoS Protection	Denial of Service protection. Check the Enable or Disable button to enable or disable the DoS protection function. Only when it is enabled, will the flood filters be enabled.
Enable ICMP-FLOOD Attack Filtering	Enable or Disable the ICMP-FLOOD Attack Filtering.
ICMP-FLOOD Packets	The default value is 50. Enter a value between 5 ~ 3600. When the current ICMP-FLOOD Packets number is beyond the set value, the

Threshold (5~3600)	Router will startup the blocking function immediately.
Enable UDP-FLOOD Filtering	Enable or Disable the UDP-FLOOD Filtering.
UDP-FLOOD Packets Threshold (5~3600)	The default value is 500. Enter a value between 5 ~ 3600. When the current UPD-FLOOD Packets number is beyond the set value, the Router will startup the blocking function immediately.
Enable TCP-SYN-FLOOD Attack Filtering	Enable or Disable the TCP-SYN-FLOOD Attack Filtering.
TCP-SYN-FLOOD Packets Threshold (5~3600)	The default value is 50. Enter a value between 5 ~ 3600. When the current TCP-SYN-FLOOD Packets numbers is beyond the set value, the Router will startup the blocking function immediately.
Ignore Ping Packet From WAN Port	Enable or Disable Ignore Ping Packet From WAN Port. The default setting is disabled. If enabled, the ping packet from the Internet cannot access the Router.
Forbid Ping Packet From LAN Port	Enable or Disable Forbid Ping Packet From LAN Port. The default setting is disabled. If enabled, the ping packet from LAN cannot access the Router. This function can be used to defend against some viruses.

Table 5-30

Click the **Save** button to save the settings.

Click the **Blocked DoS Host List** button to display the DoS host table by blocking.

DoS Protection will take effect only when the **Traffic Statistics** in "**System Tool → Traffic Statistics**" is enabled.

5.9.3 Local Management

Choose menu "**Security → Local Management**", you can configure the management rule in the screen as shown in Figure 5-25. The management feature allows you to deny computers in LAN from accessing the Router.

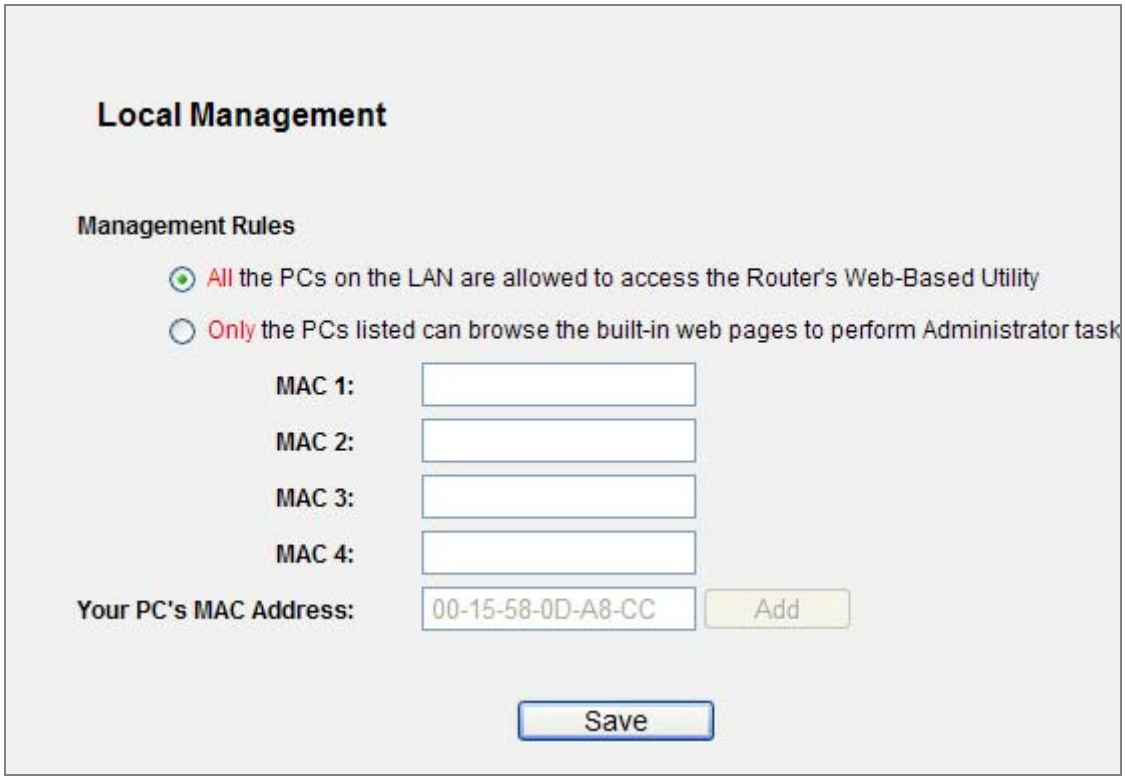


Figure 5-25 Local Management

By default, the radio button "**All the PCs on the LAN are allowed to access the Router's Web-Based Utility**" is checked. If you want to allow PCs with specific MAC Addresses to access the Setup page of the Router's Web-Based Utility locally from inside the network, check the radio button "**Only the PCs listed can browse the built-in web pages to perform Administrator tasks**", and then enter each MAC Address in a separate field. The format for the MAC Address is XX-XX-XX-XX-XX-XX (X is any hexadecimal digit). Only the PCs with MAC address listed can use the password to browse the built-in web pages to perform Administrator tasks while all the others will be blocked.

After click the **Add** button, your PC's MAC Address will be placed in the list above.

Click the **Save** button to save your settings.

Note

If your PC is blocked but you want to access the Router again, use a pin to press and hold the **Reset Button** (hole) on the back panel for about 5 seconds to reset the Router's factory defaults on the Router's Web-Based Utility.

5.9.4 Remote Management

Choose menu "**Security → Remote Management**", you can configure the Remote Management function in the screen as shown in Figure 5-26. This feature allows you to manage your Router from a remote location via the Internet.

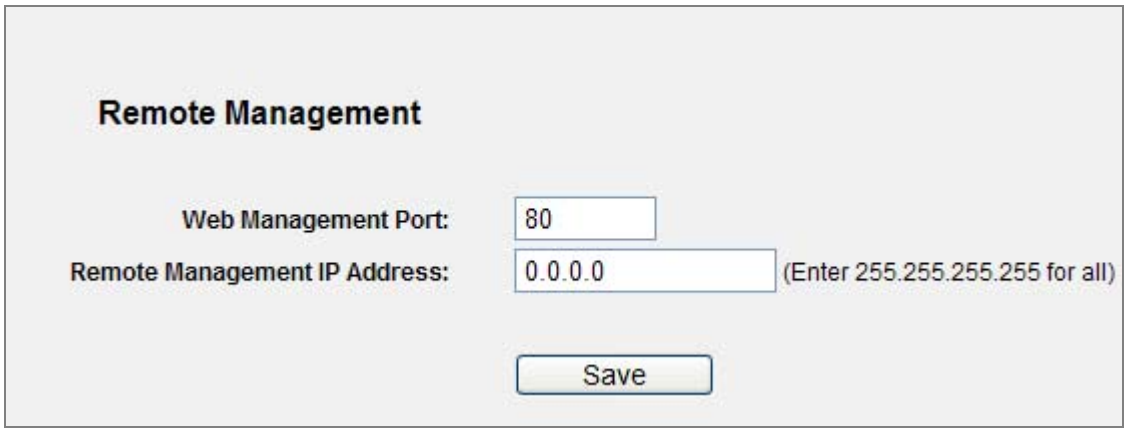


Figure 5-26 Remote Management

The page includes the following fields:

Object	Description
Web Management Port	Web browser access normally uses the standard HTTP service port 80. This Router's default remote management web port number is 80. For greater security, you can change the remote management web port to a custom port by entering that number in the box provided. Choose a number between 1 and 65534 but do not use the number of any common service port.
Remote Management IP Address	This is the current address you will use when accessing your Router from the Internet. This function is disabled when the IP address is set to the default value of 0.0.0.0. To enable this function change 0.0.0.0 to a valid IP address. If set to 255.255.255.255, then all the hosts can access the Router from internet.

Table 5-31

Note

To access the Router, you should type your Router's WAN IP address into your browser's address (in IE) or Location (in Navigator) box, followed by a colon and the custom port number. For example, if your Router's WAN address is 210.66.155.14, and the port number used is 8080, please enter http://210.66.155.14:8080 in your browser. Later, you may be asked for the Router's password. After successfully entering the username and password, you will be able to access the Router's web-based utility.

Be sure to change the Router's default password to a very secure password.

5.10 Parental Control

Choose menu "**Parental Control**", and you can configure the parental control in the screen as shown in Figure 5-27. The Parental Control function can be used to control the internet activities of the child, limit the child to access certain websites and restrict the time of surfing.

Figure 5-27 Parental Control Settings

The page includes the following fields:

Object	Description
Parental Control	Check **Enable** if you want this function to take effect, otherwise check **Disable**.
MAC Address of Parental PC	In this field, enter the MAC address of the controlling PC, or you can make use of the **Copy To Above** button below.
MAC Address of Your PC	This field displays the MAC address of the PC that is managing this Router. If the MAC Address of your adapter is registered, you can click the Copy To Above button to fill this address to the MAC Address of Parental PC field above.
Website Description	Description of the allowed website for the PC controlled.
Schedule	The time period allowed for the PC controlled to access the Internet.

	For detailed information, please go to "**Access Control → Schedule**".
Modify	Here you can edit or delete an existing entry.

Table 5-32

To add a new entry, please follow the steps below.

Step 1. Click the **Add New…** button and the next screen will pop-up as shown in Figure 5-28.

Step 2. Enter the MAC address of the PC (e.g. 00-11-22-33-44-AA) you'd like to control in the MAC Address of Child PC field. Or you can choose the MAC address from the All Address in Current LAN drop-down list.

Step 3. Give a description (e.g. Allow Google) for the website allowed to be accessed in the Website Description field.

Step 4. Enter the allowed domain name of the website, either the full name or the keywords (e.g. google) in the Allowed Domain Name field. Any domain name with keywords in it (www.google.com, www.google.com.tw) will be allowed.

Step 5. Select from the Effective Time drop-down list the schedule (e.g. Schedule_1) you want the entry to take effect. If there are not suitable schedules for you, click the **Schedule** in red below to go to the Advance Schedule Settings page and create the schedule you need.

Step 6. In the Status field, you can select **Enabled** or **Disabled** to enable or disable your entry.

Step 7. Click the **Save** button.

Click the **Enable All** button to enable all the rules in the list.

Click the **Disable All** button to disable all the rules in the list.

Click the **Delete All** button to delete all the entries in the table.

Click the **Next** button to go to the next page, or click the **Previous** button return to the previous page.

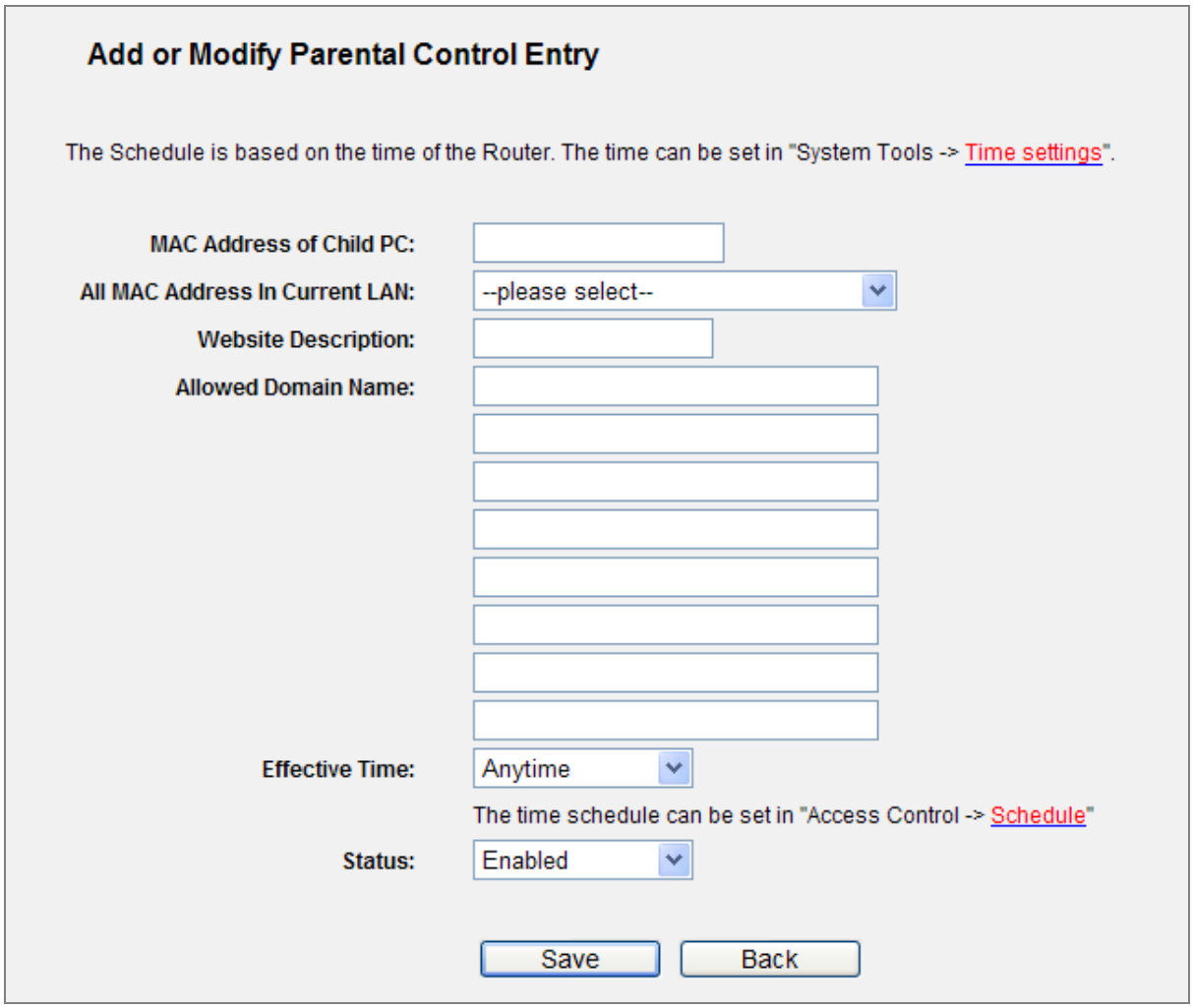


Figure 5-28 Add or Modify Parental Control Entry

For example: If you desire that the child PC with MAC address 00-11-22-33-44-AA can access www.google.com on Saturday only while the parent PC with MAC address 00-11-22-33-44-BB is without any restriction, you should follow the settings below.

Step 1. Click "**Parental Control**" menu on the left to enter the Parental Control Settings page. Check Enable and enter the MAC address 00-11-22-33-44-BB in the MAC Address of Parental PC field. Then click **Save** button.

Step 2. Click "**Access Control** → **Schedule**" on the left to enter the Schedule Settings page. Click **Add New...** button to create a new schedule with Schedule Description is Schedule_1, Day is Sat and Time is all day-24 hours. Then click **Save** button.

Step 3. Click "**Parental Control**" menu on the left to go back to the Add or Modify Parental Control Entry page:

- Click **Add New...** button.
- Enter 00-11-22-33-44-AA in the **MAC Address of Child PC** field.
- Enter "Allow Google" in the **Website Description** field.

- Enter "www.google.com" in the **Allowed Domain Name** field.
- Select "Schedule_1" you create just now from the **Effective Time** drop-down list.
- In **Status** field, select Enable.

Step 4. Click **Save** to complete the settings.

Then you will go back to the Parental Control Settings page and see the following list, as shown in Figure 5-29.

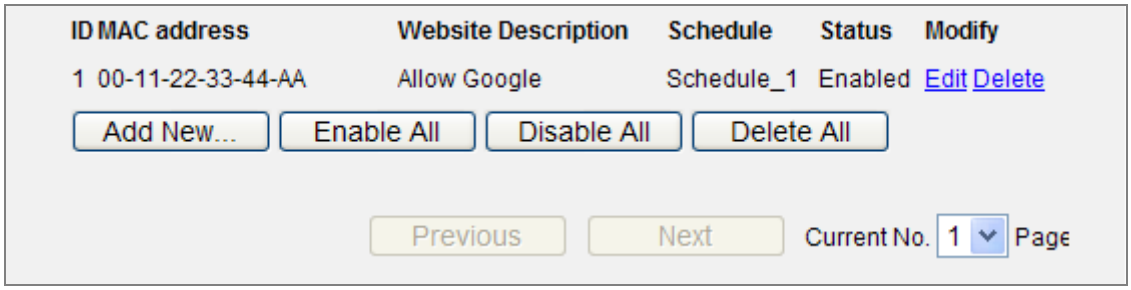


Figure 5-29 Parental Control Settings

5.11 Access Control

There are four submenus under the Access Control menu as shown in Figure 5-30: **Rule**, **Host**, **Target** and **Schedule**. Click any of them, and you will be able to configure the corresponding function.

Figure 5-30 Access Control

5.11.1 Rule

Choose menu "**Access Control** → **Rule**", you can view and set Access Control rules in the screen as shown in Figure 5-31.

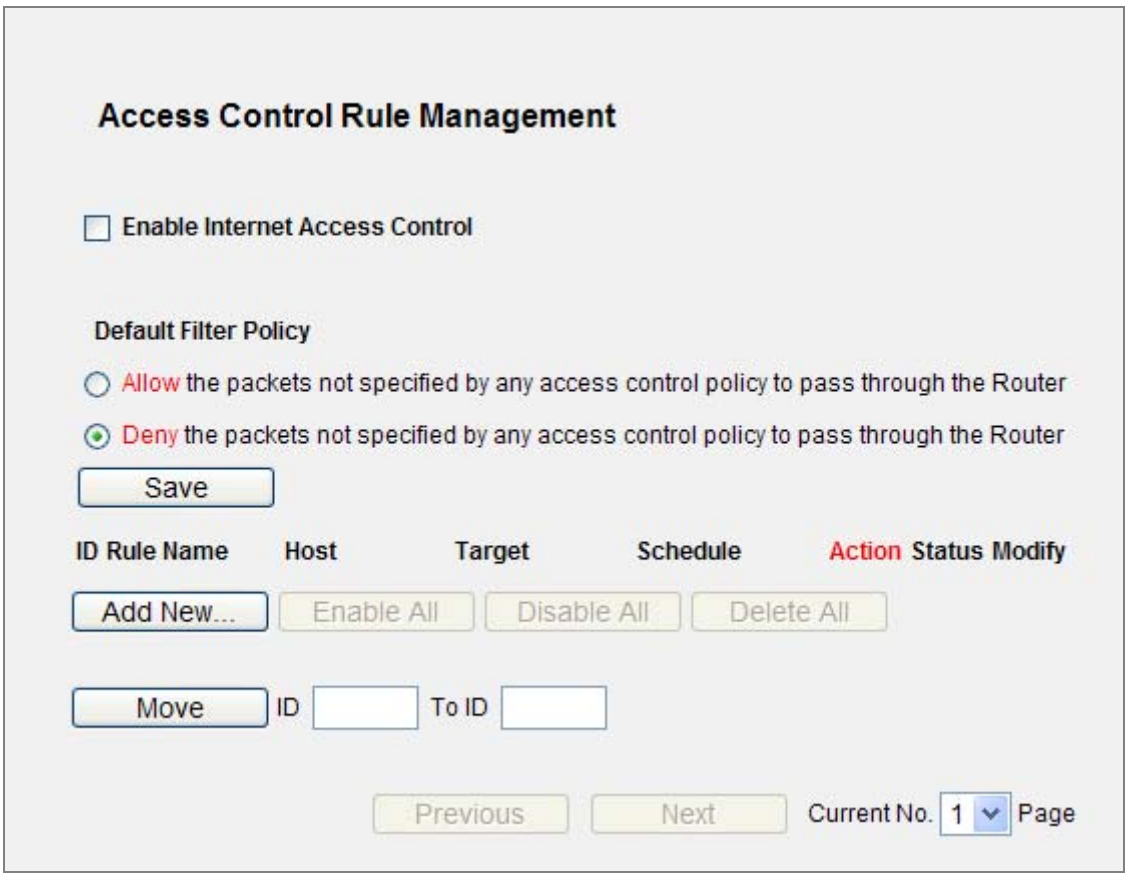


Figure 5-31 Access Control Rule Management

The page includes the following fields:

Object	Description
Enable Internet Access Control	Select the check box to enable the Internet Access Control function, so the Default Filter Policy can take effect.
Rule Name	Here displays the name of the rule and this name is unique.
Host	Here displays the host selected in the corresponding rule.
Target	Here displays the target selected in the corresponding rule.
Schedule	Here displays the schedule selected in the corresponding rule.
Action	Here displays the action the Router takes to deal with the packets. It could be **Allow** or **Deny**. **Allow** means that the Router permits the packets to go through the Router. **Deny** means that the Router rejects the packets to go through the Router.
Status	This field displays the status of the rule. **Enabled** means the rule will take effect, **Disabled** means the rule will not take effect.
Modify	Here you can edit or delete an existing rule.

Table 5-33

To add a new rule, please follow the steps below.

Step 1. Click the **Add New**… button and the next screen will pop-up as shown in Figure 5-32.

Step 2. Give a name (e.g. Rule_1) for the rule in the **Rule Name** field.

Step 3. Select a host from the Host drop-down list or choose "**Click Here To Add New Host List**".

Step 4. Select a target from the **Target** drop-sown list or choose "**Click Here To Add New Target List**".

Step 5. Select a schedule from the **Schedule** drop-down list or choose "**Click Here To Add New Schedule**".

Step 6. In the **Action** field, select **Deny** or **Allow**.

Step 7. In the **Status** field, select **Enabled** or **Disabled** to enable or disable your entry.

Step 8. Click the **Save** button.

Click the **Enable All** button to enable all the rules in the list.

Click the **Disable All** button to disable all the rules in the list.

Click the **Delete All** button to delete all the entries in the table.

You can change the entry's order as desired. Fore entries are before hind entries. Enter the ID number in the first box you want to move and another ID number in second box you want to move to, and then click the **Move** button to change the entry's order.

Click the **Next** button to go to the next page, or click the **Previous** button return to the previous page.

Figure 5-32 Add or Modify Internet Access Control Entry

For example: If you desire to allow the host with MAC address 00-11-22-33-44-AA to access **www.google.com** only from **18:00** to **20:00** on **Saturday and Sunday**, and forbid other hosts in the LAN to access the Internet, you should follow the settings below:

Step 1. Click "**Access Control → Host**" in the left to enter the Host Settings page. Add a new entry with the Host Description is Host_1 and MAC Address is 00-11-22-33-44-AA.

Step 2. Click "**Access Control → Target**" in the left to enter the Target Settings page. Add a new entry with the Target Description is Target_1 and Domain Name is www.google.com.

Step 3. Click "**Access Control → Schedule**" in the left to enter the Schedule Settings page. Add a new entry with the Schedule Description is Schedule_1, Day is Sat and Sun, Start Time is 1800 and Stop Time is 2000.

Step 4. Click "**Access Control → Rule**" in the left to return to the Access Control Rule Management page. Select "**Enable Internet Access Control**" and choose "Deny the packets not specified by any access control policy to pass through the Router".

Step 5. Click **Add New...** button to add a new rule as follows:

- In **Rule Name** field, create a name for the rule. Note that this name should be unique, for example Rule_1.

- In **Host** field, select Host_1.
- In **Target** field, select Target_1.
- In **Schedule** field, select Schedule_1.
- In **Action** field, select Allow.
- In **Status** field, select Enable.
- Click **Save** to complete the settings.

Then you will go back to the Access Control Rule Management page and see the following list.

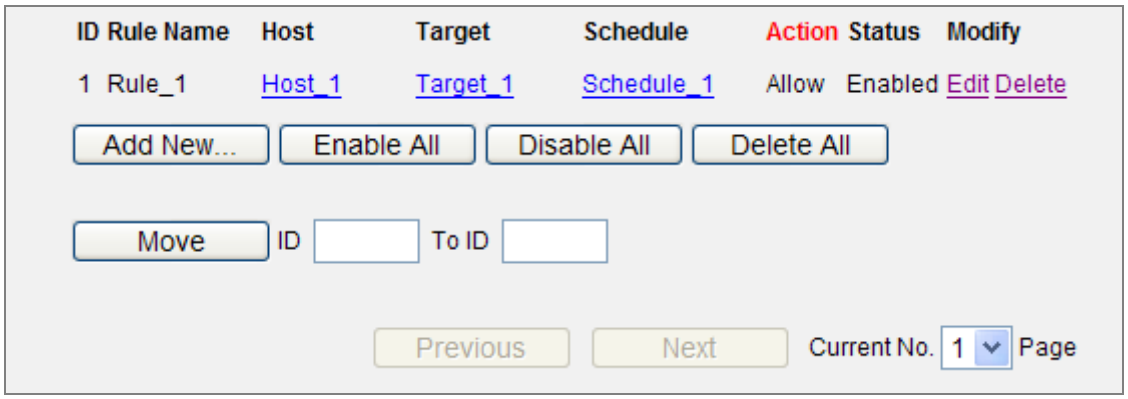


Figure 5-57

5.11.2 Host

Choose menu "**Access Control → Host**", you can view and set a Host list in the screen as shown in Figure 5-33. The host list is necessary for the Access Control Rule.

Figure 5-33 Host Settings

The page includes the following fields:

Object	Description
Host Description	Here displays the description of the host and this description is unique.
Information	Here displays the information about the host. It can be IP or MAC.
Modify	To modify or delete an existing entry.

Table 5-34

To add a new entry, please follow the steps below.

Step 1. Click the **Add New…** button.

Step 2. In the **Mode** field, select IP Address or MAC Address.

- If you select IP Address, the screen shown is Figure 5-34.
  1) In **Host Description** field, create a unique description for the host (e.g. Host_1).
  2) In **LAN IP Address** field, enter the IP address.
- If you select MAC Address, the screen shown is Figure 5-35.
  1) In **Host Description** field, create a unique description for the host (e.g. Host_1).
  2) In **MAC Address** field, enter the MAC address.

Step 3. Click the **Save** button to complete the settings.

Click the **Delete All** button to delete all the entries in the table.

Click the **Next** button to go to the next page, or click the **Previous** button return to the previous page.

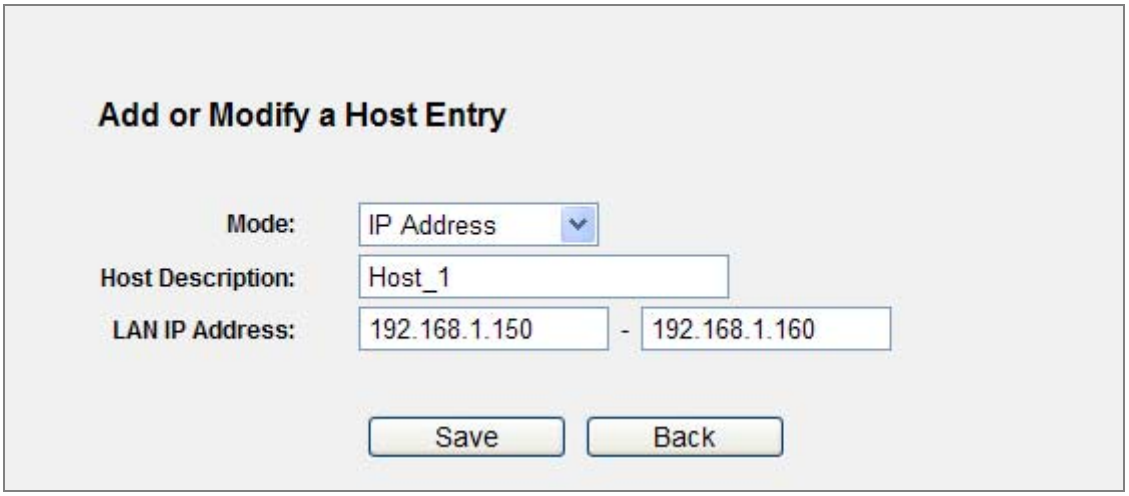


Figure 5-34 Add or Modify a Host Entry

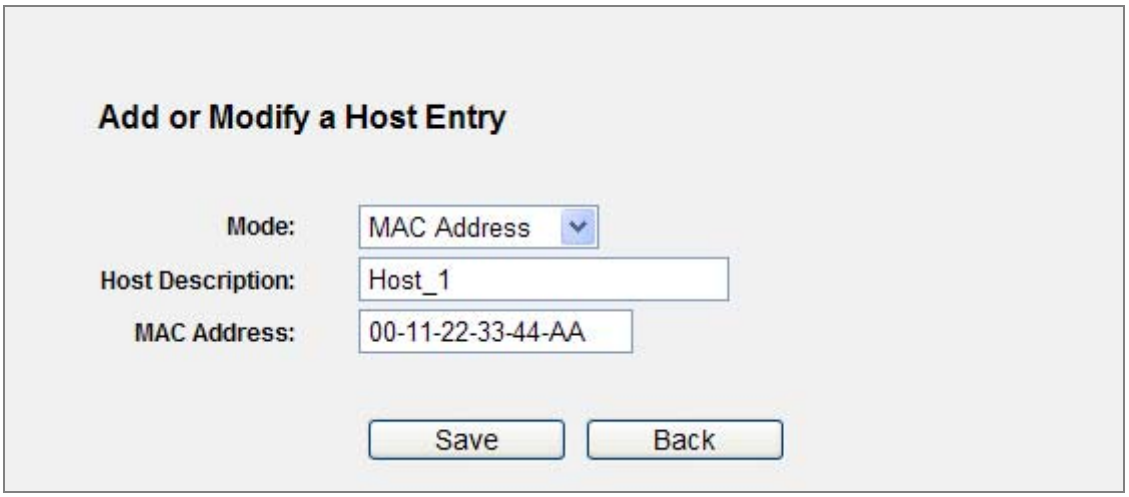


Figure 5-35 Add or Modify a Host Entry

For example: If you desire to restrict the internet activities of host with MAC address 00-11-22-33-44-AA, you should first follow the settings below:

Step 1. Click **Add New...** button in Figure 5-33 to enter the Add or Modify a Host Entry page.

Step 2. In **Mode** field, select MAC Address from the drop-down list.

Step 3. In **Host Description** field, create a **unique** description for the host (e.g. Host_1).

Step 4. In **MAC Address** field, enter 00-11-22-33-44-AA.

Step 5. Click **Save** to complete the settings.

Then you will go back to the Host Settings page and see the following list.

Figure 5-61

5.11.3 Target

Choose menu "**Access Control → Target**", you can view and set a Target list in the screen as shown in Figure 5-36. The target list is necessary for the Access Control Rule.

Figure 5-36 Target Settings

The page includes the following fields:

Object	Description
Target Description	Here displays the description about the target and this description is unique.
Information	The target can be IP address, port, or domain name.
Modify	To modify or delete an existing entry.

Table 5-35

To add a new entry, please follow the steps below.

Step 1. Click the **Add New…** button.

Step 2. In **Mode** field, select IP Address or Domain Name.

- If you select **IP Address**, the screen shown is Figure 5-37.

    1. In **Target Description** field, create a unique description for the target (e.g. Target_1).
    2. In **IP Address** field, enter the IP address of the target.
    3. Select a common service from **Common Service Port** drop-down list, so that the **Target Port** will be automatically filled. If the **Common Service Port** drop-down list doesn't have the service you want, specify the **Target Port** manually.
    4. In **Protocol** field, select TCP, UDP, ICMP or ALL.

- If you select **Domain Name**, the screen shown is Figure 5-38.

    2) In **Target Description** field, create a unique description for the target (e.g. Target_1).

    3) In **Domain Name** field, enter the domain name, either the full name or the keywords (for example google) in the blank. Any domain name with keywords in it (www.google.com, www.google.tw) will be blocked or allowed. You can enter 4 domain names.

Step 3. Click the **Save** button.

Click the **Delete All** button to delete all the entries in the table.

Click the **Next** button to go to the next page, or click the **Previous** button return to the previous page.

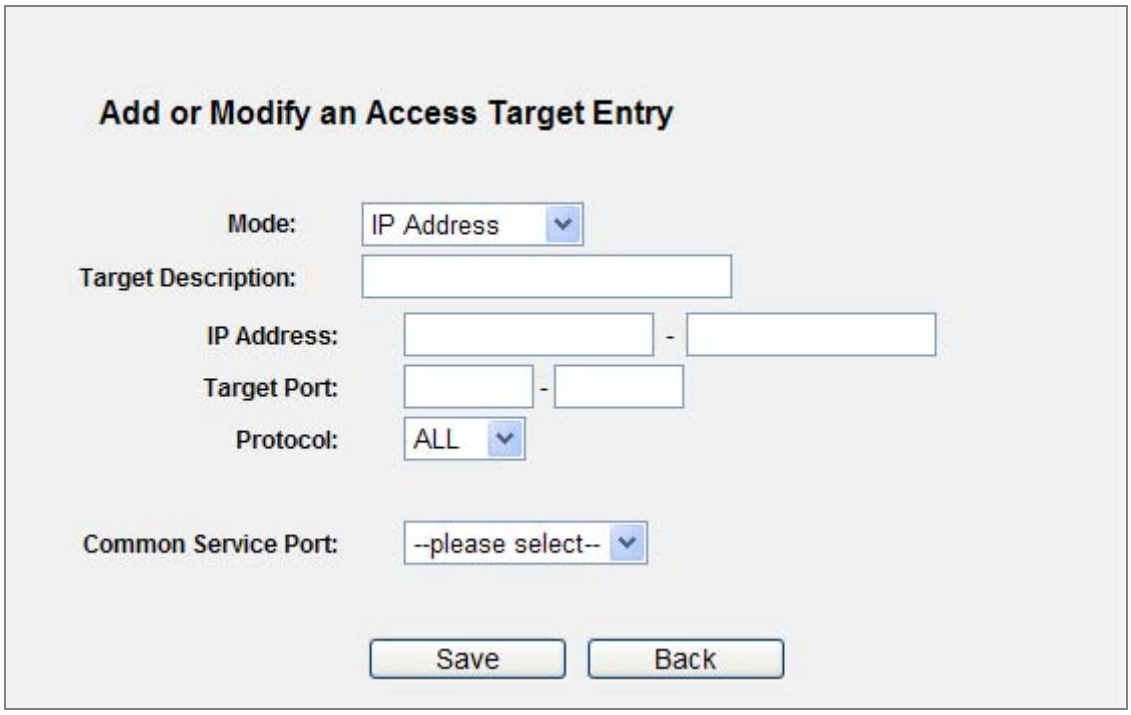


Figure 5-37 Add or Modify an Access Target Entry

Figure 5-38 Add or Modify an Access Target Entry

For example: If you desire to restrict the internet activities of host with MAC address 00-11-22-33-44-AA in the LAN to access www.google.com only, you should first follow the settings below:

Step 1. Click **Add New…** button in Figure 5-36 to enter the Add or Modify an Access Target Entry page.

Step 2. In **Mode** field, select Domain Name from the drop-down list.

Step 3. In **Target Description** field, create a unique description for the target (e.g. Target_1).

Step 4. In **Domain Name** field, enter www.google.com.

Step 5. Click **Save** to complete the settings.

Then you will go back to the Target Settings page and see the following list.

Figure 5-65

5.11.4 Schedule

Choose menu "**Access Control → Schedule**", you can view and set a Schedule list in the next screen as shown in Figure 5-39. The Schedule list is necessary for the Access Control Rule.

Figure 5-39 Schedule Settings

The page includes the following fields:

Object	Description
Schedule Description	Here displays the description of the schedule and this description is

	unique.
Day	Here displays the day(s) in a week.
Time	Here displays the time period in a day.
Modify	Here you can edit or delete an existing schedule.

Table 5-36

To add a new schedule, follow the steps below.

Step 1. Click **Add New...** button shown in Figure 5-39 and the next screen will pop-up as shown in Figure 5-40.

Step 2. In **Schedule Description** field, create a unique description for the schedule (e.g. Schedule_1).

Step 3. In **Day** field, select the day or days you need.

Step 4. In **Time** field, you can select all day-24 hours or you may enter the Start Time and Stop Time in the corresponding field.

Step 5. Click **Save** to complete the settings.

Click the **Delete All** button to delete all the entries in the table.

Click the **Next** button to go to the next page, or click the **Previous** button return to the previous page.

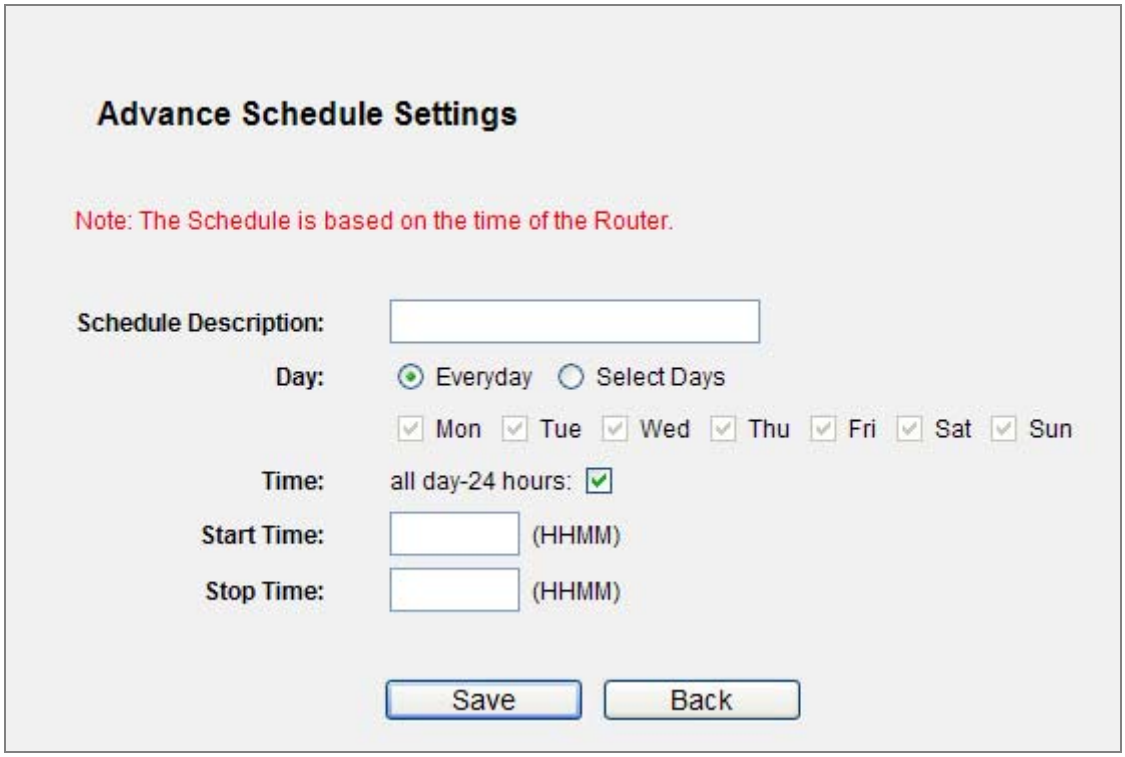


Figure 5-40 Advanced Schedule Settings

For example: If you desire to restrict the internet activities of host with MAC address 00-11-22-33-44-AA to access www.google.com only from **18:00 to 20:00** on **Saturday** and **Sunday**, you should first follow the settings below:

Step 1. Click **Add New...** button shown in Figure 5-39 to enter the Advanced Schedule Settings page.

Step 2. In **Schedule Description** field, create a unique description for the schedule (e.g. Schedule_1).

Step 3. In **Day** field, check the Select Days radio button and then select Sat and Sun.

Step 4. In **Time** field, enter 1800 in Start Time field and 2000 in Stop Time field.

Step 5. Click **Save** to complete the settings.

Then you will go back to the Schedule Settings page and see the following list.

Figure 5-68

5.12 Advanced Routing

There are two submenus under the Advanced Routing menu as shown in Figure 5-30: **Static Routing List**, **System Routing Table**. Click any of them, and you will be able to configure the corresponding function.

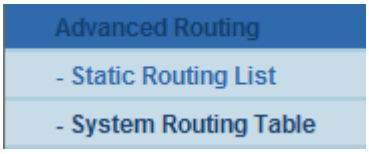


Figure 5-41 Advanced Routing

5.12.1 Static Routing List

Choose menu "**Static Routing List**", you can configure the static route in the next screen (shown in Figure 5-42). A static route is a pre-determined path that network information must travel to reach a specific host or network.

Figure 5-42 Static Routing

To add static routing entries:

Step 1. Click **Add New…** shown in Figure 5-42, you will see the following screen.

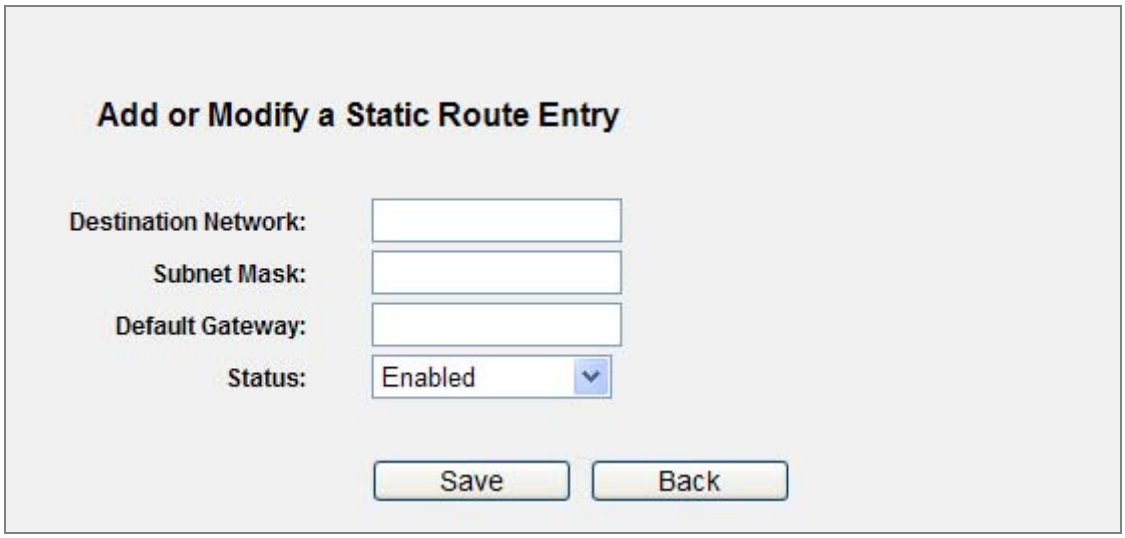


Figure 5-43 Add or Modify a Static Route Entry

Step 2. Enter the following data:

Object	Description
Destination IP Address	The **Destination IP Address** is the address of the network or host that you want to assign to a static route.
Subnet Mask	The **Subnet Mask** determines which portion of an IP Address is the network portion, and which portion is the host portion.
Gateway	This is the IP Address of the gateway device that allows for contact between the Router and the network or host.
Status	Select **Enabled** or **Disabled** for this entry on the **Status** pull-down list.

Table 5-37

Step 3. Click the **Save** button to make the entry take effect.

Other configurations for the entries:

Click the **Delete** button to delete the entry.

Click the **Enable All** button to enable all the entries.

Click the **Disable All** button to disable all the entries.

Click the **Delete All** button to delete all the entries.

Click the **Previous** button to view the information in the previous screen, click the **Next** button to view the information in the next screen.

5.12.2 System Routing Table

Choose menu "**System Routing Table**", you can check all of the valid route entries in use. The Destination IP address, Subnet Mask, Gateway, and Interface will be displayed for each entry. Click the **Refresh** button to refresh the data displayed.

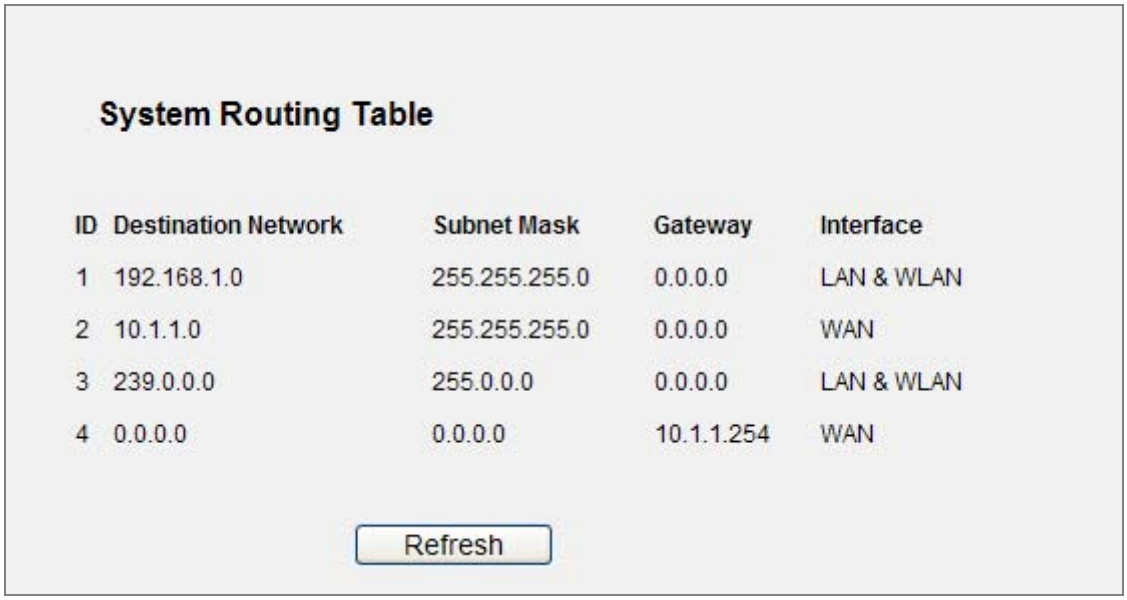


Figure 5-72

5.13 Bandwidth Control

There are two submenus under the Bandwidth Control menu as shown in Figure 5-44. Click any of them, and you will be able to configure the corresponding function. The detailed explanations for each submenu are provided below.

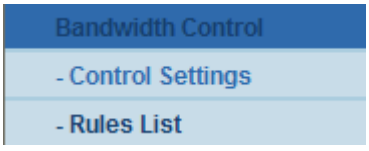


Figure 5-44

5.13.1 Control Settings

Choose menu "**Bandwidth Control → Control Settings**", you can configure the Egress Bandwidth and Ingress Bandwidth in the next screen. Their values you configure should be less than 100000Kbps. For optimal control of the bandwidth, please select the right Line Type and ask your ISP for the total bandwidth of the egress and ingress.

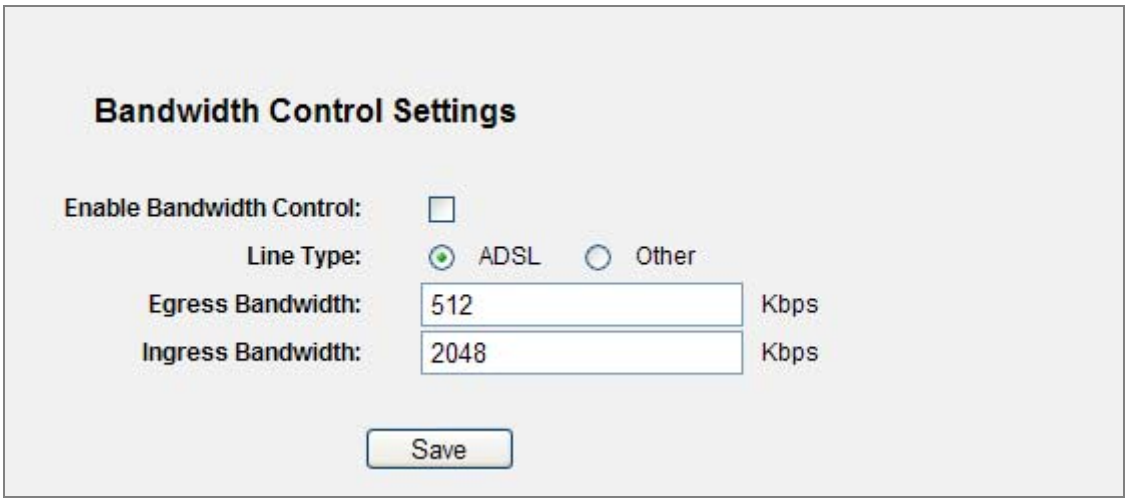


Figure 5-45 Bandwidth Control Settings

The page includes the following fields:

Object	Description
Enable Bandwidth Control	Check this box so that the Bandwidth Control settings can take effect.
Line Type	Select the right type for you network connection. If you don't know how to choose, please ask your ISP for the information.
Egress Bandwidth	The upload speed through the WAN port.
Ingress Bandwidth	The download speed through the WAN port.

Table 5-38

5.13.2 Rules List

Choose menu "**Bandwidth Control → Rules List**", you can view and configure the Bandwidth Control rules in the screen below.

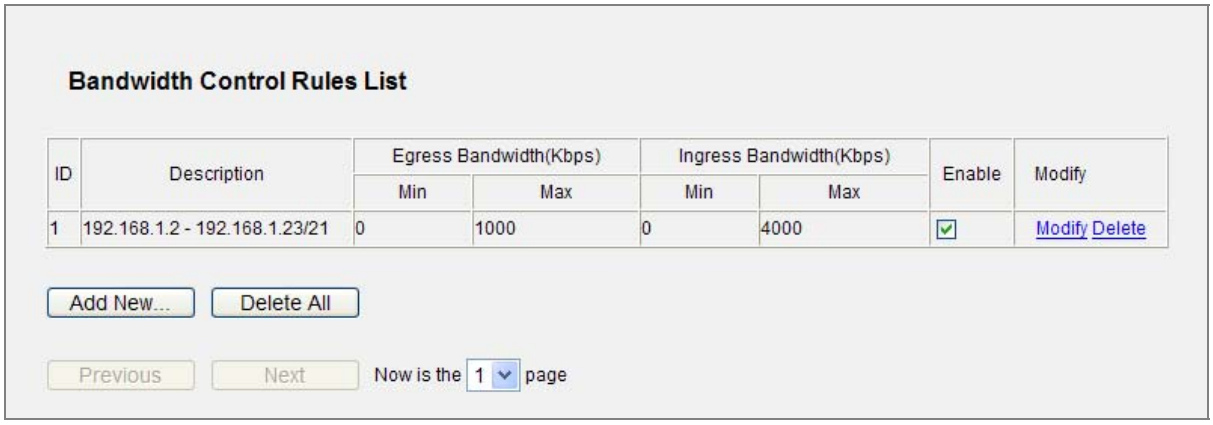


Figure 5-46 Bandwidth Control Rules List

The page includes the following fields:

Object	Description
Description	This is the information about the rules such as address range.
Egress bandwidth	This field displays the max and mix upload bandwidth through the WAN port, the default is 0.
Ingress bandwidth	This field displays the max and mix download bandwidth through the WAN port, the default is 0.
Enable	This displays the status of the rule.
Modify	Click **Modify** to edit the rule. Click **Delete** to delete the rule.

Table 5-39

To add/modify a Bandwidth Control rule, follow the steps below.

Step 1: Click **Add New…** shown in Figure 5-46, you will see a new screen shown in Figure 5-47.

Step 2: Enter the information like the screen shown below.

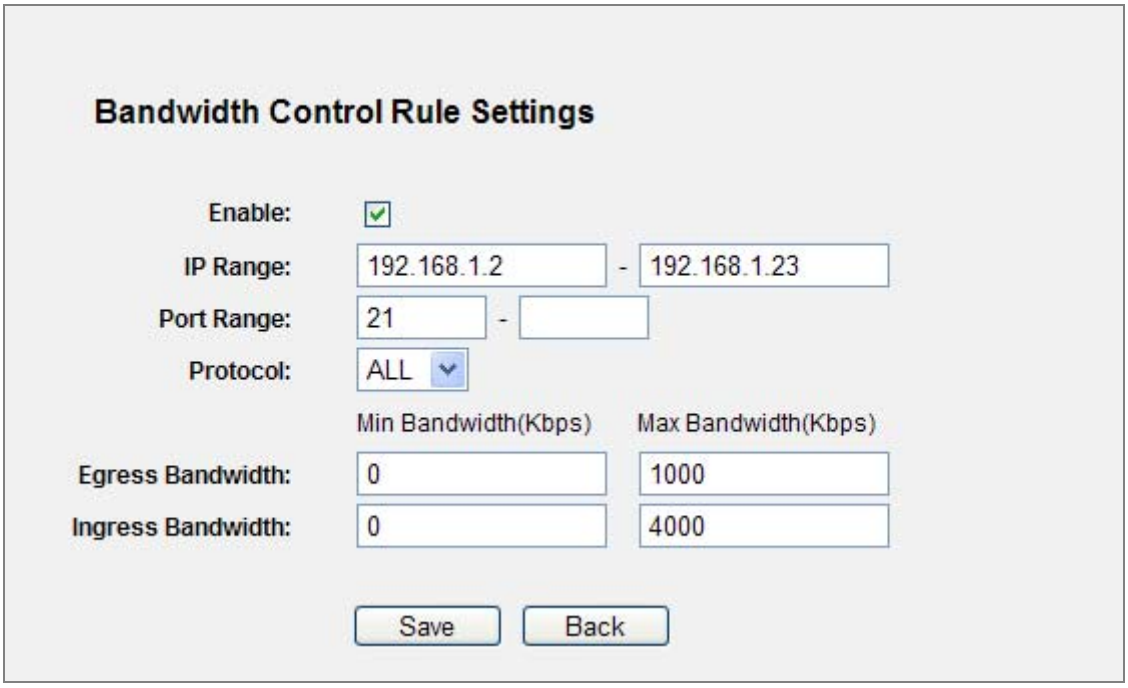


Figure 5-47 Bandwidth Control Rule Settings

Step 3: Click the **Save** button.

5.14 IP & MAC Binding

There are two submenus under the IP &MAC Binding menu (shown in Figure 5-48): **Binding Settings** and **ARP List**. Click any of them, and you will be able to scan or configure the corresponding function. The detailed explanations for each submenu are provided below.

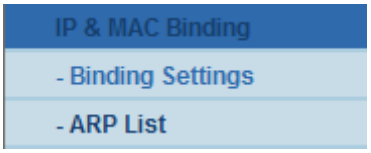


Figure 5-48 the IP & MAC Binding menu

5.14.1 Binding Settings

This page displays the **IP & MAC Binding Setting** table; you can operate it in accord with your desire. (shown in Figure 5-49).

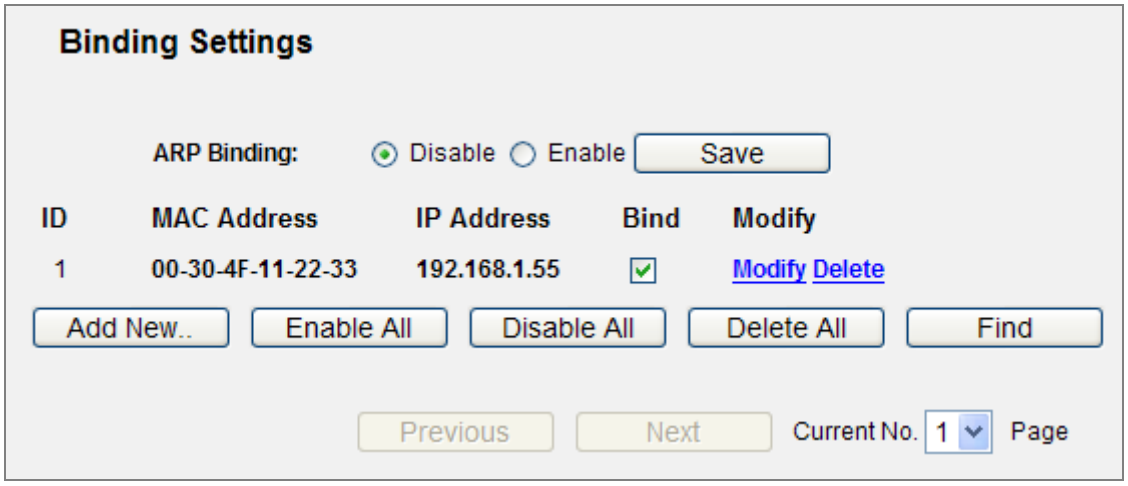


Figure 5-49 Binding Setting

The page includes the following fields:

Object	Description
MAC Address	The MAC address of the controlled computer in the LAN.
IP Address	The assigned IP address of the controlled computer in the LAN.
Bind	Check this option to enable ARP binding for a specific device.
Modify	To modify or delete an existing entry.

Table 5-40

When you want to add or modify an IP & MAC Binding entry, you can click the **Add New** button or **Modify** button, and then you will go to the next page. This page is used for adding or modifying an IP & MAC Binding entry (shown in Figure 5-50).

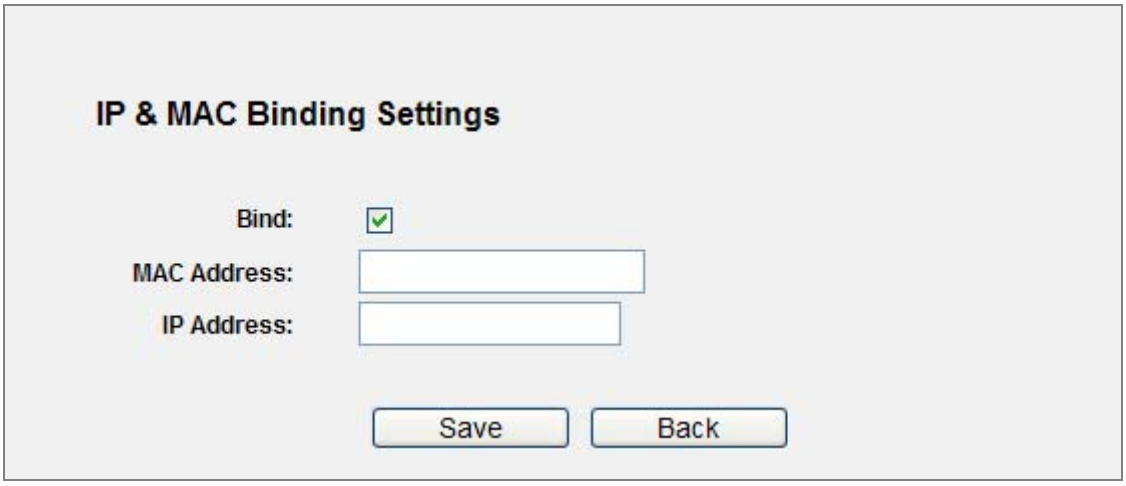


Figure 5-50 IP & MAC Binding Setting (Add & Modify)

To add IP & MAC Binding entries, follow the steps below.

Step 1. Click the **Add New...** button as shown in Figure 5-49.

Step 2. Enter the MAC Address and IP Address.

Step 3. Select the Bind checkbox.

Step 4. Click the **Save** button to save it.

To modify or delete an existing entry, follow the steps below.

Step 1. Find the desired entry in the table.

Step 2. Click **Modify** or **Delete** as desired on the **Modify** column.

To find an existing entry, follow the steps below.

Step 1. Click the **Find** button as shown in Figure 5-49.

Step 2. Enter the MAC Address or IP Address.

Step 3. Click the **Find** button in the page as shown in Figure 5-51.

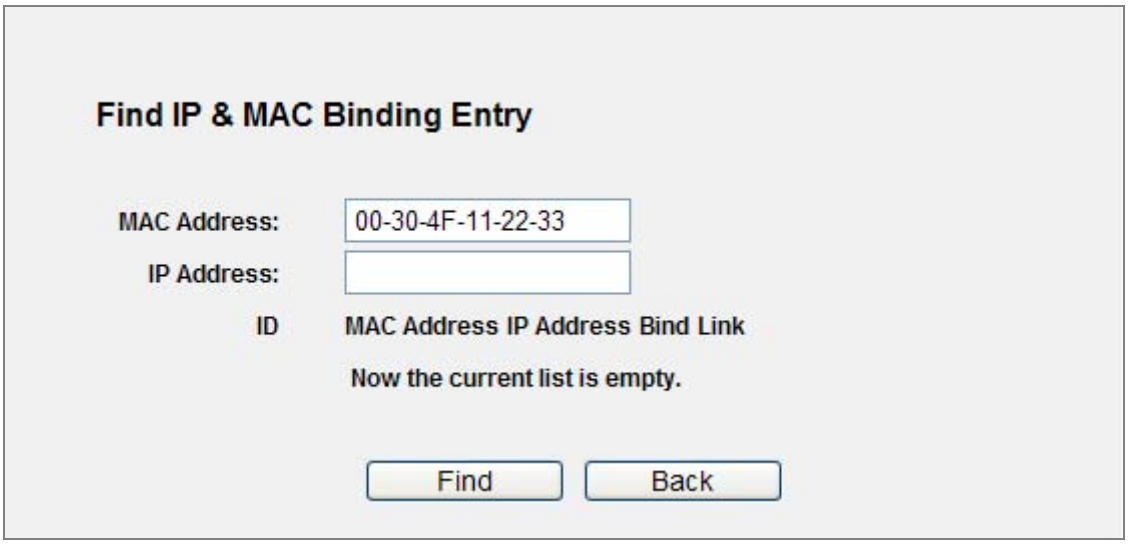


Figure 5-51 Find IP & MAC Binding Entry

Click the **Enable All** button to make all entries enabled.

Click the **Delete All** button to delete all entries.

5.14.2 ARP List

To manage the computer, you could observe the computers in the LAN by checking the relationship of MAC address and IP address on the ARP list, and you could configure the items on the ARP list also. This page displays the ARP List; it shows all the existing IP & MAC Binding entries (shown in Figure 5-81).

Figure 5-52 ARP List

The page includes the following fields:

Object	Description

MAC Address	The MAC address of the controlled computer in the LAN.
IP Address	The assigned IP address of the controlled computer in the LAN.
Status	Indicates whether or not the MAC and IP addresses are bound.
Configure	Load or delete an item. • **Load -** Load the item to the IP & MAC Binding list. • **Delete -** Delete the item.

Table 5-41

Click the **Bind All** button to bind all the current items, available after enable.

Click the **Load All** button to load all items to the IP & MAC Binding list.

Click the **Refresh** button to refresh all items.

An item could not be loaded to the IP & MAC Binding list if the IP address of the item has been loaded before. Error warning will prompt as well. Likewise, "Load All" only loads the items without interference to the IP & MAC Binding list.

5.15 Dynamic DNS

Choose menu "**Dynamic DNS**", and you can configure the Dynamic DNS function.

The Router offers the **DDNS** (Dynamic Domain Name System) feature, which allows the hosting of a website, FTP server, or e-mail server with a fixed domain name (named by yourself) and a dynamic IP address, and then your friends can connect to your server by entering your domain name no matter what your IP address is. Before using this feature, you need to sign up for DDNS service providers such as www.comexe.cn, www.dyndns.org, or www.no-ip.com. The Dynamic DNS client service provider will give you a password or key.

5.15.1 Comexe.cn DDNS

If the dynamic DNS **Service Provider** you select is www.comexe.cn, the page will appear as shown in Figure 5-53.

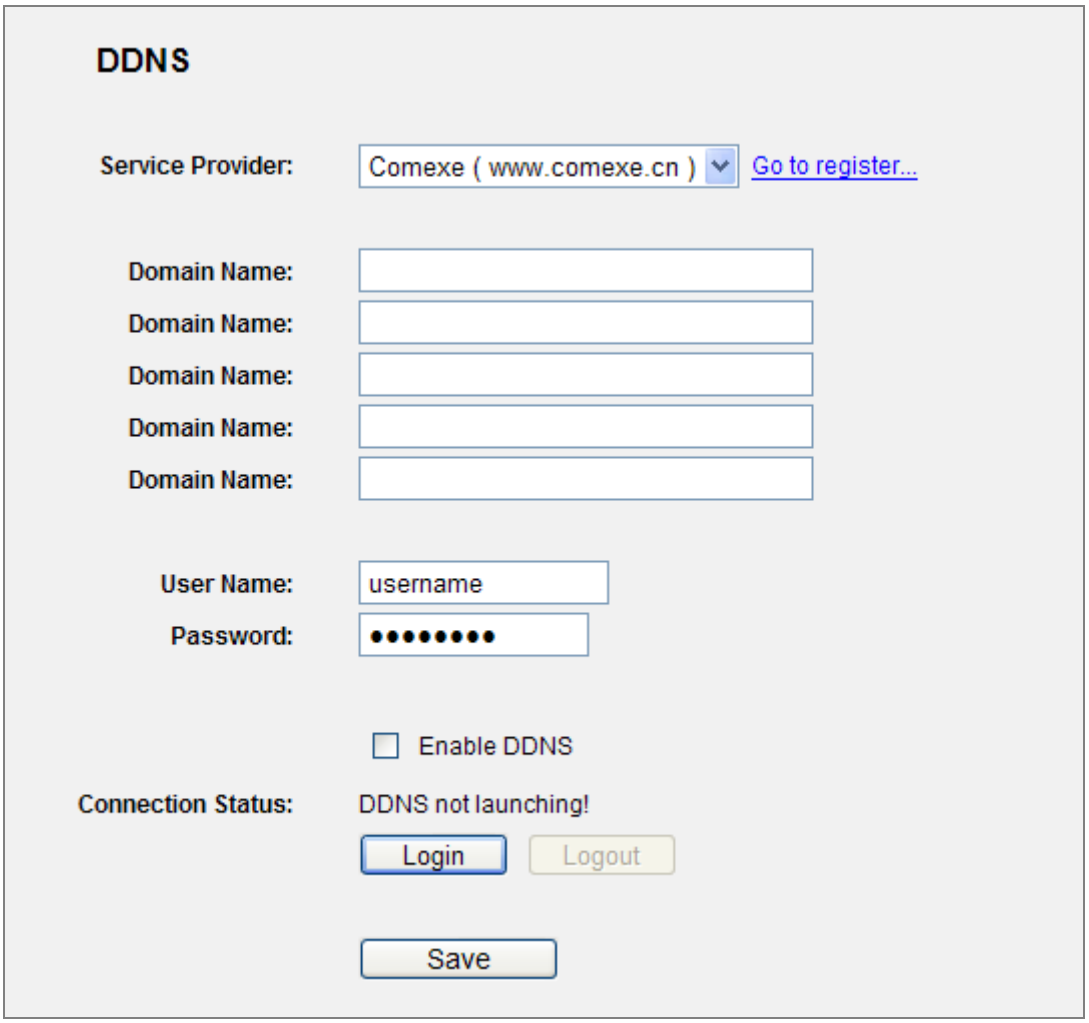


Figure 5-53 Comexe.cn DDNS Settings

To set up for DDNS, follow these instructions:

Step 1. Type the **Domain Name** received from your dynamic DNS service provider.

Step 2. Type the **User Name** for your DDNS account.

Step 3. Type the **Password** for your DDNS account.

Step 4. Click the **Login** button to log in to the DDNS service.

Connection Status -The status of the DDNS service connection is displayed here.

Click **Logout** to log out of the DDNS service.

5.15.2 Dyndns.org DDNS

If the dynamic DNS **Service Provider** you select is www.dyndns.org, the page will appear as shown in Figure 5-54.

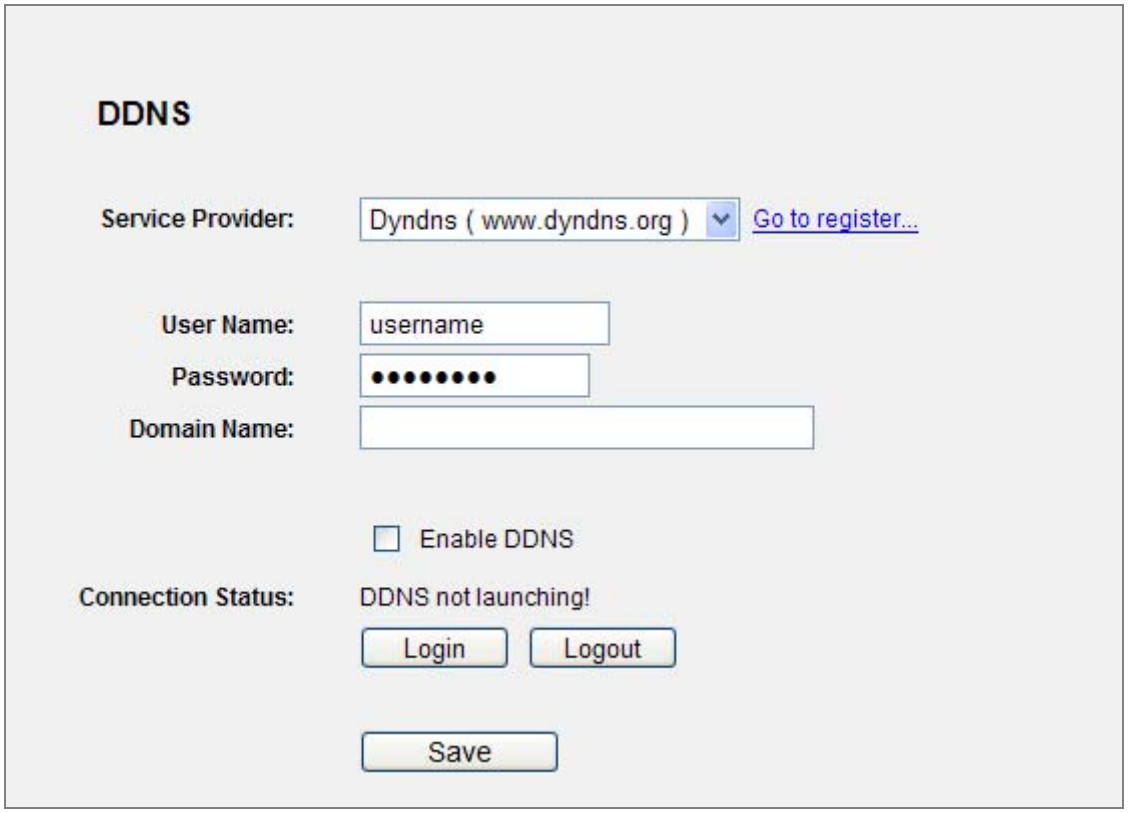


Figure 5-54 Dyndns.org DDNS Settings

To set up for DDNS, follow these instructions:

Step 1. Type the **User Name** for your DDNS account.

Step 2. Type the **Password** for your DDNS account.

Step 3. Type the **Domain Name** you received from dynamic DNS service provider here.

Step 4. Click the **Login** button to log in to the DDNS service.

Connection Status -The status of the DDNS service connection is displayed here.

Click **Logout** to logout of the DDNS service.

5.15.3 No-ip.com DDNS

If the dynamic DNS **Service Provider** you select is www.no-ip.com, the page will appear as shown in Figure 5-55.

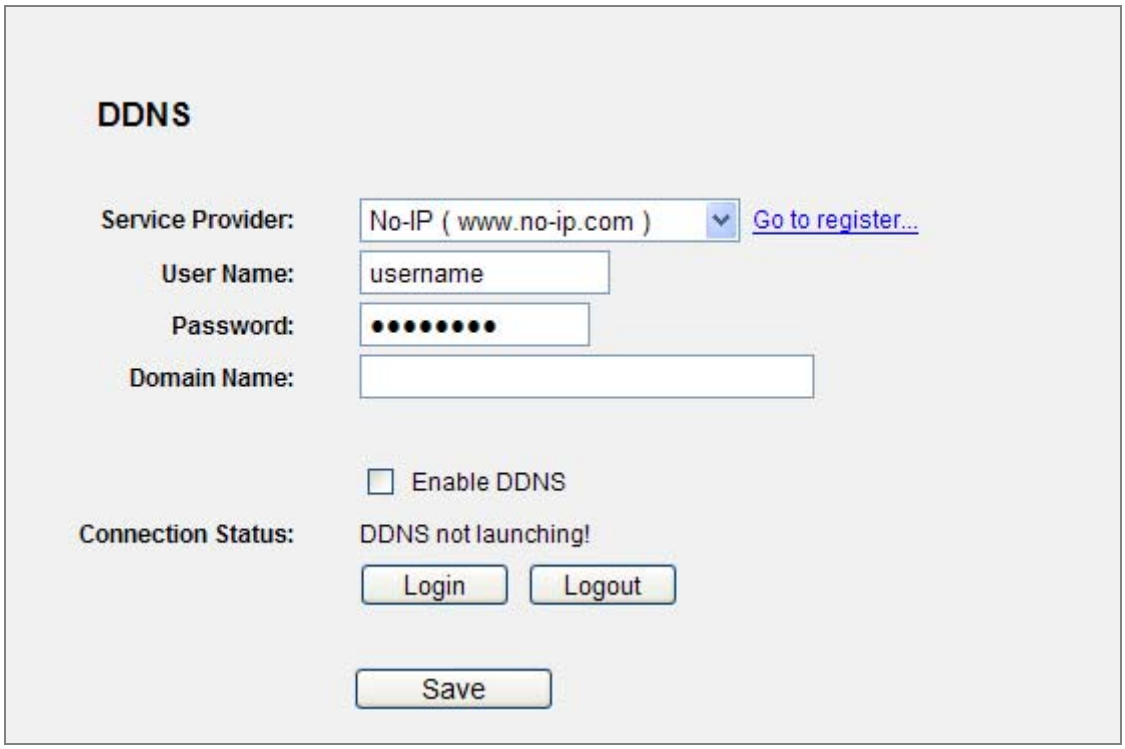


Figure 5-55 No-ip.com DDNS Settings

To set up for DDNS, follow these instructions:

Step 1. Type the **User Name** for your DDNS account.

Step 2. Type the **Password** for your DDNS account.

Step 3. Type the **Domain Name** you received from dynamic DNS service provider.

Step 4. Click the **Login** button to log in the DDNS service.

Connection Status - The status of the DDNS service connection is displayed here.

Click **Logout** to log out the DDNS service.

5.16 System Tools

Choose menu "**System Tools**", and you can see the submenus under the main menu: **Time Settings**, **Diagnostic**, **Firmware Upgrade**, **Factory Defaults, Backup & Restore, Reboot, Password, System Log** and **Statistics.** Click any of them, and you will be able to configure the corresponding function. The detailed explanations for each submenu are provided below.

Figure 5-56 The System Tools menu

5.16.1 Time Settings

Choose menu "**System Tools→Time Settings**", you can configure the time on the following screen.

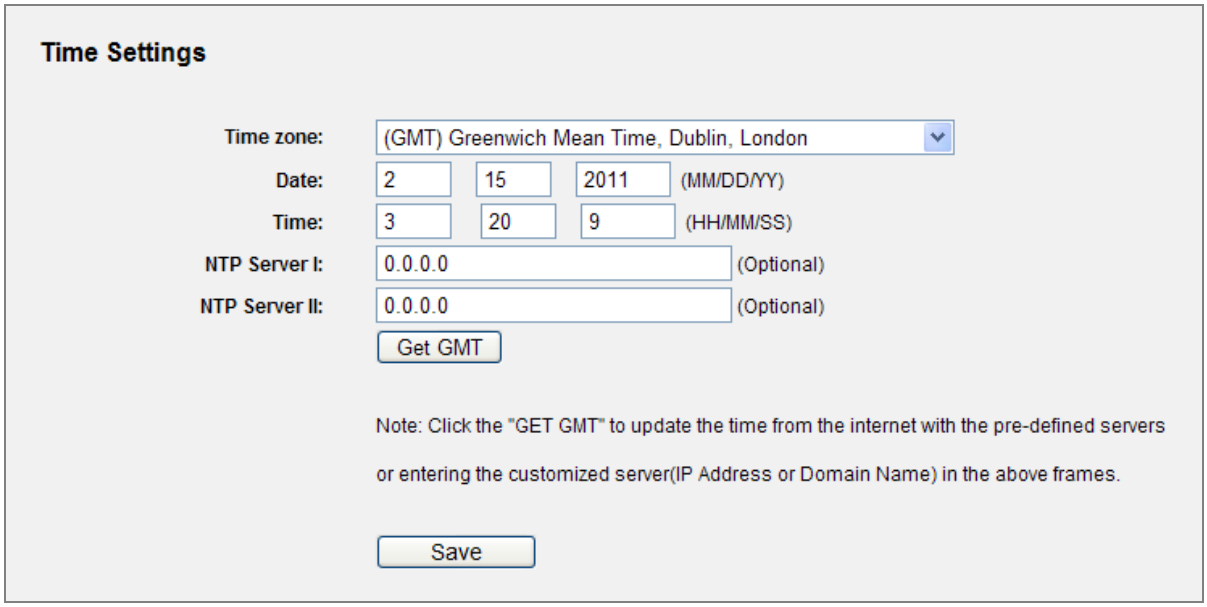


Figure 5-57 Time settings

The page includes the following fields:

Object	Description
Time Zone	Select your local time zone from this pull down list.
Date	Enter your local date in MM/DD/YY into the right blanks.
Time	Enter your local time in HH/MM/SS into the right blanks.
NTP Server Prior	Enter the address for the NTP Server, then the Router will get the time from the NTP Server preferentially. In addition, the Router builds in some common NTP Servers, so it can get time automatically once it connects the Internet.

Table 5-42

To configure the system manually:

Step 1. Select your local time zone.

Step 2. Enter date and time in the right blanks.

Step 3. Click **Save** to save the configuration.

To configure the system automatically:

Step 1. Select your local time zone.

Step 2. Enter the IP address for **NTP Server Prior**.

Step 3. Click the **Get GMT** button to get system time from Internet if you have connected to the Internet.

This setting will be used for some time-based functions such as firewall. You must specify your time zone once you login to the router successfully, otherwise, these functions will not take effect. The time will be lost if the router is turned off. The router will obtain GMT automatically from Internet if it has already connected to Internet.

5.16.2 Diagnostic

Choose menu "**System Tools → Diagnostic**", you can transact Ping or Traceroute function to check connectivity of your network in the following screen.

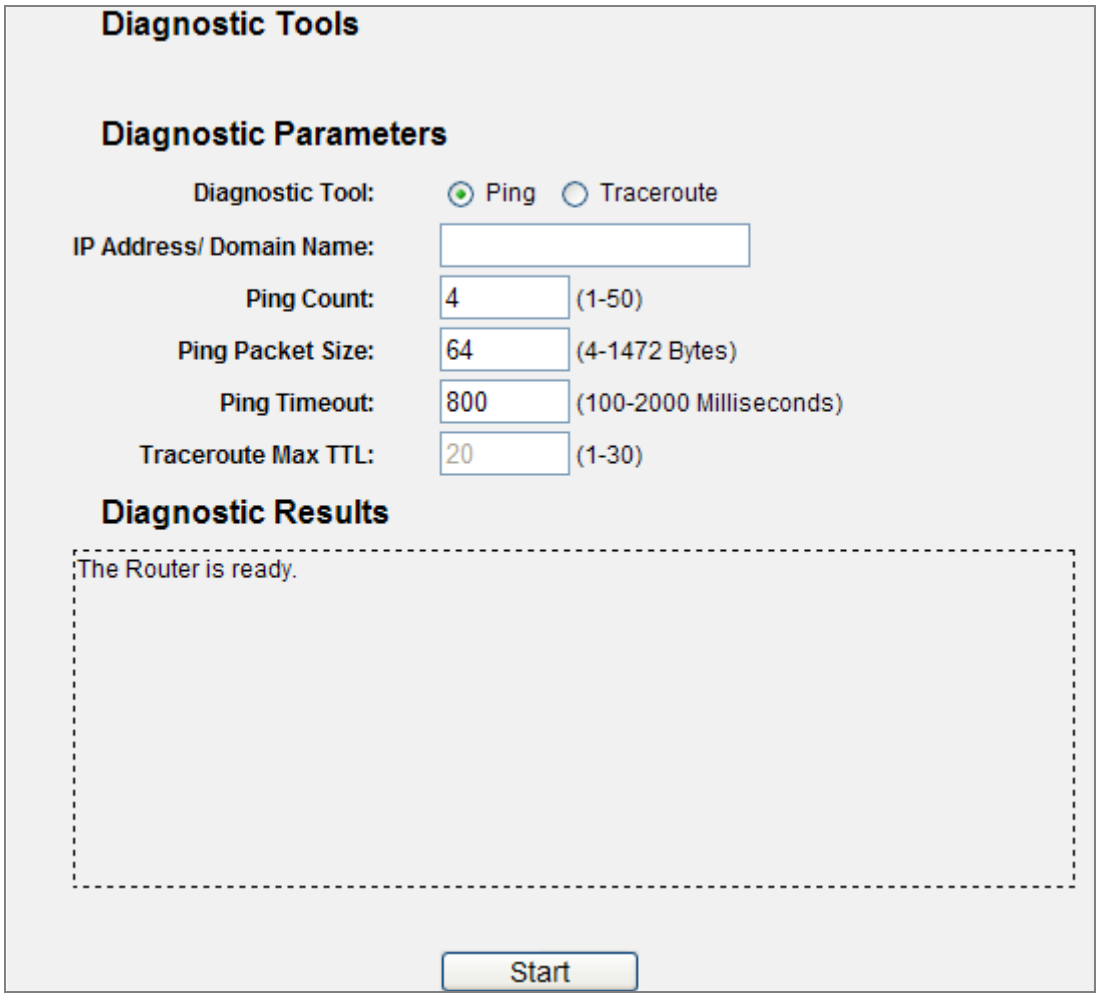


Figure 5-58 Diagnostic Tools

The page includes the following fields:

Object	Description
Diagnostic Tool	Check the radio button to select one diagnostic too. • **Ping -** This diagnostic tool troubleshoots connectivity, reachability, and name resolution to a given host or gateway. • **Traceroute -** This diagnostic tool tests the performance of a connection.
IP Address/Domain Name	Type the destination IP address (such as 74.125.153.103) or Domain name (such as http://www.google.com)

Pings Count	The number of Ping packets for a Ping connection.
Ping Packet Size	The size of Ping packet.
Ping Timeout	Set the waiting time for the reply of each Ping packet. If there is no reply in the specified time, the connection is overtime.
Traceroute Max TTL	The max number of hops for a Traceroute connection.

Table 5-43

Click **Start** to check the connectivity of the Internet.

Note

You can use ping / traceroute to test both numeric IP address or domain name. If pinging / tracerouting the IP address is successful, but pinging / tracerouting the domain name is not, you might have a name resolution problem. In this case, ensure that the domain name you are specifying can be resolved by using Domain Name System (DNS) queries.

The **Diagnostic Results** page displays the result of diagnosis.

If the result is similar to the following screen, the connectivity of the Internet is fine.

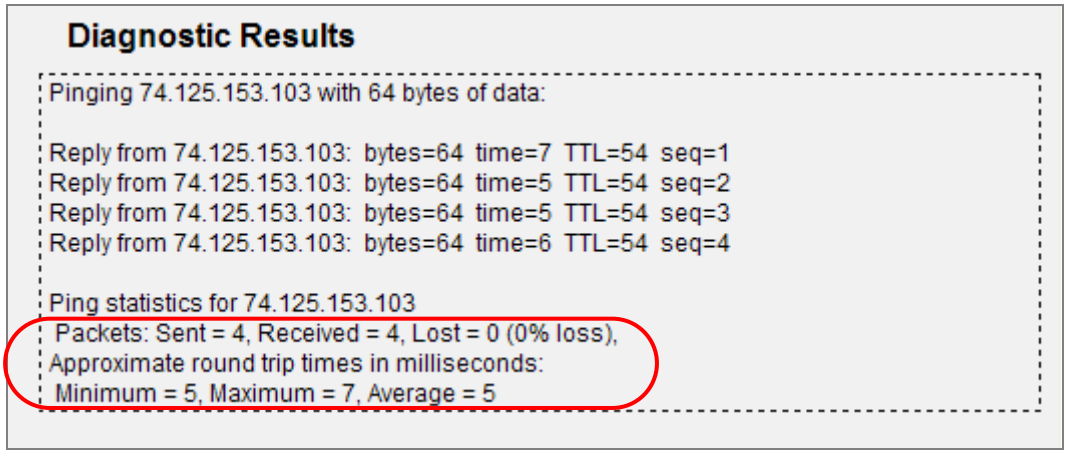


Figure 5-59 Diagnostic Results

Note

Only one user can use this tool at one time. Options "Number of Pings", "Ping Size" and "Ping Timeout" are used for **Ping** function. Option "Tracert Hops" are used for **Tracert** function.

5.16.3 Firmware Upgrade

Choose menu "**System Tools → Firmware Upgrade**", you can update the latest version of firmware for the Router on the following screen.

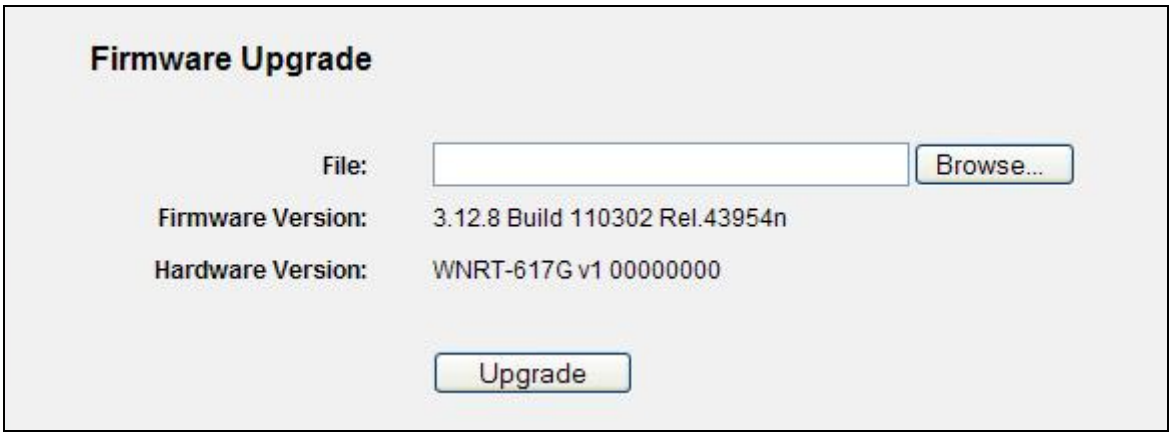


Figure 5-60 Firmware Upgrade

The page includes the following fields:

Object	Description
Firmware Version	This displays the current firmware version.
Hardware Version	This displays the current hardware version. The hardware version of the upgrade file must accord with the Router's current hardware version.

Table 5-44

To upgrade the Router's firmware, follow these instructions below:

Step 1. Download a more recent firmware upgrade file from our website.

Step 2. Type the path and file name of the update file into the **File** field. Or click the **Browse** button to locate the update file.

Step 3. Click the **Upgrade** button.

Note

New firmware versions posted at the website of PLANET Technology can be downloaded for free. There is no need to upgrade the firmware unless the new firmware has a new feature you want to use. However, when experiencing problems caused by the Router rather than the configuration, you can try to upgrade the firmware.

When you upgrade the Router's firmware, you may lose its current configurations, so before upgrading the firmware please write down some of your customized settings to avoid losing important settings.

Do not turn off the Router or press the Reset button while the firmware is being upgraded,

otherwise, the Router may be damaged.

The Router will reboot after the upgrading has been finished.

5.16.4 Factory Defaults

Choose menu "**System Tools** → **Factory Defaults**", and you can restore the configurations of the Router to factory defaults on the following screen

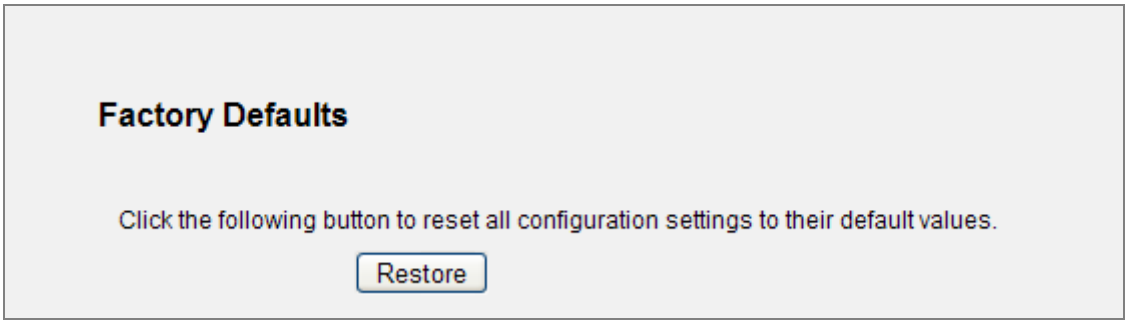


Figure 5-61 Restore Factory Default

Click the **Restore** button to reset all configuration settings to their default values.

- The default **User Name**: admin
- The default **Password**: admin
- The default **IP Address**: 192.168.1.1
- The default **Subnet Mask**: 255.255.255.0

Note

Any settings you have saved will be lost when the default settings are restored.

5.16.5 Backup & Restore

Choose menu "**System Tools** → **Backup & Restore**", you can save the current configuration of the Router as a backup file and restore the configuration via a backup file as shown in Figure 5-62.

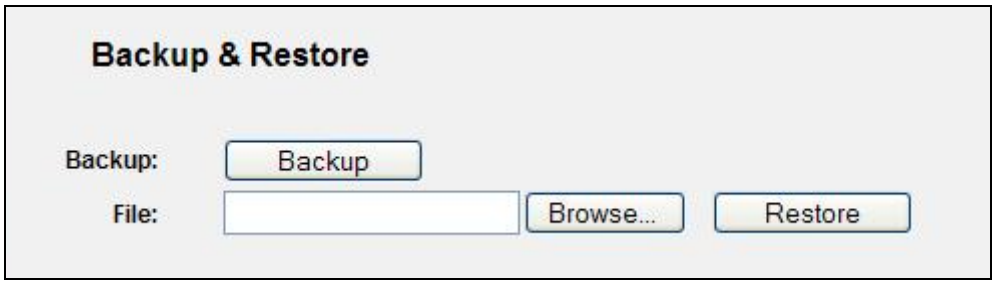


Figure 5-62 Backup & Restore Configuration

- Click the **Backup** button to save all configuration settings as a backup file in your local computer.

- To upgrade the Router's configuration, follow these instructions.

Step 1. Click the **Browse…** button to locate the update file for the Router, or enter the exact path to the Setting file in the text box.

Step 2. Click the **Restore** button.

Note

The current configuration will be covered by the uploading configuration file. The upgrade process lasts for 20 seconds and the Router will restart automatically. Keep the Router power on during the upgrading process to prevent any damage.

5.16.6 Reboot

Choose menu "**System Tools** → **Reboot**", you can click the **Reboot** button to reboot the Router via the next screen.

Figure 5-63 Reboot the Router

Some settings of the Router will take effect only after rebooting, which include

- Change the LAN IP Address (system will reboot automatically).
- Change the DHCP Settings.
- Change the Wireless configurations.
- Change the Web Management Port.
- Upgrade the firmware of the Router (system will reboot automatically).
- Restore the Router's settings to factory defaults (system will reboot automatically).
- Update the configuration with the file (system will reboot automatically.

5.16.7 Password

Choose menu "**System Tools → Password**", you can change the factory default user name and password of the Router in the next screen as shown in Figure 5-64.

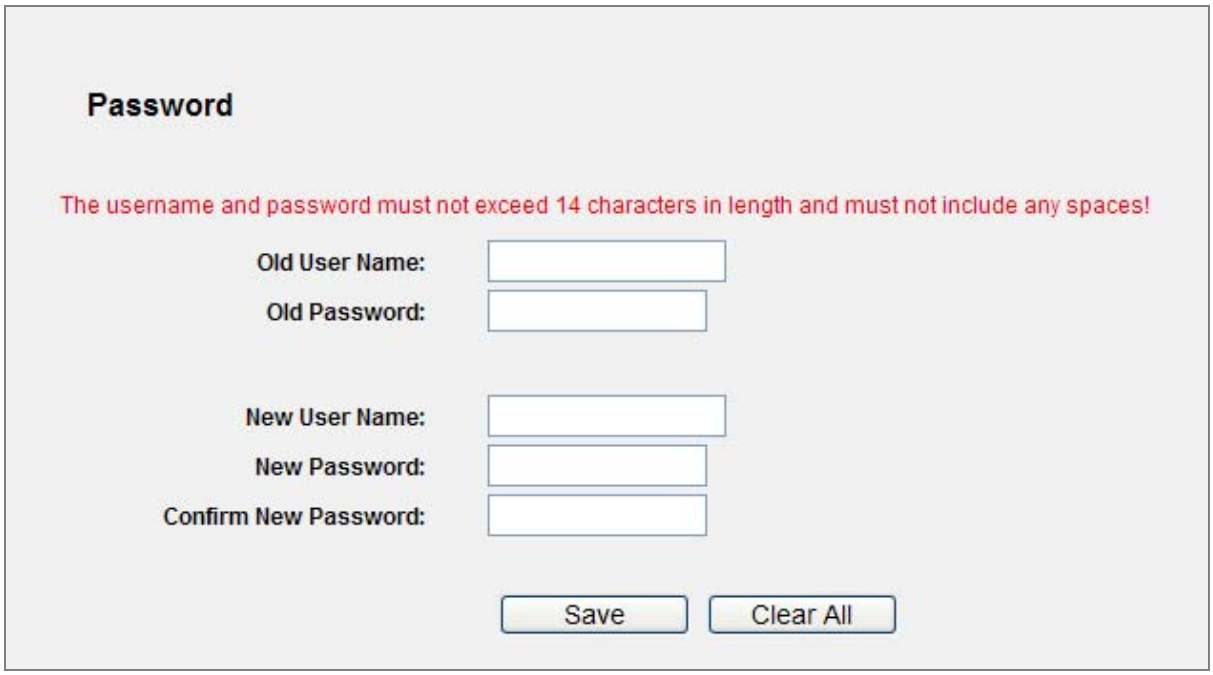


Figure 5-64 Password

It is strongly recommended that you should change the factory default user name and password of the Router, because all users who try to access the Router's Web-based utility or Quick Setup will be prompted for the Router's default user name and password.

Note

The new user name and password must not exceed 14 characters in length and not include any spaces. Enter the new Password twice to confirm.

Click the **Save** button when finished.

Click the **Clear All** button to clear all.

5.16.8 System Log

Choose menu "**System Tools** → **System Log**", you can view the logs of the Router.

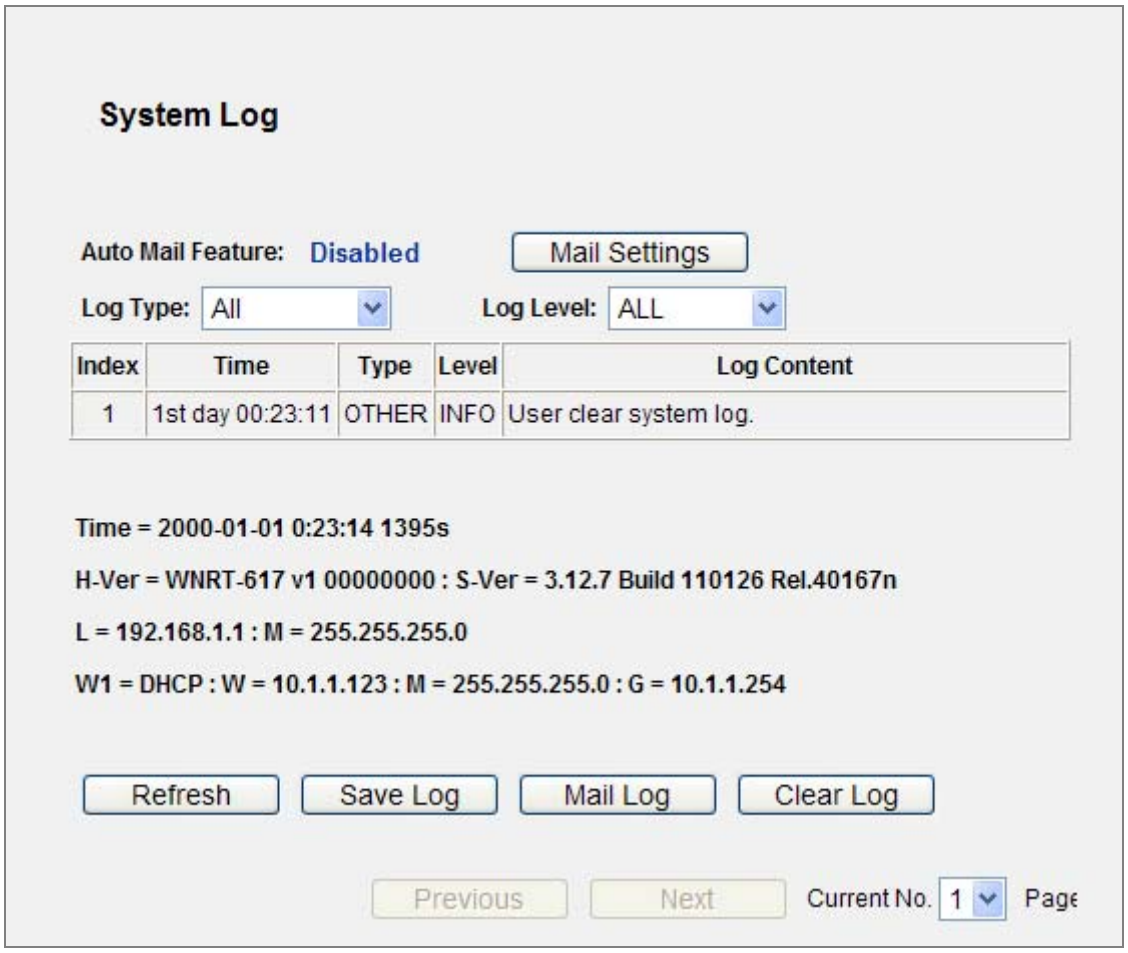


Figure 5-65 System Log

The page includes the following fields:

Object	Description
Auto Mail Feature	Indicates whether auto mail feature is enabled or not.
Mail Settings	Set the receiving and sending mailbox address, server address, validation information as well as the timetable for Auto Mail Feature, as shown in **Figure 5-66**.

Table 5-45

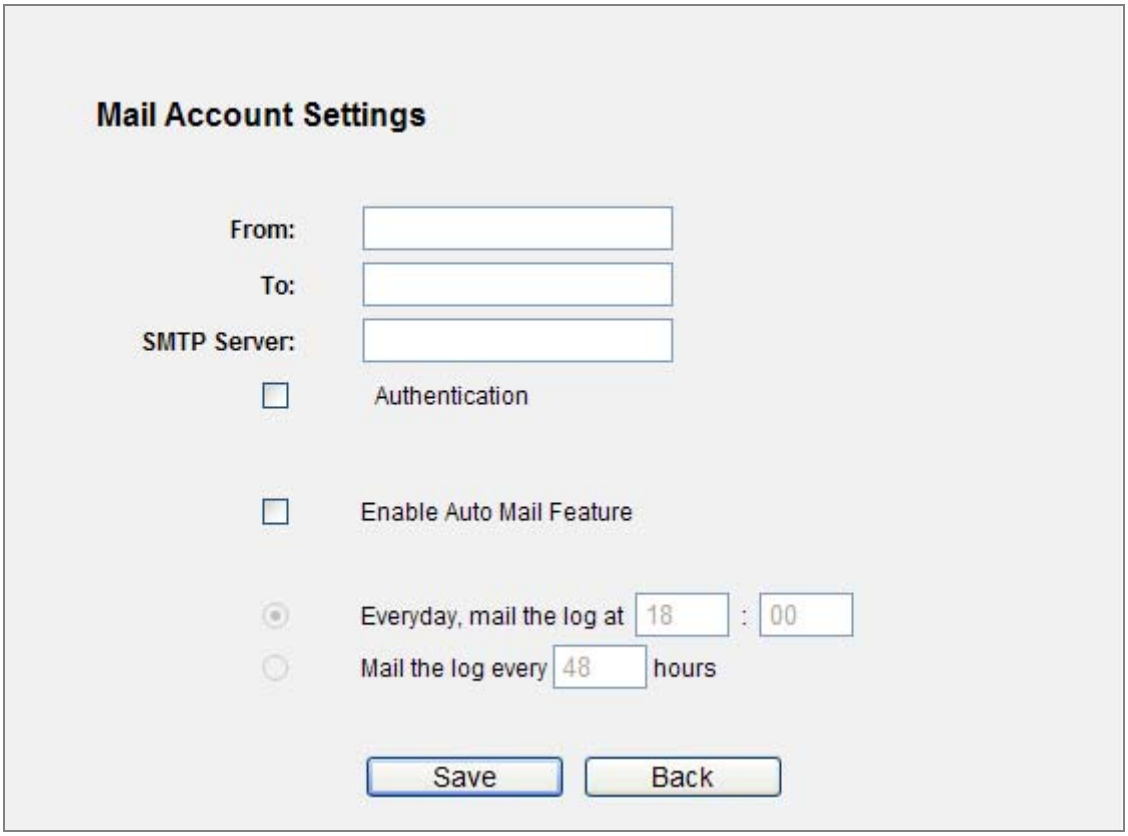


Figure 5-66 Mail Account Settings

The page includes the following fields:

Object	Description
From	Your mail box address. The Router would connect it to send logs.
To	Recipient's address. The destination mailbox where the logs would be received.
SMTP Server	Your smtp server. It corresponds with the mailbox filled in the From field. You can log on the relevant website for Help if you are not clear with the address.
Authentication	Most SMTP Server requires Authentication. It is required by most mailboxes that need User Name and Password to log in.
User Name	Your mail account name filled in the From field. The part behind @ is excluded.
Password	Your mail account password.
Confirm The Password	Enter the password again to confirm.
Enable Auto Mail Feature	Select it to mail logs automatically. You could mail the current logs either at a specified time everyday or by intervals, but only one could be the current effective rule. Enter the desired time or intervals in the corresponding field as shown in **Figure 5-66**.

Table 5-46

Click **Save** to keep your settings.

Click **Back** to return to the previous page.

Note

Only when you select Authentication, do you have to enter the User Name and Password in the following fields.

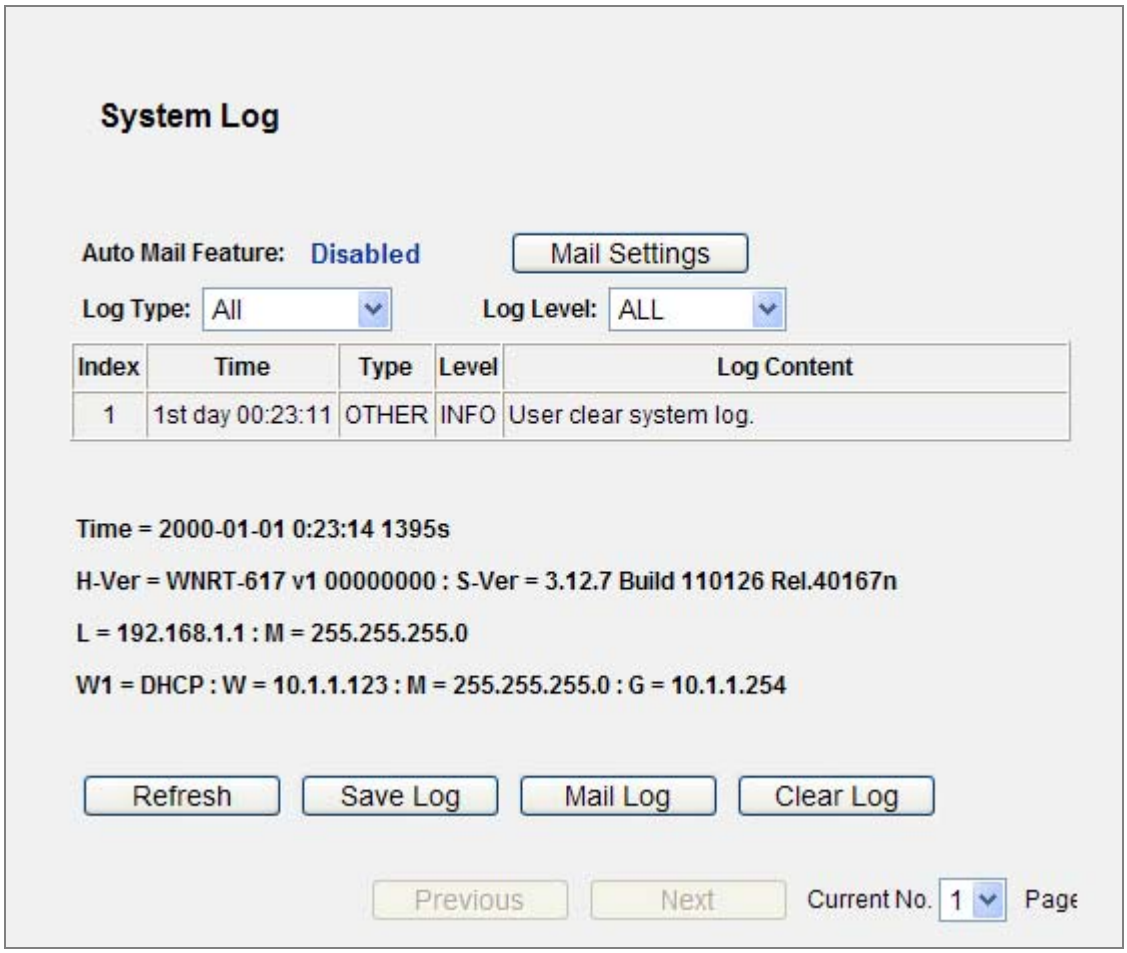


Figure 5-96

Object	Description
Log Type	By selecting the log type, only logs of this type will be shown.
Log Level	By selecting the log level, only logs of this level will be shown.
Refresh	Refresh the page to show the latest log list.
Save Log	Click to save all the logs in a txt file.
Mail Log	Click to send an email of current logs manually according to the address and validation information set in Mail Settings.

Clear Log	All the logs will be deleted from the Router permanently, not just from the page.

Table 5-47

Click the **Next** button to go to the next page, or click the **Previous** button return to the previous page.

5.16.9 Statistics

Choose menu "**System Tools → Statistics**", you can view the statistics of the Router, including total traffic and current traffic of the last Packets Statistic Interval.

Figure 5-67 Statistics

The page includes the following fields:

Object	Description
Current Statistics Status	Enable or Disable. The default value is disabled. To enable, click the **Enable** button. If disabled, the function of DoS protection in Security settings will disabled.
Packets Statistics Interval（5-60）	The default value is 10. Select a value between 5 and 60 seconds in the pull-down list. The Packets Statistic interval indicates the time section of the packets statistic.
Sorted Rules	Choose how displayed statistics are sorted.

Table 5-48

Select the **Auto-refresh** checkbox to refresh automatically.

Click the **Refresh** button to refresh immediately.

Click **Reset All** to reset the values of all the entries to zero.

Click **Delete All** to delete all entries in the table.

Statistics Table:

IP/MAC Address		The IP and MAC address are displayed with related statistics.
Total	**Packets**	The total number of packets received and transmitted by the Router.
	Bytes	The total number of bytes received and transmitted by the Router.
Current	**Packets**	The total number of packets received and transmitted in the last Packets Statistic interval seconds.
	Bytes	The total number of bytes received and transmitted in the last Packets Statistic interval seconds.
	ICMP Tx	The number of the ICMP packets transmitted to WAN per second at the specified Packets Statistics interval. It is shown like "current transmitting rate / Max transmitting rate".
	UDP Tx	The number of UDP packets transmitted to the WAN per second at the specified Packets Statistics interval. It is shown like "current transmitting rate / Max transmitting rate".
	TCP SYN Tx	The number of TCP SYN packets transmitted to the WAN per second at the specified Packets Statistics interval. It is shown like "current transmitting rate / Max transmitting rate".
Modify	**Reset**	Reset the value of he entry to zero.
	Delete	Delete the existing entry in the table.

Table 5-49

There would be 5 entries on each page. Click **Previous** to return to the previous page and **Next** to the next page.

Chapter 6. Quick Connect to a Wireless Network

6.1 Windows XP (Wireless Zero Configuration)

Step 1: Right-Click on the **wireless network icon** displayed in the system tray

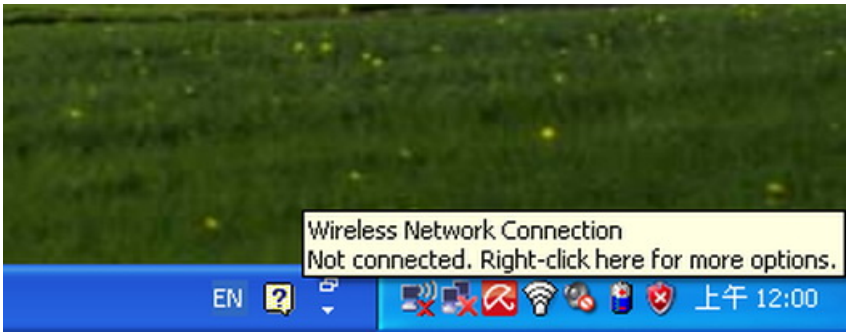


Figure 6-1

Step 2: Select [**View Available Wireless Networks**]

Step 3: Highlight and select the wireless network (SSID) to connect

(1) Select SSID [PLANET]

(2) Click the [**Connect**] button

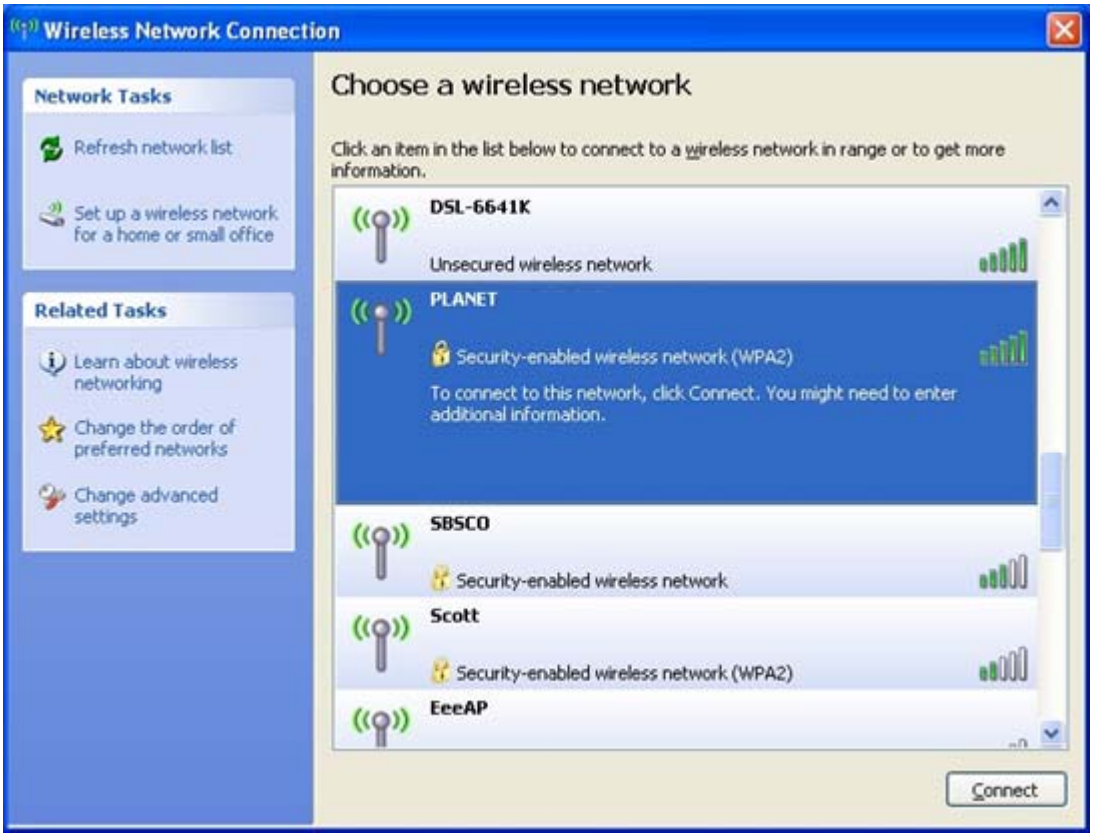


Figure 6-2

Step 4: Enter the **encryption key** of the Wireless Router

(1) The Wireless Network Connection box will appear

(2) Enter the encryption key that configured in section 5.6.2

(3) Click the [Connect] button

Figure 6-3

Step 5: Check if "**Connected**" is displayed

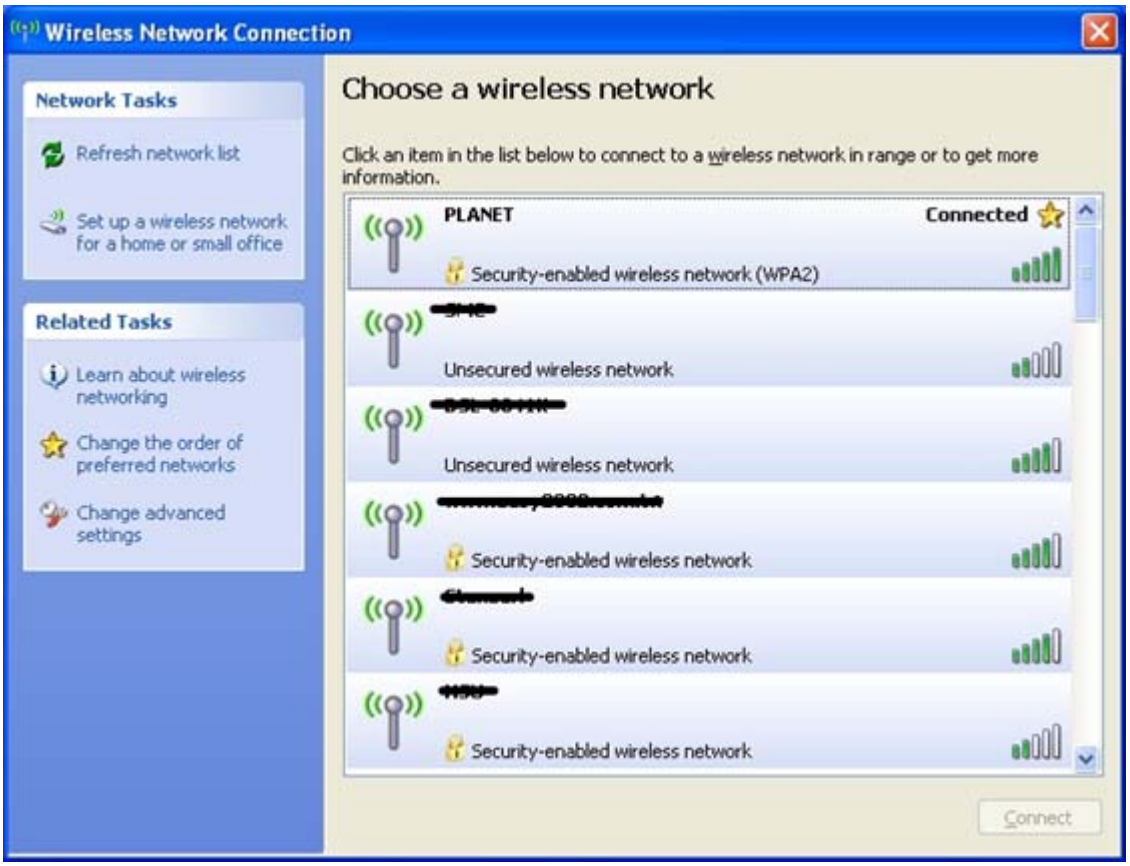


Figure 6-4

Note

Some laptops are equipped with an "Wireless ON/OFF" switch for the internal wireless LAN, make sure the hardware wireless switch is switch to "ON" position.

6.2 Windows 7 (WLAN AutoConfig)

WLAN AutoConfig service is built-in in Windows 7 that can be used to detect and connect to wireless network. This built-in wireless network connection tool is similar to wireless zero configuration tool in Windows XP.

Step 1: Right-Click on the **network icon** displayed in the system tray

Figure 6-5

Step 2: Highlight and select the wireless network (SSID) to connect

(1) Select SSID [PLANET]

(2) Click the [**Connect**] button

Figure 6-6

Note

If you will be connecting to this Wireless Router in the future, checking [**Connect automatically**].

Step 4: Enter the **encryption key** of the Wireless Router

(1) The Connect to a Network box will appear

(2) Enter the encryption key that configured in section 5.6.2

(3) Click the [OK] button

Figure 6-7

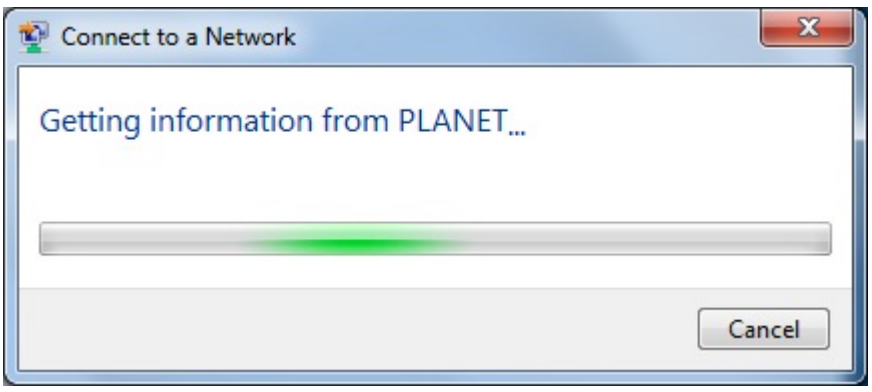


Figure 6-8

Step 5: Check if "**Connected**" is displayed

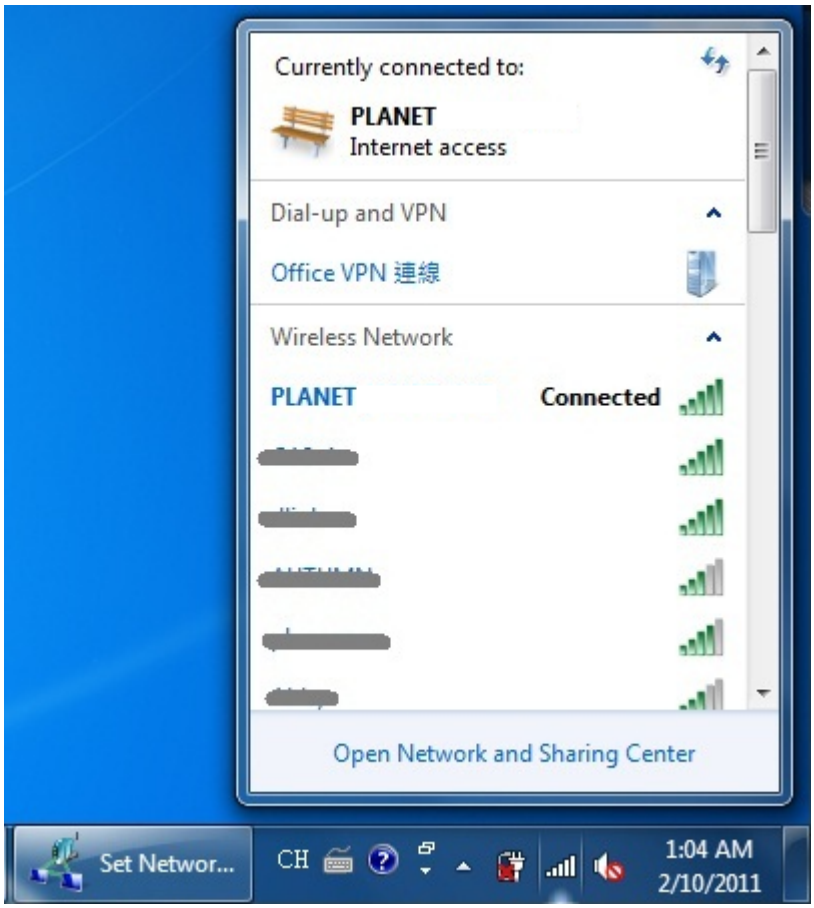

Currently connected to:
PLANET
Internet access
Dial-up and VPN
Office VPN 連線
Wireless Network
PLANET
Connected
Open Network and Sharing Center
Set Networ...
CH
1:04 AM
2/10/2011

Figure 6-9

6.3 Mac OS X 10.x

Step 1: Right-Click on the **network icon** displayed in the system tray

The AirPort Network Connection menu will appear

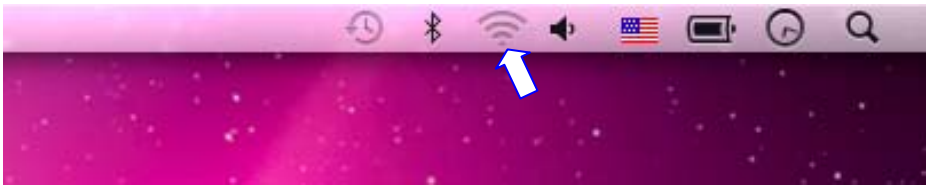


Figure 6-10

Step 2: Highlight and select the wireless network (SSID) to connect

(1) Select and SSID [PLANET]

(2) Double-click on the selected SSID

Figure 6-11

Step 4: Enter the **encryption key** of the Wireless Router

(4) Enter the encryption key that configured in section 5.6.2

(1) Click the [OK] button

Figure 6-12

Note

If you will connect this Wireless Router in the future, check [**Remember this network**].

Step 5: Check if the AirPort is connect to the selected wireless network.

If "Yes", then there will be a "check" symbol in the front of the SSID.

Figure 6-13

6.4 iPhone / iPod Touch / iPad

Step 1: Tap the [**Settings**] icon displayed in the home screen

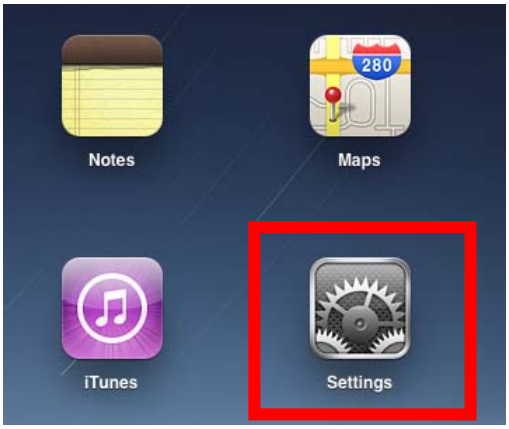


Figure 6-14

Step 2: Check Wi-Fi setting and select the available wireless network

(1) Tap [**General**] \ [**Network**]

(2) Tap [**Wi-Fi**]

If this is the first time to connect to the Wireless Router, it should shows "Not Connected".

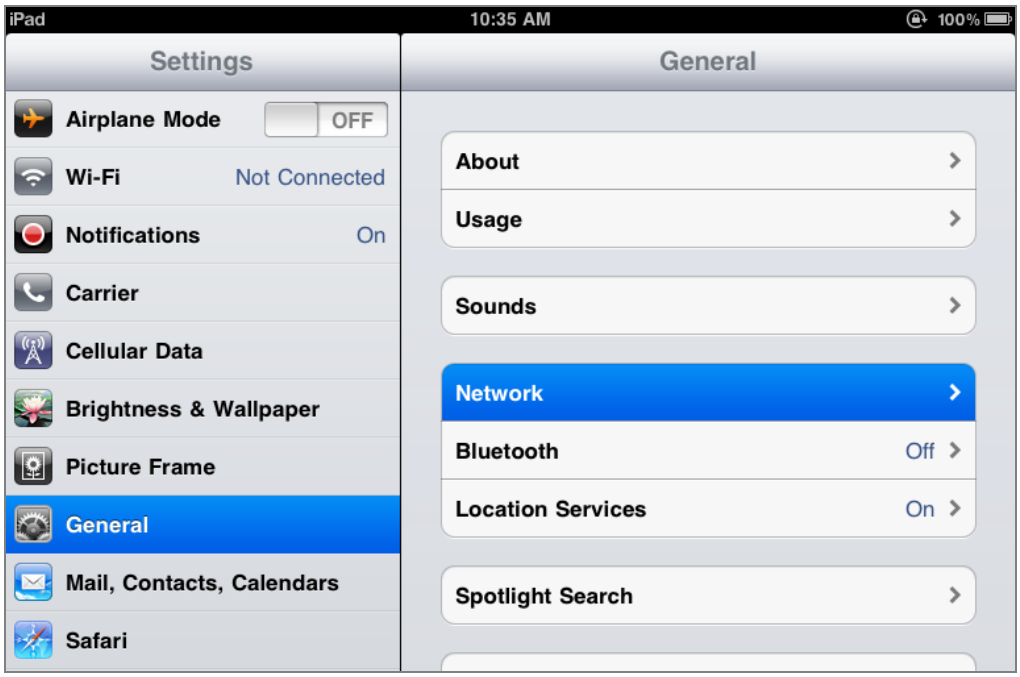


Figure 6-15

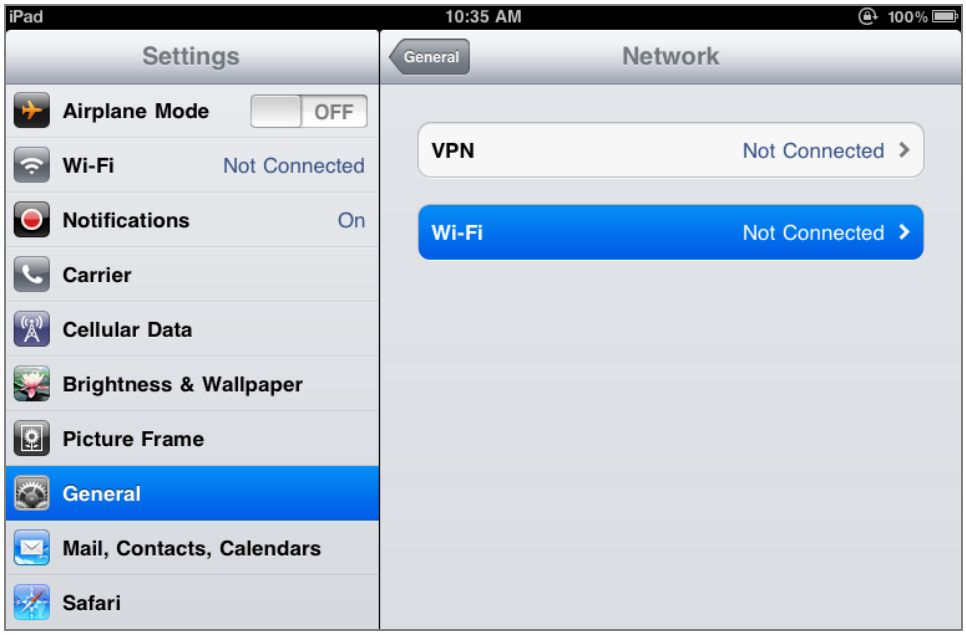


Figure 6-16

Step 3: Tap the target wireless network (SSID) in "**Choose a Network…**"

(1) Turn on Wi-Fi by tapping "**Wi-Fi**"

(2) Select SSID [PLANET]

Figure 6-17

Step 4: Enter the **encryption key** of the Wireless Router

(1) The password input screen will be displayed

(2) Enter the encryption key that configured in section 5.6.2

(3) Tap the [**Join**] button

Figure 6-18

Step 5: Check if the iDevice is connect to the selected wireless network.

If "Yes", then there will be a "check" symbol in the front of the SSID.

Figure 6-19

Appendix A: FAQ

1. How do I configure the Router to access Internet by ADSL users?

1) First, configure the ADSL Modem configured in RFC1483 bridge model.

2) Connect the Ethernet cable from your ADSL Modem to the WAN port on the Router. The telephone cord plugs into the Line port of the ADSL Modem.

3) Login to the Router, click the "Network" menu on the left of your browser, and click "WAN" submenu. On the WAN page, select "PPPoE" for WAN Connection Type. Type user name in the "User Name" field and password in the "Password" field, finish by clicking "Connect".

4) If your ADSL lease is in "pay-according-time" mode, select "Connect on Demand" or "Connect Manually" for Internet connection mode. Type an appropriate number for "Max Idle Time" to avoid wasting paid time. Otherwise, you can select "Auto-connecting" for Internet connection mode.

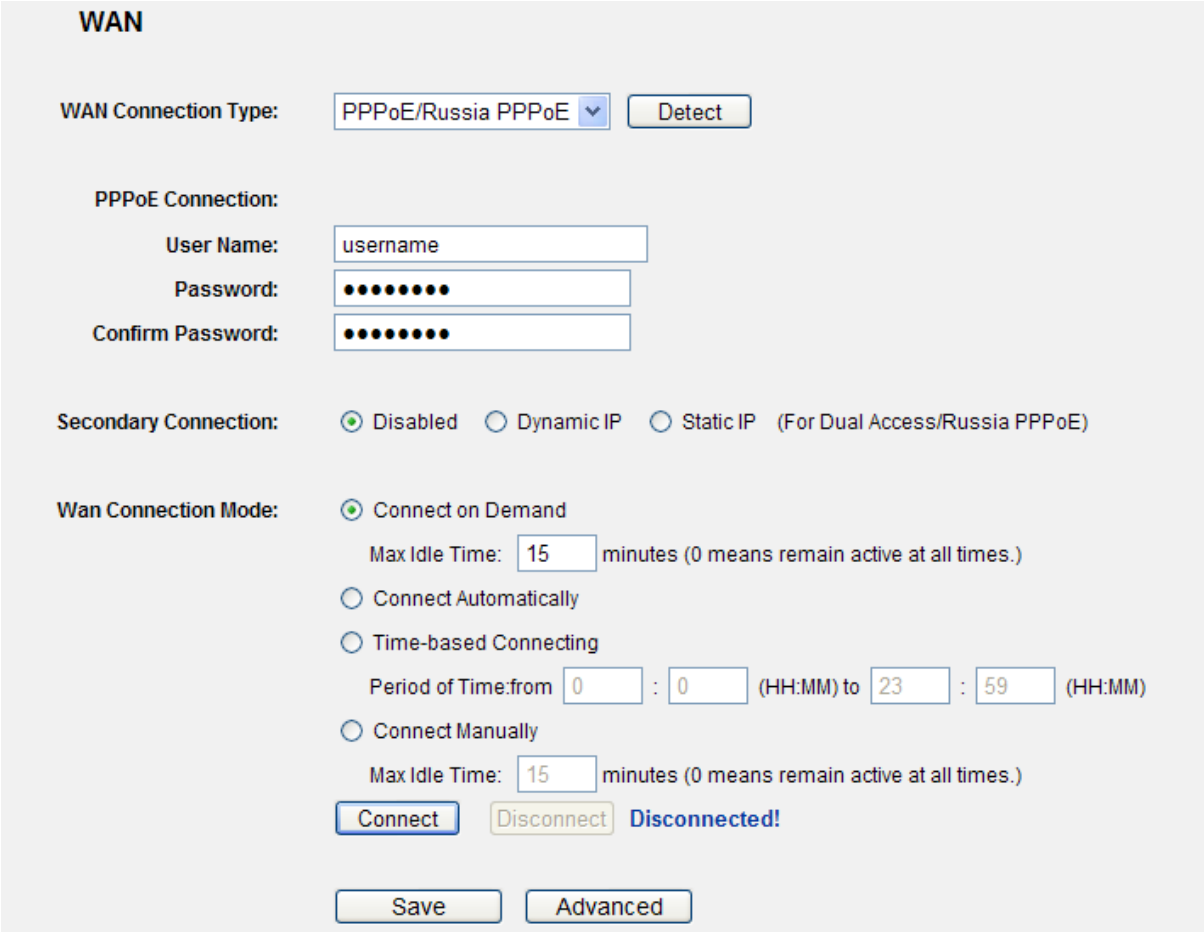


Figure A-1 PPPoE Connection Type

Note

1. Sometimes the connection cannot be disconnected although you specify a time to Max Idle Time, since some applications is visiting the Internet continually in the background.
2. If you are a Cable user, please configure the Router following the above steps.

2. How do I configure the Router to access Internet by Ethernet users?

1) Login to the Router, click the "Network" menu on the left of your browser, and click "WAN" submenu. On the WAN page, select "Dynamic IP" for "WAN Connection Type", finish by clicking "Save".

2) Some ISPs require that you register the MAC Address of your adapter, which is connected to your cable/DSL Modem during installation. If your ISP requires MAC register, login to the Router and click the "Network" menu link on the left of your browser, and then click "MAC Clone" submenu link. On the "MAC Clone" page, if your PC's MAC address is proper MAC address, click the "Clone MAC Address" button and your PC's MAC address will fill in the "WAN MAC Address" field. Or else, type the MAC Address into the "WAN MAC Address" field. The format for the MAC Address is XX-XX-XX-XX-XX-XX. Then click the "Save" button. It will take effect after rebooting.

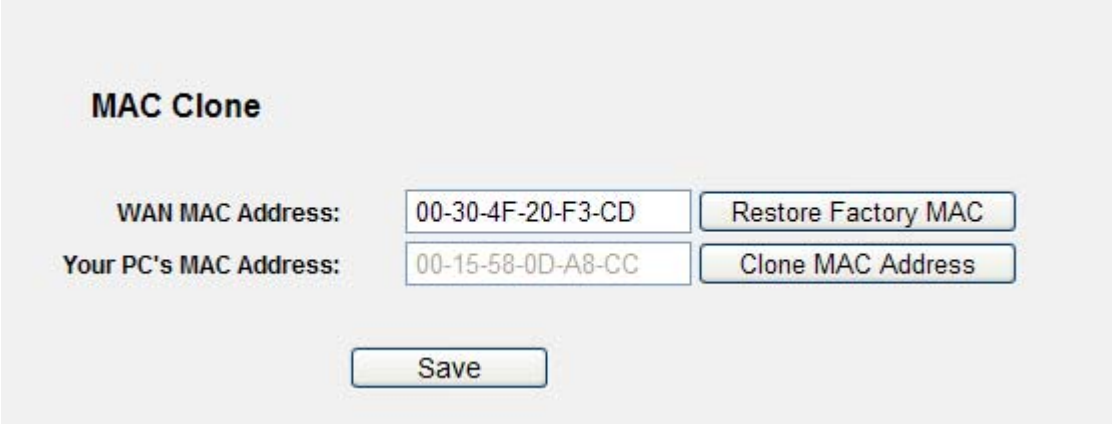


Figure A-2 MAC Clone

3. I want to use Netmeeting, what do I need to do?

1) If you start Netmeeting as a host, you don't need to do anything with the Router.

2) If you start as a response, you need to configure Virtual Server or DMZ Host and make sure the H323 ALG is enabled.

3) How to configure Virtual Server: Log in to the Router, click the "**Forwarding**" menu on the left of your browser, and click "**Virtual Servers**" submenu. On the "**Virtual Servers**" page, click **Add New…**. Then on the "**Add or Modify a Virtual Server Entry**" page, enter "1720" for the "Service Port" blank, and your IP address for the "IP Address" blank, taking 192.168.1.169 for

an example, remember to **Enable** and **Save**.

Figure A-3 Virtual Servers

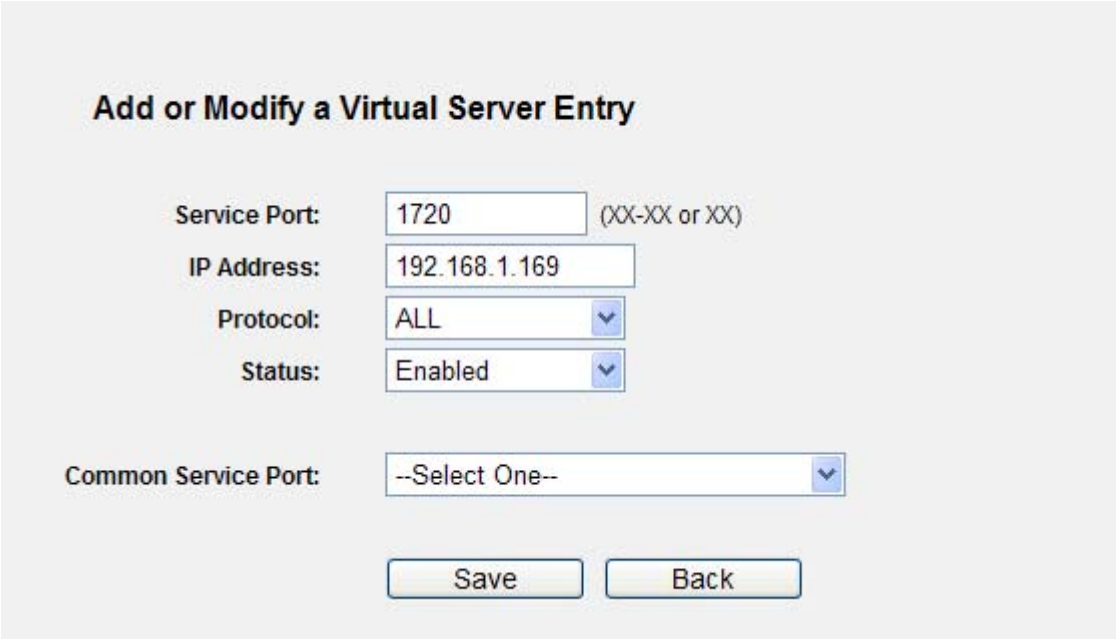


Figure A-4 Add or Modify a Virtual server Entry

Note

Your opposite side should call your WAN IP, which is displayed on the "Status" page.

4) How to enable DMZ Host: Log in to the Router, click the "**Forwarding**" menu on the left of your browser, and click "**DMZ**" submenu. On the "DMZ" page, click **Enable** radio button and type your IP address into the "DMZ Host IP Address" field, using 192.168.1.169 as an example, remember to click the **Save** button.

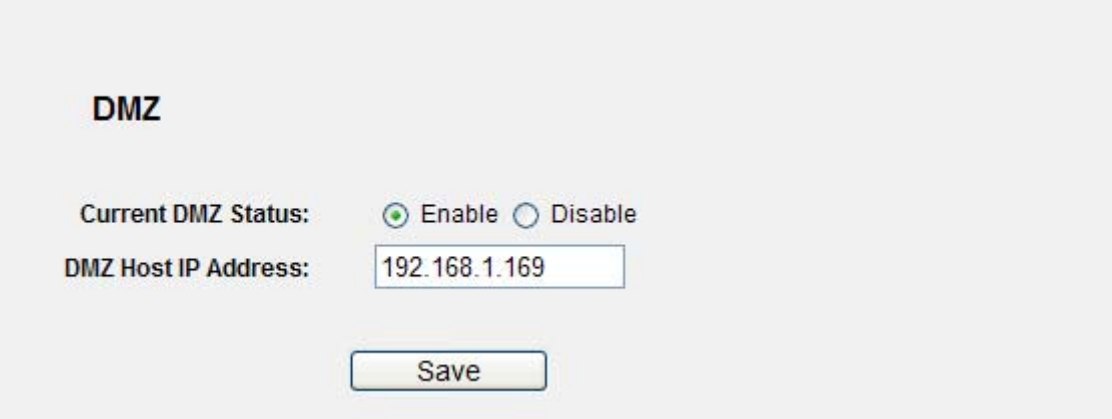


Figure A-5 DMZ

5) How to enable H323 ALG: Log in to the Router, click the "**Security**" menu on the left of your browser, and click "**Basic Security**" submenu. On the "**Basic Security**" page, check the **Enable** radio button next to **H323 ALG**. Remember to click the **Save** button.

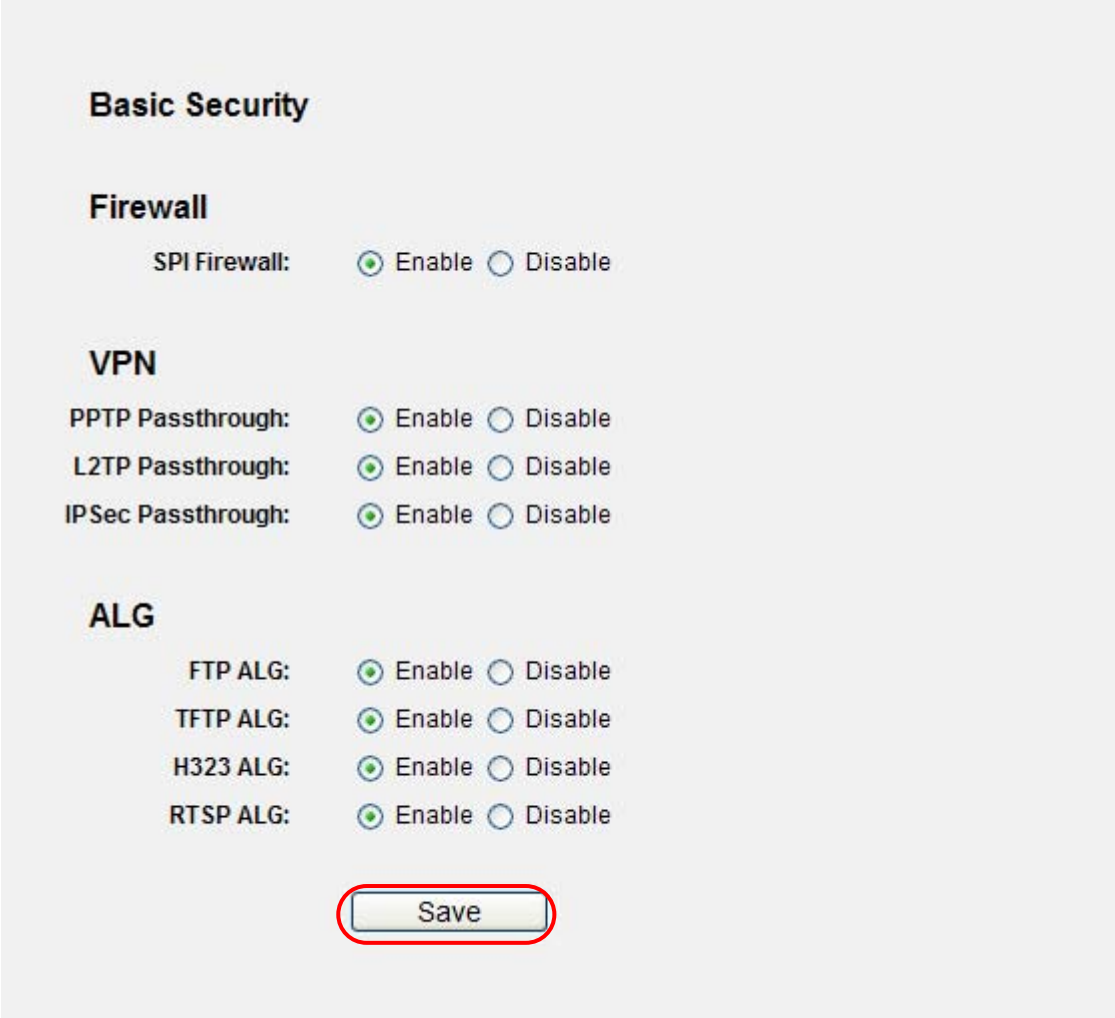


Figure A-6 Basic Security

4. I want to build a WEB Server on the LAN, what should I do?

1) Because the WEB Server port 80 will interfere with the WEB management port 80 on the Router, you must change the WEB management port number to avoid interference.

2) To change the WEB management port number: Log in to the Router, click the "**Security**" menu on the left of your browser, and click "**Remote Management**" submenu. On the "**Remote Management**" page, type a port number except 80, such as 88, into the "Web Management Port" field. Click **Save** and reboot the Router.

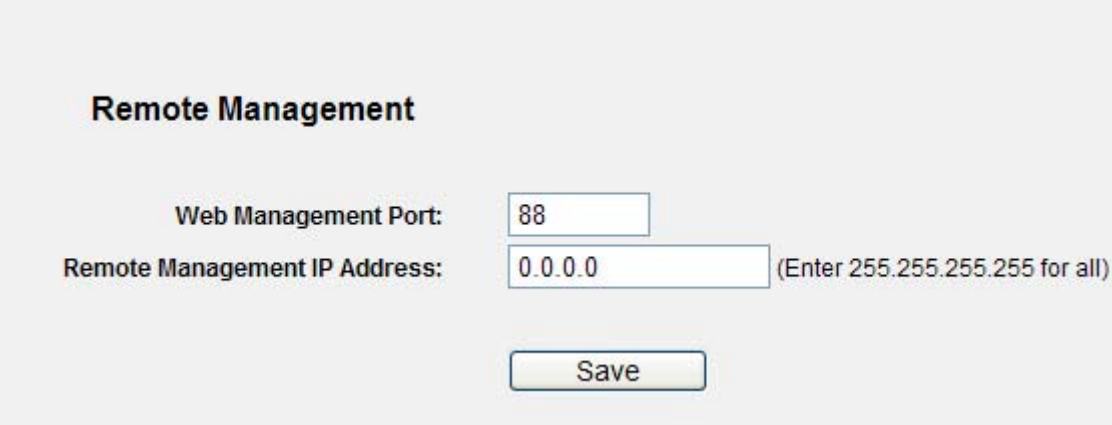


Figure A-7 Remote Management

Note

If the above configuration takes effect, you can configure the Router by typing http://192.168.1.1:88 (the Router's LAN IP address: Web Management Port) in the address field of the Web browser.

3) Log in to the Router, click the "**Forwarding**" menu on the left of your browser, and click the "**Virtual Servers**" submenu. On the "**Virtual Servers**" page, click **Add New…**, then on the "**Add or Modify a Virtual Server**" page, enter "80" into the blank next to the "**Service Port**", and your IP address next to the "**IP Address**", assuming 192.168.1.188 for an example, remember to **Enable** and **Save**.

Figure A-8 Virtual Servers

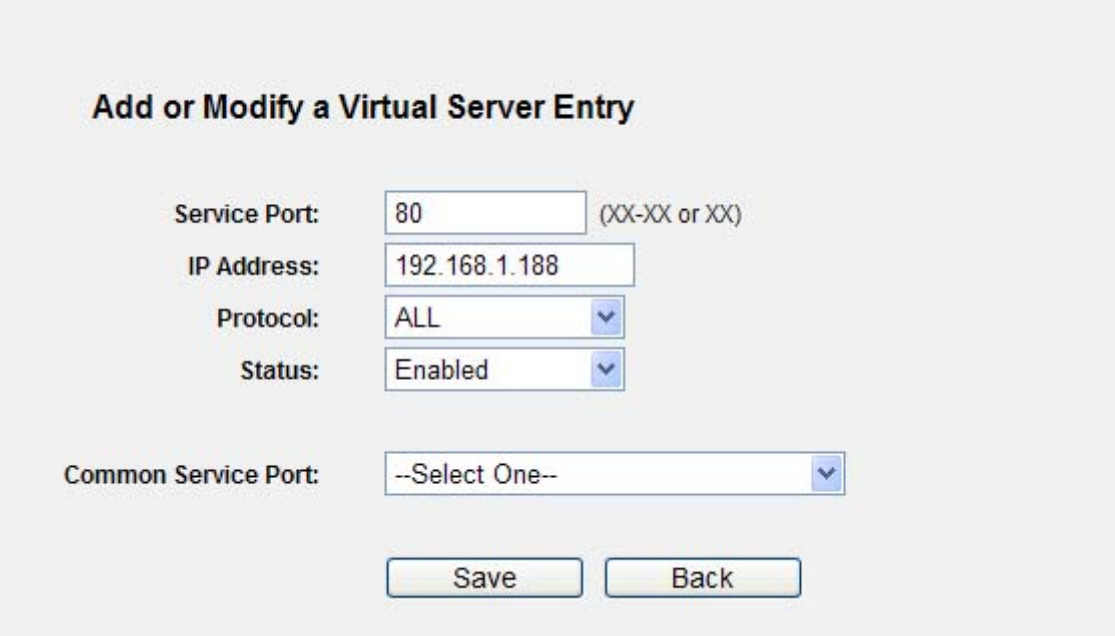


Figure A-9 Add or Modify a Virtual server Entry

5. The wireless stations cannot connect to the Router.

1) Make sure the "**Wireless Router Radio**" is enabled.

2) Make sure that the wireless stations' SSID accord with the Router's SSID.

3) Make sure the wireless stations have right KEY for encryption when the Router is encrypted.

4) If the wireless connection is ready, but you can't access the Router, check the IP Address of your wireless stations.

Appendix B: Configuring the PCs

In this section, we'll introduce how to install and configure the TCP/IP correctly in Windows XP. First make sure your Ethernet Adapter is working, refer to the adapter's manual if needed.

3. Install TCP/IP component

1) On the Windows taskbar, click the **Start** button, point to **Settings**, and then click **Control Panel**.

2) Click the **Network and Internet Connections** icon, and then click on the **Network Connections** tab in the appearing window.

3) Right click the icon shown below, select Properties on the prompt page.

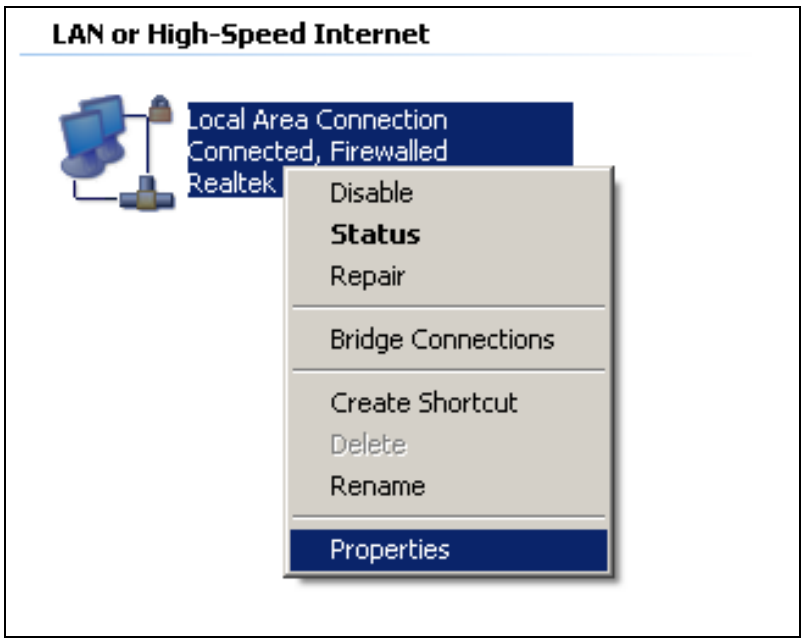


Figure B-1

4) In the prompt page shown below, double click on the **Internet Protocol (TCP/IP)**.

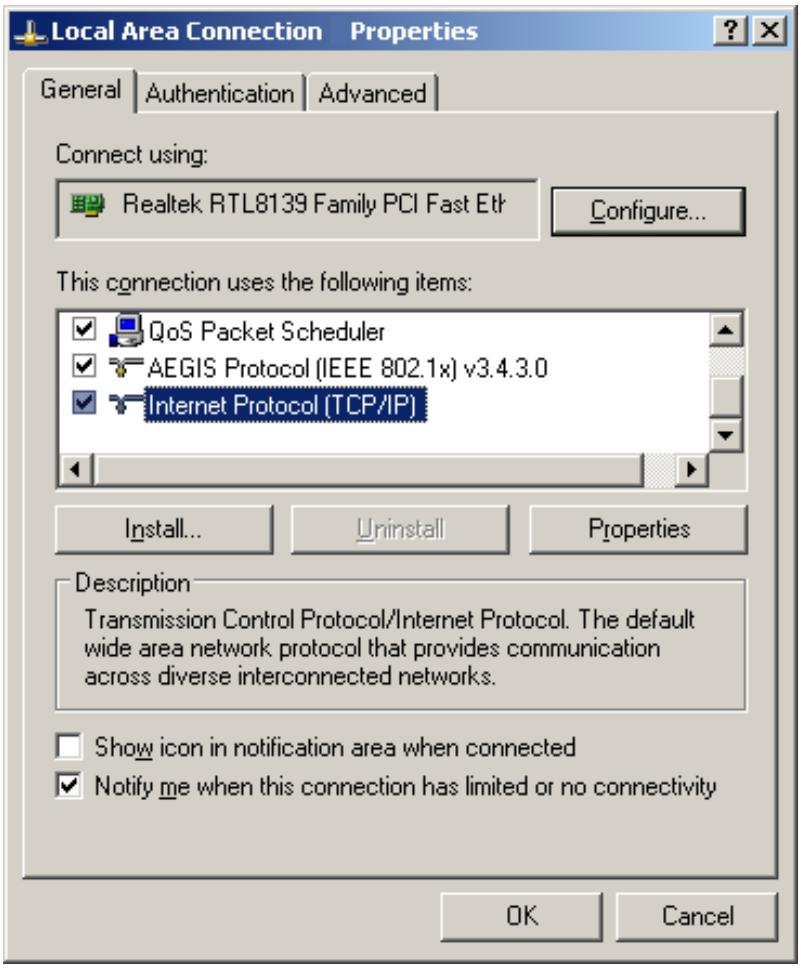


Figure B-2

5) The following **TCP/IP Properties** window will display and the **IP Address** tab is open on this window by default.

Now you have two ways to configure the **TCP/IP** protocol below:

- **Setting IP address automatically**

Select **Obtain an IP address automatically**, Choose **Obtain DNS server automatically**, as shown in the Figure below:

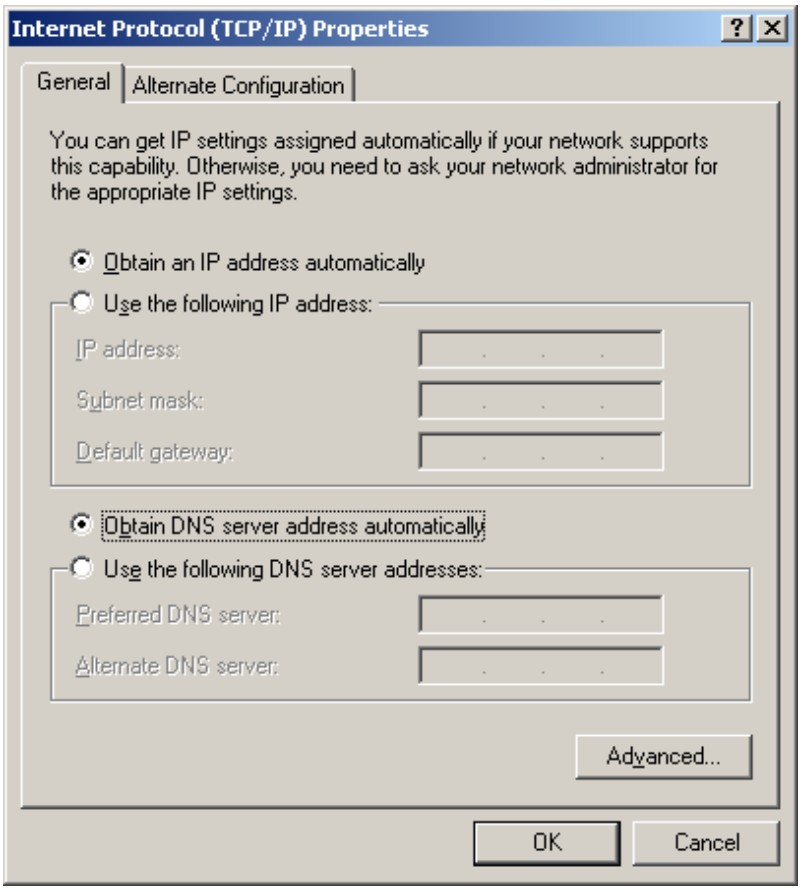


Figure B-3

➢ **Setting IP address manually**

5 Select **Use the following IP address** radio button.

6 If the Router's LAN IP address is 192.168.1.1, type in IP address 192.168.1.x (x is from 2 to 254), and **Subnet mask** 255.255.255.0.

7 Type the Router's LAN IP address (the default IP is 192.168.1.1) into the **Default gateway** field.

8 Select **Use the following DNS server addresses** radio button. In the **Preferred DNS Server** field you can type the DNS server IP address which has been provided by your ISP

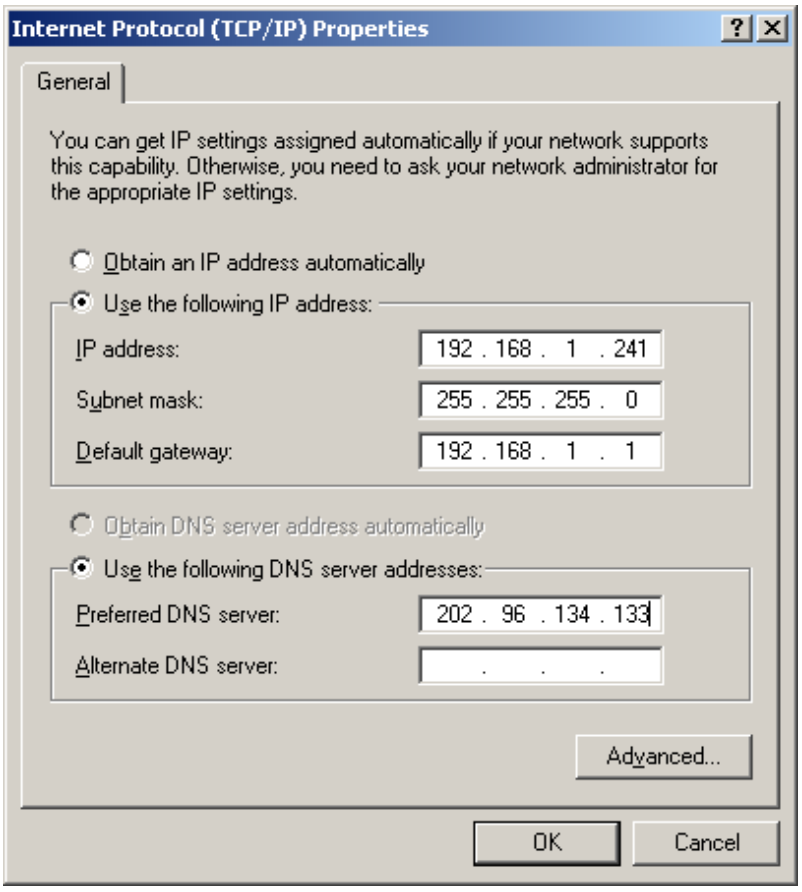


Figure B-4

Now click **OK** to keep your settings.

Appendix C: Specifications

Product	**WNRT-617G** 150Mbps 802.11n Wireless 3G Router	
Hardware Specification		
Interface	WAN Port:	1 x 10/100Mbps Auto MDI/MDI-X RJ45 port
	LAN Port:	4 x 10/100Mbps Auto MDI/MDI-X RJ45 ports
	USB port	1 x USB 2.0 port
Antenna	Gain:	1 x Detachable RP-SMA Connector 1 x 5dBi SMA antenna included in the package
	Orientation:	Omni-directional
Power Button	Power On/Off button at rear panel	
WPS / Reset Button	WPS / Reset button at front panel Push for above 5 seconds to reset to factory default setting	
LED Indicators	PWR, SYS, WLAN, LAN x 4, WAN, 3G, WPS with green light	
Material	Plastic	
Dimension (W x D x H)	174 x 110 x 23 mm	
Weight	200g	
Power Requirement	12V DC, 1A	
Wireless interface Specification		
Standard	Compliance with IEEE 802.11b/g/n	
Frequency Band	2.4~2.4835GHz	
Extend Frequency	DSSS	
Modulation Type	DBPSK, DQPSK, QPSK, CCK and OFDM (BPSK/QPSK/16-QAM/ 64-QAM)	
Data Transmission Rates	11n: 135/121.5/108/81/54/40.5/27/13.5Mbps 130/117/104/78/52/39/26/13Mbps 65/58.5/52/39/26/19.5/13/6.5Mbps (Dynamic) 11g: 54/48/36/24/18/12/9/6Mbps (Dynamic) 11b: 11/5.5/2/1Mbps (Dynamic)	
Transmission Distance	Indoor up to 100m outdoor up to 300m (it is limited to the environment)	
Channel	America/ FCC: 2.414~2.462GHz (11 Channels) Europe/ ETSI: 2.412~2.472GHz (13 Channels) Japan/ TELEC: 2.412~2.484GHz (14 Channels)	
RF Power	High: 18 dBm (max) Middle: 15 dBm Low: 12 dBm	
Receive Sensitivity	130M: -68dBm@10% PER 108M: -68dBm@10% PER 54M: -68dBm@10% PER 11M: -85dBm@8% PER 6M: -88dBm@10% PER	

	1M: -90dBm@8% PER
Wireless Management Features	
Wireless Operation Mode	AP, WDS (AP+Bridge)
Encryption Security	WEP (64/128/152-bit) encryption security
	WPA-PSK / WPA2-PSK (TKIP/AES) WPA / WPA2 (TKIP/AES) WPA / WPA2 enterprise mode (802.1x authentication)
Wireless Security	Provide wireless LAN ACL (Access Control List) filtering
	Wireless MAC address filtering
	Support WPS(WIFI Protected Setup)
	Enable/Disable SSID Broadcast
Wireless Advanced	Support 802.11e WMM (Wi-Fi Multimedia)
	Support Wireless Roaming
	Provide Wireless Statistics
Router Features	
Internet Connection Type	Shares data and Internet access for users, supporting following internet access: ■ PPPoE / Russia PPPoE ■ Dynamic IP ■ Static IP ■ Telstra Big Pond ■ PPTP / Russia PPTP ■ L2TP / Russia L2TP
Firewall	NAT firewall with SPI (Stateful Packet Inspection)
	NAT with ALG (Application Layer Gateway)
	Built-in NAT server supporting Virtual Server, and DMZ
	Built-in firewall with IP address filtering, Domain Name filtering, and MAC address filtering
	Support ICMP-FLOOD, UDP-FLOOD, TCP-SYN-FLOOD filter, DoS protection
Routing Protocol	Static Routing
VPN Pass-through	PPTP, L2TP, IPSec
LAN	Built-in DHCP server supporting static IP address distributing
	Support UPnP, Dynamic DNS
	Support Flow Statistics
	IP & MAC Binding
	IP / Protocol-based Bandwidth Control
	Session Number: Max 5210
System Management	Web-based (HTTP) management interface
	Remote management
	SNTP time synchronize
	Easy firmware upgrade
	System Log supports auto mail and save to local host

OS Compatibility	Windows 7(32-bit/64-bit) Windows Vista (32-bit/64-bit) Windows XP Mac OS X 10.4 and higher
Standards Conformance	
IEEE Standards	IEEE 802.11n (1T1R, up to 150Mbps) IEEE 802.11g IEEE 802.11b IEEE 802.11i IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3x Flow Control
Others Protocols and Standards	CSMA/CA, CSMA/CD, TCP/IP, DHCP, ICMP, NAT, PPPoE, SNTP

Appendix D: Glossary

- **802.11n -** 802.11n builds upon previous 802.11 standards by adding MIMO (multiple-input multiple-output). MIMO uses multiple transmitter and receiver antennas to allow for increased data throughput via spatial multiplexing and increased range by exploiting the spatial diversity, perhaps through coding schemes like Alamouti coding. The Enhanced Wireless Consortium (EWC) [3] was formed to help accelerate the IEEE 802.11n development process and promote a technology specification for interoperability of next-generation wireless local area networking (WLAN) products.
- **802.11b -** The 802.11b standard specifies a wireless networking at 11 Mbps using direct-sequence spread-spectrum (DSSS) technology and operating in the unlicensed radio spectrum at 2.4GHz, and WEP encryption for security. 802.11b networks are also referred to as Wi-Fi networks.
- **802.11g -** specification for wireless networking at 54 Mbps using direct-sequence spread-spectrum (DSSS) technology, using OFDM modulation and operating in the unlicensed radio spectrum at 2.4GHz, and backward compatibility with IEEE 802.11b devices, and WEP encryption for security.
- **DDNS** (**D**ynamic **D**omain **N**ame **S**ystem) **-** The capability of assigning a fixed host and domain name to a dynamic Internet IP Address.
- **DHCP** (**D**ynamic **H**ost **C**onfiguration **P**rotocol) **-** A protocol that automatically configure the TCP/IP parameters for the all the PC(s) that are connected to a DHCP server.
- **DMZ** (**De**militarized **Z**one) **-** A Demilitarized Zone allows one local host to be exposed to the Internet for a special-purpose service such as Internet gaming or videoconferencing.
- **DNS** (**D**omain **N**ame **S**ystem) **-** An Internet Service that translates the names of websites into IP addresses.
- **Domain Name -** A descriptive name for an address or group of addresses on the Internet.
- **DSL** (**D**igital **S**ubscriber **L**ine) **-** A technology that allows data to be sent or received over existing traditional phone lines.
- **ISP** (**I**nternet **S**ervice **P**rovider) **-** A company that provides access to the Internet.
- **MTU** (**Maximum Transmission Unit**) **-** The size in bytes of the largest packet that can be transmitted.
- **NAT** (**N**etwork **A**ddress **T**ranslation) **-** NAT technology translates IP addresses of a local area network to a different IP address for the Internet.
- **PPPoE** (**P**oint to **P**oint **P**rotocol **o**ver **E**thernet) **-** PPPoE is a protocol for connecting remote hosts to the Internet over an always-on connection by simulating a dial-up connection.

- **SSID -** A **S**ervice **S**et **Id**entification is a thirty-two character (maximum) alphanumeric key identifying a wireless local area network. For the wireless devices in a network to communicate with each other, all devices must be configured with the same SSID. This is typically the configuration parameter for a wireless PC card. It corresponds to the ESSID in the wireless Access Point and to the wireless network name.
- **WEP** (**W**ired **E**quivalent **P**rivacy) **-** A data privacy mechanism based on a 64-bit or 128-bit or 152-bit shared key algorithm, as described in the IEEE 802.11 standard.
- **Wi-Fi -** A trade name for the 802.11b wireless networking standard, given by the Wireless Ethernet Compatibility Alliance (WECA, see http://www.wi-fi.net), an industry standards group promoting interoperability among 802.11b devices.
- **WLAN** (**W**ireless **L**ocal **A**rea **N**etwork) **-** A group of computers and associated devices communicate with each other wirelessly, which network serving users are limited in a local area.

EC Declaration of Conformity

For the following equipment:

*Type of Product: 150Mbps 802.11n Wireless 3G Router
*Model Number: WNRT-617G

* Produced by:
Manufacturer's Name : **Planet Technology Corp.**
Manufacturer's Address: 10F., No.96, Minquan Rd., Xindian Dist.,
New Taipei City 231, Taiwan (R.O.C.)

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to 1999/5/EC R&TTE.
For the evaluation regarding the R&TTE the following standards were applied:

EN 300 328 V1.7.1	(2006-10)
EN 301 489-17 V1.2.1	(2002-08)
EN 301 489-1 V1.6.1	(2005-09)
EN 55022	(1998 + A1:2000 + A2:2003)
EN 61000-3-2	(2006)
EN 61000-3-3	(1995+A1:2001+A2:2005)
EN 61000-4-2	(1995+A1:1998+A2:2001)
EN 61000-4-3	(1996+A1:1998+A2:2001)
EN 61000-4-4	(1995+A1:2001)
EN 61000-4-5	(1995+A1:2001)
EN 61000-4-6	(1996+A1:2001)
EN 61000-4-11	(1994+A1:2001)
EN 60950-1	(2006)

Responsible for marking this declaration if the:

☒ **Manufacturer** ☐ **Authorized representative established within the EU**

Authorized representative established within the EU (if applicable):

Company Name: **Planet Technology Corp.**

Company Address: **10F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)**

Person responsible for making this declaration

Name, Surname **Kent Kang**

Position / Title : **Product Manager**

Taiwan	**8st March, 2011**	Kent Kang
Place	*Date*	*Legal Signature*