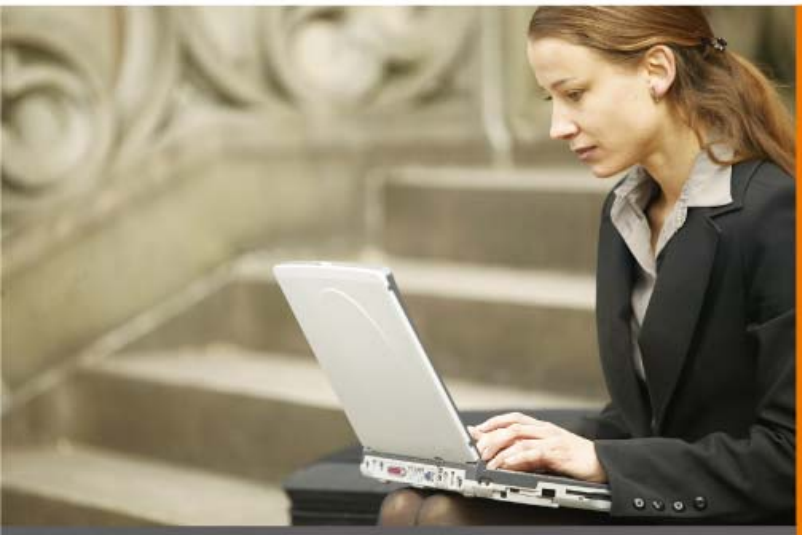
PLANET
Networking & Communication

User's Manual

3G / 802.11n
Wireless Portable Router with 3G HSUPA

►WNRT-320GS



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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.

CE mark Warning

This is a class B device, in a domestic environment; this product may cause radio interference, in which case the user may be required to take adequate measures.

Energy Saving Note of the Device

This power required device does not support Stand by mode operation.
For energy saving, please remove the DC-plug or push the hardware Power Switch to OFF position to disconnect
the device from the power circuit.
Without remove the DC-plug or switch off the device, the device will still consuming power from the power circuit. In the view of Saving the Energy and reduce the unnecessary power consuming, it is strongly suggested to switch off or remove the DC-plug for the device if this device is not intended to be active.

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

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 3G / 802.11n Wireless Portable Router with 3G HSUPA

Model: WNRT-320GS

Rev: 1.0 (March, 2012)

Part No. EM-WNRT320GSv1_v1.0 (2081-E50250-000)

CONTENTS

Chapter 1. Product Introduction

1.1. Package Contents

The following items should be contained in the package:

- WNRT-320GS Wireless Portable 3G Router
- Power Adapter
- USB Cable
- Ethernet Cable
- Li-ion Battery
- 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

Figure 1-1

3G/3.5G Broadband Sharing

PLANET 3G Wireless Portable Router, WNRT-320GS, provides home and SOHO users a reliable and cost effective wireless solution by featuring 3G / WAN Internet access and high speed IEEE 802.11n wireless transmission. The WNRT-320GS is equipped with a built-in 3G module for the connection to WCDMA / HSDPA / HSUPA mobile network. Users can install their SIM card into the slot of the WNRT-320GS directly without any external 3G modem necessary any more. Furthermore, the WAN port on the WNRT-320GS is for wired Cable / xDSL service connection. The WNRT-320GS provides

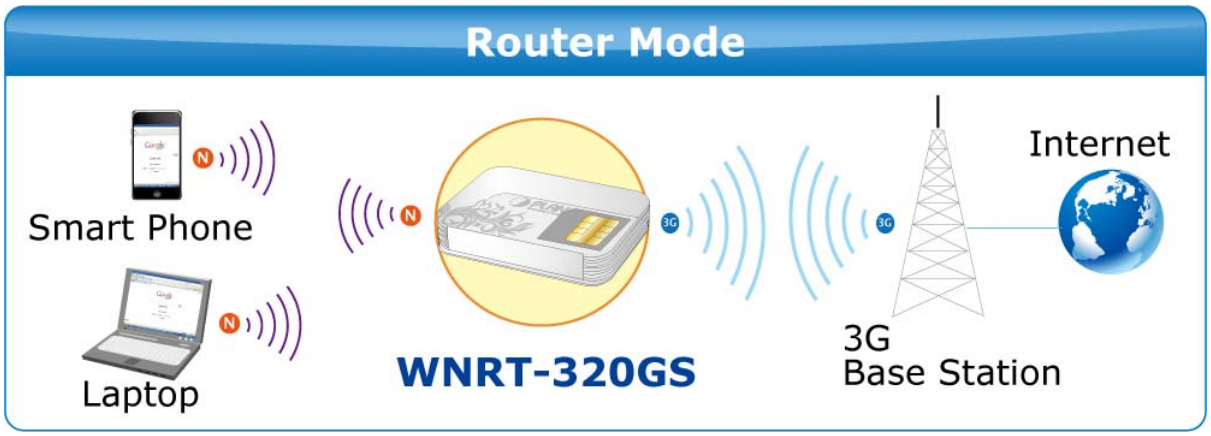
more flexible and easier way for users to share an instant wireless network service via 3G modem wherever at Home, Hotspot, or in public places like transportation, outdoor events, and etc.

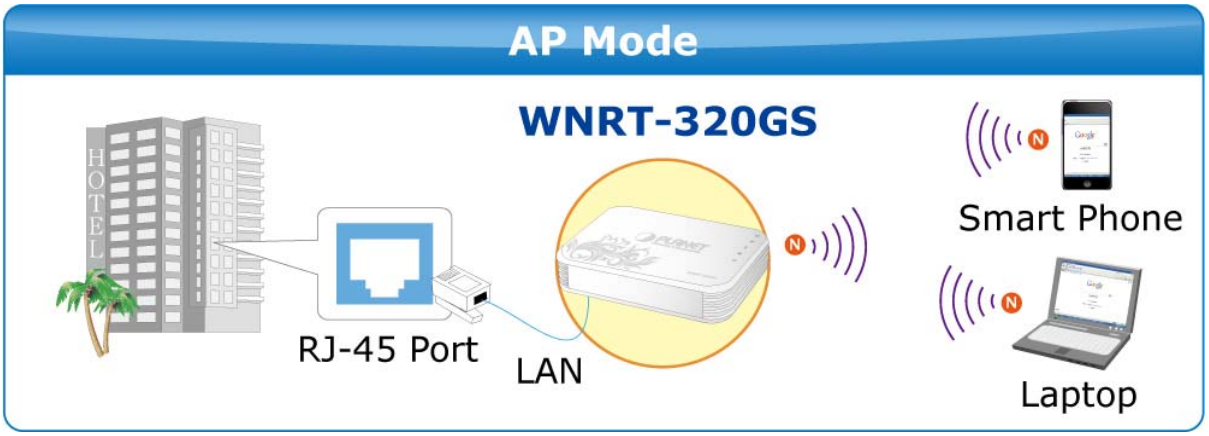
Multiple Wireless Network Technologies for Greater Access

PLANET Wireless Portable 3G Router, the WNRT-320GS features 802.11n radio with 1T1R antenna technology compliant with 802.11b/g/n standards. Compared with general wireless routers, the WNRT-320GS offers more powerful and flexible capability for business demands to access Internet with true mobility and range extension of wireless network.

More Flexibility and Mobility

With the tiny-sized and stylish design, the WNRT-320GS is easy to carry for true mobility. It can be operate in various environments by hardware switch with the **AP and Router modes**, which helps to immediately set up a wireless network without software configuration. The portable design and operation flexibility make the WNRT-320GS suitable for travelling, moving and outdoor applications.





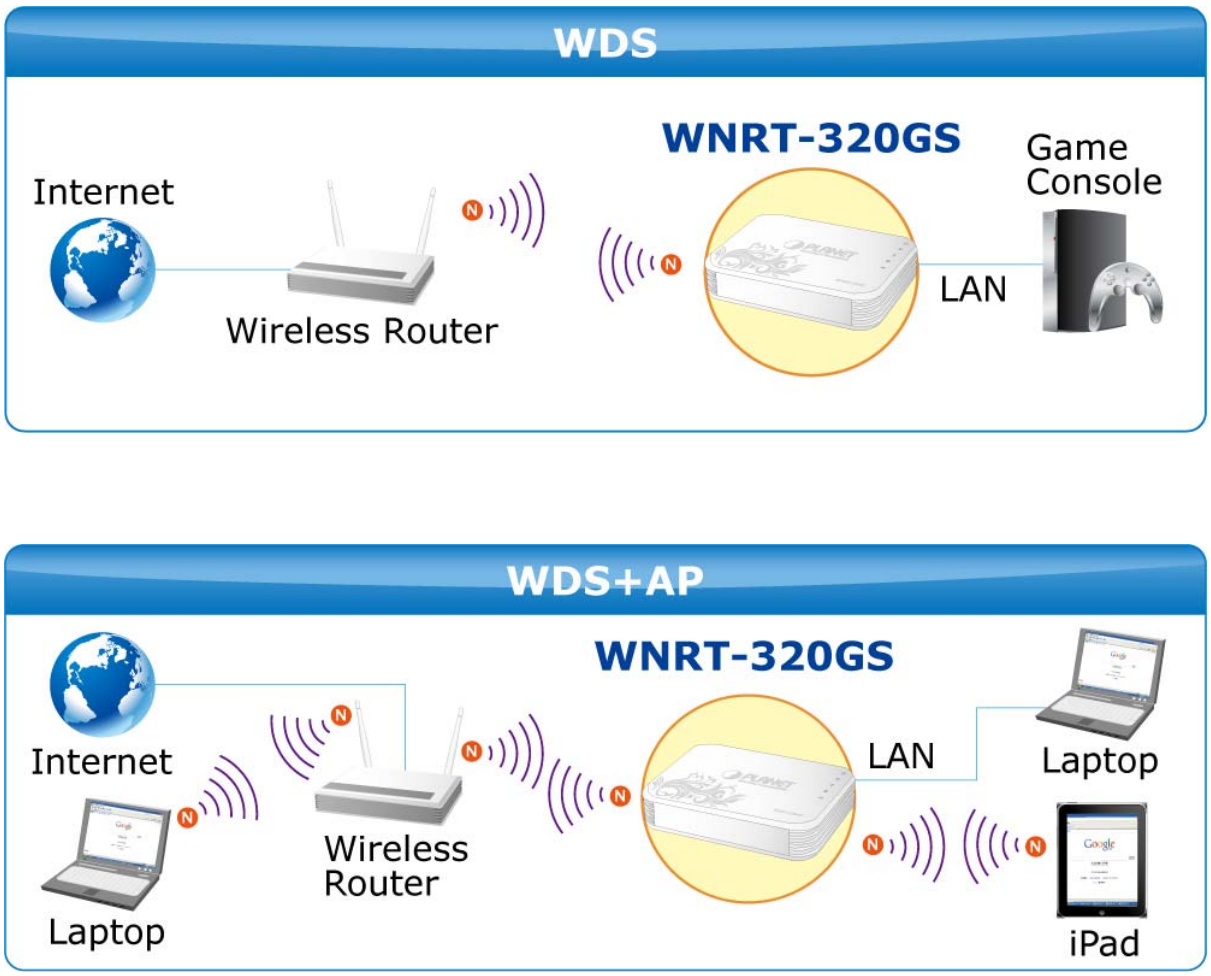


Figure 1-2

Built-in High Capacity Battery

The WNRT-320GS has one built-in rechargeable lithium battery whose power is supplied through mini USB interface. The power can be directly charged via the computer's USB port which increases the convenience even when there is no power outlet available.

One-touch Secure Wireless Connection

In order to simplify security settings for home and SOHO network, the WNRT-320GS supports **W**i-Fi **P**rotected **S**etup (**WPS**) with configuration in PBC and PIN type. Just push the WPS button or key in the PIN code, the secure connection between the WNRT-320GS and the wireless clients can be established immediately, which offers users a convenient and fast method to construct a secure wireless connection.

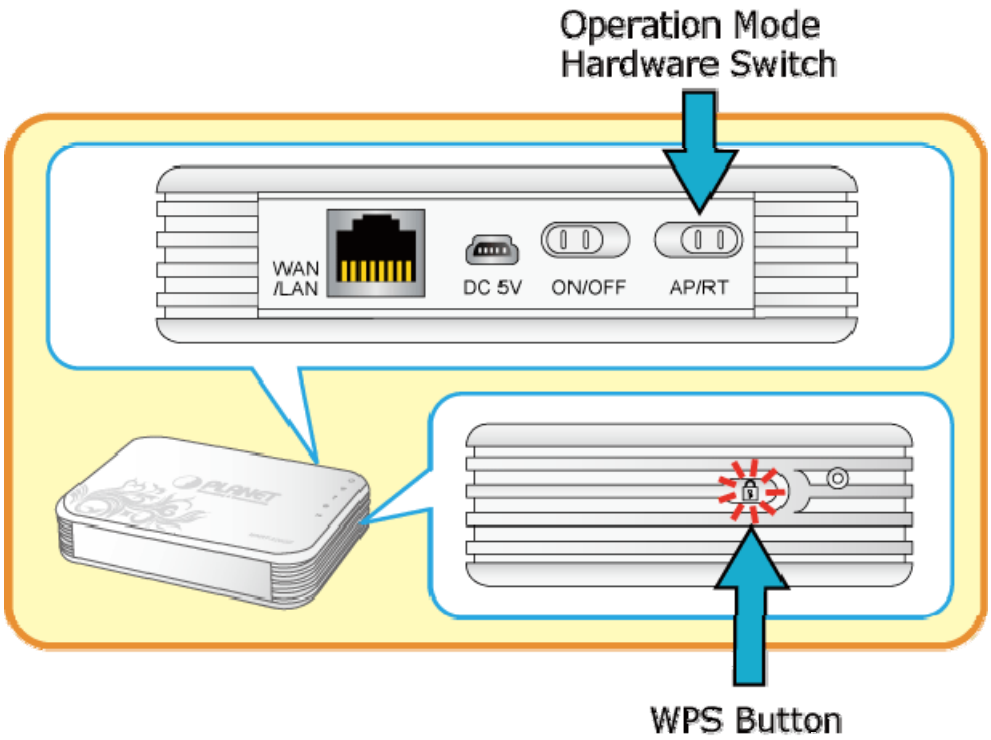


Figure 1-3

Wide Range of Wireless Security Support

To secure the wireless communication, the WNRT-320GS supports most up-to-date encryptions including WPA/WPA2-PSK with TKIP/AES. Made to fulfill enterprise and various applications demand, the WNRT-320GS enhances security and management features such as multiple SSID support. It can create up to 5 virtual standalone AP with 5 different SSID according to individual security levels and encryption scheme of various wireless devices.

Advanced Firewall Security

In the Router mode, the WNRT-320GS supports NAT functions and allows multiple users to access Internet via only one single legal IP. It provides Port Forwarding and DMZ for LAN PC to act as an application server. Furthermore, the advanced firewall by the WNRT-320GS can protect your Intranet clients from unauthorized accesses and various DoS attacks from the Internet. In aspect of the firewall, the WNRT-320GS provides IP/ MAC/ Port/ URL filtering, and prevents possible hackers attack.

Easy Setup Anytime Anywhere

The WNRT-320GS provides a total solution for home and business users. With the High Speed 802.11n wireless technology, the WNRT-320GS is easy to integrate the wireless devices with your existing wired network.

1.3. Product Features

- **3G / 3.75G Mobile Internet Connection**

- Dual Network Interfaces: WAN port for cable or wired xDSL service + built-in 3G mobile connection
- Compatible with WCDMA / HSDPA / HSUPA Mobile Network

➢ **Industrial 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 one 10/100Mbps RJ-45 Ethernet port for LAN/WAN, Auto MDI/MDI-X supported

➢ **Wireless Network Range Extender**

- Multiple Wireless Modes: AP, WDS, Repeater
- Support WMM (Wi-Fi Multimedia)
- Support IAPP (Inter Access Point Protocol), Wireless Roaming

➢ **Fixed-network Broadband Router**

- Supported Internet types: Dynamic IP/ Static IP/ PPPoE/ L2TP/ PPTP
- Support Static & Dynamic (RIP1 and 2) Routing
- Support IP / MAC-based Bandwidth Control
- Support 802.1d STP & IGMP Proxy

➢ **Secure Network Connection**

- Advanced security: 64/128-bit WEP, WPA-Enterprise/WPA2-Enterprise and WPA-PSK/WPA2-PSK with TKIP/AES Encryption, 802.1x Authentication
- Built-in NAT firewall features with Port/ IP/ MAC/ URL Filtering, and DoS protection.

➢ **Advanced Networking function for Specific Application**

- Support multiple sessions IPSec, L2TP, PPTP, and IPv6 VPN pass-through
- Support Port Forwarding, DMZ, UPnP, QoS, and Dynamic DNS for various networking applications
- Support DHCP Server

➢ **Easy to install & Management**

- Web-based UI and Setup Wizard for easy configuration
- System status monitoring includes DHCP Client, System Log

➢ **Flexible usage & Business-oriented design**

- Portable and Pocket-sized design for true mobility
- Hardware switchable operation modes: Router / AP
- One-touch Wi-Fi Protected Setup (WPS)
- Built-in rechargeable Li-ion battery

1.4. Product Specification

Product	**WNRT-320GS** 3G / 802.11n Wireless Portable Router with 3G HSUPA	
Hardware Specification		
Interface	WAN/LAN	1 x 10/100Mbps Auto MDI/MDI-X RJ45 port
	1 x SIM card interface for plug SIM card	

	1 x mini USB port for charging battery	
Antenna	Gain	1 x Internal 2dBi Antenna
	Orientation	Omni-directional
Button/Switch	Rear panel (from left to right): Power On/Off Switch Mode Selection Switch (Router/AP) Side panel: WPS button Reset button *Push for above 5 seconds to reset to factory default settings	
LED Indicators	Power, Wireless LAN, WPS, WAN/LAN, 3G	
Material	Plastic	
3G interface Specification		
Network Type	WCDMA / HSDPA / HSUPA	
Transmit Rate	Up to Download 7.2Mbps, Uplink 5.76Mbps	
Frequency Range	2100MHz	
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: Up to 150Mbps (Dynamic) 11g: Up to 54Mbps (Dynamic) 11b: Up to 11Mbps (Dynamic)	
Transmission Distance	Indoor up to 100m outdoor up to 300m (it is limited to the environment)	
Channel	America/ FCC: 2.412~2.462GHz (11 Channels) Europe/ ETSI: 2.412~2.472GHz (13 Channels) Japan/ TELEC: 2.412~2.484GHz (14 Channels)	
Max. RF Power	20 dBm (EIRP)	
Receive Sensitivity	135M: -68dBm@10% PER 54M: -68dBm@10% PER 11M: -85dBm@8% PER	
Software Features		
Operation Mode	■ **AP** ■ **Router** (by hardware switch)	
Wireless Mode	AP, WDS, Repeater (WDS+AP)	
Encryption Security	WEP (64/128-bit) encryption security WPA-Enterprise / WPA2-Enterprise (TKIP/AES) WPA-Personal / WPA2-Personal (TKIP/AES) 802.1x Authentication	

Wireless Security	Provide wireless LAN ACL (Access Control List) filtering
	Wireless MAC address filtering
	Support WPS (Wi-Fi Protected Setup)
	Enable/Disable SSID Broadcast
Wireless Advanced	WMM(Wi-Fi Multimedia): 802.11e Wireless QoS
	IAPP(Inter Access Point Protocol): 802.11f Wireless Roaming
	Provide Wireless Statistics
Internet Connection Type	Shares data and Internet access for users, supporting following internet access: ■ 3G ■ PPPoE ■ Dynamic IP ■ Static IP ■ PPTP ■ L2TP
Firewall	NAT firewall with SPI (Stateful Packet Inspection)
	Built-in NAT server supporting Port Forwarding, and DMZ
	Built-in firewall with IP address/ MAC address/ Port/ URL filtering
	Support ICMP-FLOOD, UDP-FLOOD, TCP-SYN-FLOOD filter, DoS protection
Routing Protocol	Static / Dynamic (RIP1 and 2) Routing
VPN Pass-through	PPTP, L2TP, IPSec, IPv6
LAN	Built-in DHCP server supporting static IP address distributing
	Support UPnP, Dynamic DNS
	Support IGMP Proxy
	Support 802.1d STP (Spanning Tree)
	IP / MAC-based Bandwidth Control
System Management	Web-based (HTTP) management interface
	SNTP time synchronize
	Easy firmware upgrade
	System Log supports Remote Log
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 Interface

2.1. Overview

Rear Panel

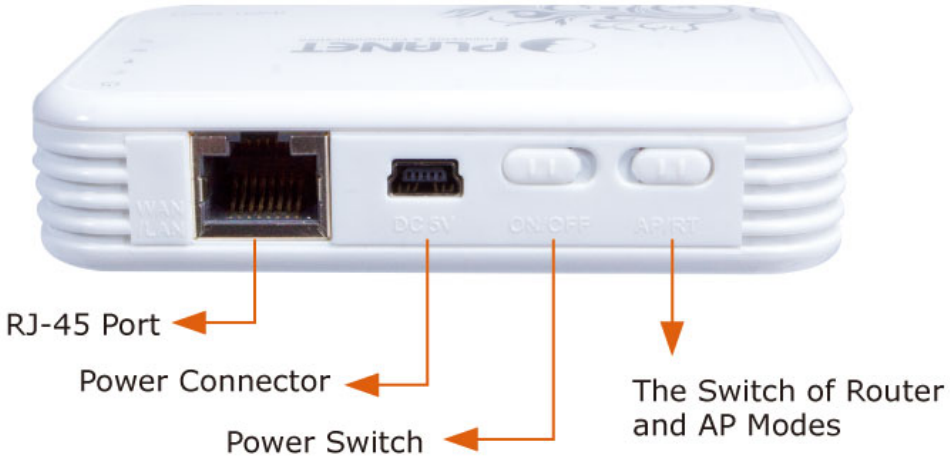


Figure 2-1

Side Panel

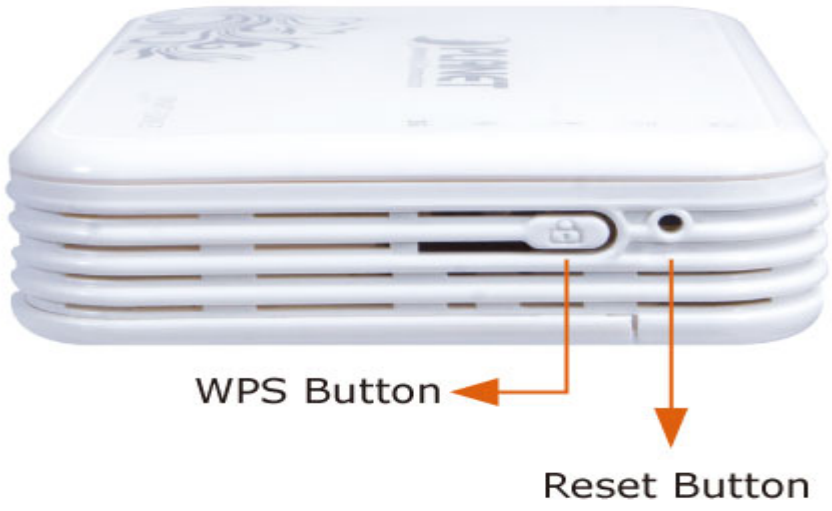


Figure 2-2

Object	Description
ON/OFF	Power On/Off Switch
AP/RT	Mode Selection Switch, used to select Router or AP mode
WPS Button	Press the button for about 5 seconds to activate the WPS function.
Reset	Reset the WNRT-320GS to the factory default settings by pressing down the Reset button for about 5 seconds.

2.2. LED Indications

The LEDs on the top panel indicate the instant status of system power, wireless data activity, WPS, port links, battery, and help monitor and troubleshoot when needed. Figure 2-3 and Table 2-1 show the LED indications of the WNRT-320GS.

Figure 2-3 Top Panel

LED Definition

LED		COLOR	STATE	FUNCTION
⏻	Power / Battery	Green	On	Device power on
			Off	Device power off
			Flash	Low battery power
		Red	On	Battery is being charged
	WLAN	Blue	Flash	The Wireless function is enabled.
			Off	The Wireless function is disabled.
	WPS	Blue	On	WPS is activated
			Off	WPS is not activated
	WAN/LAN	Blue	On	Link is established
			Off	No Ethernet device connected
			Flash	Packets are transmitting or receiving
3G	3G Connection	Blue	Flash	The Wireless function is enabled.
			Off	The Wireless function is disabled.

Table 2-1

Chapter 3. Installation Guide

3.1. System Requirements

- Broadband Internet Access Service (Cable / xDSL / Ethernet connection)
- One Cable/xDSL Modem that has an RJ-45 connector (not necessary if the WNRT-320GS 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

Note

It is recommended to use Internet Explore 7.0 or above to access the WNRT-320GS.

3.2. Typical Application

Please shift the hardware switch on the WNRT-320GS to change the operation mode.

3.2.1. Router Mode

AP/RT

In Router Mode, the NAT (Network Address Translation) function and DHCP server are both enabled in default, and all wireless clients will obtain a private IP address automatically by the DHCP server of WNRT-320GS and share the same public IP assigned by 3G mobile base station or local ISP through WAN port of the WNRT-320GS. The WAN port of WNRT-320GS is supposed to connect with the Cable / xDSL Modem by the Ethernet cable.

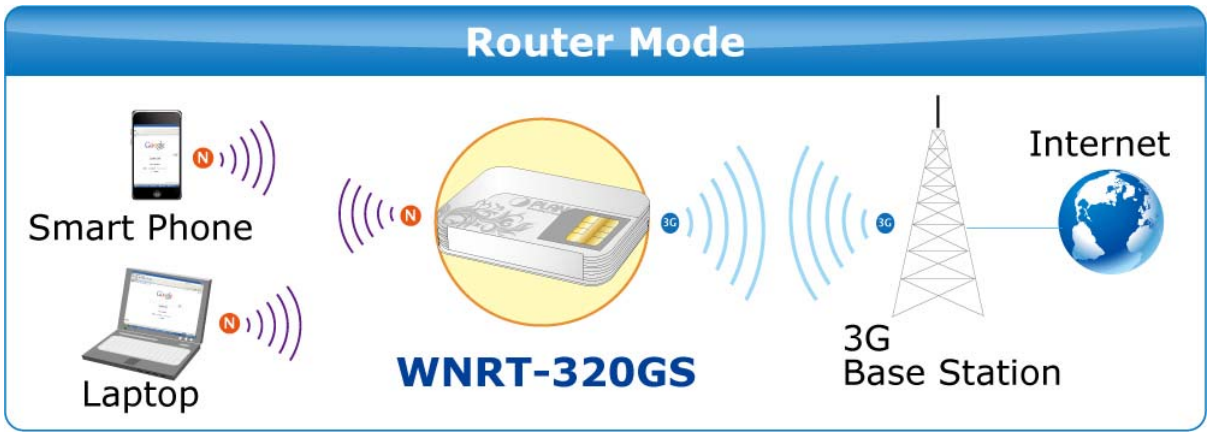


Figure 3-1

3.2.2. AP Mode

AP/RT

In AP Mode, the NAT (Network Address Translation) function and DHCP server are both disabled in default, and all wireless clients obtain the IP address from some other network device with DHCP server enabled in the same subnet of WNRT-320GS.Or users can assign a fixed IP address for client device as well in the Control Panel of Windows. The LAN port of WNRT-320GS is supposed to connect with the Ethernet directly by the Ethernet cable.

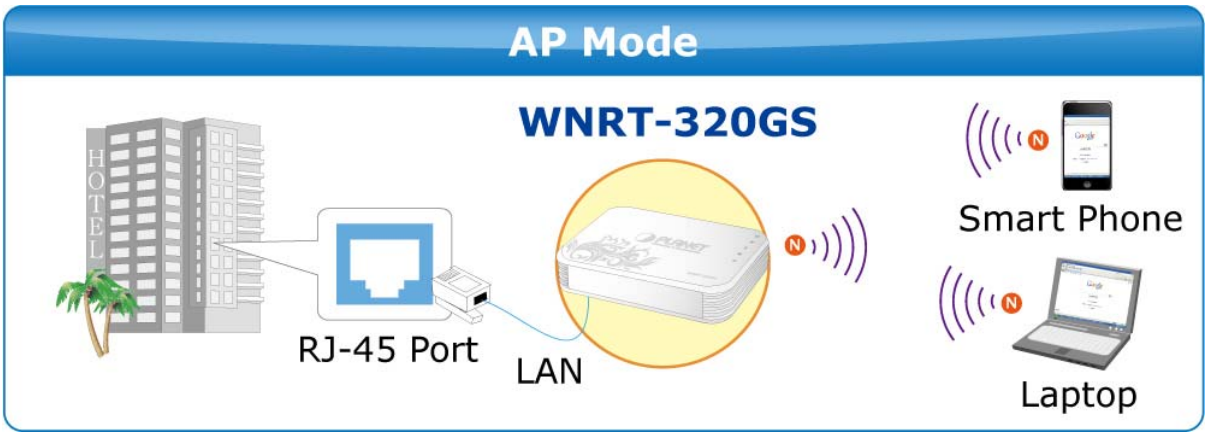


Figure 3-2

3.3. Manual Network Setup - TCP/IP Configuration

The default IP address of the WNRT-320GS is **192.168.1.1**, and the default Subnet Mask is **255.255.255.0**. These values can be changed as you desire in the web UI of the WNRT-320GS. In this section, we use all the default values for description.

No matter you want to configure the WNRT-320GS via wired or wireless connection, the PC need to be assigned an IP address first. Before you connect the local PC to the WNRT-320GS via wired or wireless connection, please configure the IP address for your PC in the following two ways first.

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

The following sections will introduce how to install and configure the TCP/IP correctly in **Windows 7**. First, make sure your Ethernet Adapter is working, and refer to the Ethernet adapter's manual if needed.

3.3.1. Obtain an IP Address Automatically

If you are sure the DHCP server of WNRT-320GS is enabled (the default setting of Router Mode), you can set up the TCP/IP Protocol in "**Obtain an IP address automatically**" mode on your PC. And then the WNRT-320GS built-in DHCP server will assign an IP address to the PC automatically.

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

2) Under the **Network and Internet** icon, click on the **View network status and tasks.** And then click **Change adapter settings**.

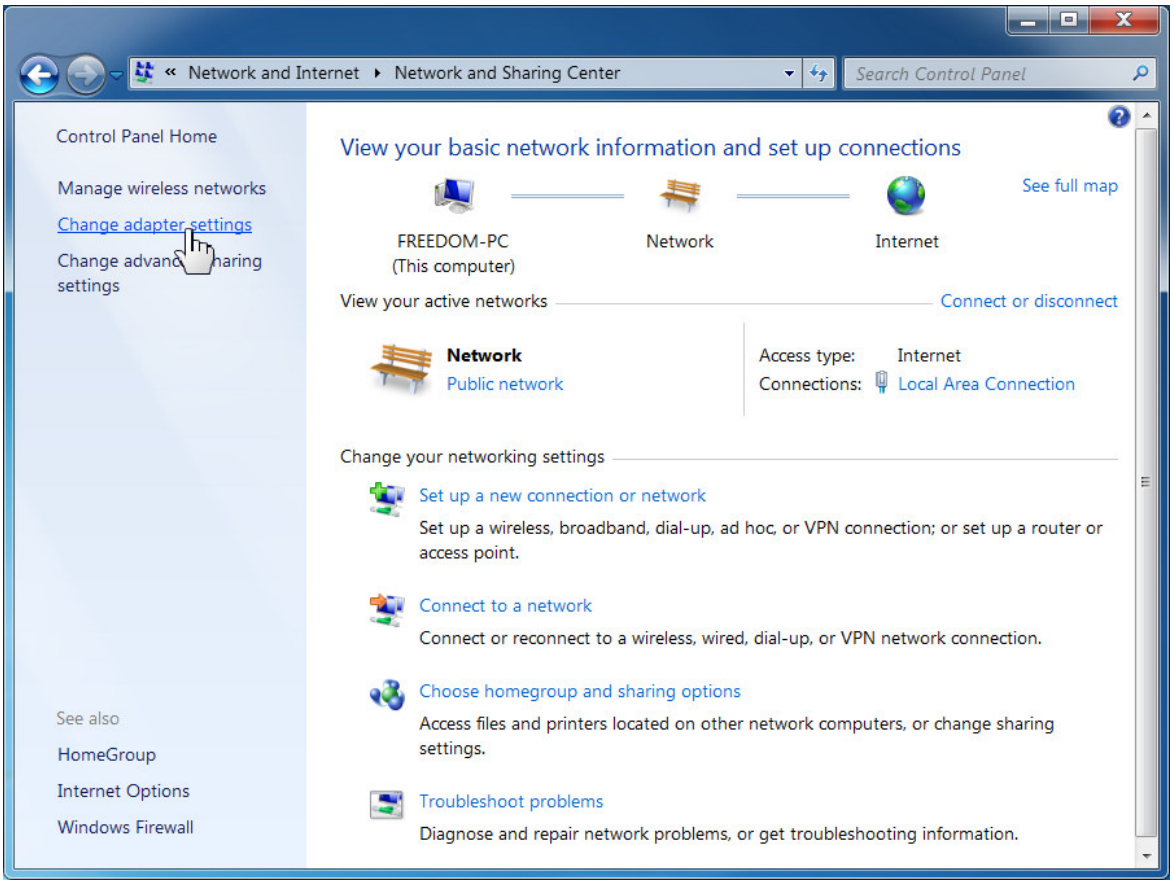


Figure 3-3

3) Right-click on the **Wireless Network Connection,** and select Properties in the appearing window.

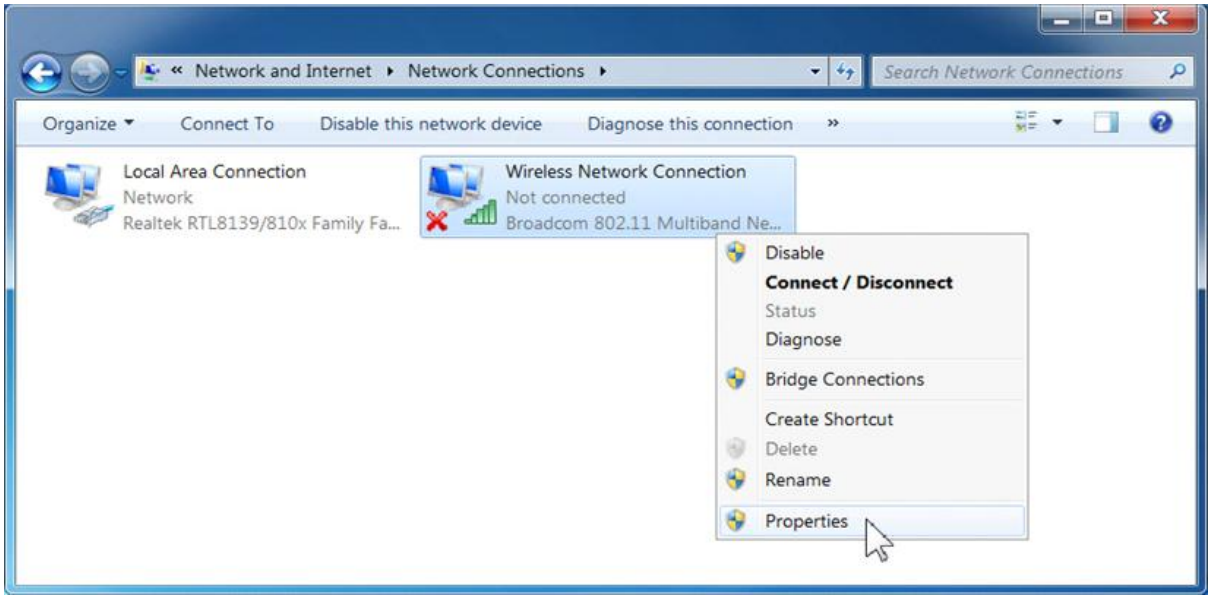


Figure 3-4

4) In the prompt window shown below, double click on the **Internet Protocol Version 4 (TCP/IPv4)**.

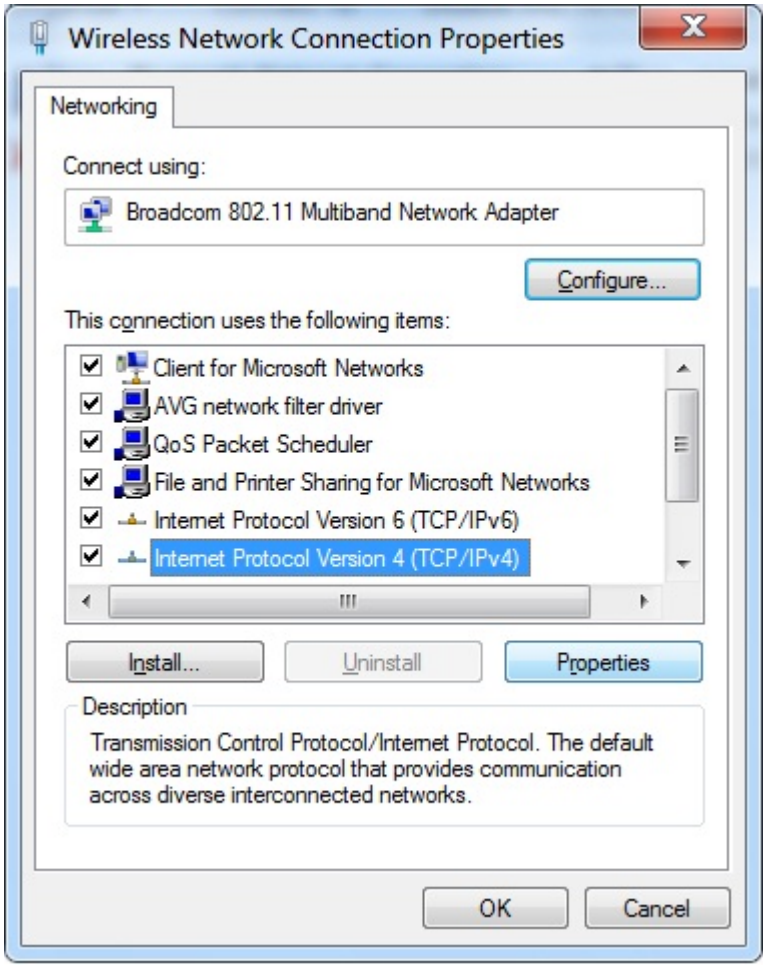


Figure 3-5

5) Choose **Obtain an IP address automatically**, and **Obtain DNS server address automatically** as shown in the figure below. Then click **OK** to save your settings.

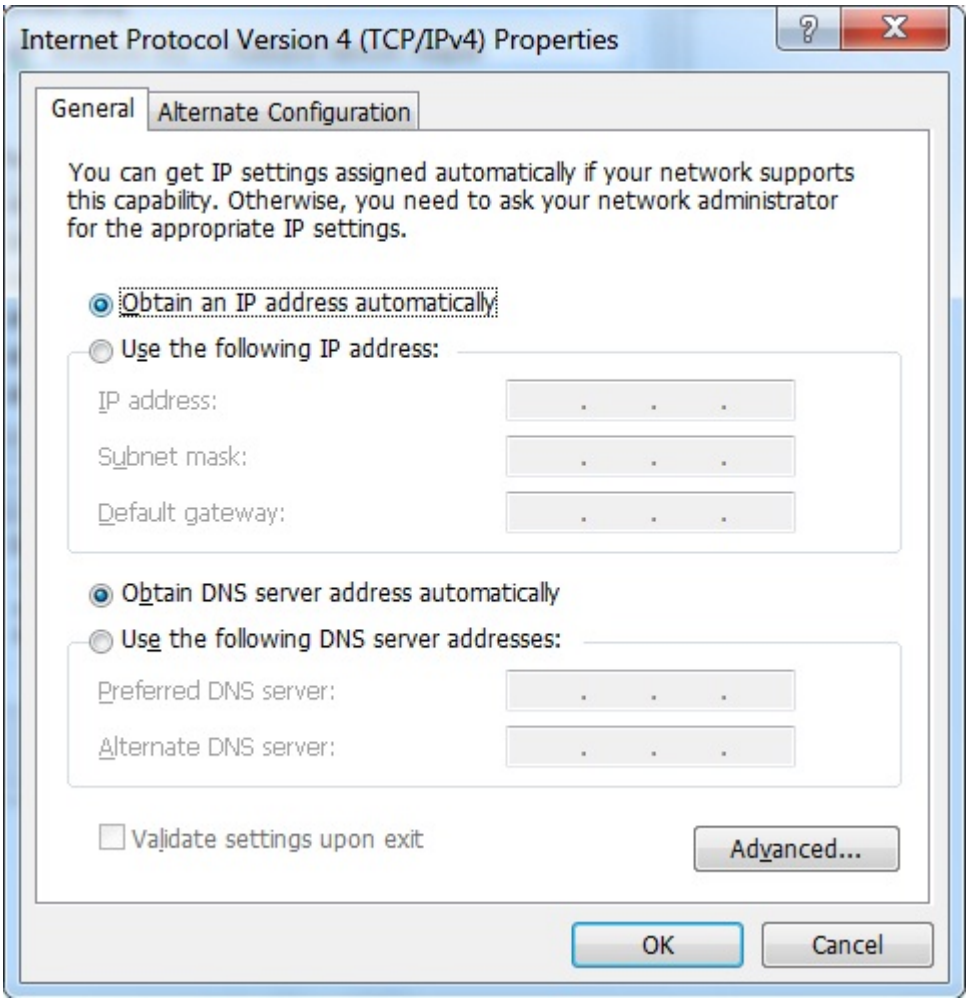


Figure 3-6

3.3.2. Configure the IP address manually

If the DHCP server of WNRT-320GS is disabled (the default setting of AP Mode), you need to configure a fixed IP address manually for your computer. The IP address of your PC should be 192.168.1.xxx (the same subnet of the IP address of WNRT-320GS, and "xxx" is any number from 2 to 254), Subnet Mask is 255.255.255.0, and the Gateway is 192.168.1.1 (The default IP address of WNRT-320GS)

1) Continue the settings from the last figure, select **Use the following IP address** radio button.

2) If the LAN IP address of the WNRT-320GS 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 LAN IP address of the WNRT-320GS (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 provided by your local ISP. Then click OK to save your settings.

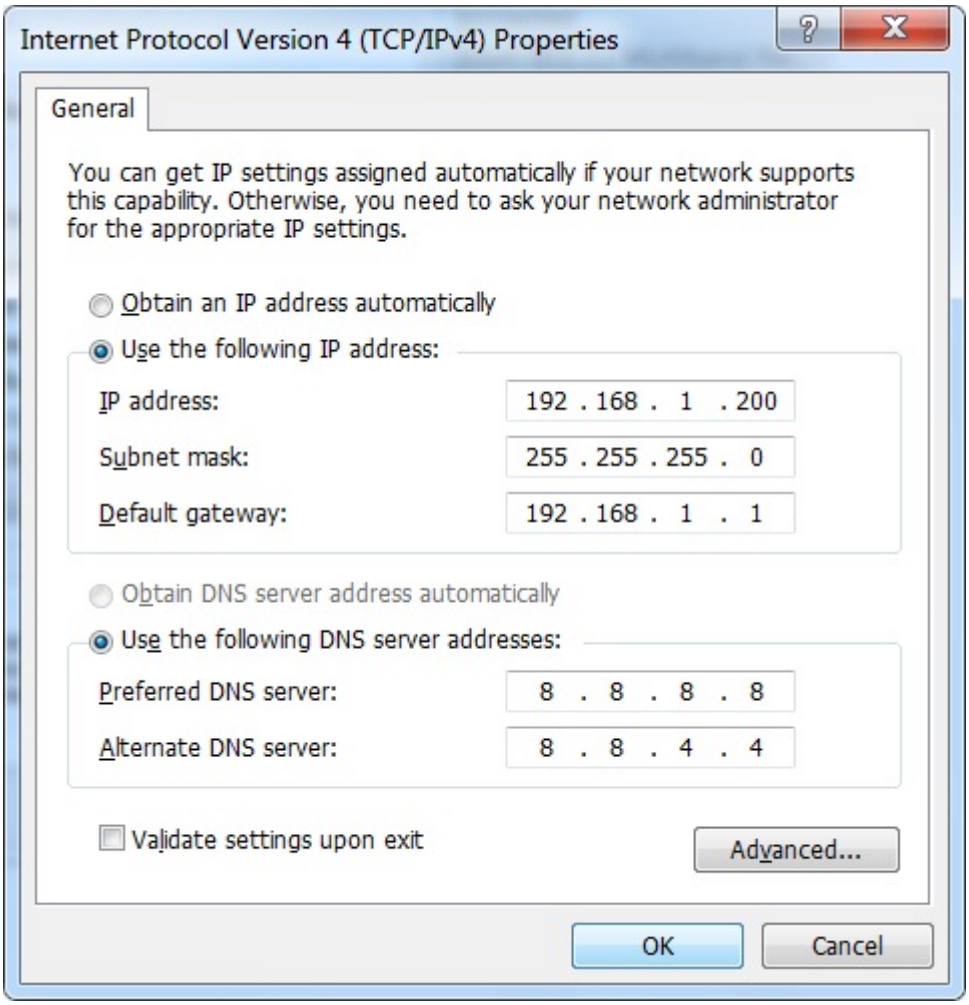


Figure 3-7

3.4. Hardware Installation

Please follow the instructions below to build the wireless network connection between WNRT-320GS and your computers.

Note

Do not dispose of the battery in a fire or any other high-temperature place as it may explode. Before you start using the WNRT-320GS, please follow the procedures below to install and charge the battery first.

Step 1: Remove the battery cover, and insert the attached battery into the slot. Then replace the cover back.

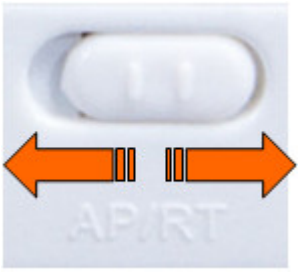
Step 2: Charge the battery by the attached power adapter and USB cable. The red LED will be lit up.

Step 3: The battery needs to be charged for 8 hours at the first time. When the battery is fully charged, the red LED will be off.

Figure 3-8

Before installing the WNRT-320GS, make sure your PC is able to surf 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 WNRT-320GS according to the following steps.

Step 1. Please shift the hardware switch on the WNRT-320GS to the operation mode you want to use, and follow the figure below to install it for your network application.



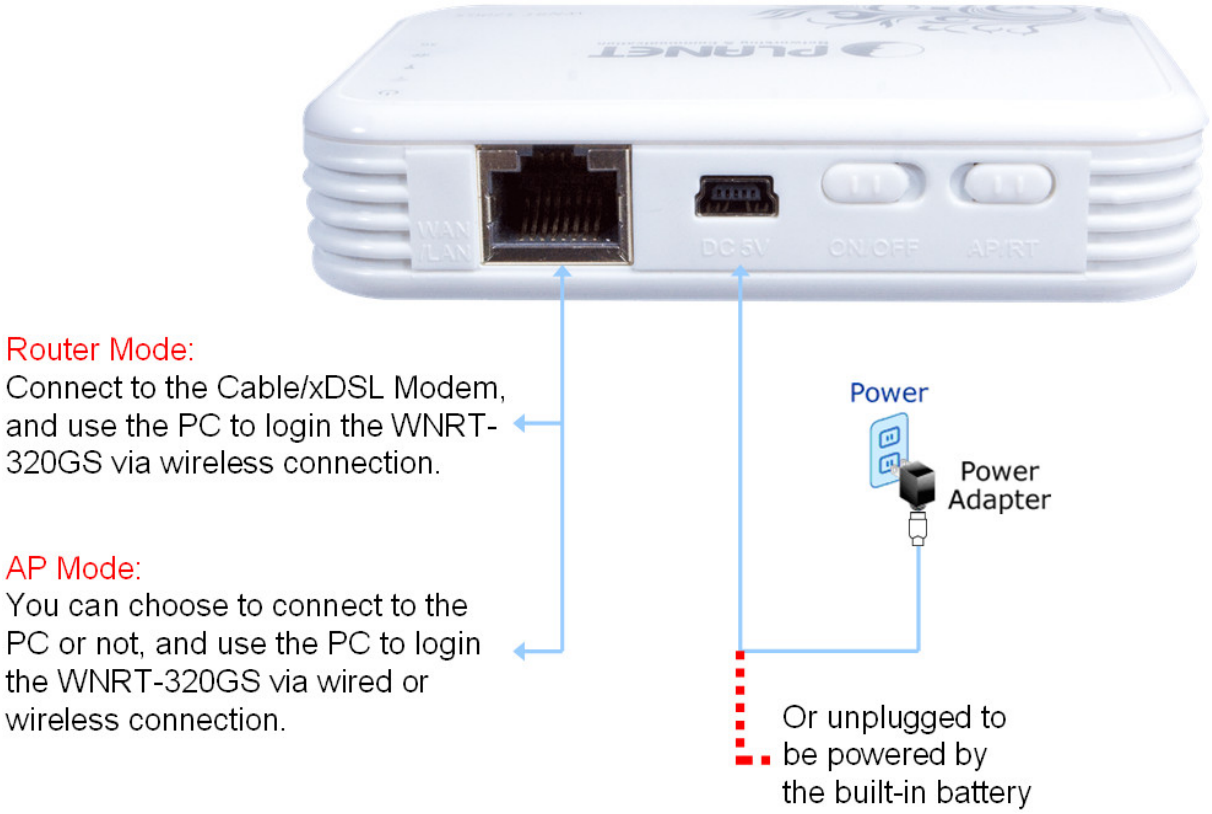


Figure 3-9

Step 2. Please turn on the WNRT-320GS.

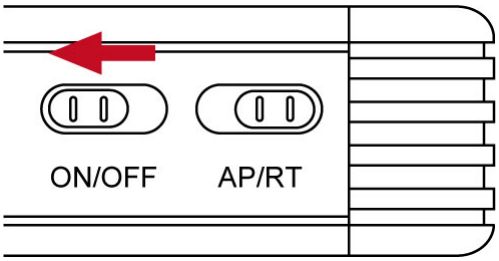


Figure 3-10

The procedures of hardware installation are finished. Please continuously follow the next section to start the setup in the web UI.

Note

If you want to configure the WNRT-320GS via wireless connection, please use your PC to site survey the wireless signal of WNRT-320GS, and connect your PC with it wirelessly.

Default SSID: **default**

Default Wireless Encryption: **WPA-PSK / WPA2-PSK**

Default Password: **1234567890**

Figure 3-11

3.5. Starting Setup in Web UI

It is easy to configure and manage the WNRT-320GS via web browser. To access the web UI of the WNRT-320GS, please open a web browser and enter the default IP address http://192.168.1.1 in the address field of the browser.

Figure 3-12

After a moment, a login window will appear. Enter the User Name and Password. Then click the **OK** button.

Figure 3-13 Login Window

Default Username: **admin**

Default Password: **admin**

Note

If the screen above 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 you enter the username and password, the main screen appears as Figure 3-14

Figure 3-14 WNRT-320GS Web UI Screenshot

The next chapter will introduce the functions of the web UI.

Chapter 4. Configuration in Web UI

4.1. Login

After successfully logging into the web UI of the WNRT-320GS, you will see the main menus on the left side of the web-based utility. There are some different options appear as the operation mode changes. For example, the figure below is the menus of the Router Mode in the web UI.

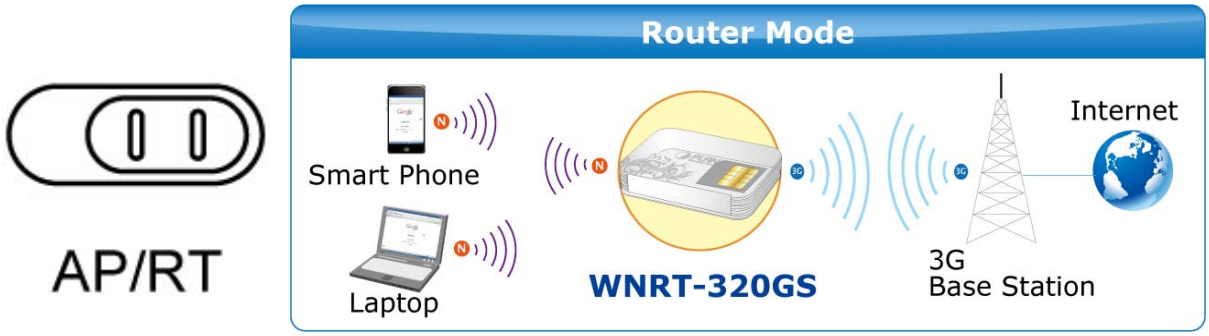
Figure 4-1 The Menu of Router Mode in The Web UI

The details for the functions in each operation mode are listed in the following sections.

4.2. Setup Wizard

No matter what operation mode you switch to on the WNRT-320GS, the first screen you enter into the web UI is the Setup Wizard. It will guide the user to configure the WNRT-320GS easily and quickly. There are different procedures in different operation modes. According to the operation mode you switch to, please follow the instructions below to configure the WNRT-320GS via Setup Wizard.

■ Router Mode



Step 1. The figure below is the screen of the Setup Wizard in Router Mode. Please click the "Next>>" button to continue.

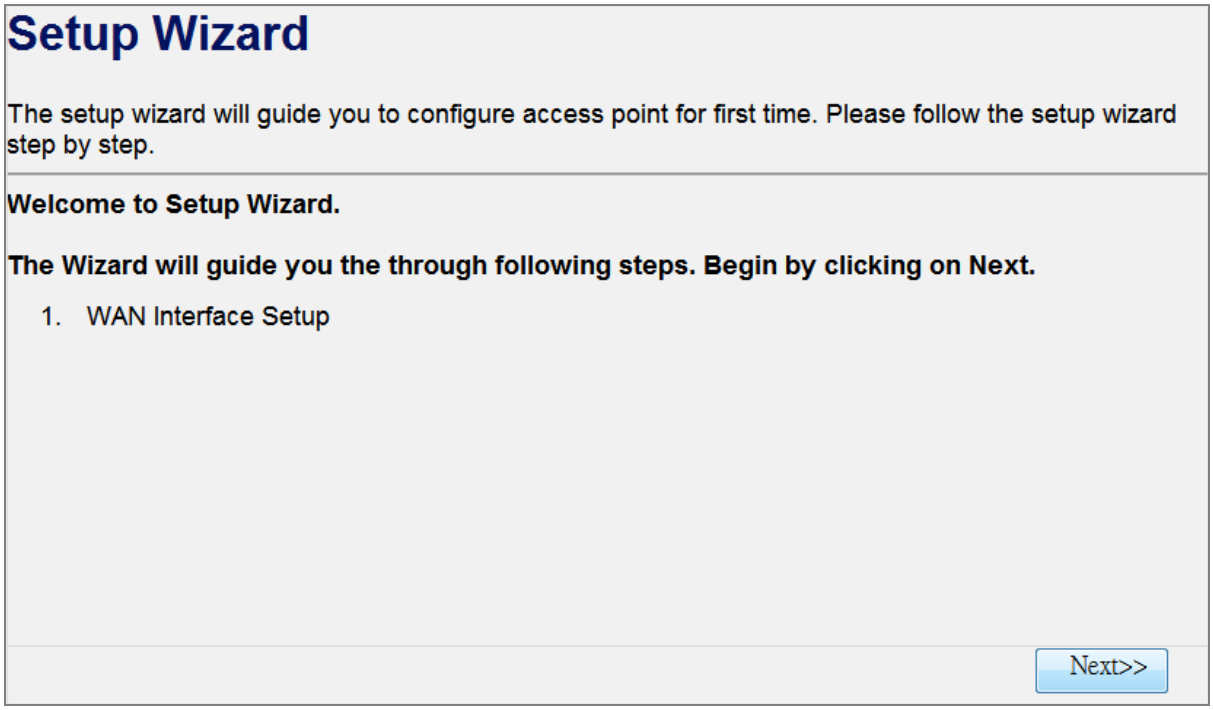


Figure 4-2

Step 2. Please select the corresponding WAN connection type of your Internet service, and fill the correct parameters in the blanks. Then click the "Finished" button to save the settings and reboot to take effect.

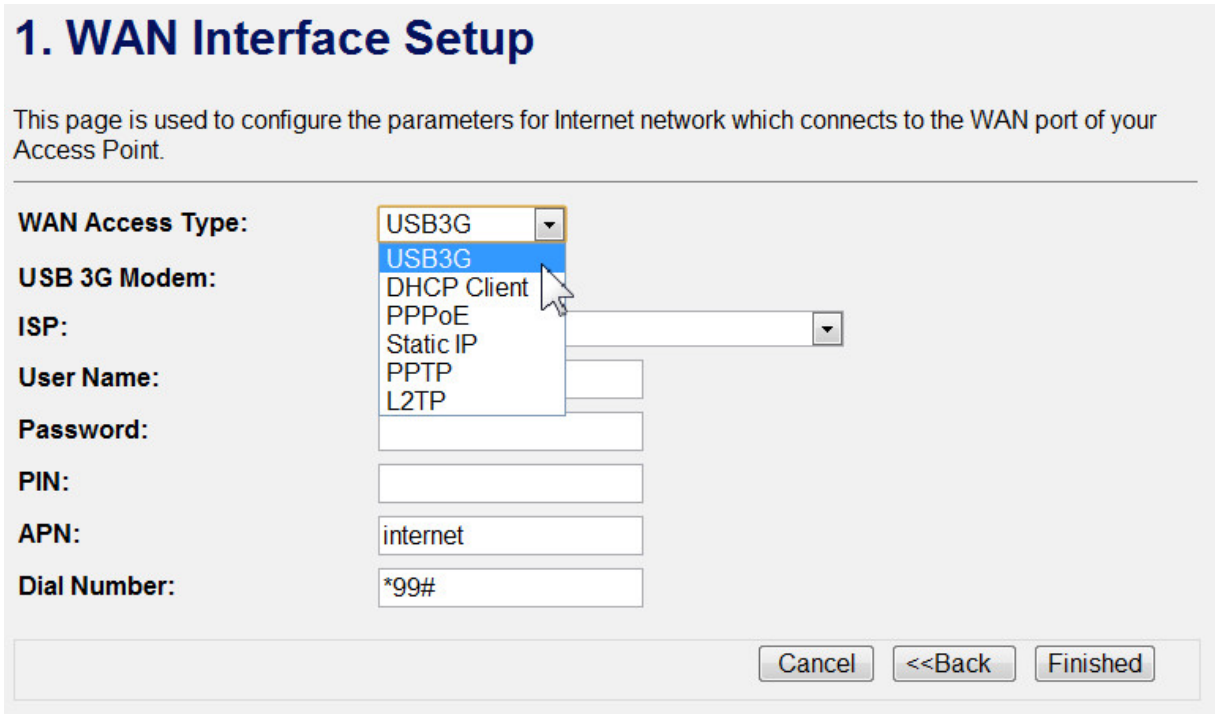
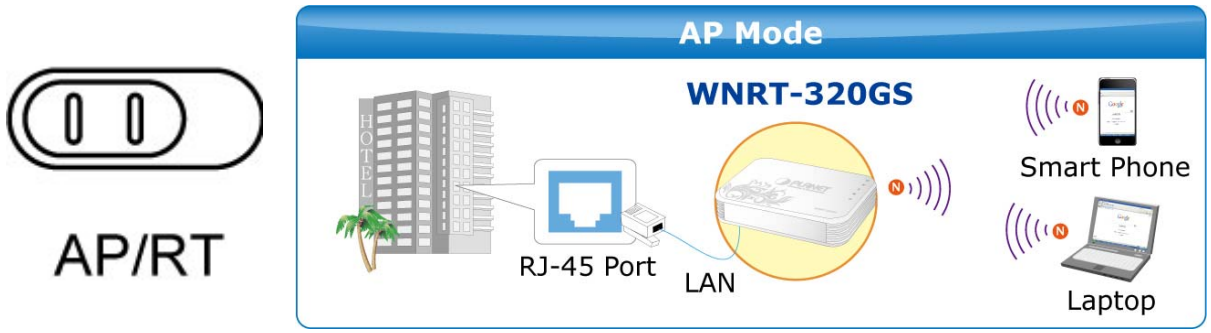


Figure 4-3

■ AP Mode



Step 1. The figure below is the screen of the Setup Wizard in AP Mode. Please click the "Next>>" button to continue.

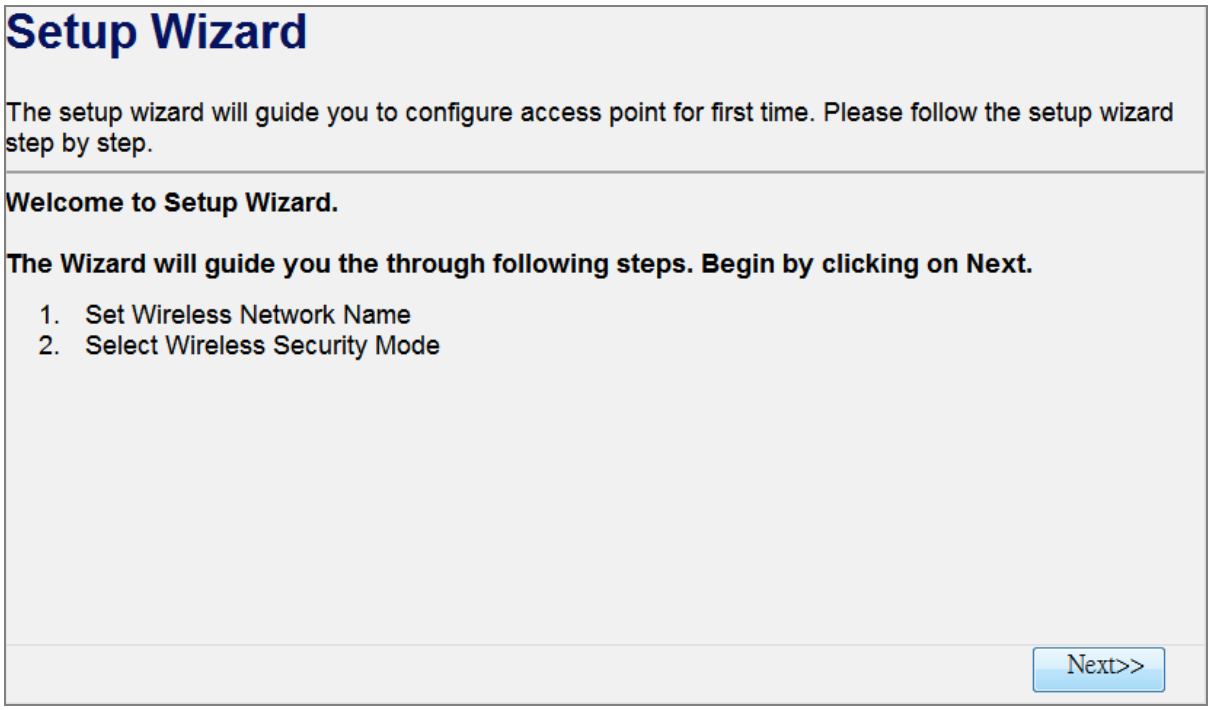


Figure 4-4

Step 2. Please enter the SSID for recognizing the wireless connection. The default value is "default". Then click the "Next>>" button to continue.

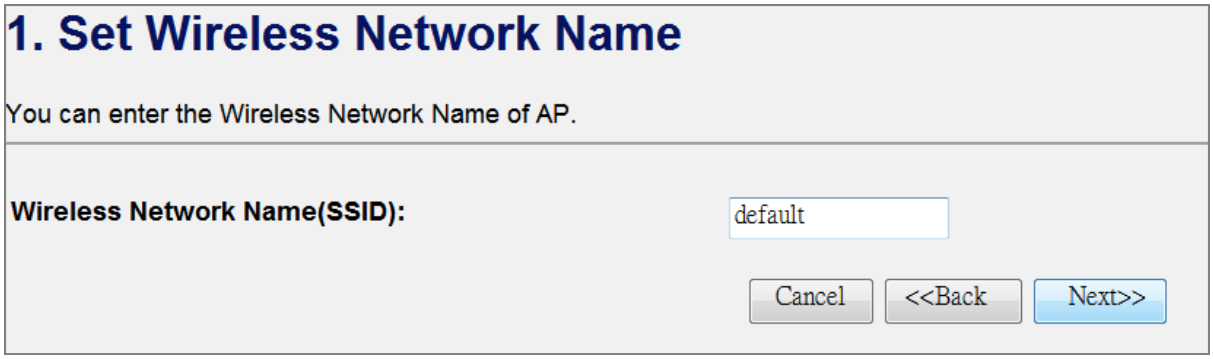


Figure 4-5

Step 3. Please select the wireless security mode, and setup the password for wireless connection. Then click the "Finished" button to save the settings and reboot to take effect.

Figure 4-6

4.3. Operation Mode

This page shows the current operation mode, but users can only change it by shifting the hardware switch on the WNRT-320GS.

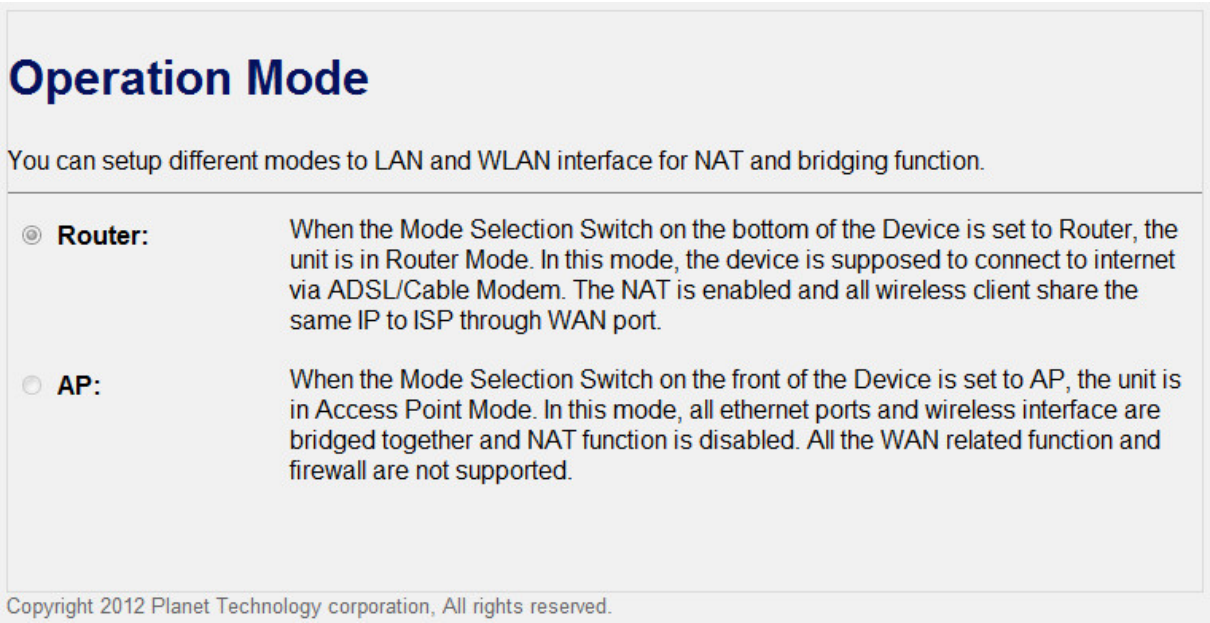


Figure 4-7

4.4. Wireless

The Wireless menu contains submenus of the settings about wireless network. Please refer to the following sections for the details.

Figure 4-8

4.4.1. Basic Settings

Choose menu "**Wireless → Basic Settings**", and you can configure the basic settings for the wireless network in this page. After the configuration, please click the "Apply Changes" button to save the settings.

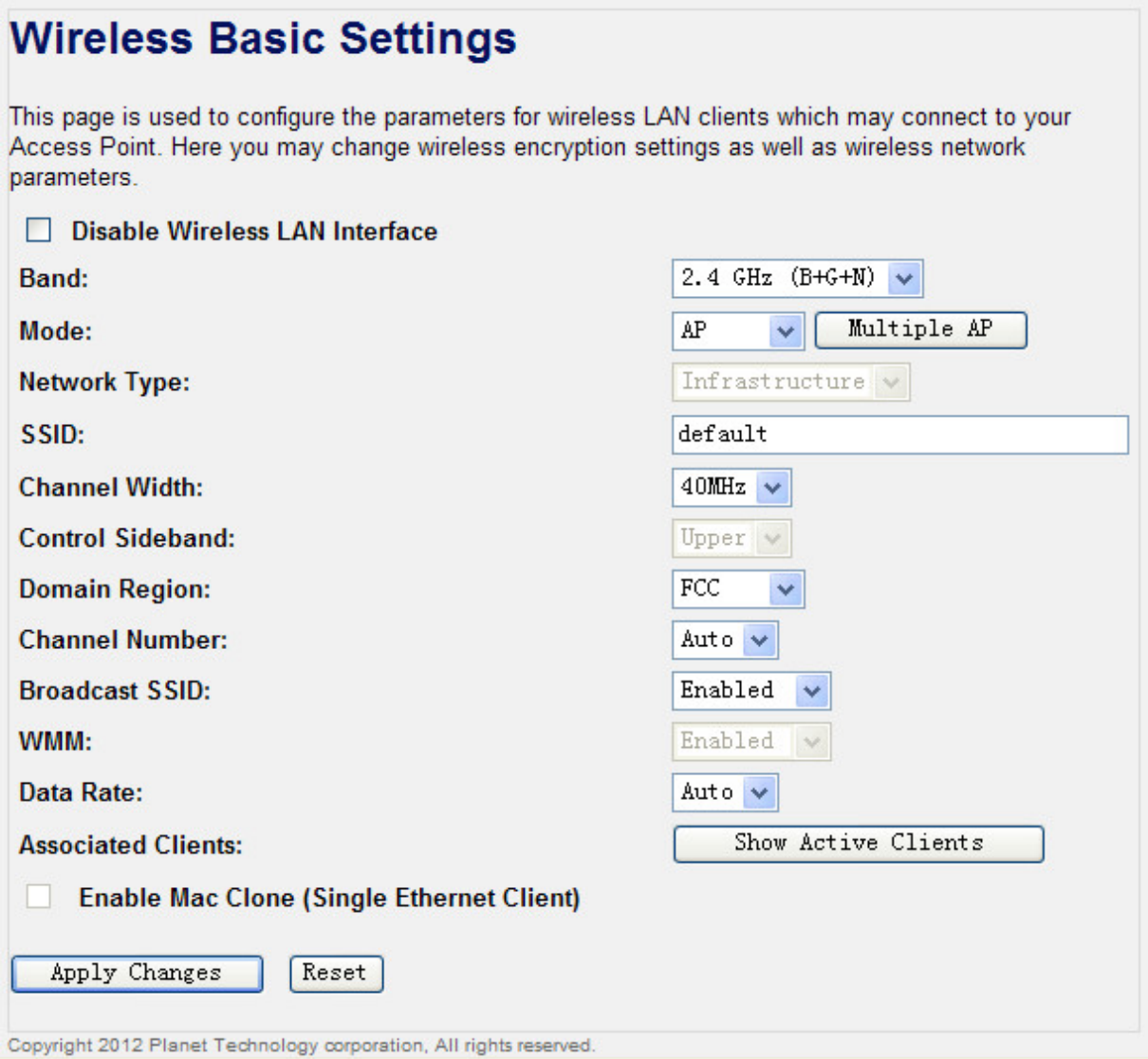
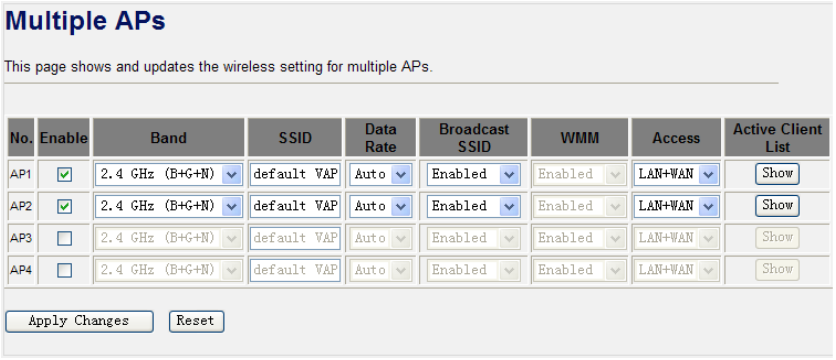


Figure 4-9 Wireless Basic Settings

Object	Description
Disable Wireless LAN Interface	Check the box to disable the wireless function.
Band	Select the desired mode. Default is "**2.4GHz (B+G+N)**". It is strongly recommended that you set the Band to "2.4GHz (B+G+N)", and all of 802.11b, 802.11g, and 802.11n wireless stations can connect to the WNRT-320GS. ■ **2.4 GHz (B)**: 802.11b mode, rate is up to 11 Mbps ■ **2.4 GHz (G)**: 802.11g mode, rate is up to 54 Mbps ■ **2.4 GHz (N)**: 802.11n mode, rate is up to 150 Mbps(1T1R) ■ **2.4 GHz (B+G)**: 802.11b/g mode, rate is up to 11 Mbps or 54 Mbps ■ **2.4 GHz (G+N)**: 802.11g/n mode, rate is up to 54 Mbps or 150 Mbps ■ **2.4 GHz (B+G+N)**: 802.11b/g/n mode, rate is up to 11 Mbps,54 Mbps, or 150 Mbps

Mode

There are **AP, WDS,** and **AP+WDS** three kinds of wireless mode selection. If you select WDS or AP+WDS, please click "WDS Settings" submenu for the related configuration. Furthermore, click the "**Multiple AP"** button to enable multiple SSID function.



Network Type

In **Infrastructure**, the wireless LAN serves as a wireless station. And the user can use the PC equipped the WNRT-320GS to access the wireless network via other access point. In **Ad hoc**, the wireless LAN will use the Ad-hoc mode to operate.

Default is "**Infrastructure**".

SSID

The ID of the wireless network and default is "default". User can access the wireless network through it only. However, if you switch to Client Mode, this field becomes the SSID of the AP you want to connect with.

Channel Width

You can select **20MHz** or **40MHz**.

Control Sideband

You can select **Upper** or **Lower**.

Domain Region

The Domain Region decides which channels are available for your country. Please note that using the incorrect Domain Region is strictly prohibited. If you live in United States, you must use the FCC Domain Region. If you live inside EU, you must use ETSI domain.

Domain Region	Country
FCC	USA
IC	Canada
ETSI	Europe
SPAIN	Spain
FRANCE	France
MKK	Japan
ISRAEL	Israel

Default : FCC

Channel Number	You can select the operating frequency of wireless network.
Broadcast SSID	If you enable "Broadcast SSID", every wireless station located within the coverage of the WNRT-320GS can discover its signal easily. If you are building a public wireless network, enabling this feature is recommended. In private network, disabling "Broadcast SSID" can provide better wireless network security. Default is "**Enabled**".
WMM	**WMM** function can guarantee the packets with high-priority messages being transmitted preferentially. Default is "Enabled".
Data Rate	Default is "**Auto"**.
Associated Clients	Click the "**Show Active Clients**" button to show the status table of active wireless clients.
Enable Mac Clone (Single Ethernet Client)	Enable Mac Clone.

Table 4-1

4.4.2. Advanced Settings

Choose menu "**Wireless → Advanced Settings**", and you can configure the advanced settings for the wireless network in this page. After the configuration, please click the "Apply Changes" button to save the settings.

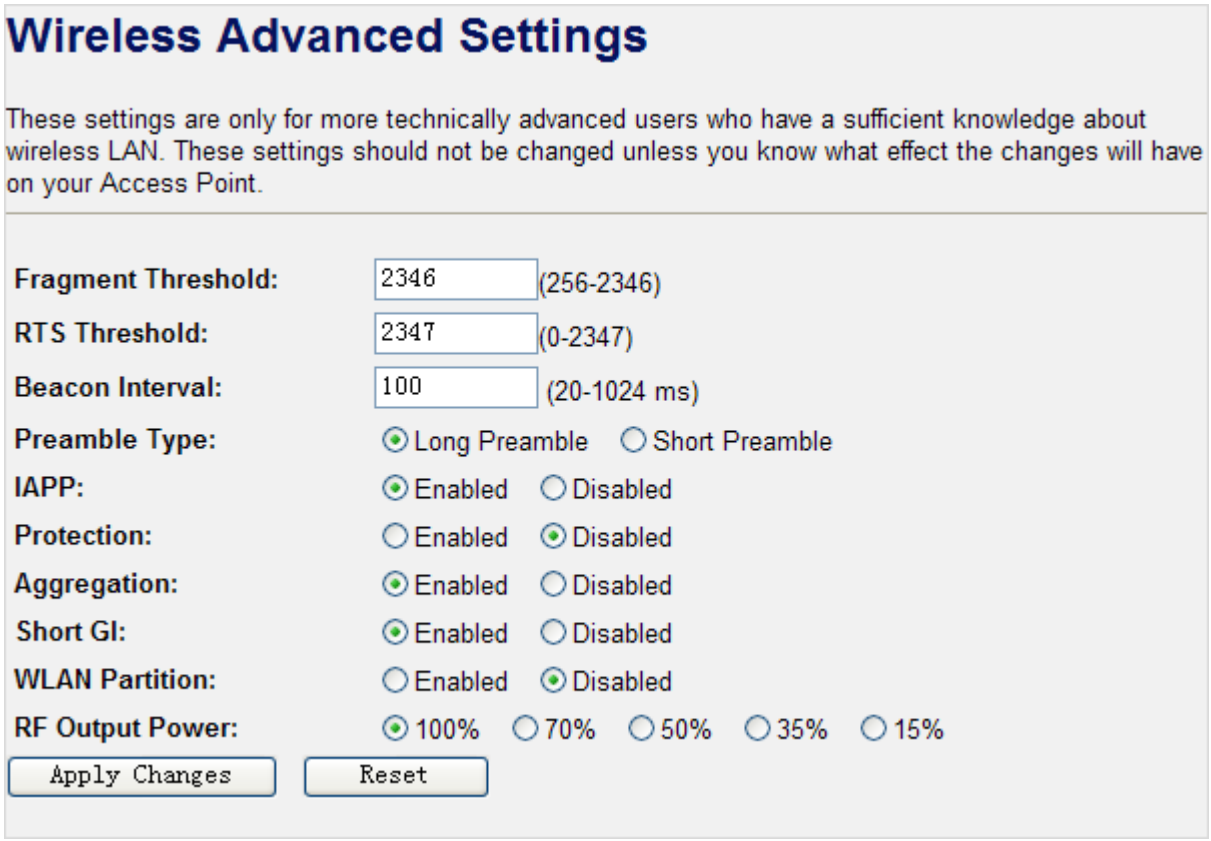


Figure 4-10 Wireless Advanced Settings

Object	Description
Fragment Threshold	You can specify the maximum size of packet during the fragmentation of data to be transmitted. If you set this value too low, it will result in bad performance. Default is "2346".
RTS Threshold	When the packet size is smaller the RTS threshold, the access point will not use the RTS/CTS mechanism to send this packet. Default is "2347".
Beacon Interval	The interval of time that this access point broadcast a beacon. Beacon is used to synchronize the wireless network. Default is "100".
Preamble Type	Preamble type defines the length of CRC block in the frames during the wireless communication. "**Short Preamble**" is suitable for high traffic wireless network. "**Long Preamble**" can provide more reliable communication. Default is "Long Preamble".
IAPP	IAPP (Inter-Access Point Protocol) enabled is recommendation that describes an optional extension to IEEE 802.11 that provides wireless access-point communications among multivendor systems. Default is "Enabled".
Protection	It is recommended to enable the protection mechanism. This mechanism can decrease the rate of data collision between 802.11b and 802.11g wireless stations. When the protection mode is enabled, the throughput of the AP will be a little lower due to many of frame traffic should be transmitted. Default is "Disabled".
Aggregation	It is a function where the values of multiple rows are grouped together. Default is "Enabled"
Short GI	It is used to set the time that the receiver waits for RF reflections to settle out before sampling data. Default is "Enabled"
WLAN Partition	This feature also called "WLAN isolation" or "Block Relay". If this is enabled, wireless clients cannot exchange data through the WNRT-320GS. Default is "Disabled".
RF Output Power	Users can adjust the wireless output power here. Default is "100%".

Table 4-2

4.4.3. Security

Choose menu "**Wireless → Security**", and you can configure the settings of wireless security for the wireless network in this page. After the configuration, please click the "Apply Changes" button to save the settings.

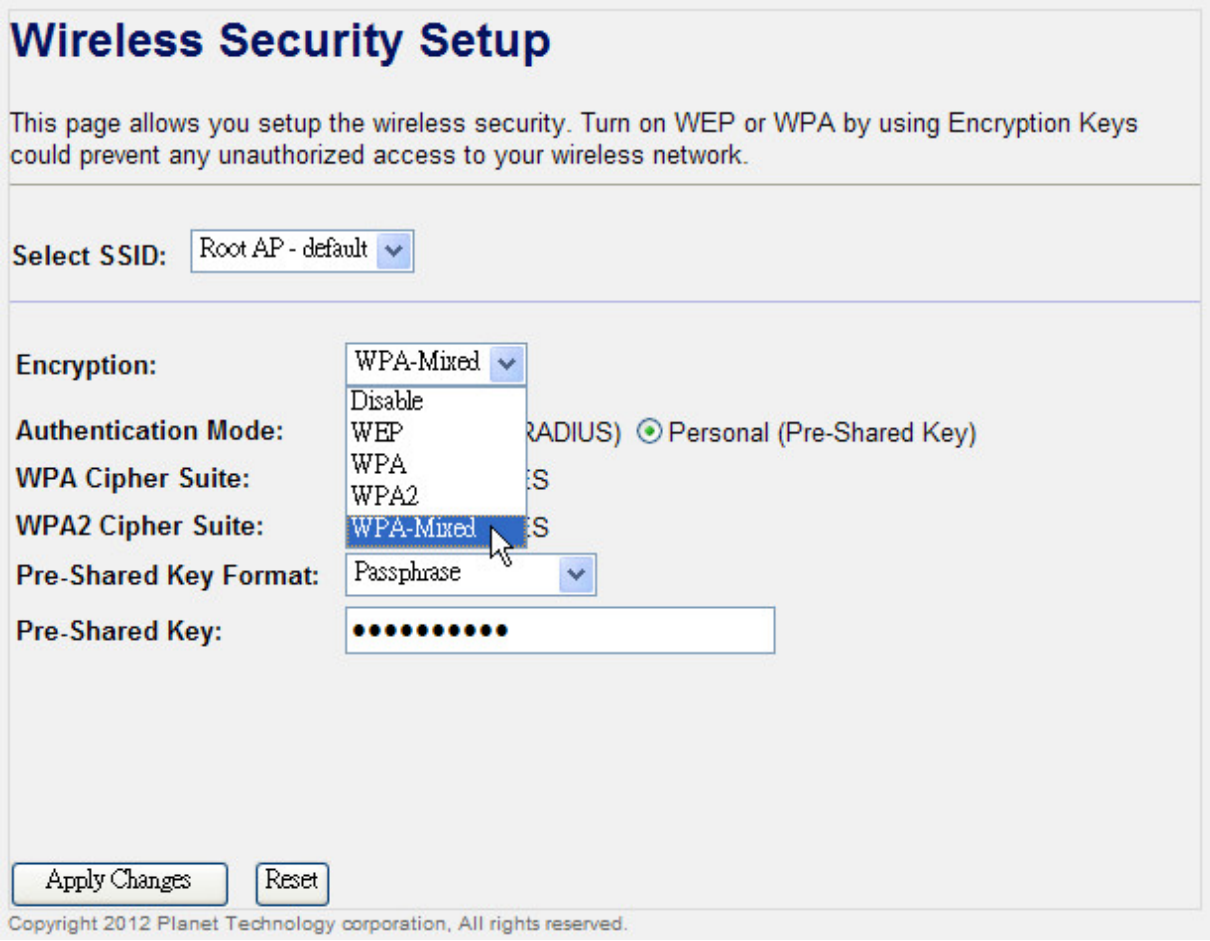


Figure 4-11 Wireless Security

Object	Description
Select SSID	Select the SSID you want to configure the wireless security function, includes the root one and the client one.
Encryption	**Disable**: No security setup for wireless connection.
	WEP: It is based on the IEEE 802.11 standard. And the default setting of authentication is **Automatic**, which can select **Open System** or **Shared Key** authentication type automatically based on the wireless station's capability and request. Furthermore, you can select **Key Length** and enter 10 & 26 **Hexadecimal** digits (any combination of 0-9, a-f, A-F, zero key is not promoted) or 5 & 13 **ASCII** characters in the **Encryption Key** field.

	WPA / WPA2 / WPA-Mixed: When you select the authentication mode based on **Enterprise (Radius Server),** please enter the **IP Address**, **Port**, and **Password** of the Radius Server. When you select the other authentication mode based on **Personal (Pre-Shared Key)**, please enter at least 8 ASCII characters (**Passphrase**) or 64 **Hexadecimal** characters. All of the Cipher Suites support **TKIP** and **AES**.
802.1x Authentication	Enable 802.1x authentication function, then please enter the **IP Address**, **Port**, and **Password** of the Radius Server.

Table 4-3

4.4.4. Access Control

Choose menu "**Wireless → Access Control**", you can choose to allow or deny the computer of specified MAC address to connect with the WNRT-320GS in this page. After the configuration, please click the "Apply Changes" button to save the settings.

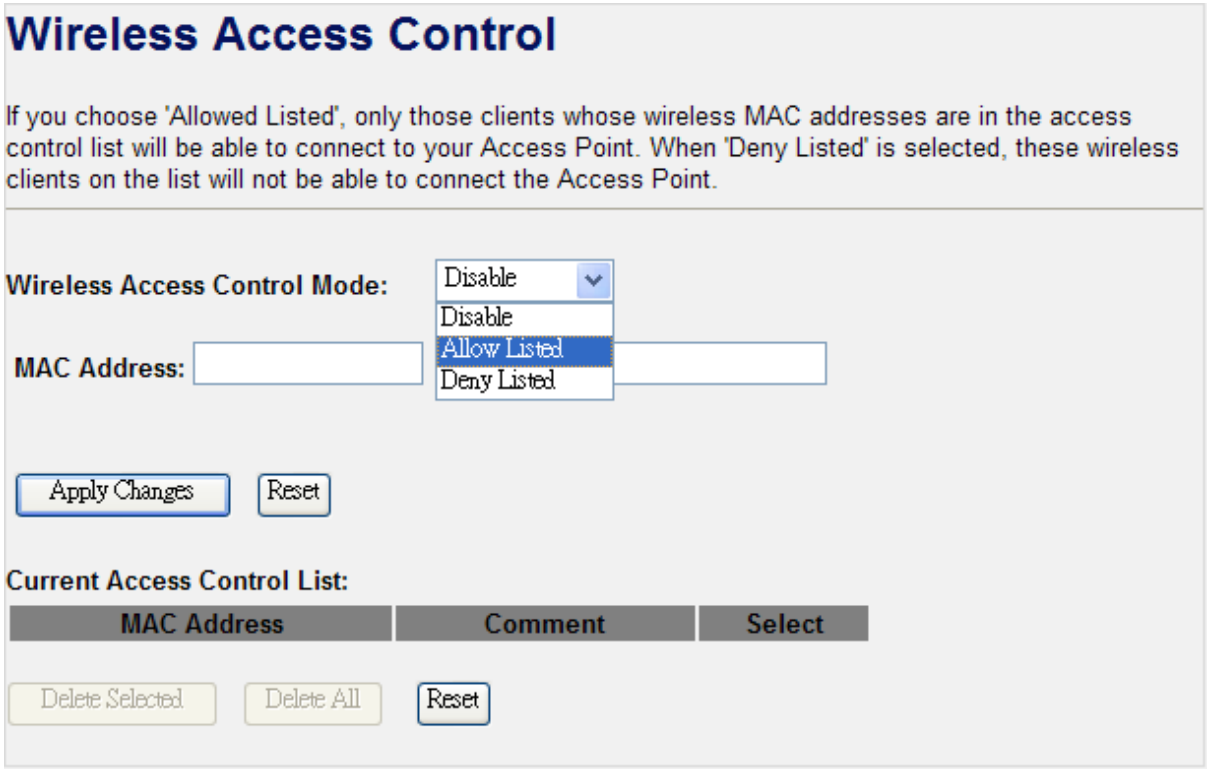


Figure 4-12 Wireless Access Control

Object	Description
Wireless Access Control Mode	You can choose to set the Allowed-List, Denied-List, or disable this function.
MAC Address	Enter the MAC address you want to allow or deny to connect to the WNRT-320GS in the field.
Comment	You can make some comment for each MAC address on the list.

Current Access Control List	You can select some MAC address, and click the "Delete Selected" button to delete it.

Table 4-4

4.4.5. WDS Settings

Wireless Distribution System (WDS) uses wireless media to communicate with other APs, like the Ethernet does. To do this, you must set these APs in the **same channel** and **set MAC address of other APs** which you want to communicate with in the table and then enable the WDS.

Choose menu "**Wireless → WDS Settings**", and you can configure WDS to connect the WNRT-320GS with another AP in this page. After the configuration, please click the "Apply Changes" button to save the settings.

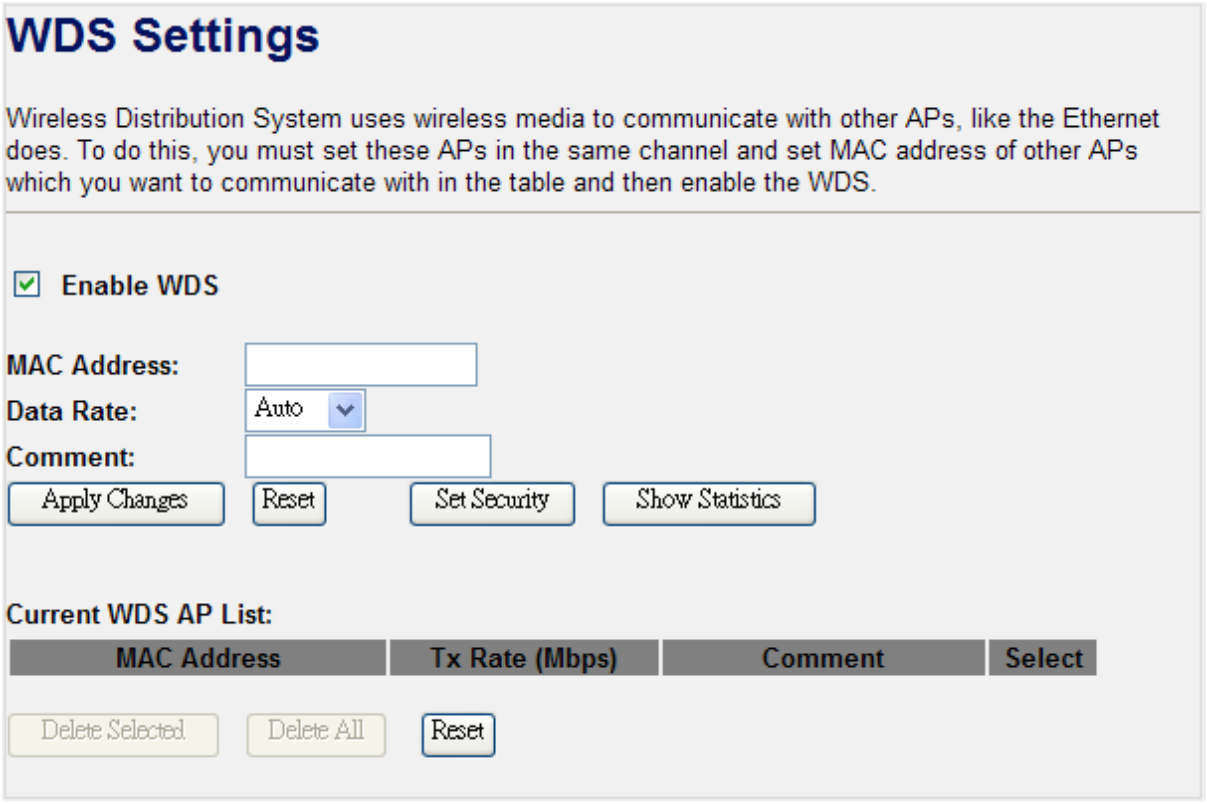


Figure 4-13 WDS Settings

Object	Description
Enable WDS	Check the box to enable the WDS function. Please select WDS or AP+WDS in the Mode of Wireless Basic Settings before you enable WDS in this page.
MAC Address	You can enter the MAC address of the AP you want to connect with.
Data Rate	Default is "**Auto**".
Comment	You can make some comment for each MAC address on the list.
Set Security	Click the "**Set Security**" button, then configure the wireless security

	parameters of the AP you want to connect via WDS.
Show Statics	Click the "**Show Statics**" button to show the WDS AP.
Current WDS AP List	You can select some MAC address of the AP, and click the "Delete Selected" button to delete it.

Table 4-5

4.4.6. Site Survey

Choose menu "**Wireless → Site Survey**" to scan the available local AP. If any Access Point is found, you could choose any one to connect with manually when the Client Mode is enabled.

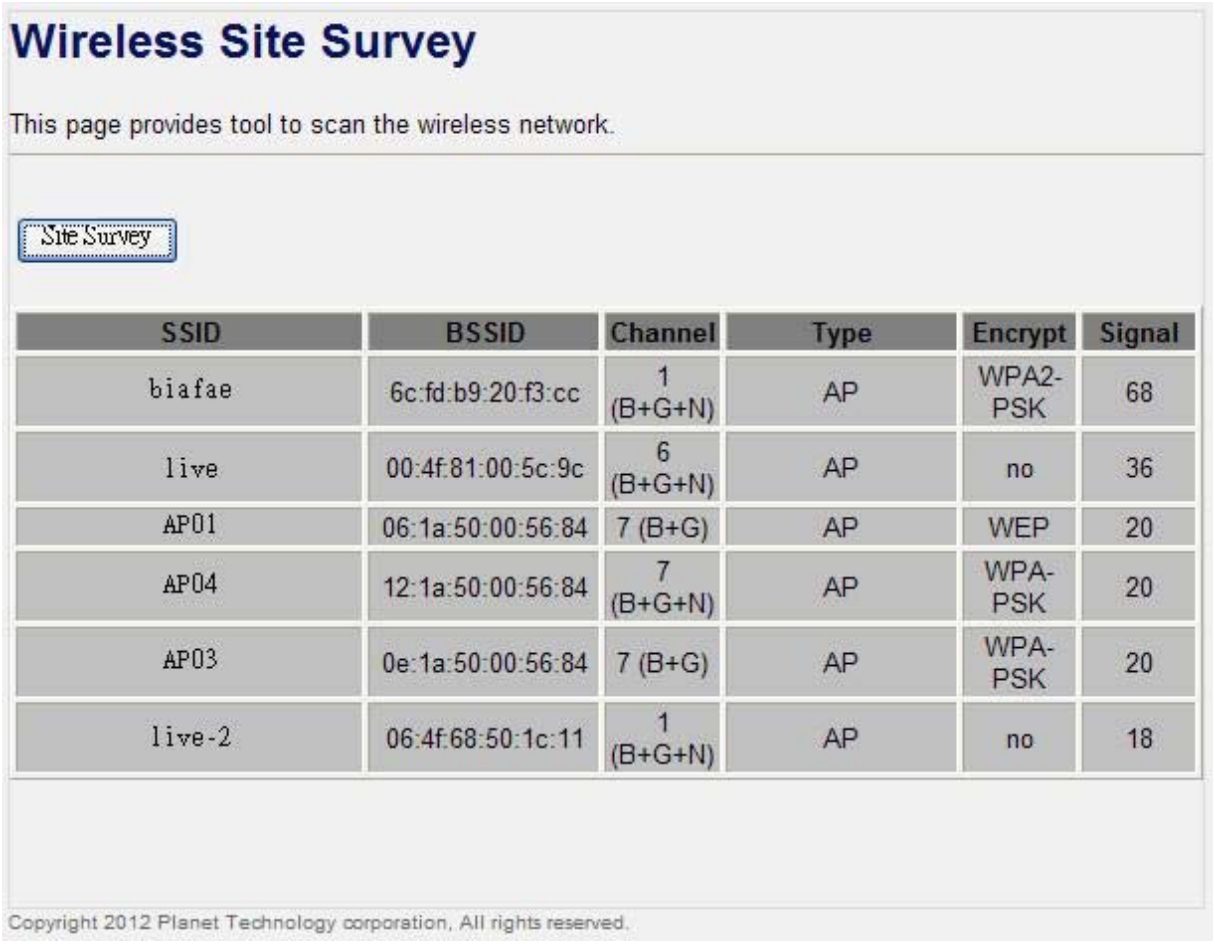


Figure 4-14 Wireless Site Survey

4.4.7. WPS

Choose menu "**Wireless → WPS**", and you can configure the setting for WPS (Wi-Fi Protected Setup). After the configuration, please click the "Apply Changes" button to save the settings.

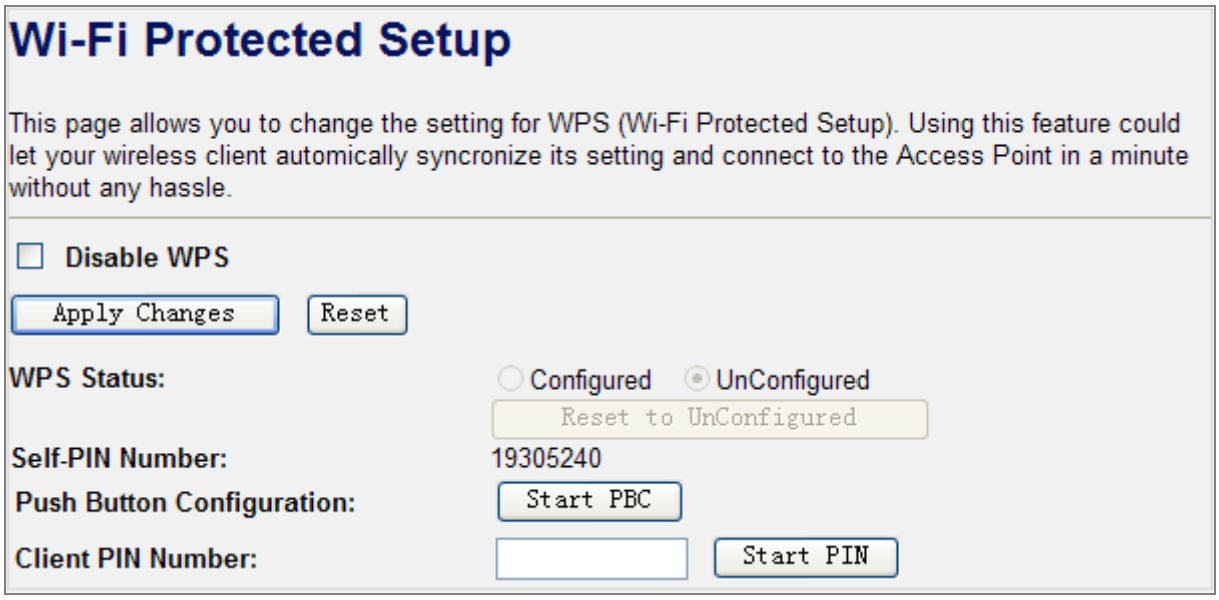


Figure 4-15 WPS (Wi-Fi Protected Setup)

Object	Description
Disable WPS	You can check the box to disable the WPS function.
WPS Status	Here you can check if the connection via WPS is established or not.
Self-PIN Number	It is the PIN number of the WNRT-320GS here.
Push Button Configuration	Click the "Start PBC", and then activate WPS as well in the client device within 2 minutes.
Client PIN Number	In addition to the PBC method, you can also use the PIN method to activate the WPS. Just enter the PIN number of the client device in the field, and click the "Start PIN" button.

Table 4-6

4.4.8. Schedule

Choose menu "**Wireless → Schedule**", and you can configure the schedule rule of enabling wireless function. After the configuration, please click the "Apply Changes" button to save the settings.

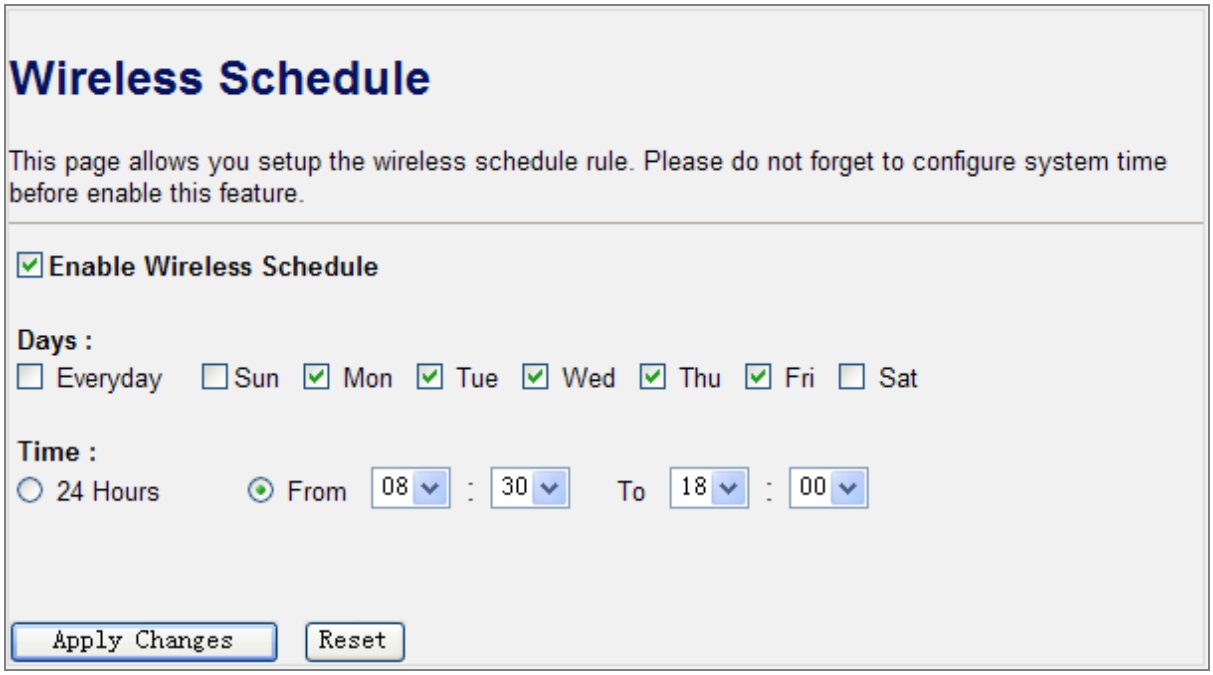


Figure 4-16 Wireless Schedule

4.5. TCP/IP Settings

The TCP/IP Settings menu contains submenus of the settings about LAN and WAN. Please refer to the following sections for the details.

Figure 4-17

4.5.1. LAN Interface

Choose menu "**TCP/IP Settings → LAN Interface**", and you can configure the parameters for LAN (Local Area Network). After the configuration, please click the "Apply Changes" button to save the settings.

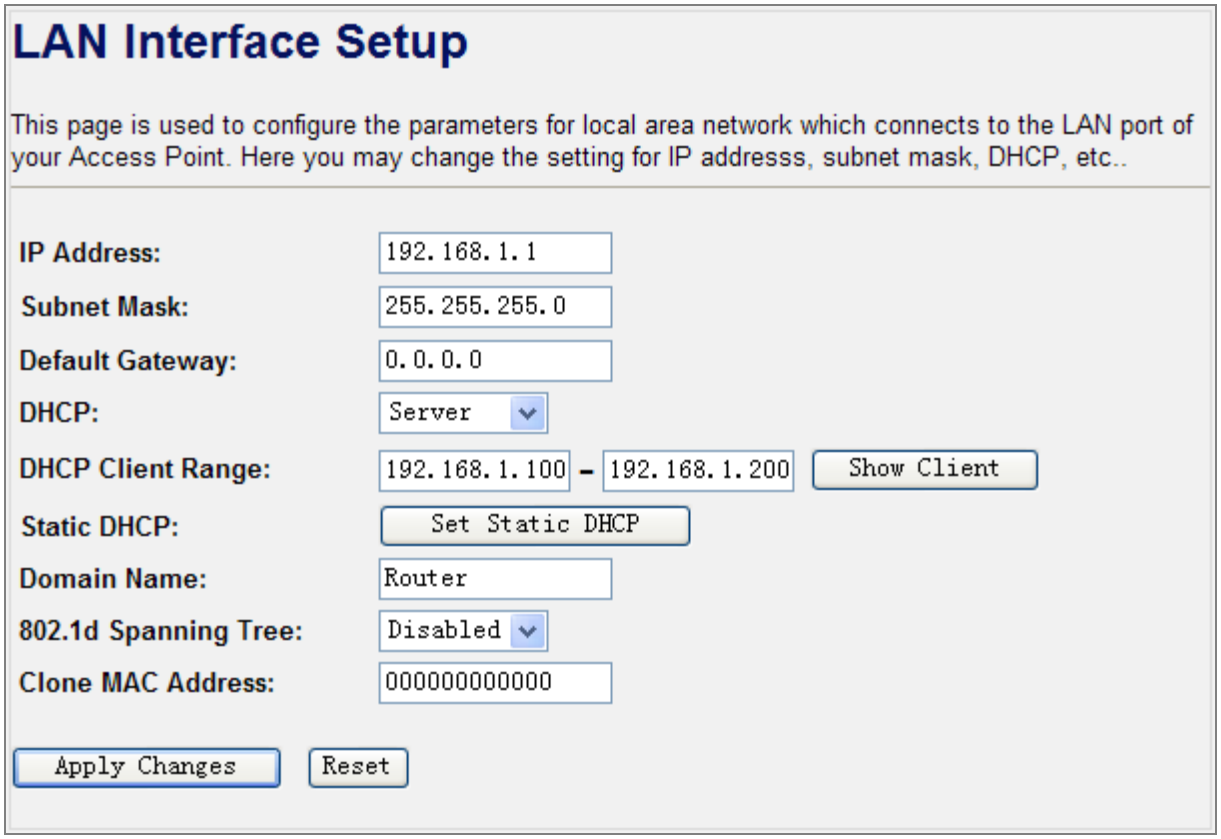


Figure 4-18 LAN Interface

Object	Description
IP Address	The LAN IP address of the WNRT-320GS, and default is **192.168.1.1**. You can change it according to your request.
Subnet Mask	Default is **255.255.255.0**. You can change it according to your request.
Default Gateway	Default is **0.0.0.0**. You can change it according to your request.
DHCP	You can select one of **Disable**, **Client**, **and Server**. Default is **Server,** that the WNRT-320GS can assign IP addresses to the computers automatically.
DHCP Client Range	For the **Server** mode, you must enter the DHCP client IP address range in the field. And you can click the "**Show Client**" button to show the Active DHCP Client Table.
Static DHCP	Click the "**Set Static DHCP**" button, and you can reserve some IP addresses for those network devices with the specified MAC addresses anytime when they request IP addresses.
Domain Name	Default is **Router**.
802.1d Spanning Tree	You can enable or disable the spanning tree function.
Clone MAC Address	You can input a MAC address here for using clone function.

Table 4-7

4.5.2. WAN Interface

Choose menu "**TCP/IP Settings → WAN Interface**", and you can configure the parameters for the Internet network. After the configuration, please click the "Apply Changes" button to save the settings.

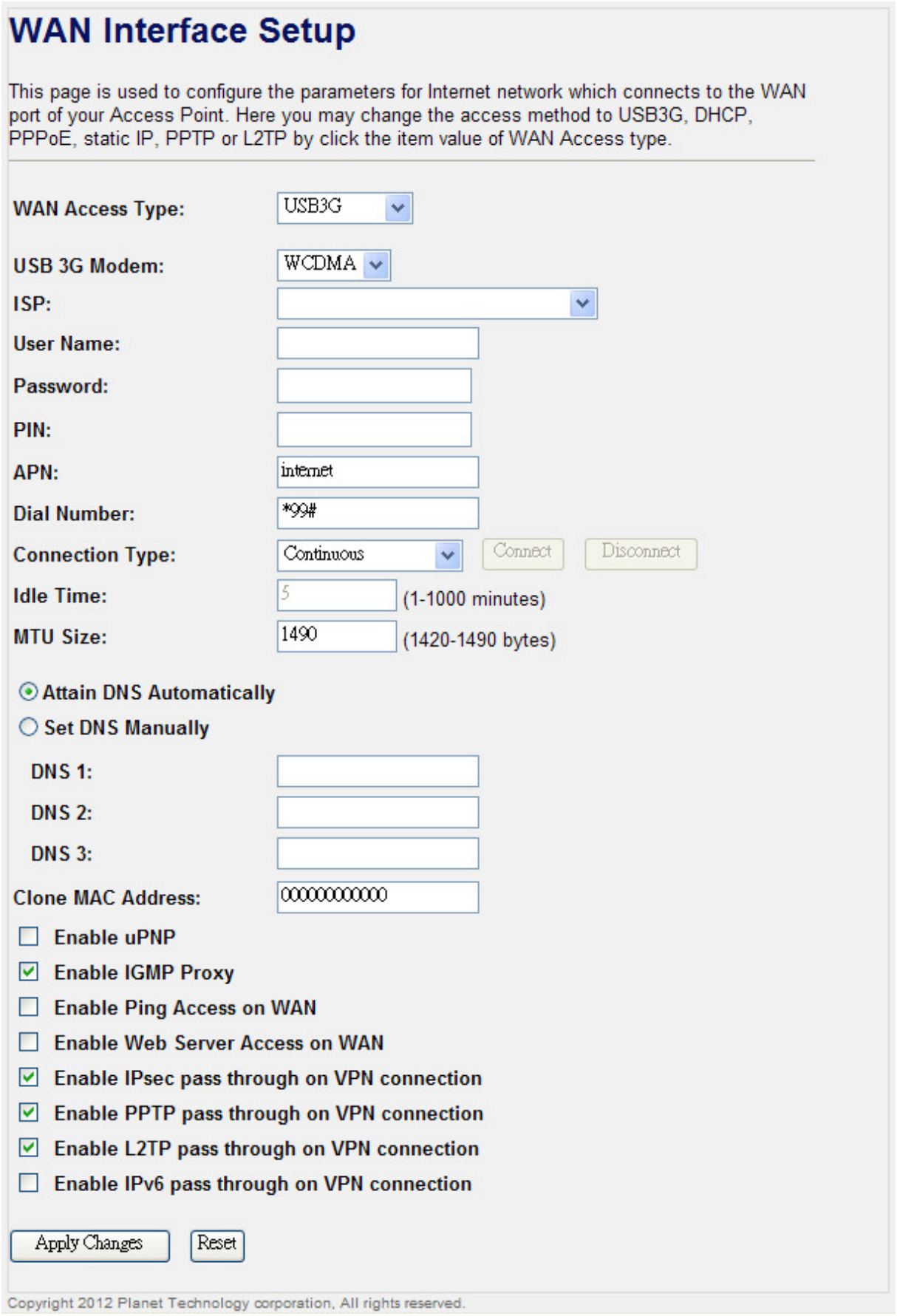


Figure 4-19 WAN Interface – WAN Access Type and Features

Object	Description	
WAN Access Type	**USB3G**	The connection that requires the correct parameters to obtain an IP address from 3G mobile network.
	DHCP Client	The connection which uses the dynamic IP address assignment.
	PPPoE	The connection that requires a username and password.
	Static IP	The connection which uses the static IP address assignment.
	PPTP	The connection which uses a Point-to-Point Tunneling Protocol (PPTP) connection.
	L2TP	The connection which uses a Layer2 Tunneling Protocol (L2TP) connection.
Attain DNS Automatically	Choose to attain DNS automatically from your ISP.	
Set DNS Manually	Choose to specify your preferred DNS Server IP address. The DNS 2 and DNS 3 are optional. You can enter the IP addresses of the secondary and the third DNS Servers as alternatives of DNS 1.	
Clone MAC Address	You can input a MAC address here for using clone function.	
Enable uPNP	Check the box to enable the uPNP function. The uPNP devices can be automatically discovered by the uPNP service application on the LAN.	
Enable IGMP Proxy	Check the box to enable the IGMP Proxy function.	
Enable Ping Access on WAN	Check the box to enable Ping access from the Internet Network.	
Enable Web Server Access on WAN	Check the box to enable the web server access of the WNRT-320GS from the Internet network.	
Enable IPsec pass through on VPN connection	Check the box to enable IPsec pass through function on VPN connection.	
Enable PPTP pass through on VPN connection	Check the box to enable PPTP pass through function on VPN connection.	
Enable L2TP pass through on VPN connection	Check the box to enable L2TP pass through function on VPN connection.	
Enable IPv6 pass through on VPN connection	Check the box to enable IPv6 pass through function on VPN connection.	

Table 4-8

USB3G

Please select **USB3G** when you want to surf the Internet via 3G mobile Internet service. The WNRT-320GS will automatically obtain a public IP address from your mobile ISP. Please refer to the instructions below to configure the correct parameters.

Note

Before installing the SIM card to WNRT-320GS, please configure all the parameters provided by your ISP correctly first, especially the PIN code, to prevent the lockup of the SIM card.

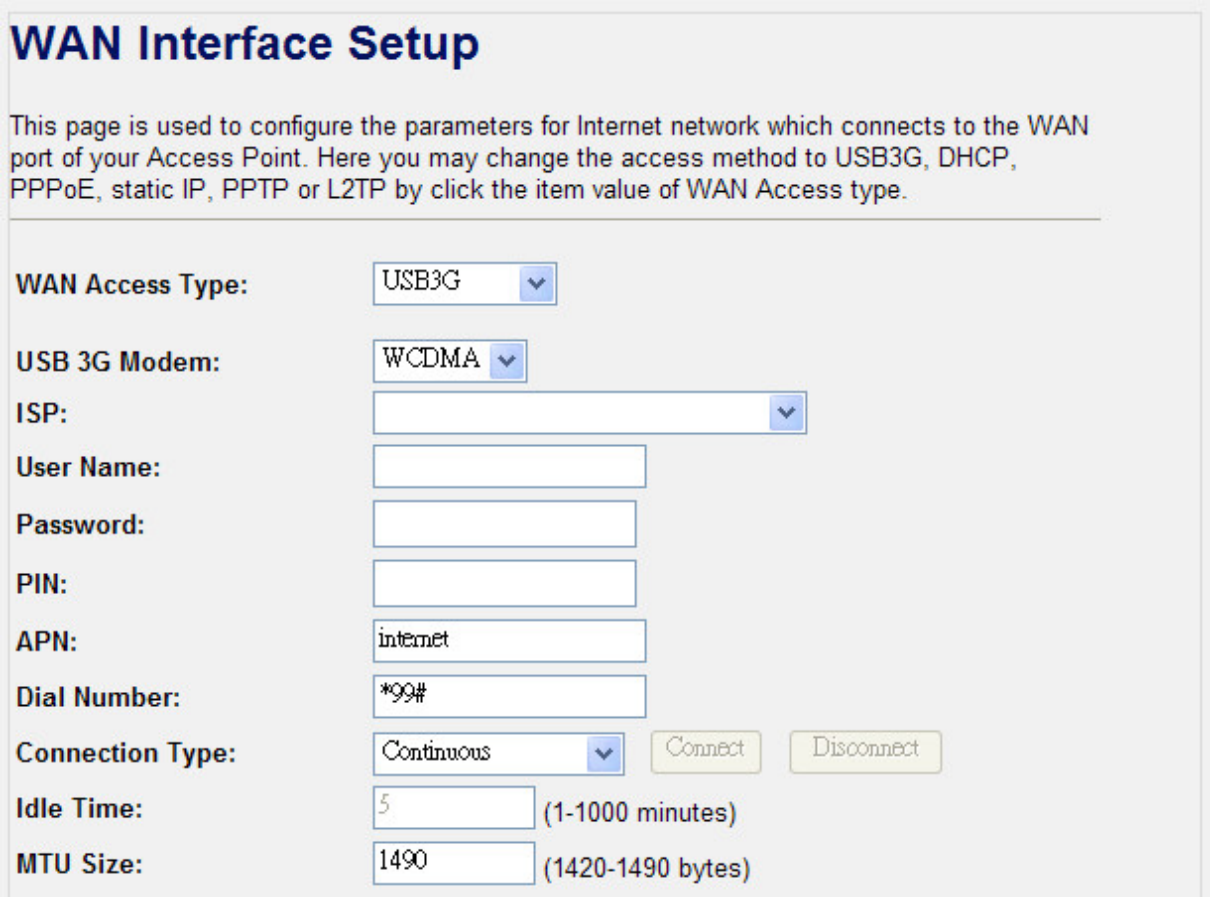


Figure 4-20 WAN Access Type –**USB 3G**

Object	Description
User Name	Enter the User Name provided by your ISP. This field is case-sensitive.
Password	Enter the Password provided by your ISP. This field is case-sensitive.
PIN	Enter the PIN code if your 3G dongle is protected by it.
APN	Enter the APN (Access Point Name) provided by your ISP.
Dial Number	Enter the Dial Number provided by your ISP.
Connection Type	Select the connection type **Continuous**, **Connect on Demand** or **Manual** from the drop-down menu. If selecting **Manual**, the user can

	click Connect button to make a connection.
Idle Time	It represents that the device will idle after the minutes you set. The time must be set between 1~1000 minutes. Default value of idle time is 5 minutes. This function will be available when the Connection Type is selected to **Connect on Demand**.
MTU Size	The default **MTU** (Maximum Transmission Unit) value is 1490 Bytes. It is not recommended that you change the default **MTU Size** unless required by your ISP.

Table 4-9

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 in the **Management\Status** web page, it will be shown "**USB3G Connected**" in the **Attain IP Protocol** field. Otherwise, "Unknown Modem" will be shown instead. Please visit our website to get the latest USB modems compatibility list.

Figure 4-21 Access Point Status

PPPoE

If your ISP provides a PPPoE connection, please select **PPPoE** option. The user has to setup the user name and password provided by your ISP. Please refer to the instructions below

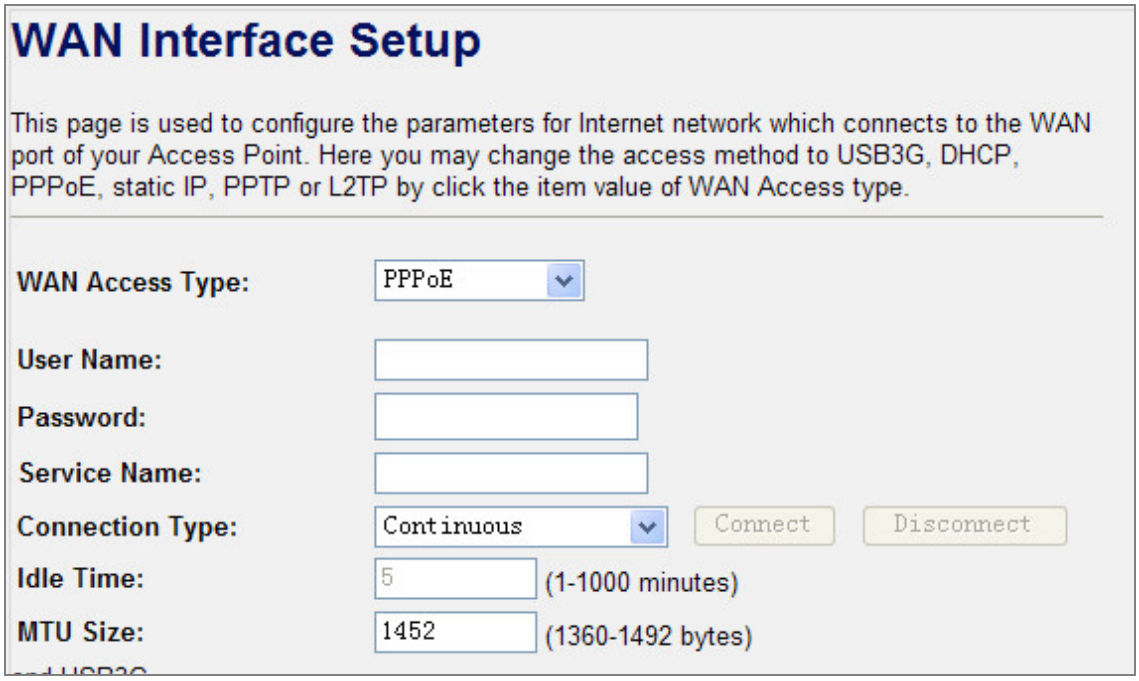


Figure 4-22 WAN Access Type – **PPPoE**

Object	Description
User Name	Enter the User Name provided by your ISP. This field is case-sensitive.
Password	Enter the Password provided by your ISP. This field is case-sensitive.
Service Name	Enter the Internet service provider name in this field.
Connection Type	Select the connection type **Continuous**, **Connect on Demand** or **Manual** from the drop-down menu. If selecting **Manual**, the user can click Connect button to make a connection.
Idle Time	It represents that the device will idle after the minutes you set. The time must be set between 1~1000 minutes. Default value of idle time is 5 minutes. This function will be available when the Connection Type is selected to **Connect on Demand**.
MTU Size	The default **MTU** (Maximum Transmission Unit) value is 1452 Bytes. It is not recommended that you change the default **MTU Size** unless required by your ISP.

Table 4-10

Static IP

If your ISP provides a static IP address, please select **Static IP** and setup the related parameters manually. Please refer to the instructions below

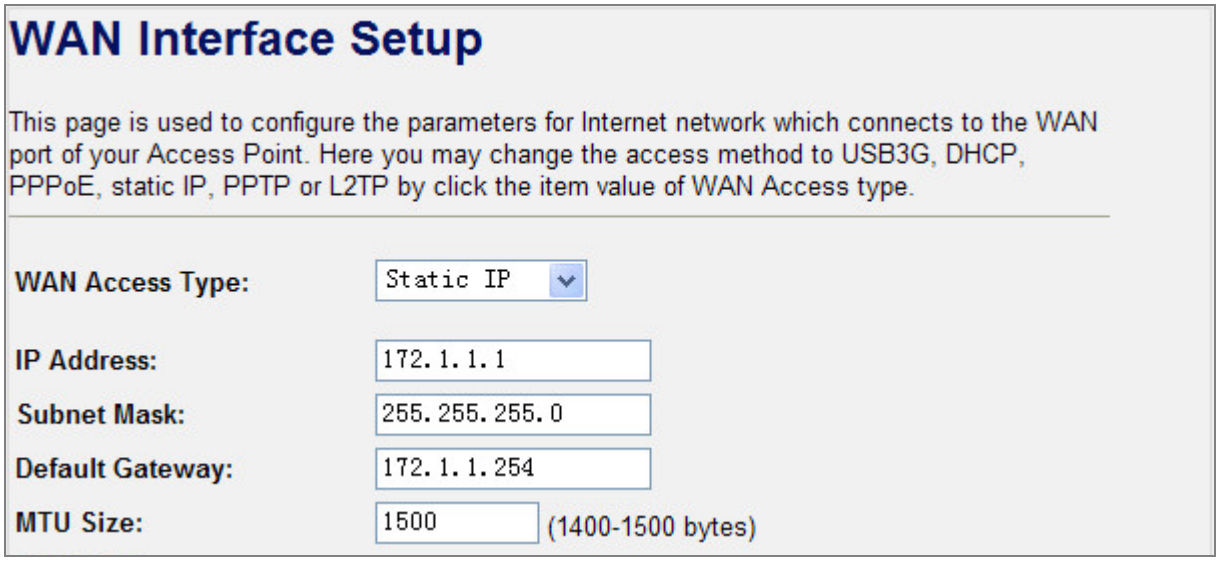


Figure 4-23 WAN Access Type – **Static IP**

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.
DNS 1	Enter the DNS server IP address provided by your ISP, or you can specify your preferred DNS server IP address.
DNS 2 & DNS 3	(Optional) You can enter the IP address of another DNS server as a backup. DNS 2 and 3 servers will be used when the DNS 1 server fails.

Table 4-11

PPTP

If your ISP provides PPTP connection, please select **PPTP** option and enter the correct parameters. Please refer to the instructions below

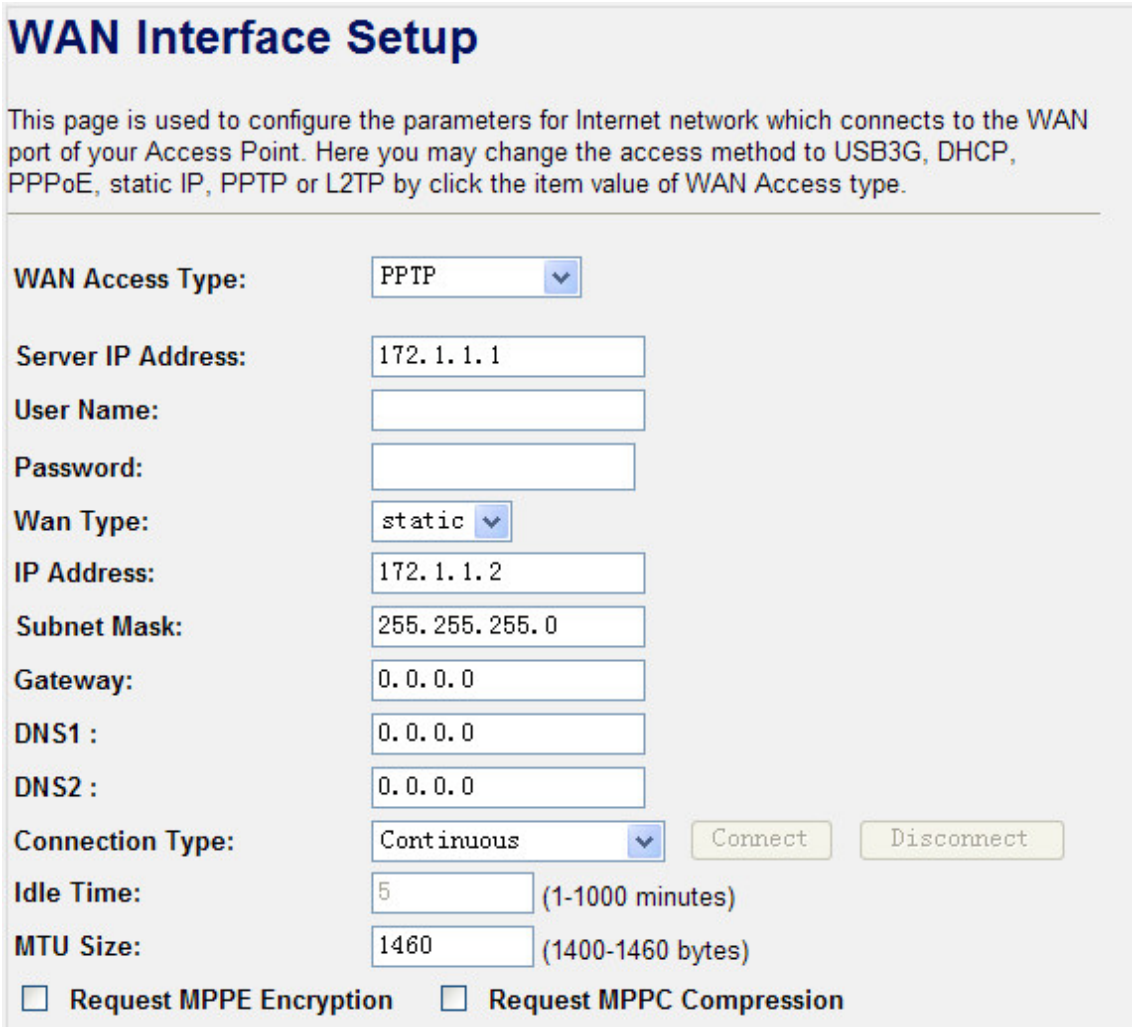


Figure 4-24 WAN Access Type – **PPTP**

Object	Description	
Server IP Address	Enter the PPTP Server IP address in dotted-decimal notation provided by your ISP.	
User Name	Enter the User Name provided by your ISP. This field is case-sensitive.	
Password	Enter the Password provided by your ISP. This field is case-sensitive.	
Wan Type	Select the corresponding method to obtain an IP address from your ISP.	
	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.
	Gateway	Enter the gateway IP address in dotted-decimal notation provided by your ISP.

	DNS1	Enter the DNS server IP address provided by your ISP, or you can specify your preferred DNS server IP address.
	DNS2	You can enter the IP address of another DNS server as a backup. DNS 2 server will be used when the DNS 1 server fails.
Connection Type	Select the connection type **Continuous**, **Connect on Demand** or **Manual** from the drop-down menu. If selecting **Manual**, the user can click Connect button to make a connection.	
Idle Time	It represents that the device will idle after the minutes you set. The time must be set between 1~1000 minutes. Default value of idle time is 5 minutes. This function will be available when the Connection Type is selected to **Connect on Demand**.	
MTU Size	The default **MTU** (Maximum Transmission Unit) value is 1460 Bytes. It is not recommended that you change the default **MTU Size** unless required by your ISP.	

Table 4-12

L2TP

If your ISP provides L2TP connection, please select **L2TP** option and enter the correct parameters. Please refer to the instructions below

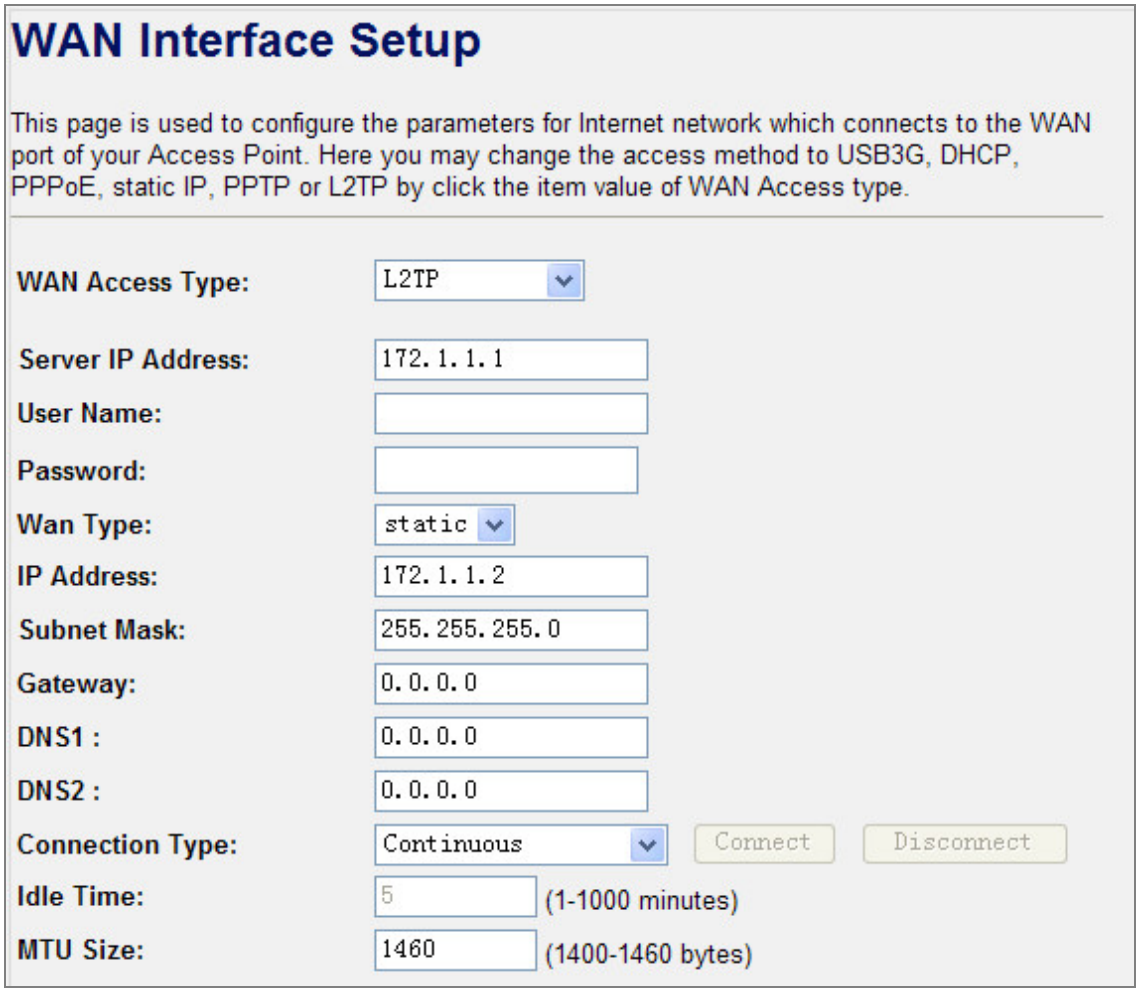


Figure 4-25 WAN Access Type – **L2TP**

Object	Description	
Server IP Address	Enter the L2TP Server IP address in dotted-decimal notation provided by your ISP.	
User Name	Enter the User Name provided by your ISP. This field is case-sensitive.	
Password	Enter the Password provided by your ISP. This field is case-sensitive.	
Wan Type	Select the corresponding method to obtain an IP address from your ISP.	
	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.
	Gateway	Enter the gateway IP address in dotted-decimal notation provided by your ISP.
	DNS1	Enter the DNS server IP address provided by your ISP, or you can specify your preferred DNS server IP address.
	DNS2	You can enter the IP address of another DNS server as a backup. DNS 2 server will be used when the DNS 1 server fails.
Connection Type	Select the connection type **Continuous**, **Connect on Demand** or **Manual** from the drop-down menu. If selecting **Manual**, the user can click Connect button to make a connection.	
Idle Time	It represents that the device will idle after the minutes you set. The time must be set between 1~1000 minutes. Default value of idle time is 5 minutes. This function will be available when the Connection Type is selected to **Connect on Demand**.	
MTU Size	The default **MTU** (Maximum Transmission Unit) value is 1460 Bytes. It is not recommended that you change the default **MTU Size** unless required by your ISP.	

Table 4-13

DHCP Client

If your ISP provides the DHCP service, please select **DHCP Client** type, and the WNRT-320GS will automatically obtain IP parameters from your ISP. Please refer to the instructions below

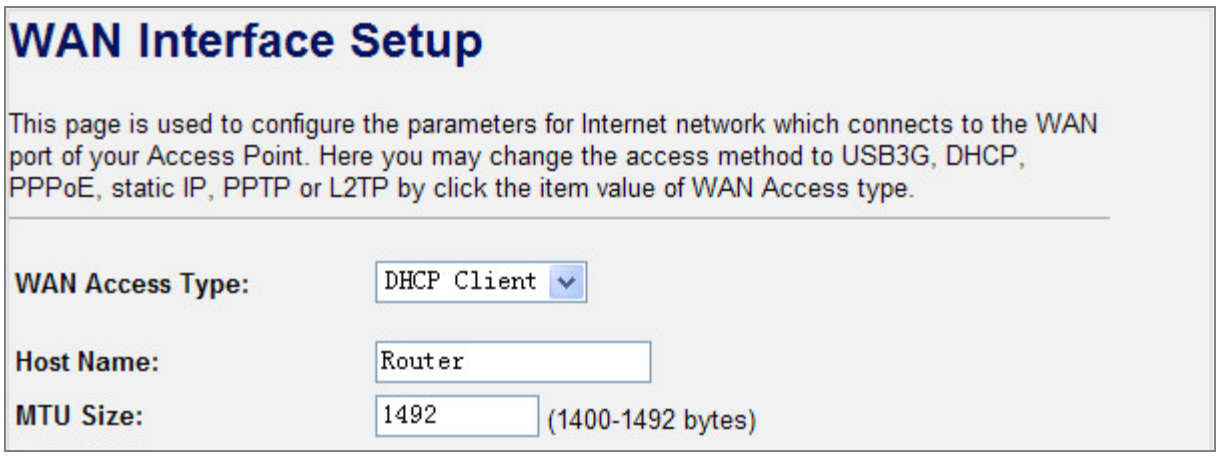


Figure 4-26 WAN Access Type – **DHCP Client**

Object	Description
Host Name	This option specifies the Host Name of the Router.
MTU Size	The default MTU (Maximum Transmission Unit) value is 1492 Bytes. It is not recommended that you change the default MTU Size unless required by your ISP.

Table 4-14

4.6. Firewall

The Firewall menu contains submenus of the settings about firewall and access filtering. Please refer to the following sections for the details.

Figure 4-27

4.6.1. Port Filtering

Choose menu "**Firewall → Port Filtering**", and you can configure which port range and protocol to be restricted. After the configuration, please click the "Apply Changes" button to save the settings.

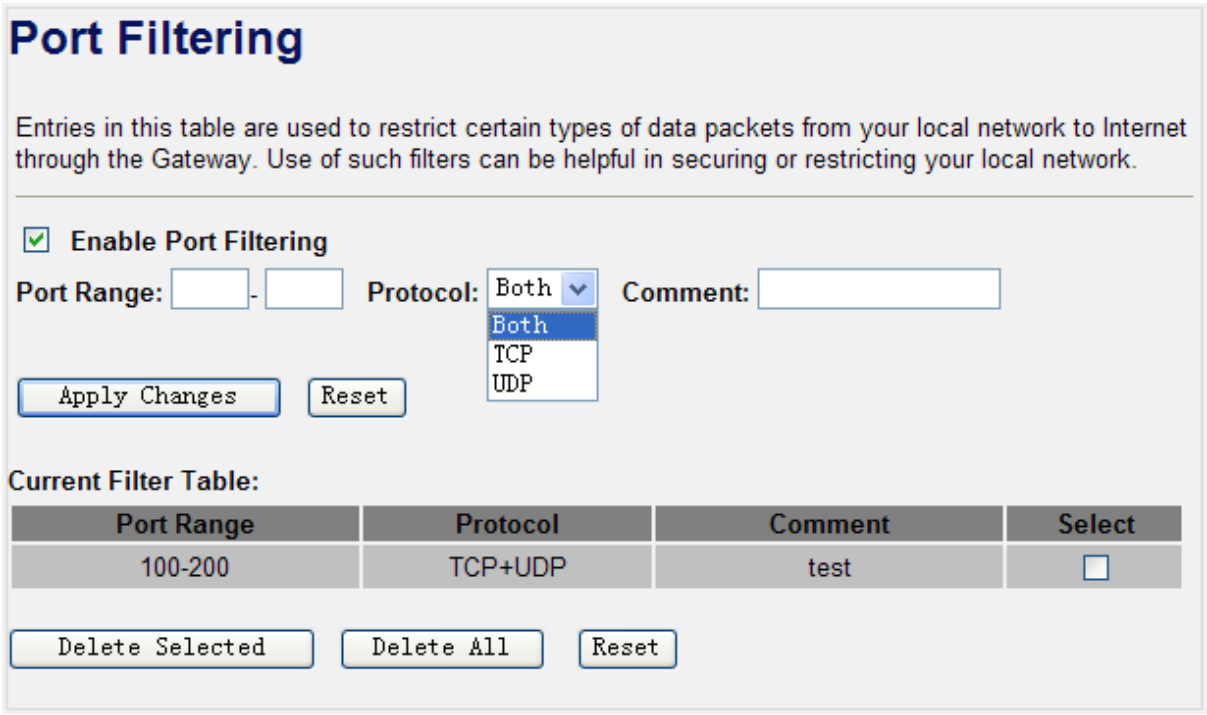


Figure 4-28 Port Filtering

Object	Description
Enable Port Filtering	Enable port filtering
Port Range	Add ports you want to control
Protocol	Select the port number protocol type (TCP, UDP or both). If you are unsure, then leave it to the default both protocol
Comment	The description of this setting

Table 4-15

Check the "Select" box of which rule you want to delete, then click the "Delete Selected" button to delete it.

4.6.2. IP Filtering

Choose menu "**Firewall → IP Filtering**", and you can configure which IP address and protocol to be restricted. After the configuration, please click the "Apply Changes" button to save the settings.

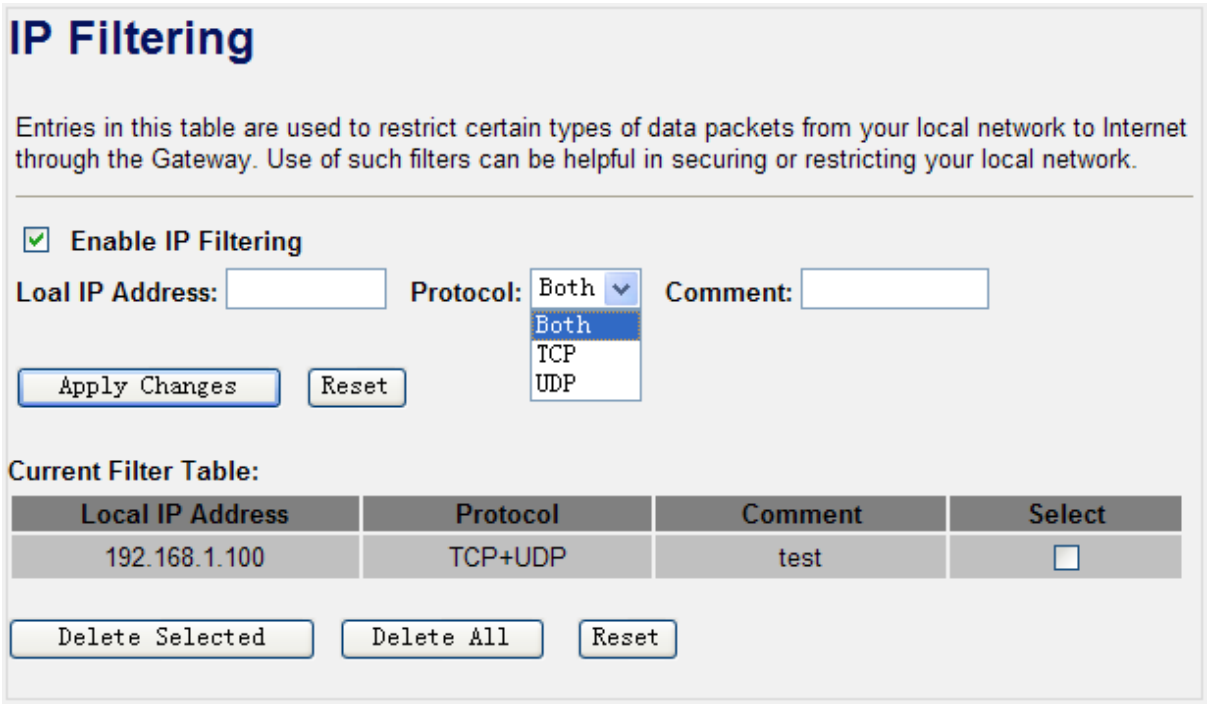


Figure 4-29 IP Filtering

Object	Description
Enable IP Filtering	Enable IP filtering
Local IP Address	Add LAN IP address you want to control
Protocol	Select the port number protocol type (TCP, UDP or both). If you are unsure, then leave it to the default both protocol
Comment	The description of this setting

Table 4-16

Check the "Select" box of which rule you want to delete, and then click the "Delete Selected" button to delete it.

4.6.3. MAC Filtering

Choose menu "**Firewall → MAC Filtering**", and you can configure which computer of the specified MAC address to be restricted. After the configuration, please click the "Apply Changes" button to save the settings.

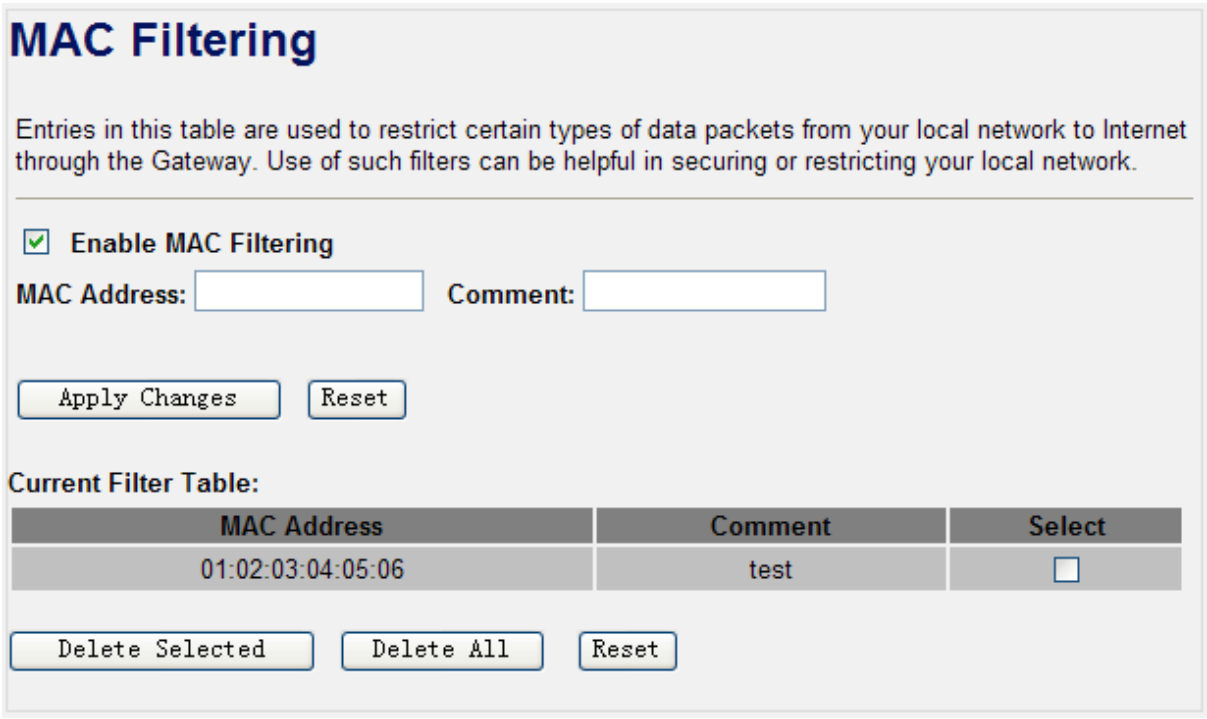


Figure 4-30 MAC Filtering

Object	Description
Enable MAC Filtering	Enable MAC filtering
MAC Address	Add MAC address you want to control
Comment	The description of this setting

Table 4-17

Check the "Select" box of which rule you want to delete, and then click the "Delete Selected" button to delete it.

4.6.4. Port Forwarding

Choose menu "**Firewall → Port Forwarding**", and you can configure to re-direct a particular range of service port numbers from the Internet network to a particular LAN IP address. It helps users to host some servers behind the firewall. After the configuration, please click the "Apply Changes" button to save the settings.

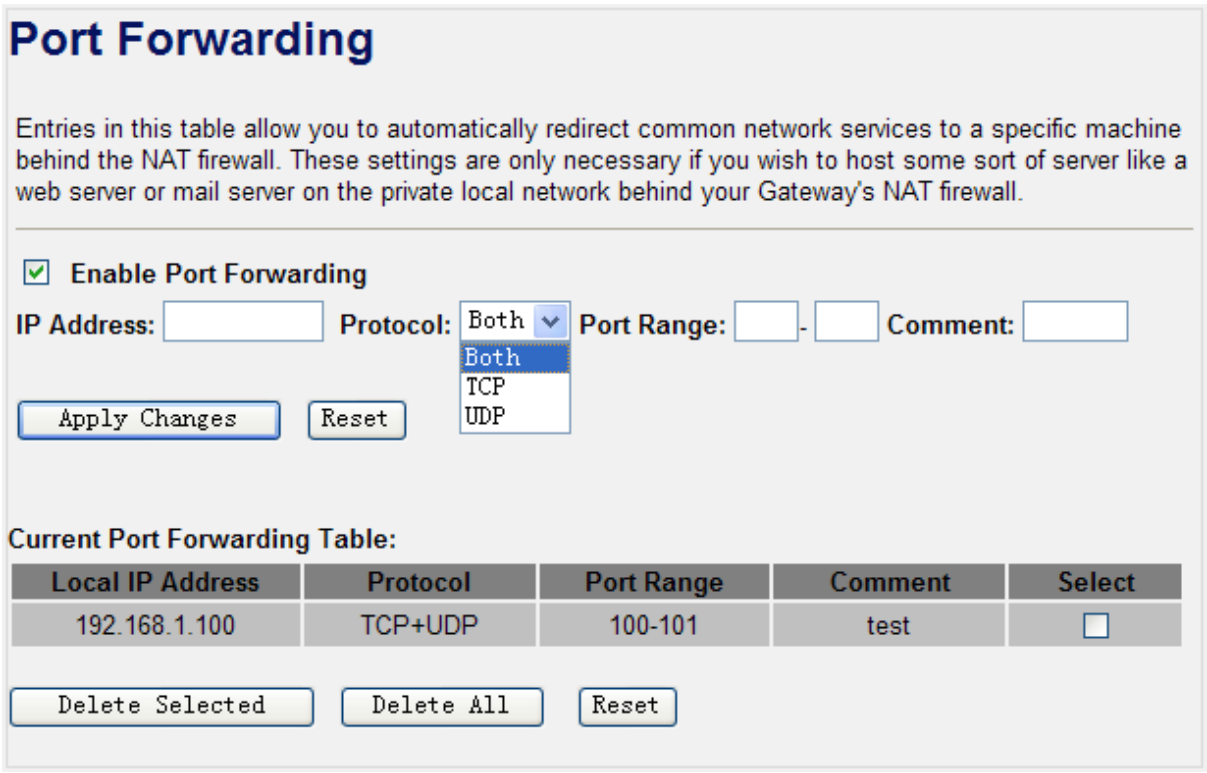


Figure 4-31 Port Forwarding

Object	Description
Enable Port Forwarding	Enable Port Forwarding function
IP Address	Add LAN IP address of specified host or server on the private local network
Protocol	Select the port number protocol type (TCP, UDP or both). If you are unsure, then leave it to the default both protocol
Port Range	Add ports you want to control. For TCP and UDP Services, enter the beginning of the range of port numbers used by the service. If the service uses a single port number, enter it in both the start and finish fields.
Comment	The description of this setting

Table 4-18

Check the "Select" box of which rule you want to delete, and then click the "Delete Selected" button to delete it.

4.6.5. URL Filtering

Choose menu "**Firewall → URL Filtering**", and you can configure which URL addresses to be blocked. After the configuration, please click the "Apply Changes" button to save the settings.

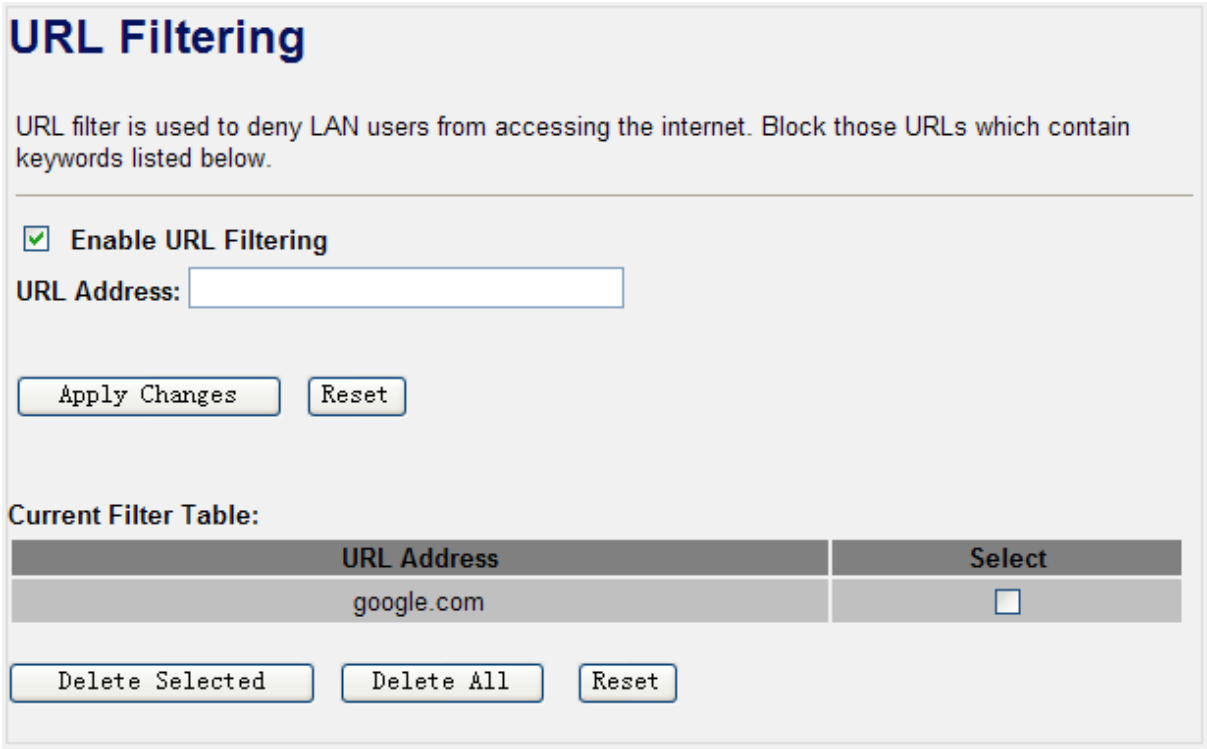


Figure 4-32 URL Filtering

Check the "Select" box of which rule you want to delete, and then click the "Delete Selected" button to delete it.

4.6.6. DMZ

This page allows you to set a **De-militarized Zone (DMZ)** to separate internal network and Internet.

Choose menu "**Firewall → DMZ**", and you can configure the private IP address of DMZ. The DMZ feature allows one local host to be exposed to the Internet for a special-purpose service such as Internet gaming or video conferencing. After the configuration, please click the "Apply Changes" button to save the settings.

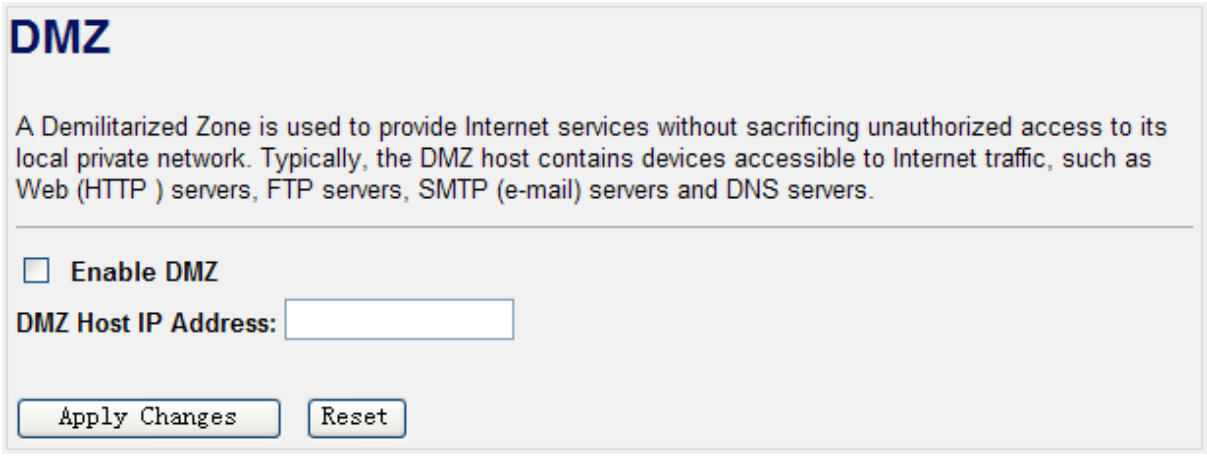


Figure 4-33 DMZ

Object	Description
Enable DMZ	Check the box to enable DMZ function. If the DMZ Host Function is enabled, it means that you set up DMZ host at a particular computer to be exposed to the Internet so that some applications/software, especially Internet / online game can have two way connections.
DMZ Host IP Address	Enter the IP address of a particular host in your LAN which will receive all the packets originally going to the WAN port / Public IP address above.

Table 4-19

4.7. QoS

The QoS (Quality of Service) function will improve the network performance of the specified computer by ensuring that its network traffic is prioritized over others'. After the configuration, please click the "Apply Changes" button to save the settings.

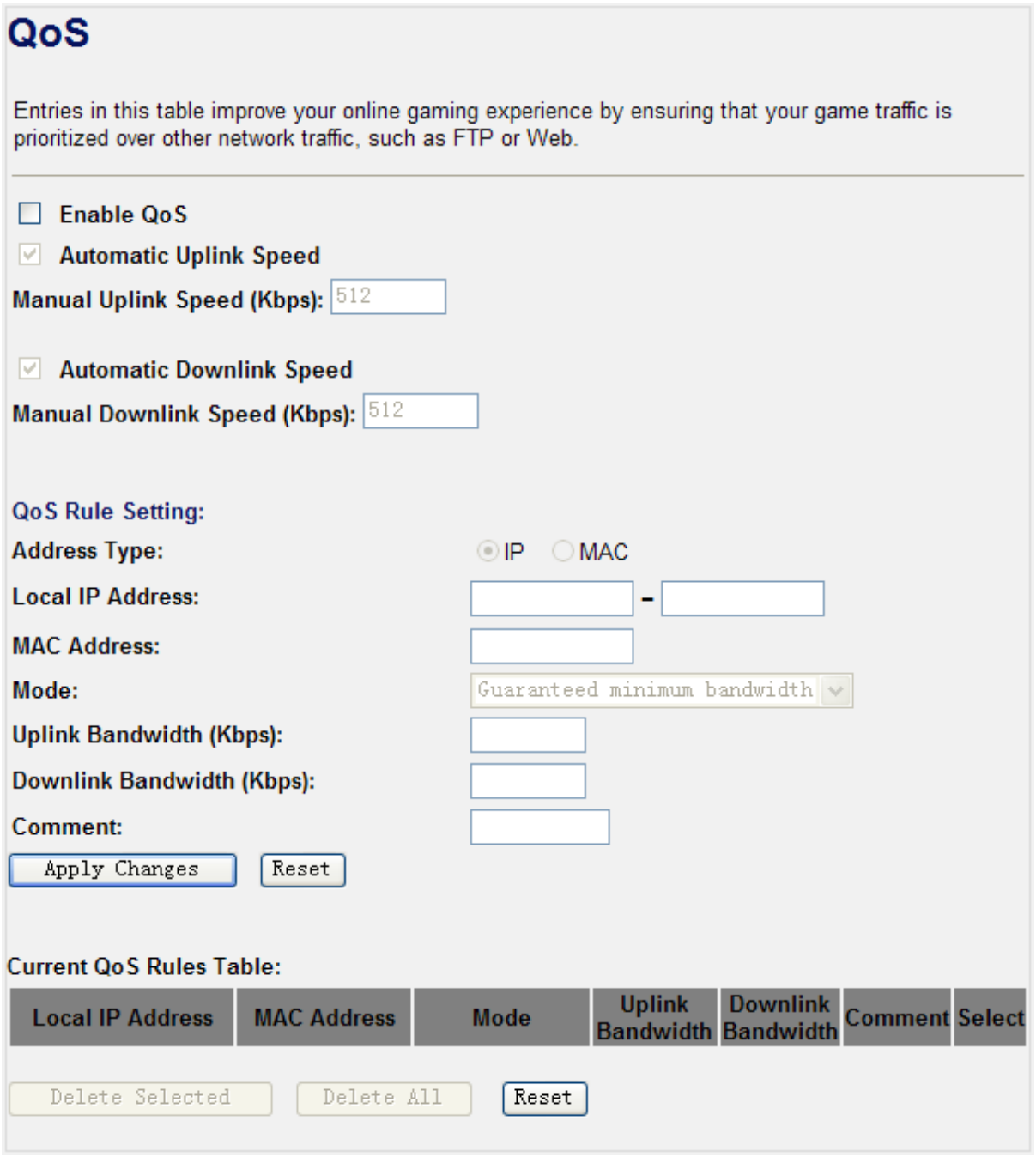


Figure 4-34 QoS

Object	Description
Enable QoS	Check the box to enable the QoS function.
Automatic Uplink Speed	Check the box to adjust the uplink speed automatically by the WNRT-320GS. Or enter the uplink data rate manually in the field below.
Automatic Downlink Speed	Check the box to adjust the downlink speed automatically by the WNRT-320GS. Or enter the downlink data rate manually in the field below.

QoS Rule Setting	To set the priority rule, you can appoint the computer by **IP** address or **MAC** address, and enter it in the correct field. Select **minimum** or **maximum** bandwidth, and then fill the **uplink** and **downlink** data rate into the field.

Table 4-20

4.8. Route Setup

The page is used to setup dynamic routing protocol or edit static route entry. After the configuration, please click the "Apply Changes" button to save the settings.

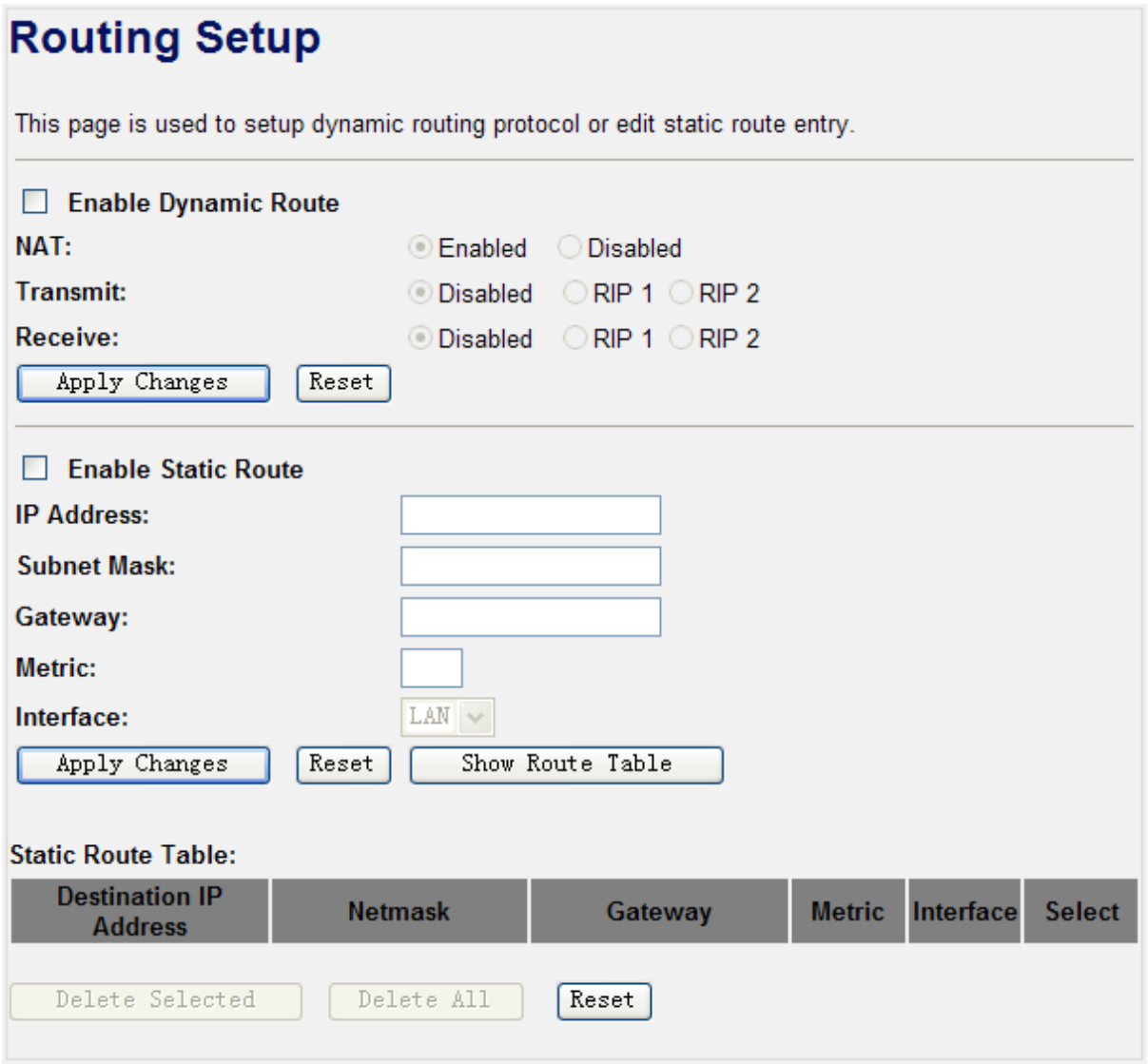


Figure 4-35 Routing Setup

4.9. Management

The Management menu contains submenus of the general settings of the WNRT-320GS. Please refer to the following sections for the details.

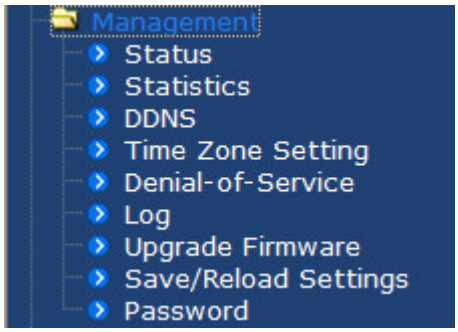
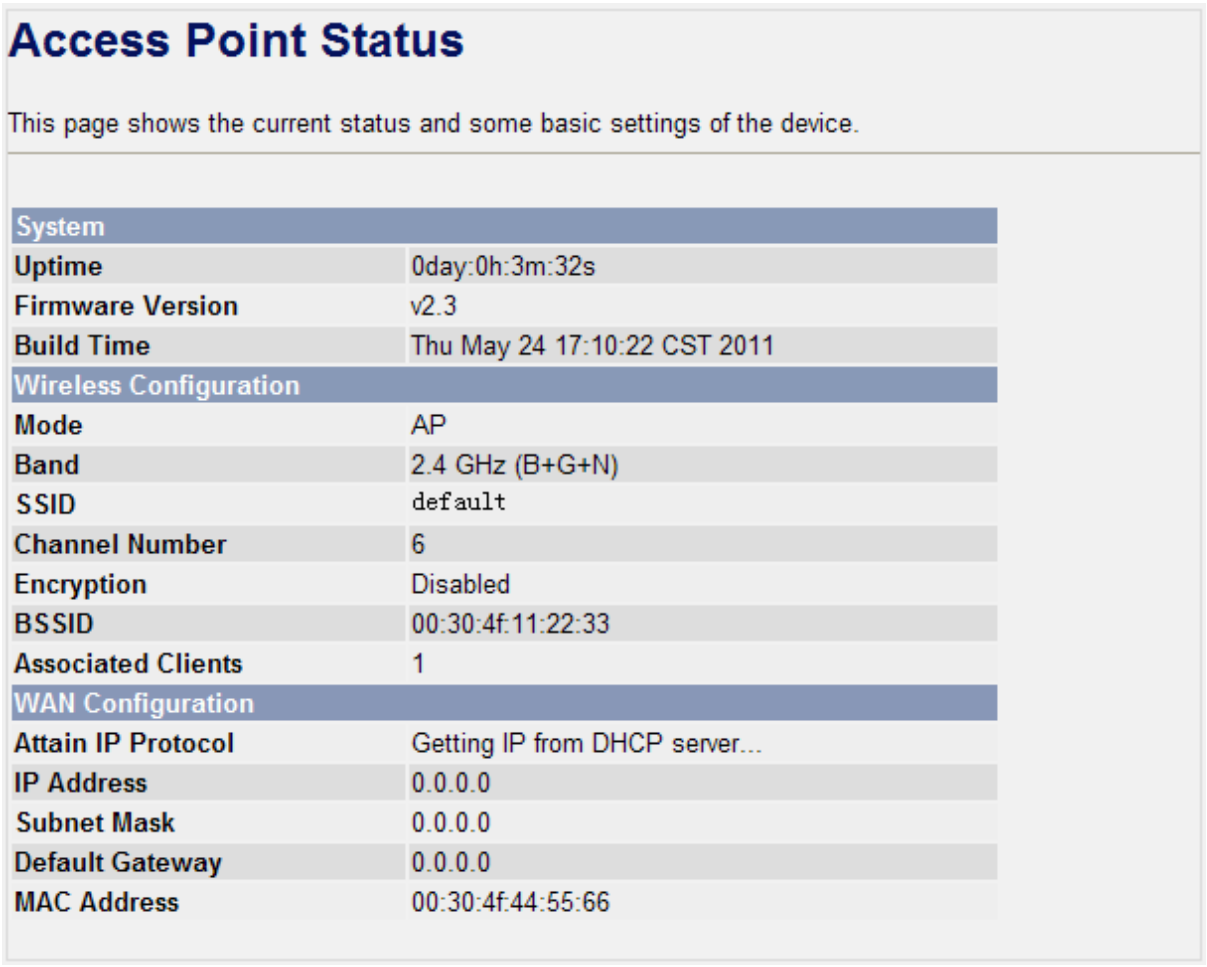


Figure 4-36

4.9.1. Status

Choose menu "**Management → Status**" to show the current status and some basic settings of the WNRT-320GS.



Access Point Status

This page shows the current status and some basic settings of the device.

System	
Uptime	0day:0h:3m:32s
Firmware Version	v2.3
Build Time	Thu May 24 17:10:22 CST 2011
Wireless Configuration	
Mode	AP
Band	2.4 GHz (B+G+N)
SSID	default
Channel Number	6
Encryption	Disabled
BSSID	00:30:4f:11:22:33
Associated Clients	1
WAN Configuration	
Attain IP Protocol	Getting IP from DHCP server...
IP Address	0.0.0.0
Subnet Mask	0.0.0.0
Default Gateway	0.0.0.0
MAC Address	00:30:4f:44:55:66

Figure 4-37 Status

4.9.2. Statistics

Choose menu "**Management → Statistics**" to show the packet counters for transmission and reception regarding to wireless and Ethernet network.

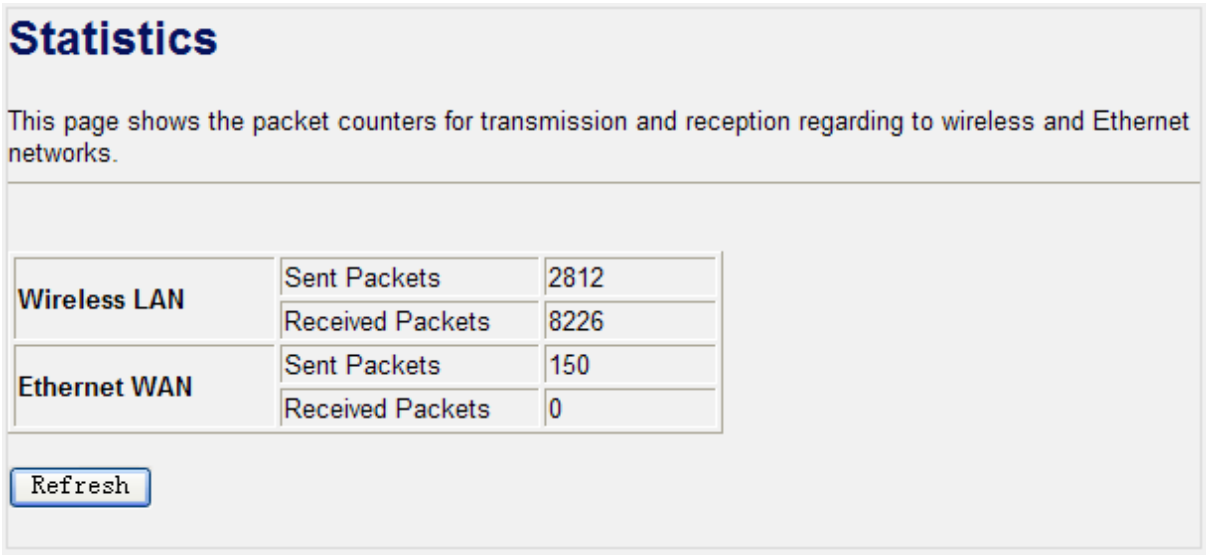


Figure 4-38 Statistics

Item	Description
Wireless LAN ***Sent Packets***	It shows the statistic count of sent packets on the wireless LAN interface.
Wireless LAN ***Received Packets***	It shows the statistic count of received packets on the wireless LAN interface.
Ethernet WAN ***Sent Packets***	It shows the statistic count of sent packets on the Ethernet WAN interface.
Ethernet WAN ***Received Packets***	It shows the statistic count of received packets on the Ethernet WAN interface.
Refresh	Click the refresh the statistic counters on the screen.

Table 4-21

4.9.3. DDNS

Choose menu "**Management → DDNS**" to configure the settings about Dynamic DNS. Dynamic DNS is a kind of service that provides users with a valid, unchanging internet domain name (an URL) to go with that (possibly ever changing) IP address. After the configuration, please click the "Apply Changes" button to save the settings.

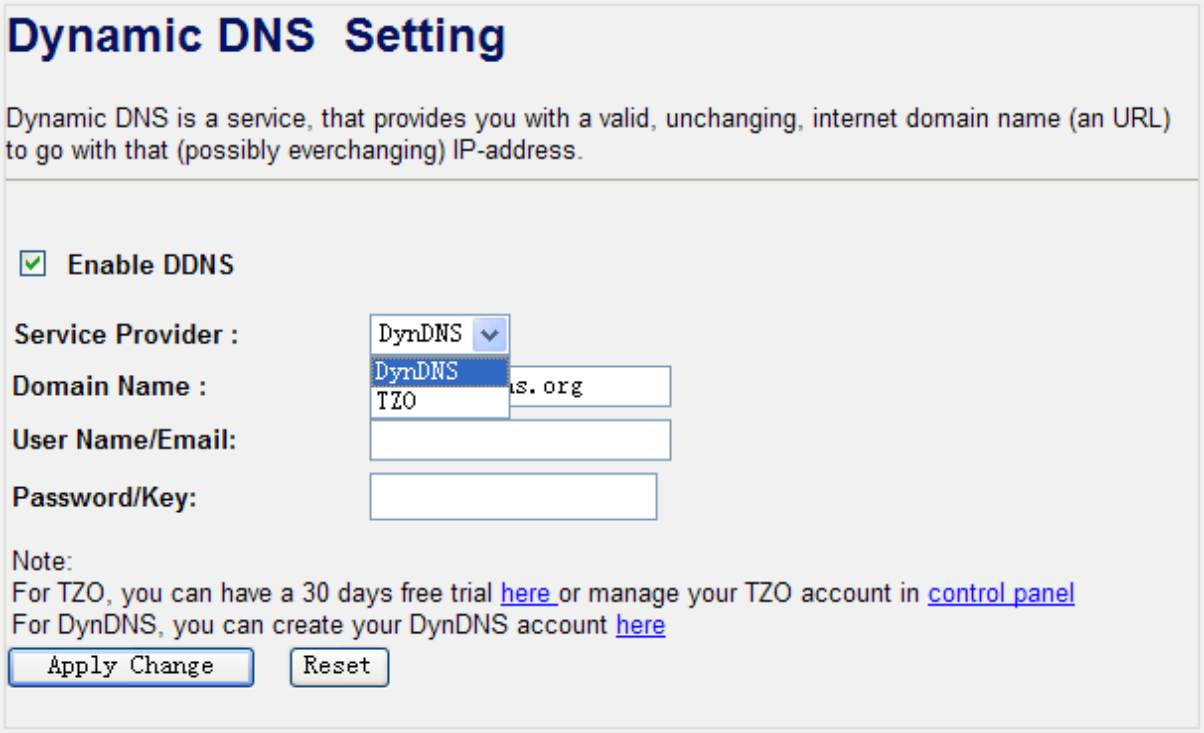


Figure 4-39 DDNS

Object	Description
Enable DDNS	Check the box to enable the Dynamic DNS function.
Service Provider	Select the DDNS service provider.
Domain Name	Enter the domain name you have registered from the DDNS service provider.
User Name/Email	Enter the user name you have registered from the DDNS service provider.
Password/Key	Enter the password you have registered from the DDNS service provider.

Table 4-22

4.9.4. Time Zone Setting

Choose menu "**Management → Time Zone Setting**" to configure the system time. You can also maintain the system time by synchronizing with a public time server over the Internet. After the configuration, please click the "Apply Changes" button to save the settings.

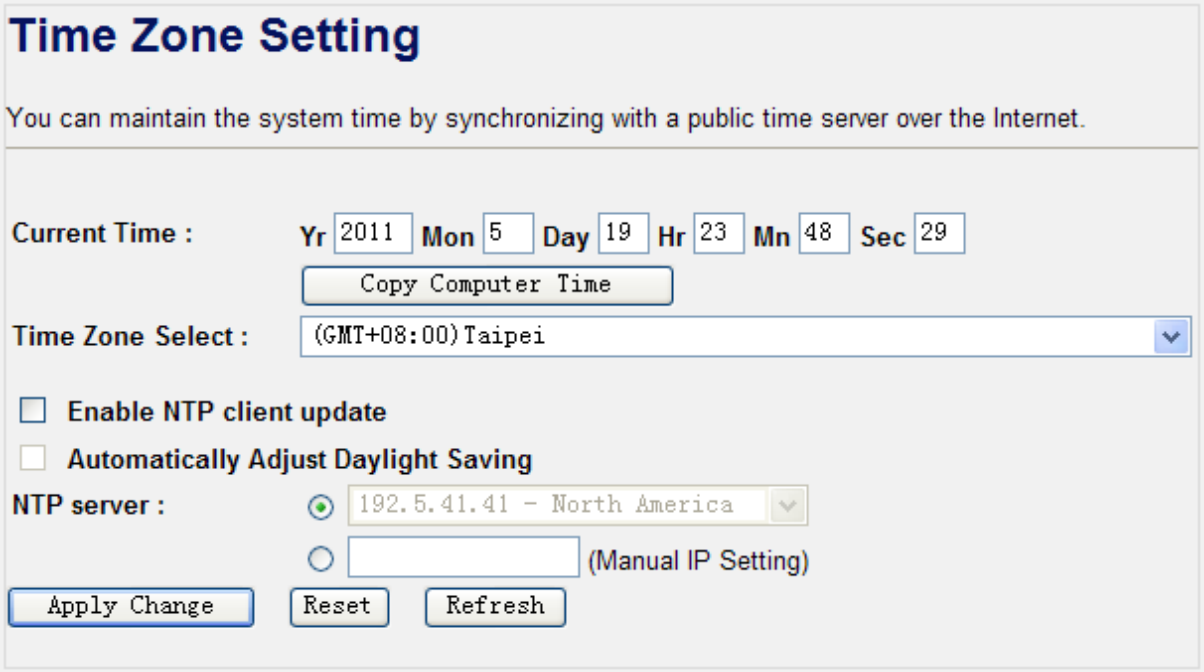


Figure 4-40 Time Zone Setting

Object	Description
Time Zone Select	Input current time manually.
Time Zone Select	Select the time zone of the country you are currently in. The router will set its time based on your selection.
Enable NTP client update	Check to enable NTP update. Once this function is enabled, Router will automatically update current time from NTP server.
NTP Server	User may select prefer NTP sever or input address of NTP server manually.

Table 4-23

4.9.5. Denial of Service

A "denial-of-service" (DoS) attack is characterized by an explicit attempt by hackers to prevent legitimate users of a service from using that service.

Choose menu "**Management → Denial of Service**" to configure the settings of DoS attack prevention. After the configuration, please click the "Apply Changes" button to save the settings.

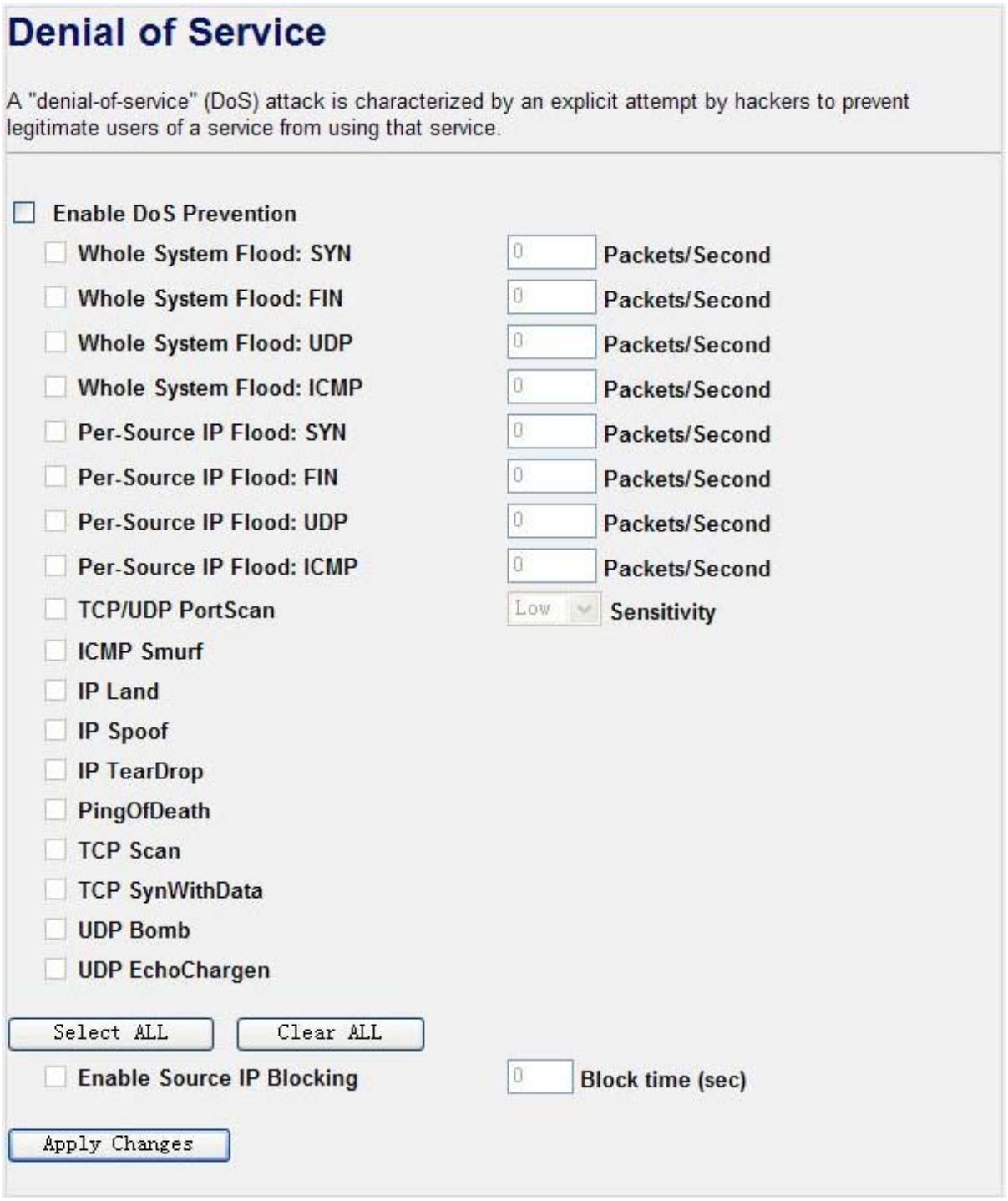


Figure 4-41 Denial of Service

Object	Description
Enable DoS Prevention	Check to enable DoS function. User may set other related configurations about DoS below

Table 4-24

4.9.6. Log

Choose menu "**Management → Log**" to configure the settings of system log. You can check the box of the items you want to record it in the log. After the configuration, please click the "Apply Changes"

button to save the settings.

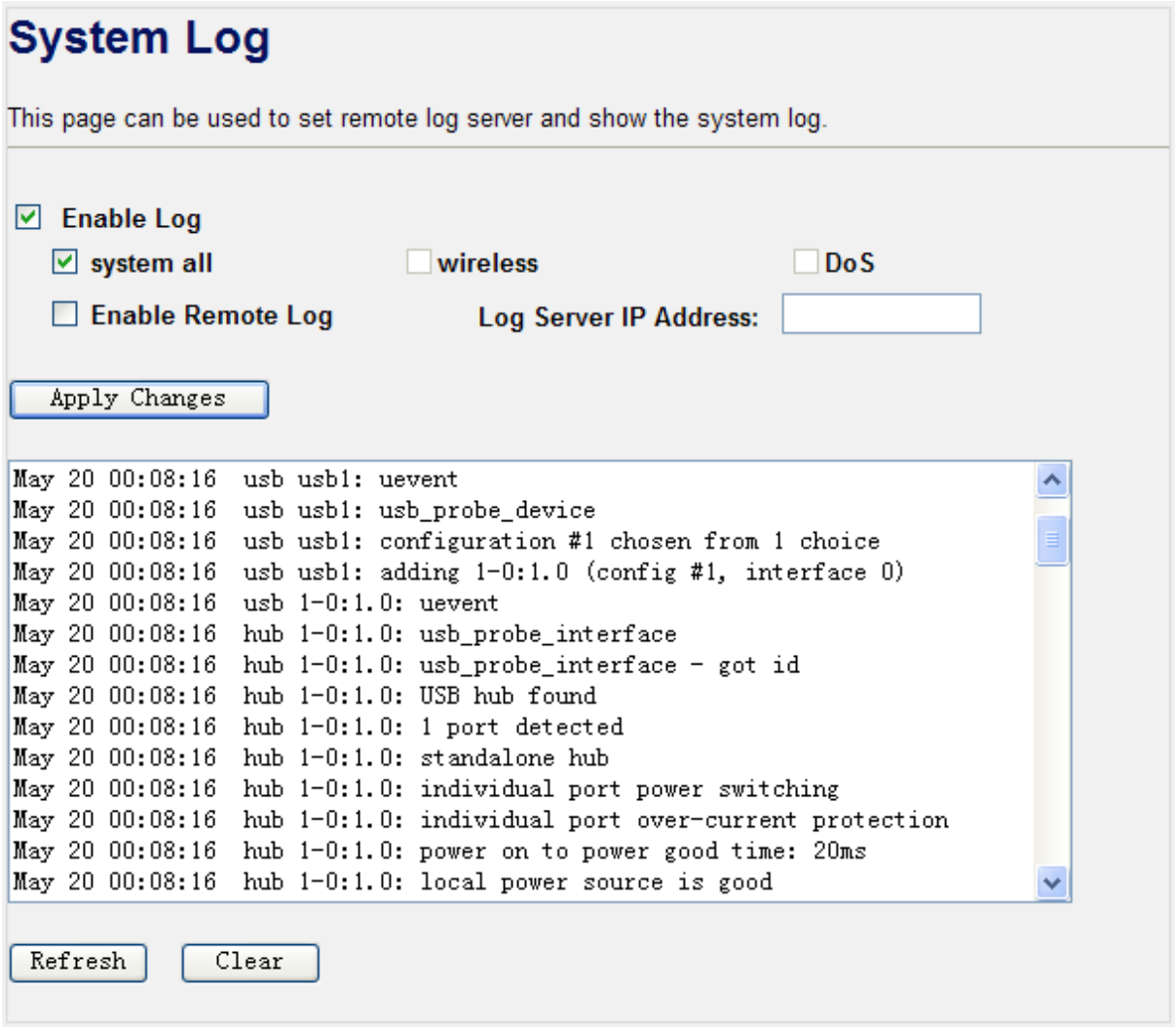


Figure 4-42 System Log

Object	Description
Enable Log	Check to enable log function.
System all/Dos	Select which log you want to check. Related information will be shown at below.

Table 4-25

4.9.7. Upgrade Firmware

Choose menu "**Management → Upgrade Firmware**" to upgrade the firmware of the WNRT-320GS. Select the new firmware file downloaded from the PLANET website, and then click "Upload" button to upgrade it.

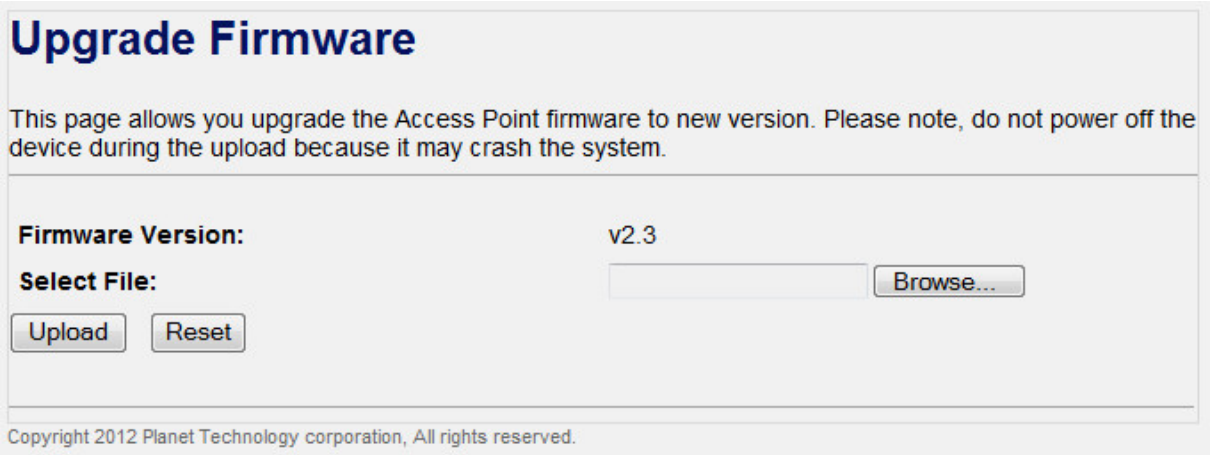


Figure 4-43 Upgrade Firmware

Object	Description
Select File	Browse and select file you want to upgrade and press Upload to perform upgrade. **Please wait till on screen shows related information after upgrade finished.**

Table 4-26

4.9.8. Save/Reload Settings

Choose menu "**Management → Save/Reload Settings**" to backup or reset the configuration of the WNRT-320GS.

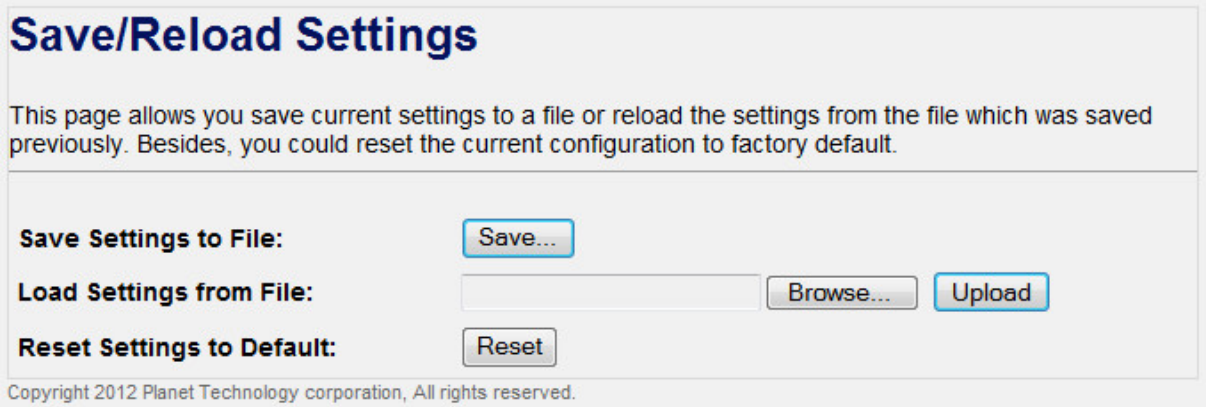


Figure 4-44 Save/Reload Settings

Object	Description
Save Settings to File	Click the "Save…" button to backup the configuration of the WNRT-320GS. And then save the "config.dat" in your computer.
Load Settings from File	Select the configuration file of the WNRT-320GS, and then click the "Upload" button to reload the configuration back into the WNRT-320GS.

Reset Settings to Default	Click the "Reset" button to reset all settings of the WNRT-320GS to factory default.

Table 4-27

4.9.9. Password

Choose menu "**Management → Password**" to change the user name and password which is inputted to access the web UI of the WNRT-320GS.

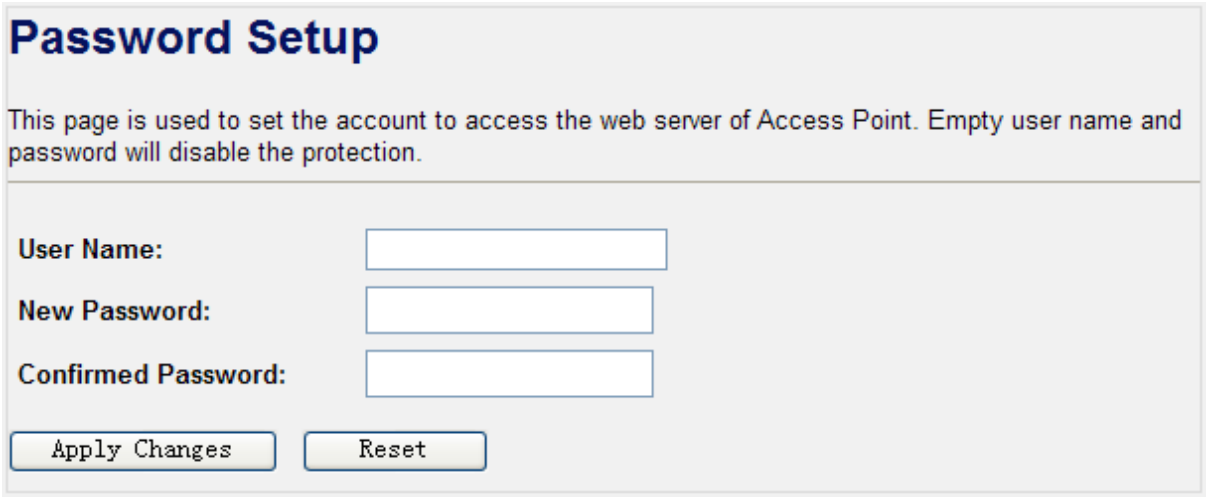


Figure 4-45 Password Setup

Object	Description
User Name	Enter user name.
New Password	Input the password for this user.
Confirmed Password	Confirm the password again.

Table 4-28

4.10. Logout

Click "Logout" to log out the web UI of the WNRT-320GS. And then click the "Apply Change" button for sure.

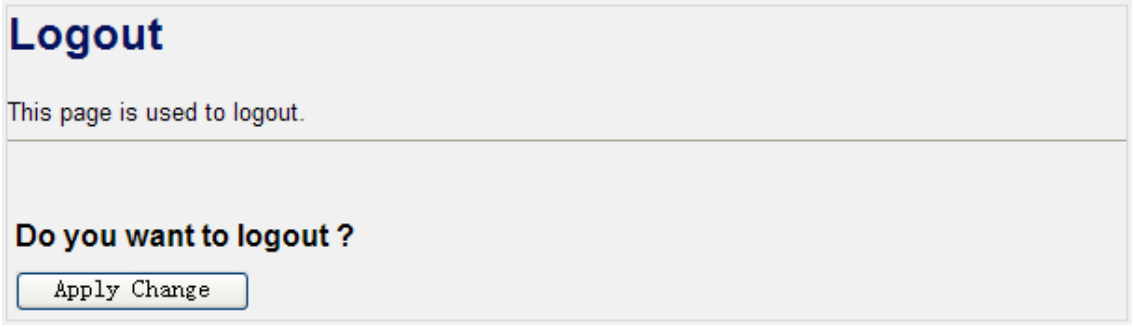


Figure 4-46 Logout

Chapter 5. Quick Connection to a Wireless Network

5.1. Windows XP (Wireless Zero Configuration)

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

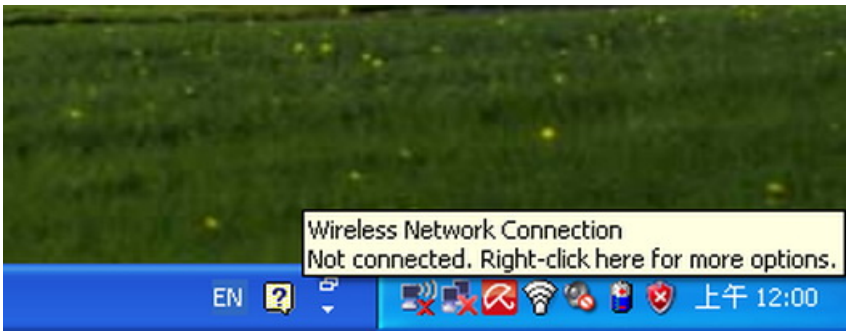


Figure 5-1

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

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

(1) Select SSID [**default**]

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

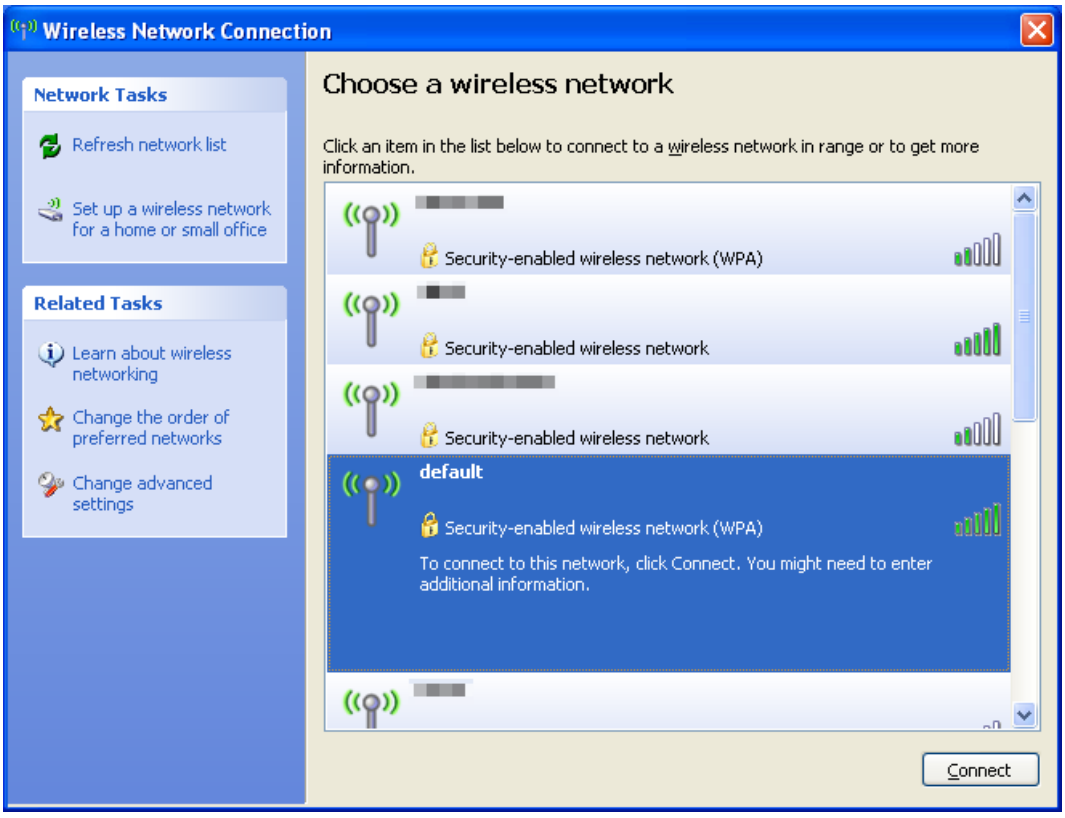


Figure 5-2

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 4.4.3

(3) Click the [Connect] button

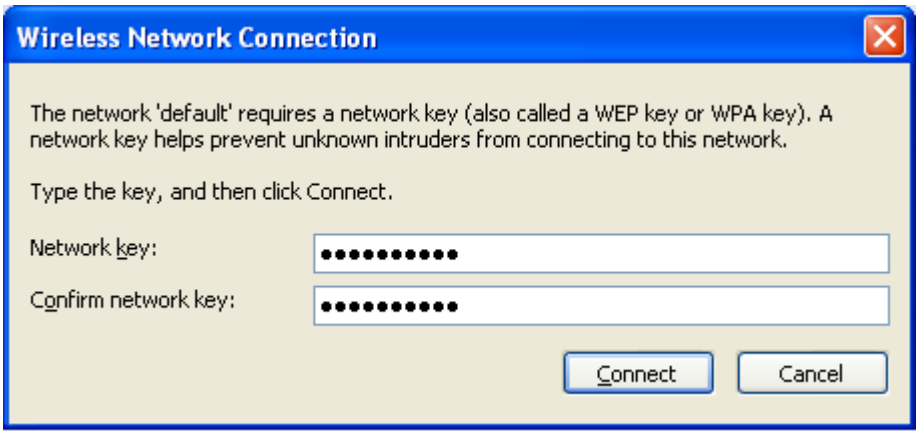


Figure 5-3

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

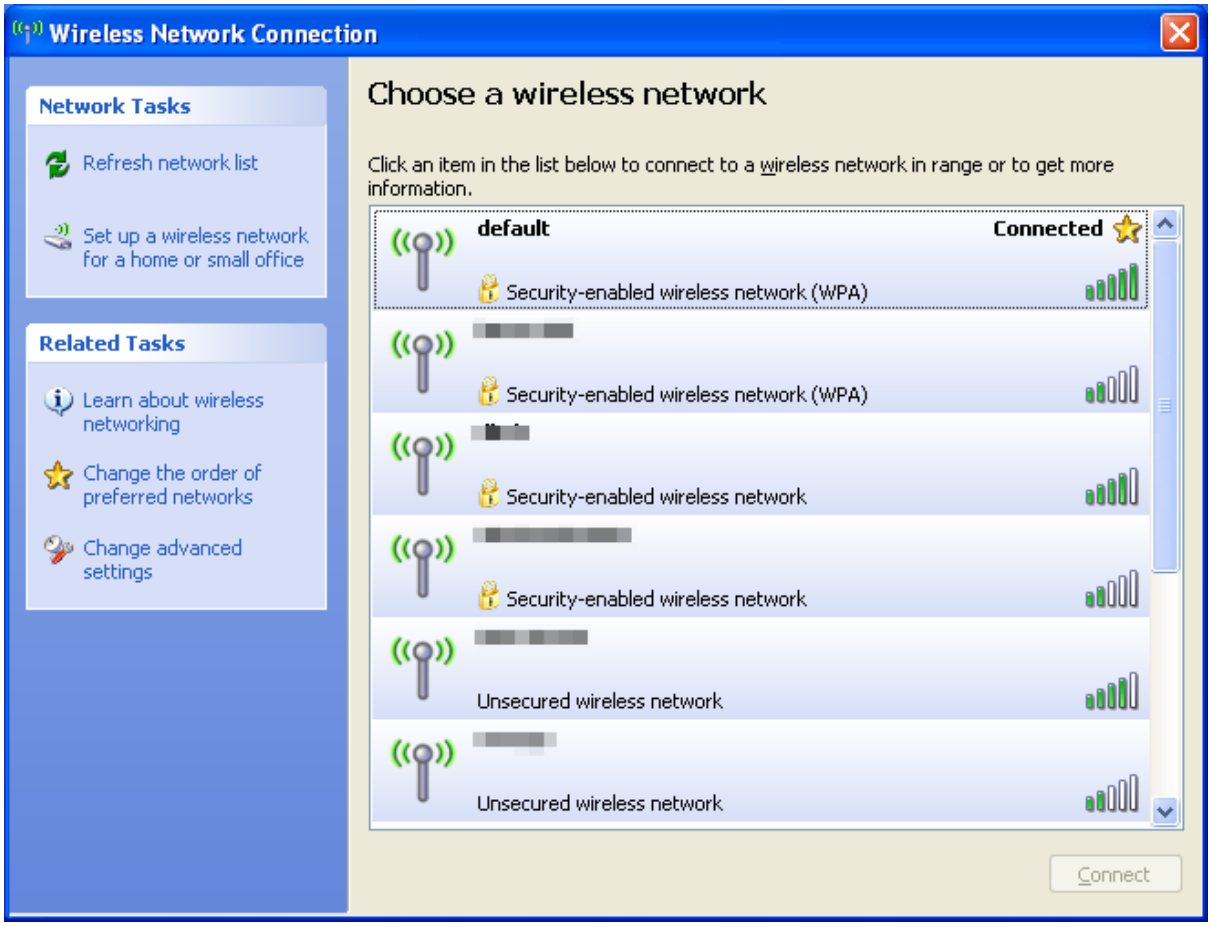


Figure 5-4

Note

Some laptops are equipped with an "Wi-Fi ON/OFF" hardware switch for the internal wireless LAN. Make sure the it is switched to "ON" position.

5.2. Windows 7 (WLAN AutoConfig)

WLAN AutoConfig service is built-in in Windows 7 and 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 5-5

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

(1) Select SSID [**default**]

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

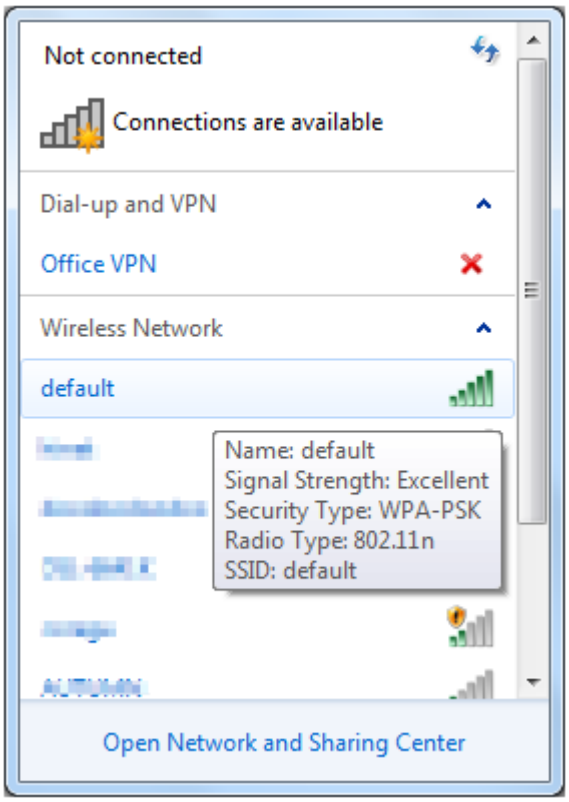


Figure 5-6

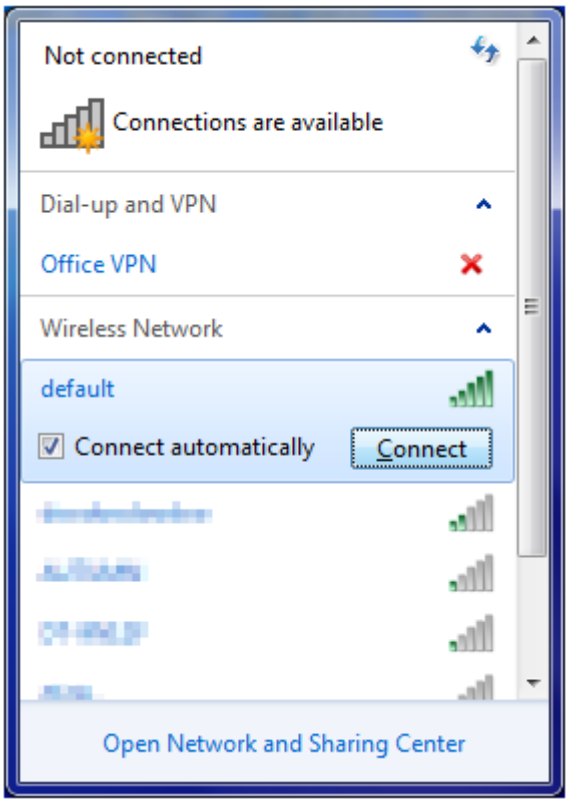


Figure 5-7

Note

If you want to connect to this Wireless Router in the future, please check the box of [**Connect automatically**].

Step 3: 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 4.4.3

(3) Click the [OK] button

Figure 5-8

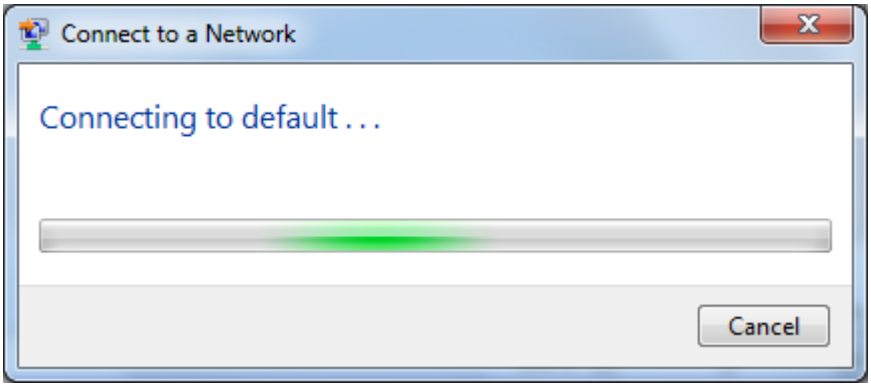


Figure 5-9

Step 4: Check if "**Connected**" is displayed

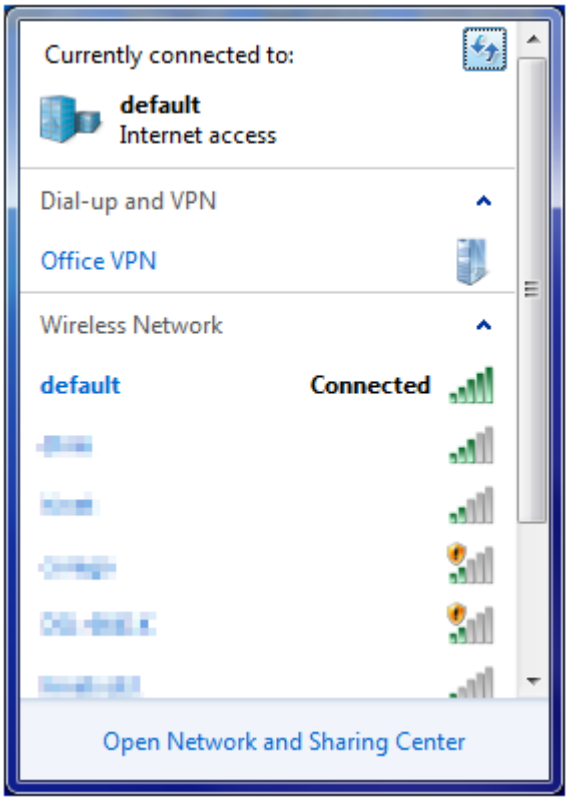


Figure 5-10

5.3. Mac OS X

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

The AirPort Network Connection menu will appear

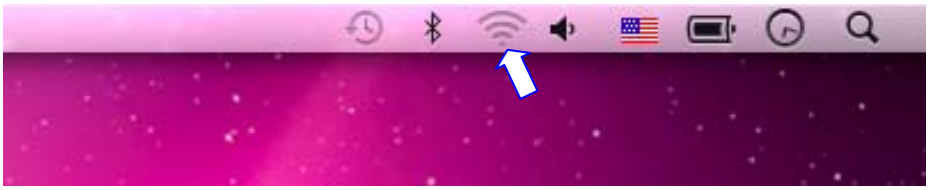


Figure 5-11

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

(1) Select and SSID [**default**]

(2) Double-click on the selected SSID

Figure 5-12

Step 3: Enter the **encryption key** of the Wireless Router

(4) Enter the encryption key that configured in section 4.4.3

(1) Click the [OK] button

Figure 5-13

Note

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

Step 4: Check if the AirPort is connect to the selected wireless network.

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

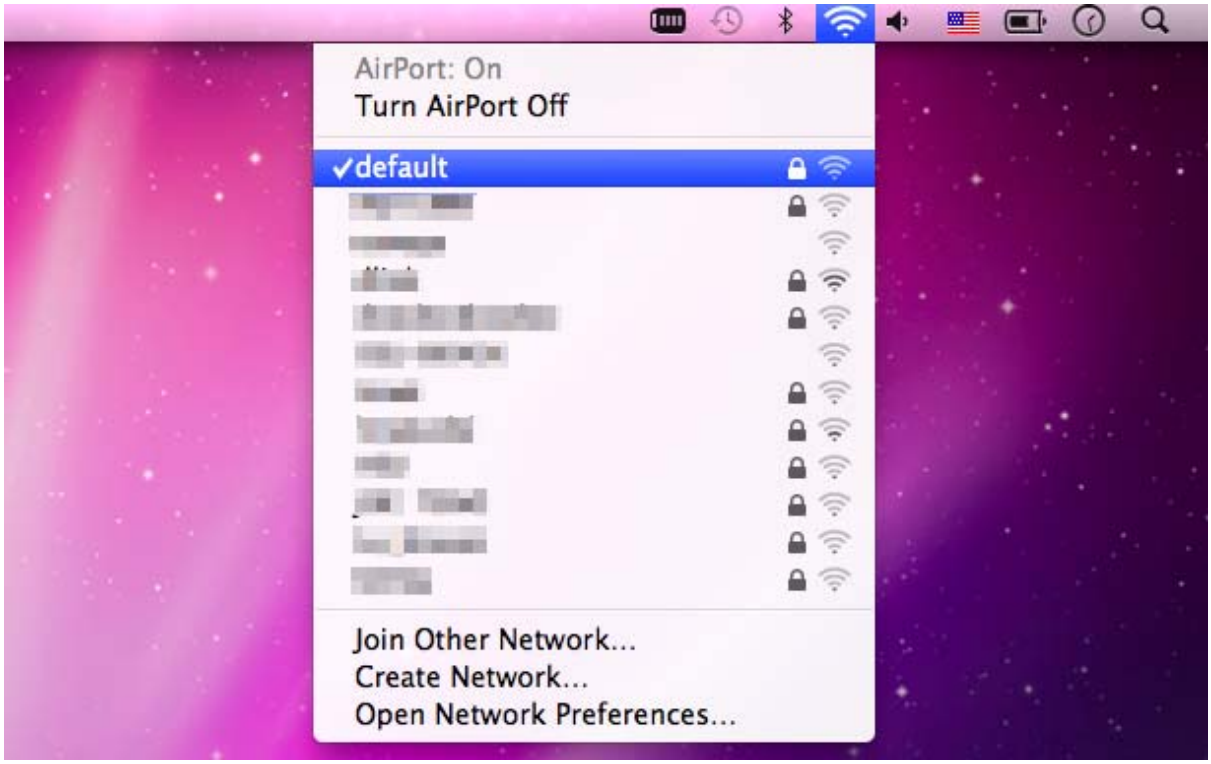


Figure 5-14

There is another way to configure the MAC OS X Wireless settings:

Step 1: Click and open the [**System Preferences**] by going to **Apple** > **System Preference** or **Applications**

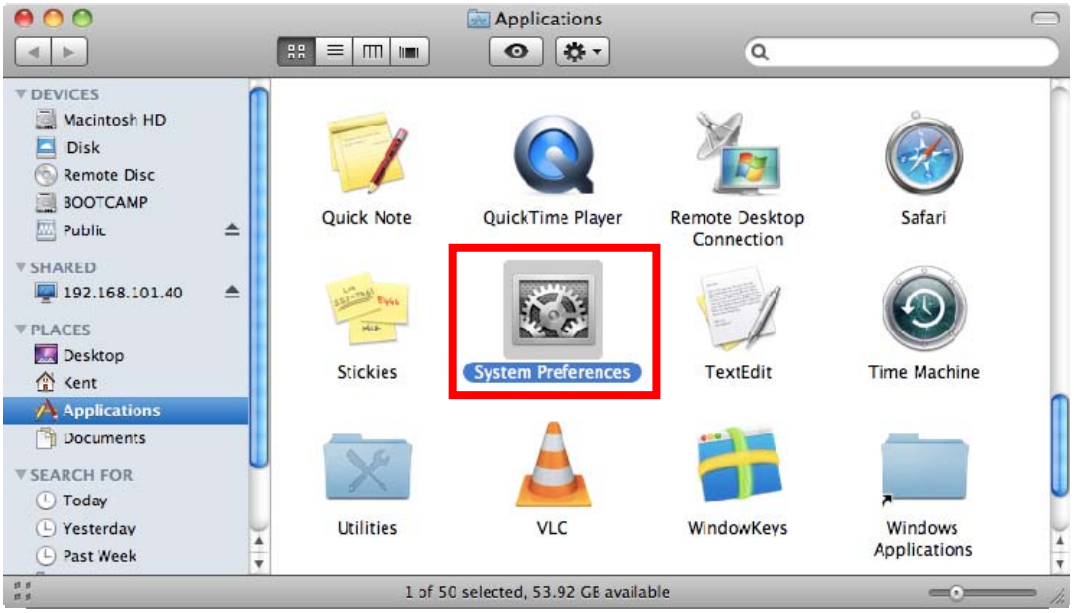


Figure 5-15

Step 2: Open **Network Preference** by clicking on the [**Network**] icon

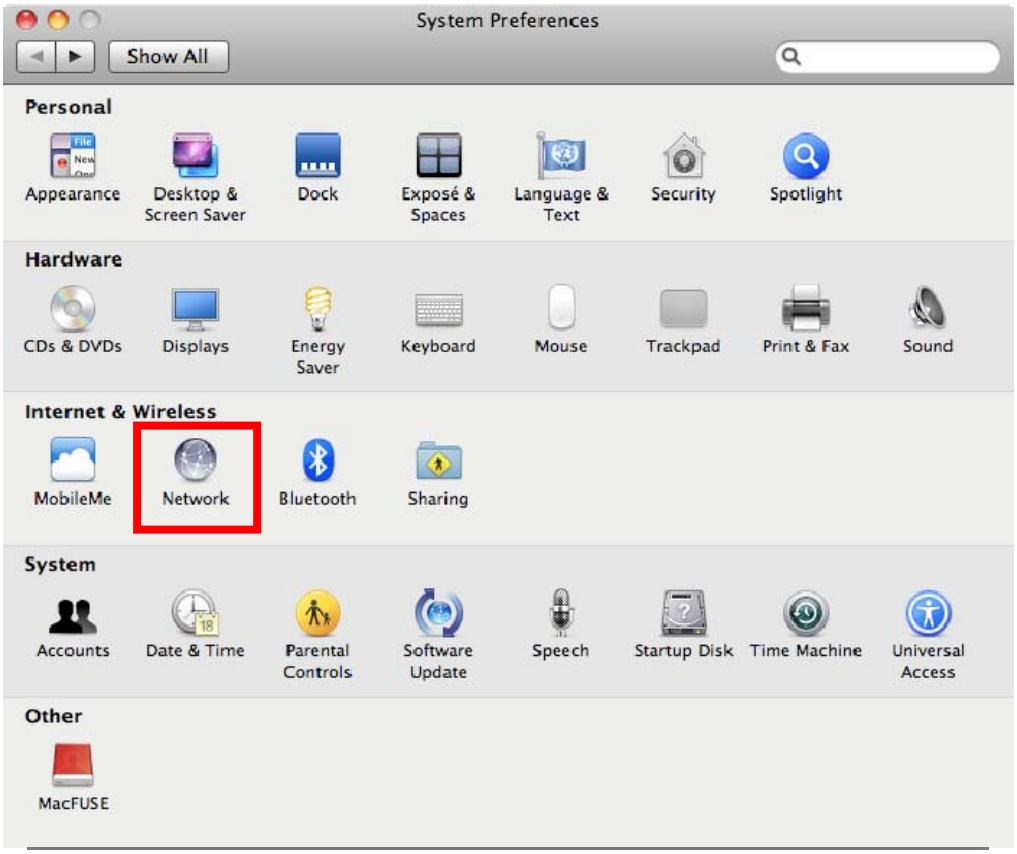


Figure 5-16

Step 3: Check Wi-Fi setting and select the available wireless network

(1) Choose the **AirPort** on the left-menu (make sure it is ON)

(2) Select Network Name [default] here

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

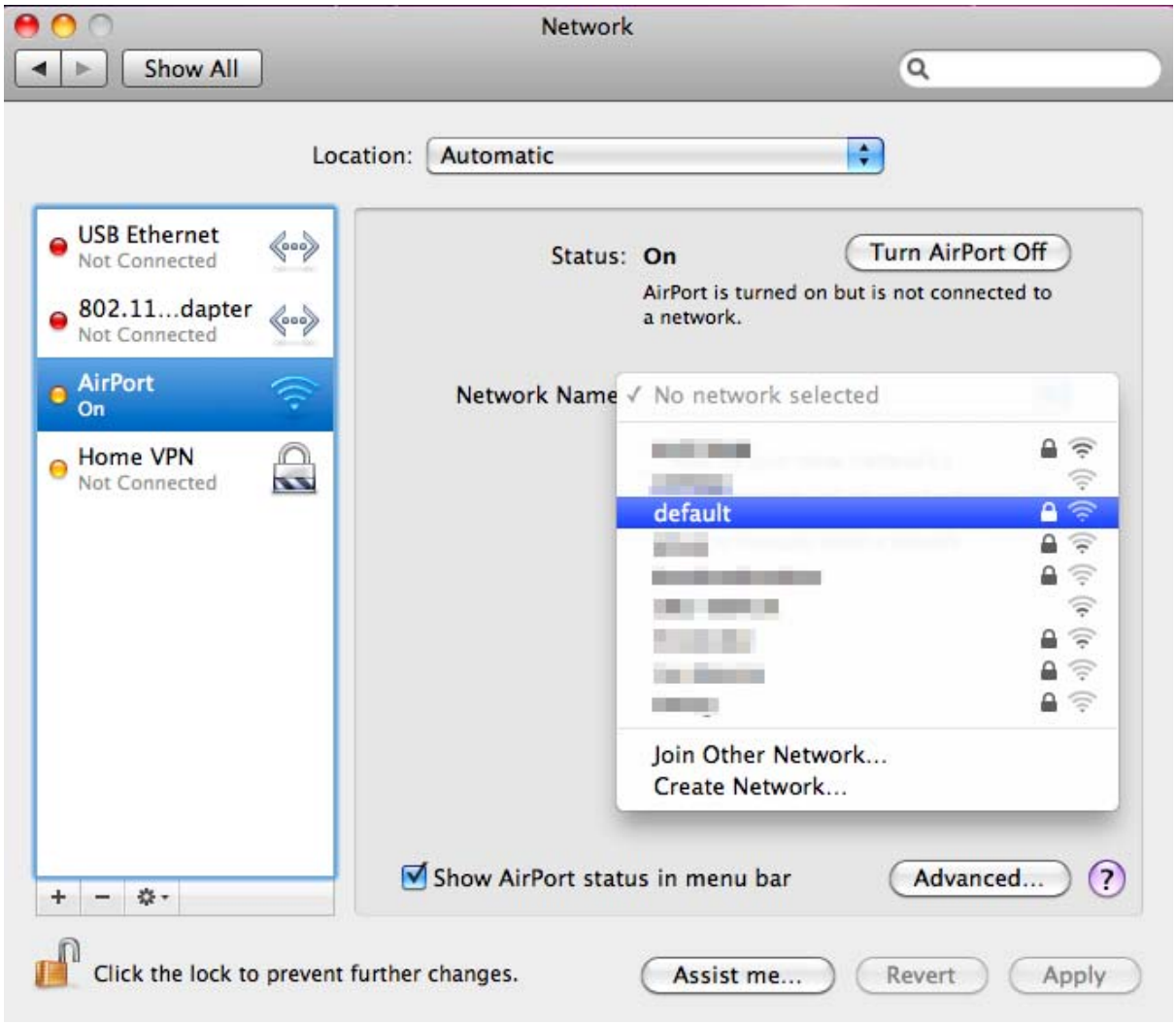


Figure 5-17

5.4. iPhone / iPod Touch / iPad

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

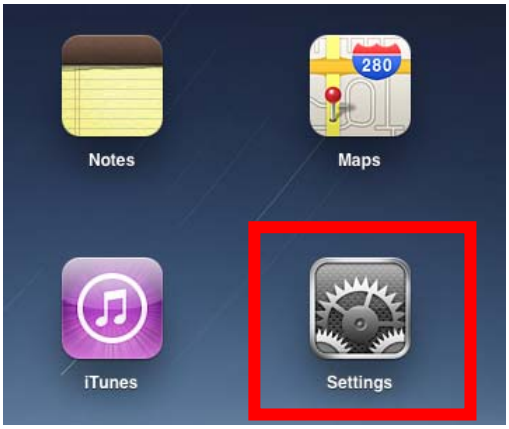


Figure 5-18

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

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

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

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

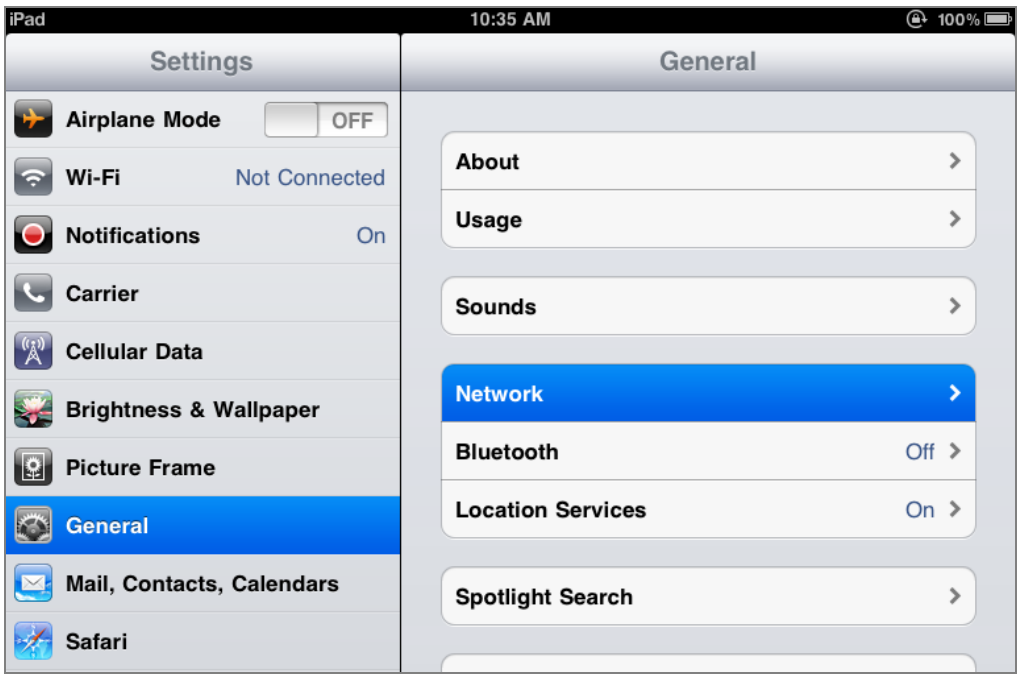


Figure 5-19

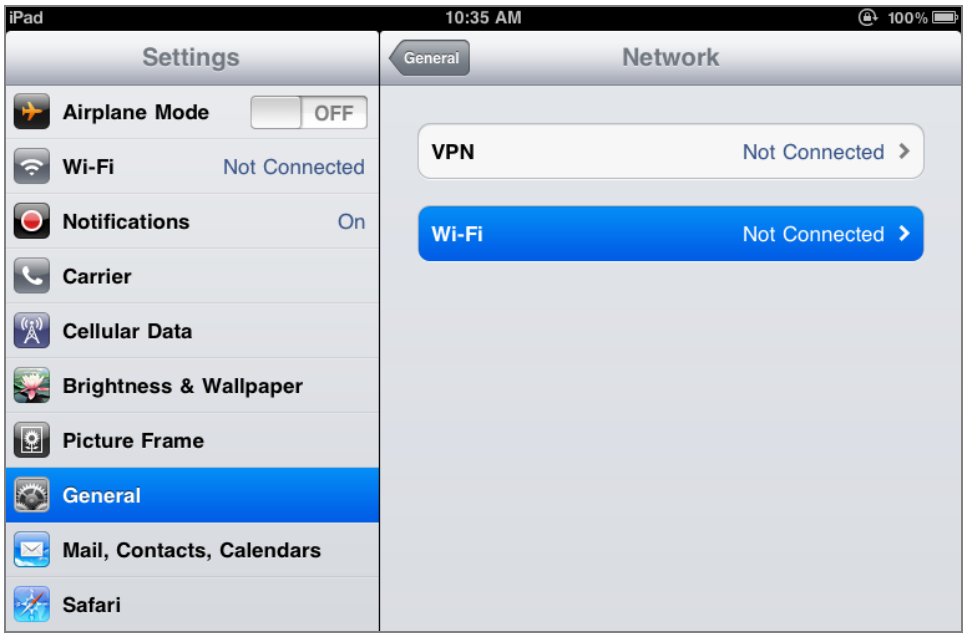


Figure 5-20

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

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

(2) Select SSID [**default**]

Figure 5-21

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 4.4.3

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

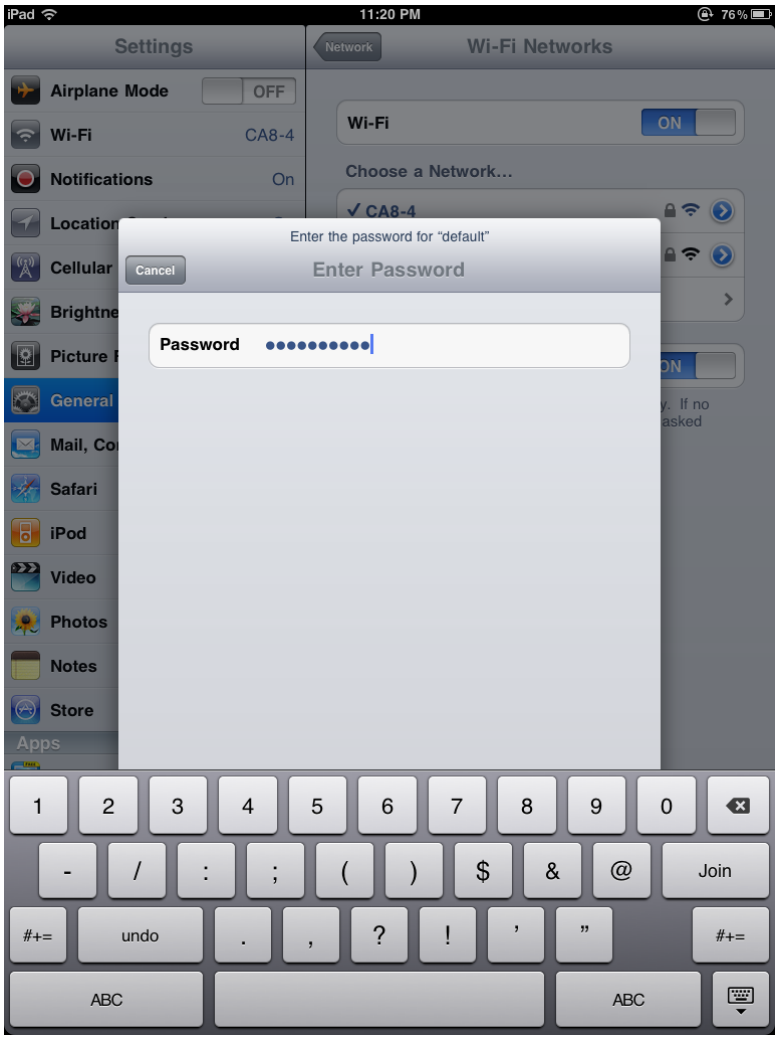


Figure 5-22

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

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

Figure 5-23

Appendix

Malfunction	Solution
The WNRT-320GS is not responding to me when I want to access it via web browser	Please check the connection of power cord and network cable of the WNRT-320GS. All cords and cables should be correctly and firmly inserted to the device. If all LEDs on the WNRT-320GS are off, please check the status of power adapter, and make sure it is correctly powered. You must configure your PC as the same IP address section with the WNRT-320GS. Are you using MAC or IP address filter? Try to connect the WNRT-320GS by another computer and see if it works; if not, please restore the WNRT-320GS to factory default settings (Press "reset" button for over 10 seconds). Shift the hardware switch to Router Mode, and set your computer to obtain an IP address automatically (DHCP), and see if your computer can get an IP address. If you just did firmware upgrade and this happens, contact the dealer of purchase for help. a. If all above solutions don't work, contact the dealer of purchase for help.
Unable to get connected with the Internet	a. Go to "Management → Status" submenu, and check the WAN configuration status. Please be patient, sometime Internet is just that slow. b. If you connect your computer to the Internet directly before, try to do that again. And check if you can get connected to the Internet with your computer directly via the device provided by your local Internet service provider. c. Check the WAN access type (Static IP / Dynamic IP / PPPoE / PPTP / L2TP), user name, password, and the other parameters provided by your local ISP again. d. Call your Internet service provider and check if there is something wrong with their service. e. If you just can't connect to one or more website, but you can still use other internet services, please check URL filter in the web UI. f. Reset the WNRT-320GS to the factory default settings and try again later. g. Reset the device provided by your Internet service provider as well.

	h. Try to use IP address instead of hostname. If you can access a remote server by an IP address but not by a hostname, please check the DNS setting.
Unable to be found by the wireless clients	a. Check if the "Broadcast SSID" is disabled. b. Are you too far from the WNRT-320GS? Try to get closer. c. Please remember that you have to enter SSID to your wireless client device manually, if SSID broadcast is disabled.
File download is very slow or breaks frequently	a. Are you using QoS function? Please disable it and try again. Please be patient, sometime Internet is just that slow. b. Reset the WNRT-320GS to the factory default settings and see if it is better after that. c. Try to know what other computers are doing in the same local area network. If someone is transferring big files, other people will think Internet is really slow. d. If this never happens before, call you Internet service provider to check if there is something wrong with their network.
Unable to login the web management UI: password is wrong	a. Make sure you are connecting to the correct IP address of the WNRT-320GS. b. Password is case-sensitive. Make sure the "Caps Lock" light is not illuminated. c. If you really forget the password, please do hardware reset.
The device is getting hot.	a. This is not a malfunction if you can keep your hand on the case of the WNRT-320GS. b. If you smell something wrong or see the smoke coming out from the WNRT-320GS or power adapter, please disconnect the device and power adapter from power (make sure it's safe before you're doing this!), and call your dealer of purchase for help.
The date and time of all event logs are wrong	a. Adjust the internal clock of the WNRT-320GS.

EC Declaration of Conformity

For the following equipment:

*Type of Product: 3G / 802.11n Wireless Portable Router with 3G HSUPA
*Model Number: WNRT-320GS

* 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 V2.1.1	(2009-05)
EN 301 489-1 V1.8.1	(2008-04)
EN 62311	(2008)
EN 60950-1	(2006 + A11:2009 + A1:2010)

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	**30st March, 2012**	Kent Kang
Place	*Date*	*Legal Signature*

EC Declaration of Conformity

English	Hereby, **PLANET Technology Corporation,** declares that this **3G / 802.11n Wireless Portable Router with 3G HSUPA** is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.	**Lietuviškai**	Šiuo **PLANET Technology Corporation,**, skelbia, kad **3G / 802.11n Wireless Portable Router with 3G HSUPA** tenkina visus svarbiausius 1999/5/EC direktyvos reikalavimus ir kitas svarbias nuostatas.
Česky	Společnost **PLANET Technology Corporation,** tímto prohlašuje, že tato **3G / 802.11n Wireless Portable Router with 3G HSUPA** splňuje základní požadavky a další příslušná ustanovení směrnice 1999/5/EC.	**Magyar**	A gyártó **PLANET Technology Corporation**, kijelenti, hogy ez a **3G / 802.11n Wireless Portable Router with 3G HSUPA** megfelel az 1999/5/EK irányelv alapkövetelményeinek és a kapcsolódó rendelkezéseknek.
Dansk	**PLANET Technology Corporation,** erklærer herved, at følgende udstyr **3G / 802.11n Wireless Portable Router with 3G HSUPA** overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF	**Malti**	Hawnhekk, **PLANET Technology Corporation,** jiddikjara li dan **3G / 802.11n Wireless Portable Router with 3G HSUPA** jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC
Deutsch	Hiermit erklärt **PLANET Technology Corporation,** dass sich dieses Gerät **3G / 802.11n Wireless Portable Router with 3G HSUPA** in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMWi)	**Nederlands**	Hierbij verklaart , **PLANET Technology orporation,** dat **3G / 802.11n Wireless Portable Router with 3G HSUPA** in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG
Eesti keeles	Käesolevaga kinnitab **PLANET Technology Corporation,** et see **3G / 802.11n Wireless Portable Router with 3G HSUPA** vastab Euroopa Nõukogu direktiivi 1999/5/EC põhinõuetele ja muudele olulistele tingimustele.	**Polski**	Niniejszym firma **PLANET Technology Corporation,** oświadcza, że **3G / 802.11n Wireless Portable Router with 3G HSUPA** spełnia wszystkie istotne wymogi i klauzule zawarte w dokumencie „Directive 1999/5/EC”.
Ελληνικά	*ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ* , **PLANET Technology Corporation,** *ΔΗΛΩΝΕΙ ΟΤΙ ΑΥΤΟ* **3G / 802.11n Wireless Portable Router with 3G HSUPA** *ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ*	**Português**	**PLANET Technology Corporation,** declara que este **3G / 802.11n Wireless Portable Router with 3G HSUPA** está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Español	Por medio de la presente, **PLANET Technology Corporation,** declara que **3G / 802.11n Wireless Portable Router with 3G HSUPA** cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE	**Slovensky**	Výrobca **PLANET Technology Corporation,** týmto deklaruje, že táto **3G / 802.11n Wireless Portable Router with 3G HSUPA** je v súlade so základnými požiadavkami a ďalšími relevantnými predpismi smernice 1999/5/EC.
Français	Par la présente, **PLANET Technology Corporation,** déclare que les appareils du **3G / 802.11n Wireless Portable Router with 3G HSUPA** sont conformes aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE	**Slovensko**	**PLANET Technology Corporation**, s tem potrjuje, da je ta **3G / 802.11n Wireless Portable Router with 3G HSUPA** skladen/a z osnovnimi zahtevami in ustreznimi določili Direktive 1999/5/EC.
Italiano	Con la presente , **PLANET Technology Corporation,** dichiara che questo **3G / 802.11n Wireless Portable Router with 3G HSUPA** è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva. 1999/5/CE.	**Suomi**	**PLANET Technology Corporation,** vakuuttaa täten että **3G / 802.11n Wireless Portable Router with 3G HSUPA** tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Latviski	Ar šo **PLANET Technology Corporation,** apliecina, ka šī **3G / 802.11n Wireless Portable Router with 3G HSUPA** atbilst Direktīvas 1999/5/EK pamatprasībām un citiem atbilstošiem noteikumiem.	**Svenska**	Härmed intygar, **PLANET Technology Corporation,** att denna **3G / 802.11n Wireless Portable Router with 3G HSUPA** står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.