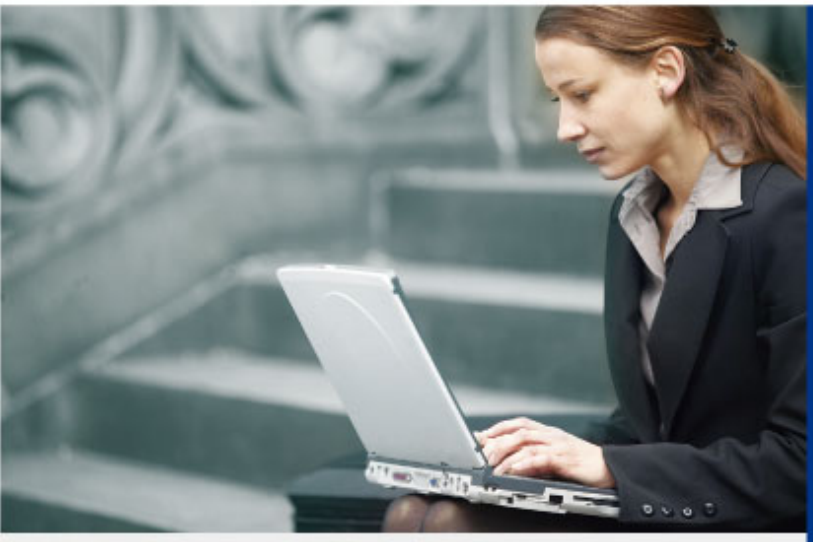
PLANET
Networking & Communication

User's Manual

300Mbps Dual-Band 802.11n Wireless Gigabit Router

► WDRT-731U



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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.

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 Manual for PLANET 300Mbps Dual Band 802.11n Wireless Gigabit Router

Model: WDRT-731U

Rev: 1.0 (January, 2013)

Part No. EM-WDRT731U_v1.01 (**2081-E50280-001**)

CONTENTS

Chapter 1. Product Introduction

1.1 Package Contents

Thank you for choosing PLANET WDRT-731U. Before installing the router, please verify the contents inside the package box.

WDRT-731U Wireless Router

Quick Installation Guide

CD-ROM

(User Manual included)

Power Adapter

12V/1A DC output
100~240V AC input

Ethernet Cable

RJ-45 / CAT5E 1 meter UTP

Note

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

1.2 Product Description

2.4G & 5G Simultaneous Dual Band Wireless Connectivity

Since there are more and more wireless applications and electric devices using the radio frequency of 2.4GHz, the wireless channel of 2.4GHz has been already too crowded for clients to enjoy the high-speed wireless connection. In order to avoid the wireless interference between each other, PLANET WDRT-731U provides users the radio frequency of 5GHz for watching HD videos or playing online games additionally. At the same time, it enables other users still surf the Internet via the original radio frequency of 2.4 GHz. The WDRT-731U is just like 2 totally independent Access Points in one device for you.

Multiple Network Technologies for Incredibly 600Mbps High-Speed Connection

The WDRT-731U supports IEEE 802.11a/b/g/n Dual Band standard with 2T2R antenna technology, therefore it can provide the wireless speed up to 300 + 300Mbps which is 12 times faster than that of traditional 11g Access Point. Moreover, the WDRT-731U is equipped with all Gigabit Ethernet Ports. Compared with general wireless routers, the WDRT-731U offers faster transmitting speed and more convenient method to enable or disable wireless signal.

Fully Support of Wireless Security Encryption

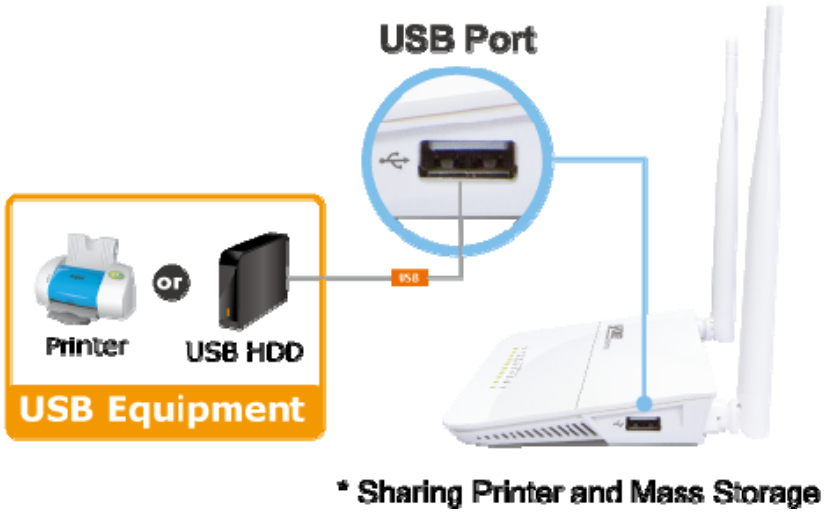
To secure the wireless communication, the WDRT-731U supports up-to-date encryption technology, WPA / WPA2 and WPA-PSK / WPA2-PSK with TKIP/AES. The WDRT-731U supports Wi-Fi Protected Setup (WPS) configuration with PBC/PIN methods to simplify the wireless security settings. By just clicking the WPS button, the secure connection between the wireless AP and wireless client will be built immediately.

IPTV Pass-through for Video On Demand

The WDRT-731U provides an IPTV-specific port which enables the IPTV Set-Top-Box (STB) connection directly by passing through the LAN port. The IPTV feature makes it possible for users to enjoy online videos on the TV set via Set-Top-Box (STB) through the WDRT-731U while surfing Internet. The IPTV port can also function as a LAN port if IPTV service is not enabled.

More Flexible File Sharing over USB port

The WDRT-731U is built-in with one USB 2.0 port which can be connected to a USB printer or storage device for file sharing. It can recognize the USB printer or storage automatically without user experience. Thus, all clients on the network can share printer or mass storage through the WDRT-731U without complicated network configuration. Via the USB port, it also can output 5V DC power to charge any USB compliant devices.



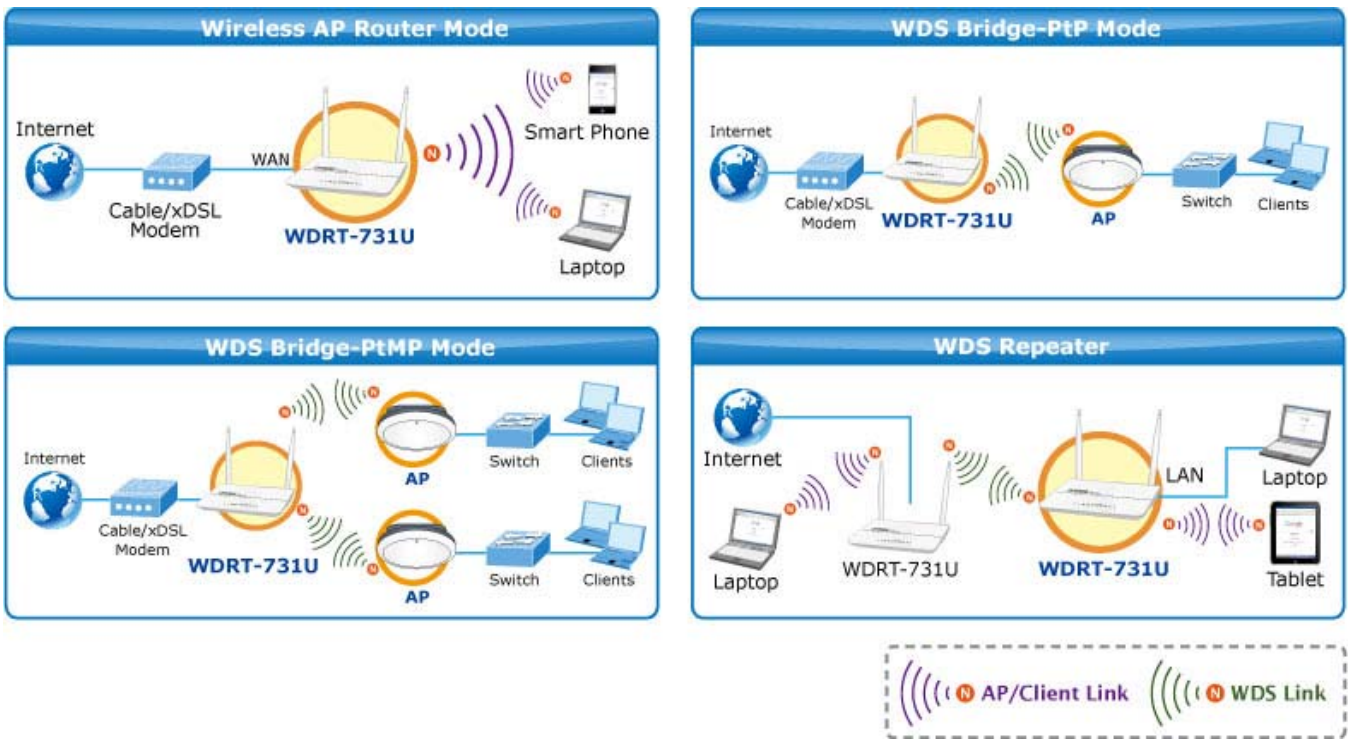
* Sharing Printer and Mass Storage

Powerful Firewall and Complete Access Control Functions

The WDRT-731U supports NAT function allowing multiple users to access Internet via a single legal IP. It also provides Virtual Server for the specific LAN PC to act as an application server and offer certain service to the clients on the Internet. In addition, the powerful firewall protects your Intranet clients from unauthorized accesses and various kinds of DoS attacks from the Internet. In the aspect of firewall, the WDRT-731U supplies IP-based and MAC-based access control to prevent possible hackers attack.

Easy Setup for Multiple Wireless Modes

The WDRT-731U supports multiple wireless modes including AP, Wireless Bridge, and Repeater, for different network applications. Furthermore, with the built-in Quick Setup function, users can configure the WDRT-731U easily and quickly through a couple of simple steps. It is so easy to apply the WDRT-731U to the existing wired network. The WDRT-731U definitely provides a total network solution for the home and the SOHO users.



Wireless Coverage Plus !

The WDRT-731U is equipped with **5dBi High-Gain** antennas to provide strong signal and excellent performance even in the long range or bad environment. Besides essential wireless sharing for Wi-Fi clients, the WDRT-731U provides **WDS (Wireless Distribution System)** bridge mode to facilitate wireless network deployments and range expanding. It provides more flexibility for users while establishing wireless network.

1.3 Product Features

- **IEEE Compliant Wireless LAN & Wired LAN**
  - Compliant with IEEE 802.11a/b/g/n dual-band (2.4G&5G) wireless technology capable up to 300+300Mbps data rate
  - Equipped with all Gigabit RJ-45 ports (10/100/1000Mbps) of 1 WAN and 4 LAN ports
  - Auto MDI/MDI-X supported
  - LAN4 supports IPTV Pass-through enables you enjoy online videos
- **Fixed-network Broadband Router**
  - Supported WAN connection types: Dynamic IP/ Static IP / PPPoE / PPTP / L2TP / PPPoE Dual Access
  - Supports Dynamic DNS and DHCP Server
- **Secure Network Connection**
  - Supports Wi-Fi Protected Setup (WPS)
  - Advanced security: 64/128-bit WEP, WPA/WPA2 and WPA-PSK/WPA2-PSK (TKIP/AES encryption)
  - Supports NAT firewall, IP / Port / URL-based access control and MAC address Filtering
  - Support Dual-SSID to allow users to access different networks through a single AP
- **Advanced Networking function for Specific Application**
  - Supports Bandwidth Control (QoS) based on different local IP addresses
  - Supports NTP, Virtual Server, UPnP, and DMZ for various networking applications
  - Equipped with one USB port for sharing printers and USB mass storages wirelessly
- **Easy Installation & Management**
  - User Friendly Web-based UI with On-line Help
  - Remote Management allows configuration from a remote site
  - System status monitoring includes DHCP Client List and System Log

1.4 Product Specification

Product	**WDRT-731U** 300Mbps Dual-Band 802.11n Wireless Gigabit Router	
Hardware Specification		
Interface	WAN Port:	1 x 10/100/1000Mbps Auto MDI/MDI-X RJ45 port
	LAN Port:	3 x 10/100/1000Mbps Auto MDI/MDI-X RJ45 ports (LAN1~3)
	IPTV Port:	1 x 10/100/1000Mbps Auto MDI/MDI-X RJ45 port (LAN4)
	USB Port :	USB 2.0, Type-A, 5V DC/0.5A Output
Antenna	Gain:	2 x 5dBi fixed antenna
	Orientation:	Omni-directional
Reset / WPS Button	Reset / WPS button at rear panel ■ Press for about 7 seconds to reset the device to factory default. ■ Press for 1 second to activate WPS function.	
LED Indicators	PWR/SYS, WLAN (2.4G & 5G) x 2 WAN (Link & 1000Mbps) x 1 LAN (Link & 1000Mbps) x 3 IPTV (Link & 1000Mbps) x 1 USB, WPS	
Material	Plastic	
Dimension (WxDxH)	171.61 x 111.16 x 25.47 mm (W x D x H)	
Weight	250g	
Power Requirement	12V DC, 1A	
Wireless interface Specification		
Standard	Compliance with IEEE 802.11a/b/g/n	
Frequency Band	Simultaneous 2.4 GHz and 5 GHz 2.4GHz: 2.412~2.484GHz 5GHz: 5.180~5.825GHz	
Transmission Distance	Indoor up to 100m Outdoor up to 300m (it is limited to the environment)	
RF Power (Intentional Radiator)	**2.4GHz:** 11b: 17±1dBm 11g: 14.5±1.5dBm 11n: 12.5±1.5dBm	**5GHz:** 11a: 12±1.5dBm 11n: 12±1.5dBm
Wireless Management Features		
Wireless Modes	■ AP ■ WDS PtP ■ WDS PtMP	

Encryption Security	■ WEP (64/128-bit) ■ WPA-PSK (TKIP) / WPA2-PSK (AES) ■ WPA (TKIP) / WPA2 (AES)
Wireless Security	Provide Wireless LAN ACL (Access Control List) filtering
	Wireless MAC address filtering
	Support WPS (WIFI Protected Setup)
Wireless Advanced	Support Dual-SSID (2.4G & 5G)
	AP Isolation: Enable it to isolate each connected wireless clients, to let them cannot access mutually.
	Support 802.11e WMM (Wi-Fi Multimedia)
Max. Supported Clients	Wire: 15 Wireless: 10
Router Features	
Internet Connection Type	Shares data and Internet access for users, supporting following internet access: ■ Dynamic IP ■ Static IP ■ PPPoE ■ PPTP ■ L2TP ■ PPPoE Dual Access
Firewall	NAT firewall
	Built-in NAT server which supports Virtual Server, and DMZ
	Built-in firewall with IP address filtering, Port filtering, URL filtering, and MAC address filtering
Routing Protocol	Static Routing
LAN	Built-in DHCP server supporting static IP address distributing
	Support UPnP, Dynamic DNS
	Support Packets Statistics
	IP-based Bandwidth Control
	Session Number: Max. 8000
System Management	Web-based (HTTP) management interface
	Remote management (WAN Access Control)
	SNTP time synchronize
	System Log
OS Compatibility	Windows 7 Windows Vista Windows XP Mac OS X 10.4 and higher

Chapter 2. Hardware Installation

Please follow the instructions below to connect WDRT-731U to the existing network devices and your computers.

2.1 Hardware Description

- **Dimension**: 171.61 x 111.16 x 25.47mm (W x D x H)
- **Diagram :**

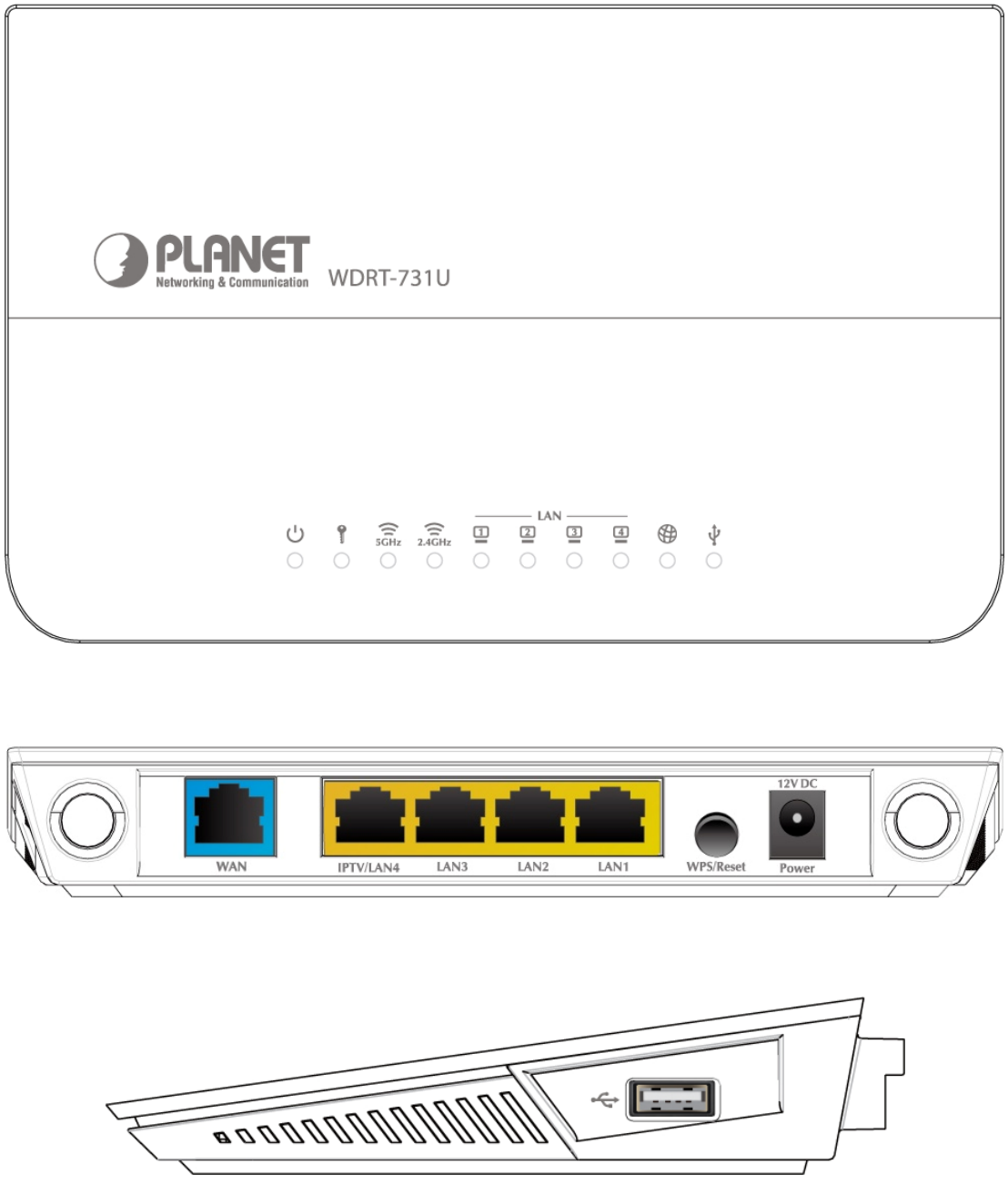


Figure 2-1

2.1.1 The Front Panel

The front panel provides a simple interface monitoring the router. Figure 2-2 shows the front panel of WDRT-731U.

Front Panel

Figure 2-2 WDRT-731U Front Panel

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

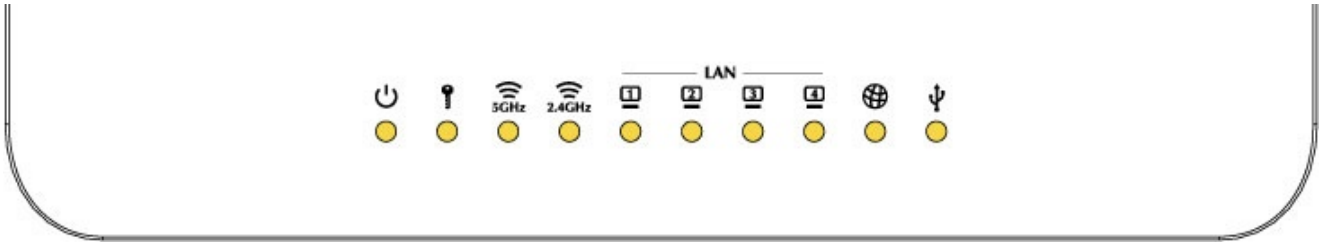


Figure 2-3 WDRT-731U Front Panel

LED (Left to Right)	STATE	FUNCTION
PWR	On	Device power on
	Flash	The system is working properly
	Off	Device power off

WPS	Flash	The system is performing WPS authentication on a client device.
5G	On Flash	The 5G WiFi is activated Device is transmitting data wirelessly over 5GHz
2.4G	On Flash	The 2.4G WiFi is activated Device is transmitting data wirelessly over 2.4GHz
LAN 1~4	On Flash Off	Link is established Packets are transmitting or receiving LAN port is not connected
WAN	On Flash Off	Link is established Packets are transmitting or receiving WAN port is not connected
USB	On Off	The USB port is correctly connected The USB port is not connected

Table 2-1 The LEDs indication

2.1.3 The Rear Panel

The rear panel provides the physical connectors connected to the power adapter and any other network devices. Figure 2-3 shows the rear panel of WDRT-731U.

Rear Panel

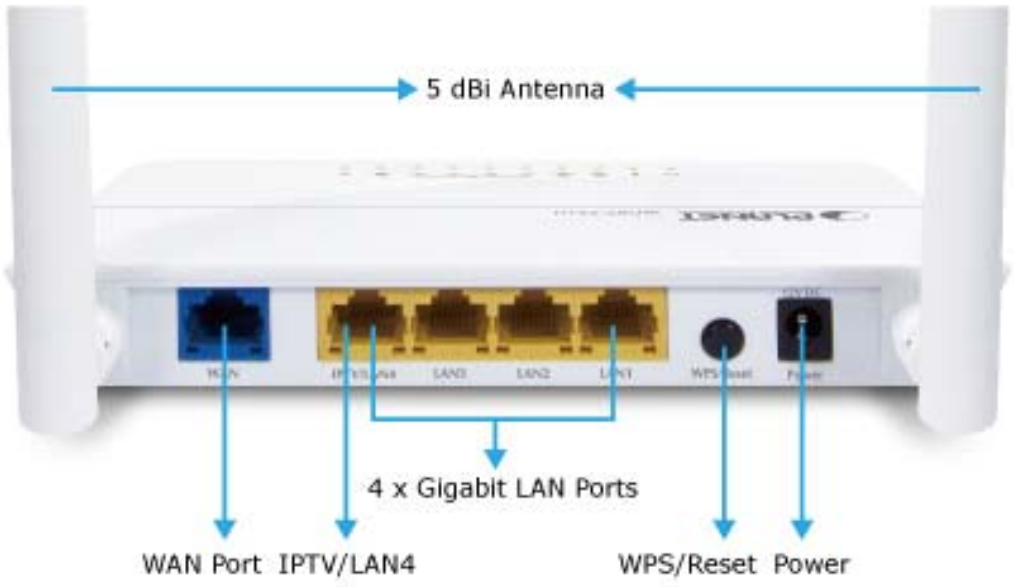


Figure 2-4 Rear Panel of WDRT-731U

Interface	Description
Antenna x 2	Fixed Dual-Band 5dBi Omni Dipole Antennas
WPS/Reset	■ Press the Reset button gently for **1 second** and then release it. The system starts to WPS connection. ■ Press the Reset button gently for **7 seconds** and then release it. The system restores to the factory default settings.
WAN	Connect to the Cable/xDSL Modem, or the Ethernet
LAN1-4	Connect to the user's PC or network devices
Power	Connect to the power adapter provided in the package

Table 2-2 The Interface indication

2.1.4 The Right Side Panel

WDRT-731U built-in with one USB 2.0 port can be connected to a **USB printer** or **storage for file sharing**. The USB port also output 5V DC power can charge any USB compliant devices.

Right Side Panel

Figure 2-5 USB port of WDRT-731U

Chapter 3. Connecting to the Router

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 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

Note

1. The Router in the following instructions means PLANET WDRT-731U.
2. 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/xDSL 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.

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 3-1.

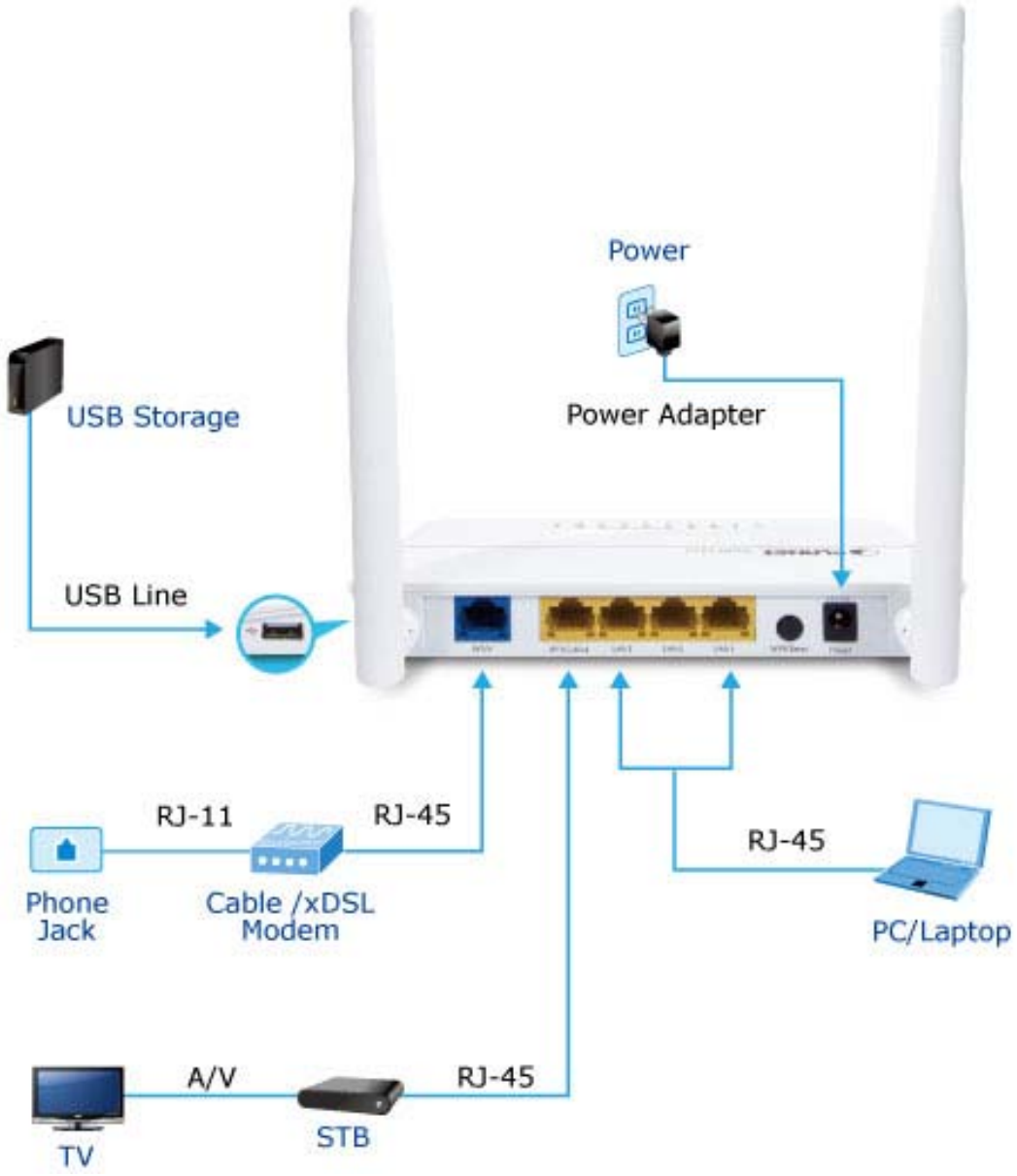


Figure 3-1 Hardware Installation of the WDRT-731U Wireless Router

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/xDSL Modem.

Chapter 4. Quick Installation Guide

This chapter will show you how to configure the basic functions of your Wireless 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 WDRT-731U 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**. And the procedures in other operating systems are similar. 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:

1. Set up the TCP/IP Protocol in "**Obtain an IP address automatically**" mode on your PC.
2. Then the WDRT-731U 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.

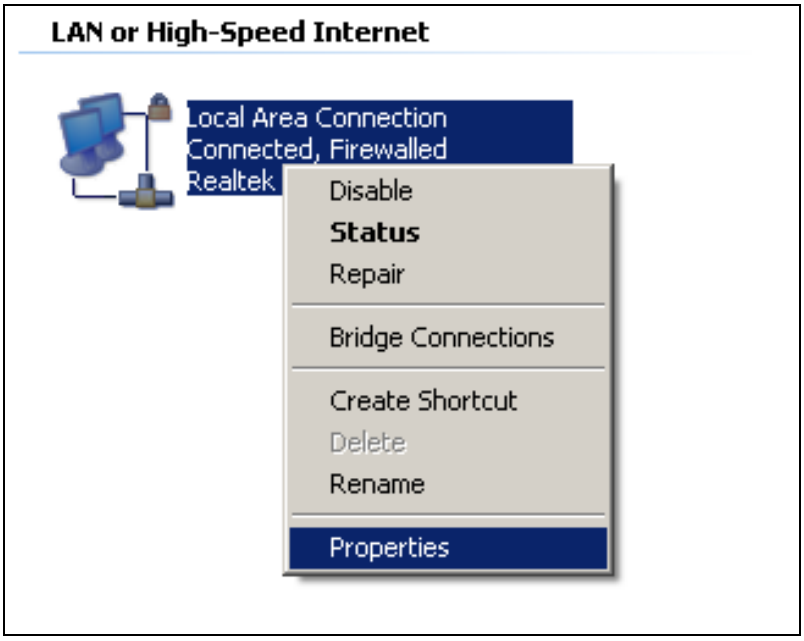


Figure 4-1

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

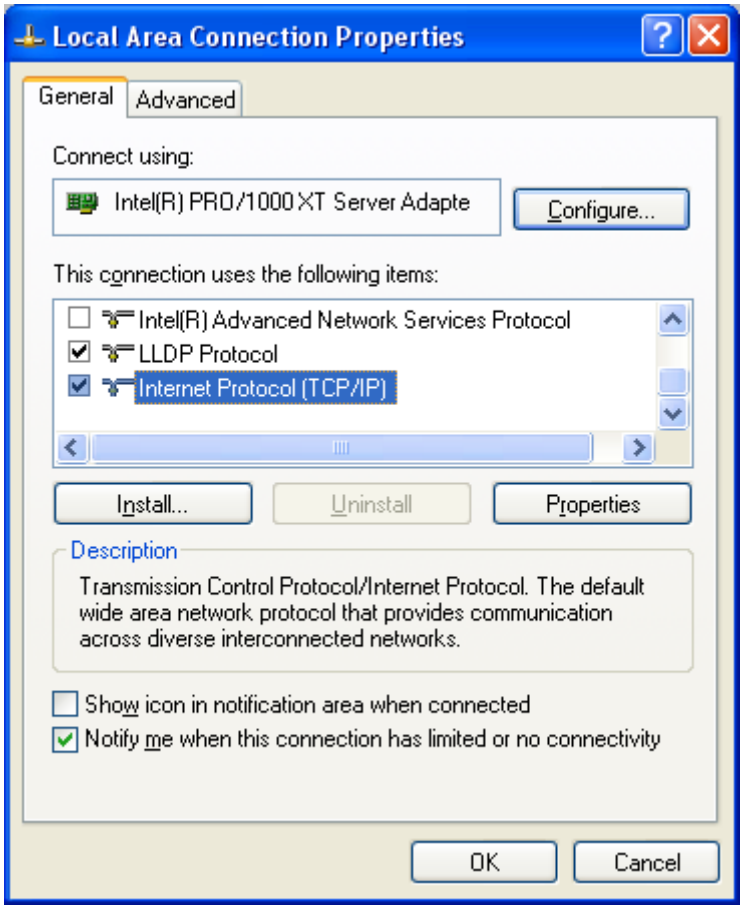


Figure 4-2

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:

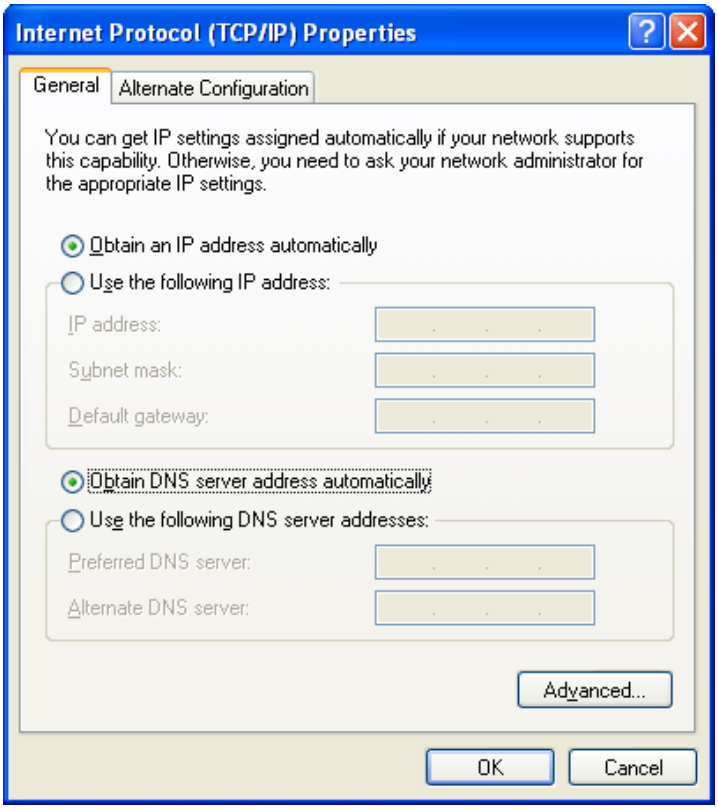


Figure 4-3

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

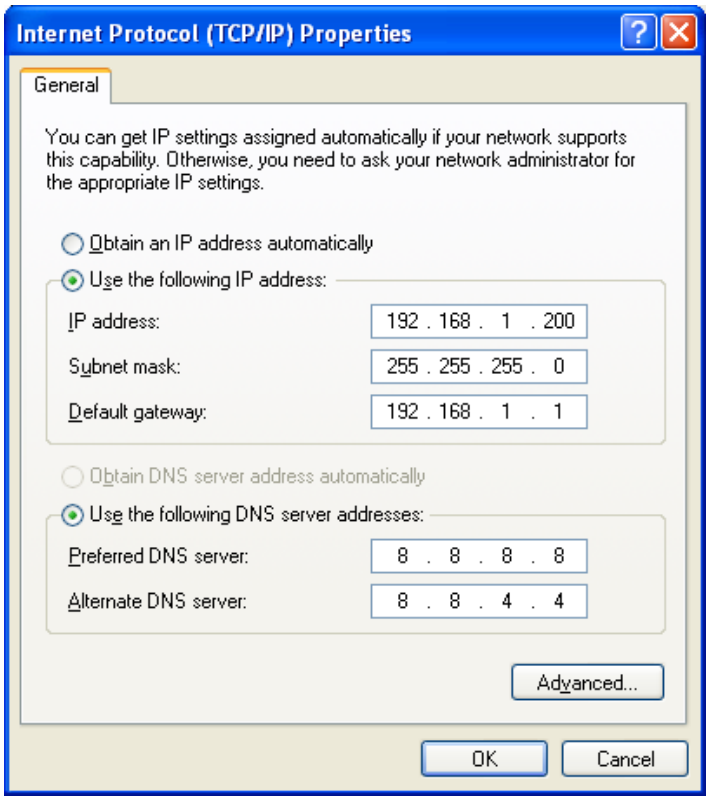


Figure 4-4

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**.

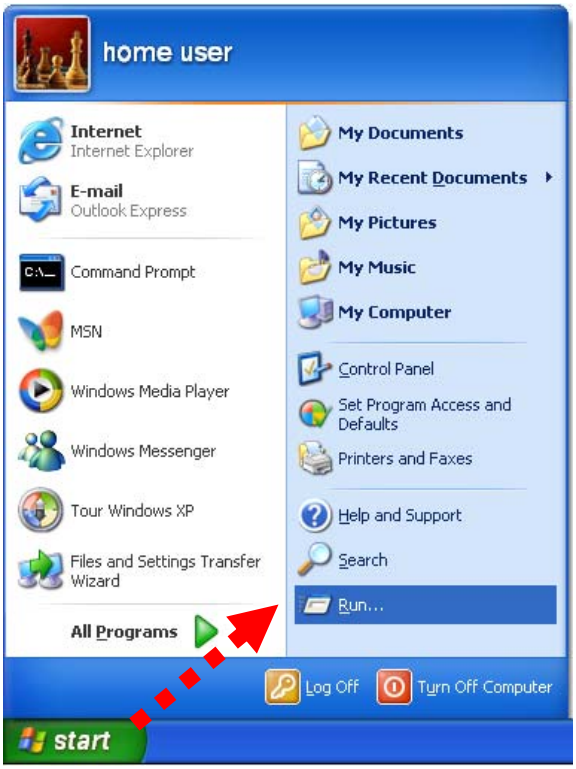


Figure 4-5

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

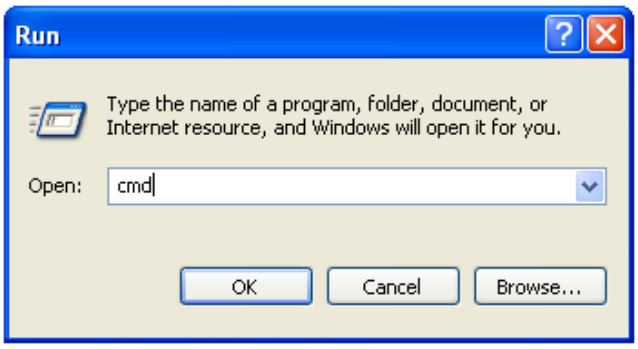


Figure 4-6

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.

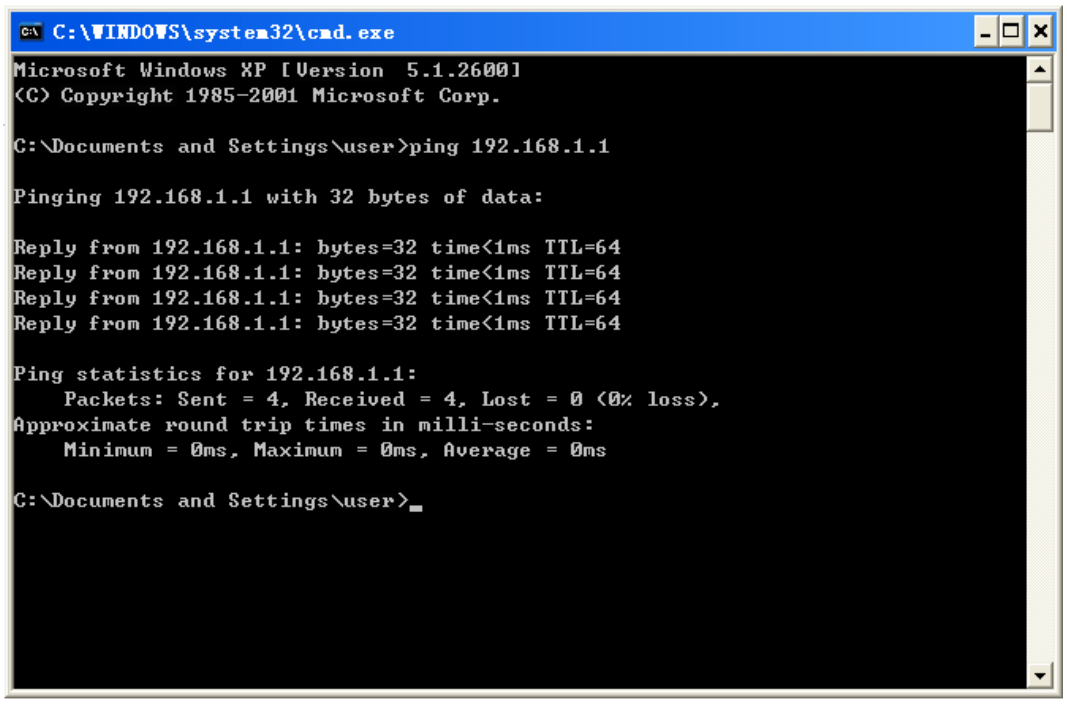


Figure 4-7 Success result of Ping command

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

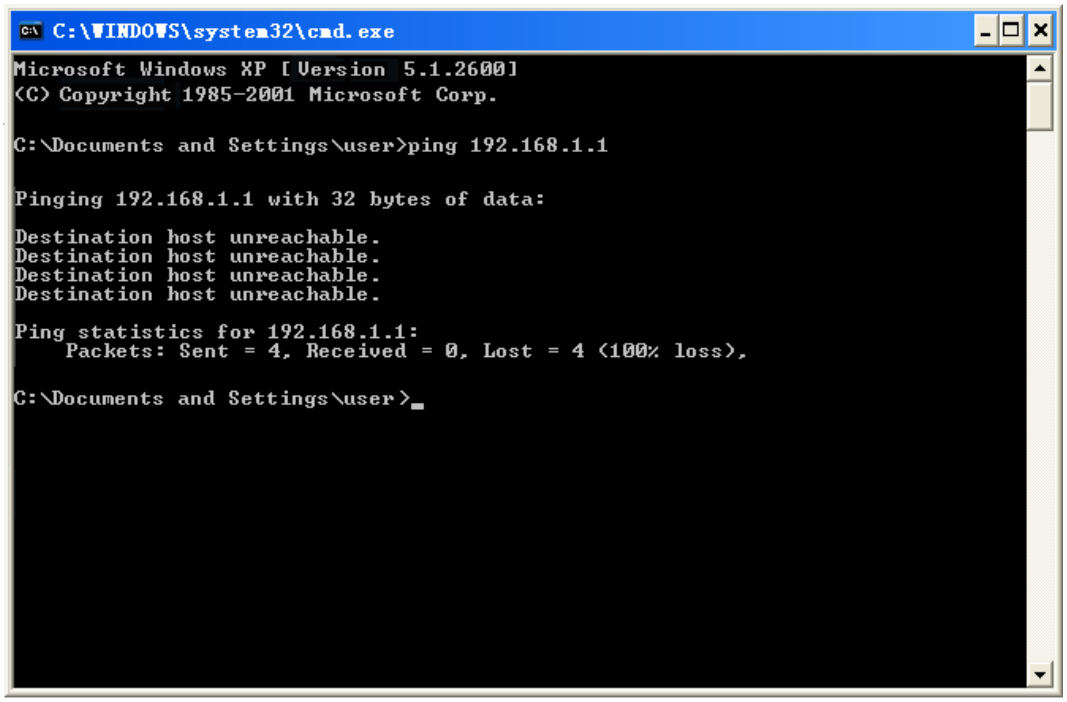


Figure 4-8 Failure result of Ping command

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.

Note

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 the Web UI

It is easy to configure and manage the WDRT-731U with the 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 web 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 IP Address: **192.168.1.1**

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 **Easy Quick Setup** page screen appears as Figure 4-11

Figure 4-11 WDRT-731U Web UI Screenshot

Step 2. Choose the correct Internet Access method. Please refer to the instructions in the next chapter for configuring the other Broadband types.

Figure 4-12 Choose Internet Access Method

Step 3. Please enter the **User Name**, **Password** and **SSID security key and etc**. Then click **OK** button to make the configuration take effect immediately.

Figure 4-13

Step 4. For more detail network setting and functions configuration, you can click the **Advanced** button to configure your Router.

Figure 4-14

Chapter 5. Configuring the Router

This chapter delivers a detailed presentation of router's functionalities and features under 8 main menus below, allowing you to manage the router with ease.

Figure 5-1

During operation, if you are not clear about a certain feature, you can simply click the "Help" button to read all related helpful info.

5.1 Device Info

In this page, you can view information about the current running status of WDRT-731U, including WAN interface, LAN interface, Wireless interface settings and status, and firmware version information.

■ WAN

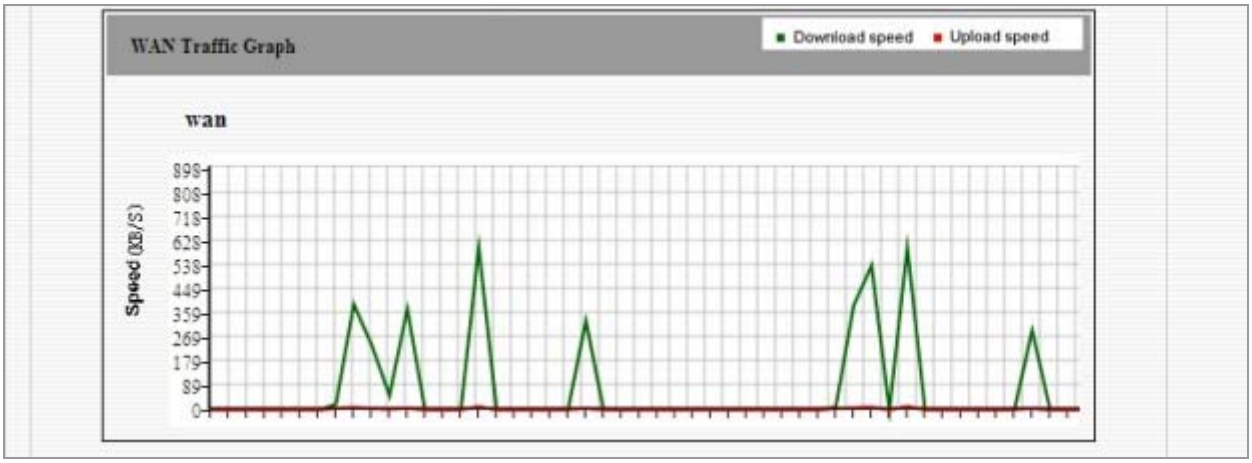


Figure 5-1-1

This section allows you to view the router's WAN info listed below:

Object	Description
• **WAN Status:**	Displays WAN connection status: Disconnected, Connecting or Connected.
• **Disconnected:**	Indicates that the Ethernet cable from your ISP side is / is not correctly connected to the WAN port on the router or the router is not logically connected to your ISP.
• **Connecting:**	Indicates that the WAN port is correctly connected and is requesting an IP address from your ISP. Connected: Indicates that the router has been connected to your ISP.
• **Internet Connection Type:**	Displays current Internet connection type.
• **WAN IP:**	Displays WAN IP address.
• **Subnet Mask:**	Displays WAN subnet mask.
• **Gateway:**	Displays WAN gateway address.
• **DNS Server:**	Displays WAN DNS address.
• **WAN MAC Address:**	Displays router's WAN MAC address.
• **WAN Traffic:**	Displays bandwidth currently used by router in KB/s.
• **Connection Duration:**	Displays time duration indicating how long the router has been connected to ISP.
• **WAN Traffic Graph:**	Displays a graphic presentation of the traffic flow.

■ LAN

This section allows you to view the router's LAN info listed below:

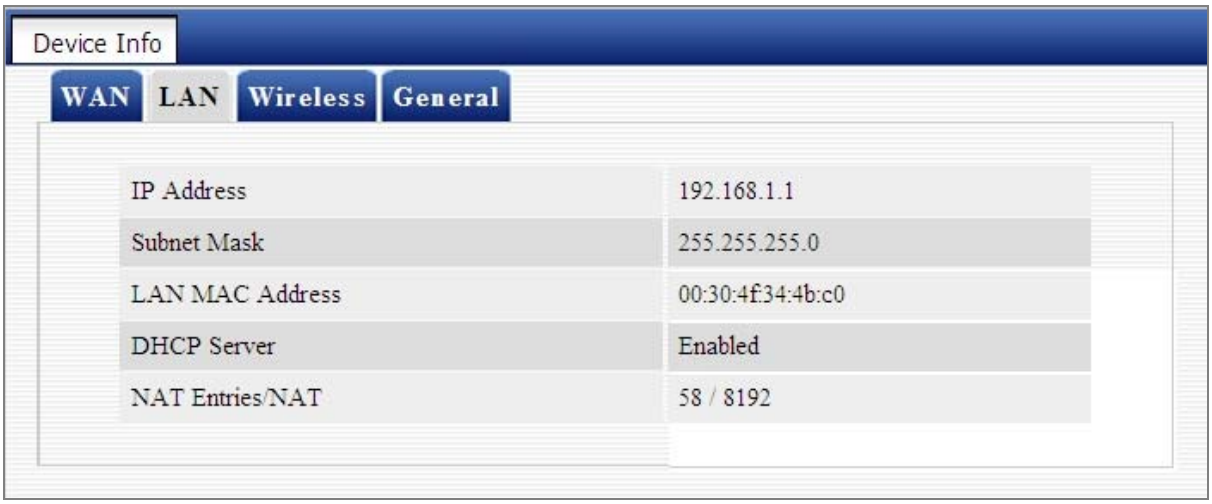


Figure 5-1-2 LAN Information

The page includes the following fields:

Object	Description
• **IP Address:**	Displays LAN IP address.
• **Subnet Mask:**	Displays LAN subnet mask.
• **LAN MAC Address:**	Displays router's LAN MAC address.
• **DHCP Server:**	Displays whether DHCP server is enabled or not.
• **NAT Entries/NAT:**	Displays number of used NAT entries and MAX NAT entries.

■ Wireless

This section allows you to view the wireless info listed below:

Figure 5-1-3 Wireless information

The page includes the following fields:

Object	Description
• **Wireless Radio:**	Displays whether wireless is enabled or not.
• **Wireless MAC address:**	Displays MAC address of the router's wireless interface
• **SSID:**	Displays current SSID.
• **802.11 Mode:**	Displays currently active network mode.
• **Country:**	Displays current country.
• **Channel:**	Displays current channel.
• **Security Mode:**	Displays current security Mode.

■ System Info

This section displays CPU/memory usage, uptime, system time, number of connected client(s) and system version info.

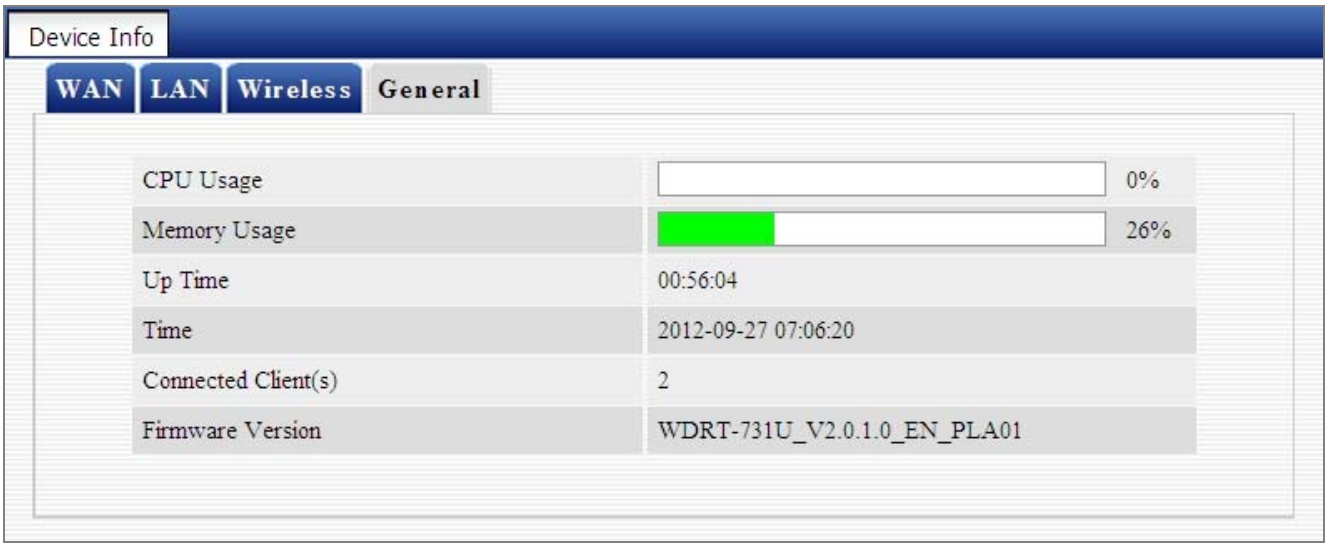


Figure 5-1-4 General System information

The page includes the following fields:

Object	Description
• **CPU Usage:**	Displays current CPU usage status
• **Memory Usage:**	Displays current memory usage status.
• **Up Time:**	Displays uptime.
• **Time:**	Displays device's time synchronized with Internet or manually set by user.
• **Connected Client(s):**	Displays the number of connected computers.
• **Firmware Version:**	Displays router's firmware version.

5.2 Network

"**Network**" includes the following four submenus. Clicking any of them enters corresponding interface for configuration. Below explains, in details, each such feature.

Figure 5-2-1

5.2.1 LAN Settings

Figure 5-2-2 LAN settings web page screenshot

The page includes the following fields:

Object	Description
• **IP Address:**	Router's LAN IP. The default is **192.168.1.1**. You can change it according to your need.
• **Subnet Mask:**	Router's LAN subnet mask.

Note

If you change the device's LAN IP address, you must enter the new one in your browser to get back to the web-based configuration utility. And LAN PCs' gateway must be set to this new IP for successful Internet connection.

5.2.2 WAN Settings

The screen below displays WAN connection status and interface info.

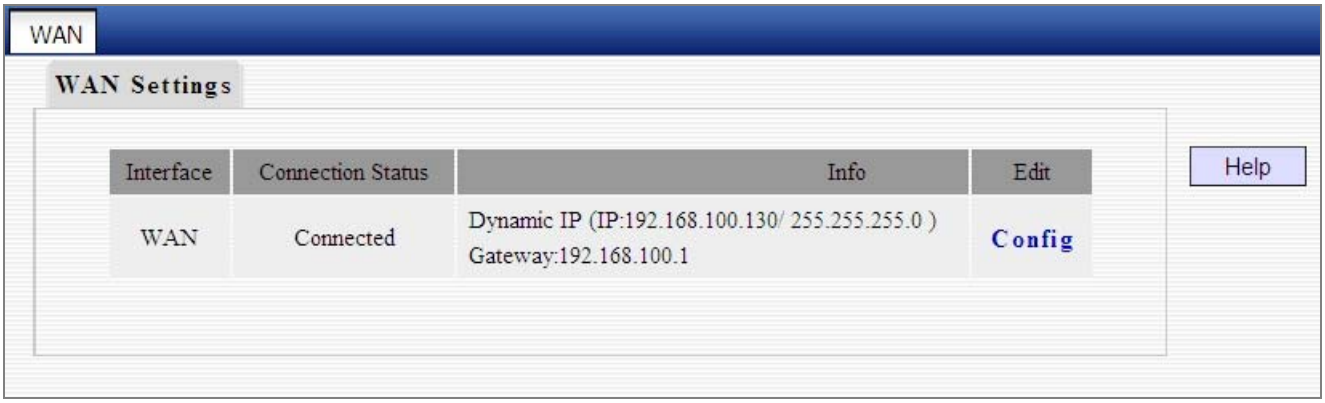


Figure 5-2-3

Click the "**Config**" button to enter WAN configuration interface. The router supports six Internet connection types, include:

- **Dynamic IP**
- **Static IP**
- **L2TP**
- **PPTP**
- **PPPoE**
- **PPPoE dual access**

Note

WAN IP, whether obtained automatically or specified manually, should NOT be on the same IP net segment as the LAN IP, otherwise, the router will not work properly. In case of emergency, press the hardware "Reset" button.

■ Dynamic IP (DHCP)

Select this option to let router obtain IP settings automatically from your ISP, if your ISP does not give you any IP information or account information. You don't need to configure any settings for this connection.

Figure 5-2-4

The page includes the following fields:

Object	Description
• **Internet connection Type:**	Displays a list of available Internet connection types
• **MTU:**	Maximum Transmission Unit. The default value is1500.

Note

DO NOT change the factory default MTU value unless necessary as an improper MTU value may degrade your network performance or even lead to network malfunction.

■ Static IP

If your ISP offers you static IP Internet connection type, select “Static IP" from corresponding drop-down menu and then enter IP address, subnet mask, Primary DNS and secondary DNS information provided by your ISP in corresponding fields.

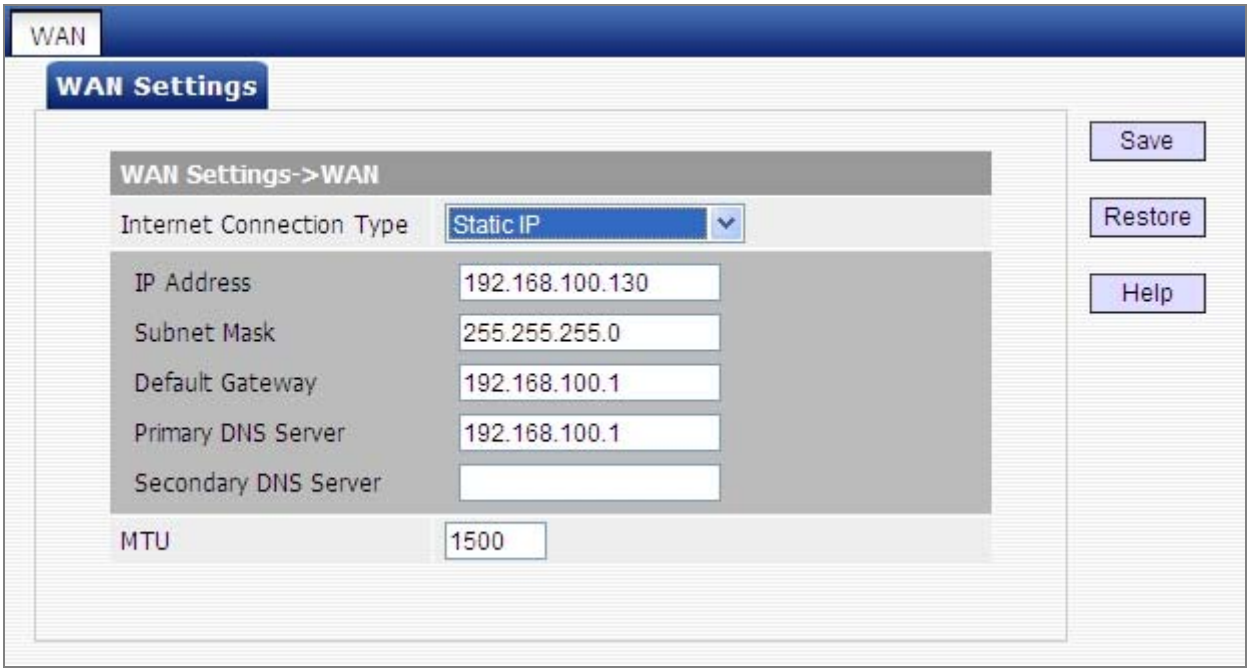


Figure 5-2-5

The page includes the following fields:

Object	Description
• **Internet connection Type:**	Displays a list of available Internet connection types.
• **IP Address:**	Enter the WAN IP address provided by your ISP. Inquire your ISP if you are not clear.

• **Subnet Mask:**	Enter WAN Subnet Mask provided by your ISP.
• **Default Gateway:**	Enter the WAN Gateway address provided by your ISP.
• **Primary DNS Server:**	Enter the necessary DNS address provided by your ISP.
• **Secondary DNS Server:**	Enter the other DNS address if your ISP provides you with 2 such addresses, and it is optional.
• **MTU:**	Maximum Transmission Unit. The default value is1500.

Note

DO NOT change the factory default MTU value unless necessary as an improper MTU value may degrade your network performance or even lead to network malfunction.

■ PPPoE

Select PPPoE, if your ISP is using a PPPoE connection and provide you with PPPoE user name and password info.

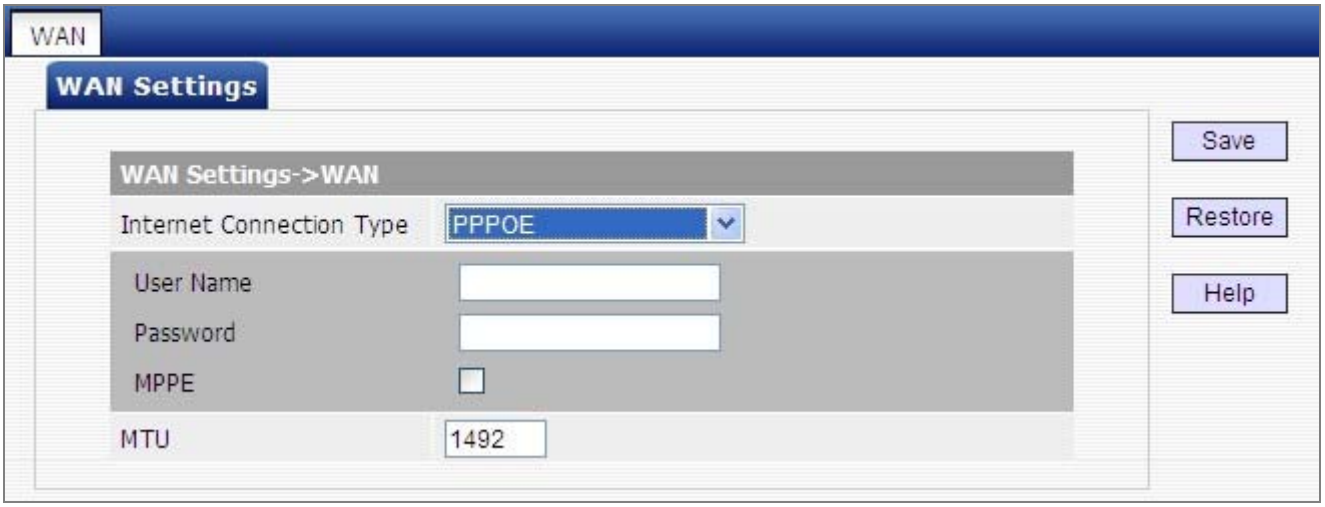


Figure 5-2-6

The page includes the following fields:

Object	Description
• **Internet connection Type:**	Displays a list of available Internet connection types.
• **User Name:**	Enter the User Name provided by your ISP.
• **Password:**	Enter the password provided by your ISP.
• **MTU:**	Maximum Transmission Unit. The default value is 1492.

Note

DO NOT change the factory default MTU value unless necessary as an improper MTU value may degrade your network performance or even lead to network malfunction.

■ PPTP

The PPTP protocol allows you to connect your router to a VPN server.

For example: A corporate branch and headquarter can use this connection type to implement mutual and secure access to each other's resources.

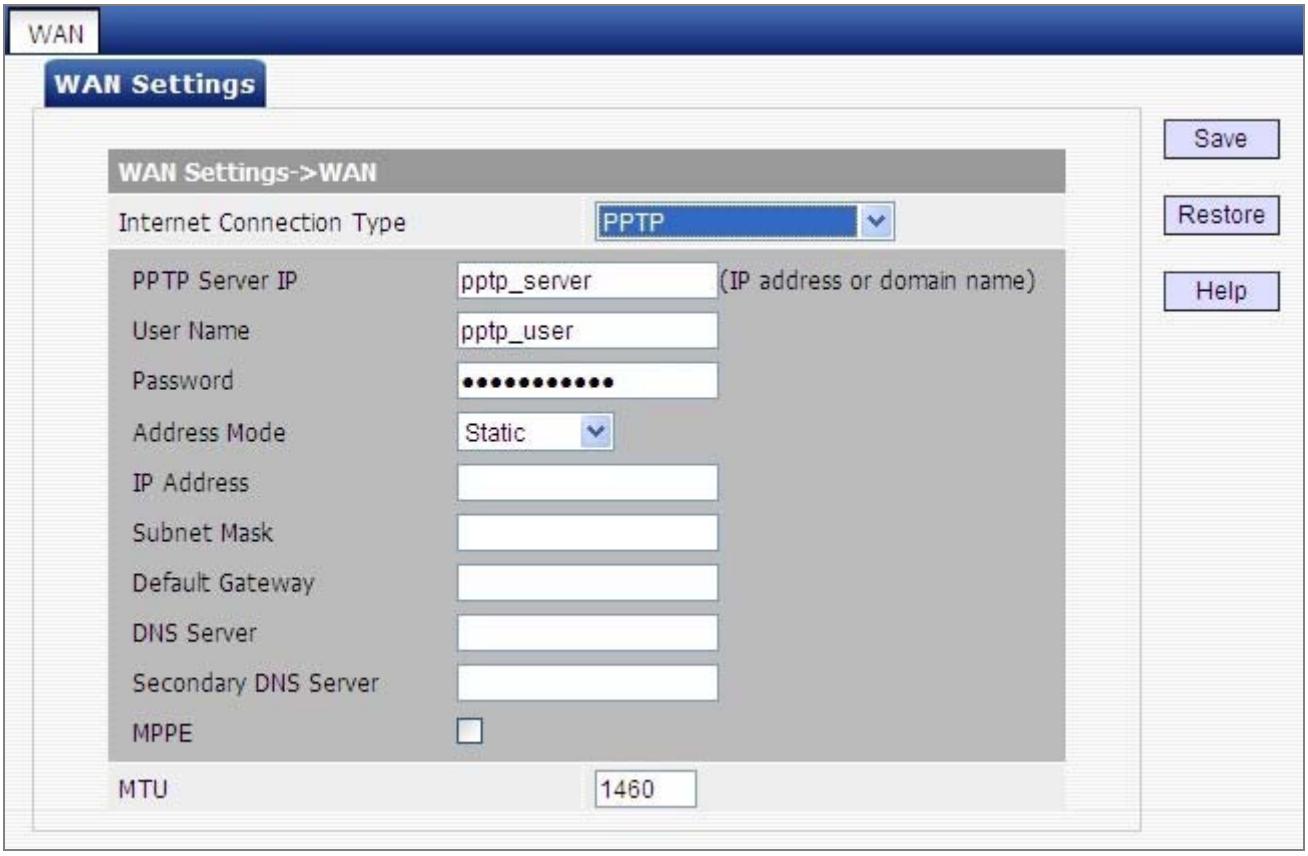


Figure 5-2-7

The page includes the following fields:

Object	Description
• **Internet connection Type:**	Displays a list of available Internet connection types.
• **PPTP Server IP:**	Enter the IP address of a PPTP server.
• **Username/Password:**	Enter Username/Password defined by the PPTP server.
• **Address mode:**	Select "Dynamic" if you don't get any IP info from the PPTP server side, otherwise select "Static".
• **IP Address:**	Enter the IP address provided by your ISP. Inquire your local ISP if

	you are not clear.
• **Subnet mask:**	Enter the subnet mask provided by your ISP.
• **Default Gateway:**	Enter the gateway provided by your ISP. Inquire your local ISP if you are not clear.
• **DNS Server:**	Enter the necessary DNS address provided by your ISP.
• **Secondary DNS Server:**	Enter the other DNS address if your ISP provides you with 2 such addresses, and it is optional
• **MTU:**	Maximum Transmission Unit. The default value is 1460

■ L2TP

The L2TP protocol allows you to connect your router to a L2TP server.

For example: A corporate branch and headquarter can use this connection type to implement mutual and secure access to each other's resources.

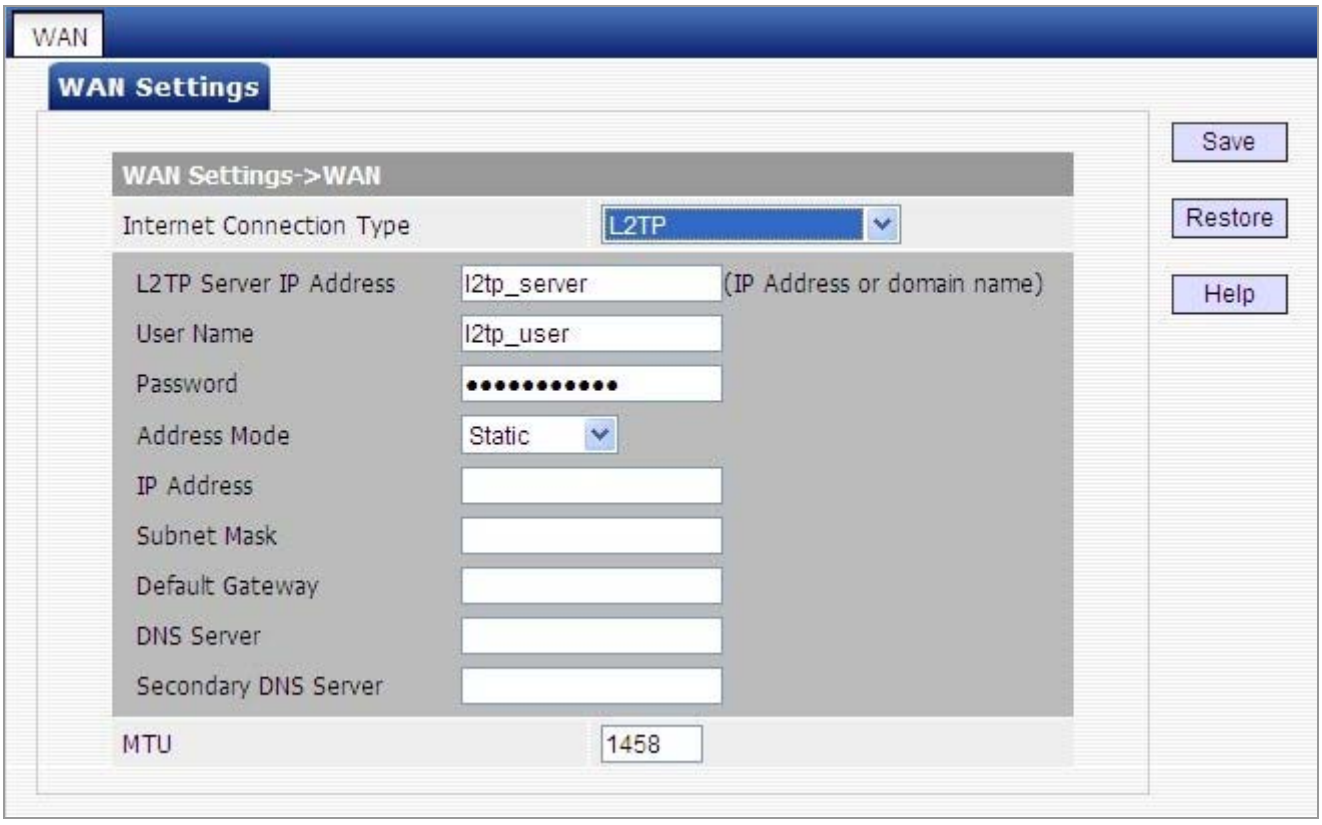


Figure 5-2-8

The page includes the following fields:

Object	Description
• **Internet connection Type:**	Displays a list of available Internet connection types.

• **L2TP Server IP Address:**	Enter the IP address of a L2TP server.
• **Username/Password:**	Enter Username/Password defined by the L2TP server.
• **Address mode:**	Select “Dynamic” if you don’t get any IP info from the L2TP server side, otherwise select “Static”.
• **IP Address:**	Enter the IP address provided by your ISP. Inquire your local ISP if you are not clear.
• **Subnet mask:**	Enter the subnet mask provided by your ISP.
• **Default Gateway:**	Enter the gateway provided by your ISP. Inquire your local ISP if you are not clear.
• **DNS Server:**	Enter the necessary DNS address provided by your ISP.
• **Secondary DNS Server:**	Enter the other DNS address if your ISP provides you with 2 such addresses, and it is optional
• **MTU:**	Maximum Transmission Unit. The default value is 1458

■ PPPOE Dual Access

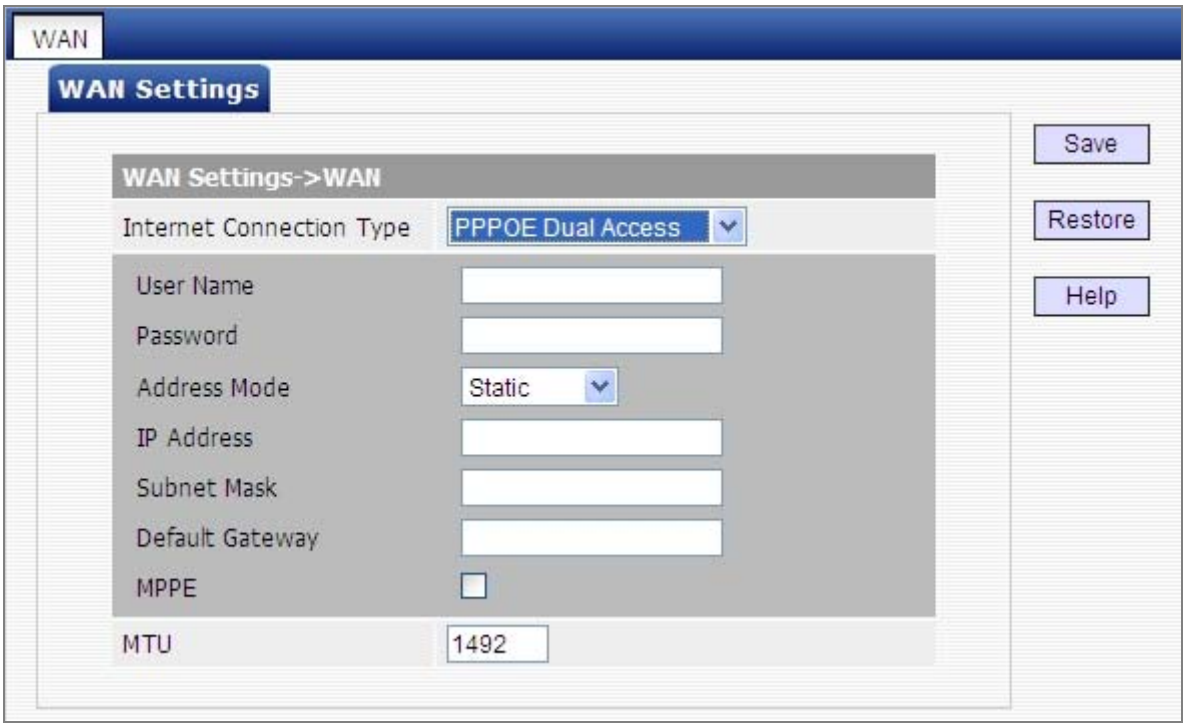


Figure 5-2-9

The page includes the following fields:

Object	Description
• **Internet connection Type:**	Displays a list of available Internet connection types.

• **Username:**	Enter the PPPOE account provided by your ISP.
• **Password:**	Enter the PPPOE password provided by your ISP.
• **Address mode:**	Select “Dynamic” if you don’t get any IP info from the L2TP server side, otherwise select “Static”.
• **IP Address:**	Enter the IP address provided by your ISP. Inquire your local ISP if you are not clear.
• **Subnet mask:**	Enter the subnet mask provided by your ISP.
• **Default Gateway:**	Enter the gateway provided by your ISP. Inquire your local ISP if you are not clear.
• **MTU:**	Maximum Transmission Unit. The default value is 1492

5.2.3 DHCP Settings

"DHCP" includes 3 submenus: **DHCP Server**, **Client List** and **Static Assignment**. Clicking any of them enters corresponding interface for configuration. Below explains, in details, each such feature.

The **Dynamic Host Configuration Protocol (DHCP)** is an automatic configuration protocol used on IP networks. If you enable the built-in DHCP server on the device, it will automatically configure the TCP/IP settings for all your LAN computers (including IP address, subnet mask, gateway and DNS etc), eliminating the need for manual intervention. Just be sure to set such PCs to DHCP clients by selecting "**Obtain an IP Address Automatically**" on each such PC. When you turn these PCs on, they will automatically load the proper TCP/IP settings provided by the device DHCP server.

■ DHCP Server

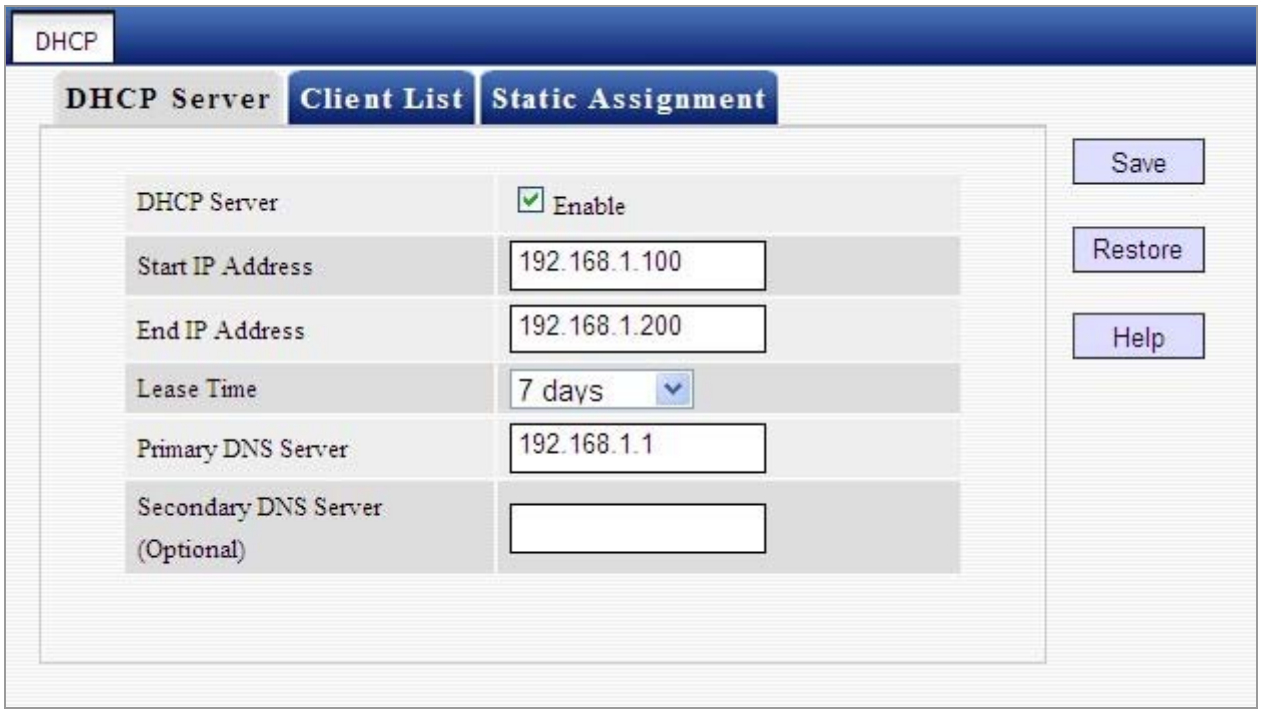


Figure 5-2-10

The page includes the following fields:

Object	Description
• **DHCP Server-Enable:**	Check or uncheck the box to enable or disable the device's DHCP server feature.
• **Start IP Address:**	Enter the starting IP address for the DHCP server's IP assignment.
• **End IP Address:**	Enter the ending IP address for the DHCP server's IP assignment.
• **Lease Time:**	The length of time for the IP address lease. Configuring a proper lease time improves the efficiency for the DHCP server to reclaim disused IP addresses.

• **Primary DNS Server:**	Enter a DNS server address assigned to DHCP clients.
• **Secondary DNS Server**	Enter the other DNS address assigned to DHCP clients (optional).

To benefit from the DHCP server feature, you must set all LAN PCs to DHCP clients by selecting the “Obtain an IP Address Automatically” radio buttons thereon.

■ DHCP Client List

This section displays a DHCP dynamic client list, which includes host name, IP address, MAC address and lease time info.

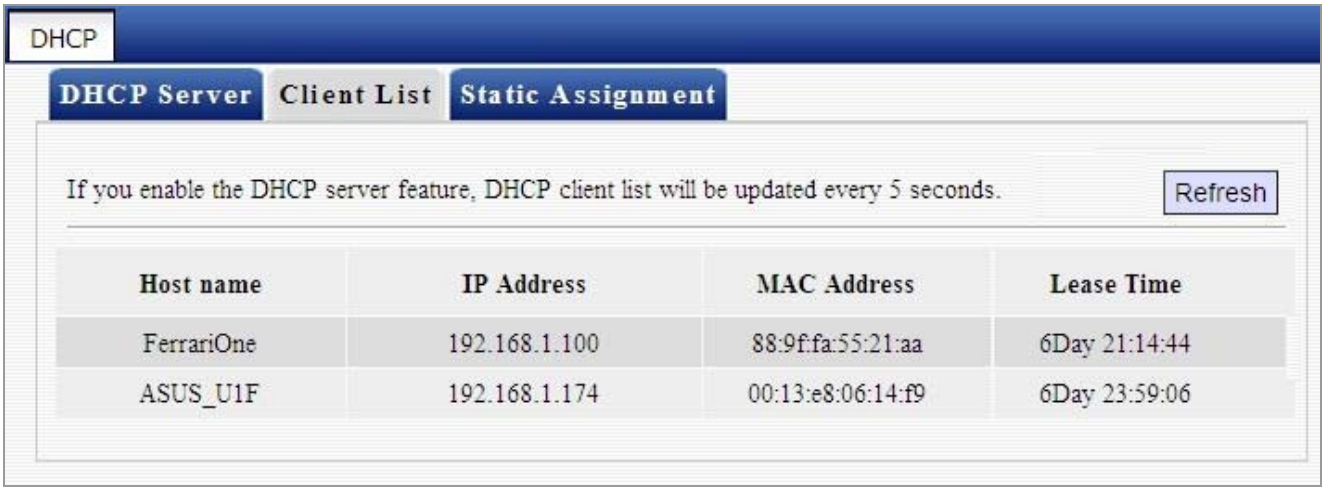


Figure 5-2-11

The page includes the following fields:

Object	Description
• **IP Address:**	Displays IP address(es) that client(s) obtained from the DHCP server.
• **MAC Address:**	Displays MAC address of a given host.
• **Host name:**	Displays name of a given host (DHCP client)
• **Lease Time:**	Remaining time for a corresponding IP address lease.

■ Static Assignment

If you would like some devices on your network to always have fixed IP addresses, you can use this feature and manually add a static DHCP assignment entry for each such device.

For example: To have a PC at the MAC address of 00:30:4F:11:22:33 always receive the same IP address of 192.168.1.200, simply enter the IP and MAC addresses in corresponding fields and click "**Add**" and then the "**Save**" button as shown below.

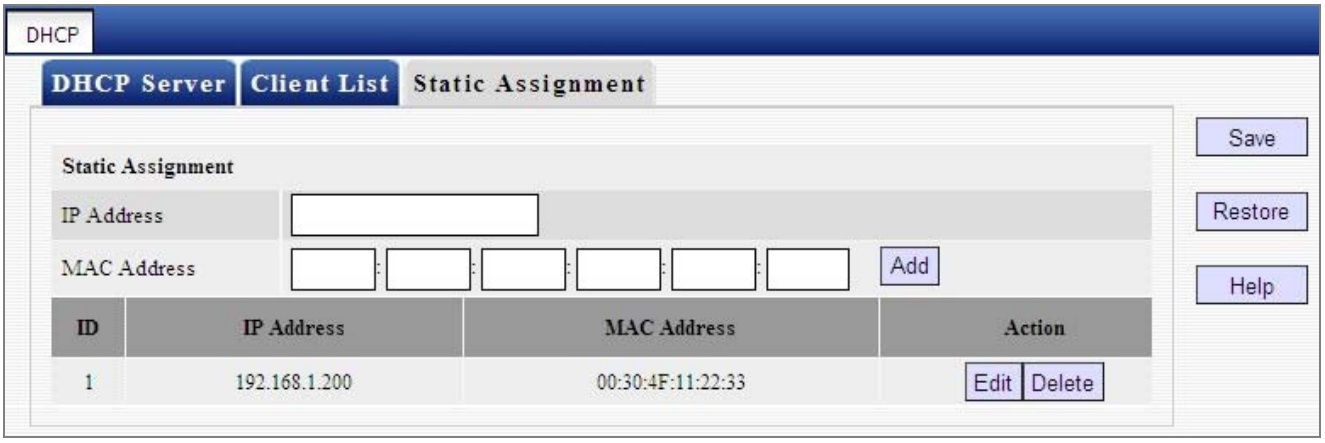


Figure 5-2-12

The page includes the following fields:

Object	Description
• **IP Address:**	Enter the IP address for static DHCP assignment.
• **MAC Address:**	Enter the MAC address of a computer to always receive the same IP address (the IP you just entered above).
• **Add:**	Click to add the current IP-MAC static assignment entry to the list
• **Edit:**	Click to change a given static assignment entry.
• **Delete:**	Click to remove an existing entry

5.2.4 WAN Port

"WAN Port" includes 2 submenus: **MAC Clone**, and **Speed/Duplex**. Clicking either tab enters corresponding interface for configuration. Below explains, in details, each such feature.

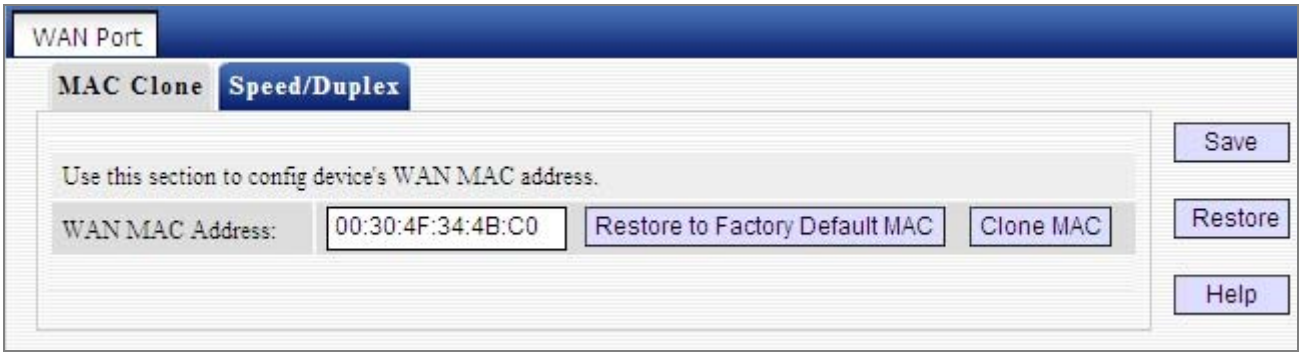


Figure 5-2-13

■ MAC Clone

This section allows you to set router's WAN MAC address. You can either manually enter a MAC or copy your PC's MAC to the router.

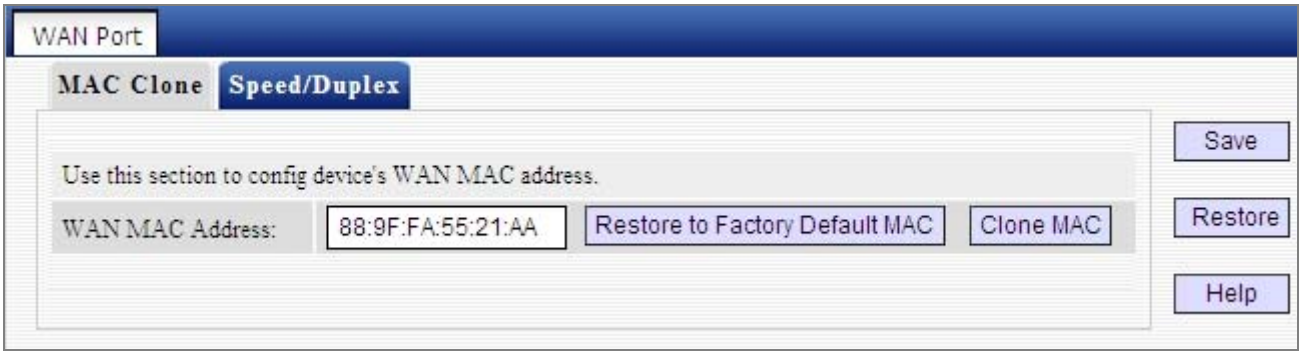


Figure 5-2-14

The page includes the following fields:

Object	Description
• **WAN MAC Address:**	Displays router's current WAN MAC address, you can manually change it.
• **Restore to Factory Default MAC:**	Click it to restore router's WAN MAC to factory default value.
• **Clone MAC:**	Click to copy your PC's MAC to router's WAN MAC Address field.

Note

Normally you don't need to change the default WAN MAC value. However, some ISP may bind client PC's MAC address for Internet connection authentication. In this case, simply enter such MAC in the WAN MAC Address field or click the "Clone MAC" button. Note that the WAN MAC address in running status interface will be updated accordingly.

Note

Do remember to reboot the router to activate the new WAN MAC. DO NOT use the "Clone MAC" feature if your ISP does not bind your PC's MAC.

■ Speed/Duplex

This section allows you to config the router's WAN port speed/duplex settings.

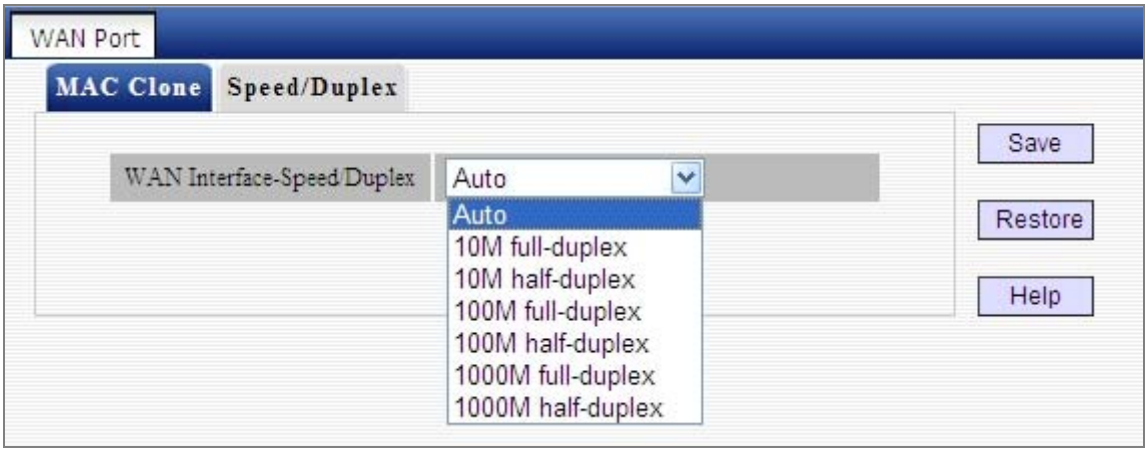


Figure 5-2-14

You can select a WAN port speed/duplex mode that best suit your network environment from the drop-down list, which includes auto, 10M half-duplex, 10M full-duplex, 100M half-duplex, 100M full-duplex, 1000M half-duplex and 1000M full-duplex.

Note

The WAN port speed/duplex mode must match that of its link partner to achieve successful communication; otherwise, the WAN port may not function properly. So, if you are not sure about the link partner's speed/duplex mode, please select "Auto"

5.3 Security Settings

"Security Settings" includes the following 5 submenus. Clicking any of them enters corresponding interface for configuration. Below explains, in details, each such feature.

5.3.1 Group Settings

"Group Settings" includes 2 submenus: **Group Settings**, **User Group** and **Time Group**. Clicking either tab enters corresponding interface for configuration. Below explains, in details, each such feature.

■ User Group

To create a user group, you need to specify a group name/description and an IP address/range. The user group feature works together with other related features.

Figure 5-3-1

For example: If you want to add a user group for a R&D department within an IP of 192.168.1.200-192.168.1.250, first click the "Add" button and then follow steps below:

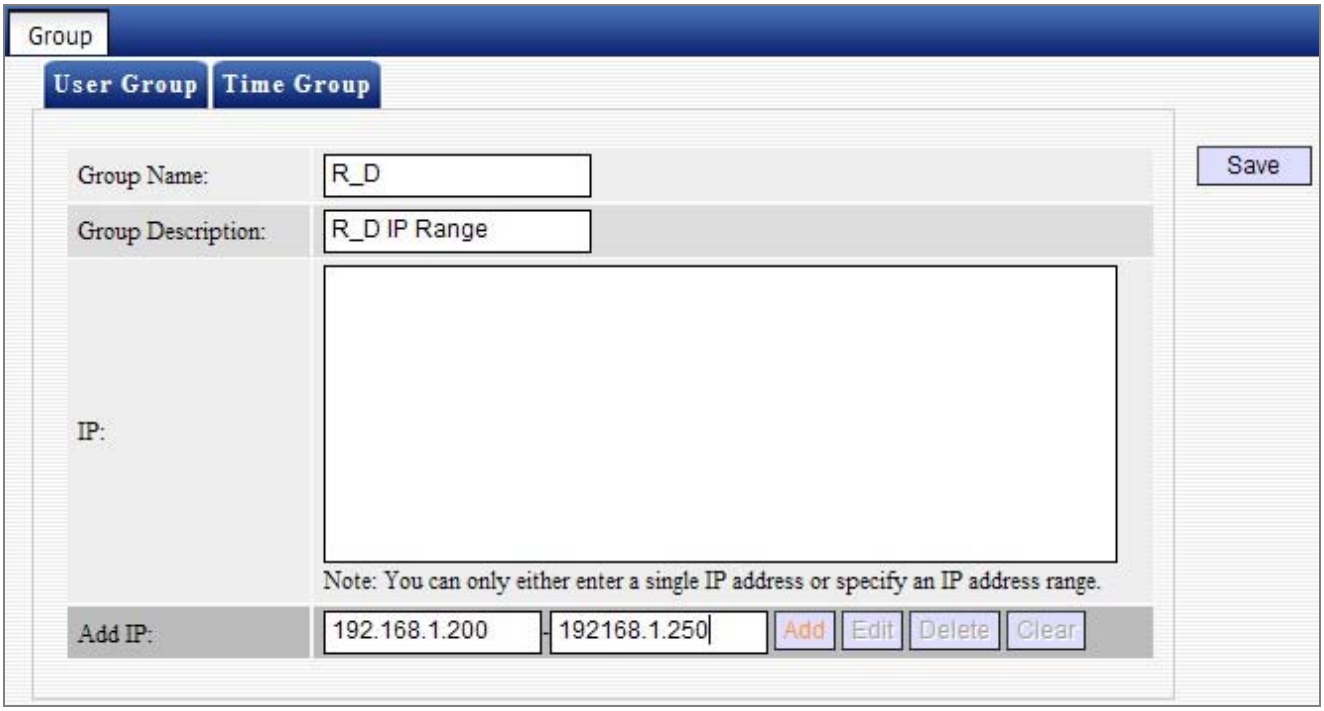


Figure 5-3-2

1. Enter R_D in group name field.
2. Enter R_D IP Range in group description field.
3. Enter “192.168.1.200” and “192.168.1.250” in IP fields.
4. Click “**Add** “and then the “**Save** “button; you will find

Such entry in User Group list below:

Figure 5-3-3

■ Time Group

To create a time group, you need to specify a group name/description and a time / time range.

Figure 5-3-4

For example: If you want to set a period of time from **8：00 to 18：00** on working days from **Monday to Friday** to a time group, first click the "**Add**" button and then follow steps below:

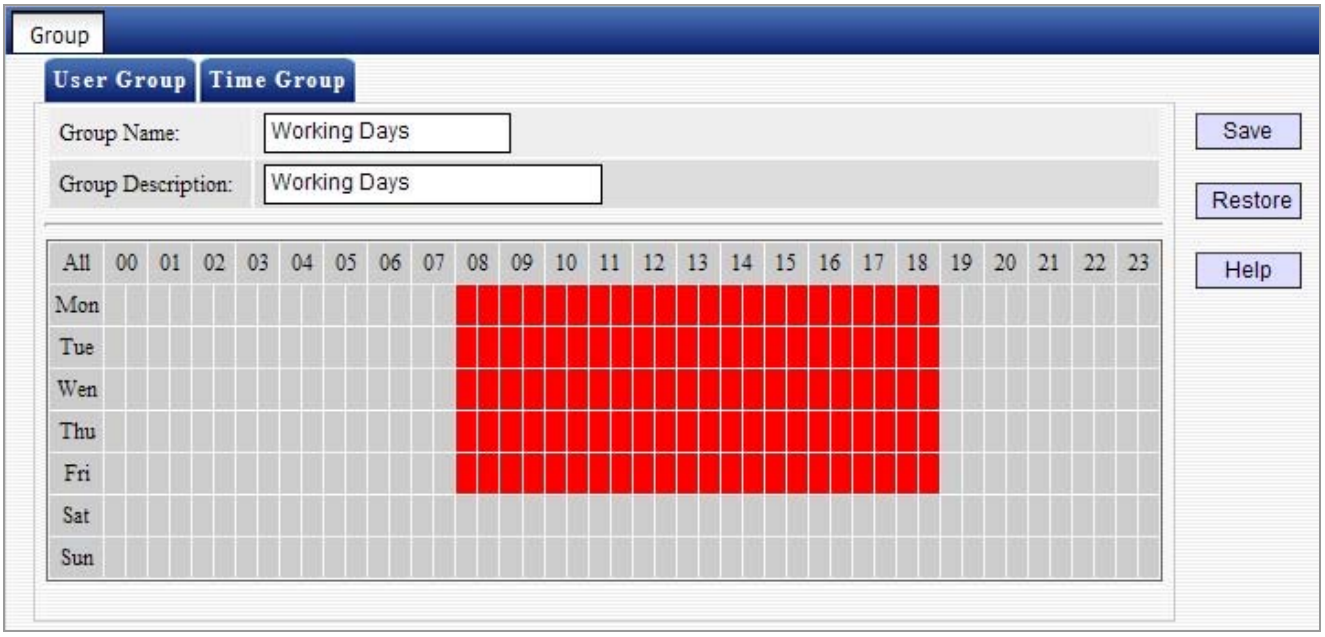


Figure 5-3-5

1. Enter "Working days" in group name field.
2. Enter "working days" in group description field.
3. Select the time and days.
4. Click "**Save**" and you will find such entry in Time Group list below:

Figure 5-3-6

5.3.2 Port Filter

To better manage PCs in LAN, you can allow or disallow such PCs to access certain ports on Internet using the **Port Filter** functionality.

Figure 5-3-7

Click "**Add**" to enter page below:

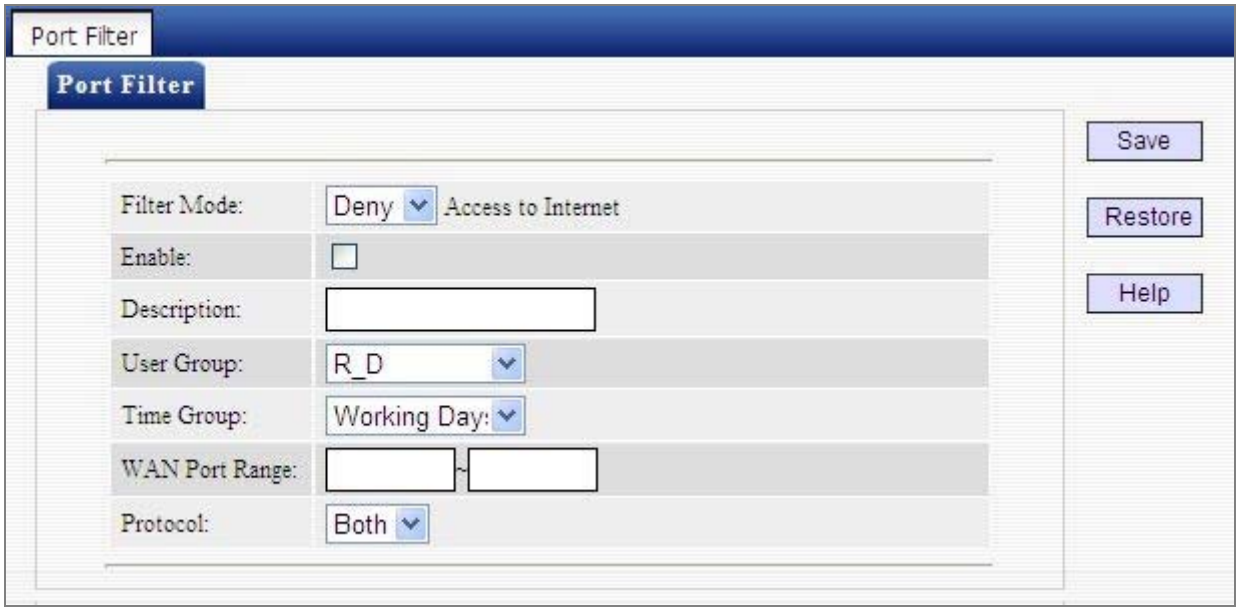


Figure 5-3-8

The page includes the following fields:

Object	Description
• **Filter Mode:**	Select Deny or Allow according to your own needs.
• **Deny Access to Internet:**	Disallow specified packets to pass through the router; other packets are processed according to default rule.
• **Allow Access to Internet:**	Allow specified packets to pass through the router; other packets are processed according to default rule.

• **Enable:**	Check to enable current filter entry.
• **Description:**	Enter a meaningful name to yourself for a new filter rule
• **User Group:**	Select an added user group from the drop-down list.
• **Time Group:**	Select an added time group from the drop-down list.
• **WAN Port Range:**	Enter port IDs. You can specify a range of ports or a single port. Allowed port ID ranges from 1 to 65535.
• **Protocol:**	Select a protocol or protocols for the traffic ("Both" includes TCP and UDP).

For Example: If you want to disallow PCs within IP addresses ranging from 192.168.1.200 to 192.168.1.250("R&D" user group) to access web sites from 8:00 to 18:00 on working days – from Monday to Friday ("Working days" time group), do as follows:

1. Select "**Deny**" from the filter mode drop-down list.
2. Check the "**Enable**" box.
3. Enter "**Forbid websites**" in description field.
4. Select "R&D" from the user group drop-down list.
5. Select "**Working days**" from time group drop-down list.
6. Enter "80" in both boxes of "**WAN Port Range**".
7. Select "**Both**" from "Protocol" drop-down list.

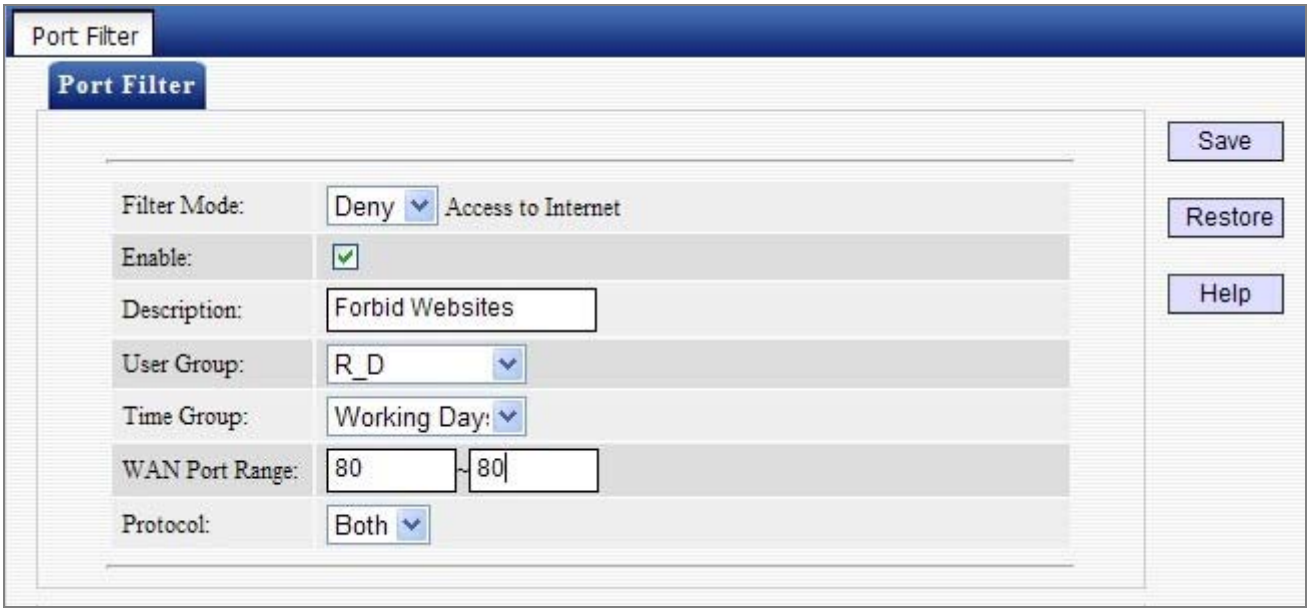


Figure 5-3-9

8. Click “**Save**” and you will find such entry in the List below.

Figure 5-3-10

9. Select “**Allow**” from the “**Default**” drop-down list and check “**Enable**” Port Filter feature.

Figure 5-3-11

5.3.3 URL Filter

To better control LAN PCs, you can use the URL filter functionality to allow or disallow such PC to access certain websites within a specified time range.

Figure 5-3-12

Click "**Add**" to display page below:

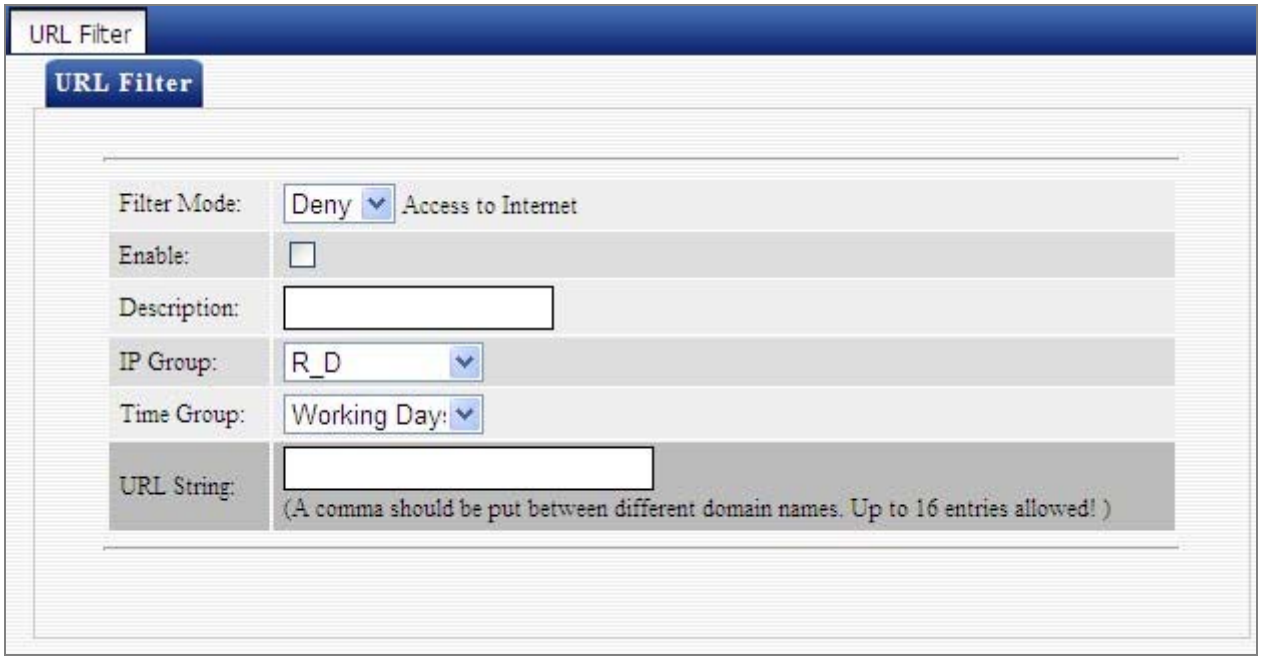


Figure 5-3-13

The page includes the following fields:

Object	Description
• **Filter Mode:**	Select Deny or Allow according to your own needs.
• **Deny Access to**	Disallow specified packets to pass through the router; other packets are

Internet:	processed according to default rule.
• **Allow Access to Internet:**	Allow specified packets to pass through the router; other packets are processed according to default rule.
• **User Group:**	Select an added user group from drop-down list.
• **Time Group:**	Select an added time group from drop-down list.
• **Description:**	Enter a meaningful name to yourself for a new filter rule.
• **URL character string:**	Enter domain name string to be filtered.

For Example: If you want to disallow PCs within IP addresses ranging from 192.168.1.200 to 192.168.1.250("R_D" user group) to access only web sites containing "yahoo" from 8:00 to 18:00 on working days – from Monday to Friday ("Working days" time group), without restricting other PCs, do as follows:

1. Select "**Deny**" from the filter mode drop-down list.
2. Check the "**Enable**" box.
3. Enter "Disallow yahoo" in description field.
4. Select "R_D" from the user group drop-down list.
5. Select "**Working days**" from time group drop-down list.
6. Enter "yahoo" in URL String field.

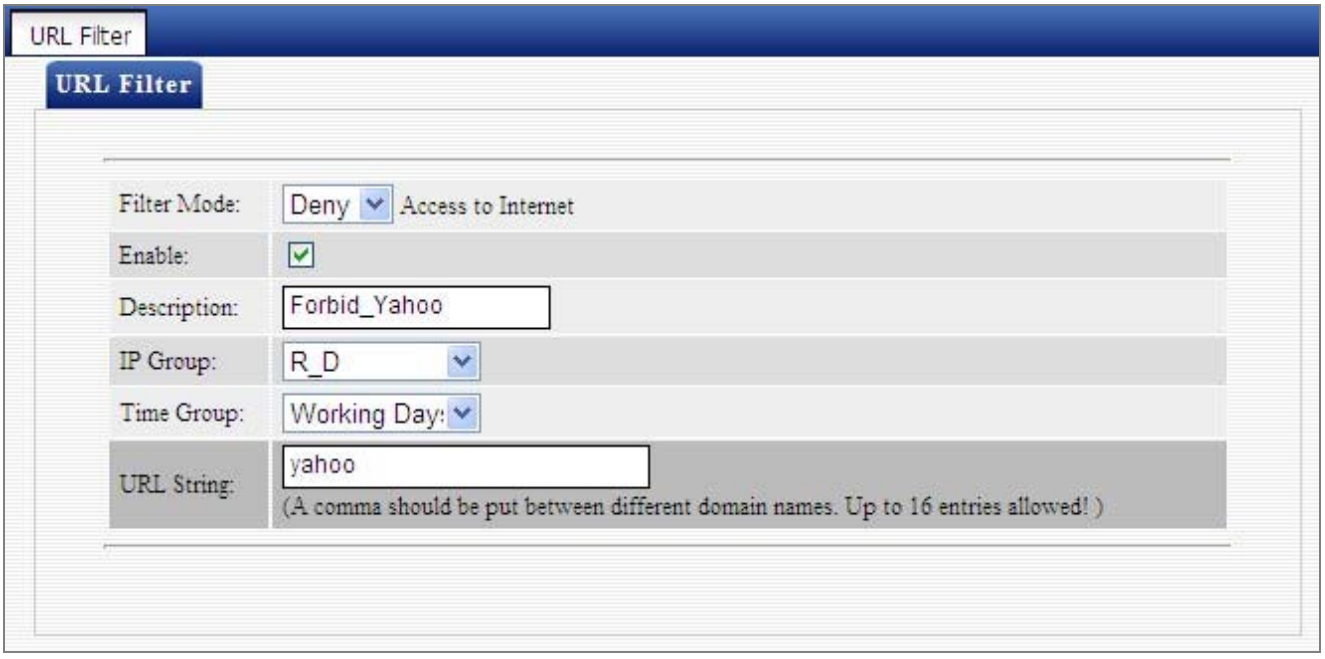


Figure 5-3-14

7. Click “**Save**” to display page below:

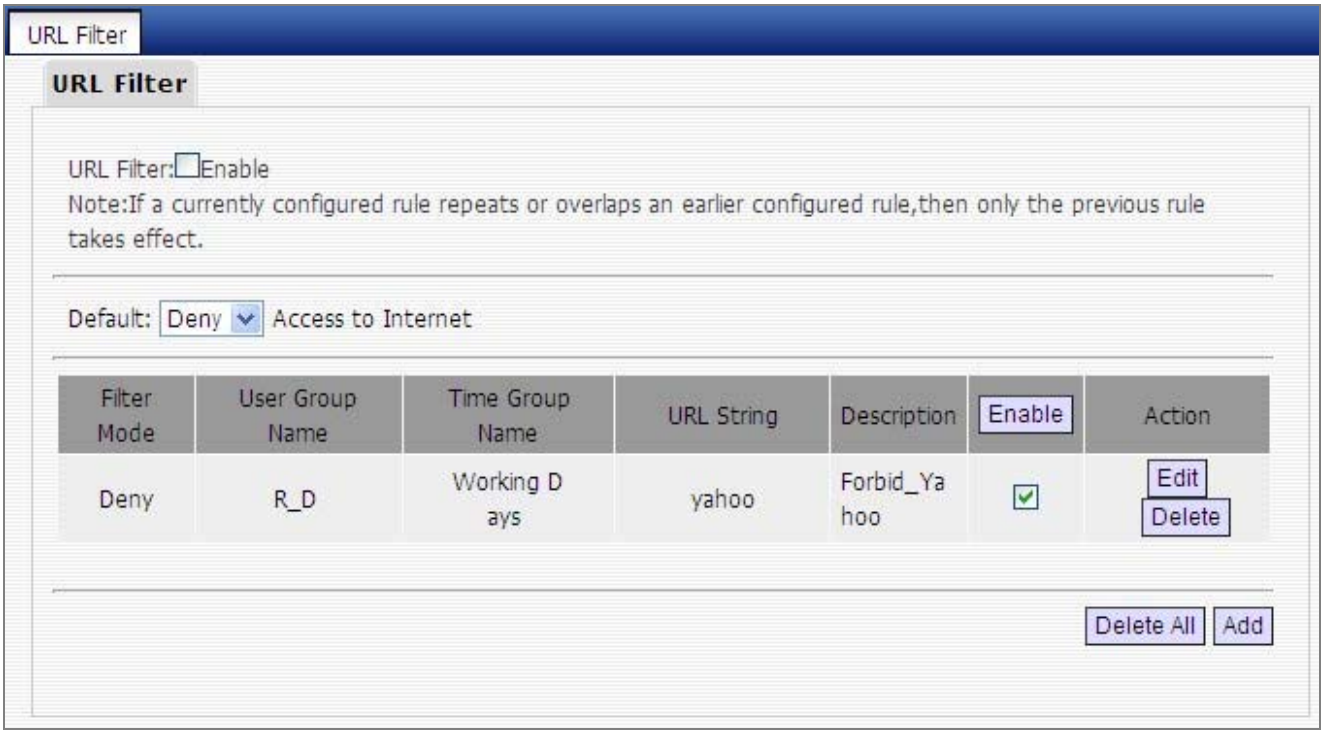


Figure 5-3-15

8. Select “**Allow**” from the “**Default**” drop-down list and check the “**Enable**” URL Filter feature.

Figure 5-3-16

5.3.4 MAC Address Filter

To better manage PCs in LAN, you can use the MAC Address Filter function to allow/disallow such PCs to access to Internet.

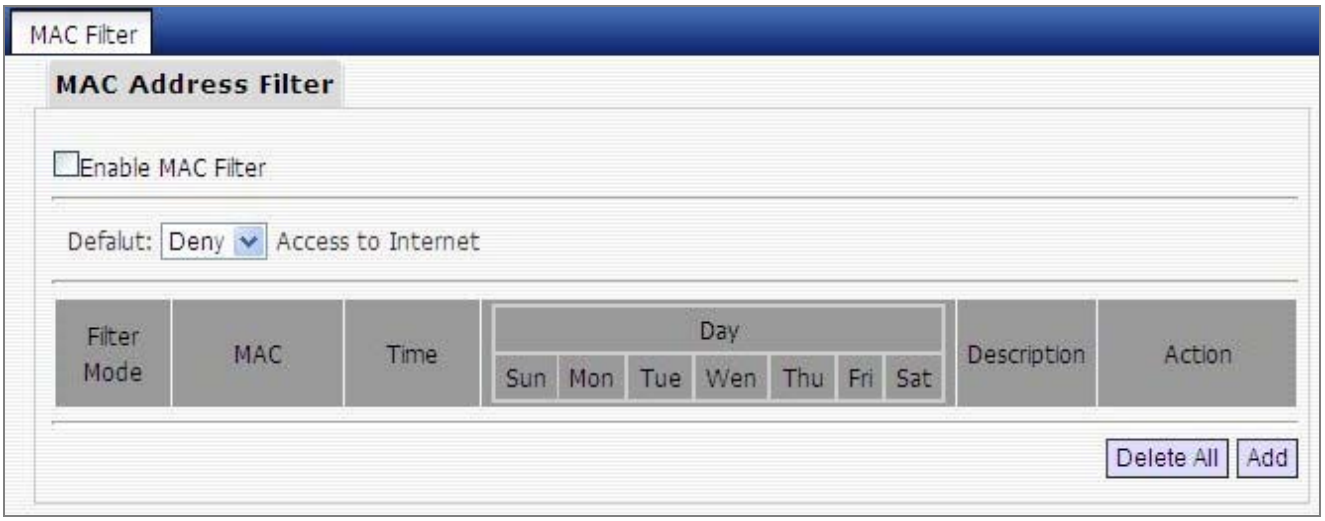


Figure 5-3-17

Click **"Add**" to display page below:

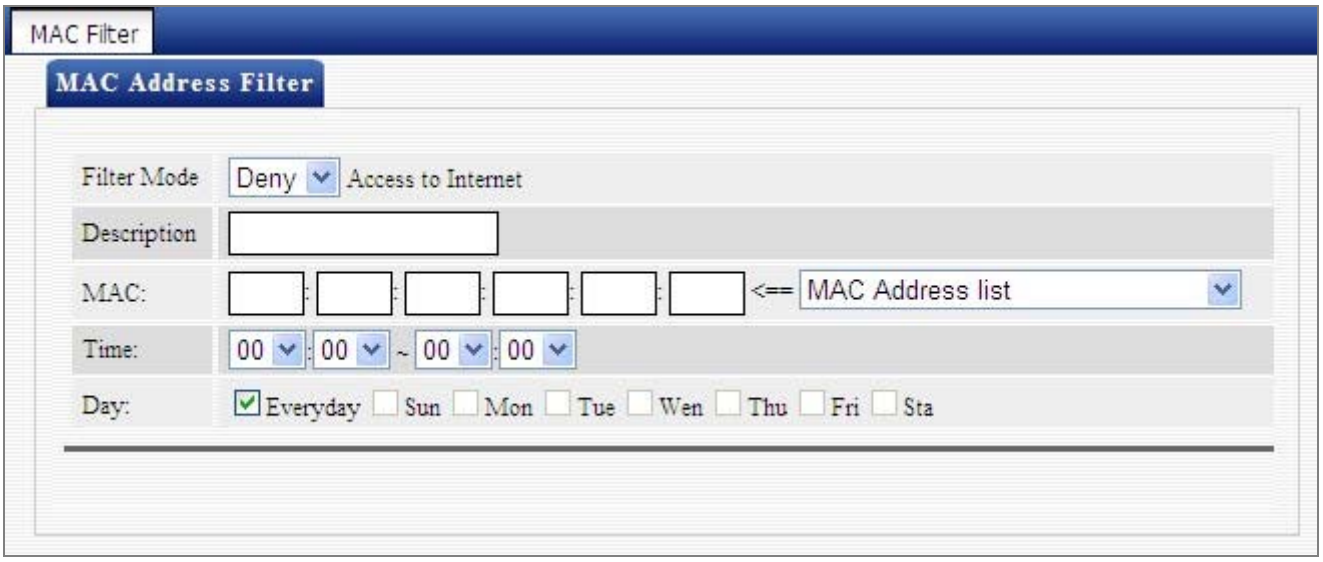


Figure 5-3-18

The page includes the following fields:

Object	Description
• **Filter Mode:**	Select Deny or Allow according to your own needs.
• **Deny Access to Internet:**	Disallow specified packets to pass through the router; other packets are processed according to default rule.
• **Allow Access to Internet:**	Allow specified packets to pass through the router; other packets are processed according to default rule.
• **Description:**	Briefly describe a new filter rule

• **MAC:**	Enter the computer's MAC address that you want to filter out in the MAC address field or select one from the MAC address list.
• **Time:**	Select a time range for the new MAC address filter rule to take effect. The default is **00:00-00:00**, which means 24 hours.
• **Day:**	Select a day or several days for the new MAC address filter rule to take effect.

For Example: To only prevent a PC at the MAC address of 00:30:4F:77:88:00 from accessing Internet from 8:00 to 18：00 everyday, without restricting other PCs, configure same settings on the screenshot below on your device:

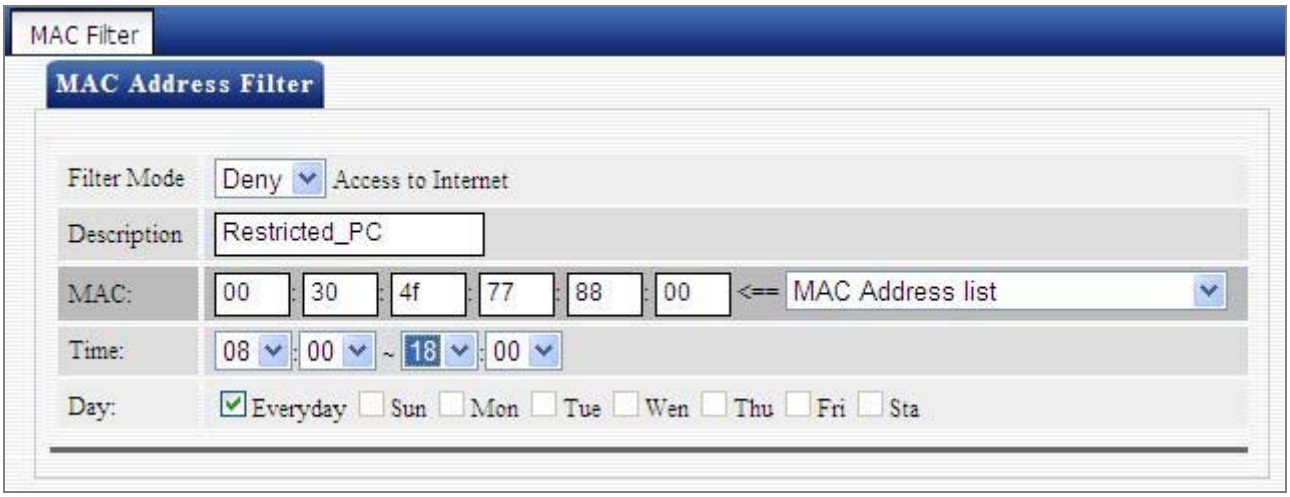


Figure 5-3-19

Click "**Save**" to display the following page. Select "**Allow**" from the "**Default**" drop-down list and check the "**Enable MAC Filter**" feature as below.

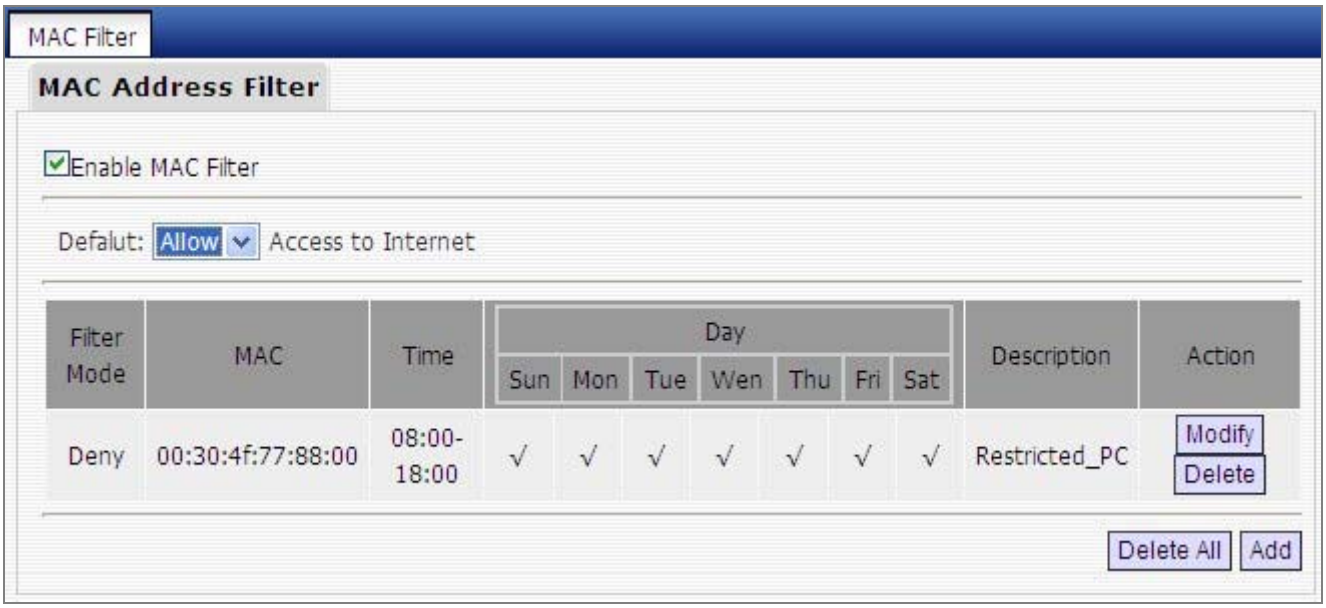


Figure 5-3-20

5.3.5 WAN Access Control

The WAN Access Control feature allows users to configure your router from Internet via a web browser.

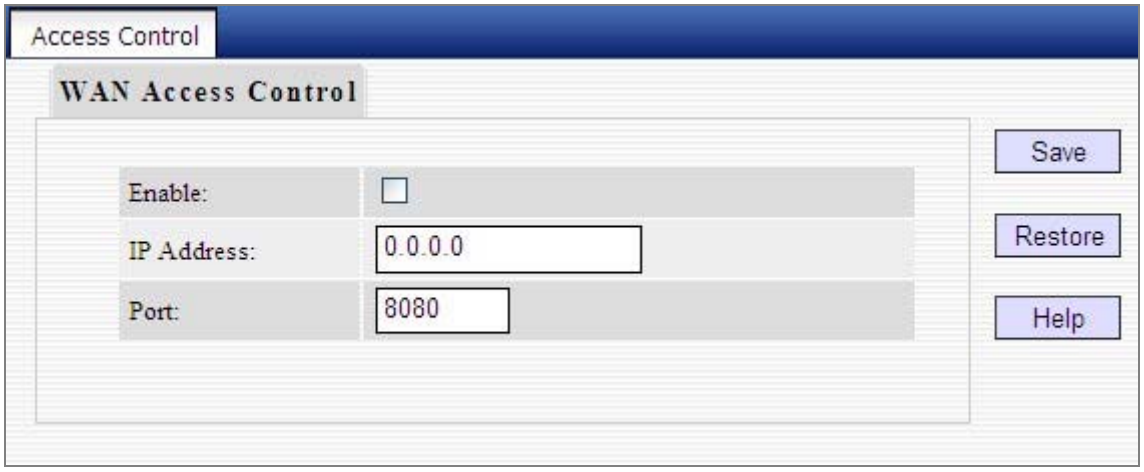


Figure 5-3-21

The page includes the following fields:

Object	Description
• **Enable:**	Check or uncheck to enable or disable the WAN Access Control feature.
• **Port:**	Enter a port ID for remote web-based management. The default is **8080**.
• **IP Address:**	Enter the IP address of a PC on Internet authorized to access and manage your router's web-based utility remotely.

Note

If you enter **0.0.0.0** in the IP address box, then all PCs on Internet can access your router's Web-based utility to view or change your settings remotely once you enable the feature.

For example: If you want to allow only a PC at the IP address of 60.250.65.207 to access your router's Web-based utility from Internet via port: 8080, you need to configure same settings as shown on the interface below on your router. And what this IP user needs to do is to simply launch a browser and enter http:// 210.61.134.96:8080 (provided that your router's WAN IP address is 210.61.134.96).

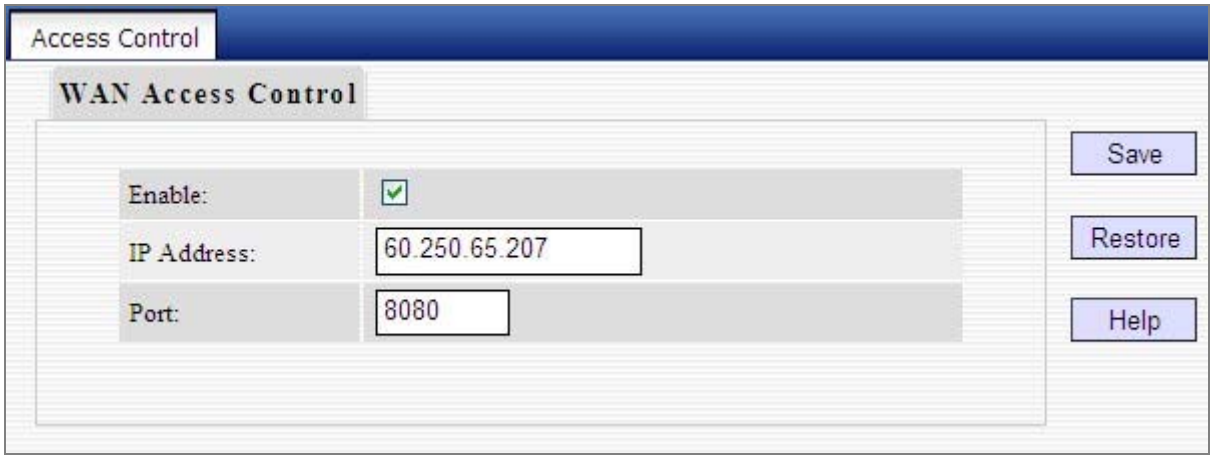

Access Control
WAN Access Control
Enable:
IP Address:
60.250.65.207
Port:
8080
Save
Restore
Help

Figure 5-3-22

5.4 Advanced Settings

“Advanced Settings” includes the following 6 submenus. Clicking any of them enters corresponding interface for configuration. Below explains, in details, each such feature.

5.4.1 Virtual Server

The Virtual Server feature grants Internet users access to services on your LAN. It is useful for hosting online services such as FTP, Web, or game servers. For each Virtual Server, you define a WAN port on your router for redirection to an internal LAN IP Address and LAN port.

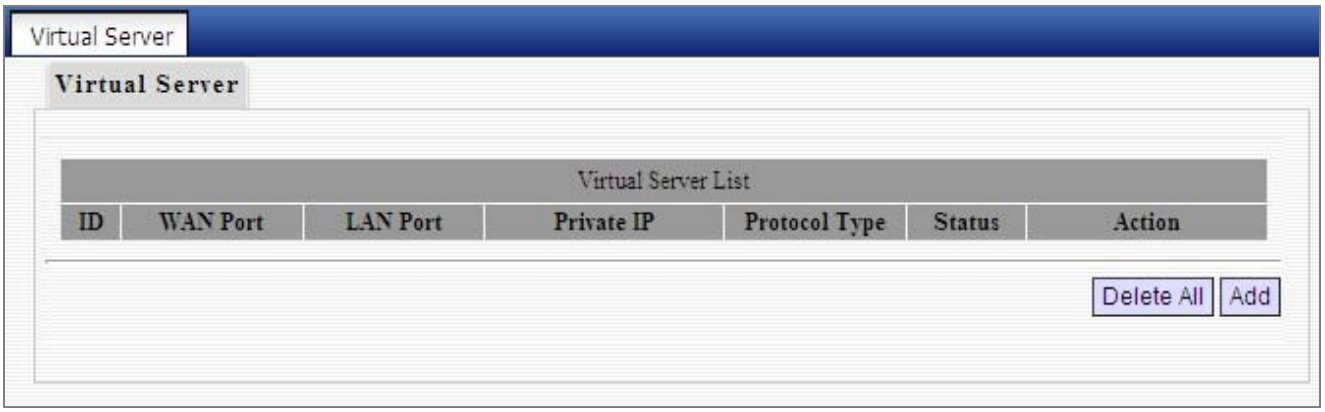


Figure 5-4-1

Click “**Add**” to display below page.

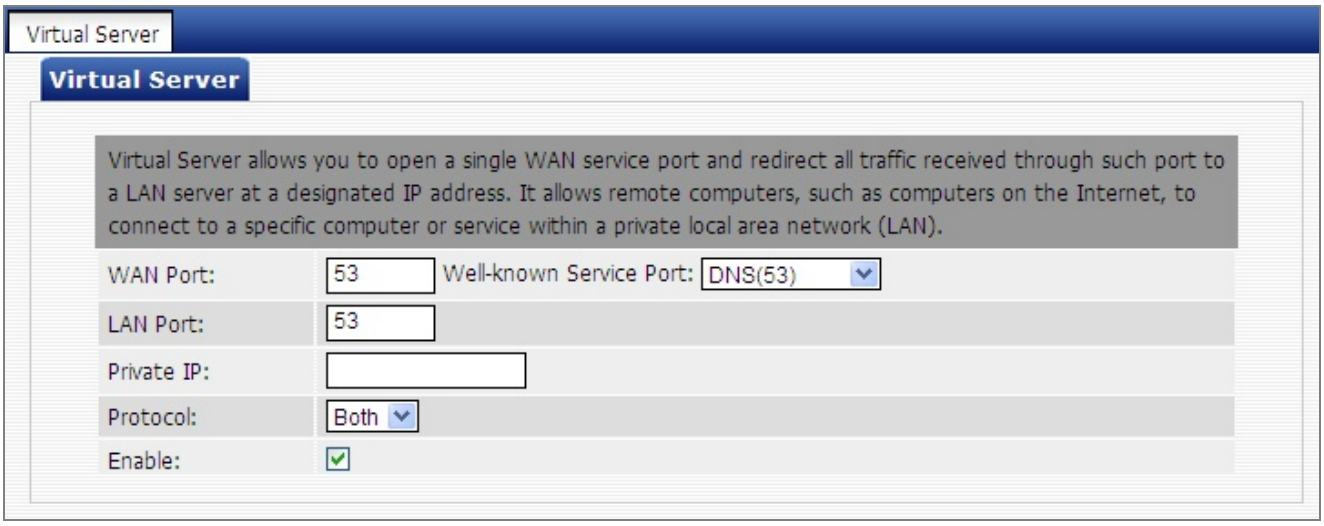


Figure 5-4-2

The page includes the following fields:

Object	Description
• **WAN Port:**	Enter the WAN service port.
• **Well-Known Service Ports:**	The "Well-Known Service Port" lists commonly used protocol ports such as: ■ DNS (53） ■ FTP (21) ■ GOPHER (70) ■ HTTP (80) ■ NNTP (1190) ■ POP3 (110) ■ PPTP (1723) ■ SMTP (25) ■ SOCK (1080) ■ TELNET(23) In case that you don't find the port ID you need, add it manually.
• **LAN Port:**	Enter LAN service port.
• **LAN IP:**	The IP address of a computer used as a server in LAN.
• **Protocol:**	Includes **TCP**, **UDP** and **Both**. Select "Both" if you are not sure about which protocol to use.
• **Enable:**	Check the "Enable" option to activate corresponding entry.

For example: If you create a web server using port 80 on a LAN PC at the IP address of 192.168.0.10, and you want WAN users to access such server via http://x.x.x.x:4000 (x.x.x.x represents router's WAN IP address), then do as follows:

1) Enter “4000” in WAN Port field, 80 in LAN port field and 192.168.0.10 in Private IP field,
2) Select “Both” from protocol drop-down list.
3) Check the “Enable” box.
4) Click “Save” to save such settings.

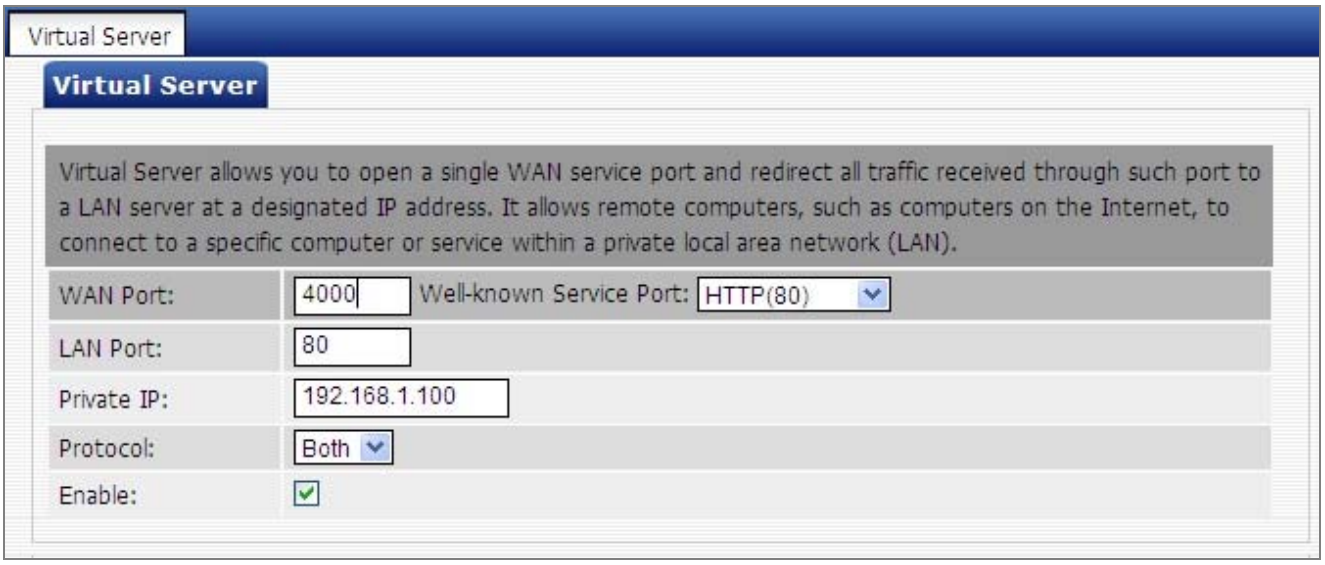


Figure 5-4-3

Note

Setting WAN port hereon to the same value as that on WAN access control section will deactivate the virtual server feature.

5.4.2 DMZ Settings

In some cases, we need to set a computer to be completely exposed to extranet for implementation of a bidirectional communication. To do so, we set it as a DMZ host.

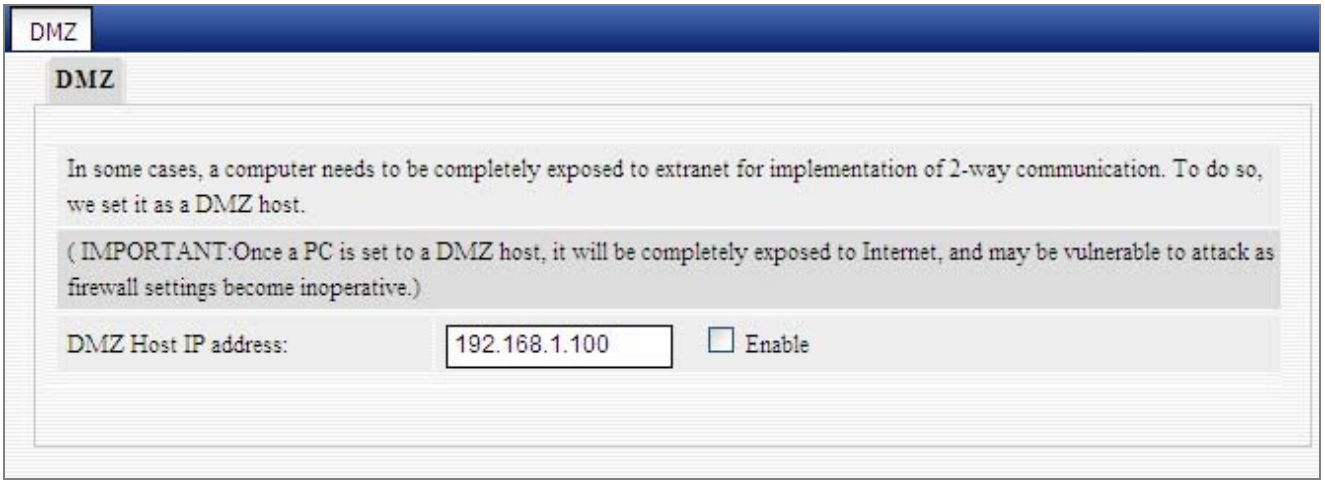


Figure 5-4-4

The page includes the following fields:

Object	Description
• **DMZ Host IP Address:**	Enter the IP address of a LAN computer which you want to set to a DMZ host.
• **Enable:**	Check/uncheck to enable/disable the DMZ host.

Note

1. If you set a PC to a DMZ host, it will be completely exposed to extranet and gains no more protection from the device firewall.
2. 2. A WAN user accesses the DMZ host through a corresponding WAN IP address.

5.4.3 UPnP Settings

UPnP (Universal Plug and Play) requires Windows ME/Windows XP or later or application softwares that support such UPnP feature.

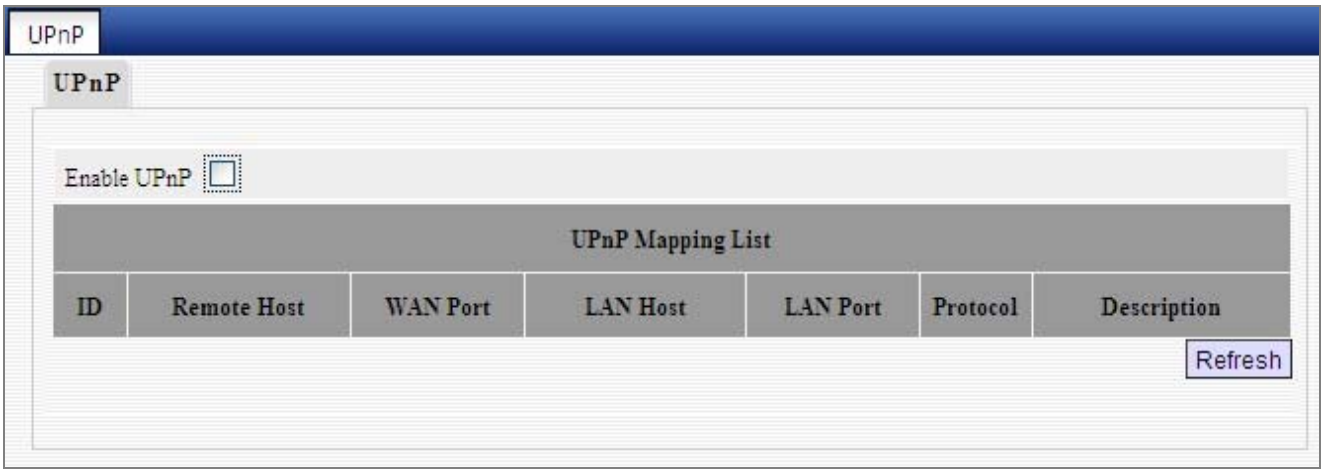


Figure 5-4-5

The page includes the following fields:

Object	Description
• **ID:**	Entry ID.
• **Remote Host:**	Description of a remote host that receives/sends responses.
• **WAN Port:**	Port on router side.
• **LAN Host:**	Description of an internal host that receives/sends responses.
• **LAN Port:**	Port on host side.
• **Protocol:**	Indicates whether to perform TCP or UDP port forwarding
• **Description:**	Software info of a mapped port.

5.4.4 Routing

This section talks about **Routing Table** and **Static Routing** features.

■ Routing Table

This page displays the router's core routing table which lists destination IP, subnet mask, gateway, hop count and interface.

Figure 5-4-6

■ Static Routing

You can use this section to set up router's static routing feature.

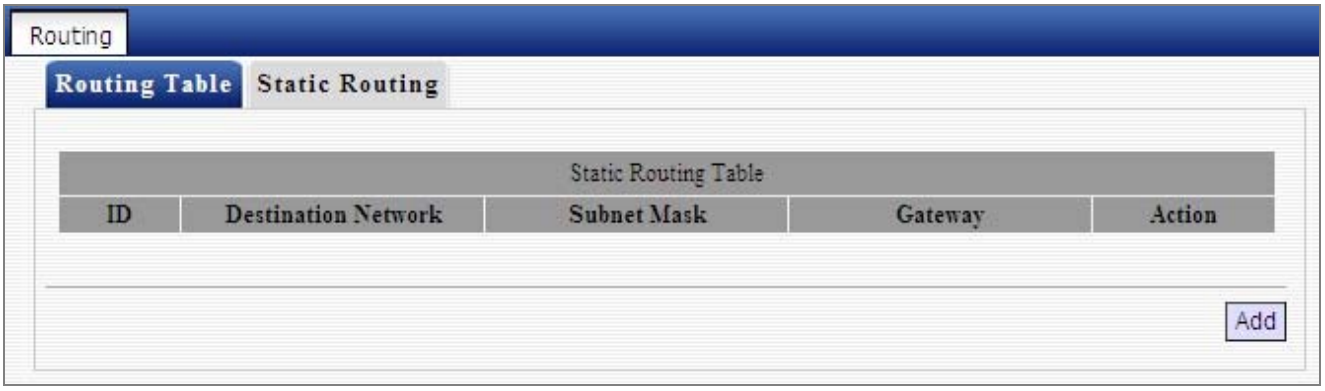


Figure 5-4-7

Click "**Add**" to add static routing entries.

Figure 5-4-8

The page includes the following fields:

Object	Description
• **Destination Network:**	Enter a destination IP address.
• **Subnet Mask:**	Enter a Subnet Mask that corresponds to the destination IP address you entered.
• **Gateway:**	Next-hop IP address.

5.4.5 Bandwidth Control

To better manage bandwidth allocation and optimize network performance, use the Custom Bandwidth Allocation feature.

Figure 5-4-9

The page includes the following fields:

Object	Description
• **Custom Bandwidth Allocation:**	Select this option to customize a bandwidth allocation policy that best fits your network. You can set specific limits on uplink and downlink bandwidth of PCs within a specified IP range.

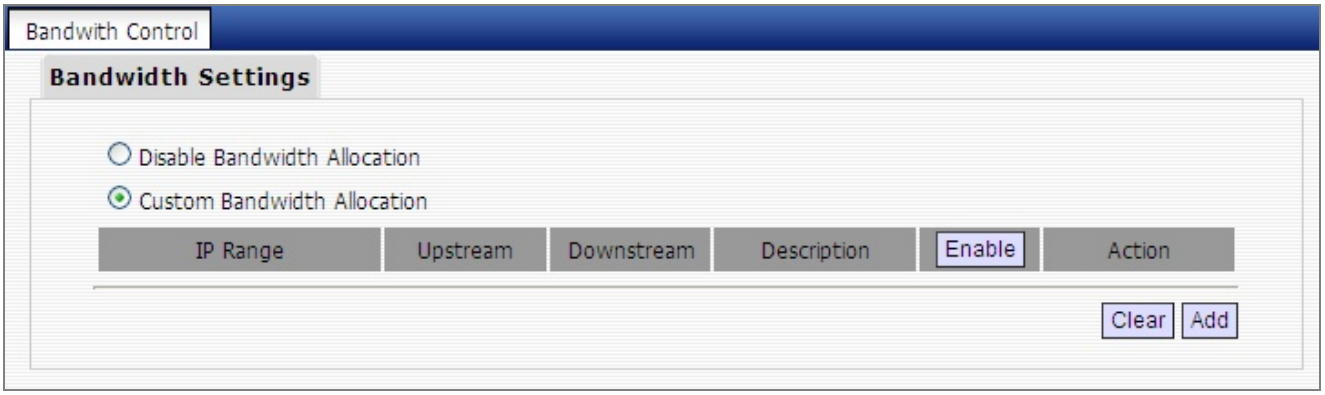


Figure 5-4-10

Click "**Add**" to display the page below:

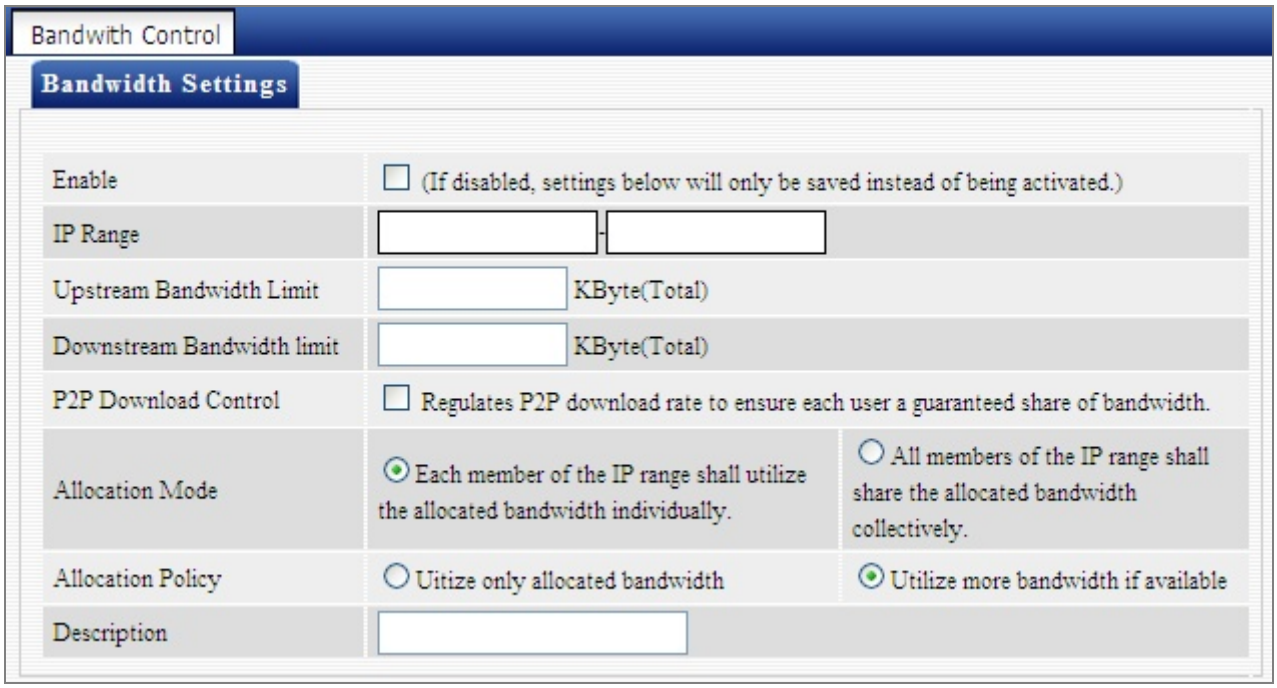


Figure 5-4-11

The page includes the following fields:

Object	Description
• **Enable:**	Check/uncheck to enable/disable current bandwidth entry
• **IP Range:**	Enter a single IP or an IP range.
• **Upstream Bandwidth Limit:**	Max total upload bandwidth for a specified PC or a range of PCs.
• **Downstream Bandwidth Limit:**	Max total download bandwidth for a specified PC or a range of PCs
• **P2P Download Control:**	Regulates P2P download rate to ensure each user a guaranteed share of bandwidth.
• **Allocation Mode:**	Select either- ■ "Individual (Each member of the IP range shall utilize the allocated bandwidth individually)" ■ "Collective (All members of the IP range shall share the allocated bandwidth collectively)"
• **Allocation Policy:**	Select either "Utilize only the allocated bandwidth" or "Utilize more bandwidth if available"
• **Description:**	Brief description of current entry.

1. Please note the bandwidth unit.
2. If you enable the P2P Download Control feature, it will limit P2P download rate (smaller than the specified value) to ensure other applications such as web browsing a reserved and guaranteed share of bandwidth.
3. If you select "**Utilize more bandwidth if available**", router will dynamically adjust uplink/downlink bandwidth allocation to ensure defined and additional bandwidth if available or only defined bandwidth.

For example:

If you want each PC within the IP range of 192.168.1.100-192.168.1.120 to have up to 2M uplink and 2M downlink bandwidth, and want to control P2P download bandwidth, then configure same settings as shown on the screen below on your router:

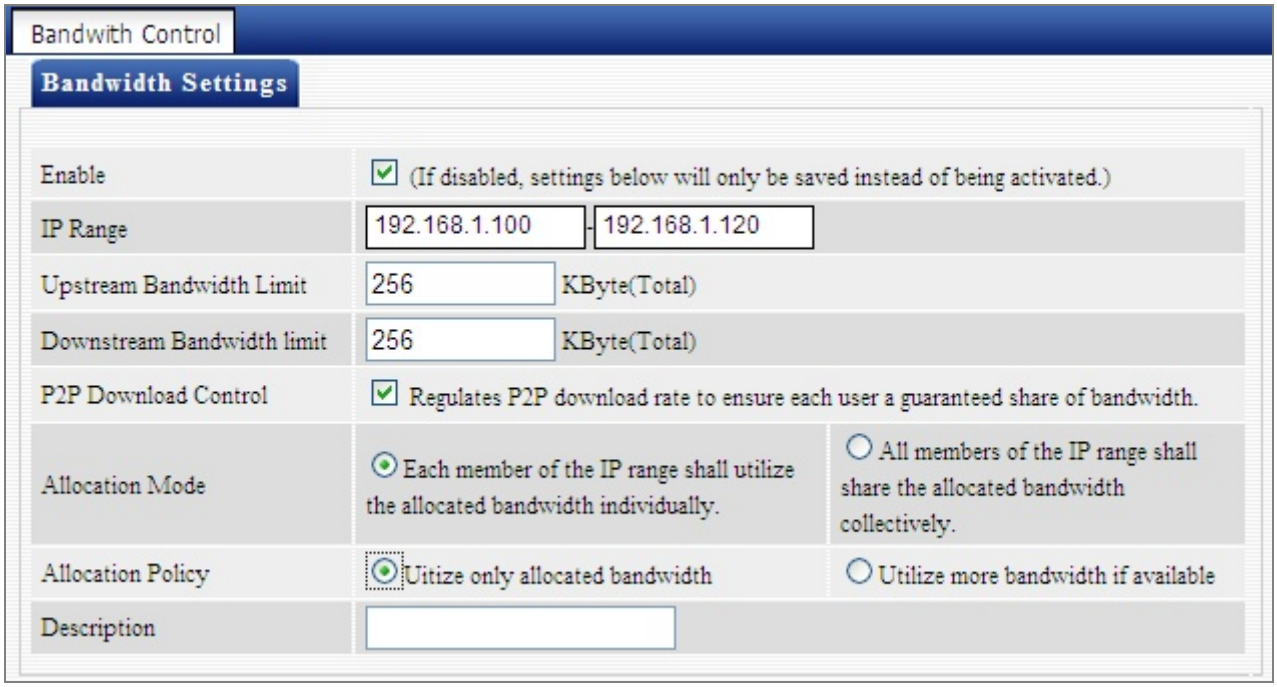
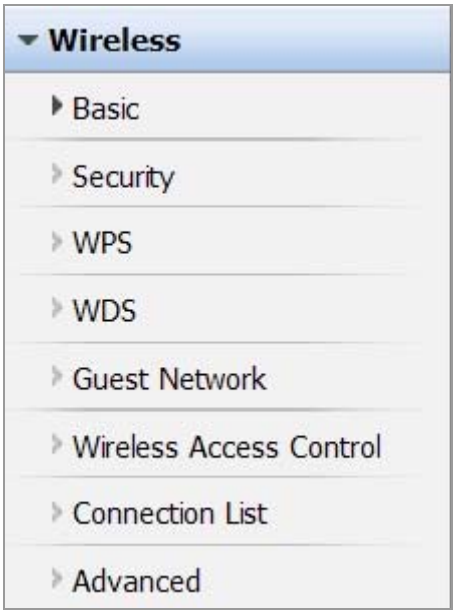


Figure 5-4-12

5.5 Wireless Settings

Wireless Settings includes 8 submenus as shown in the screenshot below. Clicking any tab enters corresponding interface for configuration.



5.5.1 Basic Settings

This section allows you to manage your wireless network (2.4G or 5G). You can config country code, wireless network name (SSID), network mode and channel settings, etc the way you want.

■ **Basic Settings-- 2.4G**

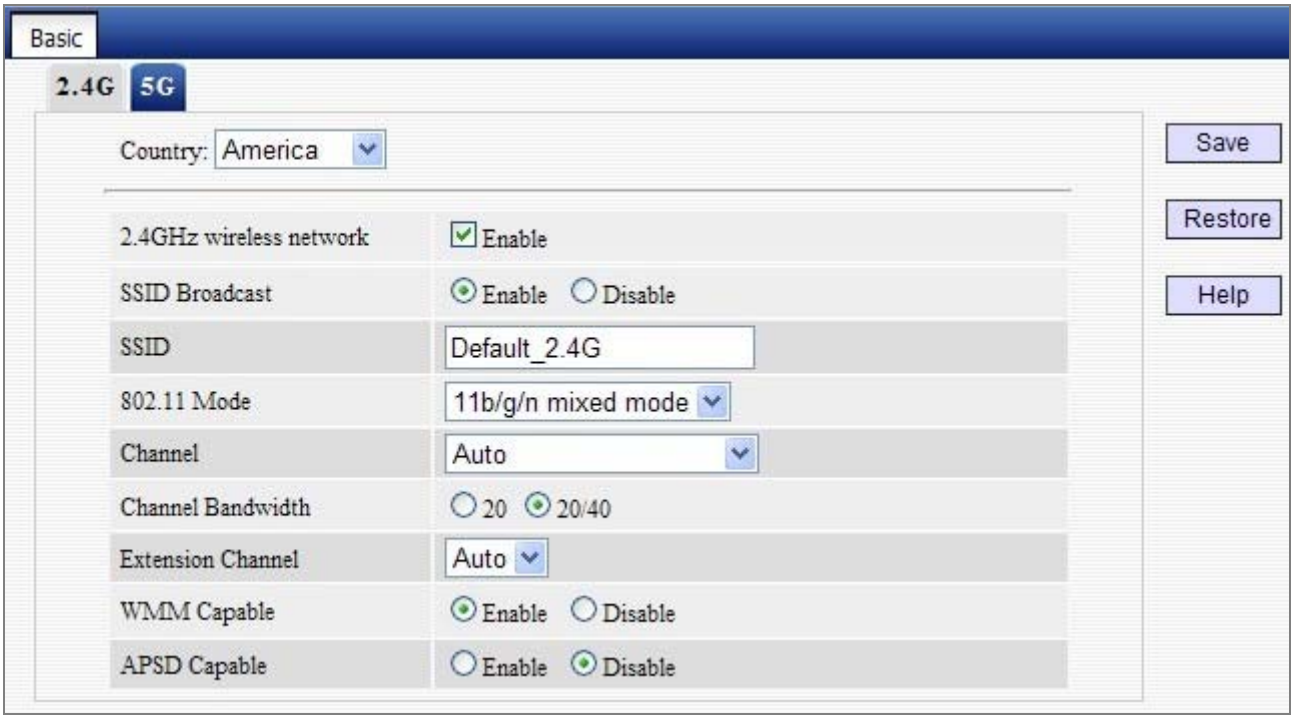


Figure 5-5-1

The page includes the following fields:

Object	Description
• **Country:**	Select your country code from the drop-down list. There are 11 options available.
• **2.4GHz Wireless Network:**	Check/uncheck to enable/disable the 2.4GHz wireless feature. If disabled, all 2.4GHz-based features will be disabled accordingly.
• **SSID Broadcast:**	Select "Enable"/"Disable" to make your wireless network visible/ invisible to any wireless clients within coverage when they perform a scan they perform a scan to see what's available. When disabled, such wireless clients will have to first know this SSID and manually enter it on their devices if they want to connect to the SSID. By default, it is **enabled**.
• **SSID:**	A SSID (Service Set Identifier) is the unique name of a wireless network.
• **802.11 Mode:**	Select a right mode according to your wireless client. The default mode is **11b/g/n mixed**.
• **Channel:**	For an optimal wireless performance, you may select the least interferential channel. It is advisable that you select an unused channel or "Auto" to let device detect and select the best possible channel for your wireless network to operate on from the drop-down list.
• **Channel Bandwidth:**	Select a proper channel bandwidth to enhance wireless performance. When there are 11b/g and 11n wireless clients, please select the 802.11n mode of **20/40M** frequency band.
• **Extension Channel:**	Working network frequency range for 11n mode
• **WMM-Capable:**	Enabling this option may boost transmission capacity of wireless multimedia data (such as online video play).
• **ASPD Capable:**	Select to enable/disable the auto power saving mode.

When there are only **non-11n wireless clients**, select **20M** frequency band mode; when the wireless network mode is **11n mode**, please select **20/40M** frequency band to boost its throughput.

■ Basic Settings-- 5G

Figure 5-5-2

The page includes the following fields:

Object	Description
• **Country:**	Select your country code from the drop-down list. There are 10 options available.
• **5GHz Wireless Network:**	Check/uncheck to enable/disable the 5GHz wireless feature. If disabled, all 5GHz-based features will be disabled accordingly.
• **SSID Broadcast:**	Select “Disable” to hide your SSID. When disabled, no wireless clients will be able to see your wireless network when they perform a scan to see what’s available. If they want to connect to your router, they will have to first know this SSID and then manually enter it on their devices. By default, this option is **enabled**.
• **SSID:**	A SSID (Service Set Identifier) is the unique name of a wireless network (changeable).
• **802.11 Mode:**	Select a right mode according to your wireless client. The default mode is **11a/n**.
• **Channel:**	The Channel can be changed to fit the channel setting for an existing wireless network or to customize the wireless network. From the drop-down list, you can select a most effective channel. You can also select “**Auto Select**” to let system detect and choose one that best fits

	your network.
• **WMM-Capable:**	Enabling this option may boost transmission capacity of wireless multimedia data (such as online video play).
• **ASPD Capable:**	Select to enable/disable the auto power saving mode.

5.5.2 Wireless Security

This section allows you to encrypt both 2.4GHz wireless and 5GHz wireless networks to block unauthorized accesses and malicious packet sniffing.

To configure wireless security settings for 2.4GHz network, enter page below:

Figure 5-5-3

Available options for security mode include "**Open**", "**Shared**", "**WPA-PSK**", "**WPA2-PSK**", "**Mixed WPA/WPA2-PSK**". See below for details.

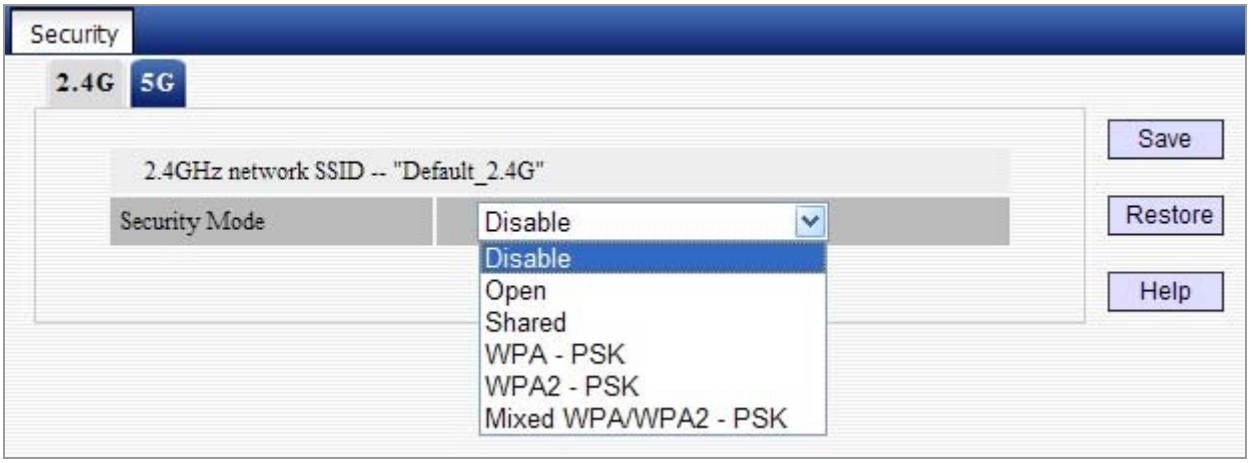


Figure 5-5-4

■ OPEN/SHARED

WEP is intended to provide data confidentiality comparable to that of a traditional wired network. Two methods of authentication can be used with WEP: **Open System** authentication and **Shared Key** authentication.

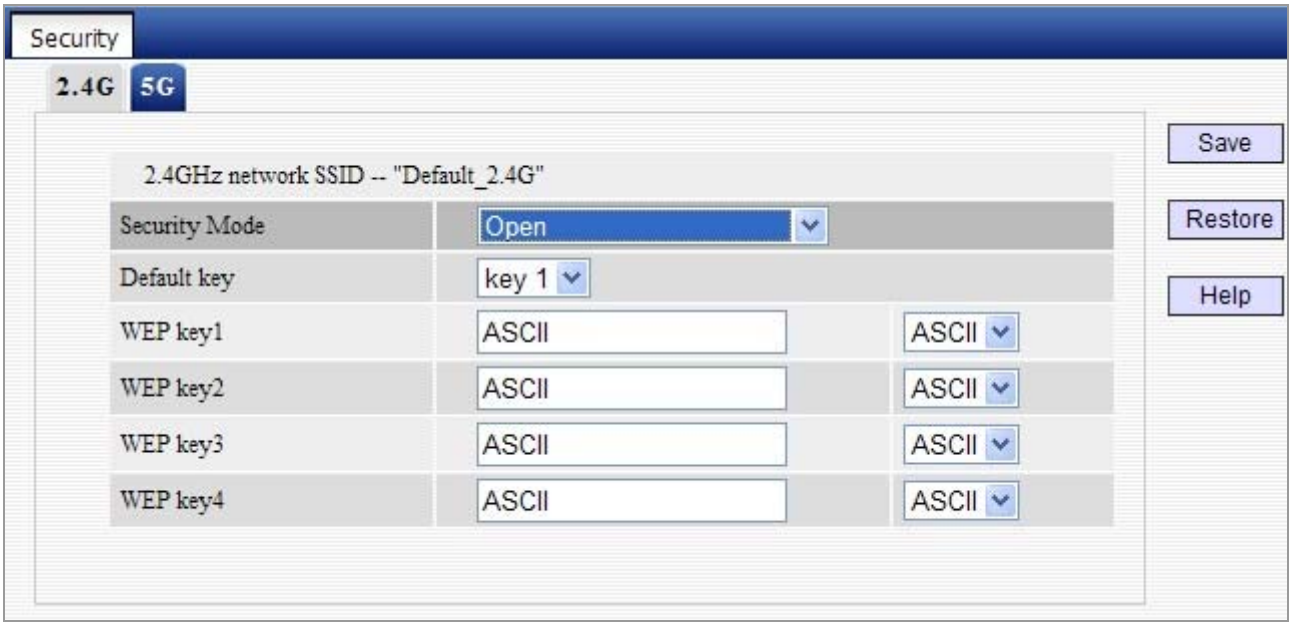


Figure 5-5-5

The page includes the following fields:

Object	Description
• **Security Mode:**	Select a proper security mode from the drop-down menu.
• **Default Key:**	Select one key from the 4 preset keys to encrypt wireless data on the network.

■ WPA-PSK

The WPA protocol implements the majority of the IEEE 802.11i standard. It enhances data encryption through the **Temporal Key Integrity Protocol (TKIP)** which is a 128-bit per-packet key, meaning that it dynamically generates a new key for each packet. WPA also includes a message integrity check feature to prevent data packets from being hampered with. Only authorized network users can access the wireless network.

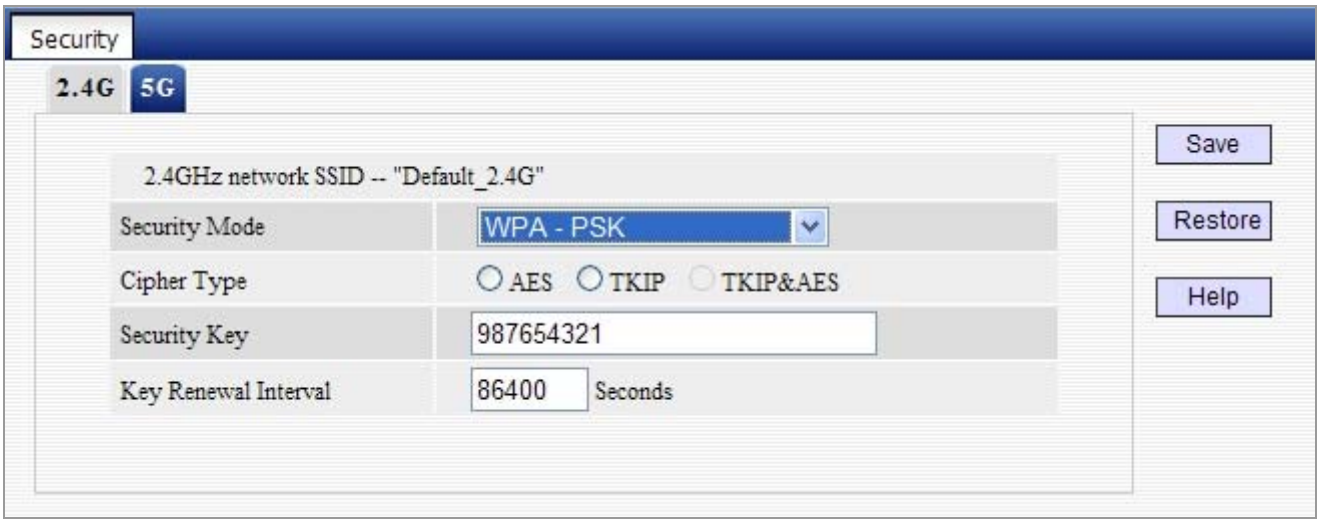


Figure 5-5-6

The page includes the following fields:

Object	Description
• **Cipher Type:**	Select one cipher type from: ■ **AES** (Advanced Encryption Standard) ■ **TKIP** (Temporary Key Integrity Protocol)
• **Security Key:**	Enter a security key, which must be between 8-63 ASCII characters.
• **Key Renewal Interval:**	Enter a valid time period for the key.

■ WPA2-PSK

The later WPA2 protocol features compliance with the full IEEE 802.11i standard and uses **Advanced Encryption Standard (AES)** in addition to TKIP encryption protocol to guarantee better security than that provided by WEP or WPA.

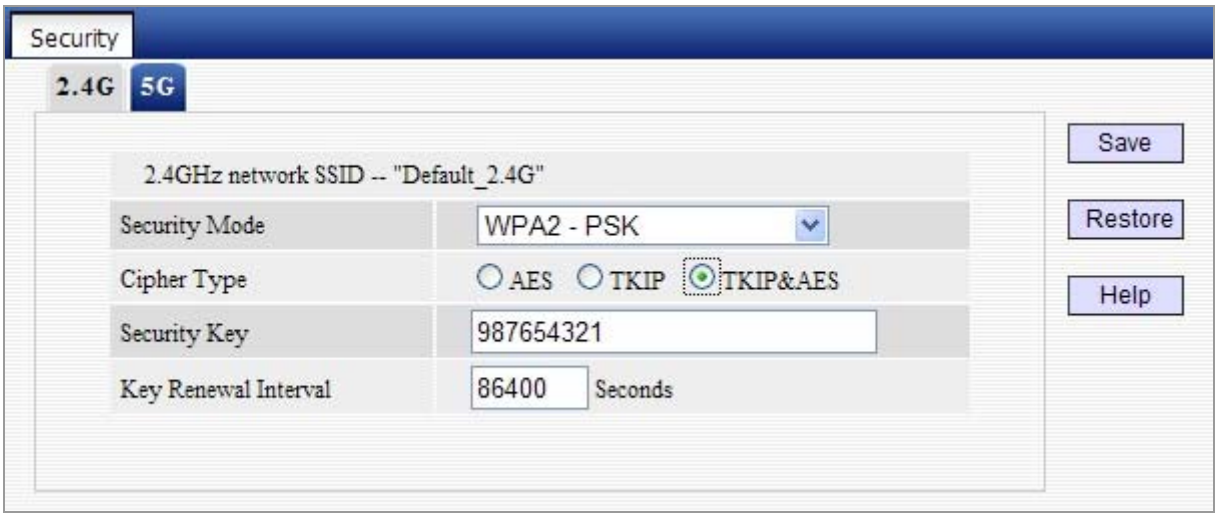


Figure 5-5-7

The page includes the following fields:

Object	Description
• **Cipher Type:**	Select one cipher type from: ■ **AES** (Advanced Encryption Standard) ■ **TKIP** (Temporary Key Integrity Protocol) ■ **TKIP&AES**.
• **Security Key:**	Enter a security key, which must be between 8-63 ASCII characters.
• **Key Renewal Interval:**	Enter a valid time period for the key.

5.5.3 WPS Settings

Wi-Fi Protected Setup makes it easy for home users who know little of wireless security to establish a secure wireless home network, as well as to add new devices to an existing network without entering long passphrases or configuring complicated settings.

Figure 5-5-8

Simply enter a PIN code or press the software PBC button or hardware WPS button (if any) and a secure wireless connection is established.

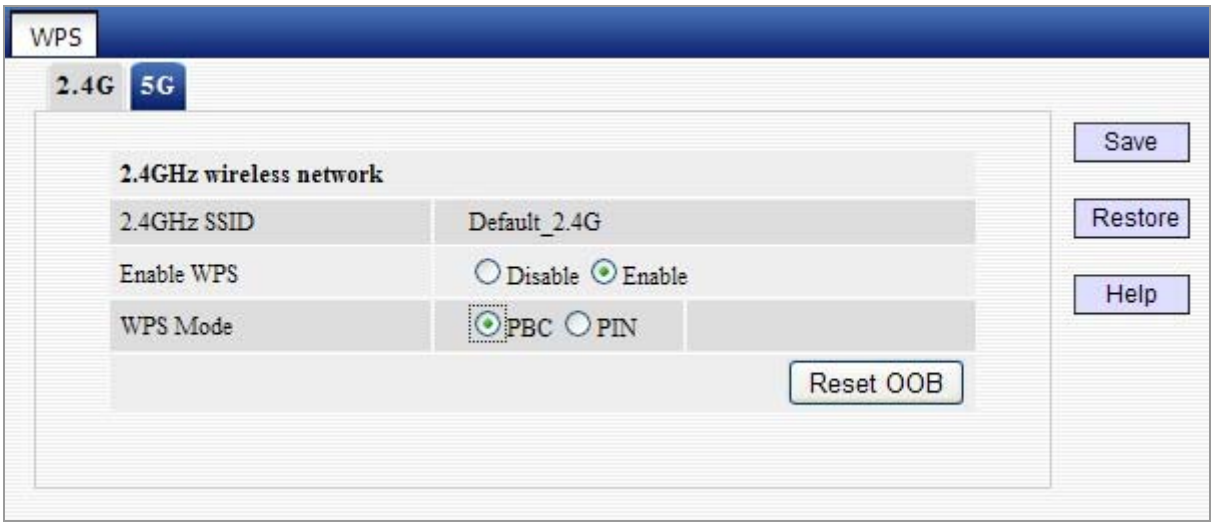


Figure 5-5-9

The page includes the following fields:

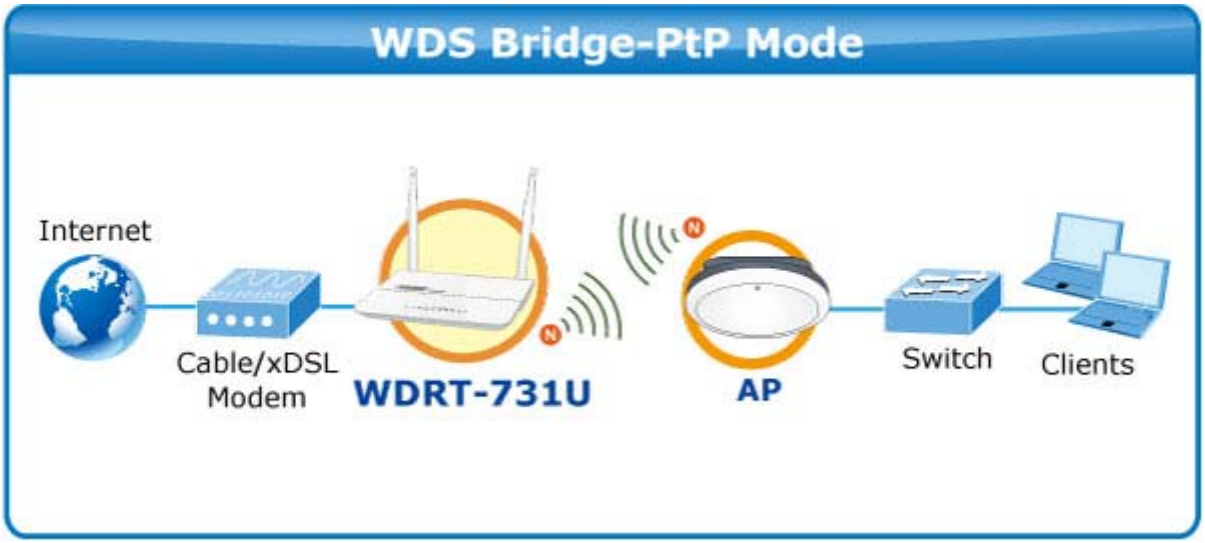
Object	Description
• **Enable WPS:**	Select to enable/disable the WPS encryption.
• **WPS Mode:**	Select PBC (Push-Button Configuration) or PIN. Operation Instructions ■ **PBC:** If you find the WPS LED blinking for 2 minutes after you press the hardware WPS button on the device, it means that PBC encryption method is successfully enabled. And an authentication will be performed between your router and the WPS/PBC-enabled wireless client device during this time; if it succeeds, the wireless

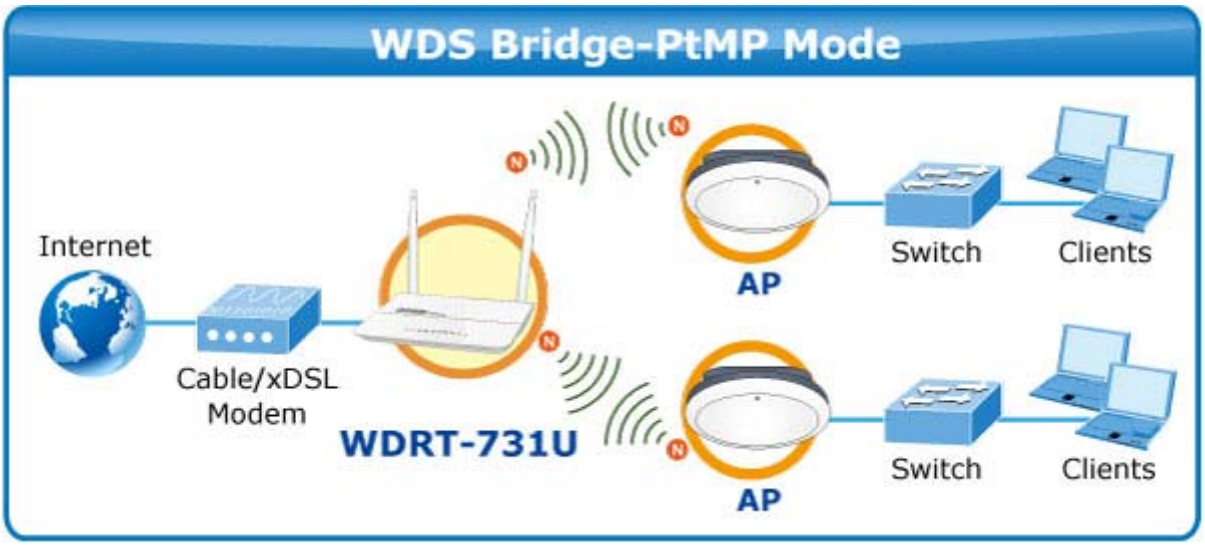
	client device connects to your device, and the WPS LED turns off. Repeat steps mentioned above if you want to connect more wireless client devices to the device. ■ **PIN**：To use this option, you must know the PIN code from the wireless client and enter it in corresponding field on your device while using the same PIN code on client side for such connection.
• **Reset OOB:**	When clicked, the WPS LED turns off; WPS function will be disabled automatically; WPS server on the Router enters idle mode and will not respond to client's WPS connection request

The WPS encryption can be implemented only between your Router and another WPS-capable device.

5.5.4 WDS Settings

WDS (Wireless Distribution System) feature can be used to extend your existing 2.4G or 5G wireless network coverage. Here we present you how to configure such feature in 2.4GHz, which also apply to 5GHz.





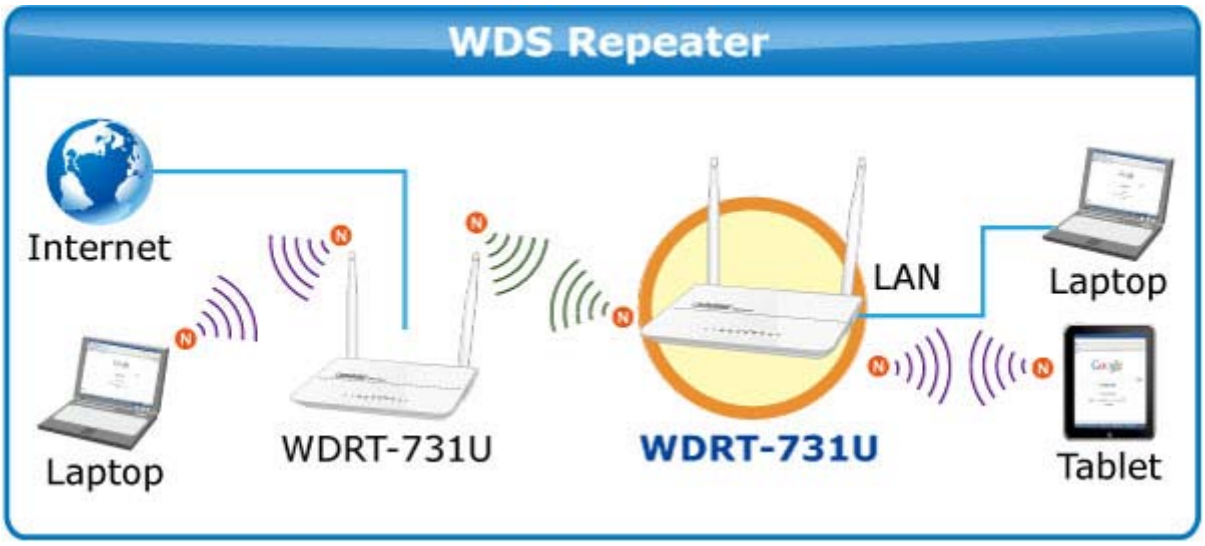


Figure 5-5-10

Select Repeater Mode to display below page:

Object	Description
• **AP MAC Address:**	Enter the MAC address of a wireless link partner or populate this field using the Open Scan option.
• **WDS Mode:**	Select **Disable** or **Repeater Mode**

For example: If you want to implement the WDS feature on 2 WDRT-731U routers labeled WDRT-731U-1 and WDRT-731U-2 respectively, then first select “Repeater Mode” and follow steps below:

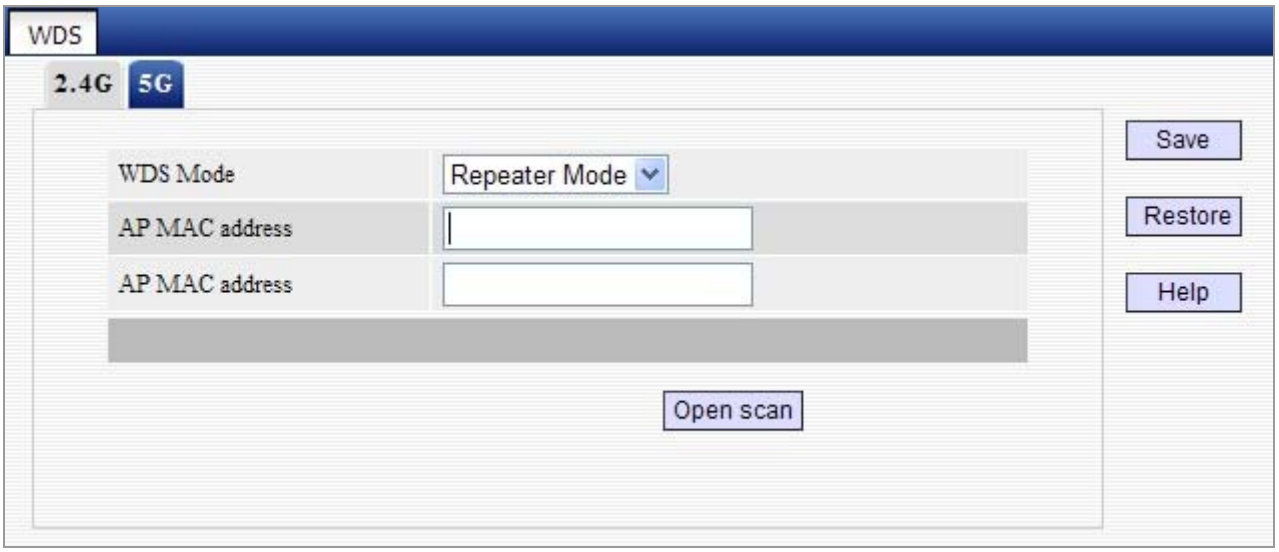


Figure 5-5-11

1. If you already know **WDRT-731U-2’s** MAC address, then you can manually enter it on **WDRT-731U-1** and click “**Save**”.

2. Or you can use the Open Scan option.

1) Click the “**Open Scan**” button to search and select **WDRT-731U-2’s** SSID, confirm on the appearing dialogue

box and then click “Save”. **WDRT-731U-2’s** MAC address will be added automatically.

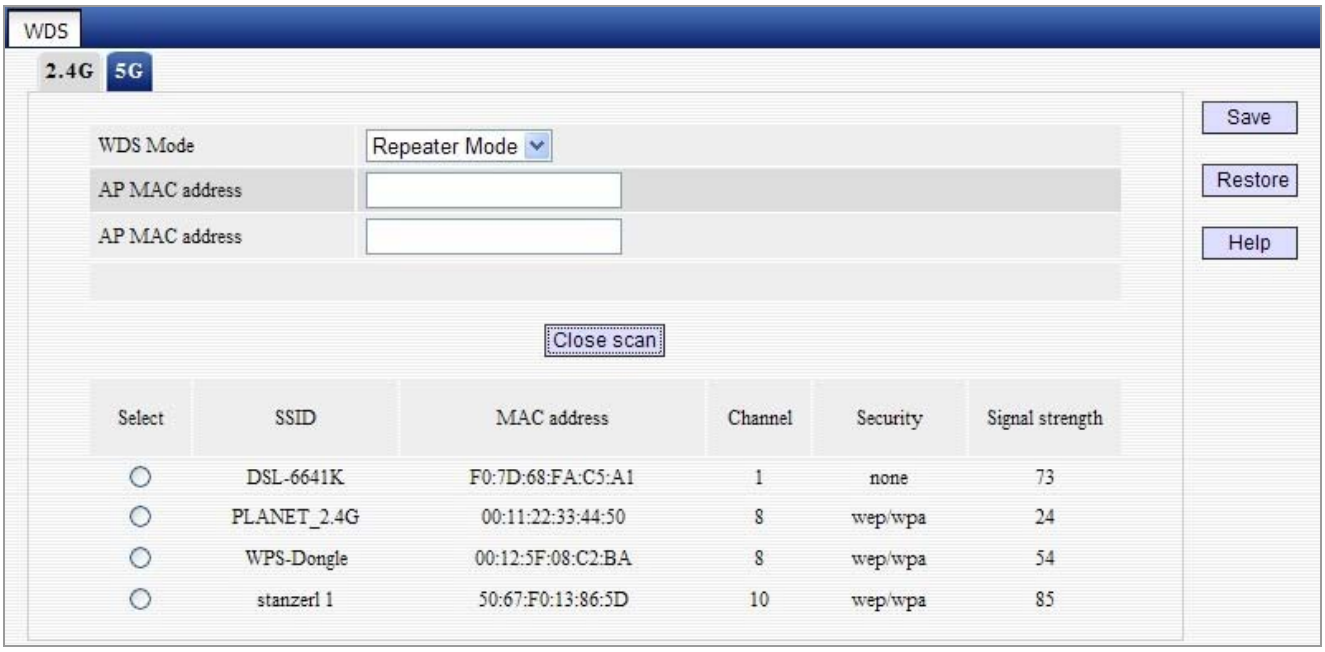


Figure 5-5-12

2) Save your settings.

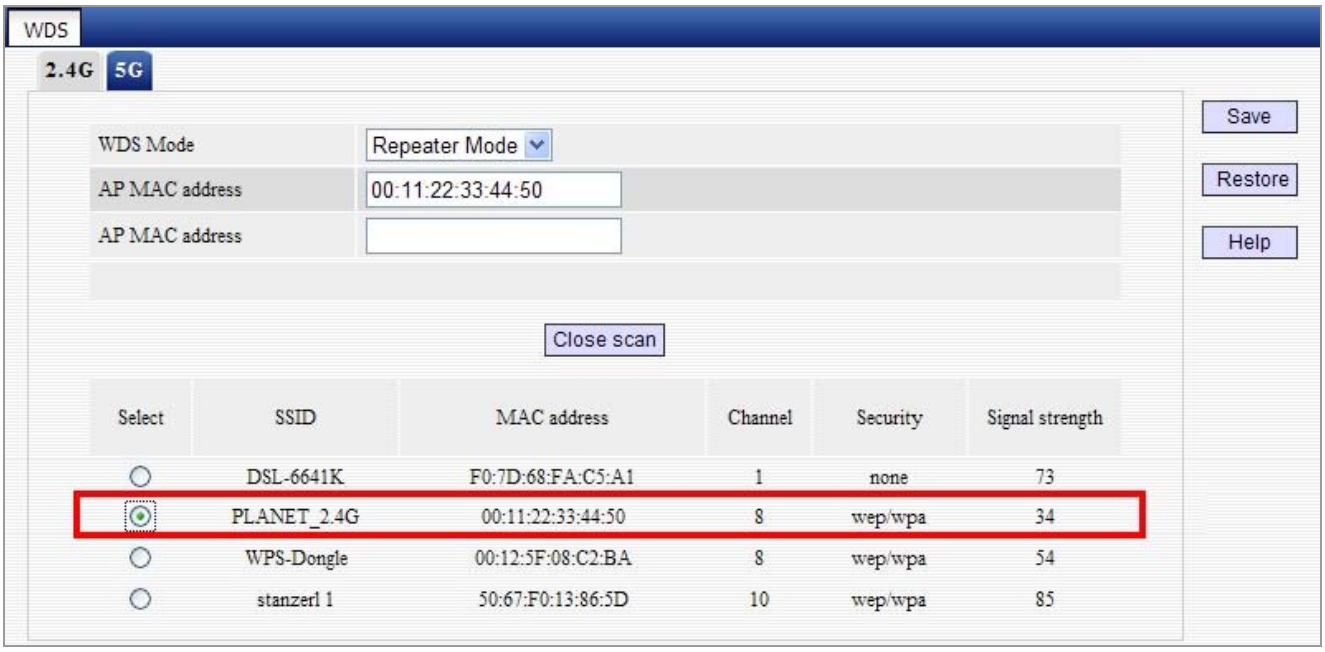


Figure 5-5-13

3. Repeat steps 1-2 on **WDRT-731U-2.** After the 2 devices have added each other’s MAC address the WDS feature can be implemented.

Note

1. WDS feature can only be implemented between 2 wireless devices that both support the WDS feature. Plus, SSID, channel, security settings and security key must be the same on both such devices.
2. To encrypt your wireless network, see **sections 5.5.2-5.5.3**. Do remember to reboot the device after you saved your wireless security settings, otherwise the WDS feature may not function.

5.5.5 Guest Network

The Guest Network feature allows guests to access Internet and other users on the guest network while disallowing them to access device web manager, users on primary network and clients behind the LAN ports.

You can find it available in both 2.4G and 5G network. Here we present you how to configure such feature in 2.4GHz, which also apply to 5GHz.

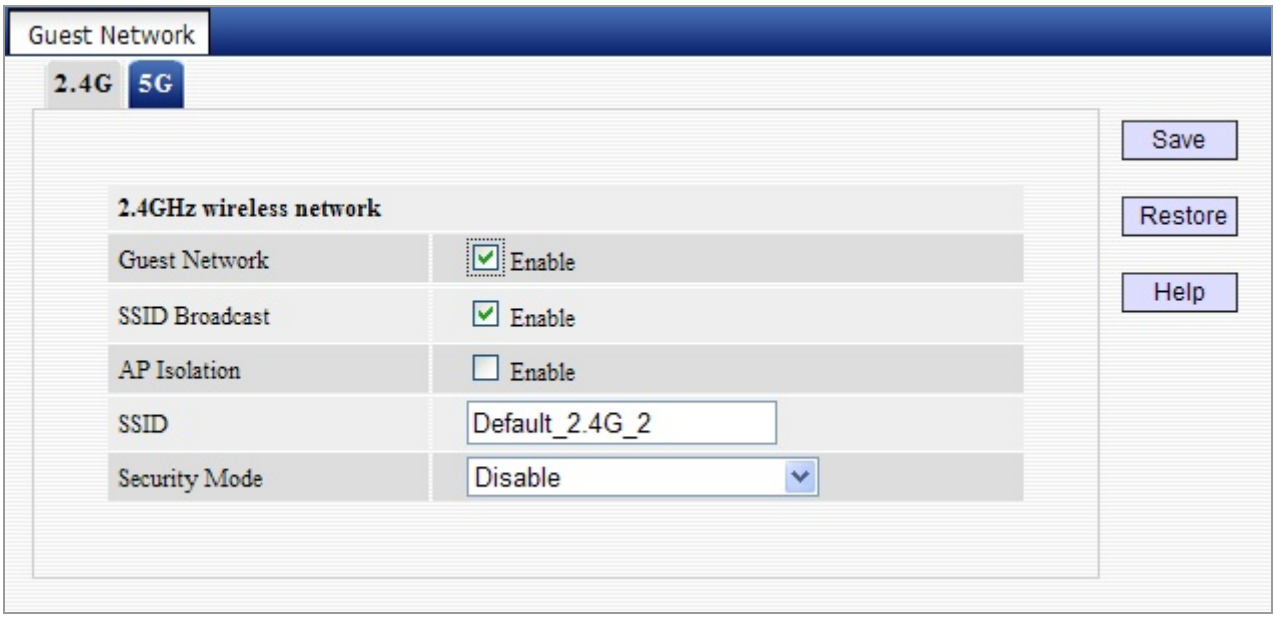


Figure 5-5-14

The page includes the following fields:

Object	Description
• **Guest Network:**	Check/uncheck to enable/disable the guest network feature.
• **SSID Broadcast:**	Select “Disable” to hide your SSID. When disabled, no wireless clients will be able to see your wireless network when they perform a scan to see what’s available. If they want to connect to your router, they will have to first know this SSID and then manually enter it on their devices. By default, it is enabled.
• **AP Isolation:**	If enabled, clients connecting to the guest network will be mutually inaccessible.

• **SSID:**	A SSID (Service Set Identifier) is the unique name of a wireless network.
• **Security Mode:**	Determine whether to require authentication on wireless clients. Select a proper mode from the drop-down menu.

5.5.6 Wireless Access Control

The **MAC-based Wireless Access Control** feature can be used to allow or disallow clients to connect to your 2.4G or 5G wireless network. Here we present you how to config such feature in 2.4GHz, which also apply to 5GHz.

Figure 5-5-15

The page includes the following fields:

Object	Description
• **MAC Address Filter:**	Selecting “Disable” means to deactivate the MAC address filter feature. ■ “**Allow**” means to only allow PCs at specified MAC addresses to connect to your wireless network while ■ “**Deny**” means to only block PCs at specified MAC addresses from connecting to your wireless network.
• **MAC Address:**	Enter the MAC addresses of a wireless client.
• **Add:**	Click it to add a new MAC to the MAC address list.
• **Delete:**	Click it to remove an existing entry.

To allow only a PC at the MAC address of 00:30:4f:11:22:33 to connect to your wireless network, do as follows:

Step 1. Select “**Allow**” from MAC Address Filter drop-down menu.

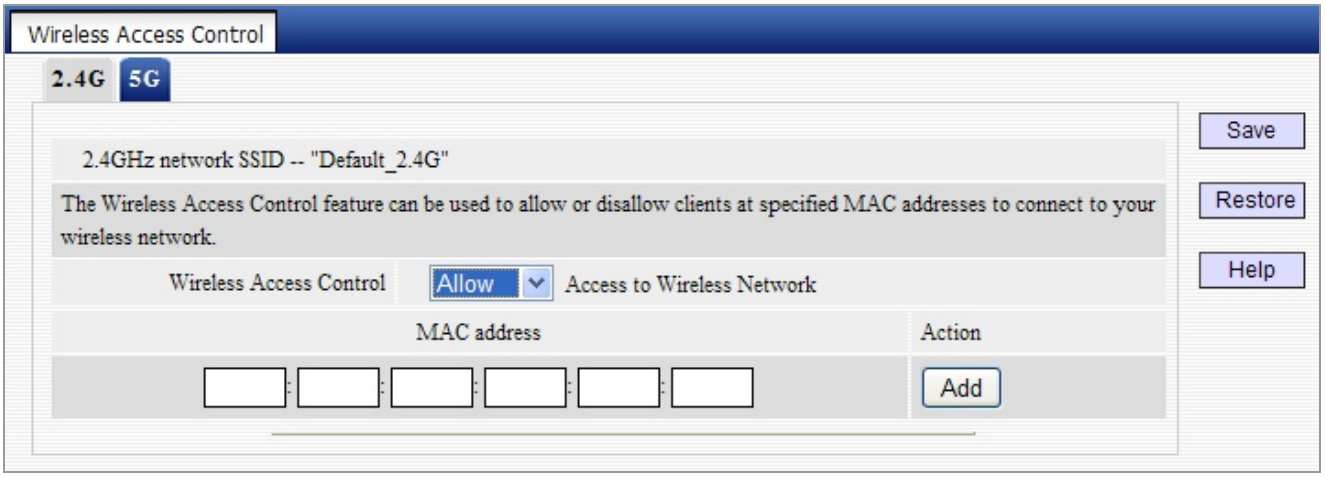


Figure 5-5-16

Step 2. Enter 00:30:4f:11:22:33 in the MAC address box and click "**Add**".

Step 3. Click the "**Save**" button to save your settings and you can add more MAC addresses, if you like, simply repeating the above steps.

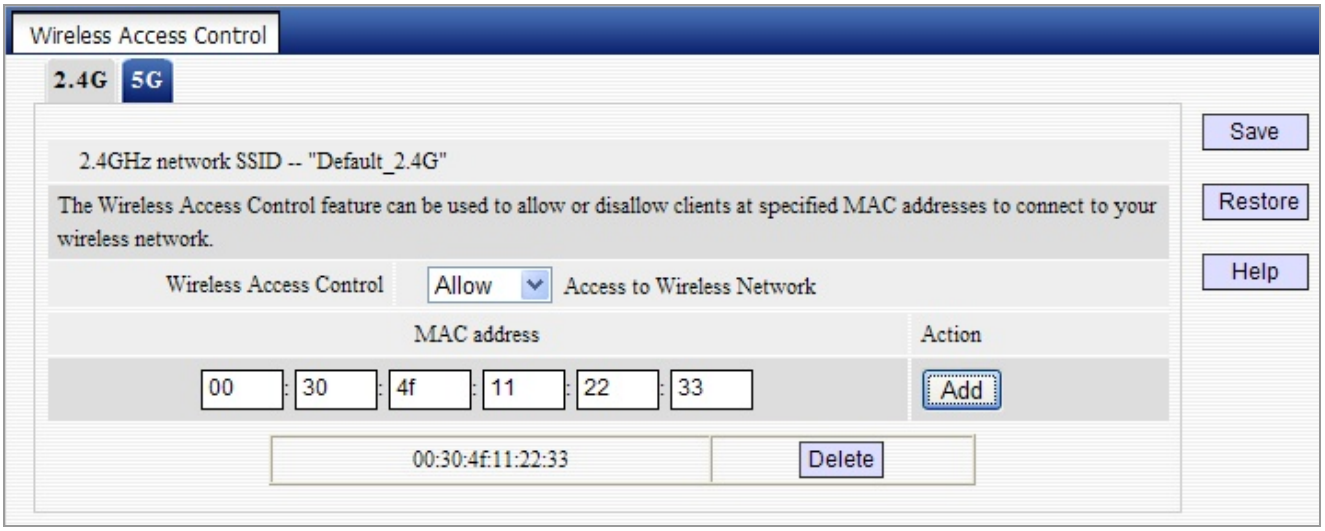


Figure 5-5-17

5.5.7 Connection Status

This interface displays the information of currently connected 2.4G and 5G wireless clients (if any).

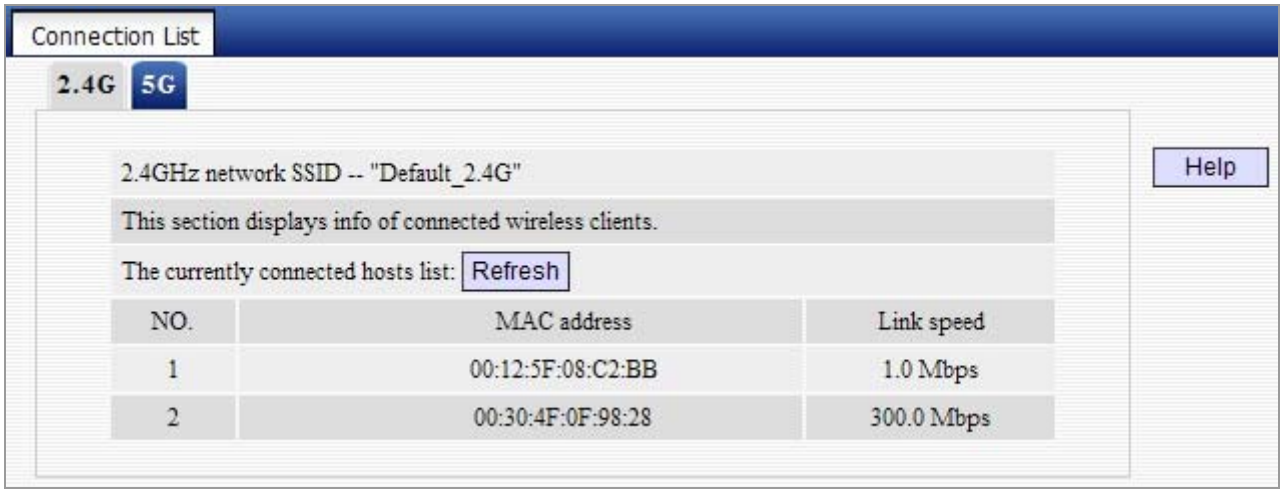


Figure 5-5-18

Figure 5-5-19

5.5.8 Wireless –Advance Settings

This section allows you to configure advanced settings, including **Beacon interval, Fragment threshold, RTS threshold** and **DTIM interval**, etc, for both 2.4G and 5G wireless networks.

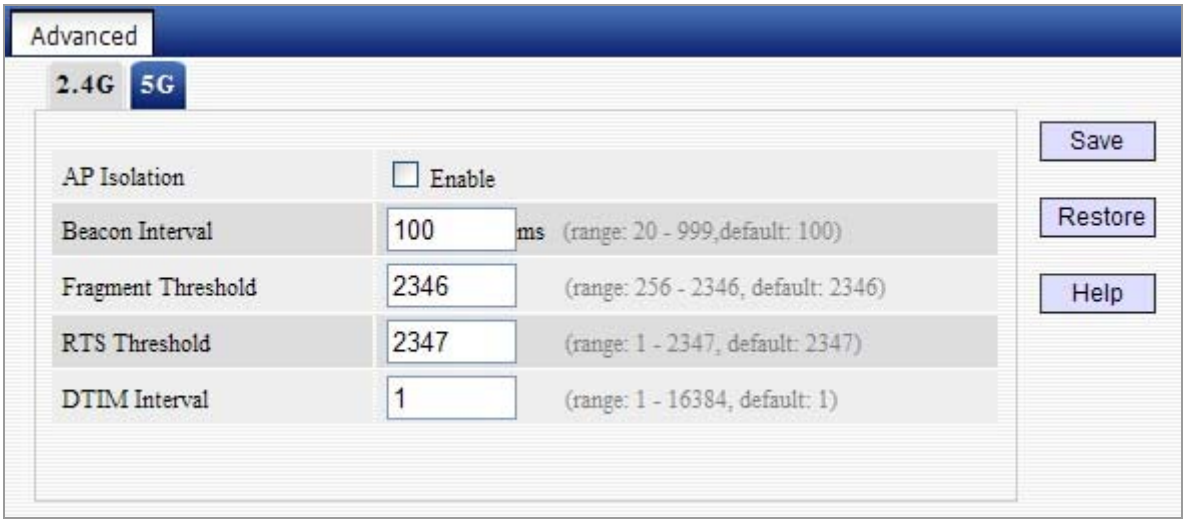


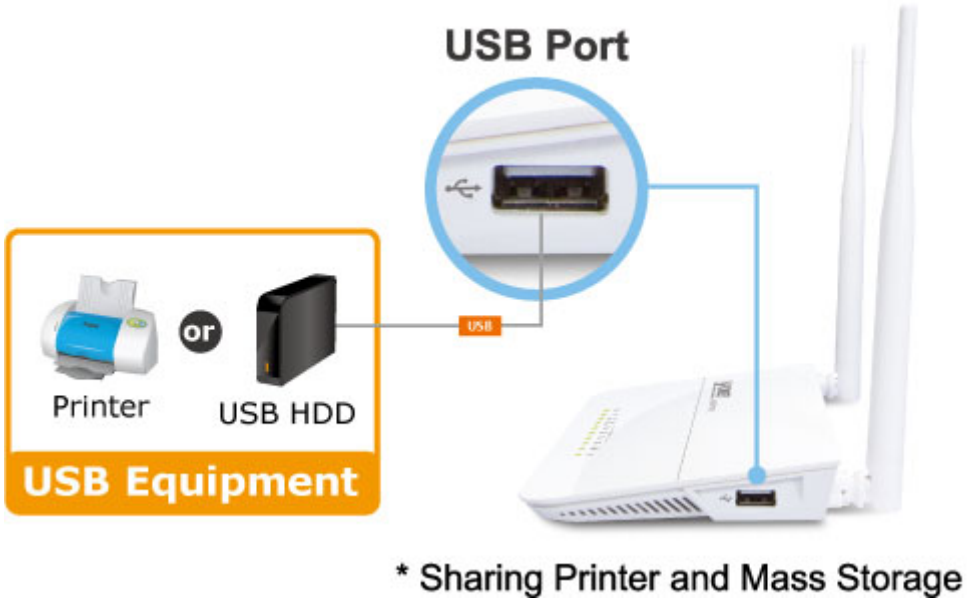
Figure 5-5-20

The page includes the following fields:

Object	Description
• **AP Isolation:**	Isolates clients connecting to the private SSID.
• **Beacon Interval:**	A time interval between any 2 consecutive Beacon packets sent by device. **Note:** Do NOT change the default value of 100 unless necessary.
• **Fragment Threshold:**	Enter a Fragment Threshold (256-2346). Any wireless packet exceeding such set value will be divided into several fragments. **Note:** DO NOT change the default value of 2346 unless necessary
• **RTS Threshold:**	If a packet exceeds such set value, RTS/CTS scheme will be used to reduce collisions. Set it to a smaller value provided that there are distant clients and interference. For normal SOHO, it is recommended to keep the default value unchanged; otherwise, device performance may be degraded
• **DTIM Interval:**	A time interval between any two consecutive broadcast and multicast packet messages sent by the device to clients. When such packets arrive at device's buffer, the device will send **DTIM (delivery traffic indication message)** and DTIM interval to wake clients up for receiving these packets.

5.6 USB Applications

WDRT-731U built-in with one USB 2.0 port can be connected to a **USB printer** or **storage for file sharing**. It can auto recognized the USB printer or storage automatically without user experience. Thus all clients on the network can share printer or mass storage on WDRT-731U without complicated network configuration. The USB port also output 5V DC power can charge any USB compliant devices.



5.6.1 USB Storage

Share a USB storage device with PC/Laptop on the local network of the WDRT-731U.

Insert a USB storage device, such as a flash drive or external hard drive, to the USB port on the right side of the WDRT-731U. The WDRT-731U can automatically identify attached storage and load its root directory folder. Follow the directions below for your operating system.

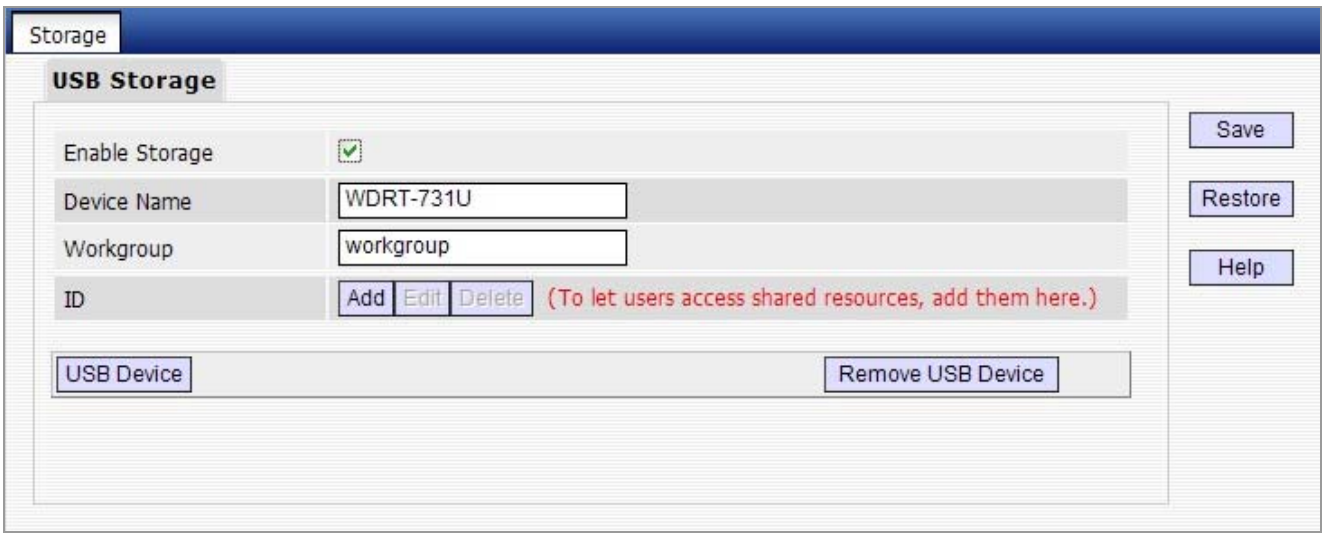


Figure 5-6-1

The page includes the following fields:

Object	Description
• **Enable:**	Check/uncheck to enable/disable file sharing feature.
• **Device Name:**	Define a meaningful name to you for the device.
• **Work Group:**	Define a work group name for the device.
• **Add:**	Click to add an account. Up to 5 accounts can be added.
• **Edit:**	Click to edit an existing account.
• **Delete:**	Click to delete an existing account.

Note: Up to 5 users are allowed for server sharing.

Operation Instructions:

Step 1. Create an account.

1). Click "**Add**" to display a dialogue box below:

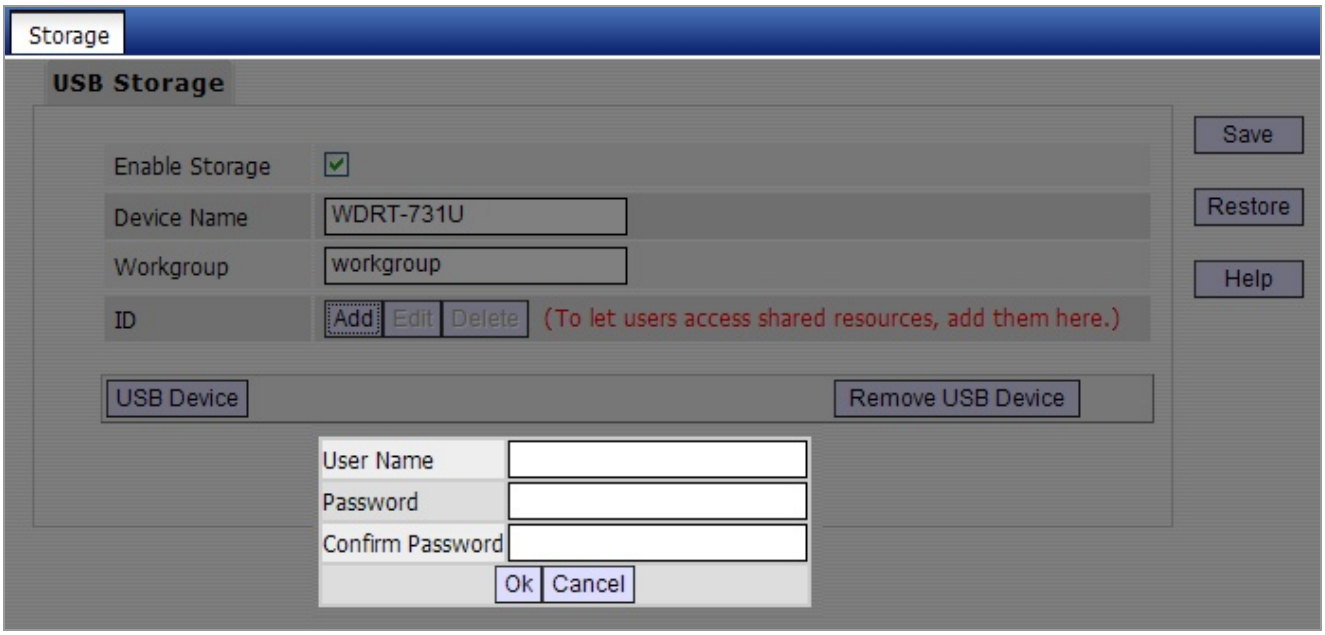


Figure 5-6-2

2) Enter a user name and a password, which will be used by clients when accessing the USB storage device for sharing files thereon.

3) Re-type to confirm password and then click the "OK" button.

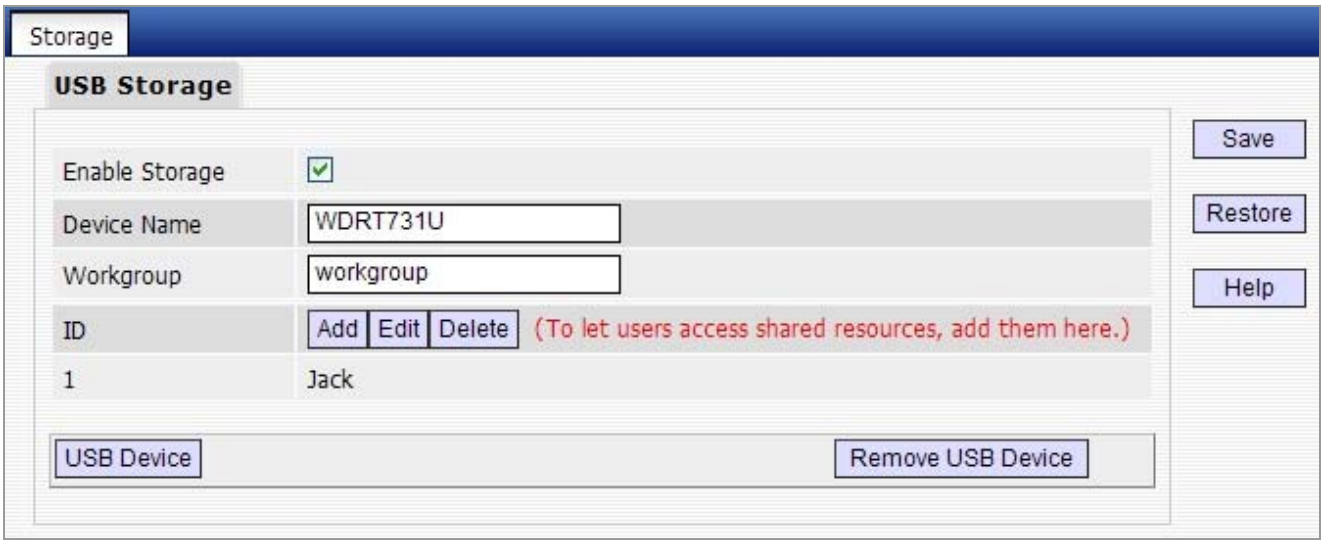


Figure 5-6-3

Step 2. Set Access Right

First select an account and click USB Device. And then select a proper access right from below for each entry. Access authority is classified into three levels: R/W, R, and N.

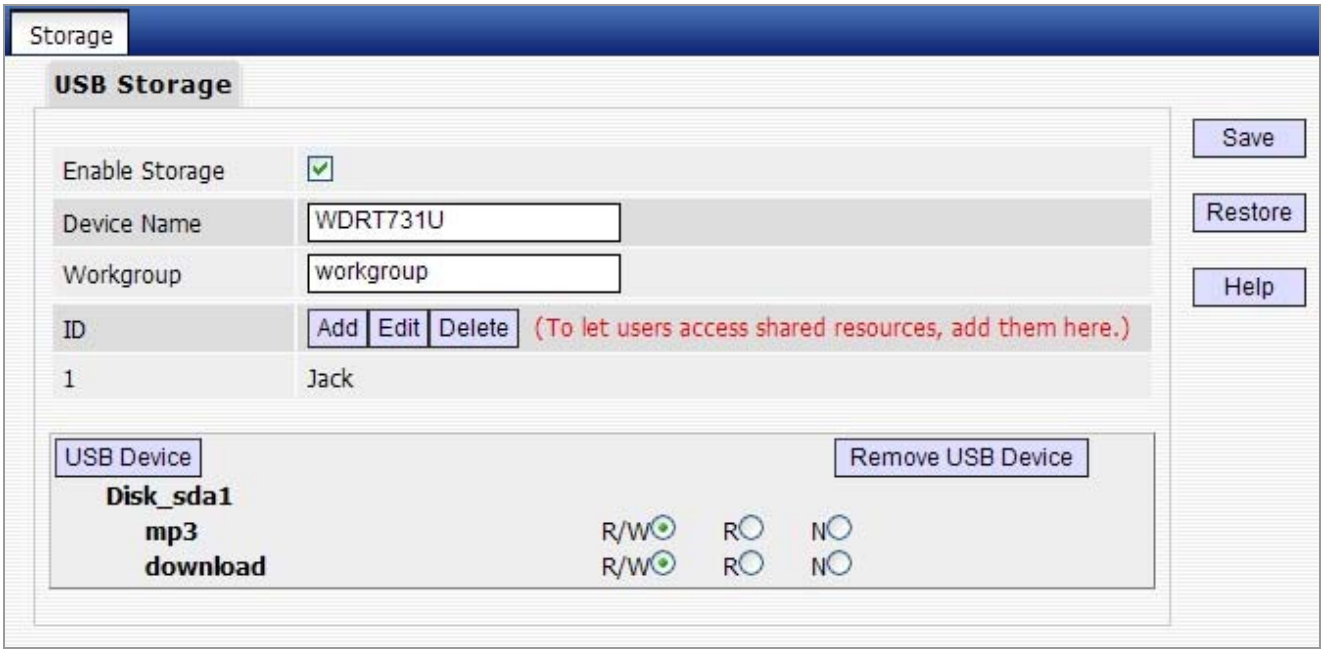


Figure 5-6-4

R/W:	Read and Write right.
R:	Read right.
N:	No right.

At last click "**Save**" to apply your settings.

Step 3. Access shared file

To access resources on such storage device, double click "**My Computer**" on your PC and enter \\192.168.1.1.

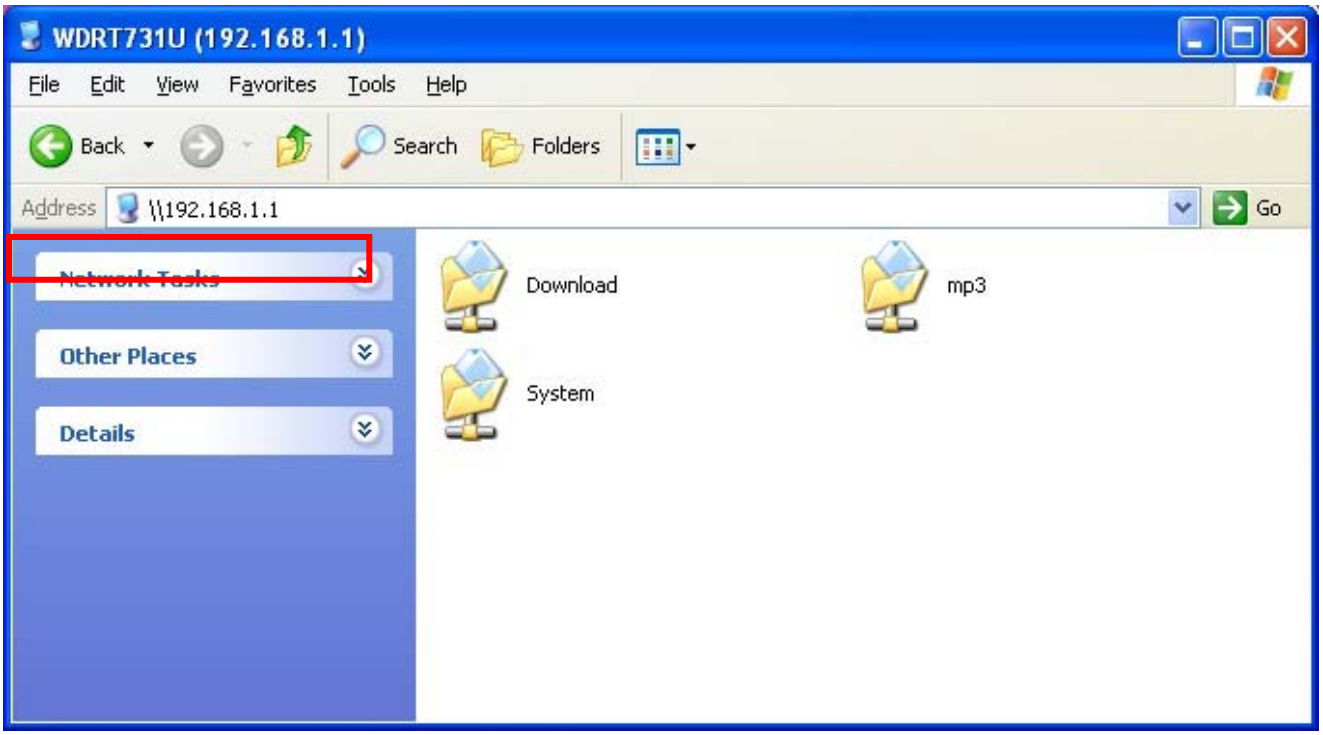


Figure 5-6-5

5.6.2 Printing Service

The USB printer service allows you to connect a USB printer to the device and thus all clients on your network can print anything they want on their PCs. The device can identify a printer automatically as long as it is successfully connected.

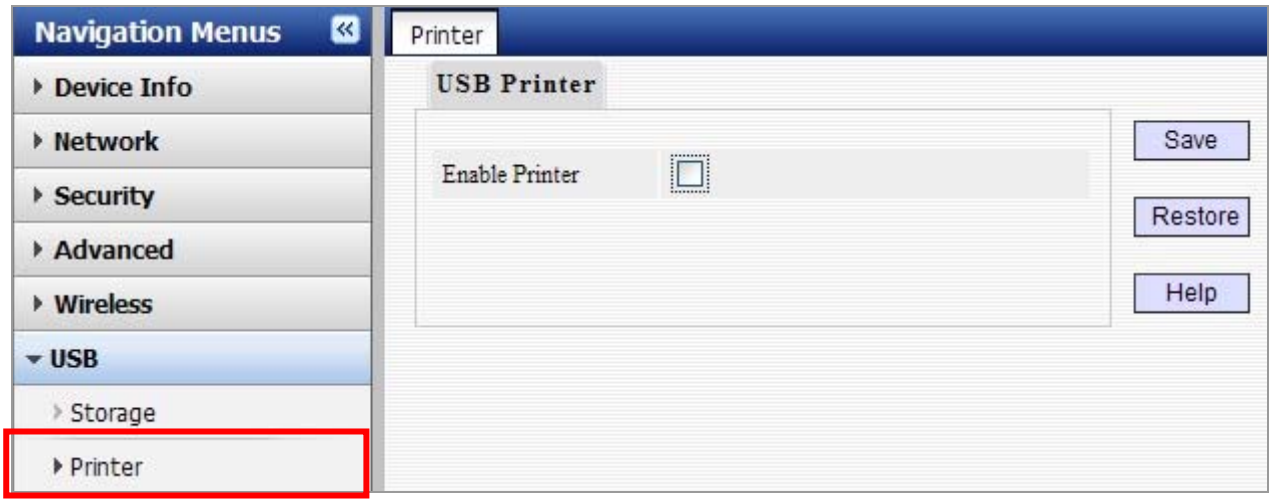


Figure 5-6-6

The page includes the following fields:

Object	Description
• **Enable Printer:**	Check/uncheck to enable/disable USB printer service.

Note

1. GDI interface printers are not supported.
2. Multifunction printers are not supported.

Operation Instructions

Step 1. Correctly connect your USB printer to the USB port on the device.

Figure 5-6-7

Step 2. Enable printer service.

The printer will be detected automatically and the printer's information will be shown.

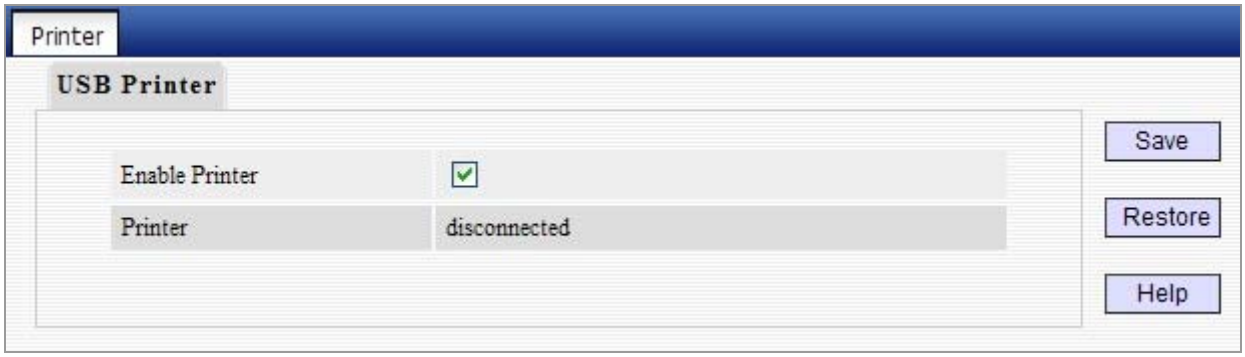


Figure 5-6-8

Figure 5-6-9

■ Windows XP Users

The following steps apply to Windows XP.

Step 3. On your PC (connected to the device), click "Start"——"Settings"——"Printers and Faxes"

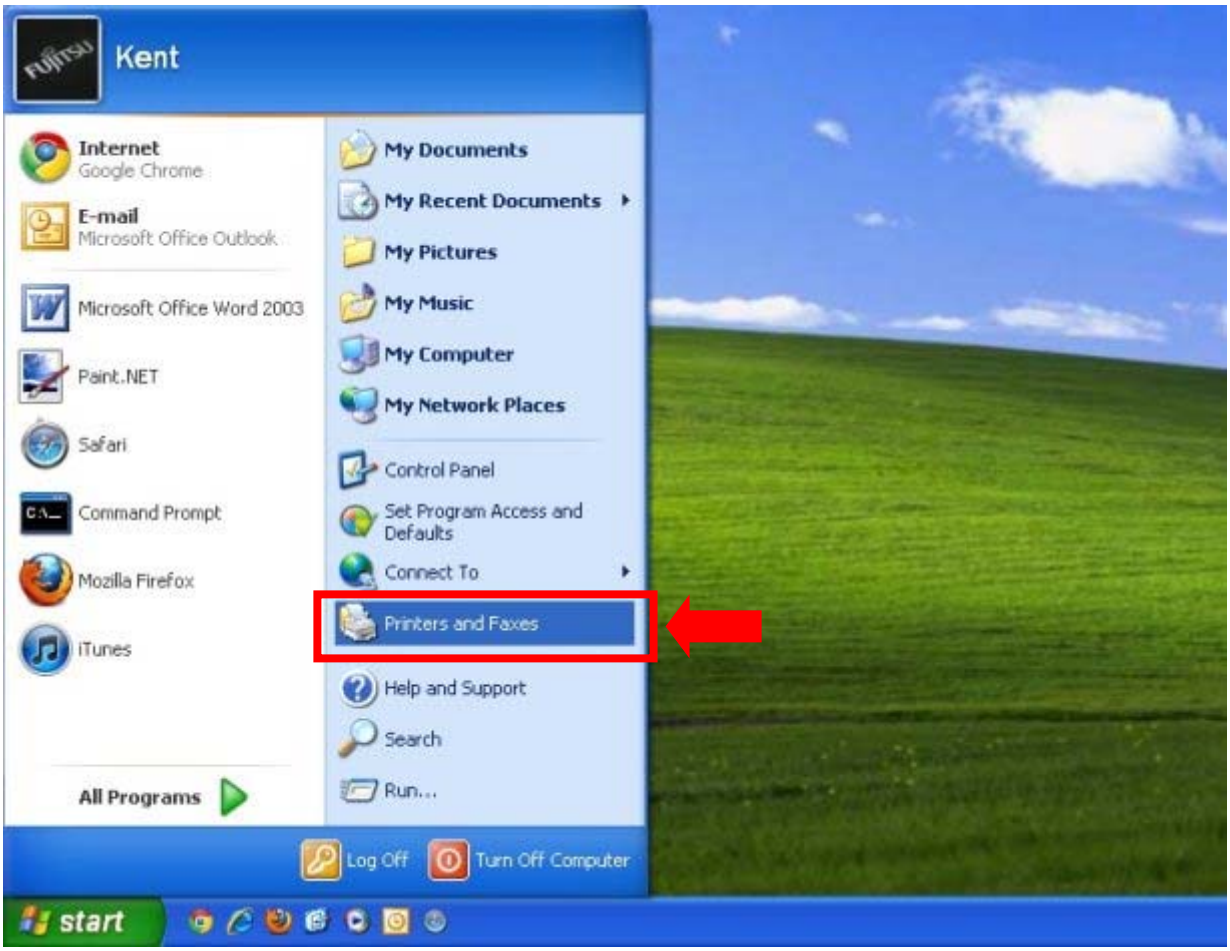


Figure 5-6-10

Step 4. Select "Add a printer" on appearing window.

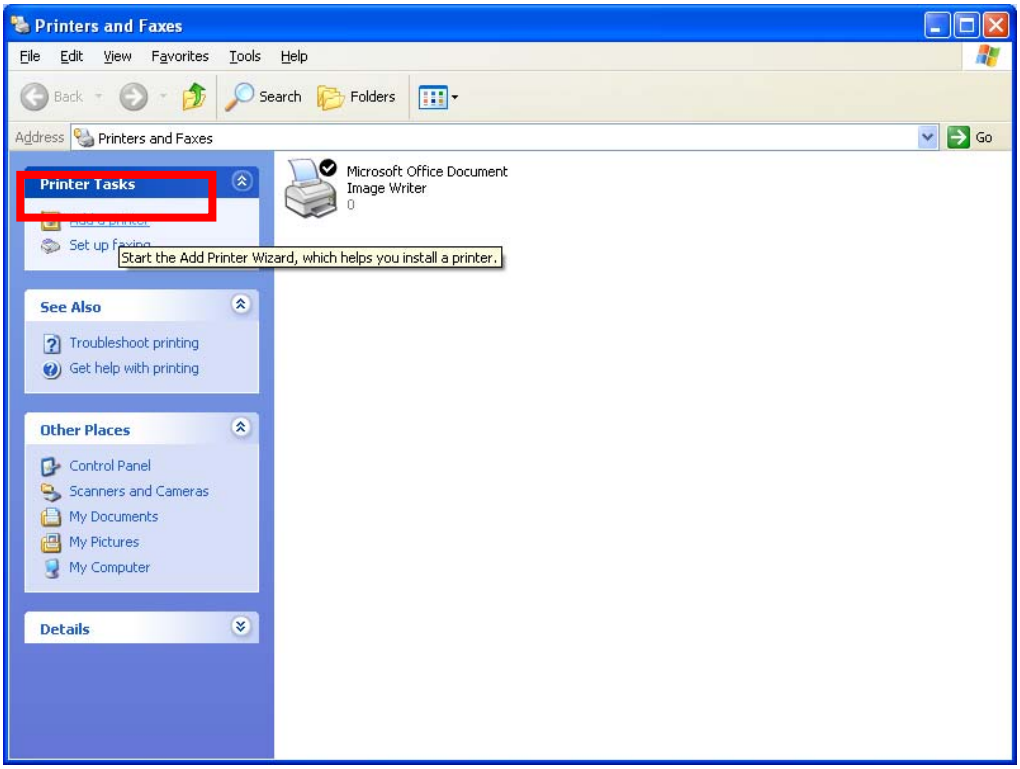


Figure 5-6-11

Step 5. Click "Next".

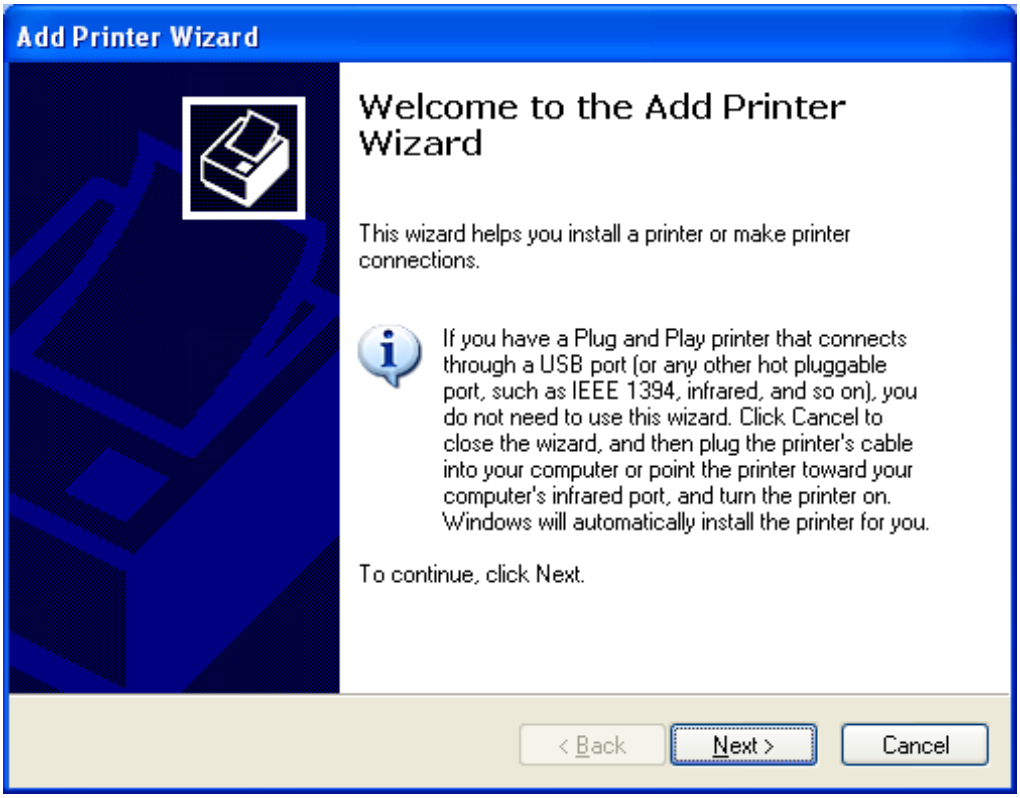


Figure 5-6-12

Step 6. Select "Local printer attached to this computer" and click ""Next.

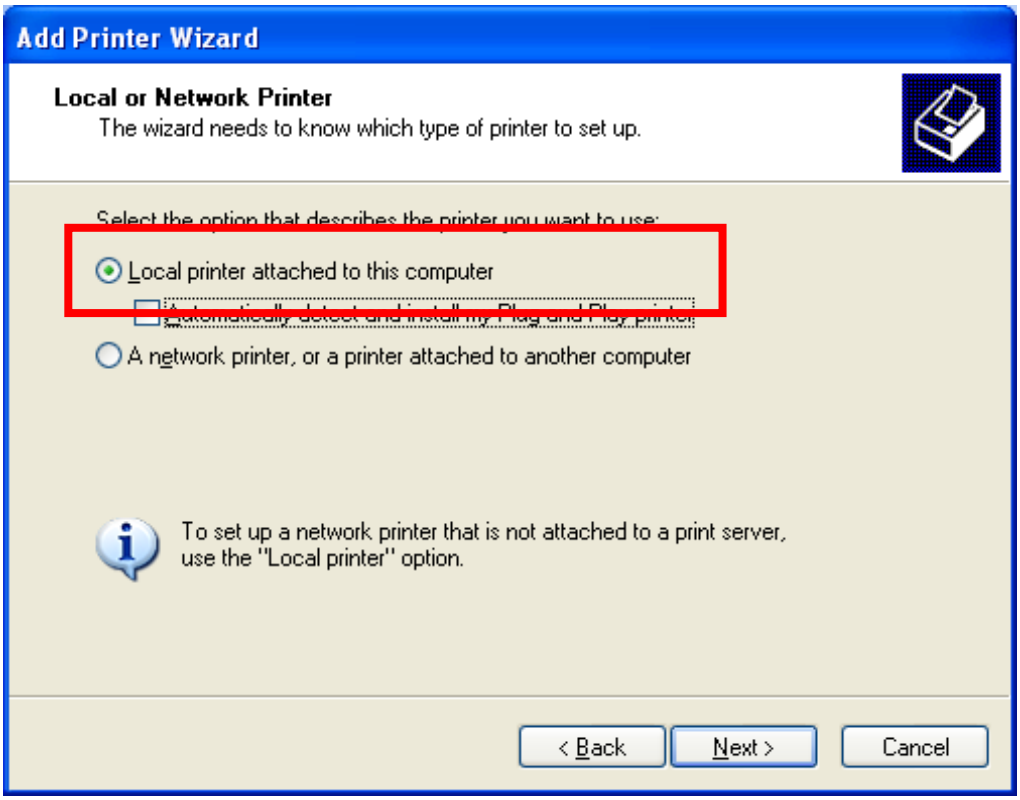


Figure 5-6-13

Step 7. Select "Create a new port", Type of port: "Standard TCP/IP Port" and click "Next".

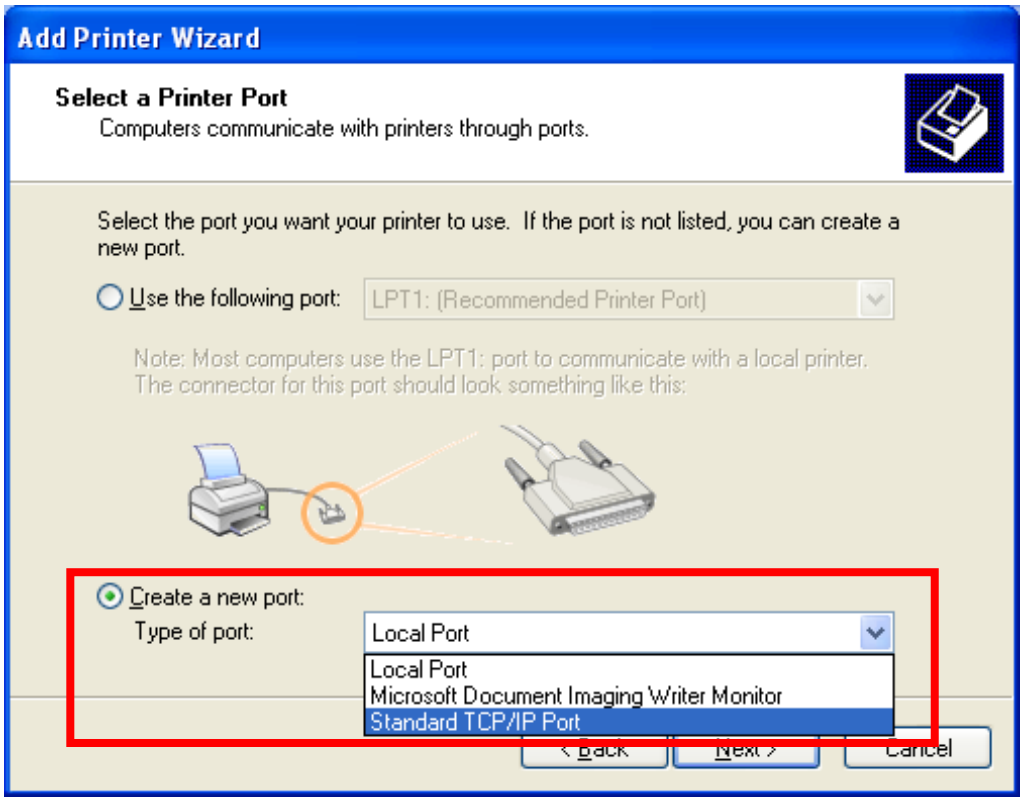


Figure 5-6-14

Step 8. Click "Next".

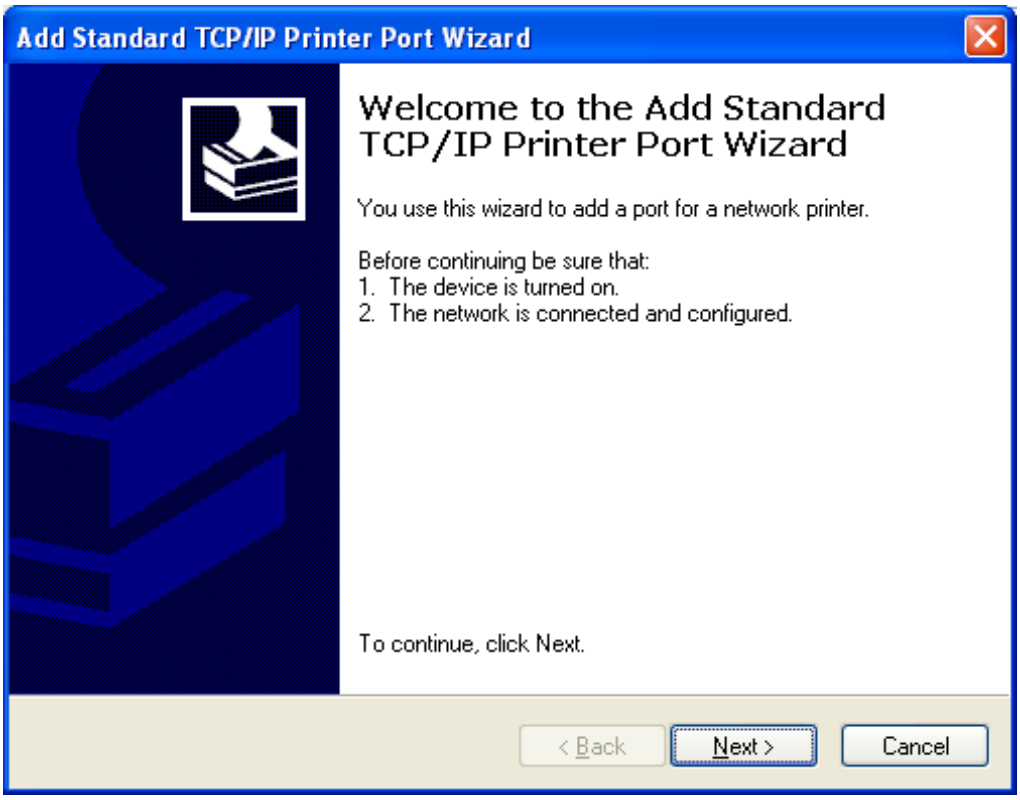


Figure 5-6-15

Step 9. Enter device's LAN IP address and click "Next". (The default IP address of WDRT-731U is 192.168.1.1)

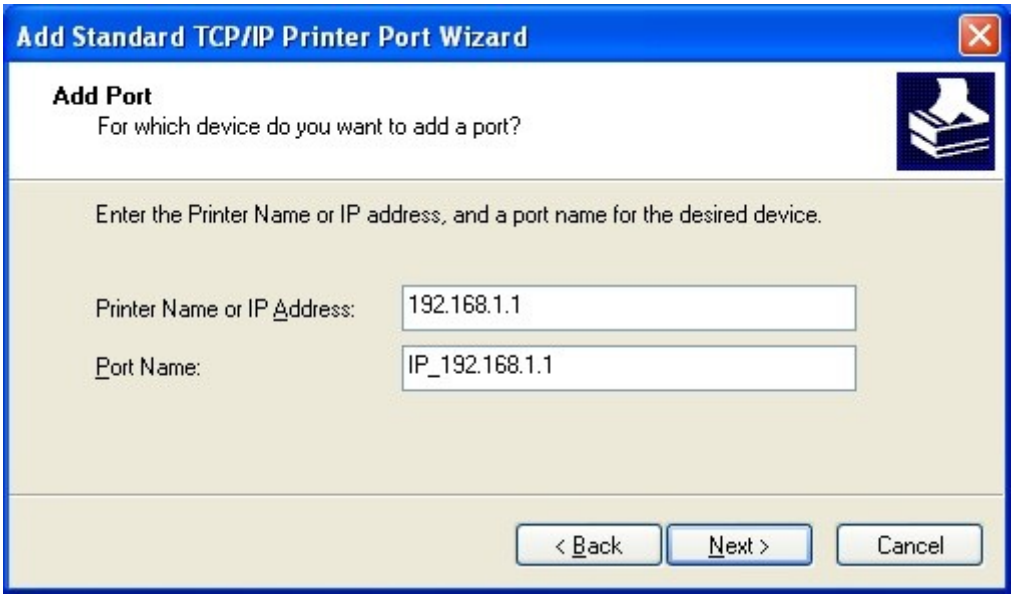


Figure 5-6-16

Step 10. Click "Standard" under Device Type and select "Generic Network Card", then click "Next".

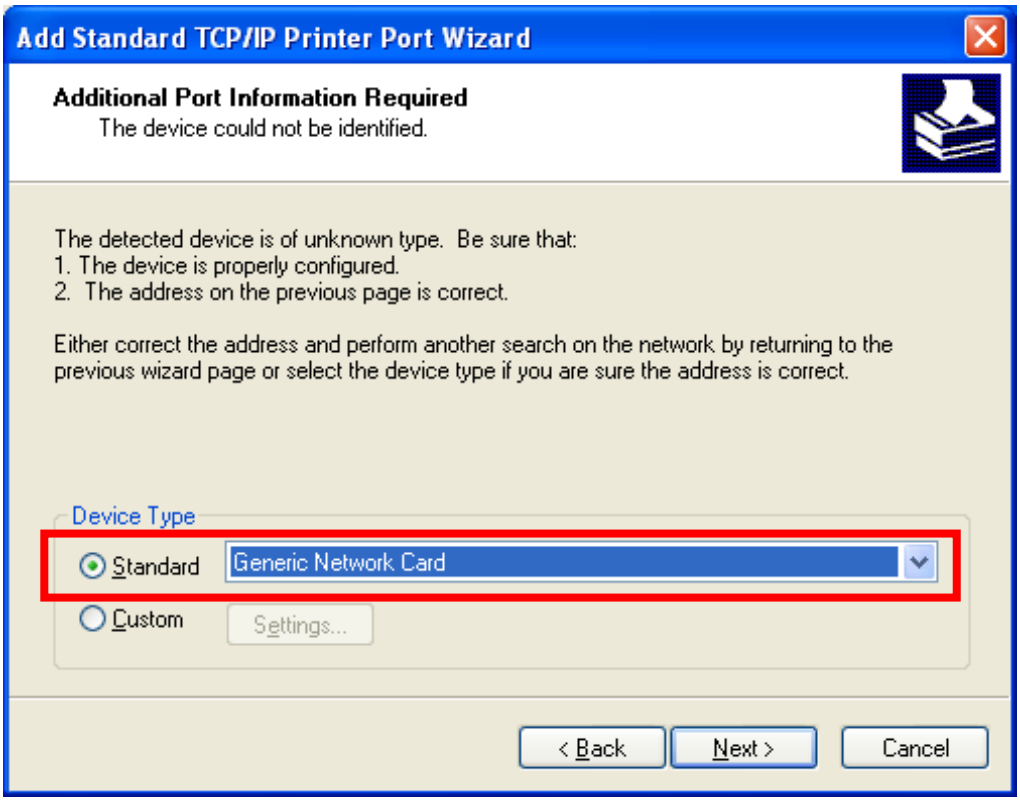


Figure 5-6-17

Step 11. Click "Finish".

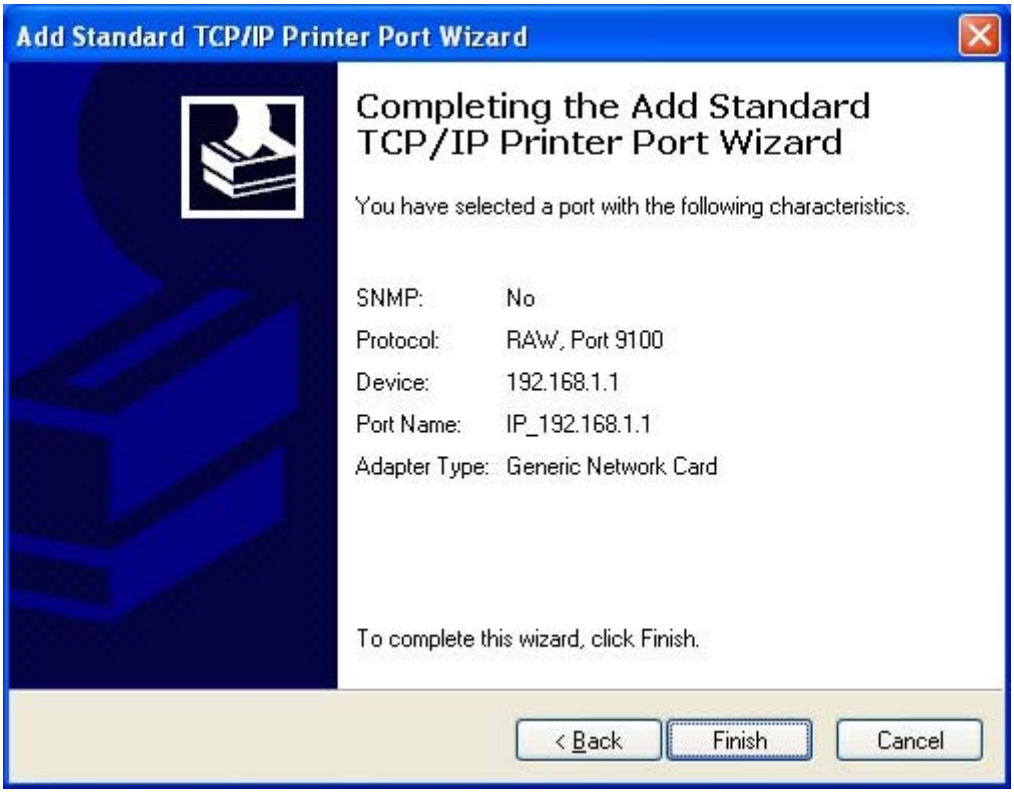


Figure 5-6-18

Step 12. Select "Have Disk".

Select a suitable printer manufacturer and the printer model and click "**Next**". If your printer is not in the list, click "**Have Disk…**" to install the driver of the printer.

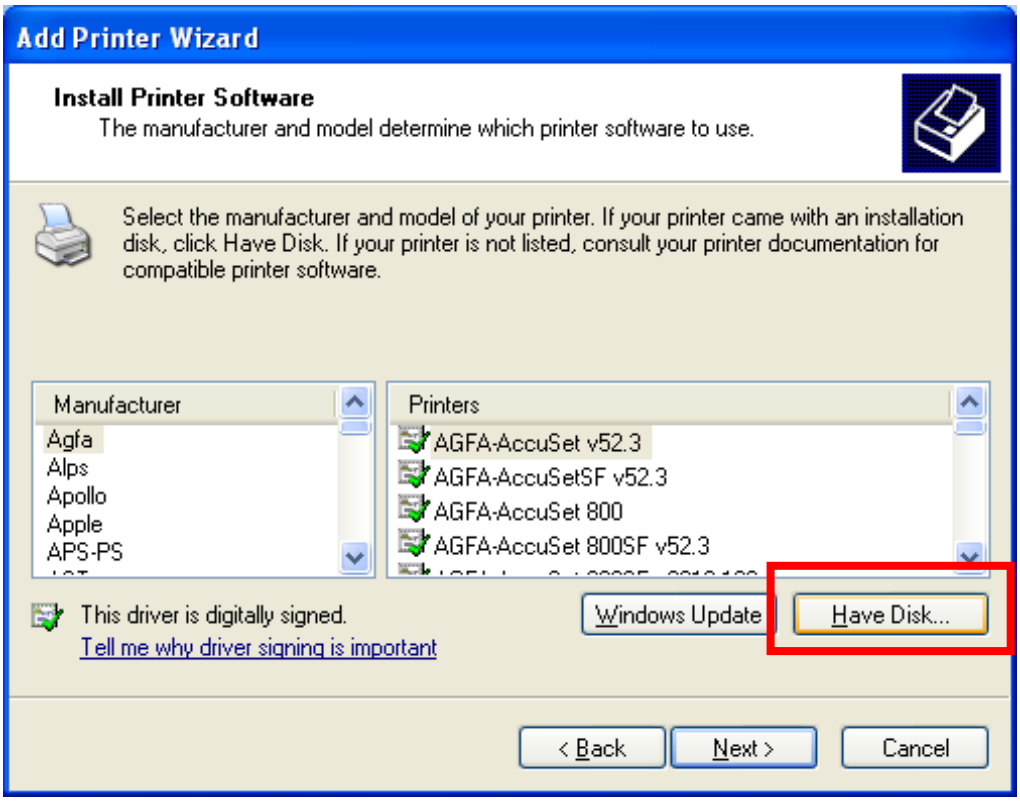


Figure 5-6-19

Step 13. Click "Browse", select corresponding drive file and click "Open". At last click "OK".

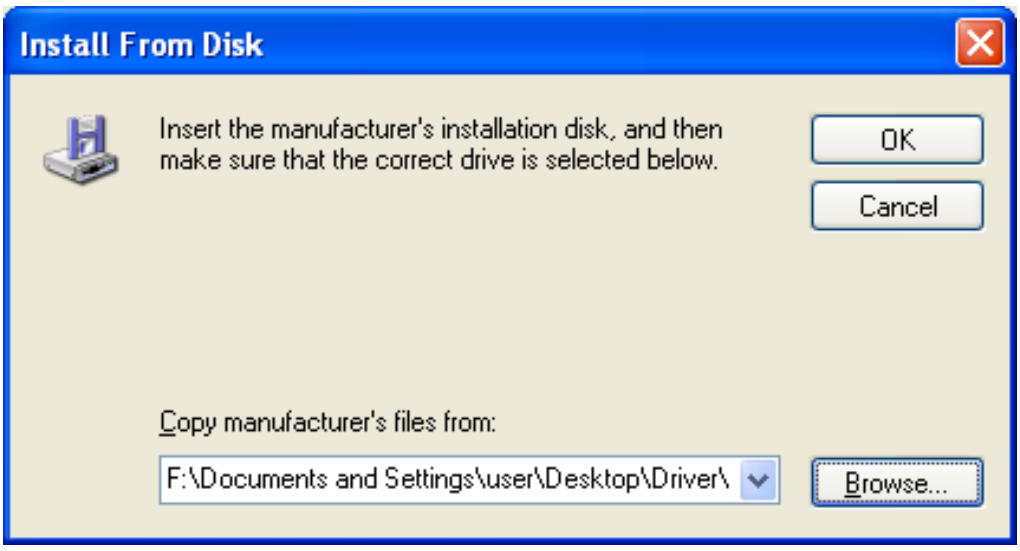


Figure 5-6-20

Step 14. Click "Next".

After installation, the printer model will be added to the list.

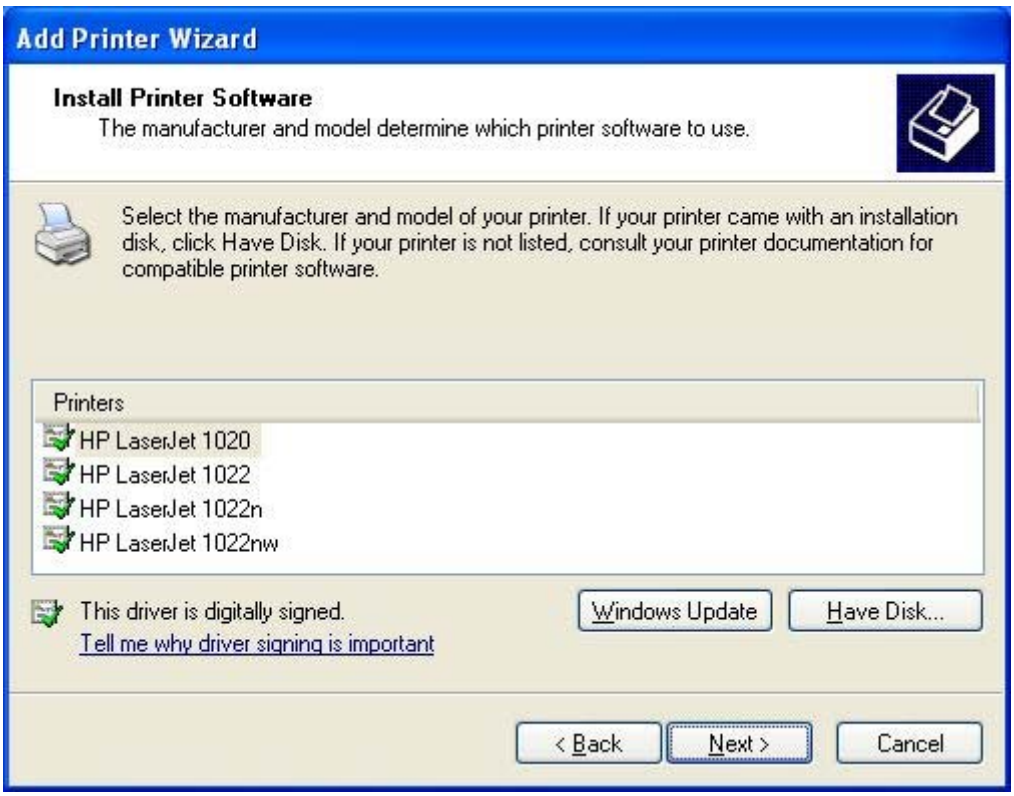


Figure 5-6-21

Step 15. Define a name for the printer and click "Next".

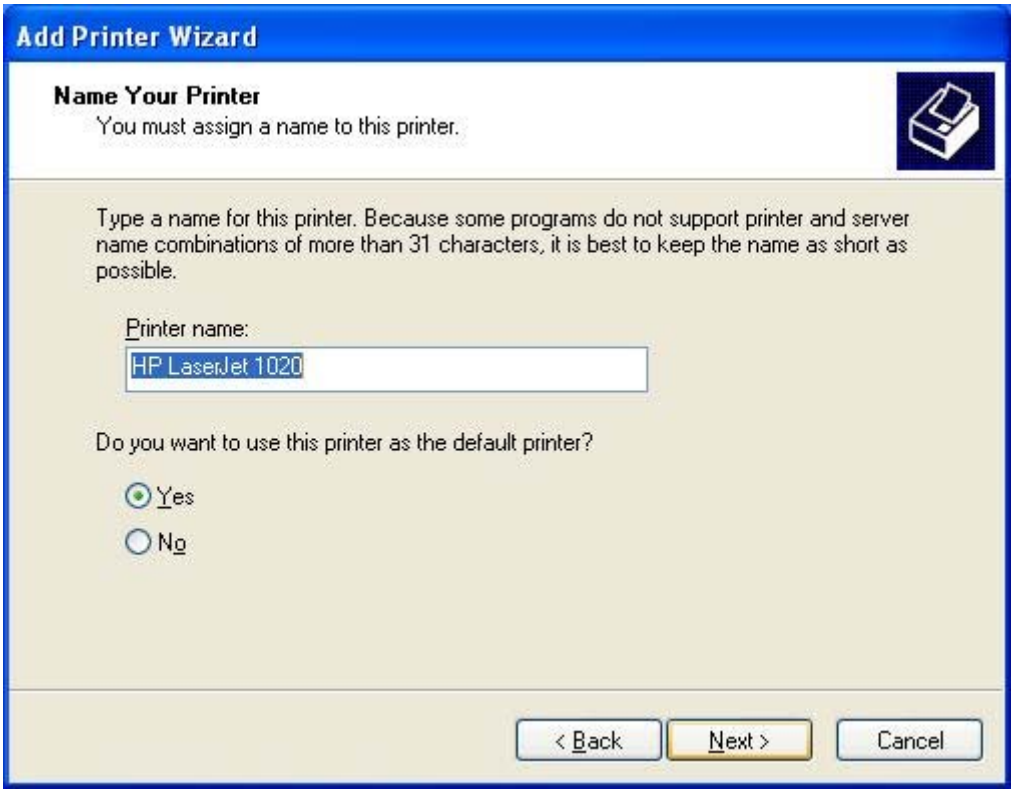


Figure 5-6-22

Step 16. Click "Finish".

Now you have added the network printer to the Windows XP PC successfully. The information of the printer is displayed in the following windows.

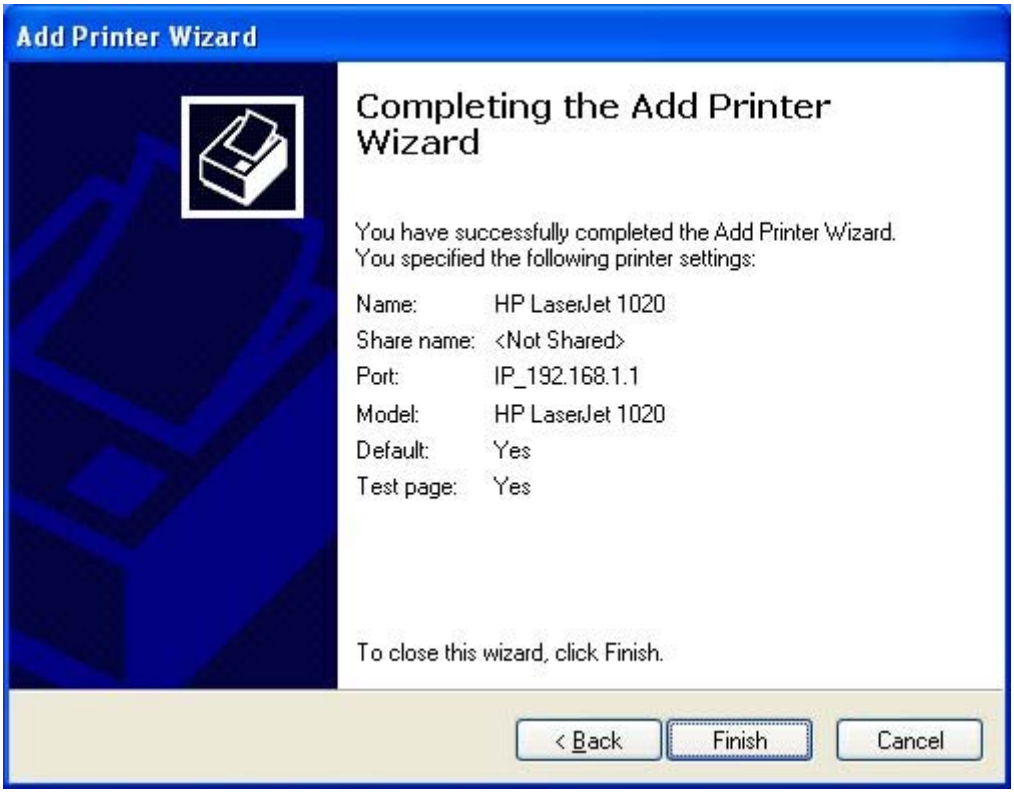


Figure 5-6-23

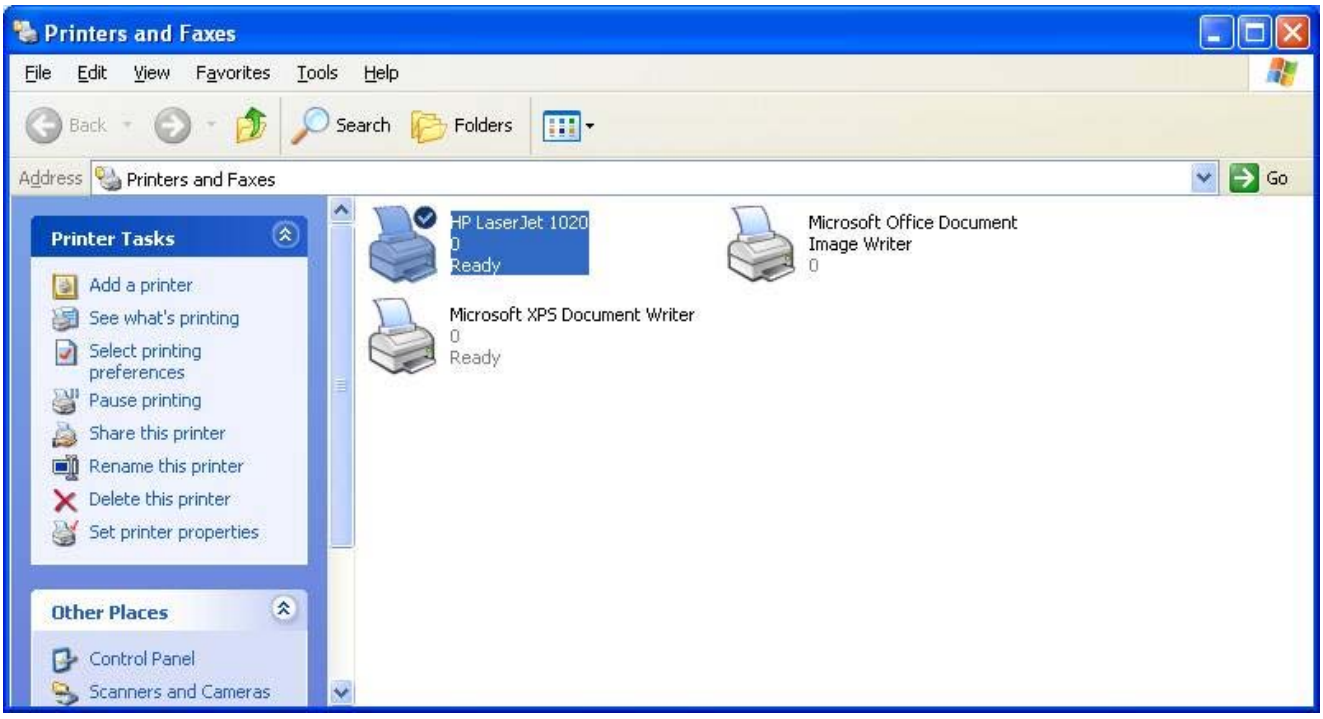


Figure 5-6-24

■ Windows 7 Users

The following steps apply to Windows 7.

Step 3. On your Windows 7 PC (connected to the device), click "**Start**"——"**Device and Printer**" and select "**Add a printer**" on appearing window.

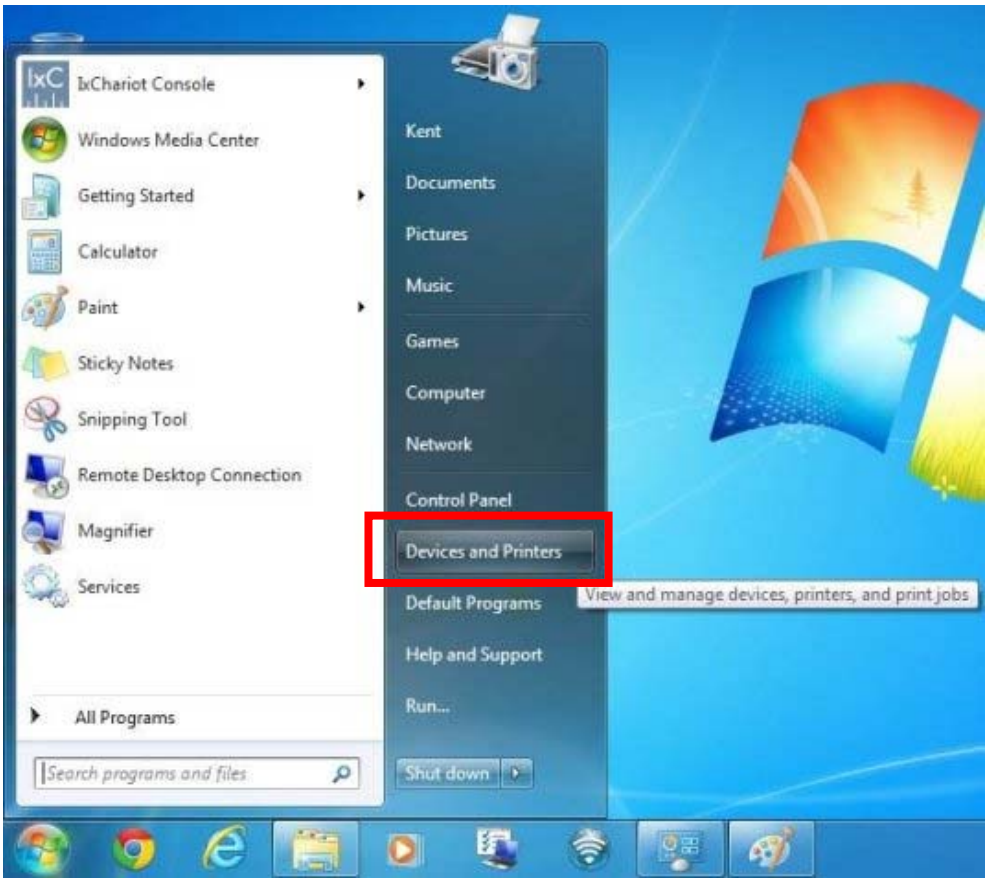


Figure 5-6-25

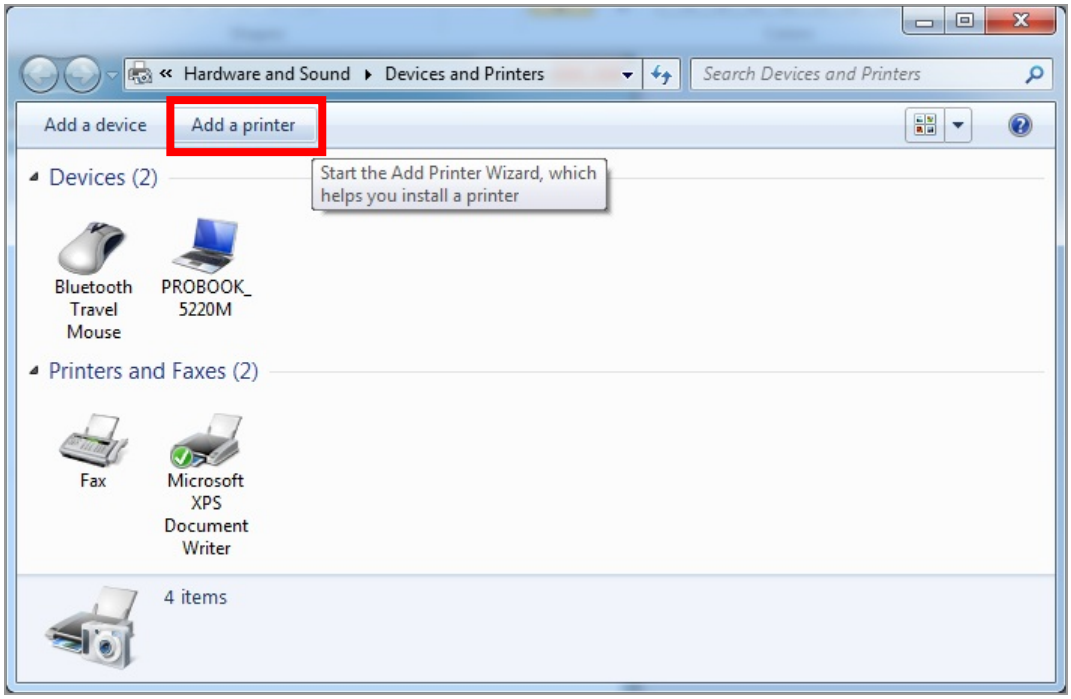


Figure 5-6-26

Step 4. Click "**Next**".

Step 5. Select "**Add a Local Printer**" and click ""Next.

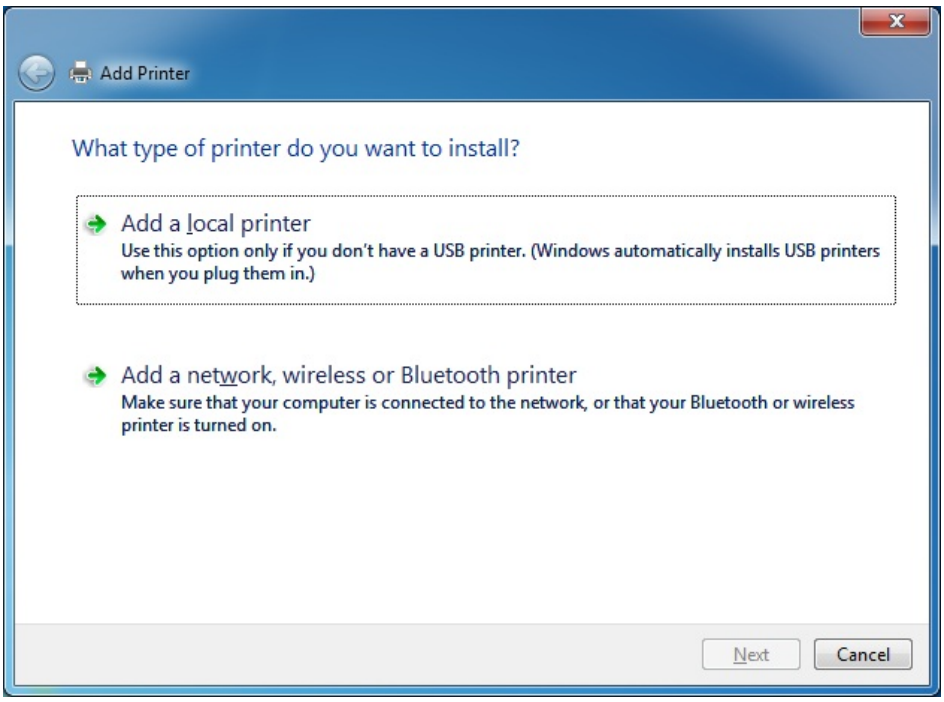


Figure 5-6-27

Step 6. Select "**Create a new port**", Type of port: "**Standard TCP/IP Port**" and click "**Next**".

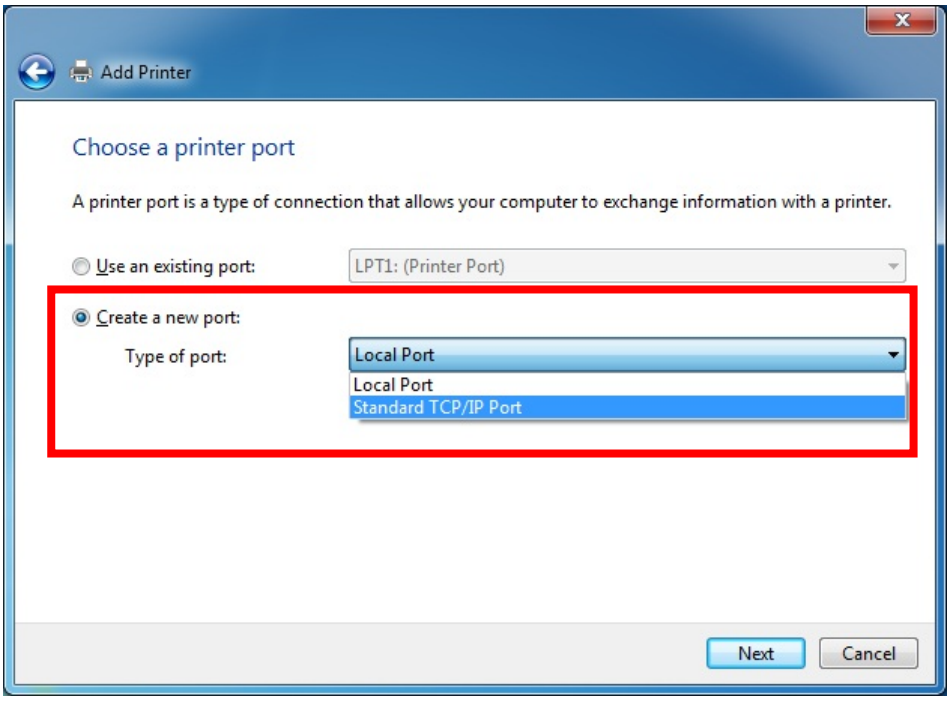


Figure 5-6-28

Step 7. Enter your WDRT-731U's LAN IP address and click "Next".

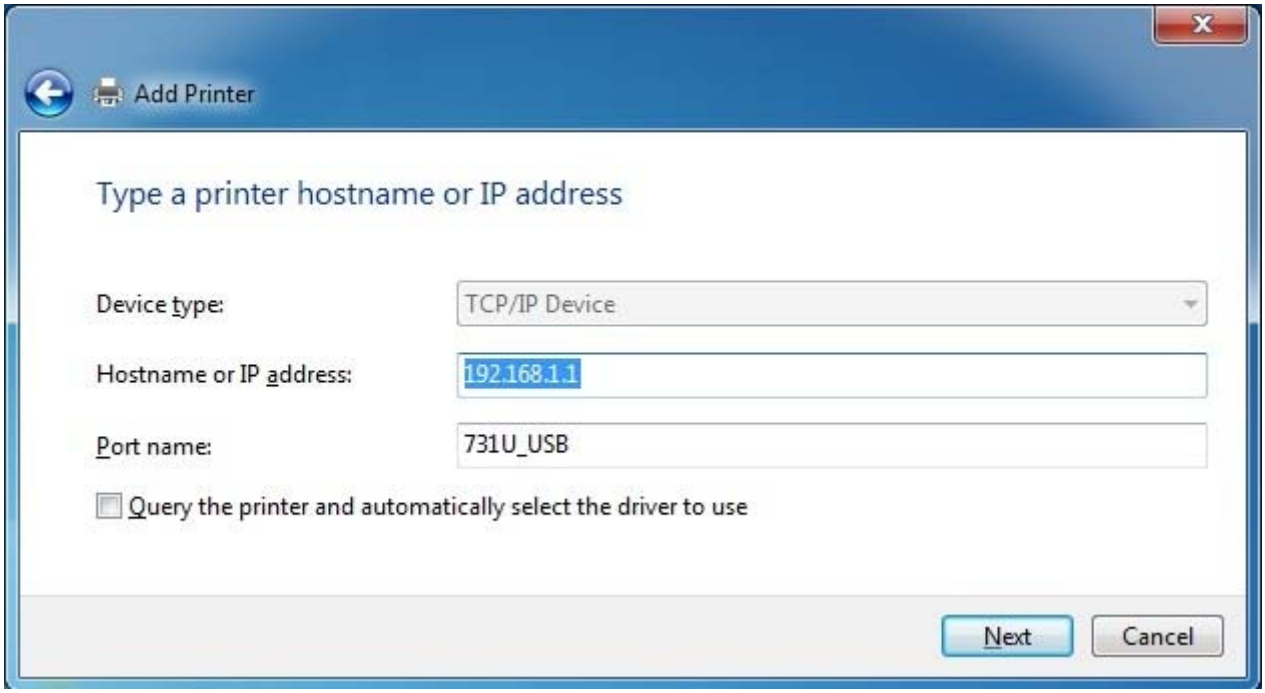


Figure 5-6-29

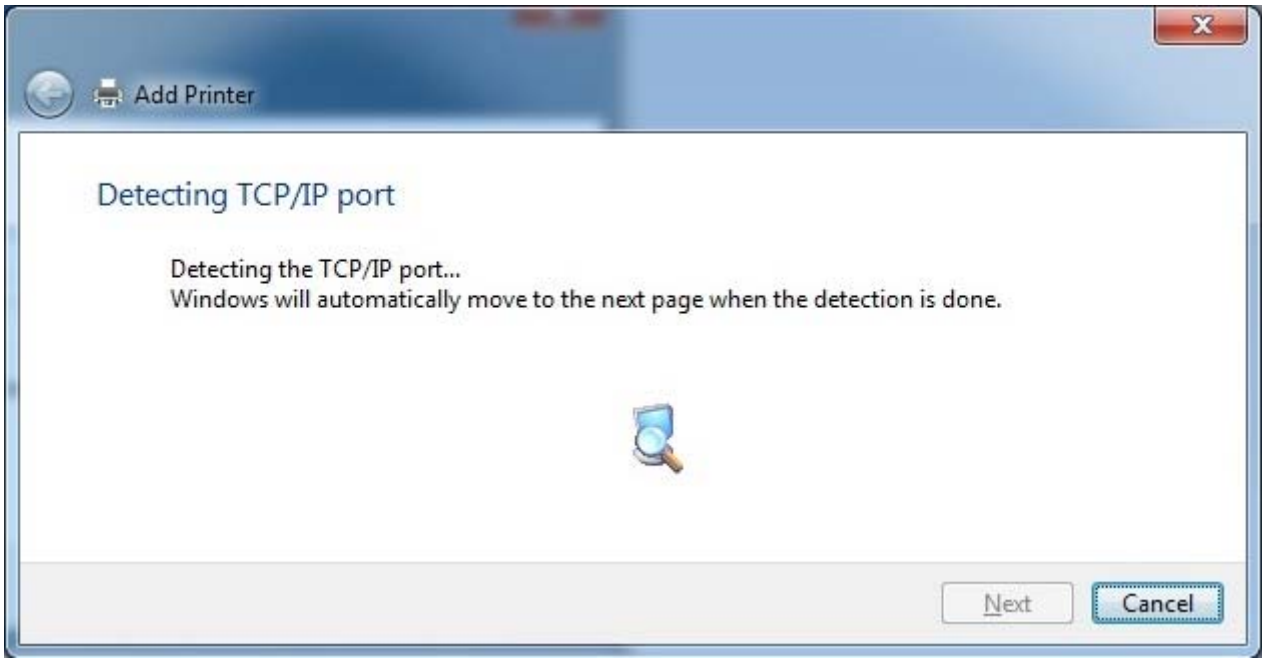


Figure 5-6-30

Step 8. Click "**Standard**" under Device Type and select "**Generic Network Card**", then click "**Next**".

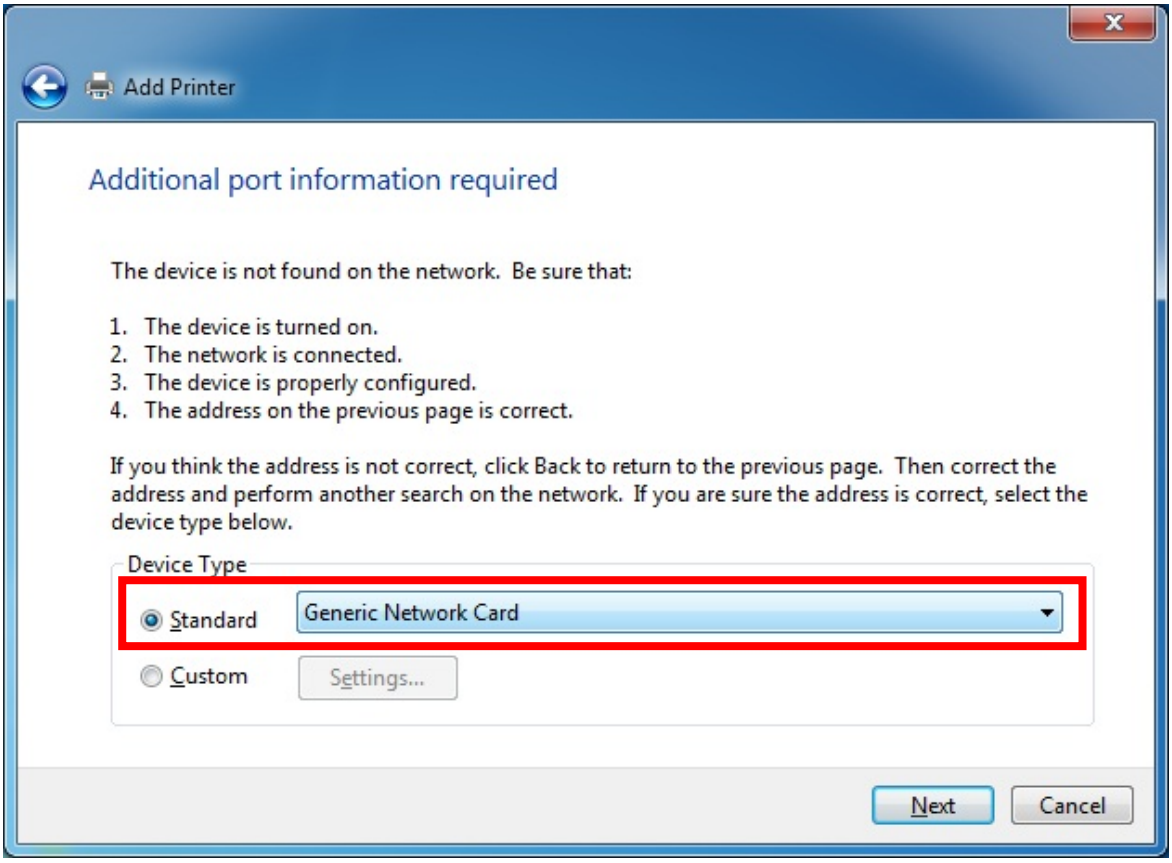


Figure 5-6-31

Step 9. Select "**Have Disk**".

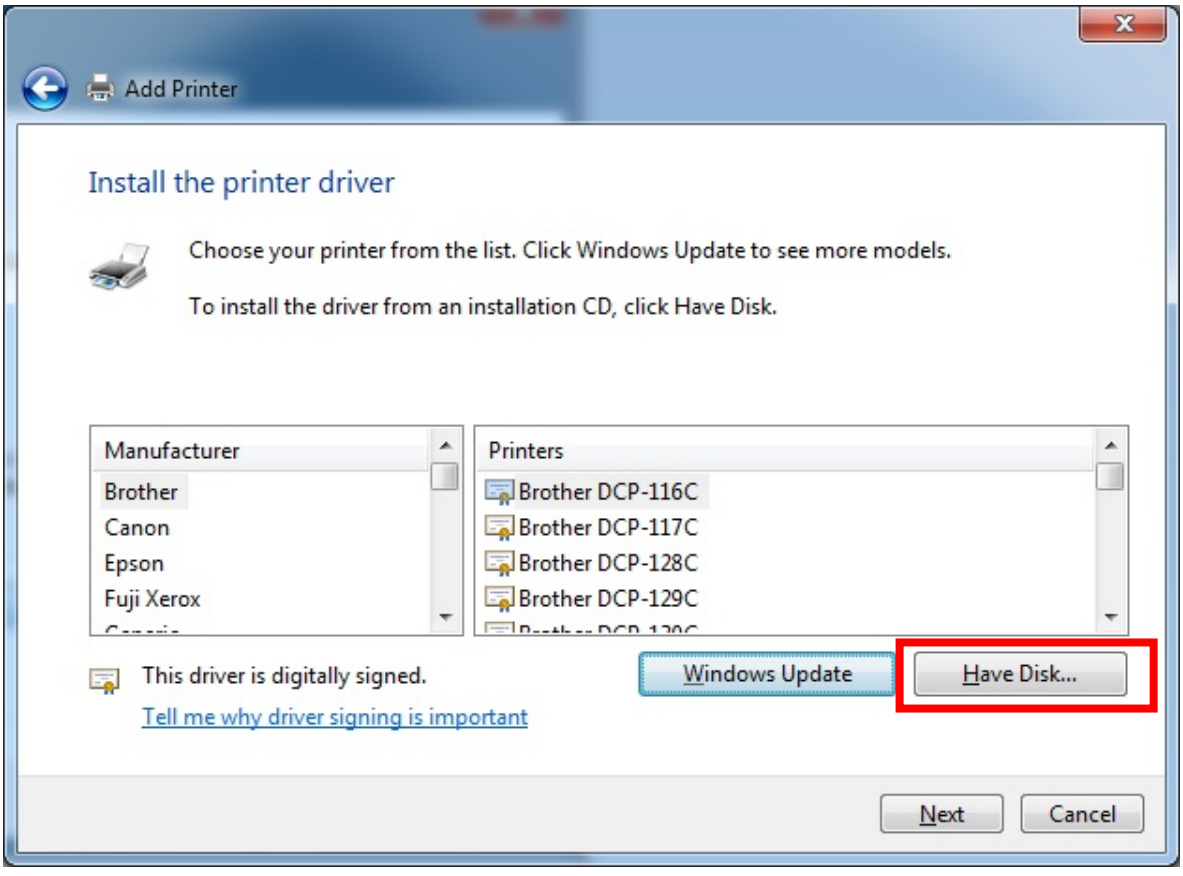


Figure 5-6-32

Step 10. Click “**Browse**”, select corresponding drive file and click “Open”. At last click “OK”.

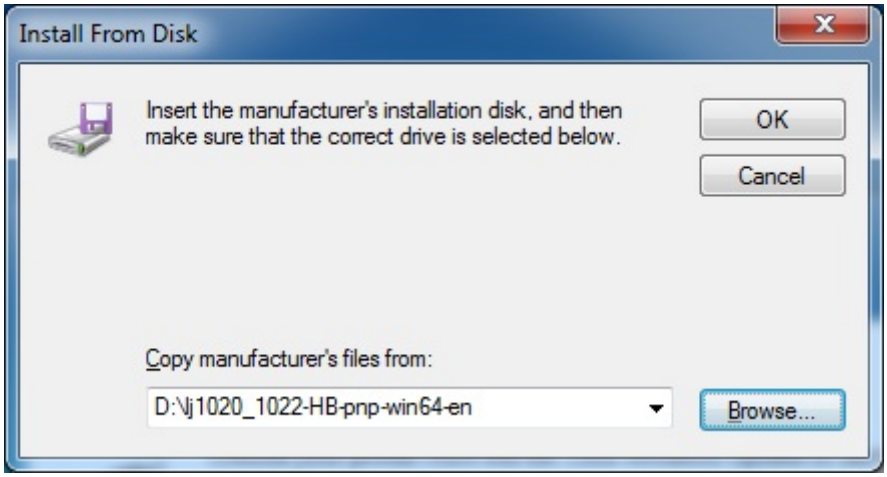


Figure 5-6-33

Step 11. Click “**Next**”.

After installation, the printer model will be added to the list. Choose the right printer and click “Next”.

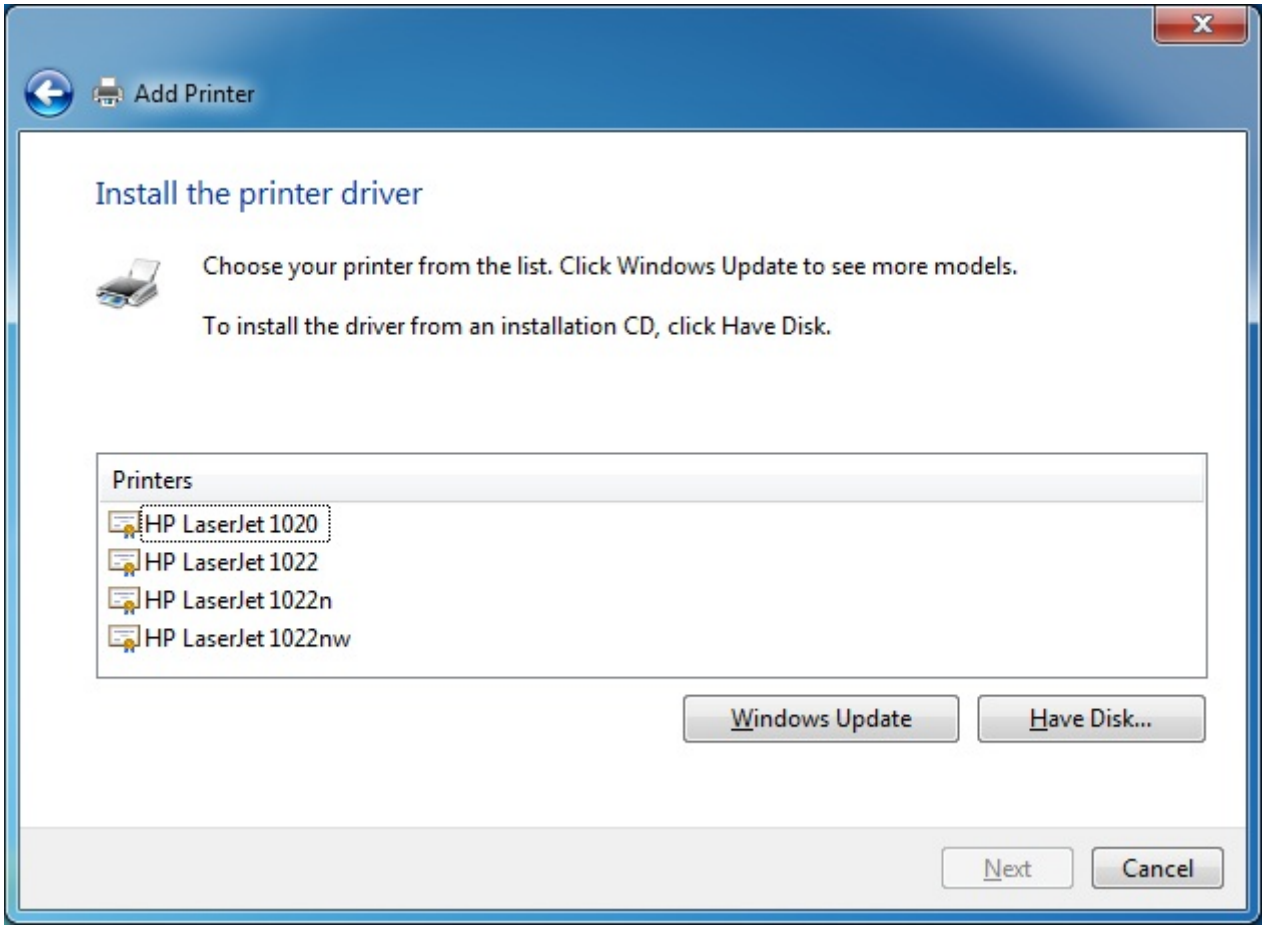


Figure 5-6-34

Step 12. Define a name for the printer and click “**Next**”.

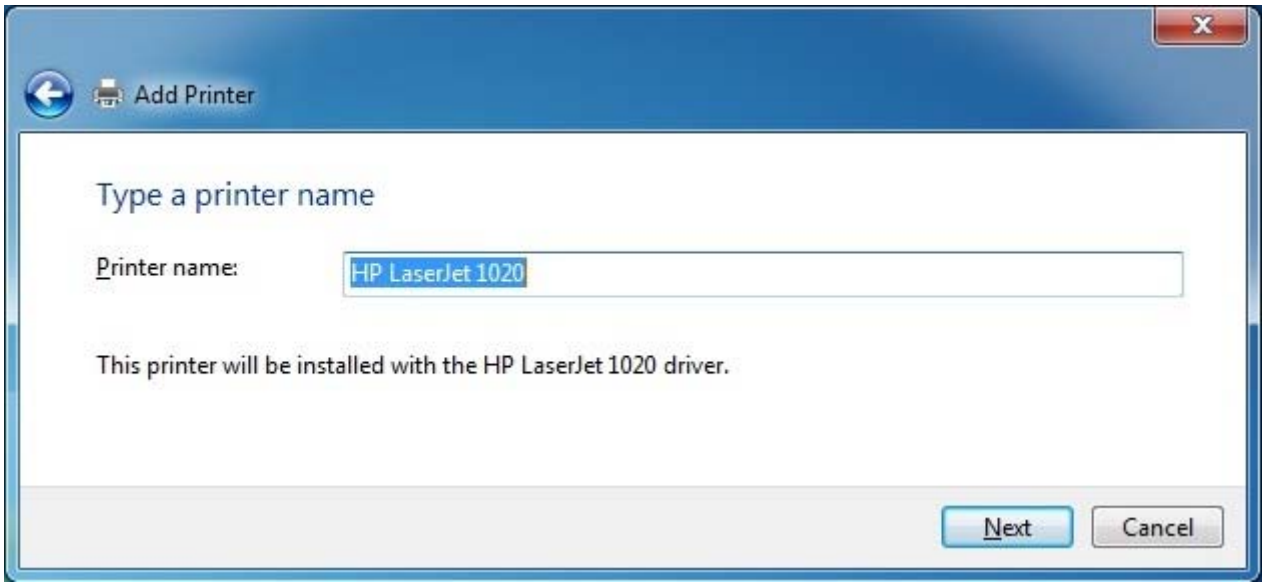


Figure 5-6-35

Step 13. You can choose to share the printer or not. Then click “**Next**".

Figure 5-6-36

Step 14. After installing the correct printer driver, the windows wizard shows the model name of the new network printer. You can choose to print a test page or click “Finish” to exit the wizard.

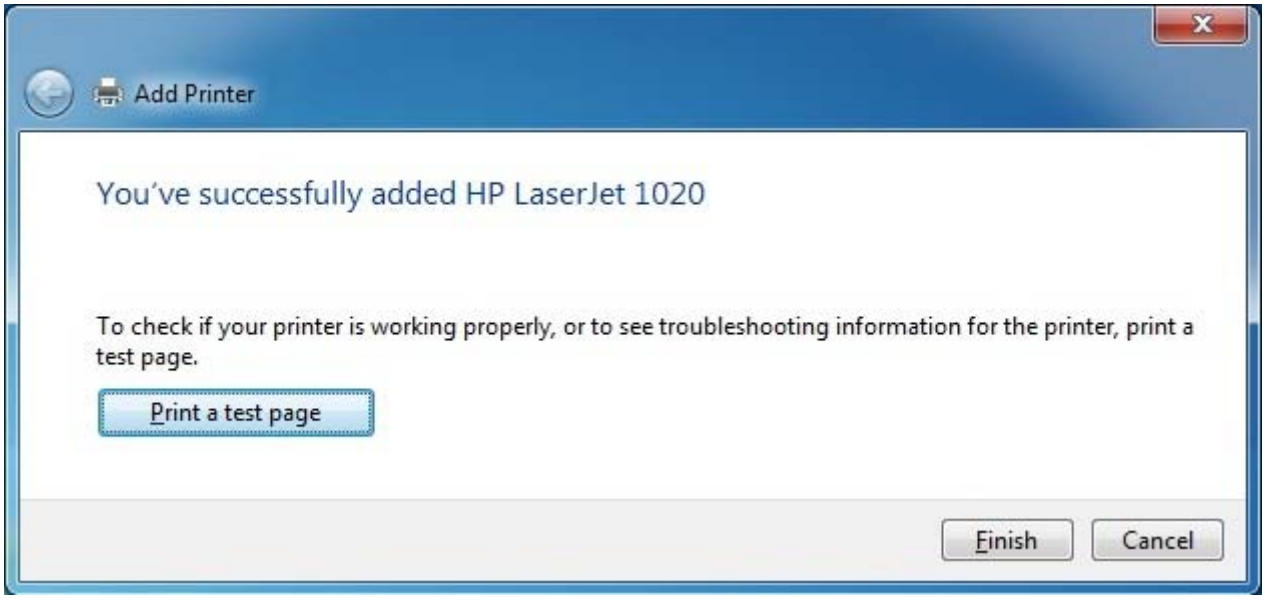


Figure 5-6-37

The new network printer that attached to the WDRT-731U is now available for printing.

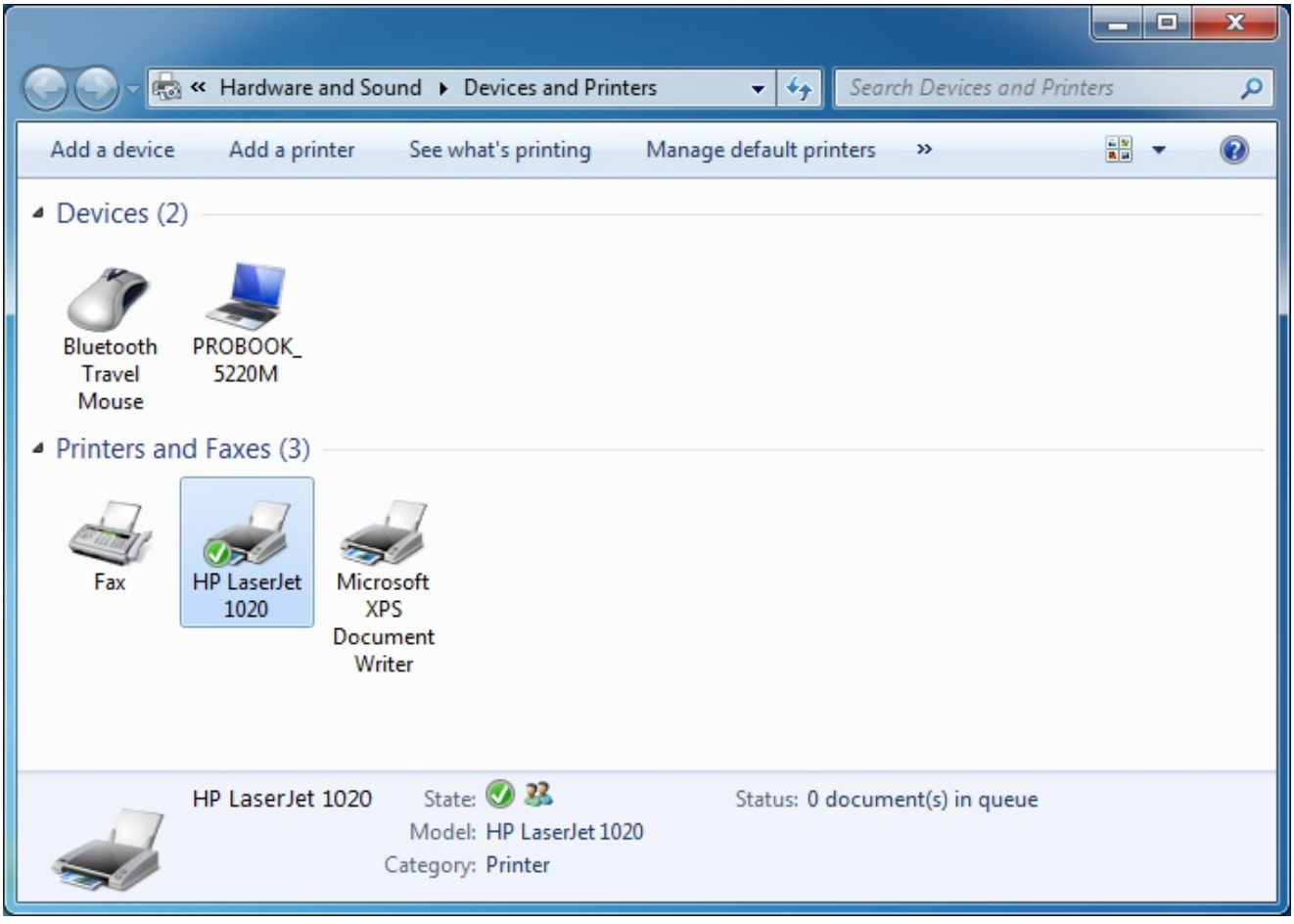
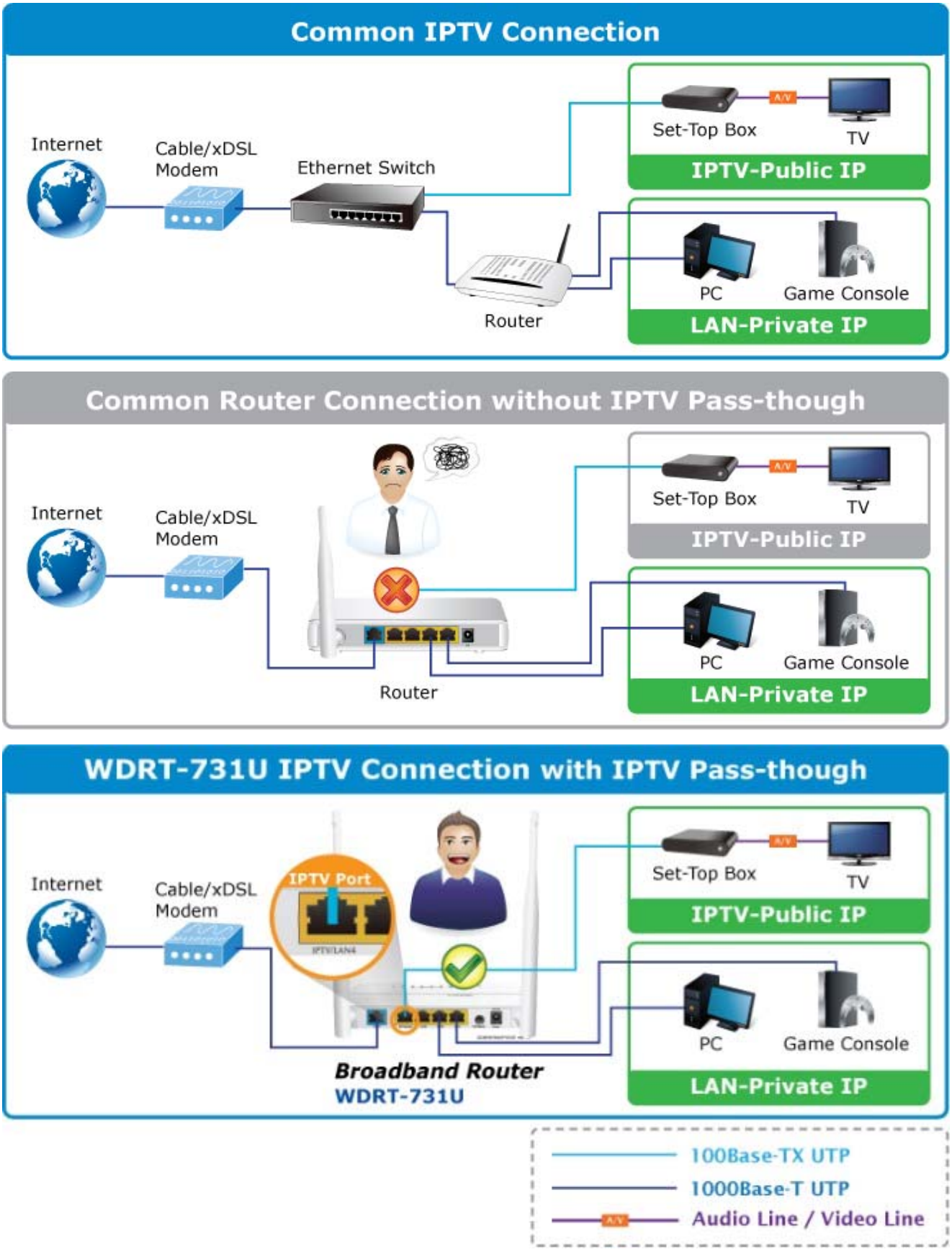


Figure 5-6-39

5.7 IPTV Settings

The IPTV feature makes it possible to enjoy online videos on your TV set via a set-top box while surfing Internet. See below for the topology:



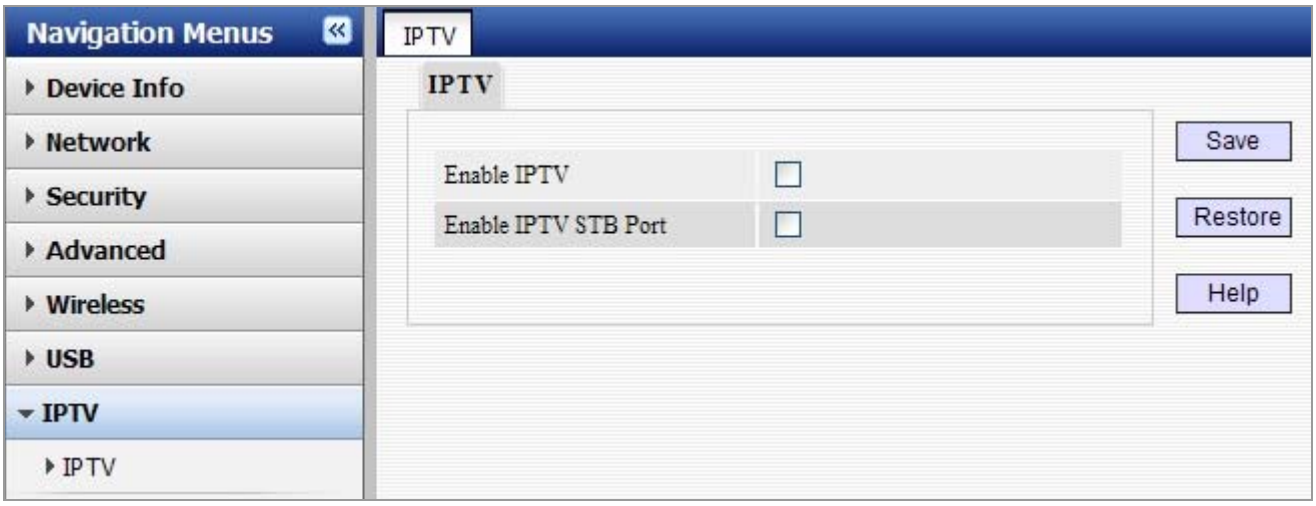


Figure 5-7-1

The page includes the following fields:

Object	Description
• **Enable IPTV:**	Check/uncheck to enable/disable the IPTV feature.
• **Enable IPTV STB Port:**	Check/uncheck to enable/disable the IPTV-specific port.

Note:

1. If you enabled both options mentioned above, then note below:

   (a). Set IPTV connection type to DHCP/dynamic IP or static IP if the set-top box is connected to any LAN port from 1-3.

   (b). Select the dial mode provided by your ISP if the set-top box is connected to the IPTV-specific port.

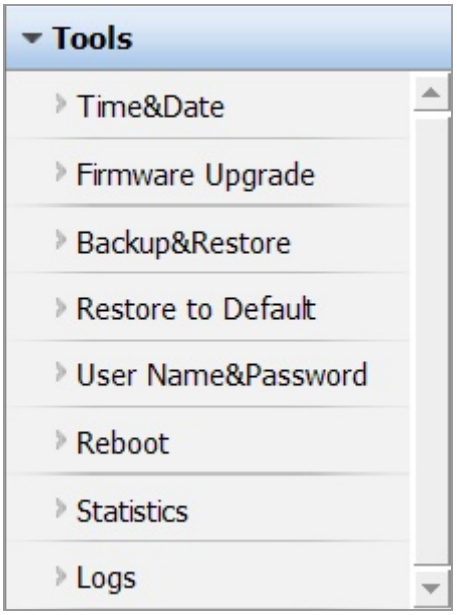
IMPORTANT	Note that the IP address of the set-top-box or smart TV should be on the same IP net segment as router's WAN IP.

2. After the IPTV port is set for IPTV purpose, PC that connects to such port will not be able to obtain an IP address or access Internet. So think twice before you start. Plus, LAN ports1-3 can only be used to connect PCs instead of an IPTV set-top box.

3. The IPTV feature does not support wireless access.

5.8 Tools

System tools include the following 8 submenus. Clicking any of them enters corresponding interface for configuration. Below explains, in details, each such feature.



5.8.1 Time Settings

This section assists you in setting the device's system time; you can either select to set the time and date manually or automatically obtain the GMT time from Internet.

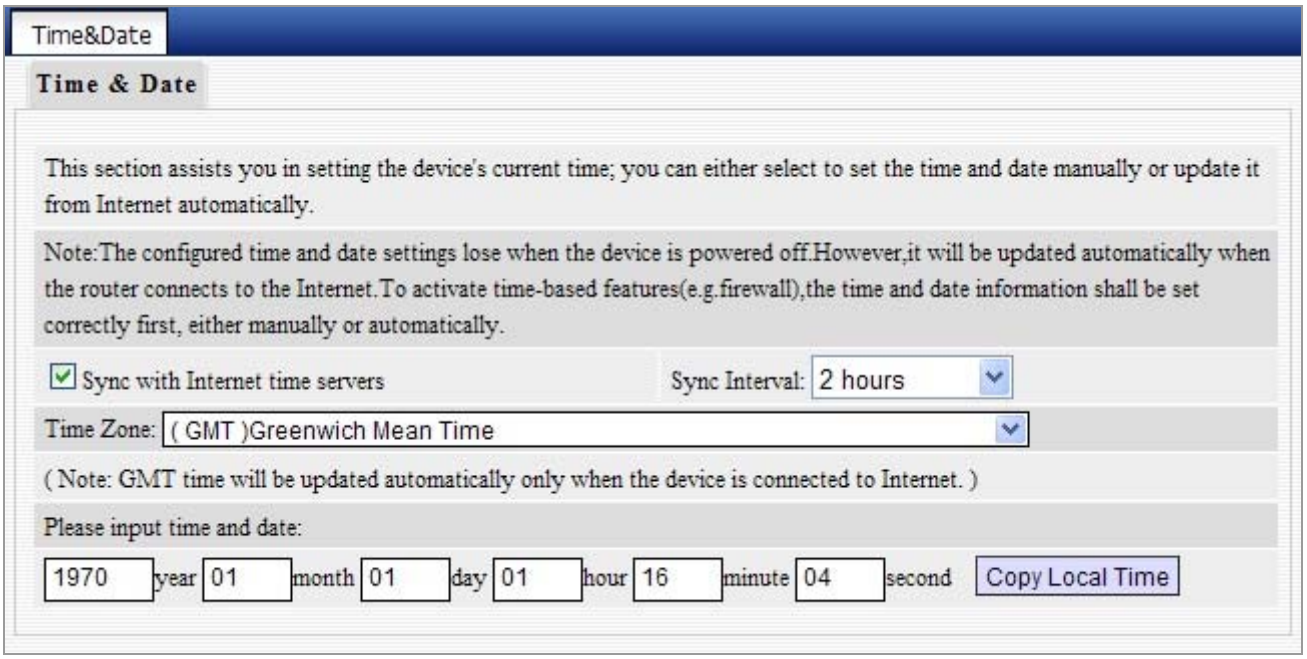


Figure 5-8-1

The page includes the following fields:

Object	Description
• **Sync with Internet time servers:**	Time and date will be updated automatically from Internet.
• **Sync Interval:**	Determines a time length when device periodically updates its time and date info from Internet. The default is 2 hours.
• **Time Zone:**	Select your current time zone.
• **Copy Local Time:**	Click it to copy your PC's time to the device.

5.8.2 Firmware Upgrade

Firmware upgrade is released periodically to improve the functionality of your device and also to add new features. If you run into a problem with a specific feature of the device, log on to our website www.planet.com.tw to download the latest firmware to update your device.

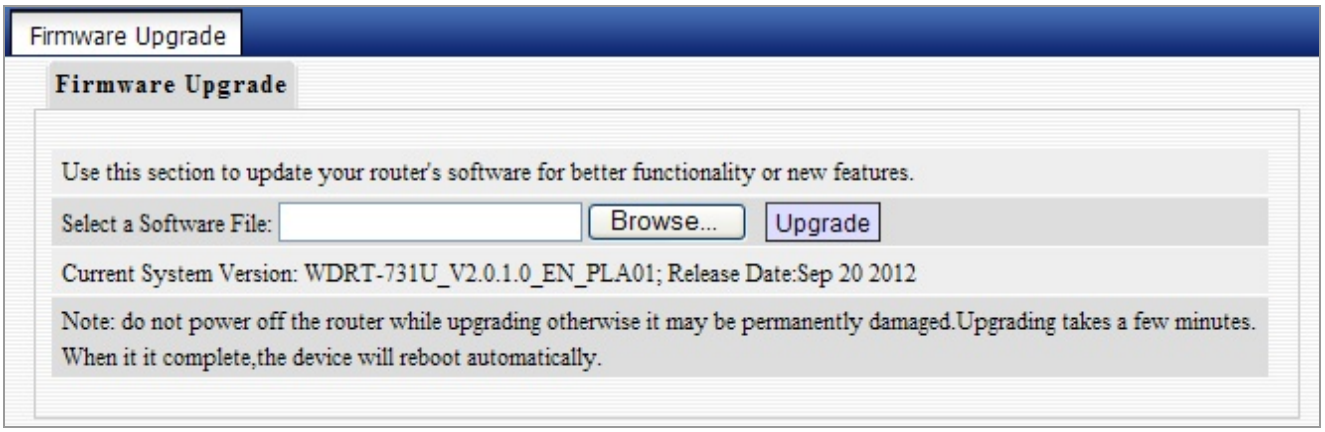


Figure 5-8-2

To update firmware, do as follows:

1. Click "**Browse**" to locate the firmware and "**Upgrade**" to update.
2. Router will reboot automatically when upgrade completes.

Note

Do not disconnect the device from your management PC (the PC you use to configure the device) or power off it during the upgrade process; otherwise, it may be permanently damaged. The device will restart automatically when the upgrade process, which takes several minutes, completes.

5.8.3 Backup/Restore Settings

This section allows you to backup current settings or to restore the previous settings configured on the device.

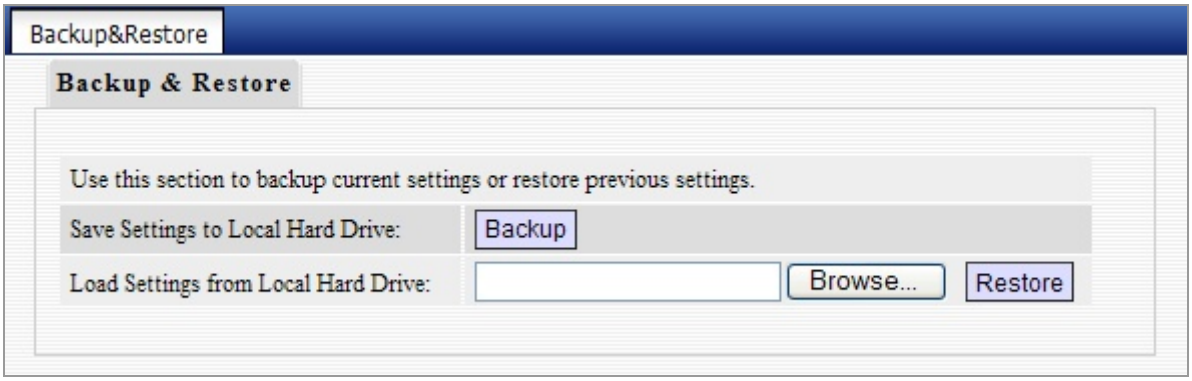


Figure 5-8-3

The page includes the following fields:

Object	Description
• **Backup Settings:**	Once you have configured the device the way you want it, you can save these settings to a configuration file on your local hard drive that can later be imported to your device in case that the device is restored to factory default settings. To do this, click the "**Backup**" button and specify a directory to save settings on your local hardware.
• **Restore Settings:**	Click the "Browse" button to locate and select a configuration file that is saved previously to your local hard drive. And then click the "Restore" button to reset your device to previous settings.

5.8.4 Restore to Factory Default Settings

To restore all settings to the device's factory default values, click the "**Restore to Factory Default**" button:

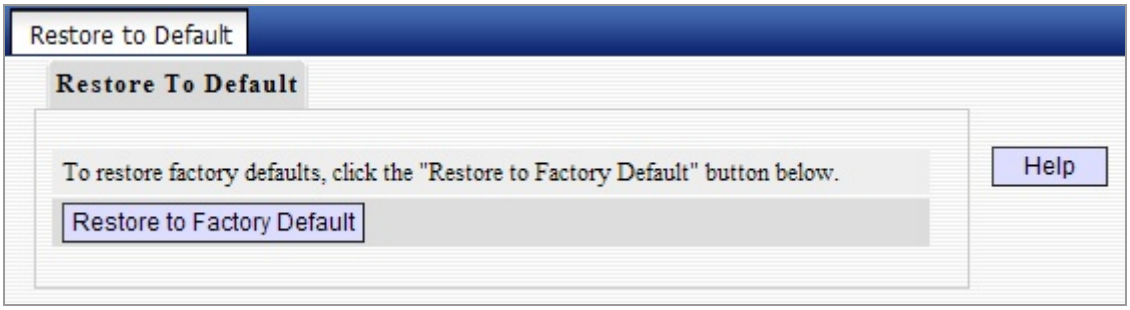


Figure 5-8-4

Factory Default Settings:

User Name: admin

Password: admin

IP Address: 192.168.1.1

Subnet Mask: 255.255.255.0

Note

To activate your settings, you need to reboot the device after you reset it.

5.8.5 Change Password/User Name

This section allows you to change login password and user name for accessing device's Web-based interface.

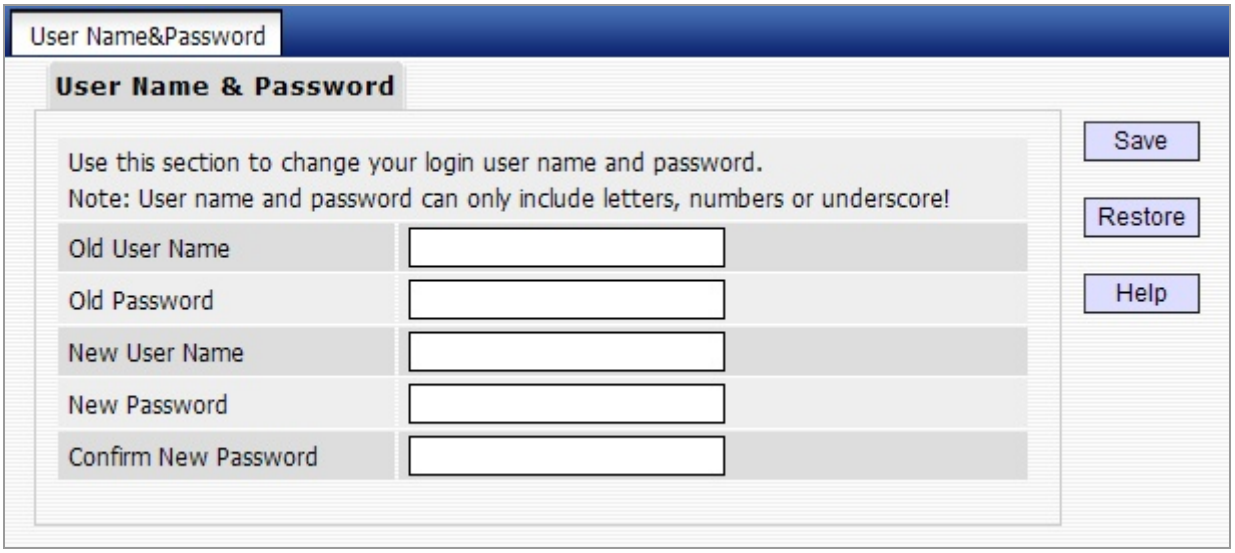


Figure 5-8-5

The page includes the following fields:

Object	Description
• **Old Password / User Name:**	Enter the old password/user name.
• **New Password / User Name:**	Enter a new password/user name.
• **Confirm New Password:**	Re-enter the new password for confirmation.
• **Save:**	Click it to save new settings.

Note

For the sake of security, it is highly recommended that you change default login password and user name.

5.8.6 Reboot

This section allows you to reboot the device.

Figure 5-8-6

To restart your device, click the “Reboot” button.

Figure 5-8-7

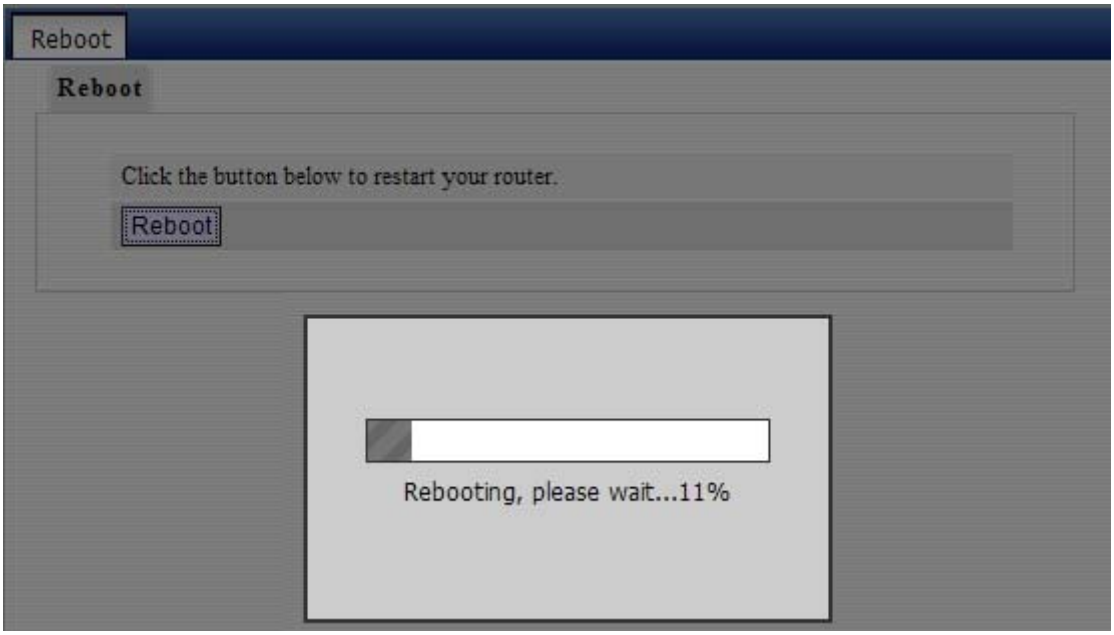


Figure 5-8-8

5.8.7 Statistics

Statistics displays current traffic of PCs on your LAN.

You can view the bandwidth usage on your LAN using the statistics feature, for better management of network resources.

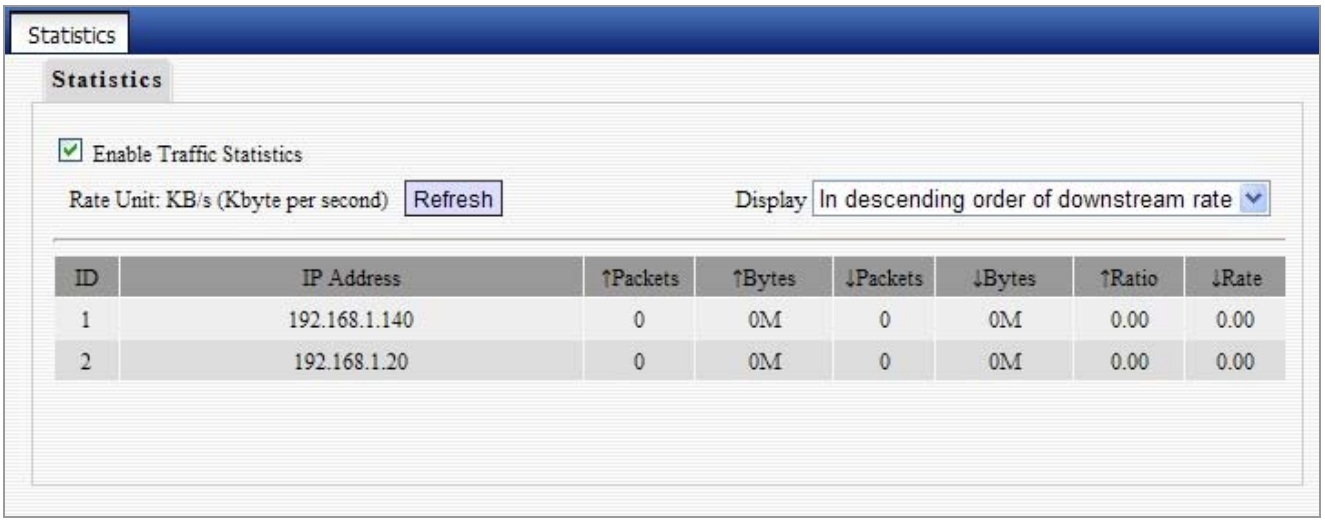


Figure 5-8-9

The page includes the following fields:

Object	Description
• **Enable Traffic Statistics:**	Check/uncheck the box to enable/disable the Traffic Statistics feature.
• **Refresh:**	Click to update statistic data.
• **Clear:**	Click to remove statistic data.
• **Ratio:**	The quantitative relation between broadcast packets and the forwarded packets. Normally, if this value exceeds 10%, there may be problems present in some PC on the network.

Note

Enabling the Traffic Statistics feature may degrade router's packet processing capacity. So, do not enable it unless necessary.

5.8.8 Syslog

The Syslog option allows you to view all events that occur upon system startup and check whether there is attack present in your network.

The logs are classified into 3 types: "**All**", "**System** "and "**WAN**".

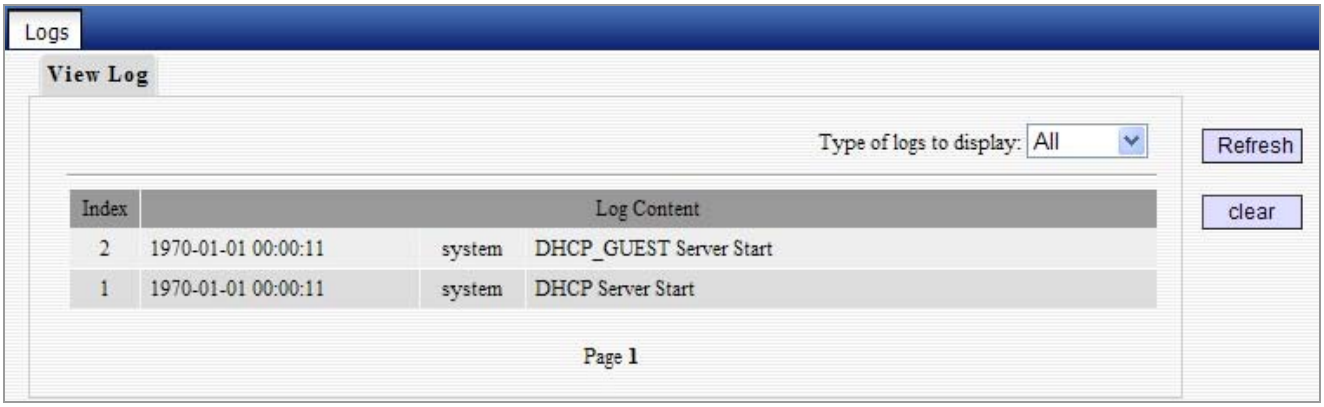

Logs
View Log
Type of logs to display: All
Refresh
clear
Index
Log Content
2 1970-01-01 00:00:11 system DHCP_GUEST Server Start
1 1970-01-01 00:00:11 system DHCP Server Start
Page 1

Figure 5-8-10

Chapter 6. Quick Connection 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

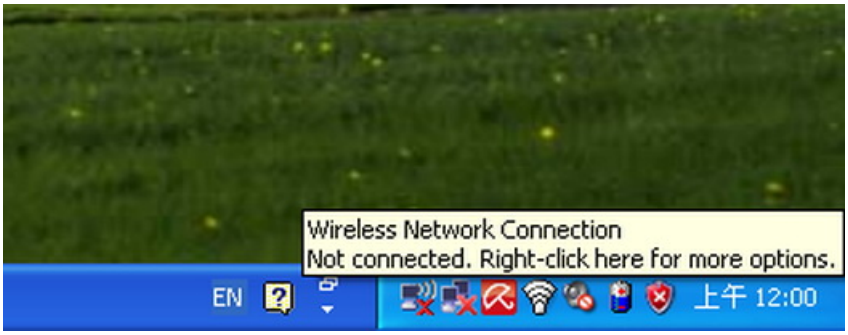


Figure 6-1

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

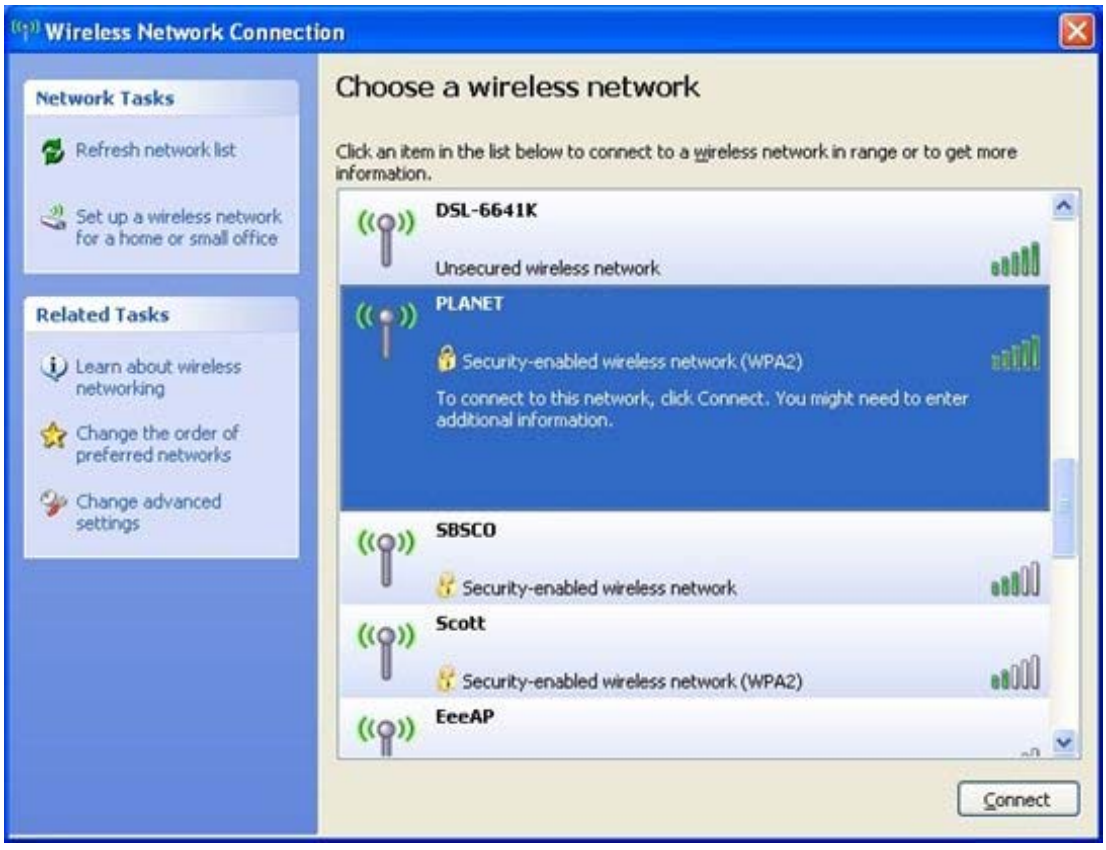


Figure 6-2

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

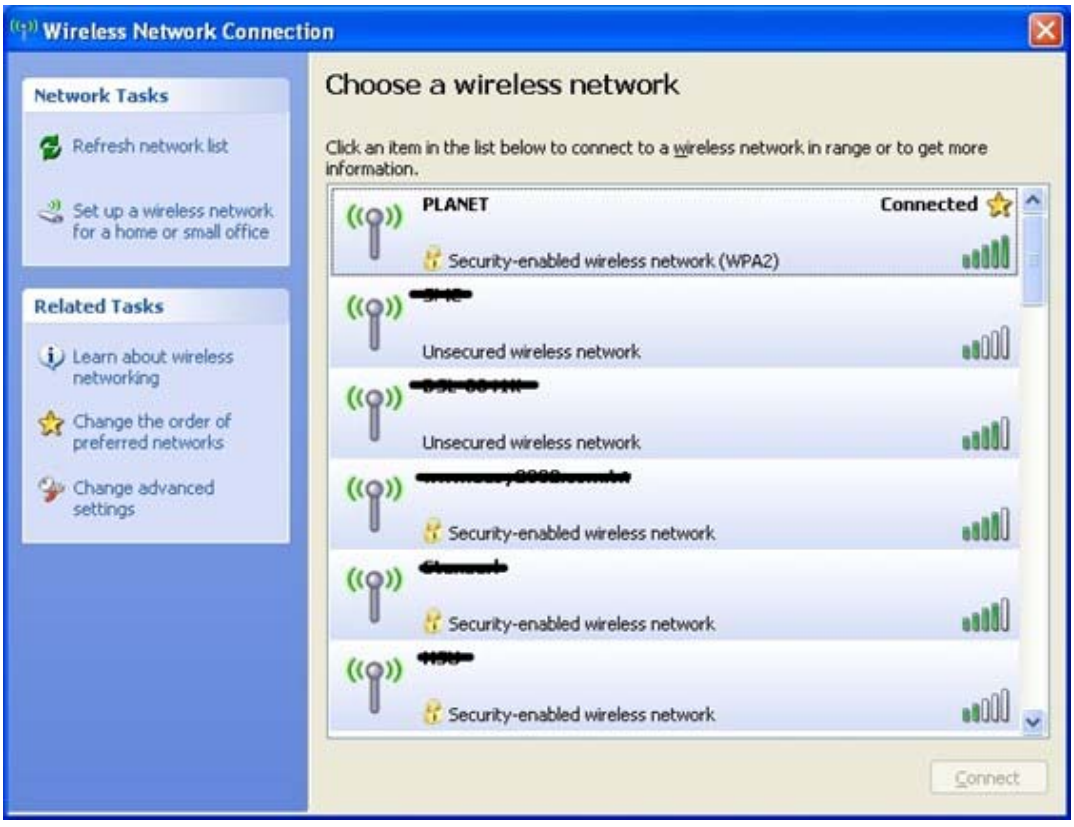


Figure 6-4

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 [defauld_2.4G]

(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

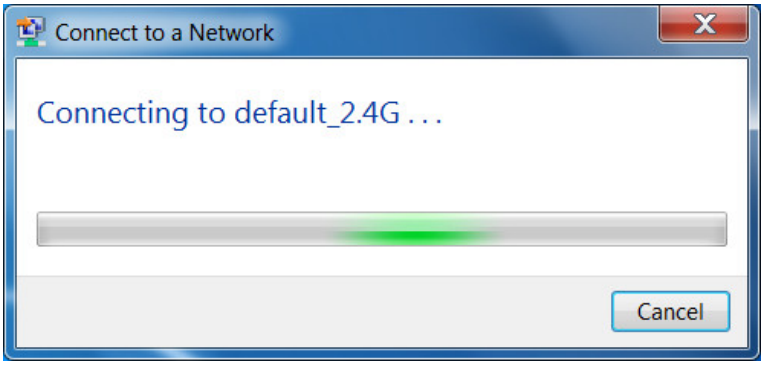


Figure 6-8

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

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

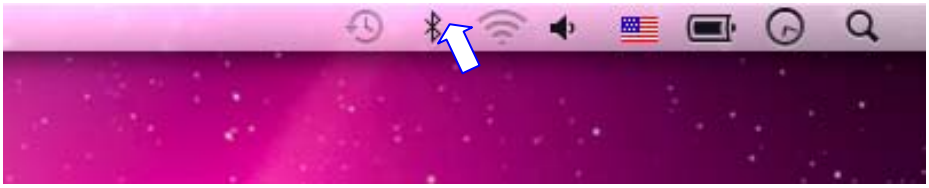


Figure 6-10

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

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

(2) 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

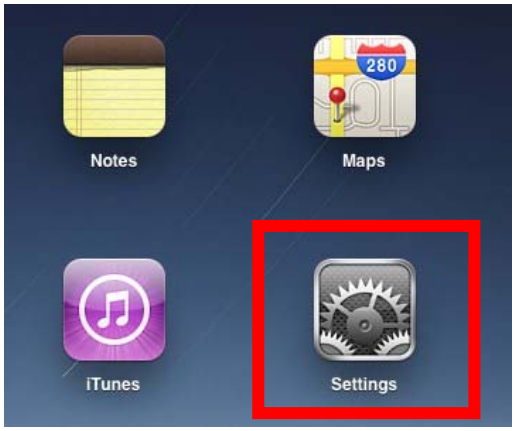


Figure 6-14

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”.

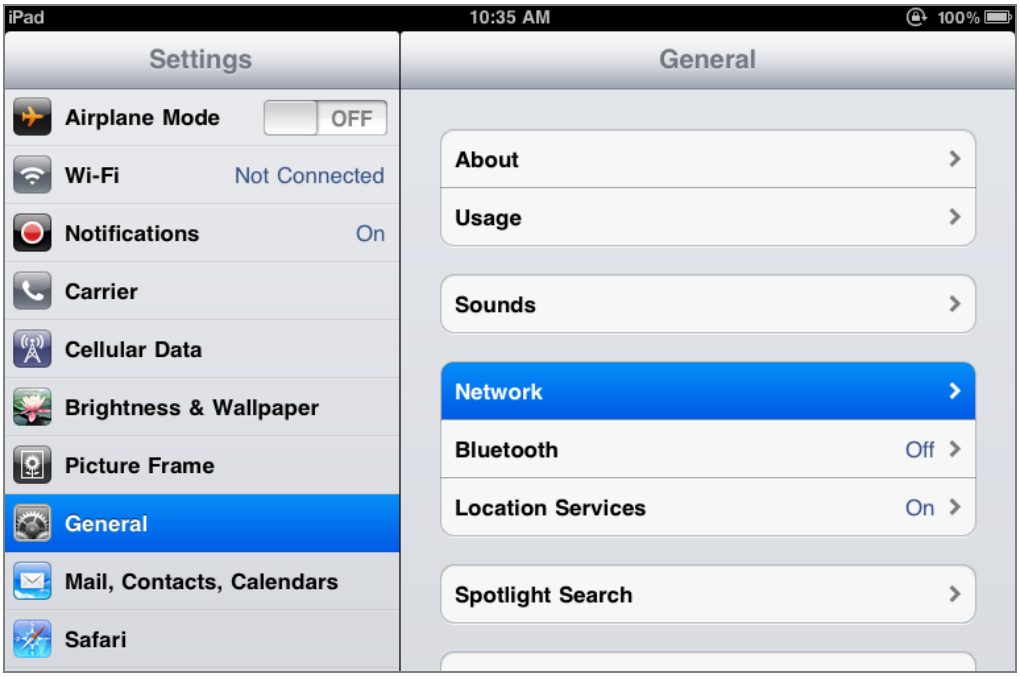


Figure 6-15

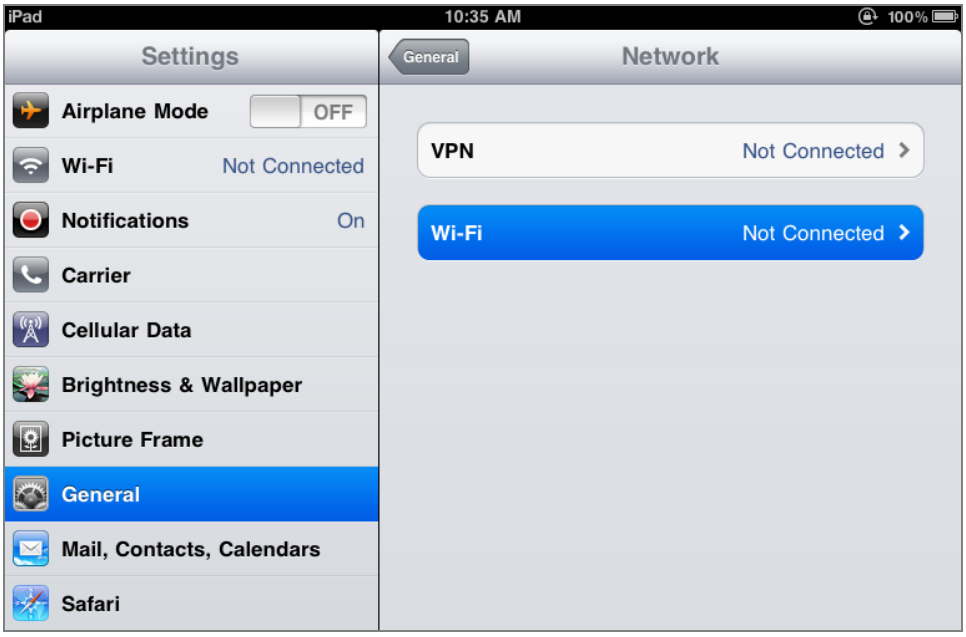


Figure 6-16

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: Troubleshooting

If you found the router is working improperly or stop responding to you, please read this troubleshooting first before contacting the dealer for help,. Some problems can be solved by yourself within very short time.

Scenario	Solution
The router is not responding to me when I want to access it by web browser.	a. Please check the connection of the power cord and the Ethernet cable of this router. All cords and cables should be correctly and firmly inserted to the router. b. If all LEDs on this router are off, please check the status of power adapter, and make sure it is correctly powered. c. You must use the same IP address section which router uses. d. Are you using MAC or IP address filter? Try to connect the router by another computer and see if it works; if not, please reset the router to the factory default settings (pressing 'reset' button for over 10 seconds). e. Set your computer to obtain an IP address automatically (DHCP), and see if your computer can get an IP address. f. If you did a firmware upgrade and this happens, contact your dealer of purchase for help. g. If all the solutions above don't work, contact the dealer for help.
I can't get connected to the Internet.	a. Go to 'Status' -> 'Internet Connection' menu, and check Internet connection status. b. Please be patient, sometime Internet is just that slow. c. If you connect a computer to Internet directly before, try to do that again, and check if you can get connected to Internet with your computer directly attached to the device provided by your Internet service provider. d. Check PPPoE / L2TP / PPTP user ID and password again. e. Call your Internet service provide and check if there's something wrong with their service. f. If you just can't connect to one or more website, but you can still use other internet services, please check URL/Keyword filter. g. Try to reset the router and try again later. h. Reset the device provided by your Internet service provider too. i. Try to use IP address instead of hostname. If you can use IP address to communicate with a remote server, but can't use hostname, please check DNS setting.

I can't locate my router by my wireless device.	a. 'Broadcast ESSID' set to off? b. All two antennas are properly secured. c. Are you too far from your router? Try to get closer. d. Please remember that you have to input ESSID on your wireless client manually, if ESSID broadcast is disabled.
File download is very slow or breaks frequently.	a. Are you using QoS function? Try to disable it and try again. b. Internet is slow sometimes, being patient. c. Try to reset the router and see if it's better after that. d. Try to know what computers do on your local network. If someone's transferring big files, other people will think Internet is really slow. e. If this never happens before, call you Internet service provider to know if there is something wrong with their network.
I can't log into the web management interface; The password is wrong.	a. Make sure you're connecting to the correct IP address of the router! b. Password is case-sensitive. Make sure the 'Caps Lock' light is not illuminated. c. If you really forget the password, do a hard reset.
The router becomes hot	a. This is not a malfunction, if you can keep your hand on the router's case. b. If you smell something wrong or see the smoke coming out from router or A/C power adapter, please disconnect the router and A/C power adapter from utility power (make sure it's safe before you're doing this!), and call your dealer of purchase for help.

Appendix B: Configuring the PC in Windows 7

In this section, we'll introduce how to configure the TCP/IP correctly in Windows 7. First make sure your Network Adapter is working, refer to the adapter's manual if needed.

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

2) Click the **Network and Sharing Center** icon, and then click the **Change adapter settings** on the left side of the screen.

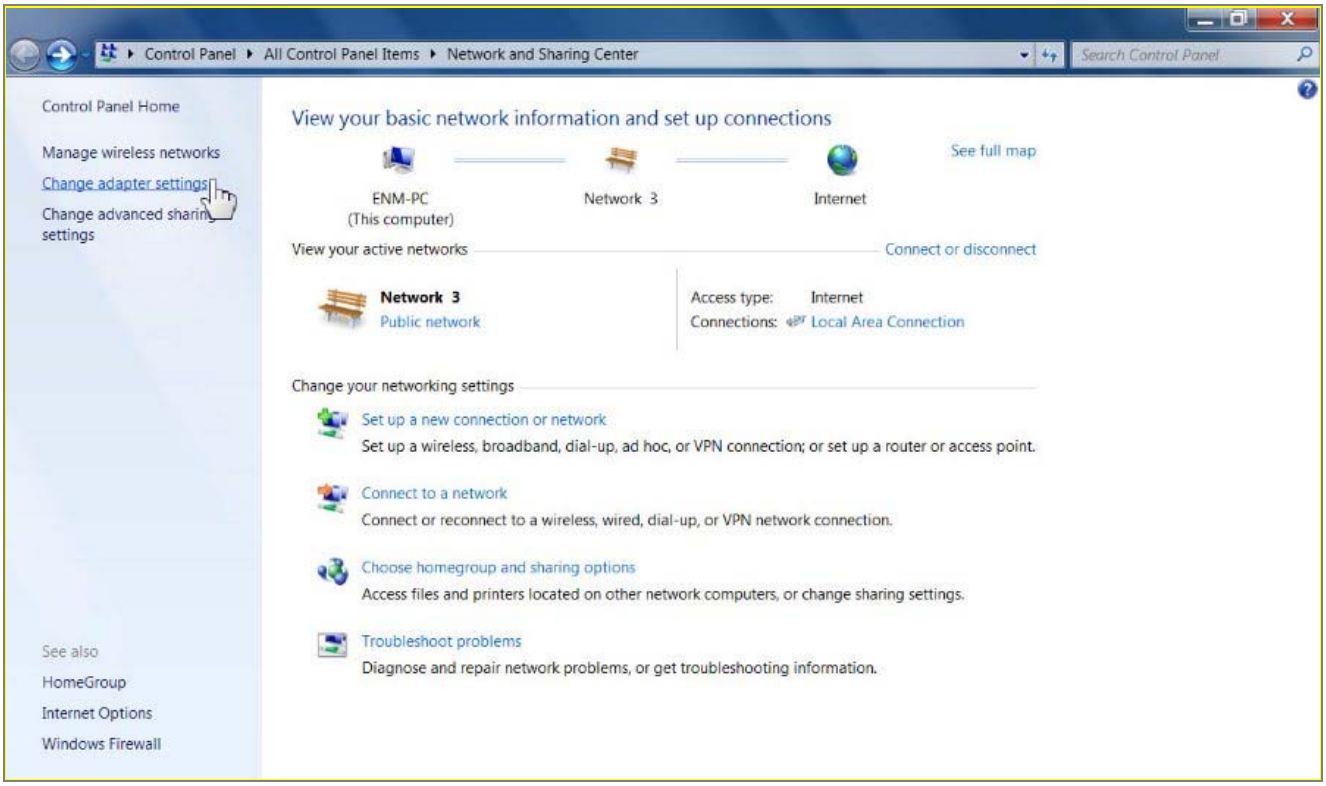


Figure B-1

3) Right click the icon of the network adapter shown in the figure below, and select Properties on the prompt window.

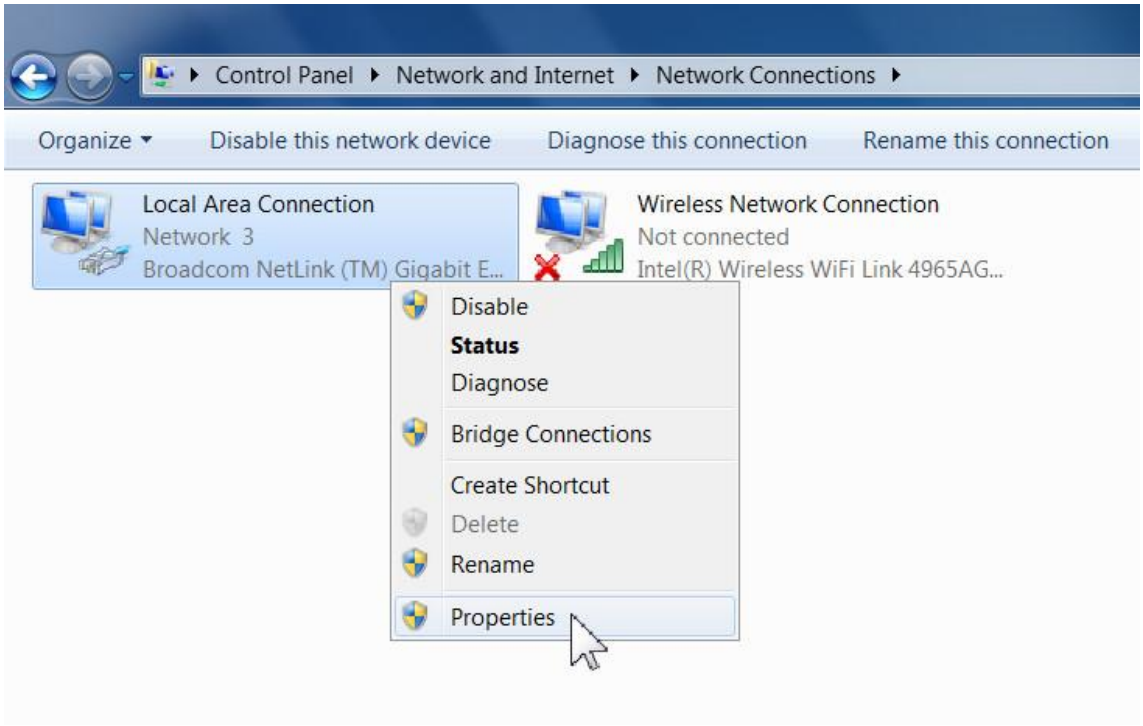


Figure B-1

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

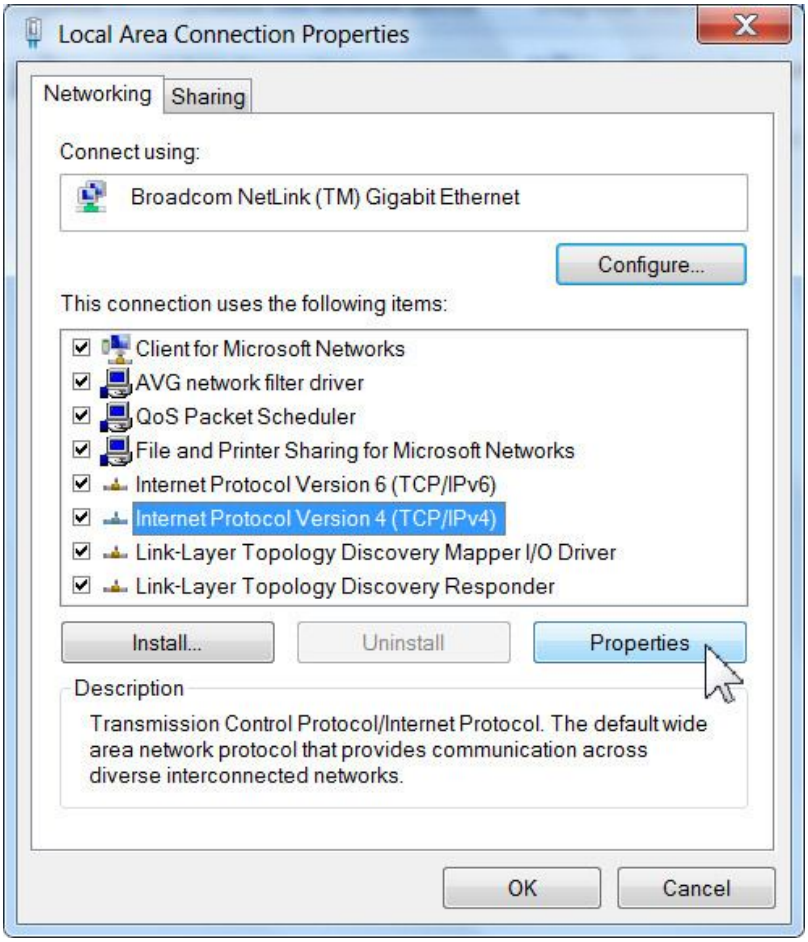


Figure B-3

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 address automatically**, as shown in the Figure below:

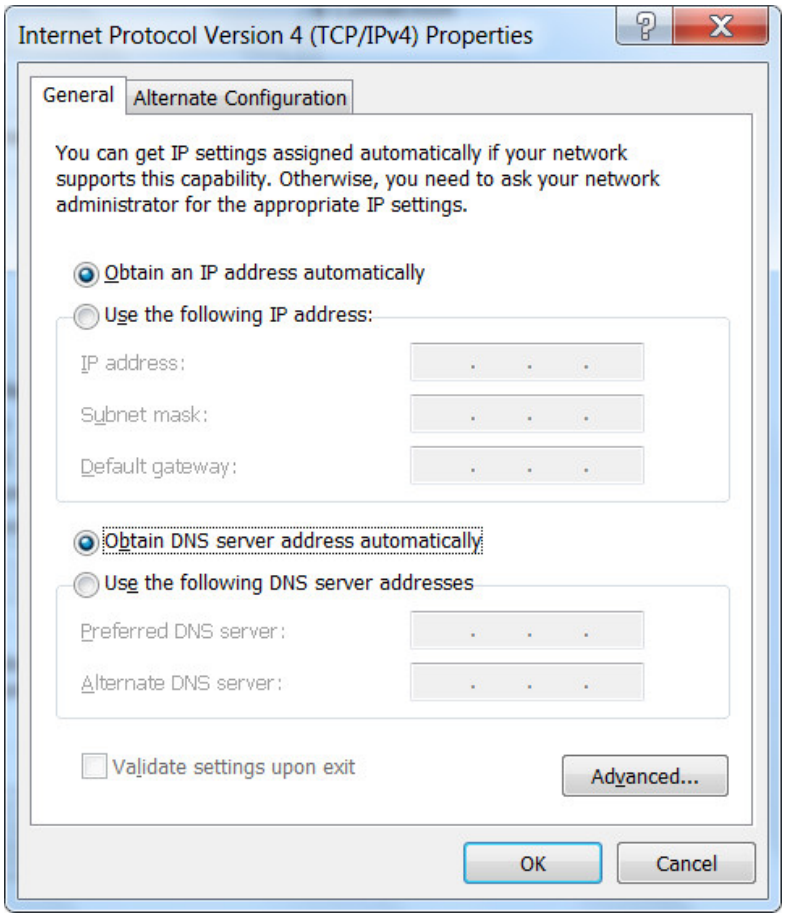


Figure B-4

➢ **Setting IP address manually**

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

2 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.

3 Type 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

type the DNS server IP address which has been provided by your ISP

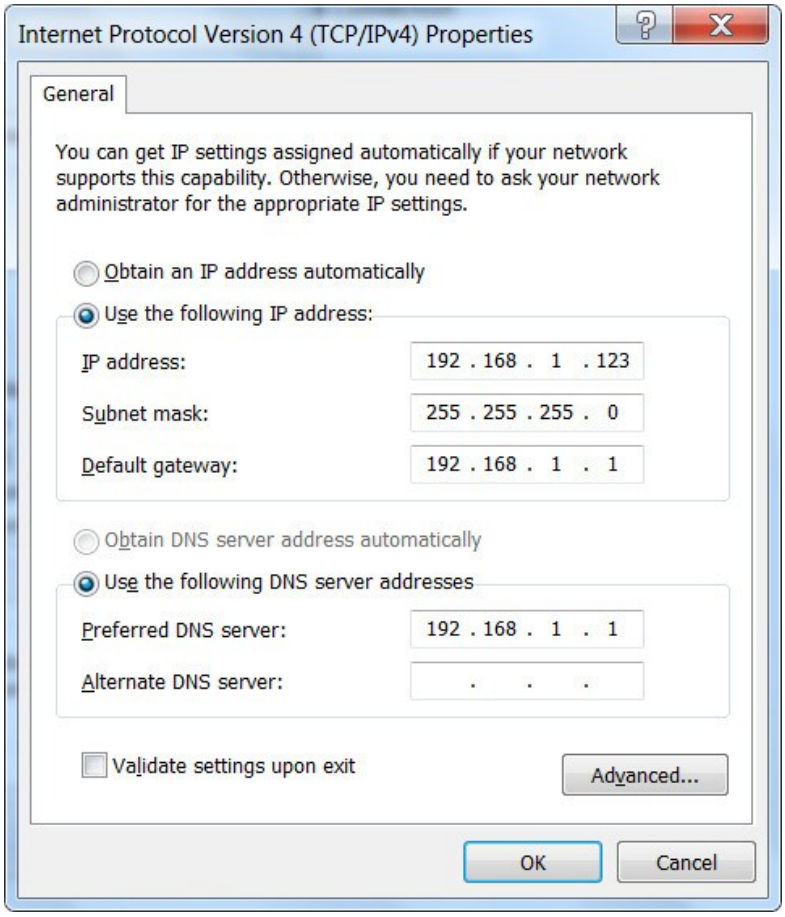


Figure B-5

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

Appendix C: Specifications

Product	**WDRT-731U** 300Mbps Dual-Band 802.11n Wireless Gigabit Router	
Hardware Specification		
Interface	WAN Port:	1 x 10/100/1000Mbps Auto MDI/MDI-X RJ45 port
	LAN Port:	3 x 10/100/1000Mbps Auto MDI/MDI-X RJ45 ports (LAN1~3)
	IPTV Port:	1 x 10/100/1000Mbps Auto MDI/MDI-X RJ45 port (LAN4)
	USB Port :	USB 2.0, Type-A, 5V DC/0.5A Output
Antenna	Gain:	2 x 5dBi fixed antenna
	Orientation:	Omni-directional
Reset / WPS Button	Reset / WPS button at rear panel ■ Press for about 7 seconds to reset the device to factory default. ■ Press for 1 second to activate WPS function.	
LED Indicators	PWR/SYS, WLAN (2.4G & 5G) x 2 WAN (Link & 1000Mbps) x 1 LAN (Link & 1000Mbps) x 3 IPTV (Link & 1000Mbps) x 1 USB, WPS	
Material	Plastic	
Dimension (WxDxH)	171.61 x 111.16 x 25.47 mm (W x D x H)	
Weight	250g	
Power Requirement	12V DC, 1A	
Wireless interface Specification		
Standard	Compliance with IEEE 802.11a/b/g/n	
Frequency Band	Simultaneous 2.4 GHz and 5 GHz 2.4GHz: 2.412~2.484GHz 5GHz: 5.180~5.825GHz	
Transmission Distance	Indoor up to 100m Outdoor up to 300m (it is limited to the environment)	
RF Power (Intentional Radiator)	**2.4GHz:** 11b: 17±1dBm 11g: 14.5±1.5dBm 11n: 12.5±1.5dBm	**5GHz:** 11a: 12±1.5dBm 11n: 12±1.5dBm
Wireless Management Features		
Wireless Modes	■ AP ■ WDS PtP ■ WDS PtMP	
Encryption Security	■ WEP (64/128-bit) ■ WPA-PSK (TKIP) / WPA2-PSK (AES) ■ WPA (TKIP) / WPA2 (AES)	
Wireless Security	Provide Wireless LAN ACL (Access Control List) filtering	
	Wireless MAC address filtering	

	Support WPS (WIFI Protected Setup)
Wireless Advanced	Support Dual-SSID (2.4G & 5G)
	AP Isolation: Enable it to isolate each connected wireless clients, to let them cannot access mutually.
	Support 802.11e WMM (Wi-Fi Multimedia)
Max. Supported Clients	Wire: 15 Wireless: 10
Router Features	
Internet Connection Type	Shares data and Internet access for users, supporting following internet access: ■ Dynamic IP ■ Static IP ■ PPPoE ■ PPTP ■ L2TP ■ PPPoE Dual Access
Firewall	NAT firewall
	Built-in NAT server which supports Virtual Server, and DMZ
	Built-in firewall with IP address filtering, Port filtering, URL filtering, and MAC address filtering
Routing Protocol	Static Routing
LAN	Built-in DHCP server supporting static IP address distributing
	Support UPnP, Dynamic DNS
	Support Packets Statistics
	IP-based Bandwidth Control
	Session Number: Max. 8000
System Management	Web-based (HTTP) management interface
	Remote management (WAN Access Control)
	SNTP time synchronize
	System Log
OS Compatibility	Windows 7 Windows Vista Windows XP Mac OS X 10.4 and higher

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 : 300Mbps Dual Band 802.11n Wireless Gigabit Router with USB

*Model Number : WDRT-731U

* 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 301 893 V1.5.1	(2008-12)
EN 301 489-1 V1.8.1	(2008-04)
EN 301 489-17 V2.1.1	(2009-05)
EN 50385	(2002)
EN 60950-1	(2006+A11:2009+A1:2010+A12:2011)

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	**16th Nov, 2012**	Kent Kang
Place	*Date*	*Legal Signature*

EC Declaration of Conformity

English	Hereby, **PLANET Technology Corporation,** declares that this **802.11n Wireless Gigabit Router** is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.	**Lietuviškai**	Šiuo **PLANET Technology Corporation,**, skelbia, kad **802.11n Wireless Gigabit Router** tenkina visus svarbiausius 1999/5/EC direktyvos reikalavimus ir kitas svarbias nuostatas.
Česky	Společnost **PLANET Technology Corporation,** tímto prohlašuje, že tato **802.11n Wireless Gigabit Router** splňuje základní požadavky a další příslušná ustanovení směrnice 1999/5/EC.	**Magyar**	A gyártó **PLANET Technology Corporation**, kijelenti, hogy ez a **802.11n Wireless Gigabit Router** megfelel az 1999/5/EK irányelv alapkövetelményeinek és a kapcsolódó rendelkezéseknek.
Dansk	**PLANET Technology Corporation,** erklærer herved, at følgende udstyr **802.11n Wireless Gigabit Router** overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF	**Malti**	Hawnhekk, **PLANET Technology Corporation,** jiddikjara li dan **802.11n Wireless Gigabit Router** 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 **802.11n Wireless Gigabit Router** 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 **802.11n Wireless Gigabit Router** in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG
Eestikeeles	Käesolevaga kinnitab **PLANET Technology Corporation,** et see **802.11n Wireless Gigabit Router** vastab Euroopa Nõukogu direktiivi 1999/5/EC põhinõuetele ja muudele olulistele tingimustele.	**Polski**	Niniejszym firma **PLANET Technology Corporation,** oświadcza, że **802.11n Wireless Gigabit Router** spełnia wszystkie istotne wymogi i klauzule zawarte w dokumencie „Directive 1999/5/EC".
Ελληνικά	*ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ* , **PLANET Technology Corporation,** *ΔΗΛΩΝΕΙ ΟΤΙ ΑΥΤΟ* **802.11n Wireless Gigabit Router***ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ*	**Português**	**PLANET Technology Corporation**, declara que este **802.11n Wireless Gigabit Router** 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 **802.11n Wireless Gigabit Router** 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 **802.11n Wireless Gigabit Router** 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 **802.11n Wireless Gigabit Router** 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 **802.11n Wireless Gigabit Router** skladen/a z osnovnimi zahtevami in ustreznimi določili Direktive 1999/5/EC.
Italiano	Con la presente , **PLANET Technology Corporation,** dichiara che questo **802.11n Wireless Gigabit Router** è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.	**Suomi**	**PLANET Technology Corporation,** vakuuttaa täten että **802.11n Wireless Gigabit Router** 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 **802.11n Wireless Gigabit Router** atbilst Direktīvas 1999/5/EK pamatprasībām un citiem atbilstošiem noteikumiem.	**Svenska**	Härmed intygar, **PLANET Technology Corporation,** att denna **802.11n Wireless Gigabit Router** står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.