



802.11g Wireless Broadband Router

WRT-415

User's Manual

Version 1.0

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

Federal Communication Commission (FCC) Radiation Exposure Statement

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

CE Mark Warning

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

Protection requirements for health and safety – Article 3.1a

Testing for electric safety according to EN 60950 has been conducted. These are considered relevant and sufficient.

Protection requirements for electromagnetic compatibility – Article 3.1b

Testing for electromagnetic compatibility according to EN 301 489-1, EN 301 489-17 and EN 55024 has been conducted. These are considered relevant and sufficient.

Effective use of the radio spectrum – Article 3.2

Testing for radio test suites according to EN 300 328-2 has been conducted. These are considered relevant and sufficient.

CE in which Countries where the product may be used freely:

Germany, UK, Italy, Spain, Belgium, Netherlands, Portugal, Greece, Ireland, Denmark, Luxembourg, Austria, Finland, Sweden, Norway and Iceland.

France: except the channel 10 through 13, law prohibits the use of other channels

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.

WEEE regulation



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

Revision

User's Manual for PLANET Wireless Broadband Router
Model: WRT-415

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Part No. EM-WRT415v2

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Chapter 1 Introduction

The PLANET WRT-415 is an 802.11g wireless router that supports high-speed wireless networking for home or SOHO users. The WRT-415 provides data rate up to 54 Mbps when used with other 802.11g products. The 802.11g standard is backwards compatible with 802.11b products. There is no need to change existing network to maintain connectivity. You may sacrifice some of 802.11g's performance when using 802.11b and 802.11g devices in the same WLAN, but you still can keep the ability to communicate when deploying the 802.11g standard into your 802.11b network.

The WRT-415 supports the most advanced security features available today: WPA/WPA2. WPA (Wi-Fi Protected Access) authorizes and identifies users based on a secret key that changes automatically at a regular interval. WPA/WPA2 uses TKIP or AES to change the temporal key periodically. This insures much greater security than the standard WEP security. (By contrast, the older WEP encryption required the keys to be changed manually.)

For home users that will not incorporate a RADIUS server in their network, the security for the WRT-415 will still be much stronger than ever before. Utilizing the PSK (Pre Shared Key) mode of WPA, the WRT-415 will obtain a new security key every time it connects to the 802.11g network. You only need to enter your encryption information once in the configuration menu. Then you will automatically receive a new key every time you connect, thus highly increasing the safety of your communications.

1.1 Package Contents

Make sure that you have the following items:

- One WRT-415
- One dipole antenna
- One AC Power Adapter
- One User's Manual CD
- One Quick Installation Guide

Note: If any of the above items are missing, contact your supplier as soon as possible.
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1.2 System Requirements

Before installation, please check the following requirements with your equipment.

- Ethernet-based ADSL / Cable modem
- Computers with Microsoft Windows, Macintosh, or Linux operating systems equipped with an Ethernet adapter and a CD-ROM drive
- Internet Explorer v6.0 or Netscape Navigator v6.0 and above

1.3 Features

- 2.4GHz ISM band, unlicensed operation
- Supports WPA/WPA2 (Wi-Fi Protected Access) for both 802.1x and WPA/WPA2-PSK or AES
- Dual-standard capability: 802.11g and 802.11b compliant
- Supports DHCP server
- Web Configuration provide a user friendly interface for the user to configure through web browser
- Supports UPnP (Universal Plug and Play)
- Supports MAC / IP / Protocol Filter
- Supports DDNS, virtual server and DMZ
- Build-in 4-port switch
- Provides Setup Wizard for the user to configure easily in the first time

1.4 Specification

Standards	IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.11g; IEEE 802.11b
Protocol	CSMA/CD
Radio Technology	IEEE 802.11g Orthogonal Frequency Division Modulation
Data Transfer Rate	802.11b: 1, 2, 5.5, 11Mbps (auto sense) 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps @802.11g(auto sense) Ethernet: 10Mbps (half duplex), 20Mbps (full-duplex) Fast Ethernet: 100Mbps (half duplex), 200Mbps (full- duplex)
Topology	Star
Receiver Sensitivity	54Mbps: Typical -70dBm @ 10% PER (Packet Error Rate) 11Mbps: Typical -85dBm @ 8% PER (Packet Error Rate)
TX Power	15dBm typically
Frequency Range	2412 ~ 2484 MHz ISM band
Modulation Schemes	DBPSK/DQPSK/CCK/OFDM
Security	64/128-bit WEP Encryption; WPA, WPA-PSK
Channels	1 ~ 11 channels (FCC); 1 ~ 13 channels (ETSI); 1 ~ 14 channels (MKK)
Number of Ports	LAN: 4 x 10/100Mbps Auto-MDIX Fast Ethernet port WAN: 1 x 10/100Mbps Auto-MDIX Fast Ethernet port
DC inputs	DC 7.5V 1A
Power Consumption	5W (Max)
Temperature	Operating: 0° ~ 40° C, Storage: -10° ~ 70° C
Humidity	Operating: 10% ~ 90%, Storage: 5% ~ 90%

Dimensions	147 x 110 x 30 mm (W x H x D) without Antenna
EMI:	FCC Class B, CE Mark B

1.5 Wireless Performance

The following information will help you utilizing the wireless performance, and operating coverage of WRT-415.

1. Site selection

To avoid interferences, please locate WRT-415 and wireless clients away from transformers, microwave ovens, heavy-duty motors, refrigerators, fluorescent lights, and other industrial equipments. Keep the number of walls, or ceilings between AP and clients as few as possible; otherwise the signal strength may be seriously reduced. Place WRT-415 in open space or add additional Access Point as needed to improve the coverage.

2. Environmental factors

The wireless network is easily affected by many environmental factors. Every environment is unique with different obstacles, construction materials, weather, etc. It is hard to determine the exact operating range of WRT-415 in a specific location without testing.

3. Antenna adjustment

The bundled antenna of WRT-415 is adjustable. Firstly install the antenna pointing straight up, then smoothly adjust it if the radio signal strength is poor. But the signal reception is definitely weak in some certain areas, such as location right down the antenna.

Moreover, the original antenna of WRT-415 can be replaced with other external antennas to extend the coverage. Please check the specification of the antenna you want to use, and make sure it can be used on WRT-415.

4. WLAN type

If WRT-415 is installed in an 802.11b and 802.11g mixed WLAN, its performance will reduced significantly. Because every 802.11g OFDM packet needs to be preceded by an RTS-CTS or CTS packet exchange that can be recognized by legacy 802.11b devices. This additional overhead lowers the speed. If there are no 802.11b devices connected, or if connections to all 802.11b devices are denied so that WRT-415 can operate in 11g-only mode, then its data rate should actually 54Mbps.

Chapter 2 Hardware Installation

Before you proceed with the installation, it is necessary that you have enough information about the WRT-415.

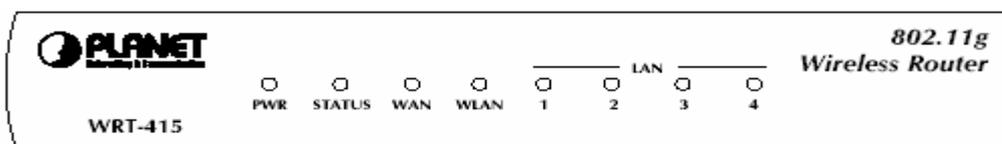
2.1 Hardware Connection

1. Locate an optimum location for the WRT-415. The best place for your WRT-415 is usually at the center of your wireless network, with line of sight to all of your mobile stations.
2. Connect the power adapter to the receptor at the rear panel of the WRT-415, and plug the other end of the power adapter to a wall outlet or power strip. The Power LED will light up to indicate proper operation.
3. Power off the ADSL / Cable modem first. Connect ADSL/Cable Modem to the WAN port on WRT-415. Use the cable supplied with your modem. If no cable was supplied with your modem, please use a RJ-45 Ethernet cable. After the Ethernet cable is securely connected, power on the ADSL / Cable modem. The WAN LED will light up to indicate proper connection.
4. Use an Ethernet cable to connect one of the LAN ports on the WRT-415 and the computer you are using to configure the router. The corresponding LAN LED will light up to indicate proper connection. The LAN ports on the WRT-415 are Auto-MDI/MDI-X; thus, you can use a straight or crossover Ethernet cable freely.
5. Adjust the antennas of WRT-415. Try to adjust them to a position that can best cover your wireless network. The antenna's position will enhance the receiving sensitivity.

Note: ONLY use the power adapter supplied with the WRT-415. Otherwise, the product may be damaged.

Note: If you want to reset WRT-415 to default settings, press and hold the Reset button over 5 seconds. And then wait for 10 seconds for WRT-415 restart.

2.2 LED Indicators



LED	STATE	MEANING	
PWR	Green	Device power on	
	Off	Device power off	
STATUS	Green or Off	Device fail	
	Blinking Green	Device is working	
WAN	Green	WAN link status is on	
	Blinking Green	WAN activity	
WLAN	Green	WLAN link status is on	
	Blinking Green	WLAN activity	
LAN	1	Green	Link is established
		Blinking Green	Packets are transmitting or receiving
	2	Green	Link is established
		Blinking Green	Packets are transmitting or receiving

3	Green	Link is established
	Blinking Green	Packets are transmitting or receiving
4	Green	Link is established
	Blinking Green	Packets are transmitting or receiving

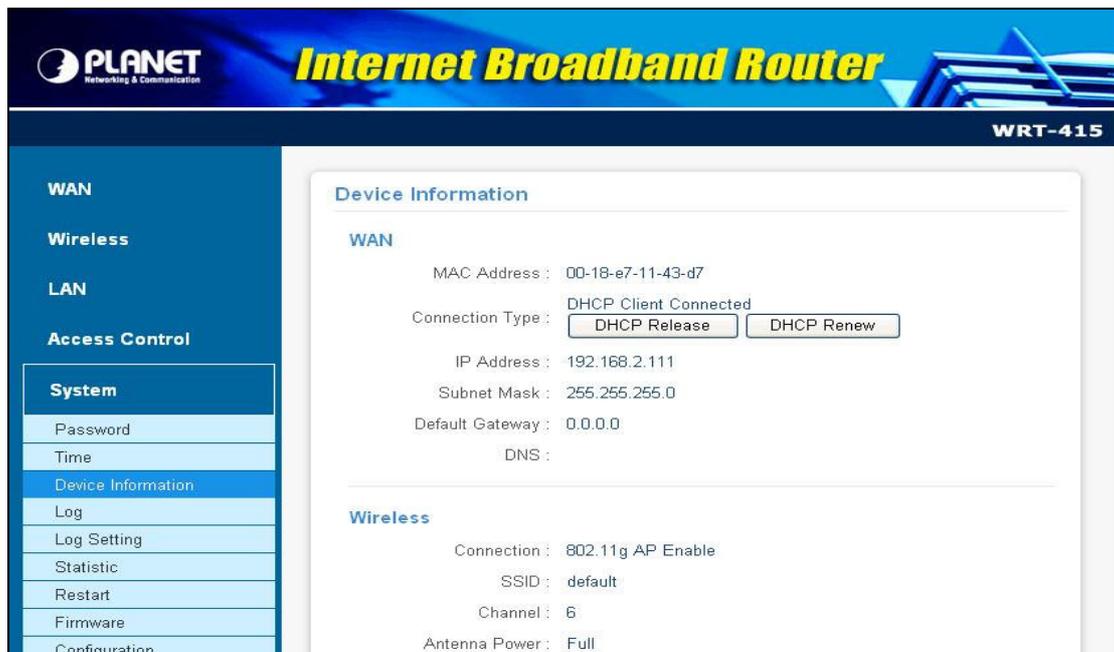
Chapter 3 Configure through Web Browser

Web configuration provides a user-friendly graphical user interface (web pages) to manage your WRT-415.

1. Open your web browser .
2. Enter the IP address of your WRT-415 in the address field (default IP address is <http://192.168.1.1>).
3. A User Name and Password dialog box will appear. Please enter your User Name and Password here. Default User Name and Password are both **“admin”**. Click **“OK”**.

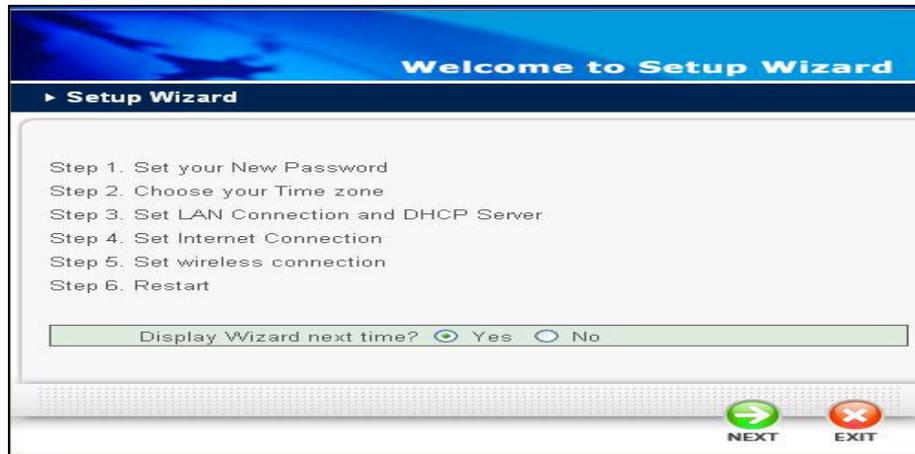


4. When the user name / password is correct, you will see the WRT-415 web page as below.

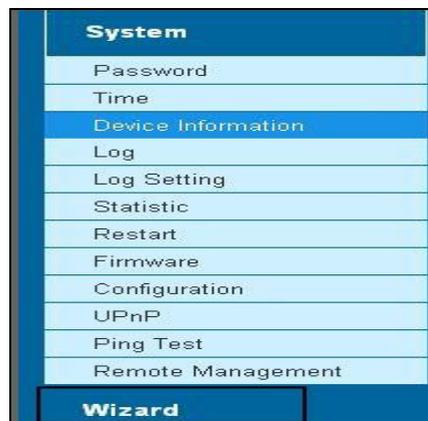


3.1 Wizard

When this is your first time to setup WRT-415, we will suggest you use the Wizard to complete the configuration. The setup wizard enables you to configure the WRT-415 quickly and conveniently. Click “Wizard” button, the window below will appear. Please click “Next>” and follow the steps to configure WRT-415.

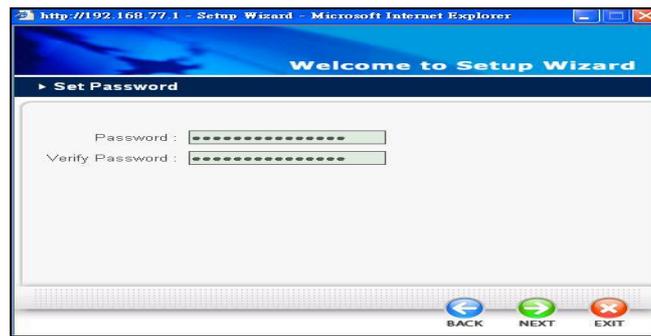


Click the Wizard. If you do not want to display wizard by itself next time, select “No” option from “display wizard next time?” and click “update”. In the future, you can still have wizard appeared by clicking “Wizard” button on left panel of WRT-415’s web page.



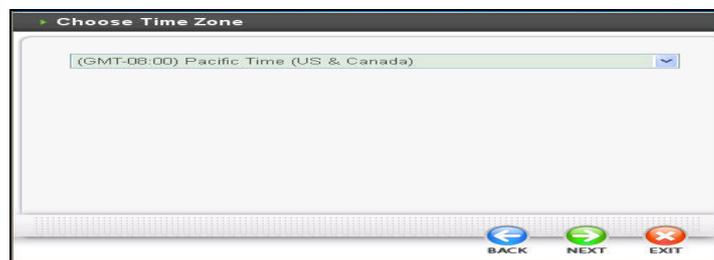
To configure WRT-415, please follow the steps below to complete the configuration. Click NEXT to continue.

Step 1. Set your new password



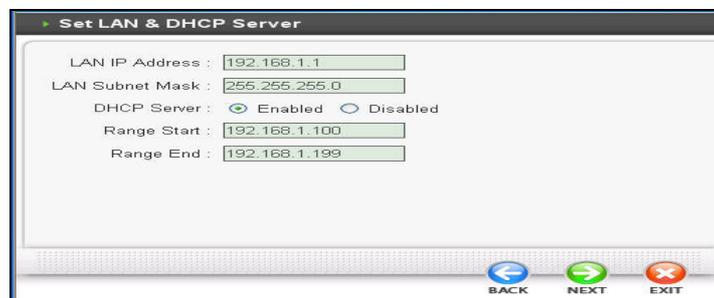
The default password for administrator (login name is “admin”) is “admin”. You can change the Password in this step. Click NEXT.

Step 2. Choose your time zone



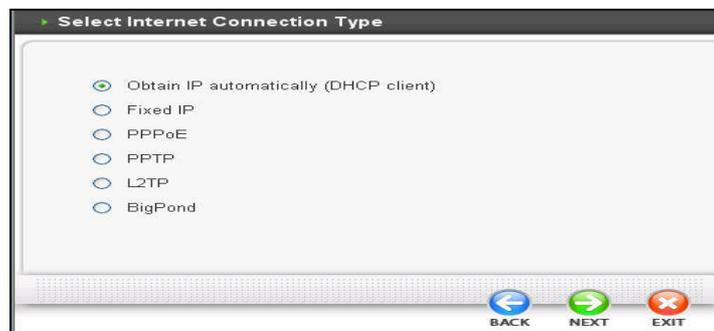
Select the time zone that belongs to your location. Click NEXT.

Step 3. Set LAN connection and DHCP server



You can set the IP address, subnet mask and enable or disable DHCP server function. When DHCP server is enabled, please ensure your LAN IP Address is on the same IP range of DHCP Server. Click NEXT to continue.

Step 4. Set Internet connection



Please select your Internet connection type click NEXT .

Refer to the information your ISP is provided to enter.

Step 5. Set wireless LAN connection



You can either enable or disable the wireless interface. If the Wireless LAN is enabled, you should set a ESSID and Channel for the wireless client to access . Click "NEXT" to continue.

Step 6. Restart



Please click the " RESTART " button to save the settings and restart WRT-415. In the following web page, please click "CLOSE" to close the Setup Wizard window.

3.2 WAN

3.2.1 Connection Type

Please refer to your Internet connection method to select the Connection Type. And please configure those settings per the information your ISP provides.

The screenshot displays the WAN configuration interface for a PLANET WRT-415 Internet Broadband Router. The left sidebar shows navigation options: WAN, Connection Type, Dynamic DNS, Wireless, LAN, Access Control, System, and Wizard. The main content area is titled 'Connection Type' and includes the following fields and options:

- Connection Type:** A dropdown menu set to 'DHCP Client or Fixed IP'.
- WAN IP Address:** Radio buttons for 'Obtain IP Automatically' (unselected) and 'Specify IP' (selected).
- IP Address:** Text input field containing '210.66.155.86'.
- Subnet Mask:** Text input field containing '255.255.255.224'.
- Gateway:** Text input field containing '210.66.155.94'.
- DNS 1:** Text input field containing '168.95.1.1'.
- DNS 2:** Text input field containing '168.95.192.1'.
- Clone MAC Address:** A section with a 'Clone MAC Address' button and a field containing the MAC address '00-16-e6-Bc-f8-f3'.

At the bottom right of the configuration area, there are 'Cancel' and 'Apply' buttons.

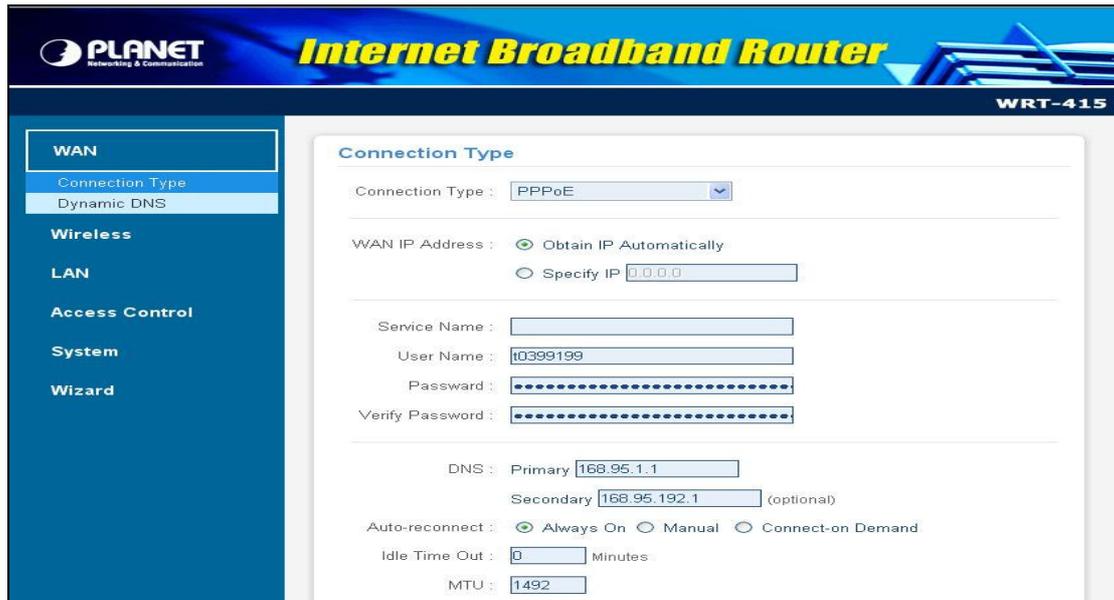
Connection Type: Select the connection type, DHCP client/Fixed IP, PPPoE, PPTP, or L2TP from the drop-down list.

When using DHCP client/Fixed IP, enter the following information in the fields (some information are provided by your ISP):

WAN IP: Select whether you want to specify an IP address manually, or want DHCP to obtain an IP address automatically. When "Specify IP" is selected, type the IP address, subnet mask, and default gateway in the fields. Your ISP will provide you with this information.

DNS 1 - 2 : Please type one DNS numbers into "DNS 1" fields. If your ISP has provide more DNS Server information to you , please type the other DNS number to "DNS 2".

Clone MAC Address: If required by your ISP, type the MAC address for the WRT-415 WAN interface in this field. You can also copy the MAC address of your PC's network card to the WRT-415 WAN interface by clicking "Clone MAC address".



When using PPPoE, enter the following information in the fields (some information are provided by your ISP):

WAN IP: Select whether you want the ISP to provide the IP address automatically, or whether you want to assign a static IP address to the WRT-415 WAN interface. When “Specify IP” is selected, type the PPPoE IP address in the field. Your ISP will provide you with this information.

DNS 1 / 2 : Please type one DNS numbers into “DNS 1” fields. If your ISP has provide more DNS Server information to you , please type the other DNS number to “DNS 2”.

User Name: Type your PPPoE user name.

Password: Type your PPPoE password.

Connect on Demand: Enables or disables the connect on demand function, which enables WRT-415 to initiate a connection with your ISP when an Internet request is made to the WRT-415. When enabled, the WRT-415 automatically connects to the Internet when you open your browser.

Idle Time Out: Specify the time that will elapse before the WRT-415 times out of a connection.

MTU: Type the MTU value in the field.

The screenshot shows the 'WAN' configuration page with the 'Connection Type' tab selected. The 'Connection Type' is set to 'PPTP'. Under 'WAN IP Address', the 'Specify IP' radio button is selected. The fields are filled with: IP Address: 192.168.99.129, Subnet Mask: 255.255.255.0, Gateway: 192.168.99.253, and DNS: 168.95.1.1. The 'Server IP/Name' is 192.168.99.128, 'PPTP Account' is 'joe', and both 'PPTP Password' and 'Verify Password' are masked with dots. The 'Auto-reconnect' section has 'Always On' selected. 'Idle Time Out' is 0 minutes and 'MTU' is 1400. 'Cancel' and 'Apply' buttons are at the bottom right.

When using PPTP, enter the following information in the fields (some information are provided by your ISP):

Dynamic IP / Static IP: Select the IP assignment method.

IP Address: Type the IP address which your ISP provides.

Subnet Mask: Type the Subnet Mask which your ISP provides.

Gateway: Type the IP address of Gateway which your ISP provides.

DNS: Type the IP address of DNS server which your ISP provides.

Server IP/Name: Type the IP address or name of server which offers Internet service. Your ISP will provide you with this information.

PPTP Account: Type your PPTP account.

PPTP Password: Type your PPTP password.

PPTP Verify password: Confirm your PPTP password again.

Auto-reconnect: If this function is enabled, WRT-415 will try to rebuild Internet connection once the link is down.

PLANET Networking & Communication **Internet Broadband Router** WRT-415

WAN

- Connection Type
- Dynamic DNS
- Wireless
- LAN
- Access Control
- System
- Wizard

Connection Type

Connection Type :

WAN IP Address : Obtain IP Automatically Specify IP

IP Address :

Subnet Mask :

Gateway :

DNS :

Server IP/Name :

L2TP Account :

L2TP Password :

Verify Password :

Auto-reconnect : Always On Manual Connect-on Demand

Idle Time Out : Minutes

When using L2TP, enter the following information in the fields (some information are provided by your ISP):

Dynamic IP / Static IP: Select the IP assignment method.

IP Address: Type the IP address which your ISP provides.

Subnet Mask: Type the Subnet Mask which your ISP provides.

Gateway: Type the IP address of Gateway which your ISP provides.

DNS: Type the IP address of DNS server which your ISP provides.

Server IP/Name: Type the IP address or name of server which offers Internet service. Your ISP will provide you with this information.

L2TP Account: Type your L2TP account.

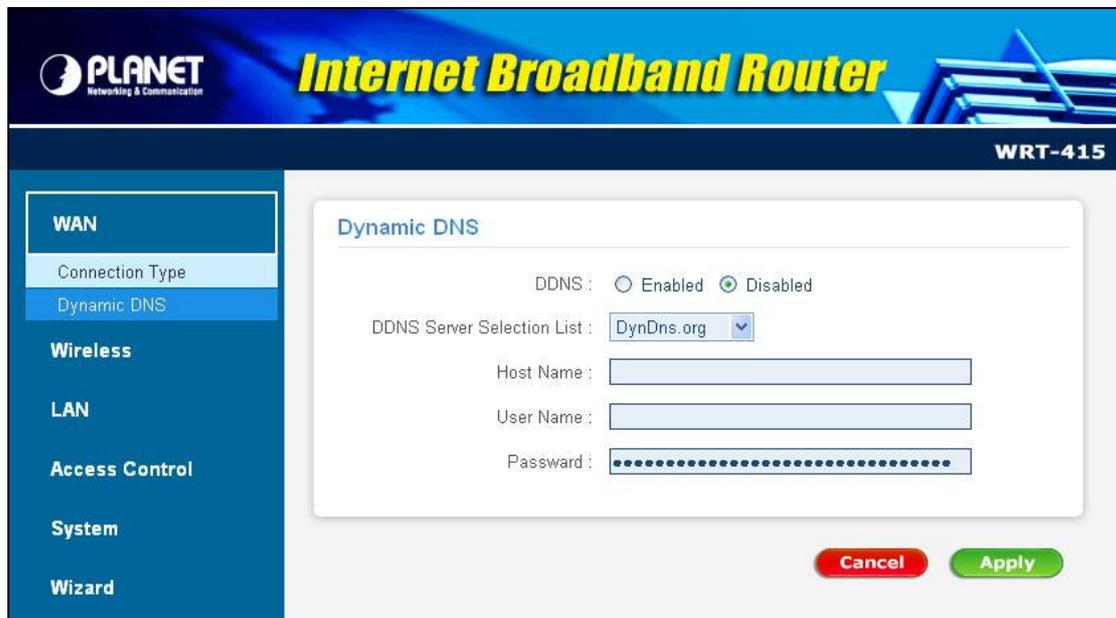
L2TP Password: Type your L2TP password.

L2TP Verify password: Confirm your L2TP password again.

Auto-reconnect: If this function is enabled, WRT-415 will try to rebuild Internet connection once the link is down.

3.2.2 Dynamic DNS

You can configure WRT-415 to use DDNS service if you already have a registered DDNS account.



The screenshot shows the configuration interface for the WRT-415 router. The top banner features the PLANET logo and the text "Internet Broadband Router". The page title is "WRT-415". On the left, a navigation menu includes "WAN", "Wireless", "LAN", "Access Control", "System", and "Wizard". The "Dynamic DNS" option under "WAN" is selected. The main content area is titled "Dynamic DNS" and contains the following fields:

- DDNS: Enabled Disabled
- DDNS Server Selection List:
- Host Name:
- User Name:
- Password:

At the bottom right of the configuration area, there are two buttons: "Cancel" (red) and "Apply" (green).

DDNS: You can enable or disable DDNS function here.

DDNS Server Address: WRT-415 supports 3 DDNS provider: DynDns.org, EasyDns.com, and No-IP.com. Please select the one which you registered to.

Host Name: Enter the host name you registered to DDNS provider.

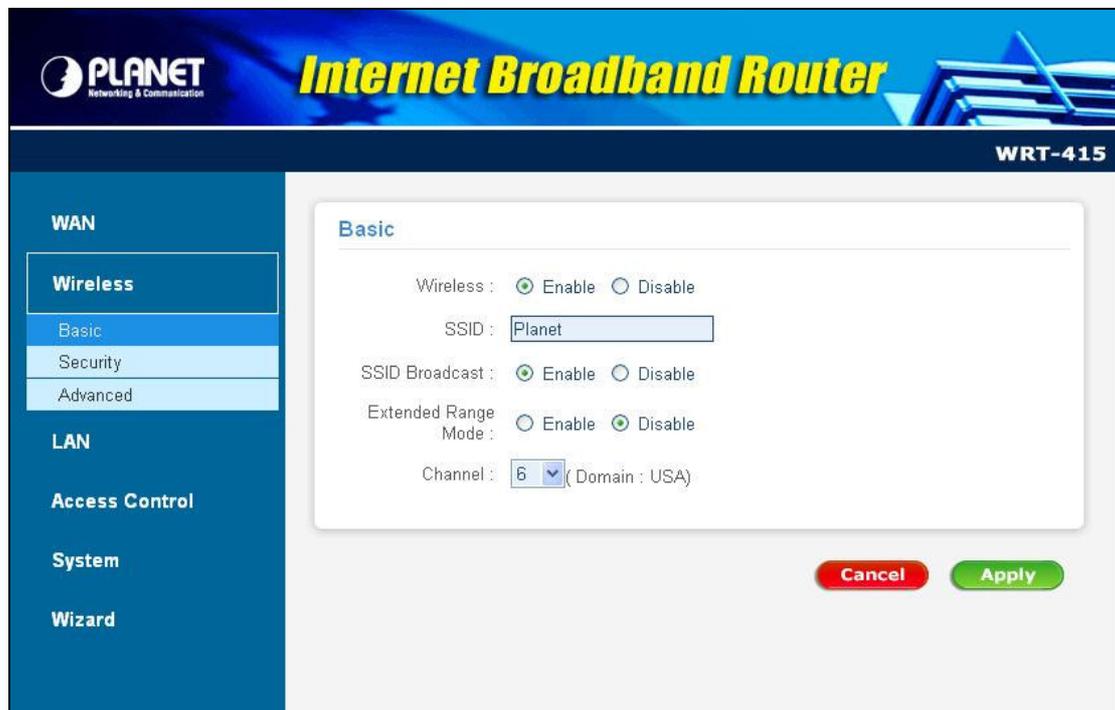
User Name: Enter the user name you registered to DDNS provider.

Password: Enter the password of your registered account.

3.3 Wireless

3.3.1 Basic

This page allows you to enable or disable the wireless LAN function, enter a SSID, and set the channel for wireless communications.



The screenshot shows the configuration interface for the Planet WRT-415 Internet Broadband Router. The page title is "Internet Broadband Router" and the model is "WRT-415". The left sidebar contains navigation options: WAN, Wireless (selected), Basic (selected), Security, Advanced, LAN, Access Control, System, and Wizard. The main content area is titled "Basic" and contains the following settings:

- Wireless: Enable Disable
- SSID:
- SSID Broadcast: Enable Disable
- Extended Range Mode: Enable Disable
- Channel: (Domain : USA)

At the bottom right of the configuration area, there are two buttons: "Cancel" (red) and "Apply" (green).

Wireless Radio: Enable or disable wireless LAN via the WRT-415.

SSID: Type an SSID in the field. The SSID of any wireless device must match the SSID typed here in order for the wireless device to access the LAN and WAN via the WRT-415.

Channel: Select a work channel for wireless communications. The channel of any wireless device must match the channel selected here in order for the wireless device to access the LAN and WAN via the WRT-415.

Extended Range Mode: Enable and disable the wireless Extended Range enhancement.

SSID Broadcast: If disabled, no SSID is broadcast. If enabled, the SSID of WRT-415 will then be broadcast to all wireless stations. Stations which have no SSID (or a "null" value) can then adopt the correct SSID for connections to this router.

3.3.2 Security

This screen allows you to set authentication types and the parameters for secure wireless communications. Please “Enable” when you would like the security function works.

3.3.2.1 WEP

The screenshot shows the 'Security' configuration page for the Planet WRT-415 router. The page is titled 'Security' and has a sidebar on the left with navigation options: WAN, Wireless (Basic, Security, Advanced), LAN, Access Control, System, and Wizard. The main content area shows the following settings:

- Security: Enable Disable
- Authentication Type: WEP (dropdown)
- WEP: Open System Share Key
- WEP Key Format: HEX (dropdown)
- WEP Key Length: 64-bit (dropdown)
- WEP Key 1: 1234567890
- WEP Key 2: 0000000000
- WEP Key 3: 0000000000
- WEP Key 4: 0000000000

At the bottom right, there are 'Cancel' and 'Apply' buttons.

Authentication Type: Select the type from the listed options. If WEP is selected, the screen would appear as above.

WEP Type: You can choose to use Open system or Shared key.

Mode: Select the key code you want to use for WEP Key, HEX or ASCII. When Hex is selected, you may enter alphanumeric characters in the range of “A-F”, “a-f” and “0-9” in the WEP Key entry field. Alternatively, you may enter digit hexadecimal values in the range of “a-z”, “A-Z” and “0-9”.

WEP Key: Select the level of encryption you want from the drop-down list. WRT-415 supports 64, and 128-bit encryption.

Key 1 ~ Key 4: There are 4 keys available, please ensure you have enter correct number for the key values with different Key Length and coding (Hex or ASCII) as 64bit (10 Hex digit / 5 ASCII), 128bit (26 Hex digit / 13 ASCII) or 256bit (58 Hex digit / 29 ASCII), please select one of them and enter the key you want to use. Click “Clear” to erase key values.

Note: 128bit WEP encryption will require more system resources than 64bit encryption. Use 64-bit encryption for better performance.

3.3.2.2 WPA

The screenshot shows the 'Security' configuration page for the Planet WRT-415 router. The left sidebar contains navigation options: WAN, Wireless (selected), Basic, Security, Advanced, LAN, Access Control, System, and Wizard. The main content area is titled 'Security' and includes the following settings:

- Security: Enable Disable
- Authentication Type: WPA (dropdown)
- Encryption Type: TKIP AES
- PSK / EAP: PSK EAP
- Radius Server 1: IP Address: 192.168.99.120, Port: 1812, Shared Secret: [masked]
- Radius Server 2: IP Address: 192.168.99.150, Port: 1812, Shared Secret: [masked]

At the bottom right, there are 'Cancel' and 'Apply' buttons.

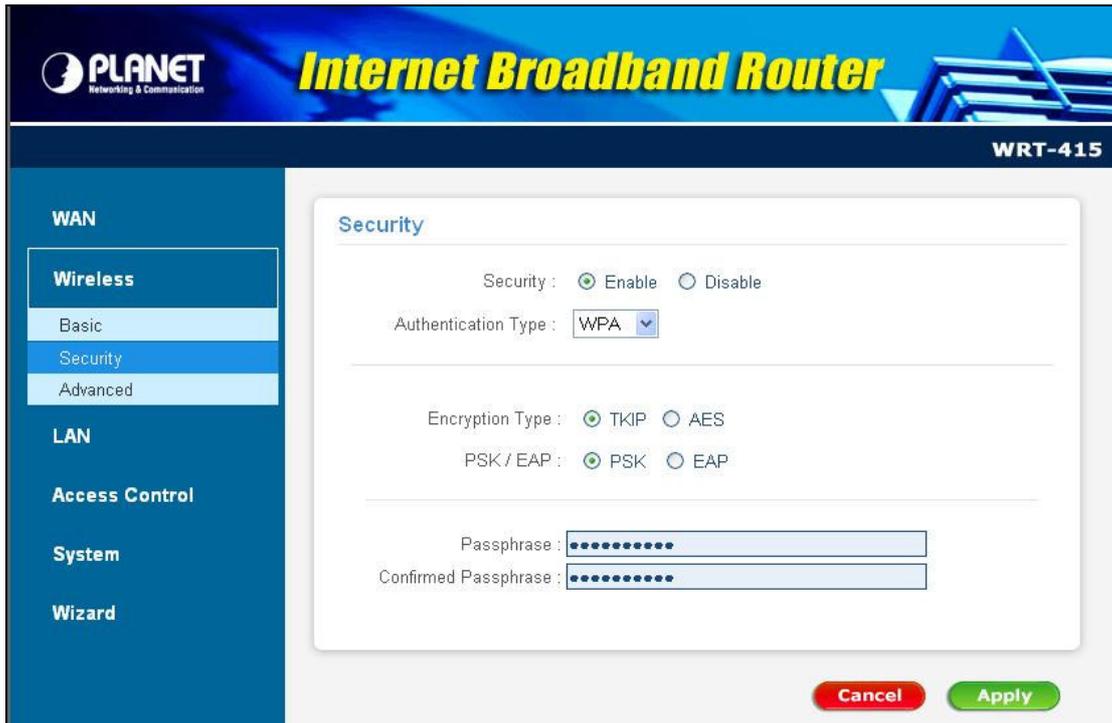
Cipher Type: WRT-415 supports two cipher types for WPA encryption: TKIP and AES. The wireless stations must use the same cipher type to build the connection.

RADIUS Server 1: Enter the IP address, communicate port number, and shared secret key of your primary RADIUS server.

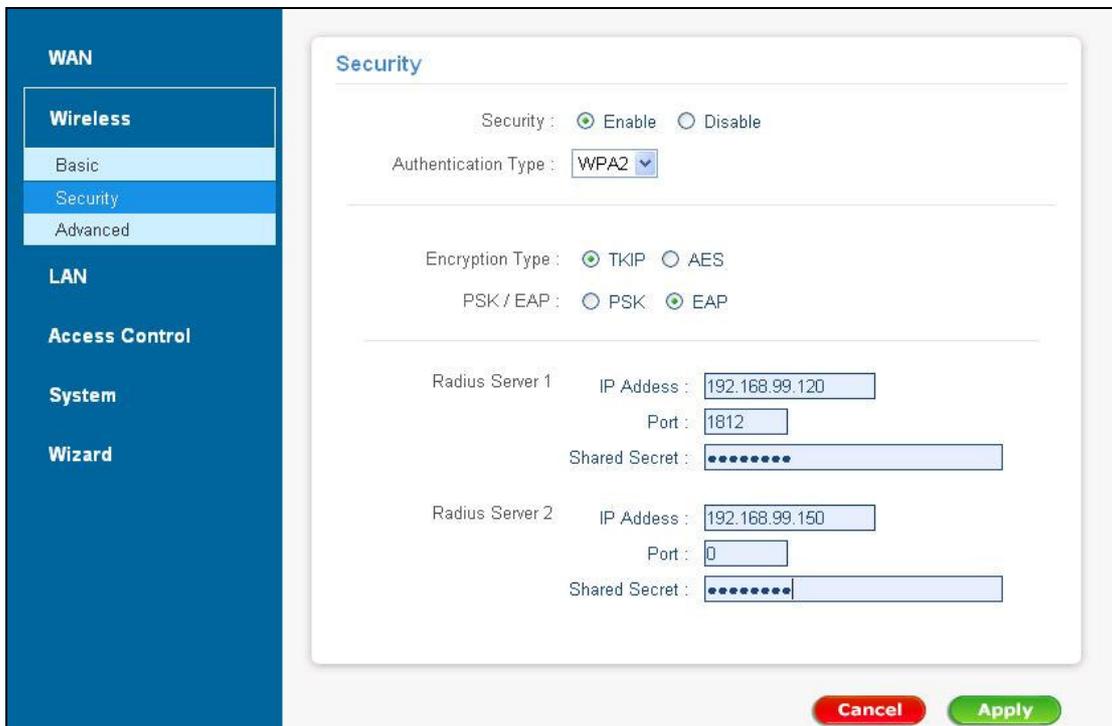
RADIUS Server 2: Enter the IP address, communicate port number, and shared secret key of your secondary RADIUS server.

Note: As soon as RADIUS authentication is enabled, all the wireless client stations that are connected to the Router currently will be disconnected. The wireless clients must be configured manually to authenticate themselves with the RADIUS server to be reconnected.

If WPA-PSK is selected, the screen appears as below. Please enter a hard-to-guess passphrase (between 8 and 63 characters) in the field.



3.3.2.3 WPA2



Cipher Type: WRT-415 supports two cipher types for WPA2 encryption: TKIP and AES. The wireless stations must use the same cipher type to build the connection.

RADIUS Server 1: Enter the IP address, communicate port number, and shared secret key of your

primary RADIUS server.

RADIUS Server 2: Enter the IP address, communicate port number, and shared secret key of your secondary RADIUS server.

Note: As soon as RADIUS authentication is enabled, all the wireless client stations that are connected to the Router currently will be disconnected. The wireless clients must be configured manually to authenticate themselves with the RADIUS server to be reconnected.

If WPA2-PSK is selected, the screen appears as below. Please enter a hard-to-guess passphrase (between 8 and 63 characters) in the field.

The screenshot shows the configuration interface for the Planet Internet Broadband Router WRT-415. The left sidebar contains navigation options: WAN, Wireless (selected), Basic, Security, Advanced, LAN, Access Control, System, and Wizard. The main content area is titled "Security" and includes the following settings:

- Security: Enable Disable
- Authentication Type: WPA2 (dropdown menu)
- Encryption Type: TKIP AES
- PSK / EAP: PSK EAP
- Passphrase: [Redacted field]
- Confirmed Passphrase: [Redacted field]

At the bottom right, there are "Cancel" and "Apply" buttons.

3.3.3 Advanced

This screen enables you to configure advanced wireless functions.

The screenshot shows the 'Advanced' configuration page for the Planet Internet Broadband Router WRT-415. The sidebar on the left lists navigation options: WAN, Wireless (selected), Basic, Security, Advanced, LAN, Access Control, System, and Wizard. The main content area is titled 'Advanced' and contains the following configuration fields:

- Beacon Interval: 100 (default: 100 msec, range: 20 ~ 1000)
- RTS Threshold: 2346 (default: 2346, range: 256 ~ 2346)
- Fragmentation Threshold: 2346 (default: 2346, range: 1500 ~ 2346)
- DTIM Interval: 1 (default: 1, range: 1 ~ 255)
- TX Rate: Auto
- Antenna Transmit Power: full

At the bottom right of the configuration area, there are 'Cancel' and 'Apply' buttons.

Beacon Interval: Type the beacon interval in the field. You can specify a value from 1 to 1000. The default beacon interval is 100.

RTS Threshold: Type the RTS (Request-To-Send) threshold in the field. This value stabilizes data flow. If data flow is irregular, choose values between 256 and 2432 until data flow is normalized.

Fragmentation Threshold: Type the fragmentation threshold in the field. If packet transfer error rates are high, choose values between 256 and 2346 until packet transfer rates are minimized. Please note that setting the fragmentation threshold value may diminish system performance.

DTIM Interval: Type a DTIM (Delivery Traffic Indication Message) interval in the field. You can specify a value between 1 and 255. The default value is 3.

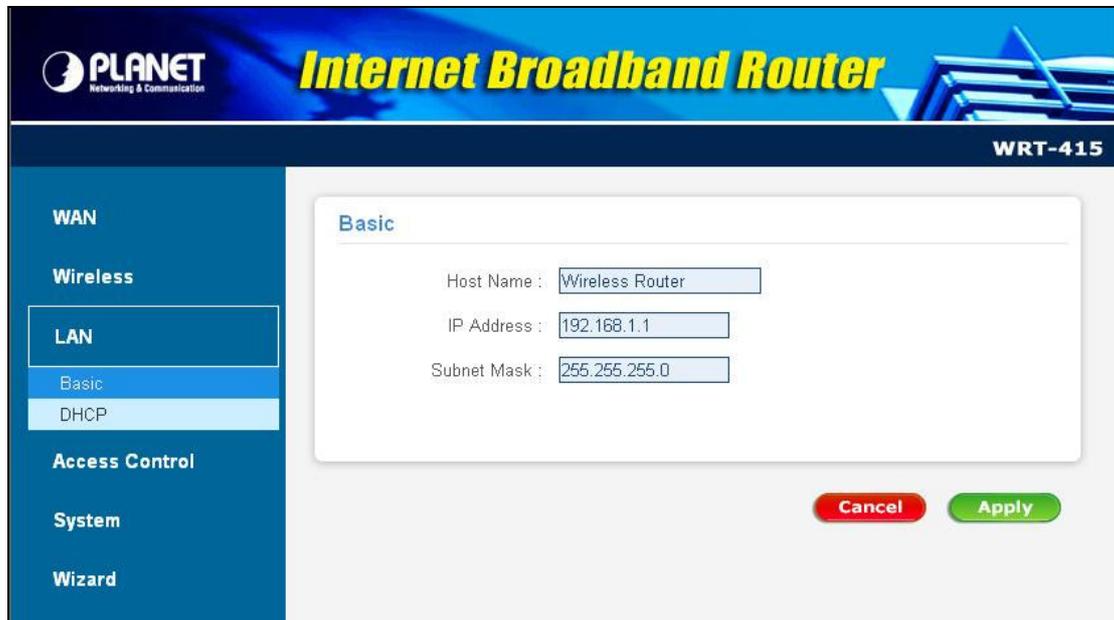
TX Rates (Mbps): Select one of the wireless communications transfer rates, based upon the speed of wireless adapters connected to the WLAN.

Antenna Transmit Power(dB): Adjust the power of the antenna transmission by selecting from the drop down list: full, half (-3dB), quarter (-6dB), eighth (-9dB) or min.

3.4 LAN

3.4.1 Basic

This page leads to set LAN port properties, such as the host name, IP address, and subnet mask.



The screenshot displays the configuration interface for a PLANET Internet Broadband Router (WRT-415). The left sidebar contains a navigation menu with the following items: WAN, Wireless, LAN (selected), Basic (highlighted), DHCP, Access Control, System, and Wizard. The main content area is titled "Basic" and contains three text input fields: "Host Name" with the value "Wireless Router", "IP Address" with the value "192.168.1.1", and "Subnet Mask" with the value "255.255.255.0". At the bottom right of the form, there are two buttons: a red "Cancel" button and a green "Apply" button.

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

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

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

3.4.2 DHCP

You can configure WRT-415 DHCP server function in this screen. When configuration is completed, please click “Apply” to save and restart WRT-415.

The screenshot shows the DHCP configuration interface for the WRT-415 router. The left sidebar is a dark blue navigation menu with the following items: WAN, Wireless, LAN (highlighted), Basic, DHCP, Access Control, System, and Wizard. The main content area is titled "DHCP" and contains the following settings:

- DHCP Server:** Enable Disable
- DHCP Server Start IP:** 192.168.77.100
- DHCP Server End IP:** 192.168.77.199
- Lease Time:** 1 Week

Below these settings is the "Add Static DHCP" section:

- Static DHCP:** Enable Disable
- Name:** [Text Input Field]
- MAC address:** [] - [] - [] - [] - [] - []
- IP address:** [Text Input Field]

At the bottom, there is a "Static DHCP List" table with the following columns: Host Name, MAC Address, and IP Address. Below the table is the "Dynamic DHCP List" section.

DHCP Server: Enables the **DHCP** server to allow the router to automatically assign IP addresses to devices connecting to the WLAN or **LAN**. DHCP is enabled by default. All DHCP client computers are listed in the table at the bottom of the page, providing the host name, IP address, and MAC address of the client.

Lease Time: Select the proper expired duration of the IP leased by DHCP server.

Start IP: Type an **IP address** to serve as the start of the IP range that **DHCP** will use to assign IP addresses to all **LAN** devices connected to the WRT-415.

End IP: Type an **IP address** to serve as the end of the IP range that **DHCP** will use to assign IP addresses to all **LAN** devices connected to the WRT-415.

3.5 Access Control

3.5.1 Filters

If **MAC Filters** is selected in the **Filter Type** field, the screen appears as below.

This screen enables you to allow and deny user access based upon the MAC filters you set.

The screenshot shows the Planet Internet Broadband Router WRT-415 web interface. The left sidebar contains navigation menus for WAN, Wireless, LAN, Access Control, System, and Wizard. Under Access Control, the 'Filter' option is selected. The main content area is titled 'Filters' and includes the following text: 'Filters are used to allow or deny LAN users from accessing the Internet.' Below this text are five radio button options: 'MAC Filters' (selected), 'IP Filters', 'URL Blocking', 'Domain Blocking', and 'Protocol Filters'. Under the 'MAC Filter' section, there are three radio button options: 'Disabled' (selected), 'Only allow computers with MAC address listed below to access the network', and 'Only deny computers with MAC address listed below to access the network'. A green 'Apply' button is located at the bottom right of the configuration area.

Disabled MAC Filters: All users are allowed Internet access.

Only allow computers ... : All users are denied Internet access except those users listed in MAC table.

Only deny computers ... : All users are allowed Internet access except those users listed in MAC table.

MAC Table: Use this field to create a table to which Internet access is denied or allowed. The user profiles are listed in the table below.

Note: When selecting items in the table at the bottom, click anywhere in the item. The line is selected, and the fields automatically load the item's parameters, which you can edit.

Name: Type the name of the user.

MAC Address: Type the MAC address of the user's network adapter.

Add: Click to add the user to the table below.

Update: Click to update information for the user, if you have changed any of the fields.

Delete: Select a user from the table and click "Delete" to remove the user profile.

Clear: Click "Clear" to erase all fields and enter new information.

If **IP Filters** is selected in the **Filter Type** field, the screen appears as below.

This page enables you to define a minimum and maximum IP address range filter; all IP addresses falling in the range are not allowed Internet access. The IP filter profiles are listed in the table at the bottom of the page.

The screenshot shows the Planet Internet Broadband Router WRT-415 web interface. The left sidebar contains navigation menus for WAN, Wireless, LAN, System, and Wizard. Under LAN, the 'Access Control' menu is expanded, showing options for Filter, Virtual Server, Special AP, DMZ, and Firewall Rule. The main content area is titled 'Filters' and includes a description: 'Filters are used to allow or deny LAN users from accessing the Internet.' Below this, there are radio buttons for selecting a filter type: MAC Filters, IP Filters (selected), URL Blocking, Domain Blocking, and Protocol Filters. The 'IP Filter' section has an 'Enabled' field with 'Enable' and 'Disabled' radio buttons. Below are input fields for 'Range Start' and 'Range End'. At the bottom right, there are buttons for 'Add', 'Update', 'Delete', and 'Clear'. A table at the bottom has columns for 'Start' and 'End'.

Note: When selecting items in the table at the bottom, click anywhere in the item. The line is selected, and the fields automatically load the item's parameters, which you can edit.

Enable: Click to enable or disable the IP address filter.

Range Start: Type the minimum address for the IP range. IP addresses falling between this value and the Range End are not allowed to access the Internet.

Range End: Type the minimum address for the IP range. IP addresses falling between this value and the Range Start are not allowed to access the Internet.

Add: Click to add the IP range to the table at the bottom of the screen.

Update: Click to update information for the range if you have selected a list item and have made changes.

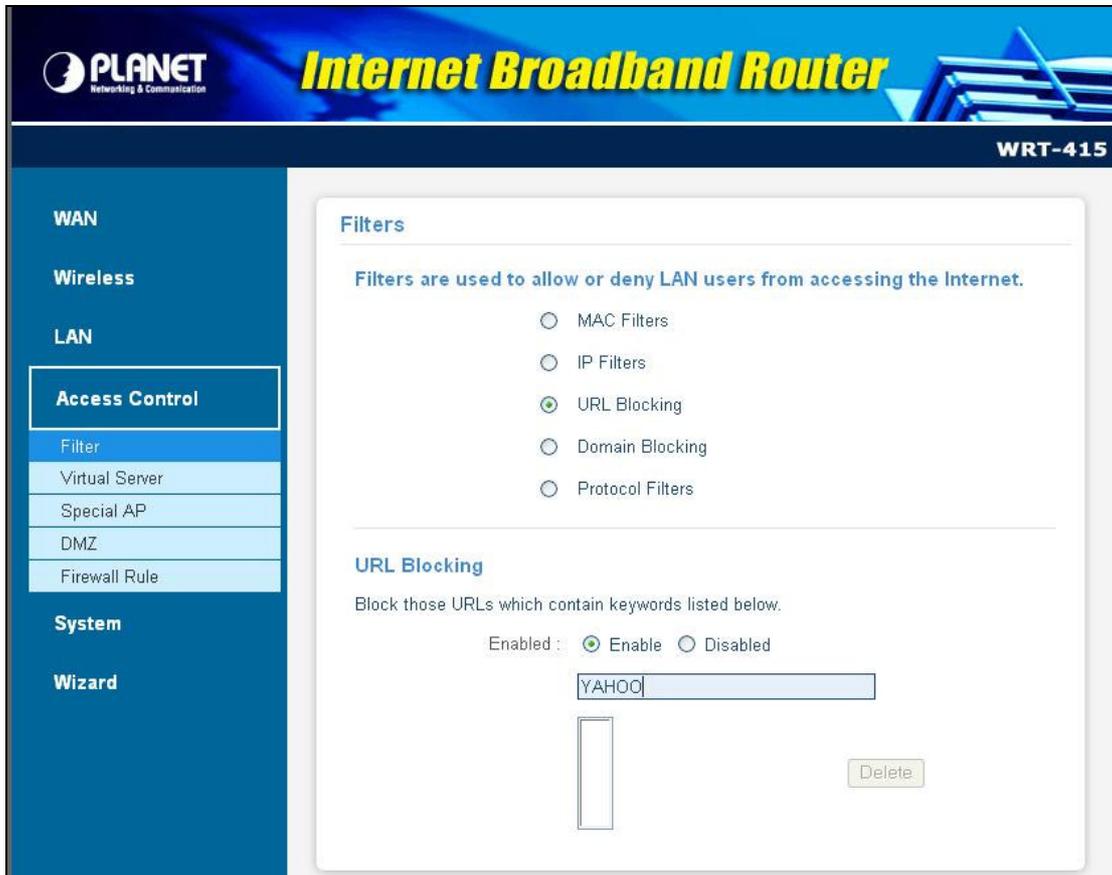
Delete: Select a list item and click "Delete" to remove the item from the list.

Clear: Click "Clear" to erase all fields and enter new information.

Select Domain Blocking, and the following screen appear.

If **URL Filters** is selected in the **Filter Type** field, the screen appears as below.

You can block LAN users to access to some web sites by entering a full URL address or just keyword of the web site.



Note: When selecting items in the table at the bottom, click anywhere in the item. The line is selected, and the fields automatically load the item's parameters, which you can edit.

Fill in "URL / Keyword" and then click "Add". You can enter the full URL address or the keyword of the web site you want to block. If you find any type before adding it and want to retype again, just click it from the Blocking list and the file will be delete.

Enable / Disable: Enable or Disable the URL blocking function of the WLAN Router.

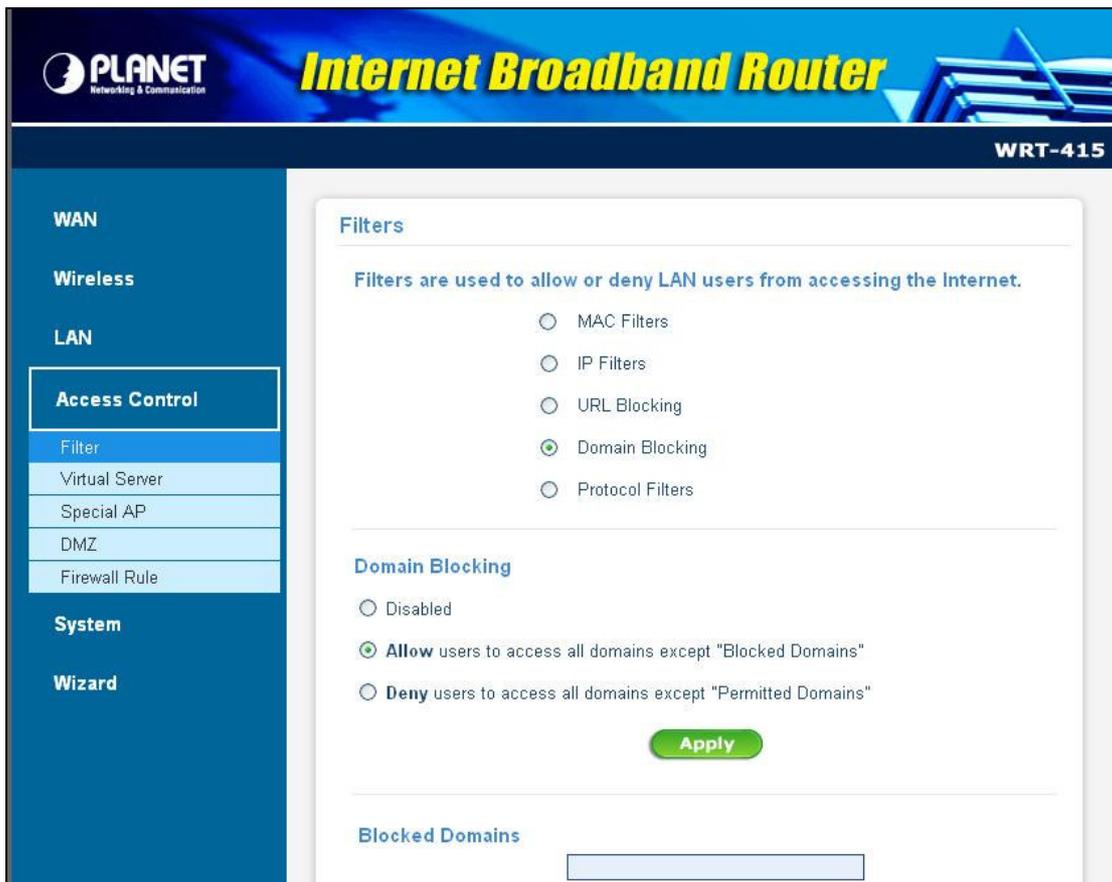
Add: Click to add the specific URL to the URL blocking list.

Del: Selected a URL from the blocking list then click the Del button to remove the URL from the URL Blocking list.

If **Domain Filters** is selected in the **Filter Type** field, the screen appears as below.

You could specify the domains that allow users to access or deny by clicking one of the two items.

Also, add the specified domains in the text box.



Note: When selecting items in the table at the bottom, click anywhere in the item. The line is selected, and the fields automatically load the item's parameters, which you can edit.

Disable: Disable the Domain Blocking function.

Allow: Allow users to access all domains except "Blocking Domains".

Deny: Deny users to access all domains except "Permitted Domains".

Blocked/Permitted Domains: List domains you will Blocked or Permitted.

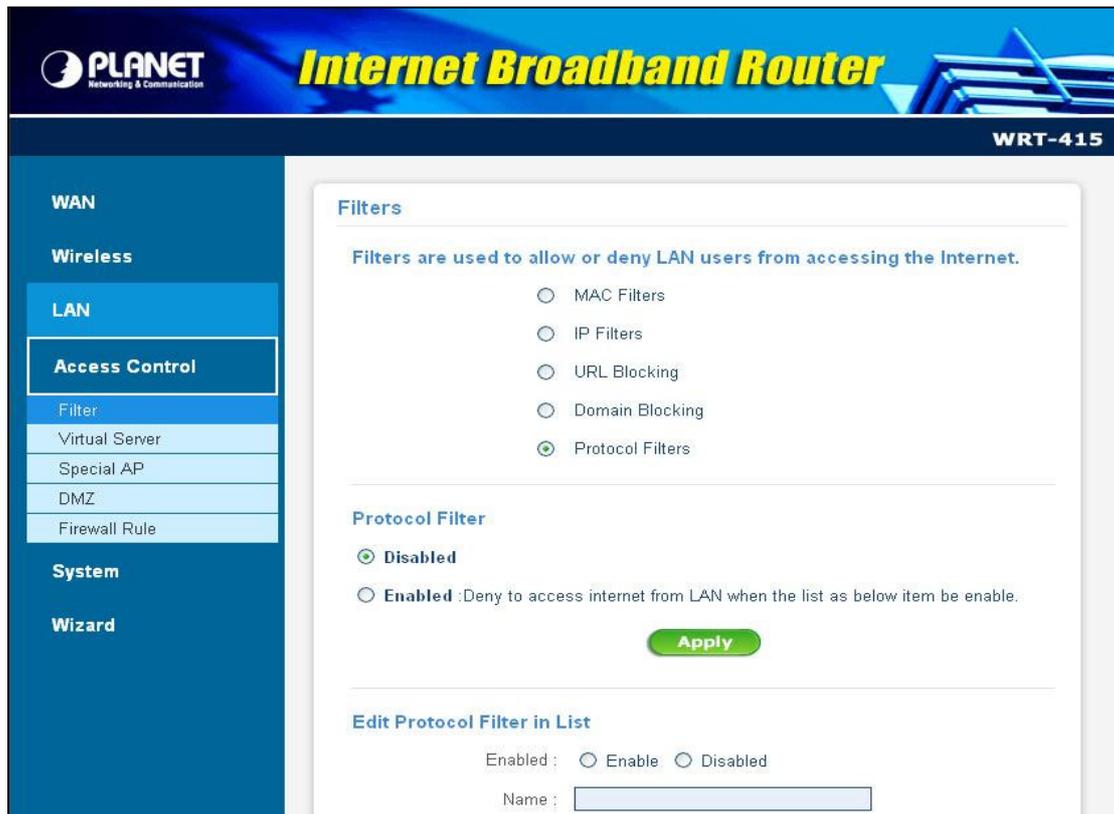
Apply: Click to add domain to the Blocked/Permitted Domains list.

Del: Select a user from the table at the bottom of the list and click Del to remove the user profile.

If **Protocol Filters** is selected in the **Filter Type** field, the screen appears as below.

This page enables you to allow or deny access based upon a communications protocol list you create.

The protocol filter profiles are listed in the table at the bottom of the page.



Note: When selecting items in the table at the bottom, click anywhere in the item. The line is selected, and the fields automatically load the item's parameters, which you can edit.

Protocol Filter: Enables you to allow or deny Internet access to users based upon the communications protocol of the origin.

Disable List: Select this option to disable Protocol Filter.

Enable List: All protocols in the list are not allowed to connect to the Internet via the LAN. (Create list items in section under Add Protocol Filter.)

Edit Protocol Filter in List: Use this section to create a profile for the protocol you want to deny Internet access to.

Enable: Click to enable or disable the protocol filter.

Name: Type a descriptive name for the protocol filter.

Protocol: Select the protocol (TCP, UDP or ICMP) you want to deny Internet access to from the pull-down list.

Port Range: If you are creating a profile for ICMP, type a minimum and maximum port range in the two fields.

Add: Click to add the protocol filter to the list at the bottom of the page.

Update: Click to update information for the protocol filter, if you have changed any of the fields.

This page

Delete: Select a filter profile from the table at the bottom of the list and click “Delete” to remove the profile.

New: Click “New” to erase all fields and enter new information.

3.5.2 Virtual Server

This screen enables you to create a virtual server via the WRT-415. If the WRT-415 is set as a virtual server, remote users requesting Web or FTP services through the WAN are directed to local servers in the LAN. The WRT-415 redirects the request via the protocol and port numbers to the correct LAN server. The Virtual Sever profiles are listed in the table at the bottom of the page.

	Name	Protocol	LAN Server
<input type="checkbox"/>	Virtual Server FTP	TCP 21/21	0.0.0.0
<input type="checkbox"/>	Virtual Server HTTP	TCP 80/80	0.0.0.0
<input type="checkbox"/>	Virtual Server HTTPS	TCP 443/443	0.0.0.0
<input type="checkbox"/>	Virtual Server DNS	UDP 53/53	0.0.0.0
<input type="checkbox"/>	Virtual Server SMTP	TCP 25/25	0.0.0.0
<input type="checkbox"/>	Virtual Server POP3	TCP 110/110	0.0.0.0
<input type="checkbox"/>	Virtual Server Telnet	TCP 23/23	0.0.0.0

Enable: Click to enable or disable the virtual server.

Name: Type a descriptive name for the virtual server.

Protocol: Select the protocol (TCP or UDP) you want to use for the virtual server.

Private Port: Type the port number of the computer on the LAN that is being used to act as a virtual server.

Public Port: Type the port number on the WAN that will be used to provide access to the virtual server.

LAN Server: Type the LAN IP address that will be assigned to the virtual server.

Add: Click to add the virtual server to the table at the bottom of the screen.

Update: Click to update information for the virtual server if you have selected a list item and have made changes.

Delete: Select a list item and click “Delete” to remove the item from the list.

Clear: Click “Clear” to erase all fields and enter new information.

3.5.3 Special AP

This screen allows you to specify special applications, such as games, that require multiple connections that are inhibited by NAT.

The special applications profiles are listed in the table at the bottom of the page.

	Name	Trigger	Incoming
<input type="checkbox"/>	Battle.net	* 6112	* 6112
<input type="checkbox"/>	Dialpad	* 7175	* 51200-51201,51210
<input type="checkbox"/>	ICLU	* 2019	* 2000-2038,2050-

Enable: Click to enable or disable the application profile. When enabled, users will be able to connect to the application via the WRT-415 WAN connection. Click Disabled on a profile to prevent users from accessing the application on the WAN.

Name: Type a descriptive name for the application.

Trigger: Defines the outgoing communication that determines whether the user has legitimate access to the application.

Protocol: Select the protocol (TCP, UDP or ICMP) that can be used to access the application.

Port Range: Type the port range that can be used to access the application in the fields.

Incoming: Defines which incoming communications users are permitted to connect with.

Protocol: Select the protocol (TCP, UDP or ICMP) that can be used by the incoming communication.

Port: Type the port number that can be used for the incoming communication.

Add: Click to add the special application profile to the table at the bottom of the screen.

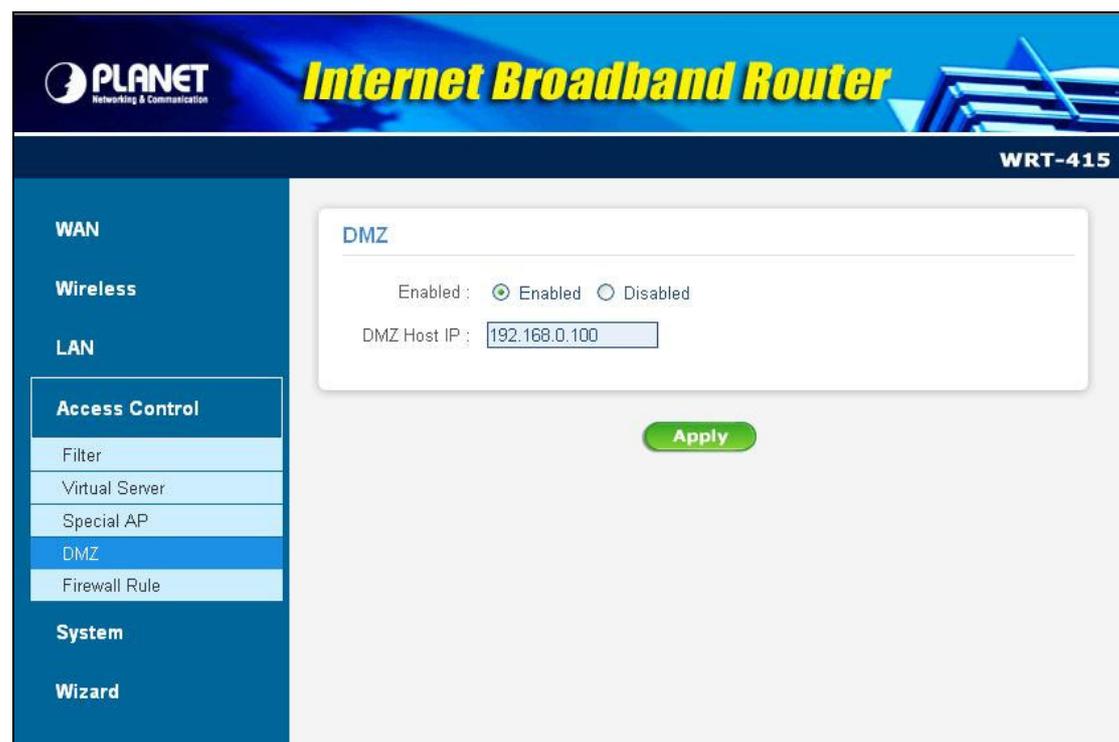
Update: Click to update information for the special application if you have selected a list item and have made changes.

Delete: Select a list item and click “Delete” to remove the item from the list.

Clear: Click “Clear” to erase all fields and enter new information.

3.5.4 DMZ

This screen enables you to create a DMZ for those computers that cannot access Internet applications properly through the WRT-415 and associated security settings.



Enable: Click to enable or disable the DMZ.

DMZ Host IP: Type a host IP address for the DMZ. The computer with this IP address acts as a DMZ host with unlimited Internet access.

Apply: Click to save the settings.

Note: Any clients added to the DMZ exposes the clients to security risks such as viruses and unauthorized access.

3.5.5 Firewall Rule

This screen enables you to set up the firewall. The WRT-415 provides basic firewall functions, by filtering all the packets that enter the WRT-415 using a set of rules. The rules are in an order sequence list: the lower the rule number is, the higher the priority the rule has.

The rule profiles are listed in the table at the bottom of the page.

Action	Name	Source	Destination	Protocol
<input checked="" type="checkbox"/> Allow	Allow to Ping WAN port	WAN,*	WAN,*	ICMP,
<input checked="" type="checkbox"/> Allow	msnmsgr (192.168.1.101:4670)-62419	WAN,*	LAN,192.168.1.101	TCP,4670-62419
<input checked="" type="checkbox"/> Allow	DMZ Host	WAN,*	LAN,192.168.0.100	*,*
<input checked="" type="checkbox"/> Deny	Default	WAN,*	LAN,*	*,*

Enable: Click to enable or disable the firewall rule profile.

Name: Type a descriptive name for the firewall rule profile.

Action: Select whether to allow or deny packets that conform to the rule.

Inactive Timeout: Type the timeout period in seconds in this field. If the network is inactive for the specified duration, the router refuses the incoming packet.

Source: Defines the source of the incoming packet that the rule is applied to.

Interface: Select which interface (WAN or LAN) the rule is applied to.

IP Range Start: Type the start IP address that the rule is applied to.

IP Range End: Type the end IP address that the rule is applied to.

Destination: Defines the destination of the incoming packet that the rule is applied to.

Interface: Select which interface (WAN or LAN) the rule is applied to.

IP Range Start: Type the start IP address that the rule is applied to.

IP Range End: Type the end IP address that the rule is applied to.

Protocol: Select the protocol (TCP, UDP or ICMP) of the destination.

Port Range: Select the port range.

Add: Click to add the rule profile to the table at the bottom of the screen.

Update: Click to update information for the rule if you have selected a list item and changed.

Delete: Select a list item and click "Delete" to remove the item from the list.

New: Click "New" to erase all fields and enter new information.

Priority Up: Select a rule from the list and click "Priority Up" to increase the priority of the rule.

Priority Down: Select a rule from the list and click "Priority Down" to decrease the priority of the rule.

Update Priority: After increasing or decreasing the priority of a rule, click "Update Priority" to save the changes.

3.6 System

3.6.1 Password

You can change the Administrator and User's password in this screen. These passwords are used to gain access to the router interface. When you login with user name "User", you don't have permission to configure WRT-415.

PLANET
Networking & Communication

Internet Broadband Router

WRT-415

- WAN
- Wireless
- LAN
- Access Control
- System**
- Password
- Time
- Device Information
- Log
- Log Setting

Pasword

Administrator (The login name is "admin")

New Password :

Confirm Password :

User (The login name is "user")

New Password :

Confirm Password :

Cancel **Apply**

Administrator: Type the password the Administrator will use to login to the system. The password must be typed again for confirmation.

User: Users can type a password to be used for logging in to the system. The password must be typed again for confirmation.

3.6.2 Time

This screen enables you to set the time and date for the router's real time clock, select your time zone, specify an NTP server, and enable or disable daylight saving.

Local Time: Displays the local time and date.

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

NTP Server: Type the NTP server IP address in the field to enable the WRT-415 to automatically synchronize the time with Internet NTP server.

Set the Time: Select the date and time from the pull-down lists, and click “Set Time” to set the WRT-415’s internal clock to the correct date and time.

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

3.6.3 Device Information

This screen enables you to view the router LAN, wireless LAN, and WAN configuration.

Device Information

WAN

MAC Address : 00-15-f2-ad-cd-15
Connection Type : Fixed IP
IP Address : 210.66.155.86
Subnet Mask : 255.255.255.224
Default Gateway : 210.66.155.94
DNS : 168.95.1.1 168.95.192.1

Wireless

Connection : 802.11g AP Disable
SSID : Planet
Channel : 1
Antenna Power : Full
Authentication Type : Disabled
Wireless Client List :

LAN

MAC Address : 00-18-e7-11-43-d6
IP Address : 192.168.1.1

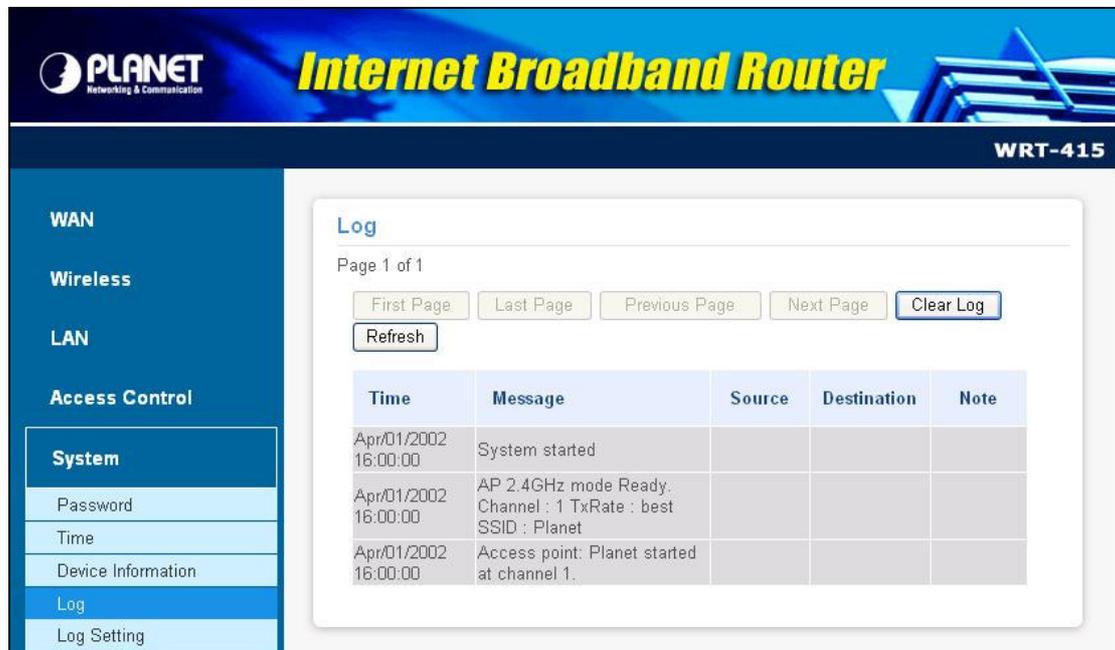
WAN: This field displays the WRT-415 WAN interface MAC address, DHCP client status, IP address, subnet mask, default gateway and DNS. Click “DHCP Release” to release IP addresses get from ISP for the WAN port. Click “DHCP Renew” to get a new IP addresses from ISP for the WAN port.

Wireless: Displays the WRT-415 wireless connection information, including the WRT-415 wireless interface MAC address, SSID status, which channel is being used and whether WEP is enabled or not.

LAN: This field displays the WRT-415 LAN interface MAC address, IP address, subnet mask, and DHCP server status. Click “DHCP Table” to view a list of client stations currently connected to the WRT-415 LAN interface.

3.6.4 Log

This screen will show you a running log of system statistics, events and activities. The log displays up to 200 entries. Older entries are overwritten by new entries. You can save logs via the Log Settings option -> "Send to". The Log screen commands and information meaning are as follows



The screenshot shows the Planet WRT-415 Internet Broadband Router web interface. The top banner features the Planet logo and the text "Internet Broadband Router". The model number "WRT-415" is displayed in the top right corner. On the left, a navigation menu lists various settings: WAN, Wireless, LAN, Access Control, and System. The "System" menu is expanded, showing options for Password, Time, Device Information, Log, and Log Setting. The main content area is titled "Log" and shows "Page 1 of 1". Navigation buttons include "First Page", "Last Page", "Previous Page", "Next Page", "Clear Log", and "Refresh". A table displays the log entries:

Time	Message	Source	Destination	Note
Apr/01/2002 16:00:00	System started			
Apr/01/2002 16:00:00	AP 2.4GHz mode Ready. Channel : 1 TxRate : best SSID : Planet			
Apr/01/2002 16:00:00	Access point: Planet started at channel 1.			

First Page: View the first page of the log message list.

Last Page: View the last page of the log message list.

Previous Page: View the page just before the current page.

Next Page: View the page just after the current page.

Clear Log: Delete the contents of the log and begin a new log.

Refresh: Renew log statistics.

Time: Displays the time and date that the log entry was created.

Message: Displays summary information about the log entry.

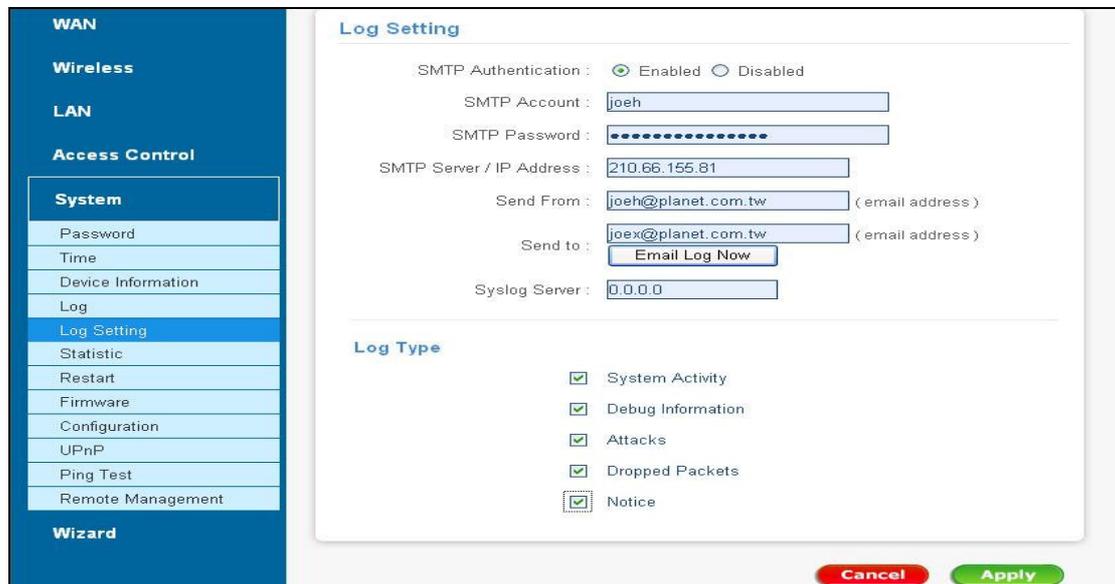
Source: Displays the source of the communication.

Destination: Displays the destination of the communication.

Note: Displays the IP address of the communication.

3.6.5 Log Settings

This screen allows you to set WRT-415 logging parameters.



SMTP Server: Type the SMTP server address for the email that the log will be sent to in the next field.

Send to: Type an email address for the log to be sent to. Click “Email Log Now” to send the current log immediately.

Syslog Server: Type the IP address of the Syslog Server if you want the WRT-415 to listen and receive incoming SysLog messages.

Log Type: Select what items will be included in the log:

System Activity: Displays information related to WRT-415 operation.

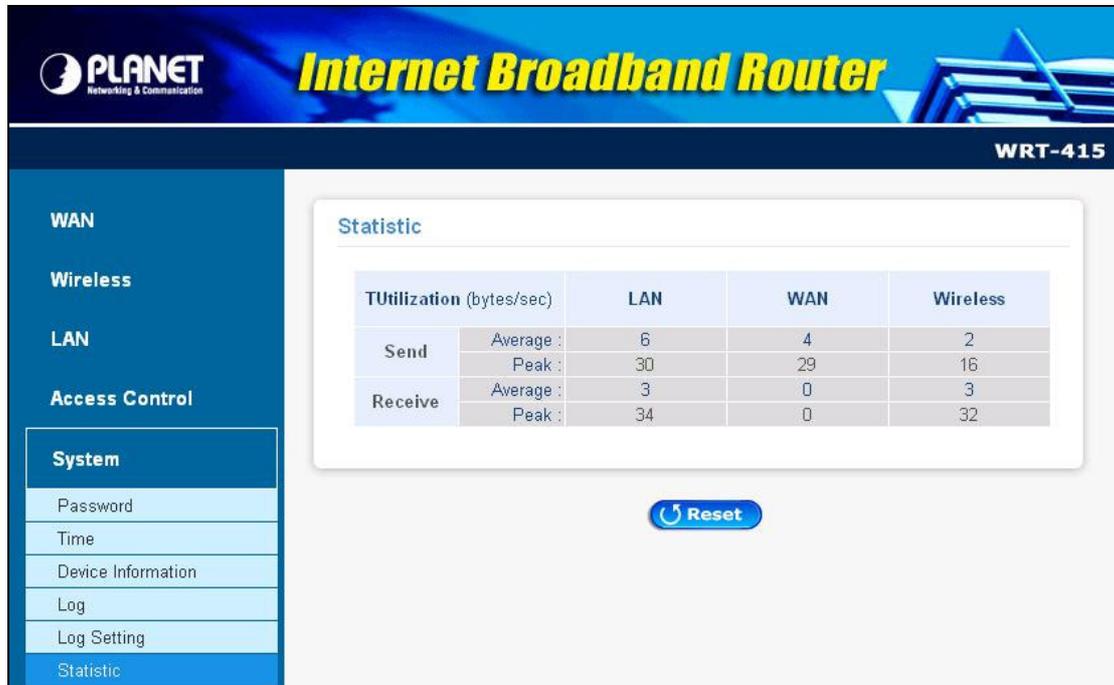
Attacks: Displays information about any malicious activity on the network.

Dropped Packets: Displays information about packets that have not been transferred successfully.

Notice: Displays important notices by the system administrator.

3.6.6 Statistic

This screen displays a table that shows the rate of packet transmission via the WRT-415 LAN, WLAN and WAN ports (in bytes per second).



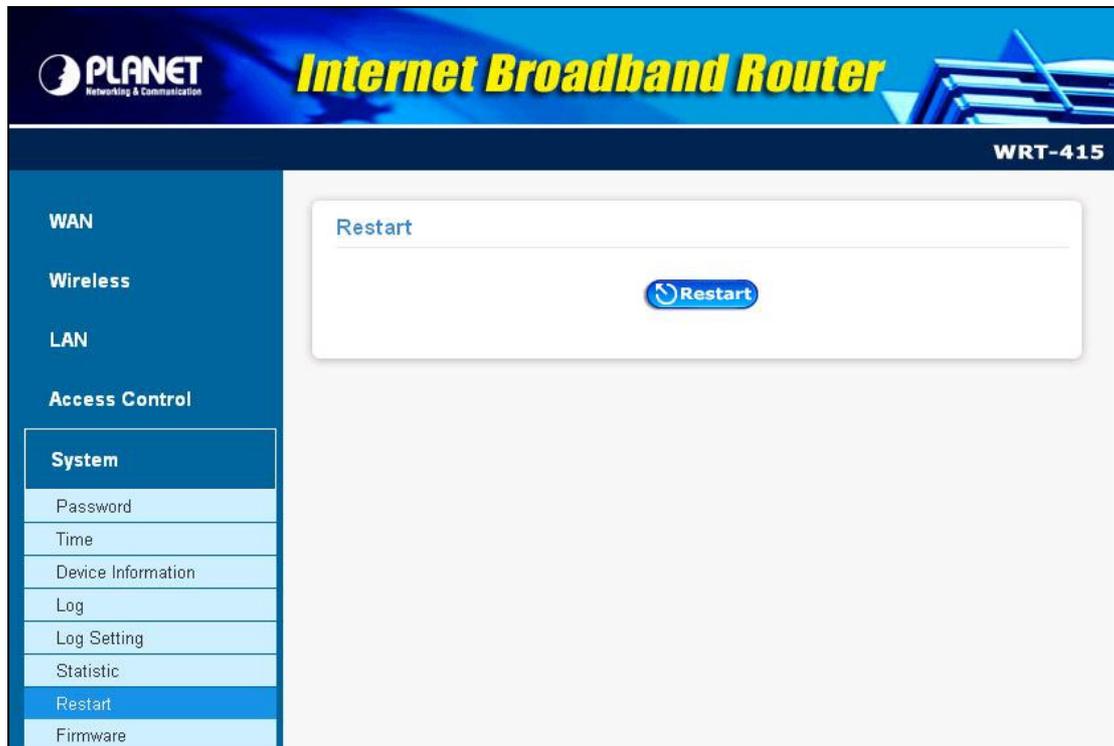
The screenshot shows the PLANET WRT-415 Internet Broadband Router web interface. The left sidebar contains navigation menus for WAN, Wireless, LAN, Access Control, and System. The System menu is expanded, showing options like Password, Time, Device Information, Log, Log Setting, and Statistic. The main content area displays the 'Statistic' page with a table showing utilization (bytes/sec) for LAN, WAN, and Wireless ports, categorized by Send and Receive. A 'Reset' button is located below the table.

Utilization (bytes/sec)		LAN	WAN	Wireless
Send	Average :	6	4	2
	Peak :	30	29	16
Receive	Average :	3	0	3
	Peak :	34	0	32

Click "Reset" to erase all statistics and begin logging statistics again.

3.6.7 Restart

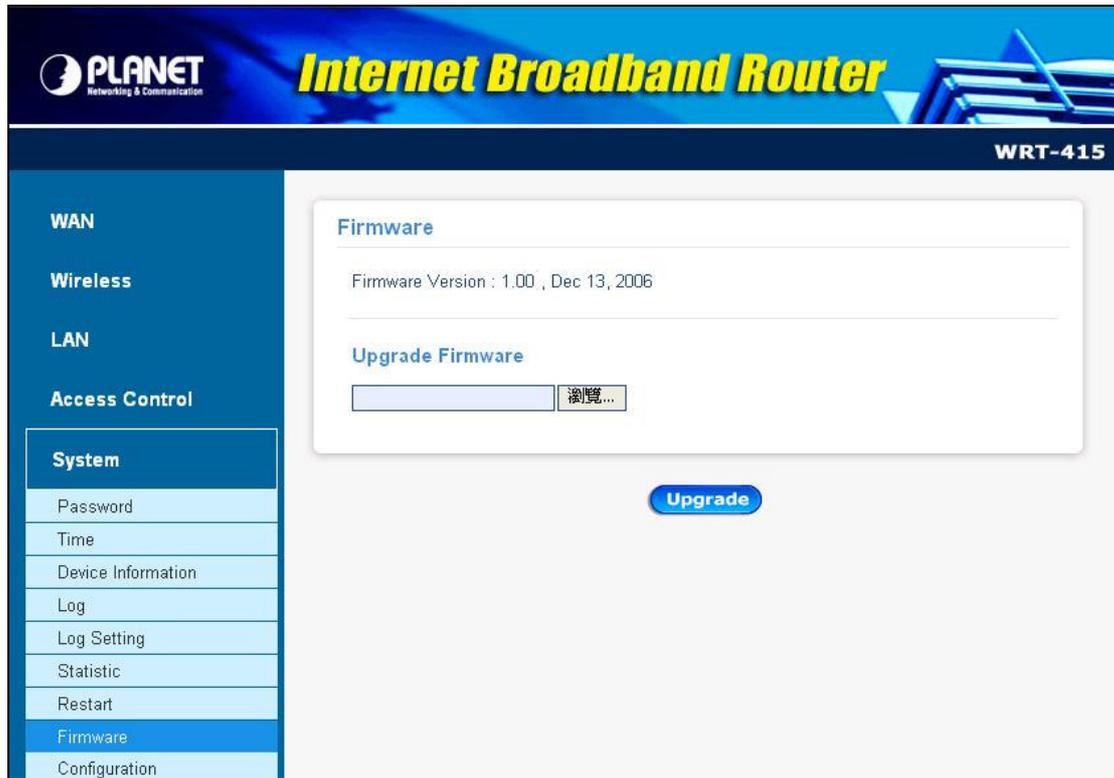
Click "Restart" to restart the system in the event the system is not performing correctly.



3.6.8 Firmware

You can upgrade your WRT-415 with new firmware in this screen. Please follow these instructions:

1. Download the latest firmware from PLANET's website, and save it to your disk.
2. Click "Browse" and find out the location of the downloaded file.
3. Select the file and click "Upgrade" to update WRT-415 to the latest firmware.



Please follow the below instructions:

Download the latest firmware from the manufacturer's Web site, and save it to disk.

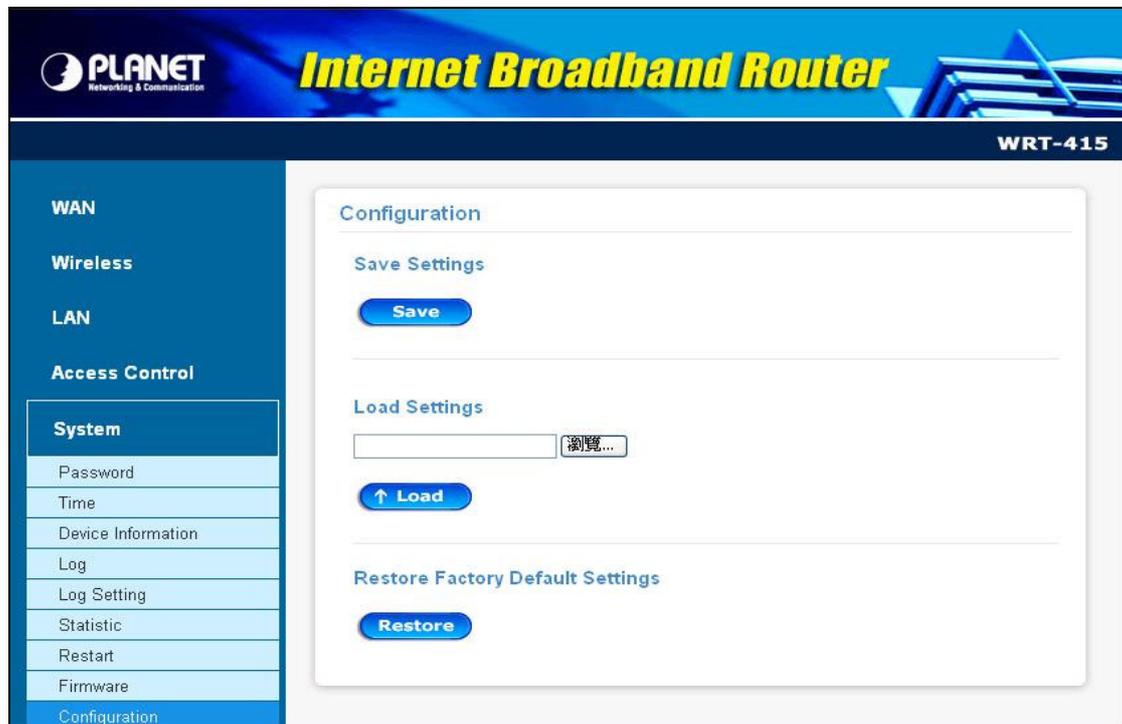
Click "Browse" and go to the location of the downloaded firmware file.

Select the file and click "Upgrade" to update the firmware to the latest release.

3.6.9 Configuration

You can upgrade your WRT-415 with new firmware in this screen. Please follow these instructions:

1. Download the latest firmware from PLANET's website, and save it to your disk.
2. Click "Browse" and find out the location of the downloaded file.
3. Select the file and click "Upgrade" to update WRT-415 to the latest firmware.

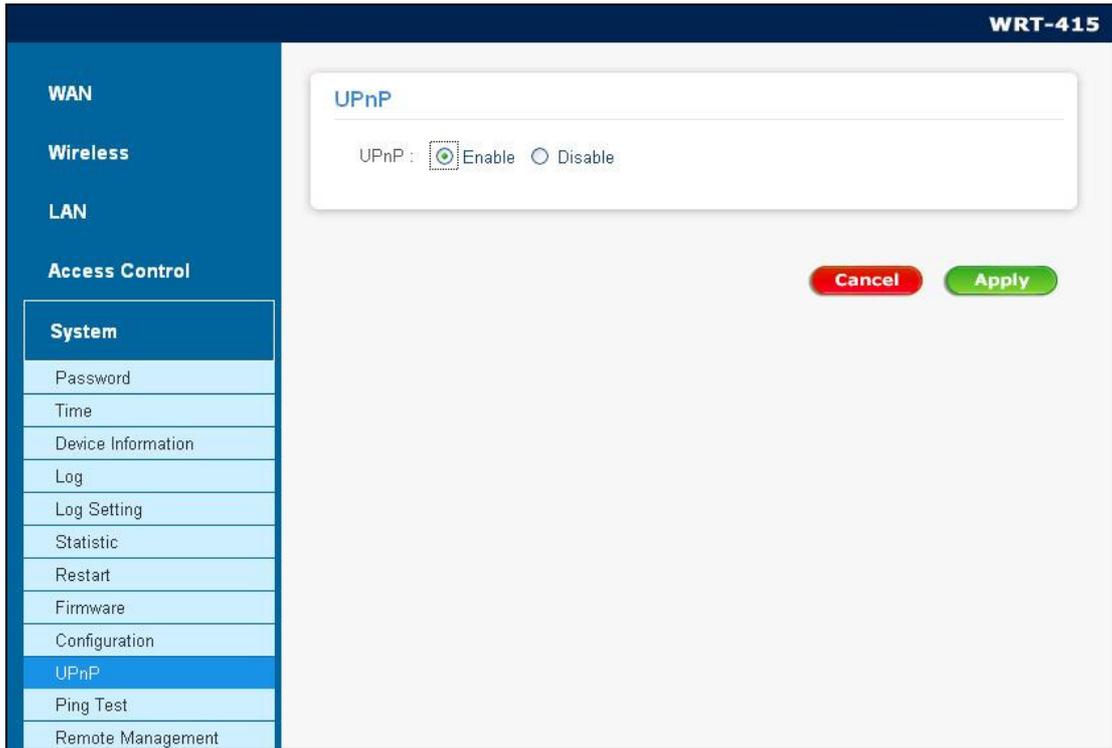


3.6.10 UPnP

You can enable or disable your WRT-415 UPnP function

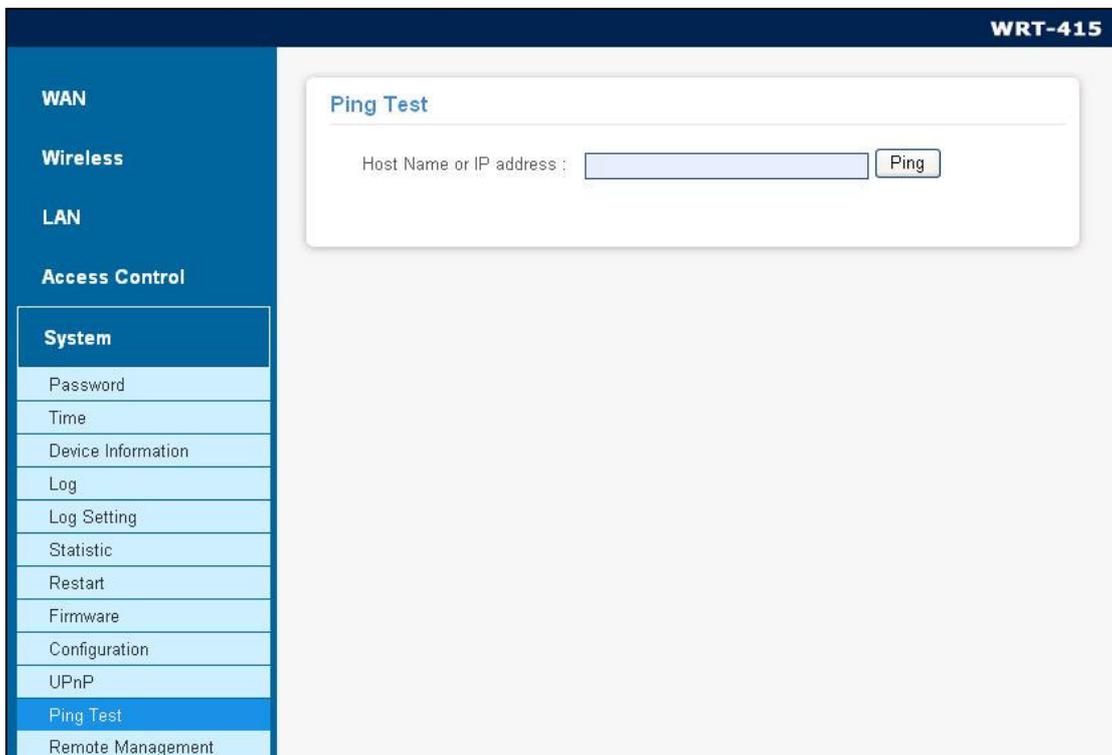
UPnP is more than just a simple extension of the Plug and Play peripheral model. It is designed to support zero-configuration, "invisible" networking, and automatic discovery for a breadth of device categories from a wide range of vendors.

With UPnP, a device can dynamically join a network, obtain an IP address, convey its capabilities, and learn about the presence and capabilities of other devices-all automatically; truly enabling zero configuration networks. Devices can subsequently communicate with each other directly; thereby further enabling peer to peer networking.



3.6.11 Ping Test

You can ping an IP address or host which is present on the Internet. Type the IP address or host name in the field and click Ping. The results will be shown in short time.



3.6.12 Remote Management

This screen enables you to set up remote management. Using remote management, the WRT-415 can be configured through the WAN via a Web browser. A user name and password are required to perform remote management.

The screenshot shows the 'Remote Management' configuration page for the WRT-415. On the left is a navigation menu with categories: WAN, Wireless, LAN, and Access Control. Under 'Access Control', the 'System' menu is expanded, listing: Password, Time, Device Information, Log, Log Setting, Statistic, Restart, Firmware, Configuration, UPnP, Ping Test, and Remote Management. The main content area is titled 'Remote Management' and contains three sections: 1. 'HTTP': 'Enable' is selected, 'Port' is 8080, and 'Remote IP Range' is 'From *' to an empty 'To' field. 2. 'Allow to Ping WAN port': 'Enable' is selected, and 'Remote IP Range' is 'From *' to an empty 'To' field. 3. A list of features: 'Gaming mode' (Enabled), 'PPTP' (Enabled), 'IPSec' (Enabled), and 'IDENT' (Stealth). At the bottom right are 'Cancel' and 'Apply' buttons.

HTTP: Enables you to set up HTTP access for remote management.

Enable: Click to enable or disable HTTP access for remote management.

Remote IP Range: Type the range of IP addresses that can be used for remote access.

Allows to Ping WAN Port: This function allows remote users to ping WRT-415 WAN port IP address.

Enable: Click to enable or disable WAN port pinged function.

Remote IP Range: Type the range of IP addresses that can ping from remote locations.

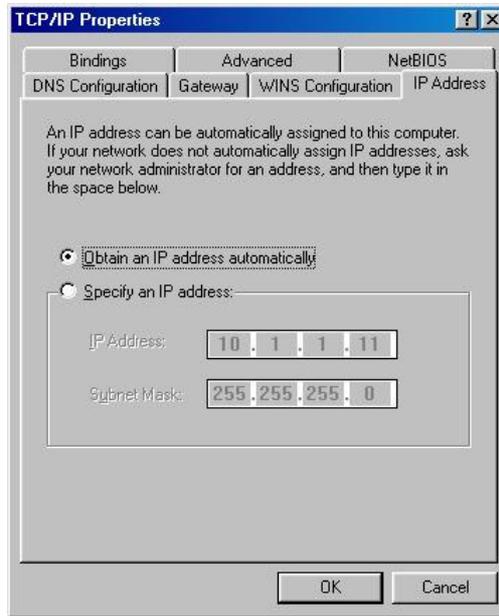
Gaming mode: If you are experiencing difficulties when playing online games or even certain applications that use voice data, you may need to enable Gaming Mode for these applications to work correctly. When not playing games or using voice applications, it is suggested to disable Gaming Mode.

Appendix A TCP/IP Settings for PC

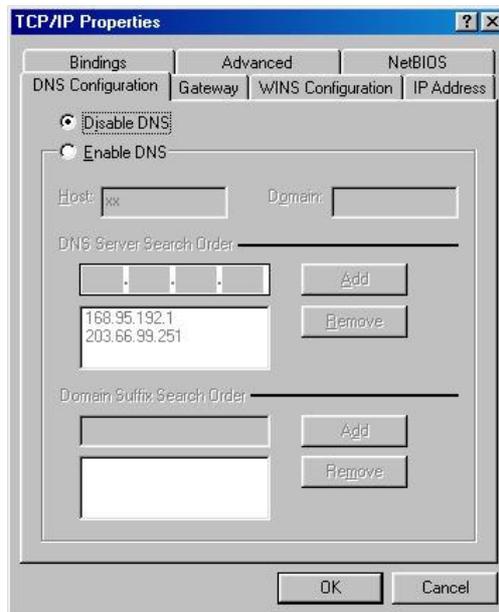
The network TCP/IP settings differ based on the computer's operating system (Win95/98/ME/NT/2000/XP) and are as follows.

Windows 95/98/ME

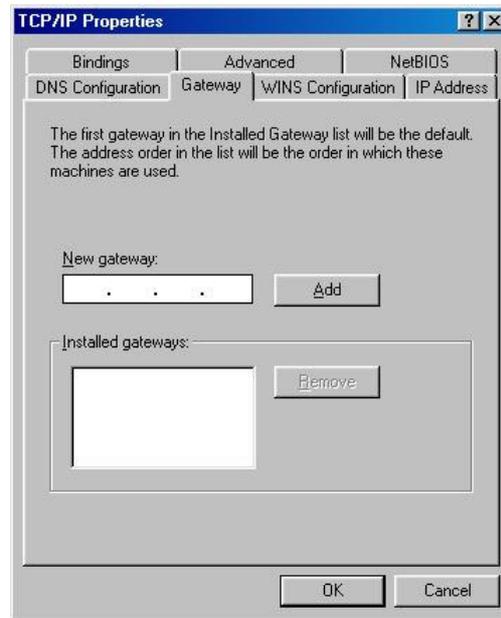
1. Click on the "Network neighborhood" icon found on the desktop.
2. Click the right mouse button and a context menu will be show.
3. Select "Properties" to enter the TCP/IP setting screen.
4. Select "Obtain an IP address automatically" on the "IP address" field.



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



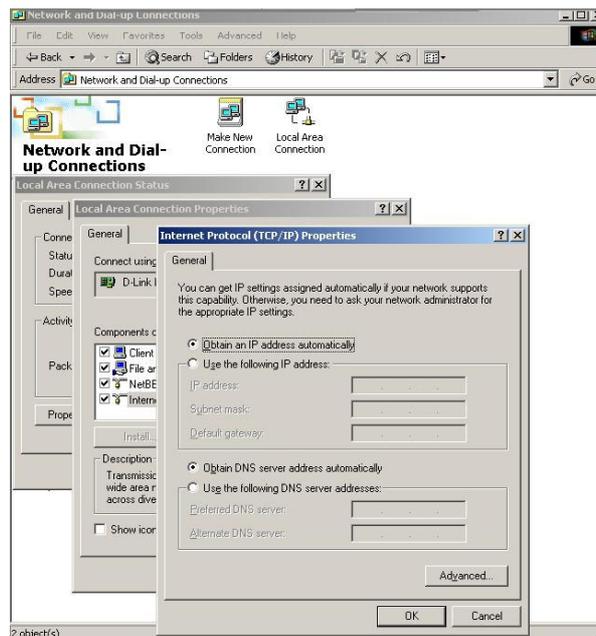
6. Select "None" for the "Gateway address" field.



Windows 2000

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

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



Windows XP

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

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

