

BR-6479Gn

Quick Installation Guide

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The product you have purchased and the setup screen may appear slightly different from those shown in this QIG. For more detailed information about this product, please refer to the User's Manual on the CD-ROM. The software and specifications are subject to change without notice. Please visit our web site www.edimax.com for the update. All right reserved including all brand and product names mentioned in this manual are trademarks and/or registered trademarks of their respective holders.

Linux Open Source Code

Certain Edimax products include software codes developed by third parties, which are subject to the GNU General Public License (GPL) or GNU Lesser General Public License (LGPL). Please see the GNU (www.gnu.org) website for the terms and conditions of each license.

The GNU GPL and GNU LGPL software codes used in Edimax products are distributed without any warranty and are subject to the copyrights of their respective authors. The firmware files for this product can be found under the "Download" page at the Edimax website (www.edimax.com).

Local Support

- **Taiwan** Customer Service: 0800-200-115, Email: service@edimax.com.tw
- **China** Customer Service: 4006-765-988, Email: service@edimax.com.cn
- **Other** <http://www.edimax.com>

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**

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

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.

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

- **Federal Communications Commission (FCC) Radiation Exposure Statement**

This equipment must be installed and operated in accordance with provided instructions and a minimum 20 cm spacing must be provided between computer mounted antenna and person's body (excluding extremities of hands, wrist and feet) during wireless modes of operation.

The equipment version marketed in US is restricted to usage of the channels 1-11 only.

- **R&TTE Compliance Statement**

This equipment complies with all the requirements of DIRECTIVE 1999/5/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL of March 9, 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.

- **EU Countries Intended for Use**

The ETSI version of this device is intended for home and office use in Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

The ETSI version of this device is also authorized for use in EFTA member states: Iceland, Liechtenstein, Norway, and Switzerland.

- **EU Countries not intended for use**

None

A declaration of conformity is available on www.edimax.com

Table of Content

Chapter 1: Product Information.....	3
1-1 Safety Information.....	3
1-2 Package Contents.....	3
1-3 Interface and Function.....	4
1-4 Features.....	5
Chapter 2: Hardware Installation and the Network Settings for Client Computer ...	6
2-1 Hardware Installation.....	6
2-2 The Network Settings for Client Computer.....	6
2-2-1 Obtain IP addresses automatically: Windows XP.....	6
2-2-2 Obtain IP addresses automatically: Windows 7	9
Chapter 3: Setting Up	14
3-1 iQ Setup.....	14
3-1-1 iQ Setup with Computer	14
3-1-2 iQ Setup with iPhone.....	18
3-1-3 iQ Setup with Android Phone.....	22
3-2 Manual set-up via web browser	27
3-2-1 Login Web UI the setting page	27
Chapter 4: Quick Setup	28
4-1 System Time Zone.....	28
4-2 WAN Settings.....	28
Chapter 5: Admin	29
5-1 Firmware Upgrade	29
5-2 Language.....	29
5-3 Time Zone	29
5-4 Config.....	30
5-5 Password.....	30
5-6 WOL	31
5-7 Remote Mgt.....	31
5-8 iQSetup.....	32
5-9 Restart.....	32
Chapter 6: WAN	33
6-1 WAN.....	33
6-1-1 Dynamic IP	33
6-1-2 Static IP.....	34
6-1-3 PPPoE	35
6-1-4 PPTP / L2TP.....	36
6-2 DNS.....	37
6-3 WISP.....	37

6-4 DDNS	38
Chapter 7: LAN	39
Chapter 8: Wireless.....	41
8-1 Basic Settings.....	41
8-1-1 Disable “Broadcast ESSID”— the easiest security setting.....	43
8-1-2 Show List of Wireless Clients	43
8-2 Encryption.....	44
8-2-1 WEP.....	44
8-2-2 WPA pre-shared key	45
8-2-3 WPS RADIUS.....	46
8-3 Advanced Settings	46
8-4 WPS	48
8-5 Access Control.....	49
8-6 Wireless Schedule	49
Chapter 9: NAT	50
9-1 Port Forwarding	50
9-2 Virtual Server	51
9-3 UPnP	51
9-4 ALG	52
Chapter 10: Firewall	53
10-1 DMZ	53
10-2 Access Control	54
10-3 URL Blocking.....	54
10-4 DoS (Denial of Service)	55
Chapter 11: QoS & iQoS.....	57
11-1 QoS.....	57
11-2 iQoS	58
Chapter 12: Status.....	60
Appendix	61
Troubleshooting.....	61
Glossary	63

Chapter 1: Product Information

Thank you for purchasing the Edimax BR-6479Gn Wireless Gigabit Router. BR-6479Gn Supports IEEE 802.11b/g/n the standard 2.4 GHz bands. In addition, BR-6479Gn features with iQ Setup- Smart and automated router setup that needs no more CD installation and helps to get you online in minutes.

1-1 Safety Information

Please follow the following safety instructions to ensure your safety:

- This router is designed for indoor use only. DO NOT place this router outdoors.
- DO NOT put this router in or near hot or humid places like the kitchen, bathroom, or a car parked in the sun.
- Disconnect any connected cables from the router before pulling the router with force.
- If you want to hang this router on the wall or place it somewhere high, please make sure it is firmly secured. Edimax's warranty does not cover damages caused by misuse.
- Please keep this router and its accessories out of the reach of children.
- DO NOT put this router on paper, cloth, or other flammable materials.
- DO NOT disassemble this router. Disassembling this router will invalidate the warranty. Please contact your dealer if you experience any problems.
- If this router gets wet or falls into water when it is powered, DO NOT touch it with your bare hands. Disconnect the power plug from the wall socket immediately, or contact an experienced technician for help.
- Should your router or power supply overheat and burn out, switch the electrical power off or disconnect the power plug from the wall socket immediately, and call your dealer for help.

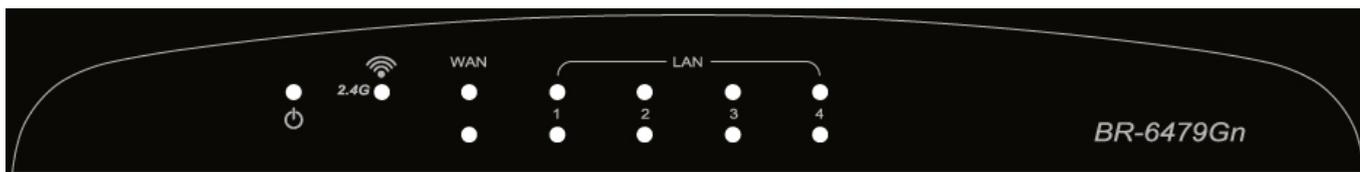
1-2 Package Contents

※ Before you start to use this router, please check if there is any item listed as below missing in the package, and contact your dealer to claim the missing item(s):

- BR-6479Gn broadband router x 1
- 3dBi detachable antenna x 3
- Quick Installation Guide x 1
- CD x 1
- Power Adapter x 1
- Holding Base x 1
- Ethernet Cable x 1

1-3 Interface and Function

- **Front Panel**



LED	Light Status	Description
 Power	On	Router is switched on and correctly powered.
	Off	Router is not switched on or correctly powered.
2.4GHz	On	2.4GHz Wireless connectivity activated.
	Off	2.4GHz Wireless connectivity not activated.
	Flashing	2.4GHz Wireless LAN activity (transferring data).
LAN	On	LAN port connected
	Off	LAN port not connected
	Flashing	LAN activity (transferring data)
WAN	On	WAN port connected
	Off	WAN port not connected
	Flashing	WAN activity (transferring data)

- **Back Panel**



Item Name	Description
Antenna Connector	Connects to the supplied 3dBi detachable antennas
 Wireless Signal ON/OFF Switch	Switches the wireless signal on and off

WPS/Reset Button	Resets the router to factory default settings or starts WPS function (Reset : press this button and hold for 20 seconds to clear all settings. WPS : Press this button for 10~15 seconds to activate WPS function)
Gigabit LAN Ports (Yellow Ports 1-4)	Connects to computer or other web devices
Gigabit WAN Port (Blue Port)	Connects to Cable/xDSL modems
5V Power Connector	Connects to the supplied power adapter

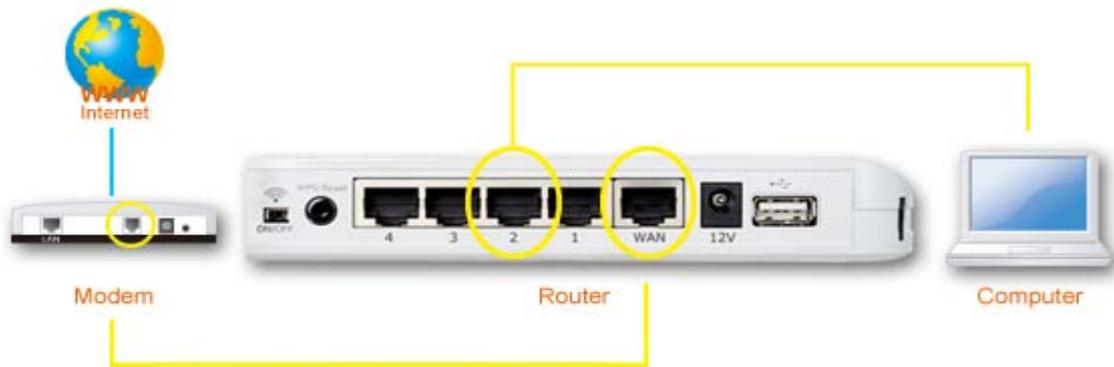
1-4 Features

- Support IEEE 802.11b/g/n the standard 2.4 GHz and less bands.
- Wireless data transmission rate up to 300Mbps (2.4GHz).
- A good option for demands of streaming High-Definition (HD) videos, music and other media.
- 4 LAN ports design, data transmission rate up to 1000Mbps.
- Comply with IEEE 802.3/ 802.3u/ 802.3ab standards.
- Smart and automated router setup with exclusive feature – iQ Setup.
- Features iQoS for quick and easy bandwidth management.
- Build-in hardware button to enable/disable wireless signal.
- Feature with Wireless Signal On/Off Scheduling function to manage the schedule for wireless connection.
- Support DHCP/ Static IP/ PPPoE/ WISP connection modes.
- Support WMM, WEP, WPA, WPA2, DDNS, QoS, IP/MAC filter, DMZ and virtual server.

Chapter 2: Hardware Installation and the Network Settings for Client Computer

2-1 Hardware Installation

Please follow the following instructions to build a network connection between your new broadband router, computers, and other network devices:



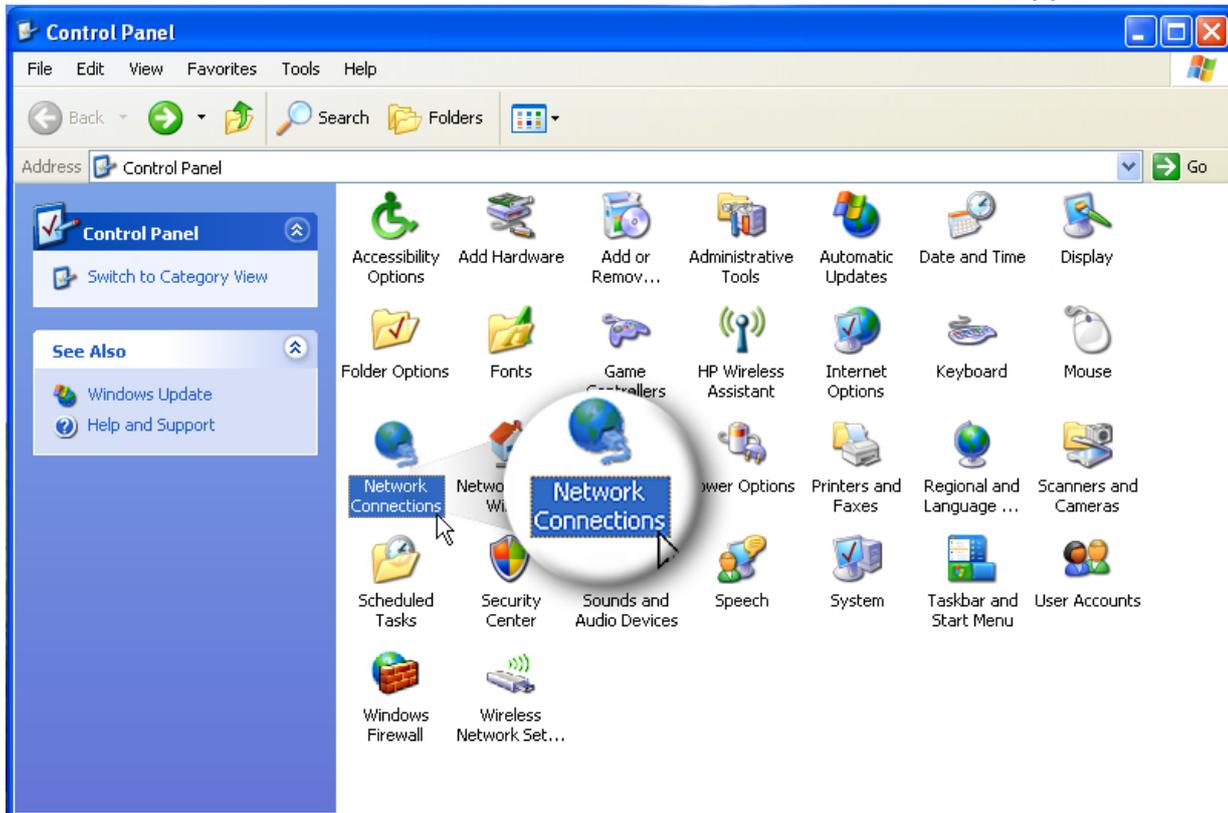
2-2 The Network Settings for Client Computer

2-2-1 Obtain IP addresses automatically: Windows XP

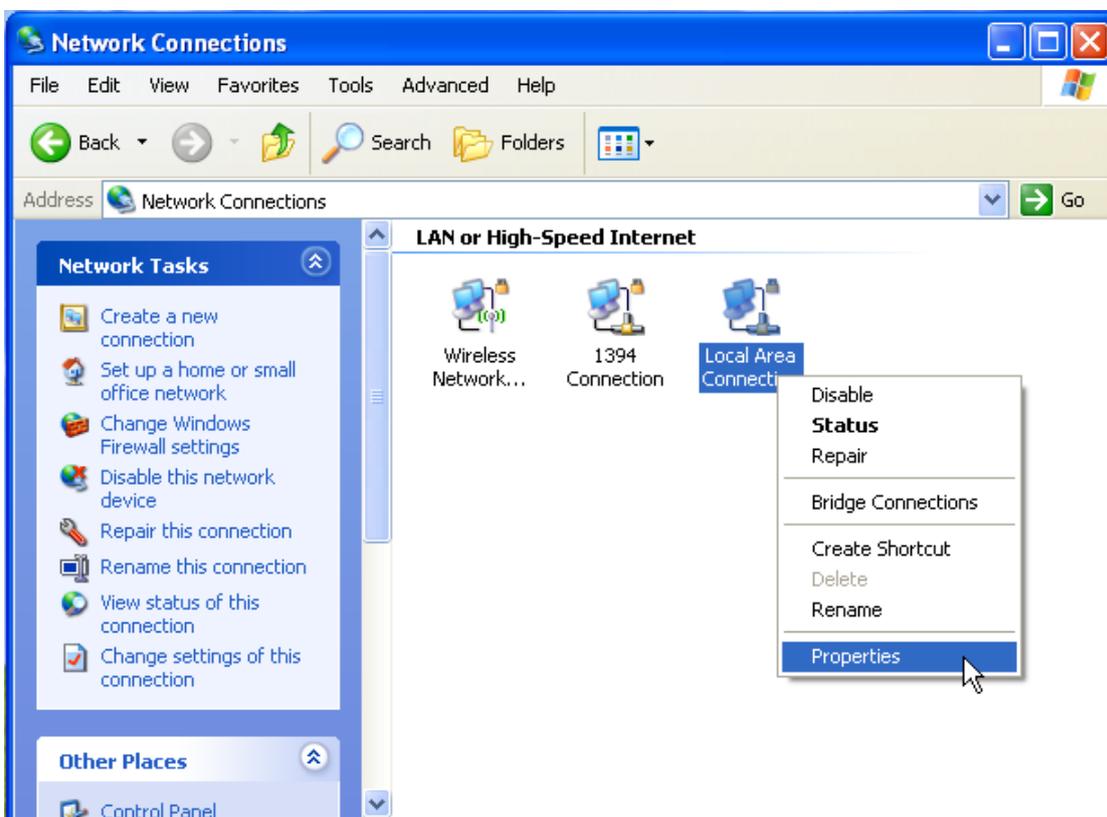
(A). Click the “Start” button, then click “Control Panel”.



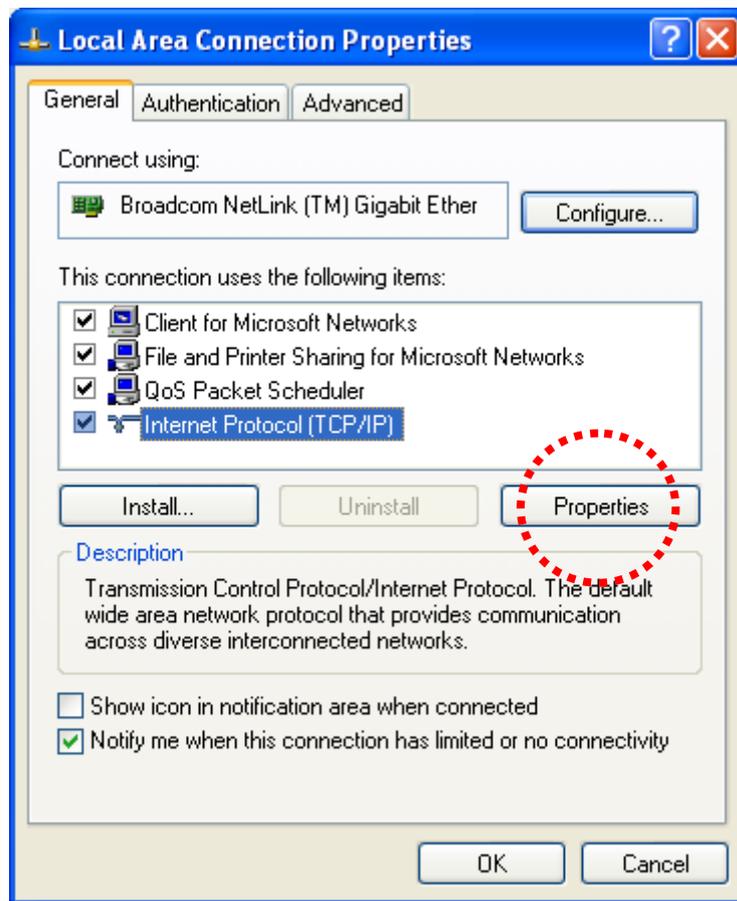
(B). 請Double-click the “Network” icon, and the “Network” window will appear.



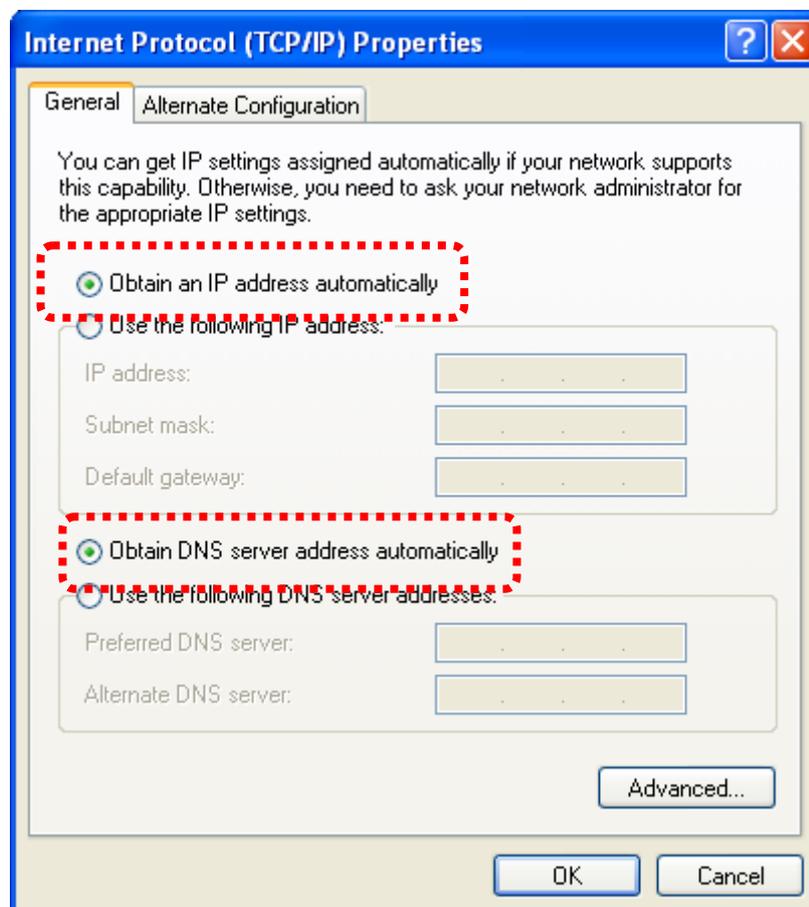
(C). Right click “Local Area Connection” on the mouse. When the “Local Area Connection Properties” window appears, click “Properties”.

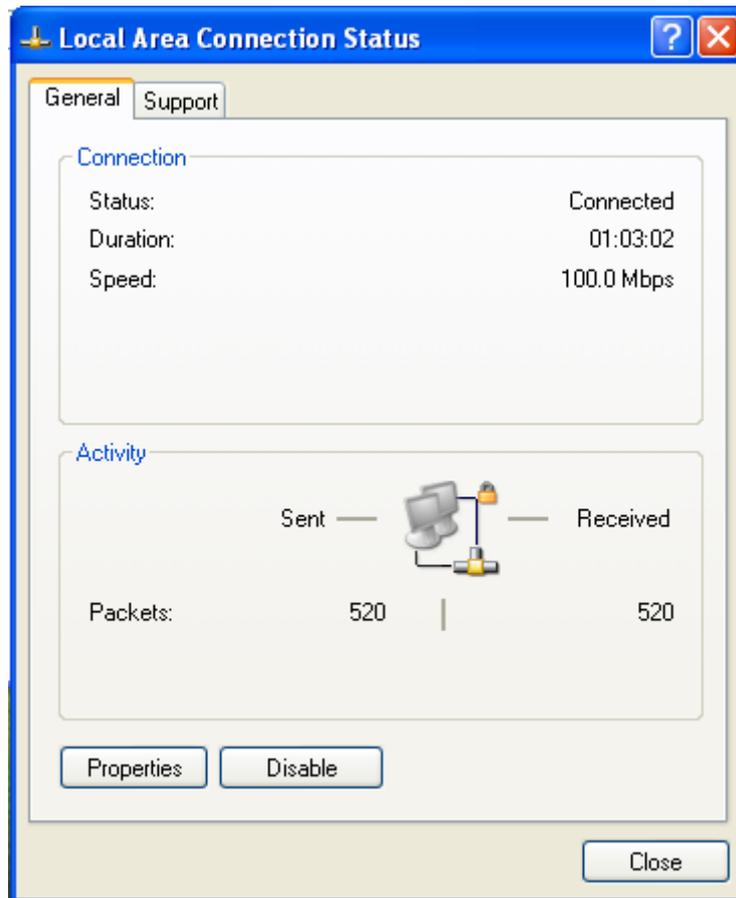


(D) Select “TCP/IP”, and then click “Properties”



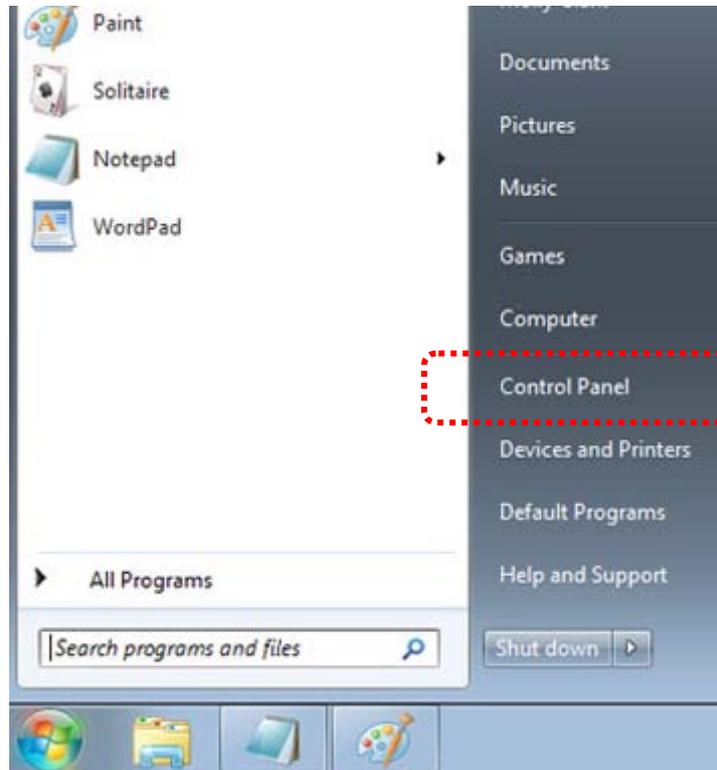
(E) Select “Obtain an IP address automatically” and “Obtain DNS server address automatically”, then click “OK”.





2-2-2 Obtain IP addresses automatically: Windows 7

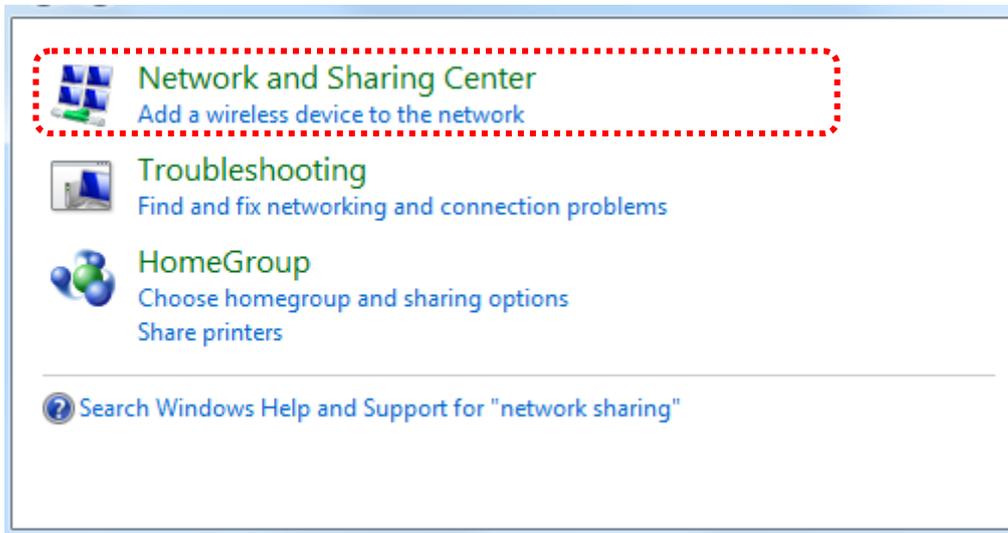
(A) Click the “Windows” button, then click “Control Panel”.



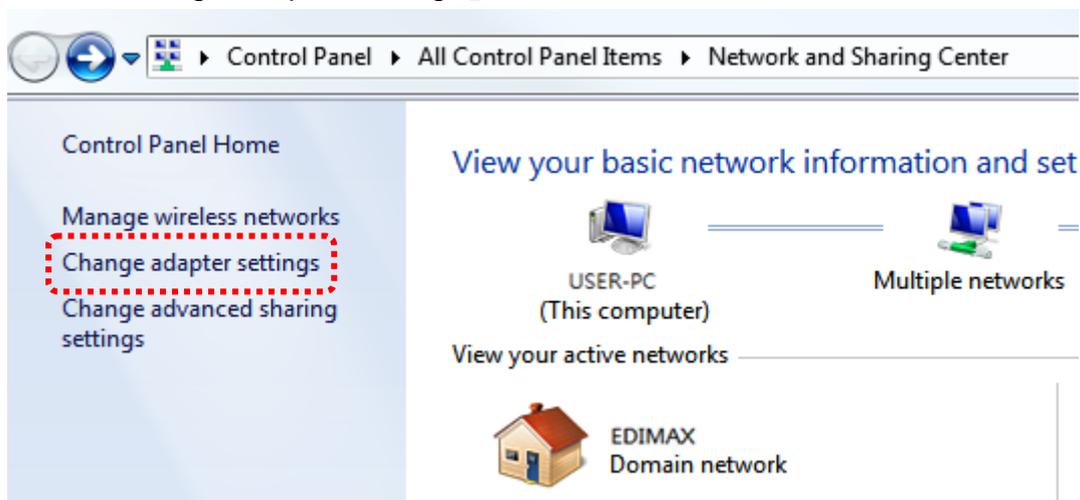
(B) Double-click the “Network and Internet” icon, and the “Network” window will appear.



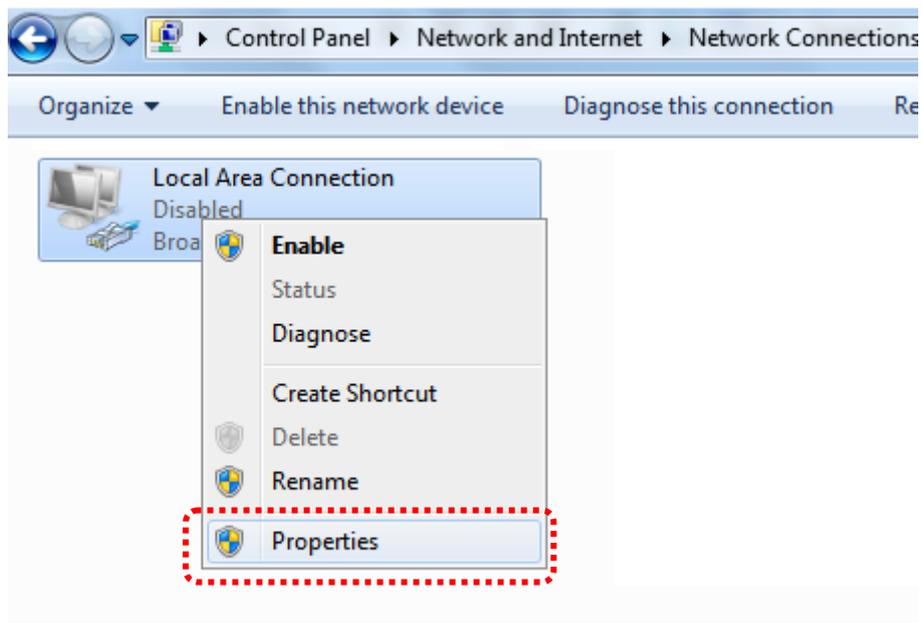
(C) Double-click 『 Network and Sharing Center 』



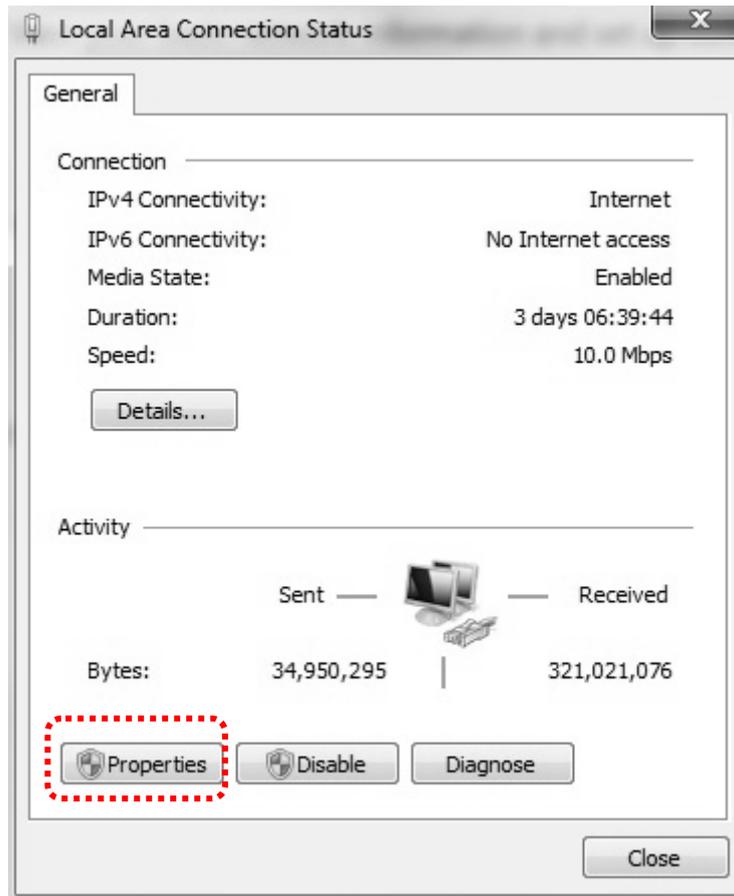
(D) Double-click 『Change adapter settings』



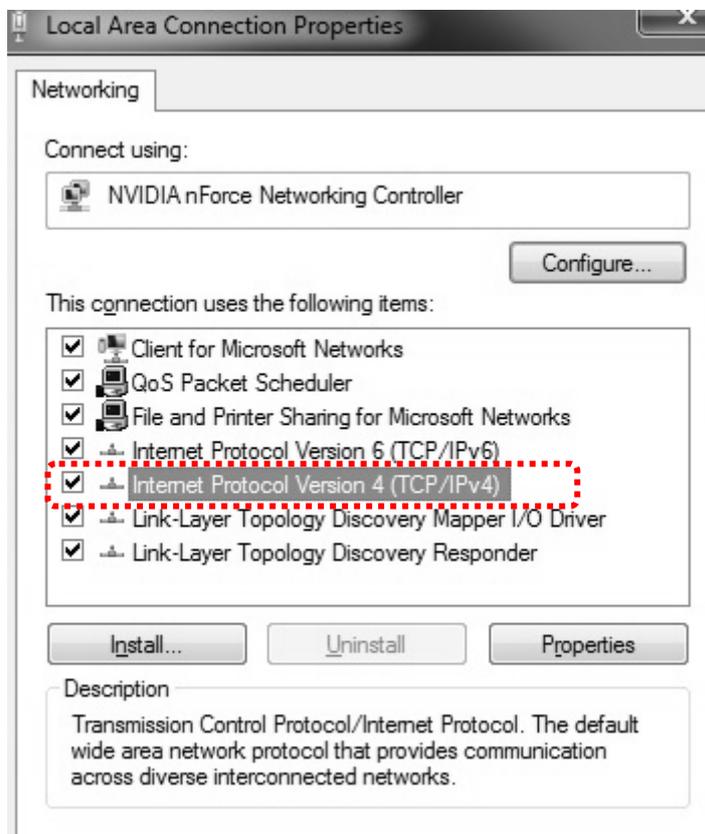
(E) Right click “Local Area Connection” on the mouse. When the “Local Area Connection Properties” window appears, click “Properties”.



(F) Click “Properties”

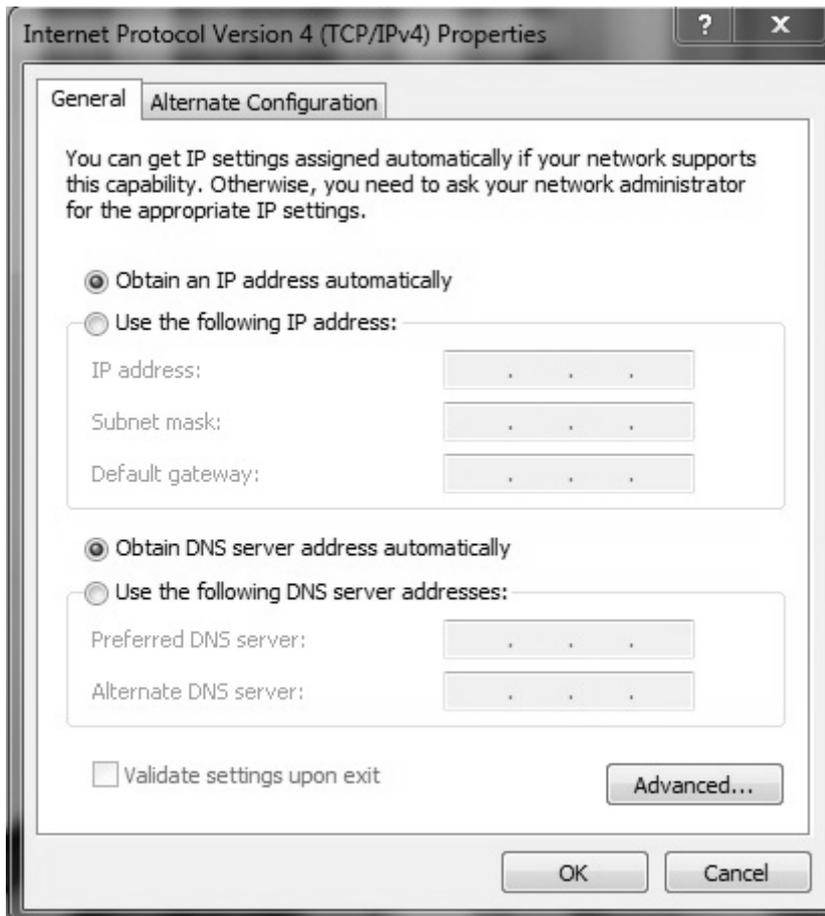


(G) Choose 『Internet Protocol Version 4(TCP/IPv4)』 and then click “Properties”



(H) Select “Obtain an IP address automatically” and “Obtain DNS server address automatically”,

then click "OK".



Chapter 3: Setting Up

This section introduces network set-up methods of BR-6479Gn : **1) iQ Setup** and **2) Manual set-up via web browser**.

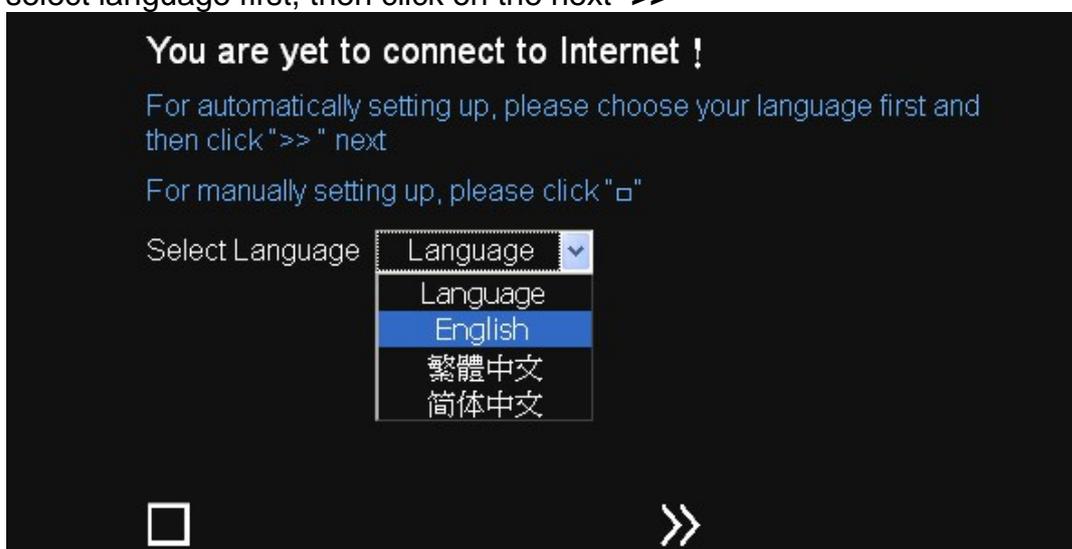
3-1 iQ Setup

iQ Setup is a simple and intelligent WAN detection tool. When BR-6479Gn is in the factory default settings, as long as your internet connections are DHCP, Static IP or PPPoE, iQ Setup can quickly detect the WAN types and help you to easily set up BR-6479Gn. Here we are going to show you how to connect to internet in minutes through iQ Setup with your computer, iPhone and Android phone.

3-1-1 iQ Setup with Computer

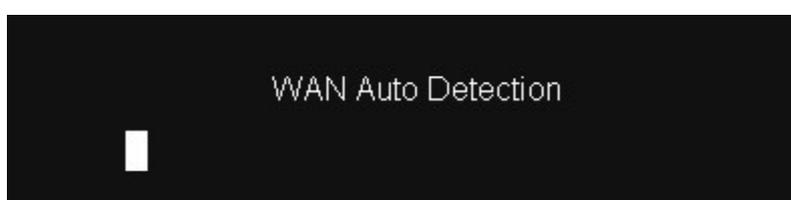
When you have correctly installed your hardware and connected to the network, make sure that your network adapter has been set to obtain IP automatically, enable your web browser, then you will see the iQ Setup and just follow the instructions to complete the set-up. You will be able to enjoy surfing internet in minutes.

1) Please select language first, then click on the next ">>"

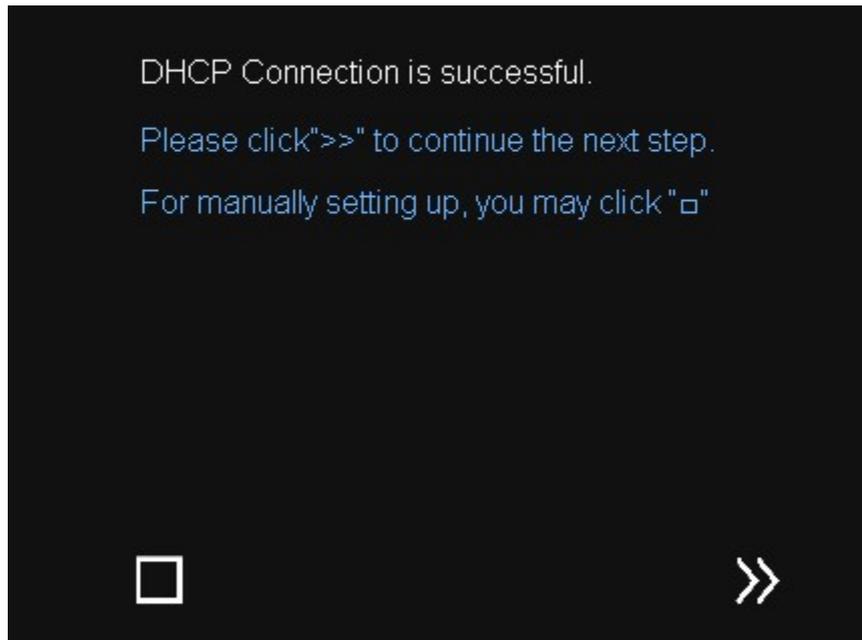


Note: You can switch to manually setup via web browser by clicking on "□"

2) Automatic network detection is proceeding.

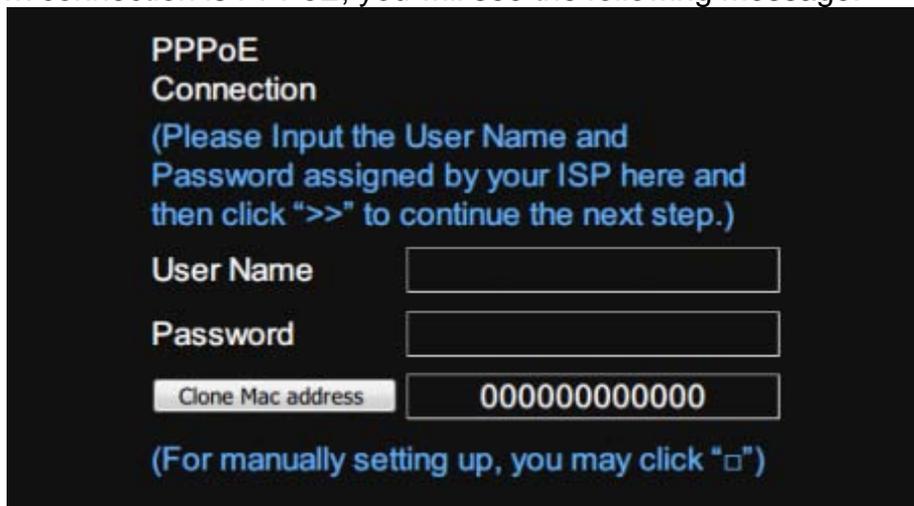


3) If your network connection is DHCP, you will see the following message: (if your network connection is PPPoE, please skip to Step 4)

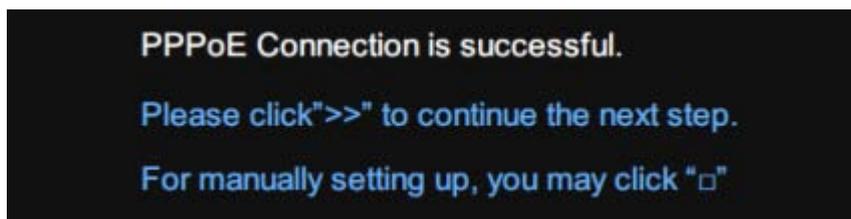


When you see the above successful DHCP connection message, please click the next ">>" proceed to Step 5)

4) If your network connection is PPPoE, you will see the following message:



Please enter the user name and password provided by your ISP (user name and password are case- sensitive). Click the next ">>", you will see the following connection success message:



When you see the above successful PPPoE connection message, please click the next ">>" proceed to Step 5)

Note: You can switch to manually setup via web browser by clicking on "□"

5) IF you are not sure about the DNS, please do not check the “User configure manually” and click “>>” to continue the next step. If you prefer to set up DNS manually, please check the box first, and then enter DNS1 and DNS2 info.

DNS

User configure manually

(We recommend you not to check the box and click ">>" to continue the next step. But if you want to input the DNS information manually, you will have to check the box first.)

DNS1

DNS2

6) You have to set up the ESSID (factory default is the EDIMAX) for your BR-6479Gn on this page. If you want to set up the wireless security encryption, please click the check box of "enabled WPA2 security encryption" first. Then enter the password (at least 8 characters) you wish to have. If you do not want to set the encryption now or hope to apply other encryption methods, you can uncheck the box of “enabled WPA2 security encryption”, and click the next ">>", to complete iQ Setup first. Later, you can login the Web based management interface to continue further configurations. For more encryption setting instructions, please refer to **8-3 Encryption Setting**.

Wireless LAN Settings

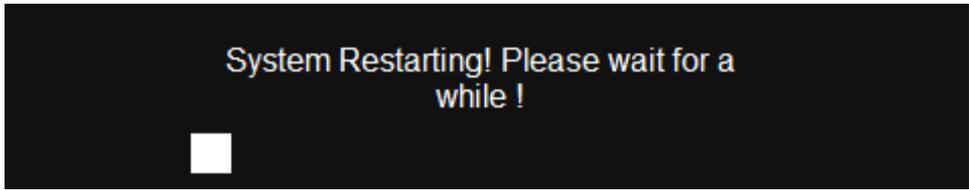
ESSID default: EDIMAX

Enable WPA2 encryption

Password Min. 8 characters

If you want to set up the Wireless LAN security, please check the box of " Enable WPA2 encryption" and input your password. You may also skip the security settings and complete the whole quick set-up first. After that, you can use your browser to connect the web management interface to resume your Wireless LAN security settings

After you click the “>>”, you will see the page shown with message that the system is restarting. It may take a few minutes to proceed, please be patient to wait.



7) When you see the following web page shown on your screen, that means you had been successfully connected to the internet. Please restart your browser and enjoy surfing the Internet.

The screenshot shows the EDIMAX web interface. At the top, there is a navigation bar with tabs for Quick Setup, Admin, WAN, LAN, Wireless, NAT, Firewall, QoS, and Status. Below this is a secondary navigation bar with tabs for Status, System Log, and Security Log. The main content area is divided into three sections: Gateway, Internet, and Information.

Gateway	
IP Address	192.168.2.1
Subnet Mask	255.255.255.0
DHCP Server	Enabled
NAT	Enabled
Firewall	Enabled

Internet	
Dynamic IP	Connect
IP Address	192.168.4.128
Subnet Mask	255.255.255.0
Default Gateway	192.168.4.254
Primary DNS	192.168.1.2
Secondary DNS	192.168.1.12

Information	
System Up Time	0day:4h:33m:8s
System Date	Fri Dec 2 06:59:53 UTC 2011
Firmware Version	1.02
LAN MAC Address	80:1F:02:1D:44:34
WAN MAC Address	80:1F:02:1D:44:35

8) If you need to execute iQ Setup again, please find "iQ Setup" function at System Management.

The screenshot shows the EDIMAX web interface in the Admin section. The navigation bar includes tabs for Quick Setup, Admin, WAN, LAN, Wireless, NAT, Firewall, QoS, and Status. Below this is a secondary navigation bar with tabs for Firmware Upgrade, Language, Time Zone, Config, Password, WOL, Remote Mgt., iQSetup, and Restart. The iQSetup tab is highlighted with a blue dashed circle. The main content area contains the following text:

iQSetup
Qsetup is an intelligent and easy tool for WAN detection. When the device is in default settings, as long as you are using DHCP/Static/PPPoE internet service, iQsetup can help you to quickly detect which kind of WAN connections you are using and help you to easily set up the device.

3-1-2 iQ Setup with iPhone

1) Enable "Settings"



2) Click "Wi-Fi"



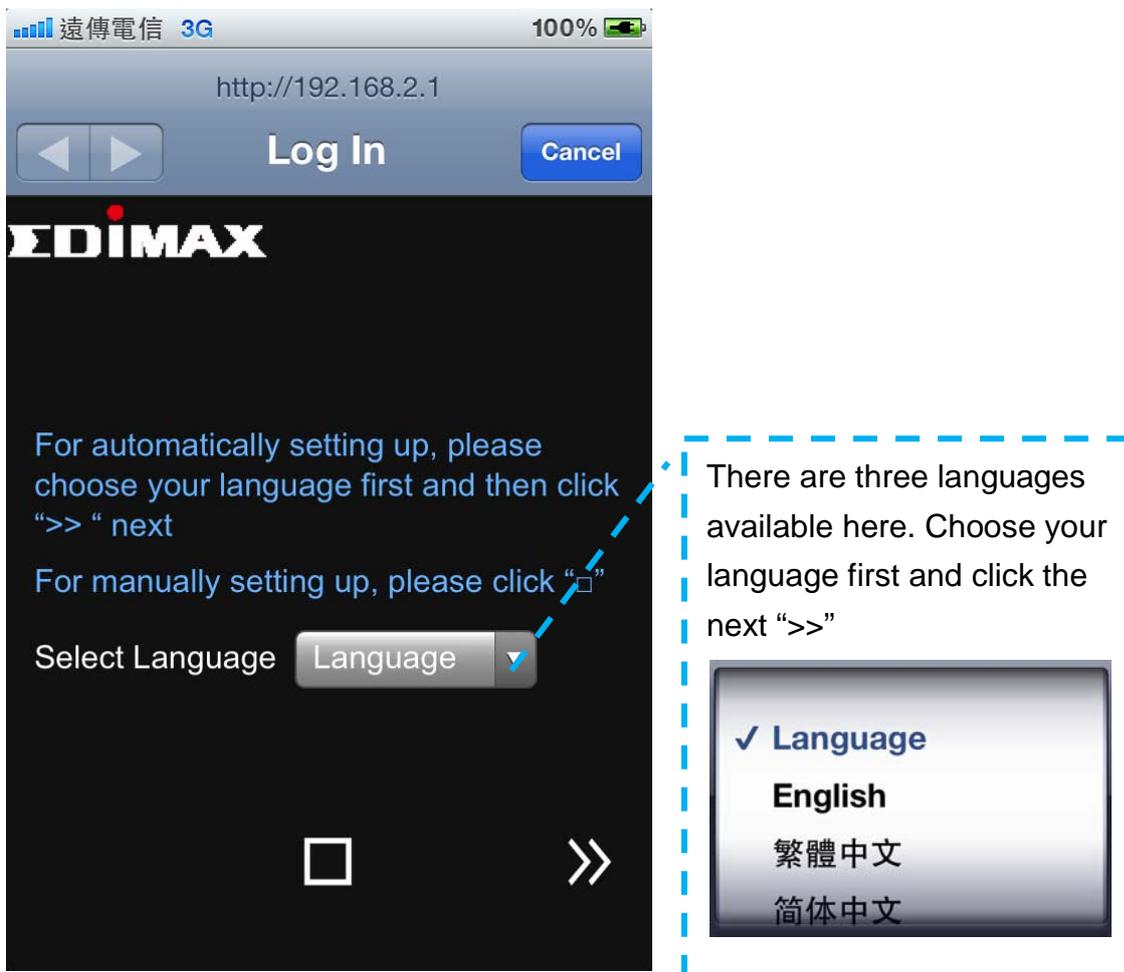
3) Turn On "Wi-Fi" and search available network connection.



4) Choose EDIMAX(the default ESSID of BR-6479Gn). After you successfully connected to the network, please go back to "Settings" and enter "EDIMAX" again.



5) iPhone or iPad OS will automatically run the iQ Setup.

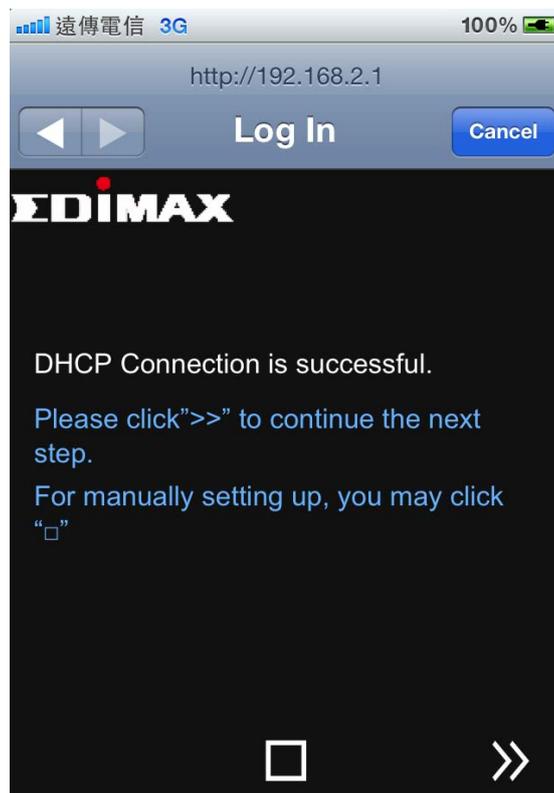


6) iQ Setup will detect your whether your network connection is "DHCP" or "PPPoE"

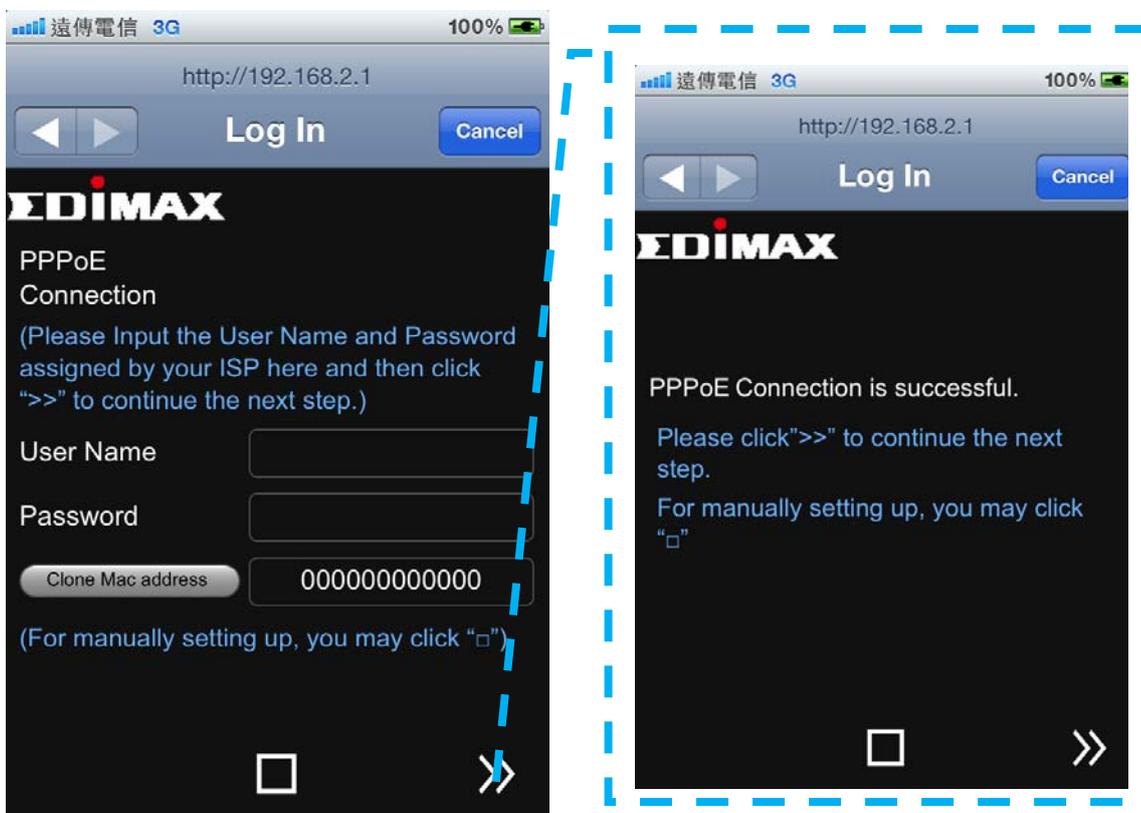


7) If your network connection type is detected as "DHCP", iQ Setup will help you to set up right away.

Please click the next ">>" to set up "DNS" and "Wireless Settings" (Please refer to Step 9)



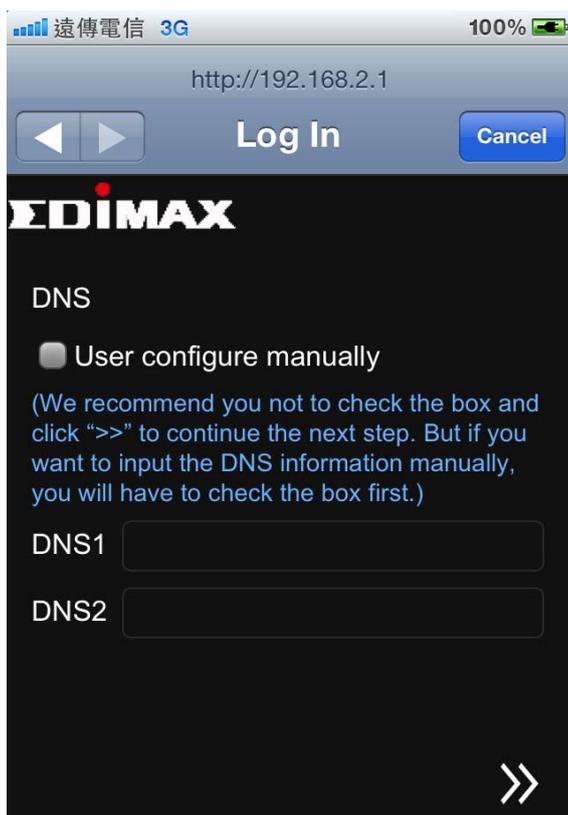
8) If your network connection type is detected as “PPPoE”, you will be asked to enter your Username and Password first before iQ Setup proceeds to connect internet.



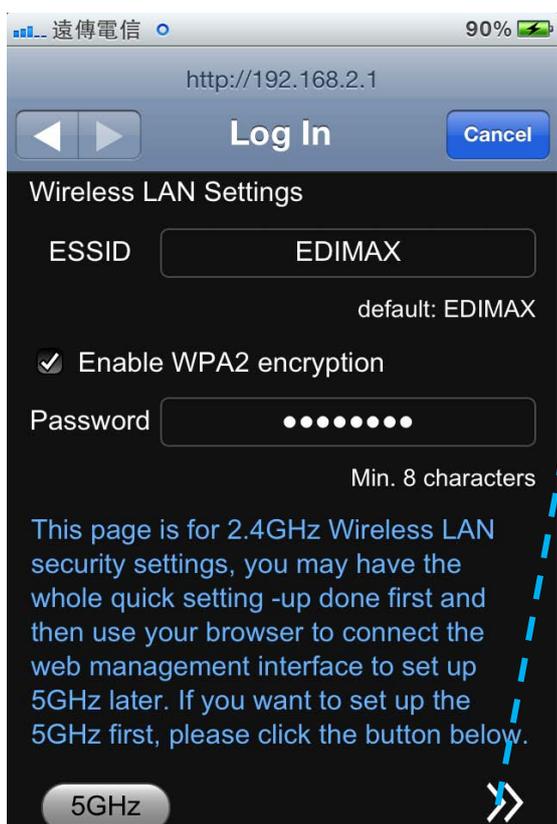
9) Then, click the next “>>” to set up “DNS” and “Wireless Settings” (Please refer to Step 9)

10) If you prefer to use specific DNS server address, please click “User configure manually”

first ,and input your DNS server address in **DNS1** 和 **DNS2** columns. If you don't need any specific settings, just click the next">>".



11) To set up your Wireless LAN, please input the name you would like to have for your wireless LAN in the ESSID column. If you need to secure your wireless LAN from unpermitted accesses, please check the “Enable WPA2 encryption” box and enter your password. Click the next “>>” when you’ve done the foresaid.

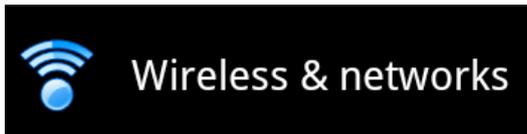


3-1-3 iQ Setup with Android Phone

1. Enter the system menu. Find and click **“Settings”**.



Click **“Wireless and Network”**.



Check the Wi-Fi box to turn on Wi-Fi.



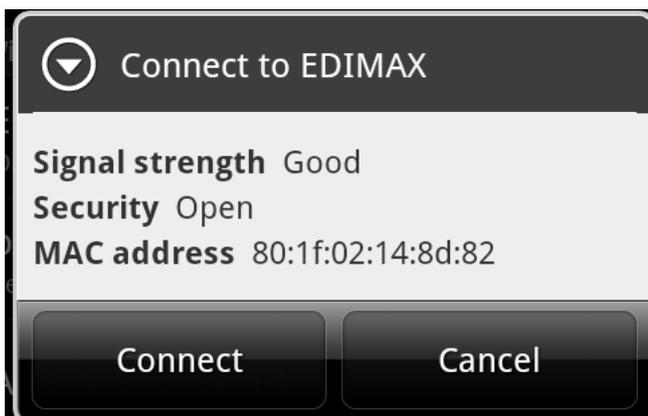
Click **“Wi-Fi Settings”**.



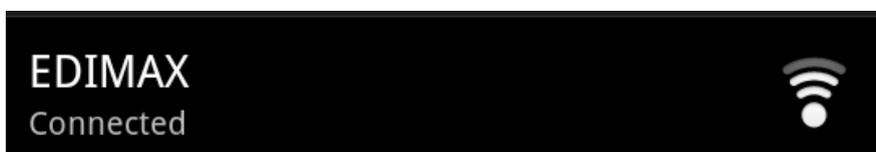
Find **“EDIMAX”** from the wireless network list and click it.



Click **“Connect”**



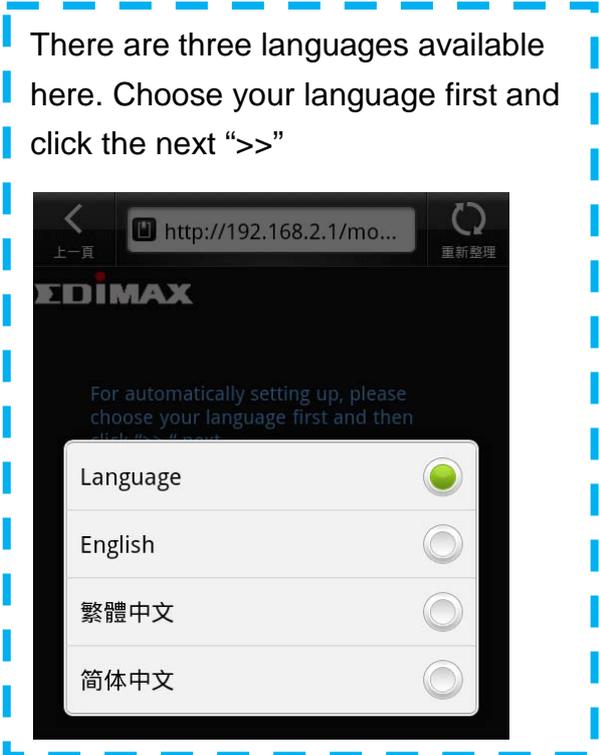
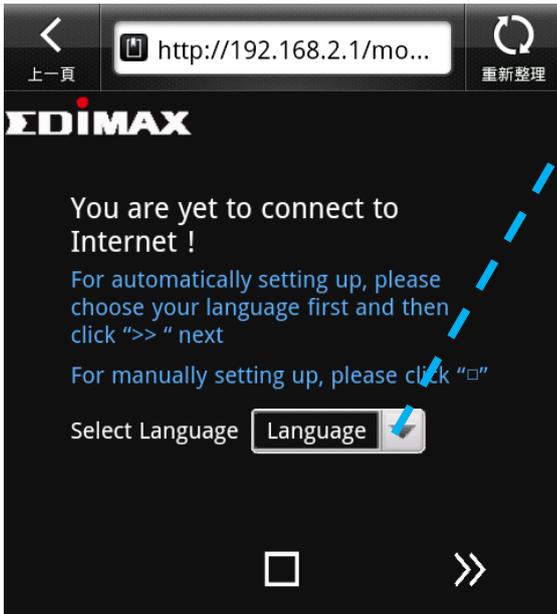
When you see the following message that EDIMAX connected, it means that you have connected wireless network successfully.



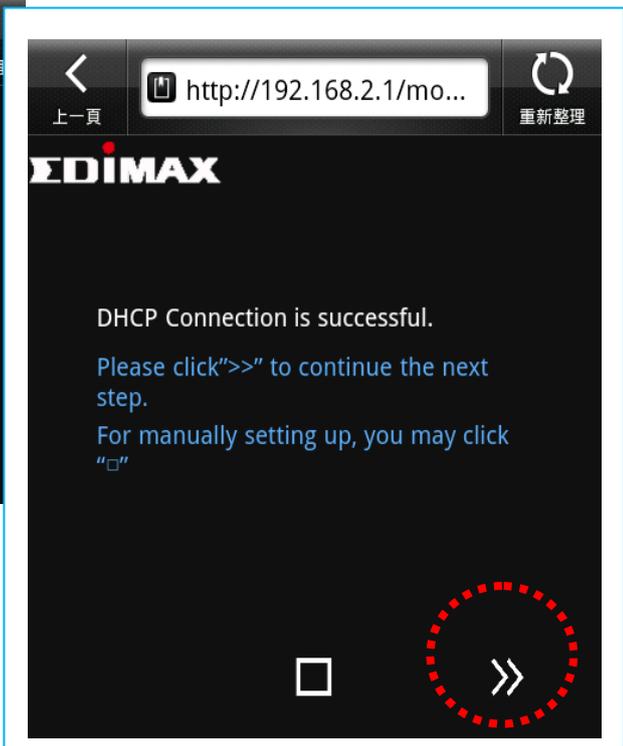
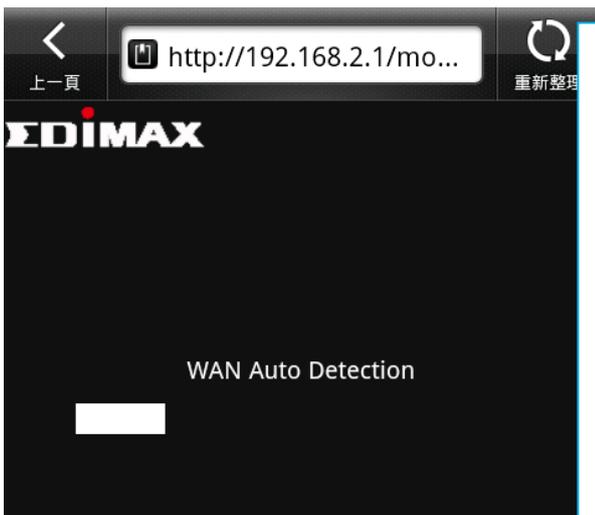
Then, click “Internet” to enable browser.



2. After enabling the browser, the system will run iQ Set automatically. Please follow the instructions as below and complete the set-up.



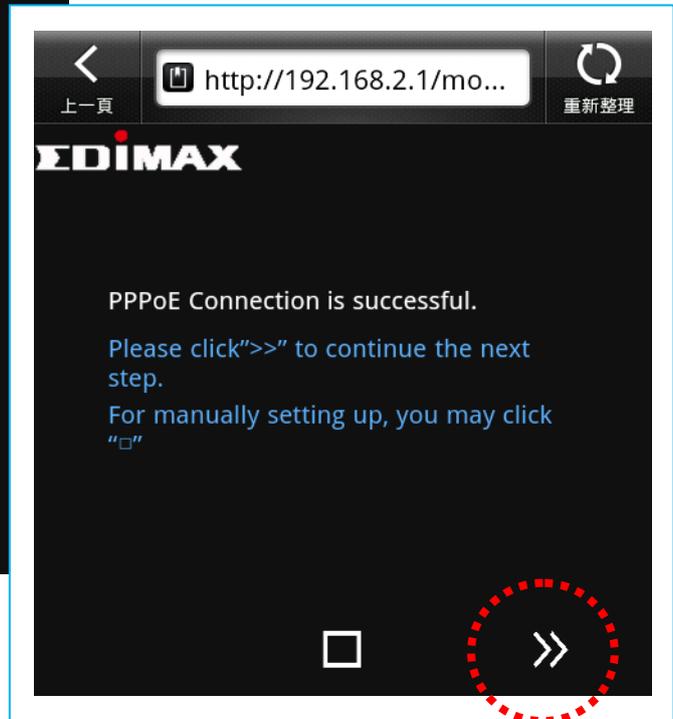
- 1) iQ Setup will detect your whether your network connection is “DHCP” or “PPPoE



- 2) If your network connection type is detected as “DHCP”, iQ Setup will help you to set up right away.

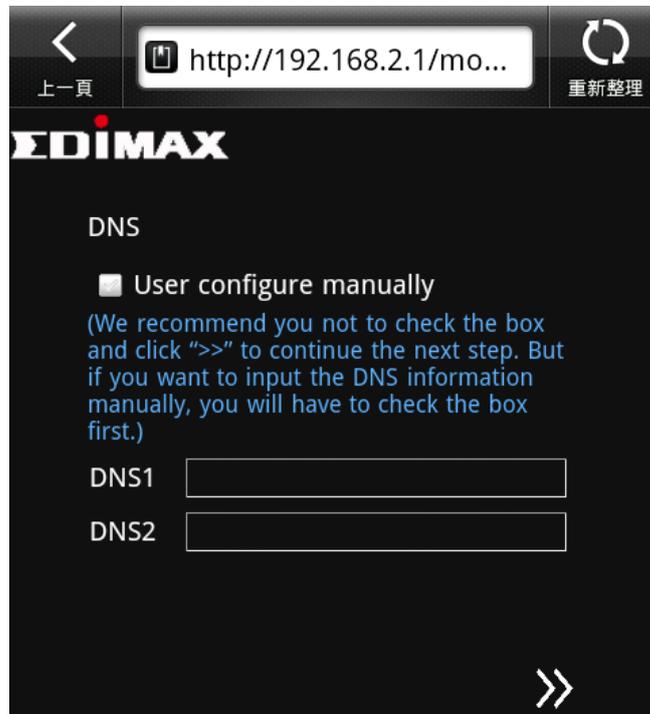
Please click the next “>>” to set up “DNS” and “Wireless Settings” (Please refer to Step 9)

- 3) If your network connection type is detected as “PPPoE”, you will be asked to enter your Username and Password first before iQ Setup proceeds to connect internet.

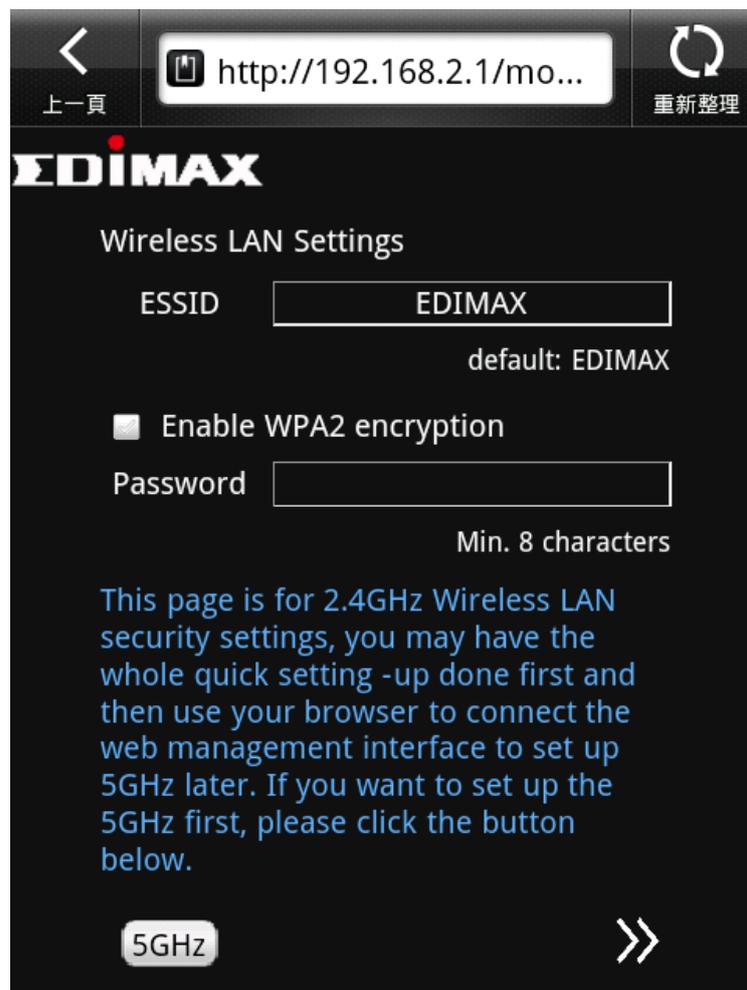


- 4) Then, click the next “>>” to set up “DNS” and “Wireless Settings” (Please refer to Step 9)

- 5) If you prefer to use specific DNS server address, please click “User configure manually” first ,and input your DNS server address in **DNS1** 和 **DNS2** columns. If you don't need any specific settings, just click the next”>>”



- 6) To set up your Wireless LAN, please enter the name you would like to have for your wireless LAN in the ESSID column. If you need to secure your wireless LAN from unpermitted accesses, please check the “Enable WPA2 encryption” box and enter your password. Click the next “>>” when you’ve done the foresaid



- 7) When the “Wireless LAN Settings” is done, the system will restart immediately. Now, you

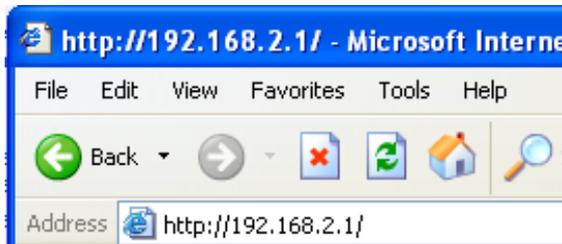
have done the iQ Setup.



3-2 Manual set-up via web browser

3-2-1 Login Web UI the setting page

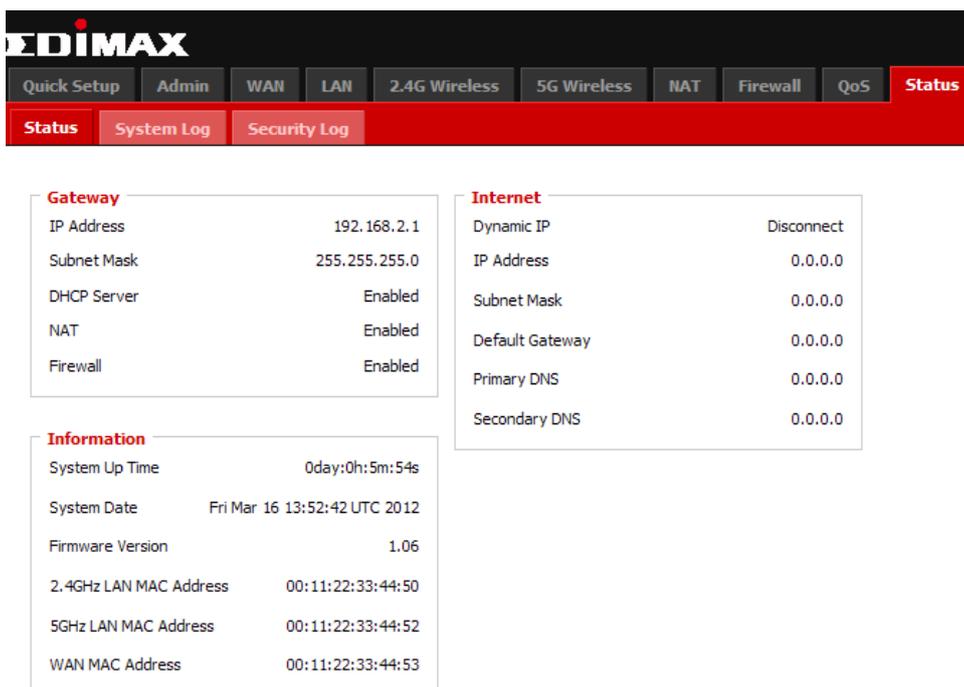
(A) Please input “192.168.2.1” in the web browser’s address bar and press “Enter”.



(B) Please input “admin” in the “User name” field and “1234” in the “Password” field. Click the “OK” button.



(C) The first page you see after logging in is “Home”. You can see all the current settings and other system information here.

A screenshot of the EDIMAX web interface. The top navigation bar includes "Quick Setup", "Admin", "WAN", "LAN", "2.4G Wireless", "5G Wireless", "NAT", "Firewall", "QoS", and "Status". Below this, there are tabs for "Status", "System Log", and "Security Log". The main content area is divided into three sections: "Gateway", "Internet", and "Information".

Gateway	
IP Address	192.168.2.1
Subnet Mask	255.255.255.0
DHCP Server	Enabled
NAT	Enabled
Firewall	Enabled

Internet	
Dynamic IP	Disconnect
IP Address	0.0.0.0
Subnet Mask	0.0.0.0
Default Gateway	0.0.0.0
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0

Information	
System Up Time	0day:0h:5m:54s
System Date	Fri Mar 16 13:52:42 UTC 2012
Firmware Version	1.06
2.4GHz LAN MAC Address	00:11:22:33:44:50
5GHz LAN MAC Address	00:11:22:33:44:52
WAN MAC Address	00:11:22:33:44:53

Chapter 4: Quick Setup

4-1 System Time Zone

The screenshot shows the 'Quick Setup' menu with '1. System Time Zone' selected. The configuration options are:

- Time Zone:** (GMT)Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London
- Network Time Server Address:** asia.pool.ntp.org-Asia, 192.43.244.18 (Manual IP Setting)
- Daylight Savings:** Enable Function, January 1 To January 1

Next

-
- | | |
|--------------------|--|
| Set Time Zone | Please select the time zone of your country or region. |
| NTP Server Address | Input the host name or IP address of the NTP server here. The common NTP server is 192.43.244.18 |
| Daylight Saving | If your country/region uses daylight saving time, please check the “Enable Function” box, and select the start and end date. |
-

4-2 WAN Settings

The screenshot shows the 'Quick Setup' menu with '2. WAN' selected. The configuration options are:

- Wan Connection Mode:** Dynamic IP
- Dynamic IP:**
 - Host Name:
 - MAC address: 000000000000
 - DNS address: Obtain automatically, User configure manually
 - DNS1: 0.0.0.0
 - DNS2: 0.0.0.0
 - TTL: Disable, Enable

Back Complete

After you have done the “System Time Zone” settings, you will be proceeded to “WAN” settings page. For further details, please refer **Chapter 6 WAN**.

Chapter 5: Admin

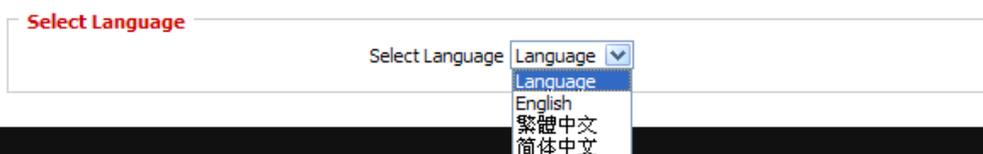
5-1 Firmware Upgrade



The screenshot shows the 'Firmware Upgrade' page. It displays the 'Current Firmware Version: 1.06'. Below this, there is a text input field for the new firmware version and a '浏览...' (Browse) button. At the bottom, there are 'Apply' and 'Cancel' buttons.

This page allows you to upgrade new firmware for BR-6479Gn. When you have done the upgrade, the system will restart automatically.

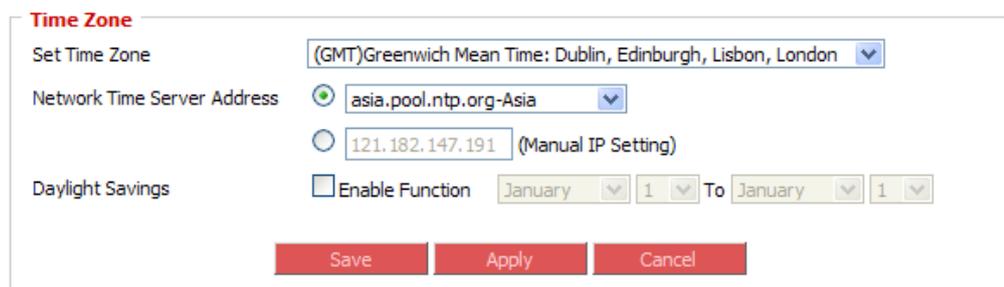
5-2 Language



The screenshot shows the 'Select Language' page. It features a dropdown menu labeled 'Select Language' with a list of options: Language, English, 繁體中文 (Traditional Chinese), and 简体中文 (Simplified Chinese).

Choose the language you preferred.

5-3 Time Zone



The screenshot shows the 'Time Zone' configuration page. It includes a 'Set Time Zone' dropdown menu set to '(GMT)Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London'. Below this, there are two radio buttons for 'Network Time Server Address': one selected for 'asia.pool.ntp.org-Asia' and another for '121.182.147.191 (Manual IP Setting)'. At the bottom, there is a 'Daylight Savings' section with an 'Enable Function' checkbox and two date pickers set to 'January 1'. At the bottom, there are 'Save', 'Apply', and 'Cancel' buttons.

Please refer to 4-1 **System Time Zone**.

5-4 Config

The screenshot shows the router's configuration menu. The top navigation bar includes 'Quick Setup', 'Admin', 'WAN', 'LAN', '2.4G Wireless', '5G Wireless', 'NAT', 'Firewall', 'QoS', and 'Status'. Below this, a secondary bar contains 'Firmware Upgrade', 'Language', 'Time Zone', 'Config', 'Password', 'WOL', 'Remote Management', 'iQSetup', and 'Restart'. The 'Config' menu is expanded, showing three options: 'Backup Settings' with a 'Save...' button, 'Restore Settings' with a file selection button (labeled '浏览...') and an 'Upload' button, and 'Restore to Factory Default' with a 'Reset' button.

Backup Settings

Through this function, you may backup your current settings in case you need to restore it later.

Restore Settings

Through this function, you may restore the settings you've backed up.

Restore to Factory Default

Through this function, you may restore you system back to the factory default setting. All the setting you've done will be removed.

5-5 Password

The screenshot shows the 'Password' change form. The top navigation bar is the same as in the previous screenshot, but the 'Password' menu item is selected. The form contains three input fields: 'Current Password', 'New Password', and 'Confirmed Password'. Below the fields are two buttons: 'Apply' and 'Cancel'.

Current Password Enter your current password

New Password Enter your new password

Confirmed Password Enter your new password again

5-6 WOL

Wake On LAN (WOL)

Client PC MAC address:

Computer name: << -----Select----- >>

Add PC Wake

WOL Table (up to 16 hosts)

NO.	Computer name	Client PC MAC address	Select
-----	---------------	-----------------------	--------

Wake Delete Selected Delete All

WOL (Wake On Lan) : For devices which do not need to be operated 24/7, WOL function allows you to turn them on or to wake them up remotely through network only when they are needed. You just need to enter the MAC address of the computer which you want to wake it up in the “Client PC MAC address” column, you can wake it up as you wish. The maximum computers you can wake it up via WOL function here is 16. Please note that the WOL is mainly for Windows 7 system, not all the computers can be supported.

5-7 Remote Mgt.

Remote Management

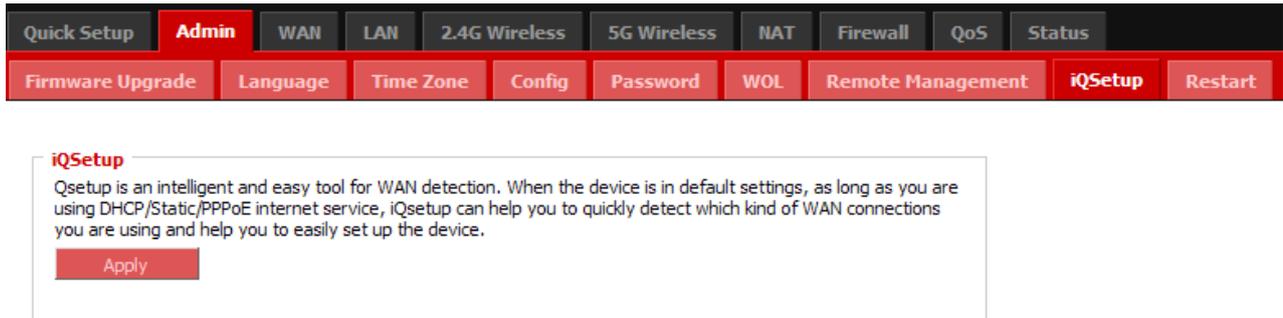
Host address	Port	Enabled
<input type="text" value="0.0.0.0"/>	<input type="text" value="8080"/>	<input type="checkbox"/>

Save Apply Cancel

Host Address Input a real IP Address which can be remotely accessed

Port Input the port (0~65535) which you want to connected remotely

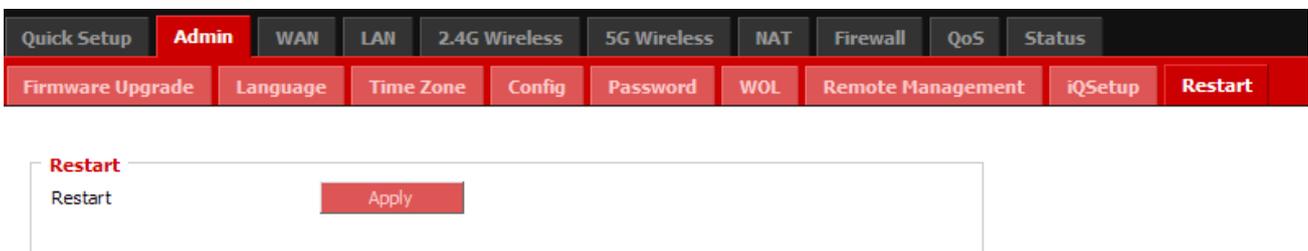
5-8 iQSetup



The screenshot shows a web interface with a top navigation bar containing tabs: Quick Setup, Admin (selected), WAN, LAN, 2.4G Wireless, 5G Wireless, NAT, Firewall, QoS, and Status. Below this is a secondary menu with buttons: Firmware Upgrade, Language, Time Zone, Config, Password, WOL, Remote Management, iQSetup (selected), and Restart. The main content area features a box titled "iQSetup" with the following text: "iQSetup is an intelligent and easy tool for WAN detection. When the device is in default settings, as long as you are using DHCP/Static/PPPoE internet service, iQSetup can help you to quickly detect which kind of WAN connections you are using and help you to easily set up the device." Below the text is an "Apply" button.

Please refer **3-1 iQ Setup**

5-9 Restart



The screenshot shows the same web interface as above, but with the "Restart" button selected in the secondary menu. The main content area features a box titled "Restart" with the text "Restart" and an "Apply" button.

Restart: When you apply the “Restart” function, the system will stop responding and restart, but all the settings will not be changed. When the LED lights stay ON and stop flashing, that means the system restart is done.

Chapter 6: WAN

6-1 WAN

You can select the WAN (Wide Area Network, i.e. Internet) Connection Mode you wish to use to setup Internet connection for BR-6479Gn in this page.

The screenshot shows the WAN configuration interface. At the top, there is a navigation bar with tabs for Quick Setup, Admin, WAN (selected), LAN, 2.4G Wireless, 5G Wireless, NAT, Firewall, QoS, and Status. Below this is a sub-navigation bar with tabs for WAN (selected), DNS, WISP, and DDNS. The main content area is titled 'Wan Connection Mode' and contains a 'Connection Mode' dropdown menu set to 'Dynamic IP'. Below this is a section titled 'Dynamic IP' with fields for 'Host Name', 'MAC address' (set to 000000000000), and 'TTL' (with 'Disable' selected). There is a 'Clone Mac address' button and 'Save', 'Apply', and 'Cancel' buttons at the bottom.

Dynamic IP	Apply to Cable TV operators or ISP which provides Dynamic IP
Static IP	Apply to ISP which provides Static IP
PPPoE	Apply to ISP which provides PPPoE
PPTP	Apply to ISP which provides PPTP
L2TP	Apply to ISP which provides L2TP
WISP	Apply to Wireless ISP operator or Municipal Wireless

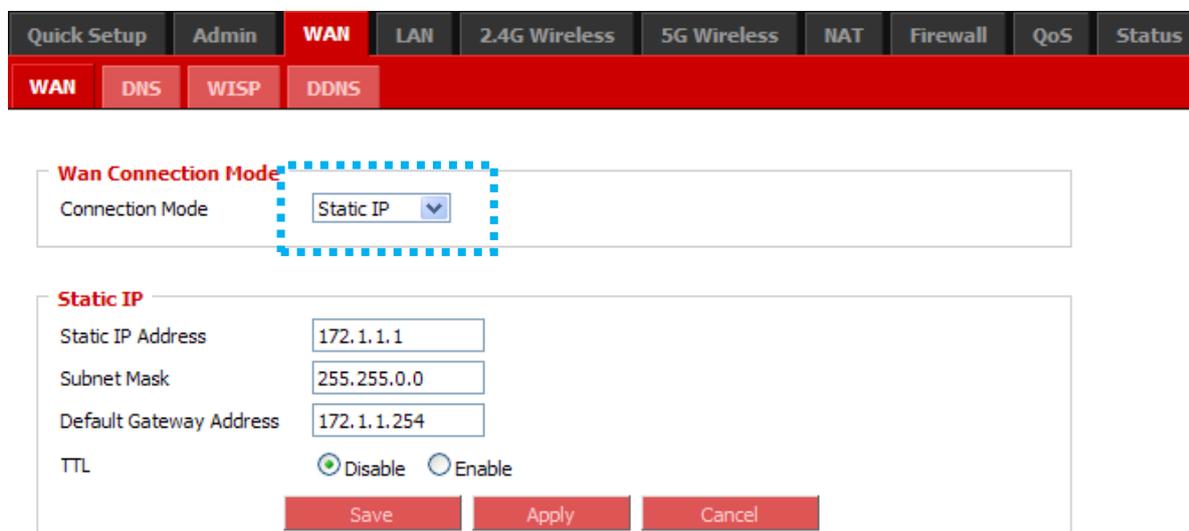
6-1-1 Dynamic IP

This screenshot is identical to the one above, but with a dashed blue rectangular box highlighting the 'Dynamic IP' dropdown menu in the 'Wan Connection Mode' section.

Host Name	Input the host name of your computer(this is optional and only required if your service provider asks you to do so).
MAC Address	Input MAC address of your computer here, if your ISP only permits computer with certain MAC address to access internet. If you're using the computer which used to connect to Internet via cable modem, you can simply press 'Clone Mac address' button to fill the MAC address field with the MAC address of your computer.
TTL	Enable or Disable the lifespan of data in the network.

Most Dynamic IP assigned to users for internet connection by ISP are configuration free

6-1-2 Static IP



Static IP Address	Input IP address assigned by your ISP.
Subnet Mask	Input subnet mask assigned by your ISP.
Default Gateway Address	Input the default gateway address assigned by your ISP.
TTL	Enable or Disable the lifespan of data in the network.

6-1-3 PPPoE

Wan Connection Mode

Connection Mode:

PPPoE

User Name:

Password:

Service Name:

MAC address:

MTU: (512<=MTU Value<=1492)

Connection Type:

Idle Time Out: (1-1000 minutes)

TTL: Disable Enable

User Name	Input the User Name assigned by your ISP.
Password	Input the Password assigned by your ISP.
Service Name	Input the Service Name assigned by your ISP.
MAC Address	Input the MAC address of your computer here, if your ISP only permits computer with certain MAC address to access internet. If you're using the computer which used to connect to Internet via cable modem, you can simply press 'Clone Mac address' button to fill the MAC address field with the MAC address of your computer. The default value:"000000000000" means to skip the clone.
MTU	Input the MTU (maximum transmission unit) value of your network connection here. If you don't know, you can use default value: 1392. Normally, the MTU of ADSL is 1492.
Connection Type	Please select the connection type of Internet connection you wish to use. There are 3 options: "Continuous": keep internet connection alive, do not disconnect. "Connect on Demand": only connects to Internet when there's a connect attempt, "Manual": connect to Internet only when 'Connect' button on this page is pressed, and disconnects when 'Disconnect button is pressed.
Idle Time Out	If you choose"Connect on Demand" as your connection type, here you may specify the time to shutdown internet connection after no internet activity is detected.
TTL	Enable or Disable the lifespan of data in the network.

6-1-4 PPTP / L2TP

Both the settings of PPTP and L2TP are the same. Here we will introduce the PPTP settings.

Wan Connection Mode

Connection Mode: PPTP

PPTP

IP address: Obtain automatically User configure manually

Host Name:

MAC address:

IP address:

Subnet Mask:

Default Gateway:

• PPTP Settings

User ID:

Password:

PPTP Gateway:

Connection ID: (Optional)

MTU: (512<=MTU Value<=1492)

Connection Type:

Idle Time Out: (1-1000 minutes)

User ID	Input the User ID assigned by your ISP.
Password	Input the Password assigned by your ISP.
PPTP Gateway	Input the PPTP Gateway assigned by your ISP.
Connection ID	Input the Connection ID assigned by your ISP. (usually not use)
MTU	Input the MTU (maximum transmission unit) value of your network connection here. If you don't know, you can use default value: 1392. Normally, the MTU of ADSL is 1492.
Connection Type	Please select the connection type of Internet connection you wish to use. There are 3 options: "Continuous": keep internet connection alive, do not disconnect. "Connect on Demand": only connects to Internet when there's a connect attempt, "Manual": connect to Internet only when 'Connect' button on this page is pressed, and disconnects when 'Disconnect button is pressed.
Idle Time Out	If you choose "Connect on Demand" as your connection type, here you may specify the time to shutdown internet connection after no internet activity is detected.

6-2 DNS

The screenshot shows the router's configuration menu with 'WAN' selected. Under 'WAN', 'DNS' is highlighted. The 'DNS' configuration panel includes a radio button for 'Obtain automatically' (selected) and 'User configure manually'. Below are input fields for 'DNS1' and 'DNS2'. At the bottom are 'Save', 'Apply', and 'Cancel' buttons.

DNS address	Obtain DNS address automatically or User configures manually. If you choose to configure manually, you will have to input the IP address of DNS server provided by your ISP in the following DNS1 and DNS2 columns.
DNS1	Please input the address of DNS1
DNS2	Please input the address of DNS2

6-3 WISP

WISP is another WAN option. Through the wireless WAN accessible areas, such as wireless network city, wireless network campus or wireless network community, you can use WISP to connect Internet.

The screenshot shows the router's configuration menu with 'WAN' selected. Under 'WAN', 'WISP' is highlighted. The 'WISP' configuration panel has radio buttons for 'Disable' (selected), 'Enable', and 'staEnable'. Below is a 'Basic Settings' section with fields for 'SSID', 'Channel Number' (set to 1), and 'Site Survey' (radio buttons for '2.4G' and '5G', and a 'Select Site Survey' button). Below that is a 'Security Settings' section with an 'Encryption' dropdown menu set to 'Disable'. At the bottom are 'Save', 'Apply', and 'Cancel' buttons.

When you enable the WISP function, you will have to input the ESSID (i.e. the name of wireless access point) of your ISP's access point or press the "Select Site Survey" button to find the ESSID of the wireless access point provided by your WISP.

If your WISP service was provided with encryption, you will have to enable the “Encryption” and input correct security setting info first, the WISP function can be functioned after that.

No matter what kind of Connection Type you choose to use, the system will ask you to restart the router after you completed the settings and your settings will be saved after that.

When you enable WISP and you prefer users to access internet via wired connection, please select 『staEnable』

6-4 DDNS

DDNS (Dynamic DNS) is an IP-to-Host name mapping service for those Internet users who don't have a static (fixed) IP address. It will be a problem when such user wants to provide services to other users on Internet, because their IP address will vary every time when connected to Internet, and other user will not be able to know the IP address they're using at a certain time.

DDNS

Dynamic DNS Enabled Disabled

Provider

Domain Name

Account / E-Mail

Password / Key

Dynamic DNS	Enable / Disable Dynamic DNS service
Provider	Please Select the DDNS service provider you have registered to.
Domain Name	Please enter the domain name provided by the DDNS provider.
Account/E-Mail	Please enter the Account or Email which has been applied from DDNS provider.
Password/Key	Please enter the Password or Key which has been applied from DDNS provider.

This router supports DDNS service of following service providers:

- 3322 (<http://www.3322.org/>)
- DHS (<http://www.dhs.org>)
- DynDNS (<http://www.dyndns.org/>)
- ODS (<http://ods.org>)
- TZO (<http://www.tzo.com/>)
- GnuDIP (<http://gnudip2.sourceforge.net/>)
- DyNS (<http://www.dyns.cx/>)

ZoneEdit (<http://www.zoneedit.com>)
 DHIS (<http://www.dhis.org/>)
 CyberGate (<http://cybergate.planex.co.jp/ddns/>)

Please go get a free DDNS account from any of the DDNS service providers' web pages listed above (the instructions will be given on their web pages) first. After that, you can use the DDNS page to setup DDNS parameters to use DDNS service:

Chapter 7: LAN

LAN IP

IP address: 192.168.2.1
 Subnet Mask: 255.255.255.0
 Lease Time: Forever
 DHCP Server: Enabled Disabled
 Start IP: 192.168.2.100
 End IP: 192.168.2.200

Enable Static DHCP Leases(This allows only 16 sets of addresses.)

MAC address : >> IP address :

NO.	MAC address	IP address	Select
<input type="button" value="Delete Selected"/> <input type="button" value="Delete All"/> <input type="button" value="Reset"/>			

Display IP Address List

- IP Address: Input the LAN IP address of BR-6479Gn. (A valid IP address has 4 fields: a.b.c.d, for most of home and company users, it's recommended to use 192.168.2.x, where x is an integer between 0 and 254.)
- Subnet Mask: The default subnet mask is 255.255.255.0
- Lease Time: The lease time of each DHCP. You can select the time period from the dropdown list, and the DHCP client will be forced to obtain a new IP address from BR-6479Gn after this period of time. You can select 'Forever' if you're using BR-6479Gn with only few computers (less than 30 computers).
- DHCP Server: We recommend you to enable DHCP Server unless you plan to build up another DHCP server or concern about other professional applications.
- Start IP: Input the start IP address of the IP address leases.
- End IP: Input the end IP address of the IP address leases.

Enable Static DHCP
Leases

Enable Static DHCP Leases (This allows only 16 sets
of addresses.)

Chapter 8: 2.4G Wireless

You can setup Wireless LAN connection parameters of BR-6479Gn in this page

The screenshot shows the '2.4G Wireless' configuration page. The 'Basic Settings' tab is selected. The settings are as follows:

- Mode: AP
- Wireless Standard: 2.4 GHz (b+g+n)
- ESSID: EDIMAX
- Broadcast ESSID: Enable Disable
- Channel Number: 11
- Channel Width: Auto 20/40 MHz 20 MHz
- Wireless Clients:

At the bottom, there are three buttons: , , and .

After you unboxed the BR-6479Gn and powered it on, just 2 minutes later and without any configuration, a wireless network without any encryption was established. In other words, there is no “Encryption” and setting of “802.11” for BR-6479Gn from the factory default. In the next sections, we are going to tell you how to encrypt for your BR-6479Gn that helps to secure your Wireless LAN.

8-1 Basic Settings

This is an identical screenshot of the '2.4G Wireless Basic Settings' page as shown above.

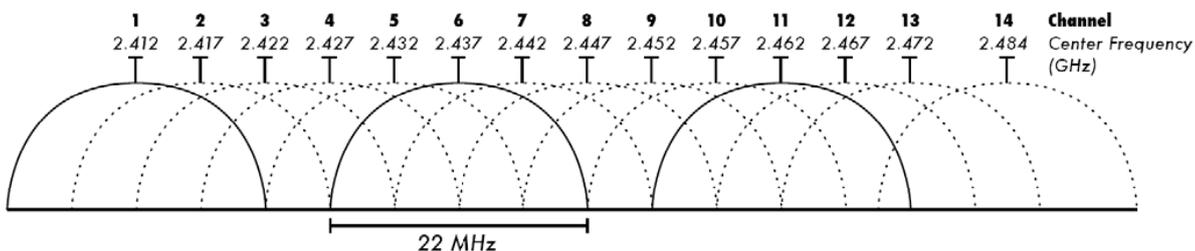
- Mode** There are 6 Mode options: AP, Station-Infrastructure, AP Bridge-Point to Point, AP Bridge-Point to Multi-Point, AP Bridge-WDS, Universal Repeater.
- Wireless Standard** BR-6479Gn supports three wireless standards:

	(a) 2.4GHz(b+g+n): 802.11b + 802.11g +802.11n (default setting)
	(b) 2.4GHz(b): 802.11b
	(c) 2.4GHz(g): 802.11g
	(d) 2.4GHz(n): 802.11n
	(e) 2.4GHz(b+g): 802.11b and 802.11g
ESSID	ESSID is the name of broadband router which is used to identify your own broadband router from others in the same area.
Broadcast ESSID	If you enable "Broadcast ESSID", the router will be opened to be searched and accessed by wireless adapters or devices. If you disable "Broadcast ESSID", this ESSID won't be searched, only those who know this ESSID can access it.
Channel Number	Select the channel number of frequency ranges. North America uses channel 1~11. Europe uses channel 1~13.
Channel Width	There are 2 channel width: 20MHz and 40MHz. We recommend you to choose "Auto 20/40MHz".
Wireless Clients	Click 'Show Active Clients' button to show the list of all connected wireless clients. You can click 'Refresh' in new window to get the latest list again, or click 'Close' to close the window.

Wireless Standard (IEEE 802.11b/g/n) :

Normally an indoor environment would adapt b+g+n and 「Auto 20/40 MHz」. This is because such settings can help data transmitting in short distance to be in higher speed. If you'd like to use BR-6479Gn for longer distant data transmitting, you are recommended to apply 802.11b and 20MHz. This is because long distant transmission is difficult to meet high speed wireless transfer rates at 150~300Mbps, so for the sake of more sophisticated transmission quality, we recommend to manually reduce the speed and bandwidth to achieve a more precise transmission quality.

Channel Number :



Allowable channels, allowed users and maximum power levels within frequency ranges are applied to countries accordingly. You may consult your local authorities. Here we add the channel information for your reference. For further information, you may check Wikipedia.

Channel	Frequency (MHz)	China	North America	Europe	Japan	Australia	Israel
1	2412	Y	Y	Y	Y	Y	N
2	2417	Y	Y	Y	Y	Y	N
3	2422	Y	Y	Y	Y	Y	Y
4	2427	Y	Y	Y	Y	Y	Y
5	2432	Y	Y	Y	Y	Y	Y
6	2437	Y	Y	Y	Y	Y	Y
7	2442	Y	Y	Y	Y	Y	Y
8	2447	Y	Y	Y	Y	Y	Y
9	2452	Y	Y	Y	Y	Y	Y
10	2457	Y	Y	Y	Y	Y	N
11	2462	Y	Y	Y	Y	Y	N
12	2467	Y	N	Y	Y	Y	N
13	2472	Y	N	Y	Y	Y	N
14	2484	N	N	N	Only 802.11b	N	N

8-1-1 Disable “Broadcast ESSID”— the easiest security setting

When you disable “Broadcast ESSID”, this ESSID won’t be found in available network list and others won’t be able to access to the router. Therefore, you may think it in the way that “Disable Broadcast ESSID” is the easiest way to secure your network.

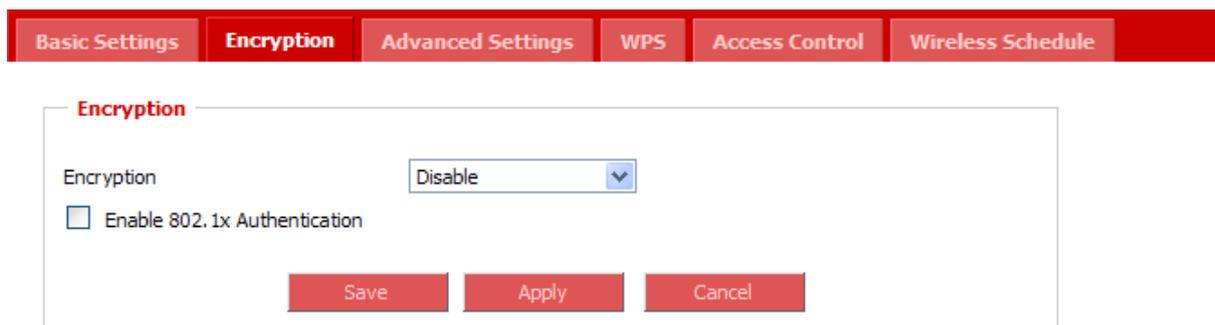
8-1-2 Show List of Wireless Clients

When you press the “Show List” button of Wireless Clients, you can see the info of those wireless client devices that are accessing to the router. Following comes with the example of the list.

MAC Address	802.11 PhyMode	Tx Packets	Rx Packets	Tx Rate (Mbps)	Power Saving	Expired Time (s)
00:1f:1f:b4:4e:13	11n	83	120	135	no	297

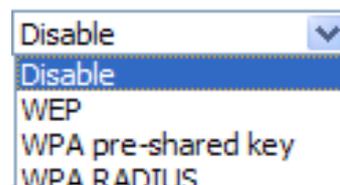
Refresh Close

8-2 Encryption



The screenshot shows the 'Encryption' tab in a settings menu. The 'Encryption' dropdown is set to 'Disable'. Below it is a checkbox for 'Enable 802.1x Authentication'. At the bottom are 'Save', 'Apply', and 'Cancel' buttons.

The factory default is “Disable”. Click the dropdown menu, you will see three encryption options: WEP / WPA pre-shared key / WPA RADIUS.



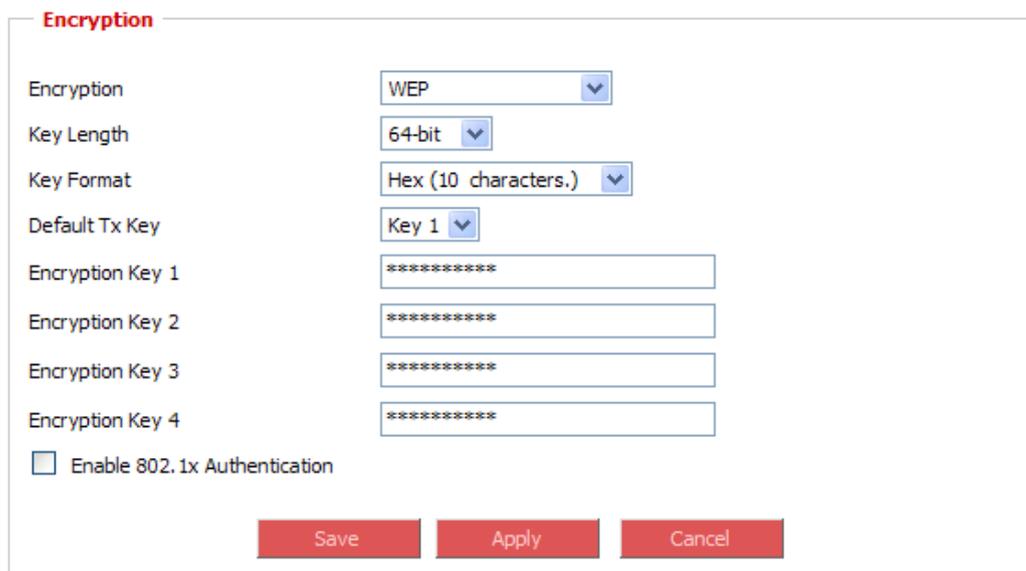
The dropdown menu is open, showing the following options: 'Disable', 'WEP', 'WPA pre-shared key', and 'WPA RADIUS'. 'Disable' is currently selected.

Here we recommend you to choose WPA pre-shared key to encrypt your network.

If you have enable the WPA2 encryption and setup your password when you were running iQ Setup to setup your BR-6479Gn at the first time, you will see your settings as follow and you can change your settings in this page as well.

8-2-1 WEP

When you choose WEP as your network encryption, you have two different options based on the key length: 64-bit and 124-bit. The higher the encryption bit, the more secure your network. However, neither 64-bit nor 128-bit encryption, they are both easier to be decoded than WPA. So we suggest you to choose WPA as your network encryption method.



The screenshot shows the 'Encryption' settings page with 'WEP' selected in the dropdown. Below it are 'Key Length' (64-bit), 'Key Format' (Hex (10 characters.)), and 'Default Tx Key' (Key 1). There are four text input fields for 'Encryption Key 1' through 'Encryption Key 4', each containing a series of asterisks. At the bottom are 'Save', 'Apply', and 'Cancel' buttons.

Key Length	Choose 64bit or 128bit
Key Format	Choose ASCII or Hex
Default Tx Key	Choose the Key to apply
Encryption Key1~4	Enter 4 sets of Encryption Key
Enable 802.1x Authentication	Enable / Disable 802.1x Authentication
RADIUS Server IP address	Input the IP address of RADIUS authentication server here.
RADIUS Server Port	Input the port number of RADIUS authentication server here. The default value is 1812 as most RADIUS servers use that.
RADIUS Server Password	Input the password of RADIUS authentication server here.

8-2-2 WPA pre-shared key

When you enable WPA pre-shared key, you can see three encryption options: WPA (TKIP), WPA2 (AES) and WPA (Mixed). WPA and WPA2 are different WPA versions and protection mechanisms. WPA is Initial WPA version that supplies enhanced security over the older WEP protocol. WPA 2 is the successor of WPA that provides additional security and its encryption mechanism is stronger than WPA. Here we suggest you to choose WPA2 Mixed so that you can have comprehensive WPA protection.

8-2-3 WPS RADIUS

Encryption

Encryption

WPA Unicast Cipher Suite WPA(TKIP) WPA2(AES) WPA2 Mixed

RADIUS Server IP address

RADIUS Server Port

RADIUS Server Password

WPA Encryption	There are three options for WPA encryption: 『WPA(TKIP)』 『WPA2(AES)』 『WPA2 Mixed』
RADIUS Server IP address	Input the IP address of RADIUS authentication server here.
RADIUS Server Port	Input the port number of RADIUS authentication server here. The default value is 1812 as most RADIUS servers use that.
RADIUS Server Password	Input the password of RADIUS authentication server here.

8-3 Advanced Settings

This section is about advanced wireless settings of BR-6479Gn. For these adjustable values you see here are all relevant to technical knowhow that if you are not familiar with them, please keep them with the factory default in case any worse performance would be caused.

Advanced Settings

Fragment Threshold (256-2346)

RTS Threshold (0-2347)

Beacon Interval (20-1024 ms)

DTIM Period (1-10)

Data Rate

MCS index

Preamble Type Short Preamble Long Preamble

WMM Enable Disable

CTS Protect Auto Always None

Tx Power

Fragment Threshold	Set up the value of Fragment Threshold. (Default: 2346)
RTS Threshold	Set up the value of RTS Threshold. (Default: 2347)
Beacon Interval	Set up the value of Beacon Interval. (Default: 100ms)
DTIM Period	Set up the value of DTIM Period. (Default: 3)
Data Rate	Set up the value of Data Rate. (Default: Auto)
MCS index	Set up the value of MSC index. (Default: Auto)
Preamble Type	There are two options: Short Preamble and Long Preamble.
WMM	Enable WMM
CTS Protect	Set up the way of CTS Protect: Auto, Always, None
Tx Power	Set up the percentage of Tx Power

8-4 WPS

The screenshot shows the WPS configuration page in a router's web interface. The top navigation bar includes tabs for Quick Setup, Admin, WAN, LAN, 2.4G Wireless (selected), 5G Wireless, NAT, Firewall, QoS, and Status. Below this, a secondary navigation bar includes Basic Settings, Encryption, Advanced Settings, WPS (selected), Access Control, and Wireless Schedule. The main content area is titled 'WPS' and contains the following elements:

- Enable WPS
- Wi-Fi Protected Setup Information**
- WPS Status: unConfigured
- Self PinCode: 33598246
- SSID: EDIMAX
- Authentication Mode: Disable
- Passphrase Key
- Device Configure**
- Config Mode: Registrar (dropdown menu)
- Configure via Push Button: Start PBC (button)
- Configure via Client PinCode: [] Start PIN (button)

WPS (Wi-Fi Protected Setup) provides an easy and secure way to establish the connection between BR-6479Gn and wireless clients. Any WPS-compatible wireless clients can establish secure connection with BR-6479Gn through simple push-button type configuration or Pin Code type configuration. We recommend you to have both WPA2 encryption and WPS to protect your network.

Step 1.

As above mentioned, have your ESSID and WPA2 password settings done first.

Tips for MIS: If you have ESSID and WPA2 password settings done first, later when you set up you WPS, the secure connection will be configured according to your ESSID and password.

Step 2.

When you move to this page, please get your WPS wireless adapter or device ready at the same time.

Step 3.

Please click "Start PBC" or press the WPS button.

Enable your client WPS wireless adapter or device within 2 minutes and the WPS connection will be done after that.

This is a close-up screenshot of the 'Device Configure' section from the WPS configuration page. It shows the following options:

- Config Mode: Registrar (dropdown menu)
- Configure via Push Button: Start PBC (button)
- Configure via Client PinCode: [] Start PIN (button)

8-5 Access Control

Through Access Control, you can restrict your computers from accessing improper website or using disallowed applications. Only computers with certain MAC address are allowed to access the network or prevent computers in the list to access Internet.

The screenshot shows the configuration page for 2.4G Wireless Access Control. The top navigation bar includes 'Quick Setup', 'Admin', 'WAN', 'LAN', '2.4G Wireless', '5G Wireless', 'NAT', 'Firewall', 'QoS', and 'Status'. Below this, a secondary bar highlights 'Basic Settings', 'Encryption', 'Advanced Settings', 'WPS', 'Access Control', and 'Wireless Schedule'. The main content area is titled 'Access Control' and features a checkbox for 'Enable Wireless Access Control'. Below the checkbox, there are input fields for 'MAC address' (with a dropdown menu), 'Device Name', 'IP address', and 'Comment', along with 'Add' and 'Clear' buttons. A table below these fields has columns for 'MAC address', 'Device Name', 'IP address', 'Comment', and 'Select'. At the bottom of the table area are buttons for 'Delete Selected', 'Delete All', 'Reset', 'Apply', and another 'Reset' button.

8-6 Wireless Schedule

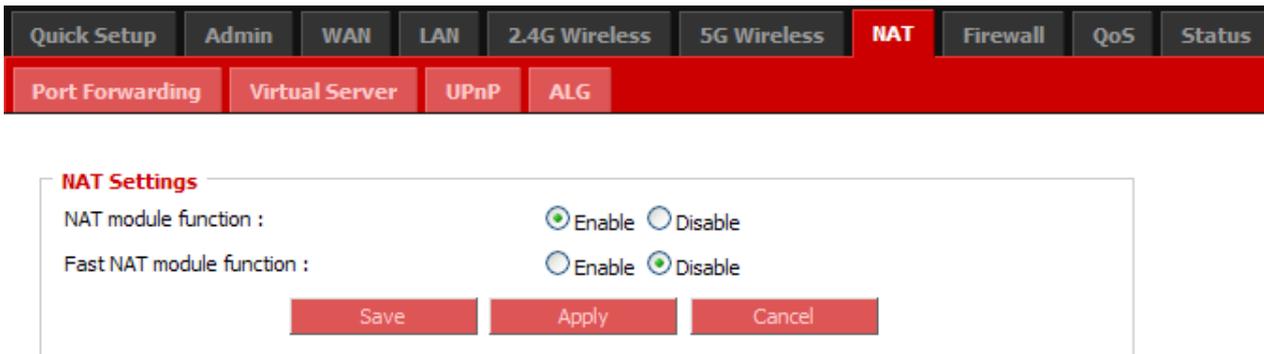
When you enable Wireless Schedule, you can schedule time within seven days to the open and close the wireless network function, for example, 8:00~20:00, Monday through Friday, the wireless network is accessible, but other time is unavailable. However, Wireless Schedule function must be coped with the NTP Server, which means that your BR-6479Gn must connect with Internet in order to get the network time from NTP Server.

The screenshot shows the configuration page for 2.4G Wireless Wireless Schedule. The top navigation bar is identical to the previous page. The secondary bar highlights 'Basic Settings', 'Encryption', 'Advanced Settings', 'WPS', 'Access Control', and 'Wireless Schedule'. The main content area is titled 'Wireless Schedule' and features a checkbox for 'Enable Schedules settings'. Below this, there are checkboxes for each day of the week: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday. There are also input fields for 'hour' and 'minute' (both with dropdown menus), and a dropdown menu for 'command' (set to 'wireless on'). 'Add' and 'Reset' buttons are located below the input fields. A table below has columns for 'weekday', 'time', 'command', and 'Select'. At the bottom of the table area are buttons for 'Delete Selected', 'Delete All', 'Apply', and 'Reset'.

Chapter 9: NAT

NAT (Network Address Translations) solves the problem of sharing a single IP address to multiple computers. Without NAT, all computers must be assigned with a valid Internet IP address to get connected to Internet, but Internet service providers only provide very few IP addresses to every user. Therefore it's necessary to use NAT technology to share a single Internet IP address to multiple computers on local network, so everyone can get connected to Internet.

BR-6479Gn supports four types of NAT functions, and the instructions of these functions will be given below.

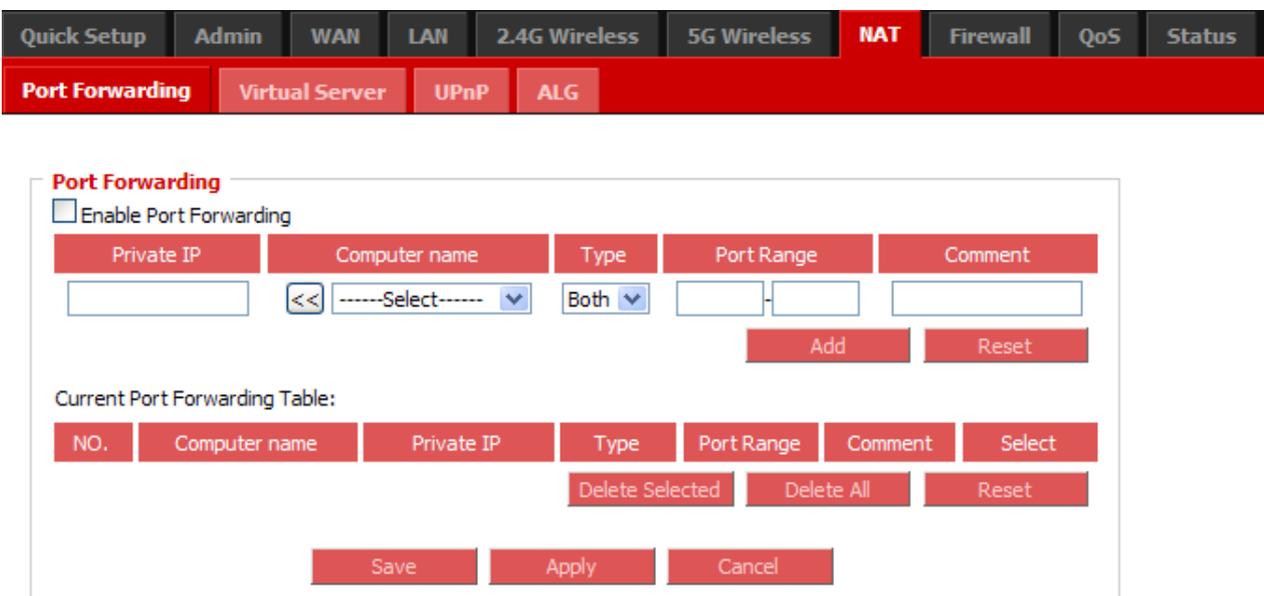


NAT (Network Address Translation) is a way to map an entire network (or networks) to a single IP address. It is necessary especially when the number of IP addresses assigned by your ISP is less than the total numbers that you wish to provide for Internet access.

As for Fast NAT. it is a fast translation function, but has to go with other network devices' functions, such as session control. Fast NAT is seldom used at home or in offices, so the default setting is "Disable"

9-1 Port Forwarding

If your networking devices can run protocols, such as http, ftp, for external communications, enable "Port Forwarding" can help you to keep them open to Internet access.



Private IP	Set the IP address for internal computers or devices usage
Computer Name	The Windows computer name can be chosen automatically.
Type	Set up the network communication protocol.
Port Range	The port number(s) of Internet IP address and private IP address (the IP address on local network) must be the same. Input the starting port number in the left field, and input the ending port number in the right field. If you only want to redirect a single port number, just fill the port number in the left field.
Comment	You may input texts(up to 16 alphanumerical characters) to note this mapping,

9-2 Virtual Server

This function allows you to redirect a port on Internet IP address (on WAN port) to a specified port of an IP address on local network, so you can setup an Internet service on the computer on local network, without exposing it on Internet directly. You can also build various sets of port redirection, to provide various Internet services on different local computers via a single Internet IP address.

The screenshot shows the configuration page for the Virtual Server function. At the top, there is a navigation bar with tabs for 'Quick Setup', 'Admin', 'WAN', 'LAN', '2.4G Wireless', '5G Wireless', 'NAT', 'Firewall', 'QoS', and 'Status'. Below this, there is a sub-menu with 'Port Forwarding', 'Virtual Server', 'UPnP', and 'ALG'. The 'Virtual Server' tab is selected.

The main configuration area is titled 'Virtual Server' and includes the following elements:

- An unchecked checkbox labeled 'Enable Virtual Server'.
- A table for adding new virtual servers with columns: Private IP, Computer name, Private Port, Type, Public Port, and Comment. Below the table are 'Add' and 'Reset' buttons.
- A section titled 'Current Virtual Server Table:' containing a table with columns: NO., Computer name, Private IP, Private Port, Type, Public Port, Comment, and Select. Below this table are 'Delete Selected', 'Delete All', and 'Reset' buttons.
- At the bottom, there are 'Save', 'Apply', and 'Cancel' buttons.

9-3 UPnP

UPnP allows other network devices to communicate with BR-6479Gn to exchange information about network capability for intercommunication.

Enabling UPnP will make it easy for computers (Windows XP or above) to browse in Network Neighborhood.



UPnP

UPnP Feature Enable Disable

Save Apply Cancel

9-4 ALG

ALG (Application Layer Gateway) is a network connection ability which supports specific network applications, such as game and instant online chat. Without ALG, these applications will not be able to communicate with their server when working with BR-6475nD.



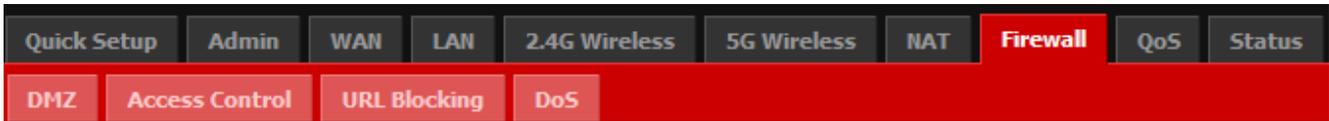
ALG

Enable	Name	Comment
<input checked="" type="checkbox"/>	FTP	Support for FTP.
<input checked="" type="checkbox"/>	H323	Support for H323/netmeeting.
<input checked="" type="checkbox"/>	IPsec	Support for IPsec pass-through
<input checked="" type="checkbox"/>	PPTP	Support for PPTP passthrough.
<input checked="" type="checkbox"/>	L2TP	Support for L2TP passthrough.
<input checked="" type="checkbox"/>	SIP	Support for SIP.

Save Apply Cancel

Chapter 10: Firewall

BR-6479Gn supports several firewall functions, such as DMZ, Access Control, URL Blocking and DoS, which will help you to protect your network and computer. To set up the fore-mentioned functions, you will have to enable Firewall module function first.



Firewall

Firewall module function Enable Disable

Apply Cancel

10-1 DMZ

DMZ (Demilitarized Zone) is a special area in your local network that all computers in this area uses private IP address. But these private IP addresses are mapped to a certain Internet IP address, so other people on Internet can fully access those computers in DMZ.

DMZ

Enable DMZ

Public IP address	Client PC IP address	Computer name
<input checked="" type="radio"/> Dynamic IP <input type="text" value="Session 1"/> <input type="radio"/> Static IP <input type="text"/>	<input type="text"/>	<input type="button" value="Select"/> <input type="button" value="Add"/> <input type="button" value="Reset"/>

Current DMZ Table

NO.	Computer name	Public IP address	Client PC IP address	Select
<input type="button" value="Delete Selected"/> <input type="button" value="Delete All"/> <input type="button" value="Reset"/>				

Save Apply Cancel

Public IP Address	You can select 'Dynamic IP' or 'Static IP' here. If you select 'Dynamic IP', you have to select an Internet connection session from dropdown menu; if you select 'Static IP', please input the IP address that you want to map to a specific private IP address.
Client PC IP address	Input the private IP address that the Internet IP address will be mapped to.
Add	Add the mapping to port forwarding table.
Reset	Remove all inputted values.

10-2 Access Control

By using access control, you can restrict your computers from accessing improper website, or using disallowed applications. You can even just allow computers with certain MAC address to access the network, or deny the computers in the list from accessing Internet.

MAC Filtering Table

Enable MAC Filtering Deny Allow

Client PC MAC address	Computer name	Comment
<input type="text"/>	<< -----Select----- >>	<input type="text"/>
		<input type="button" value="Add"/> <input type="button" value="Reset"/>

NO.	Computer name	Client PC MAC address	Comment	Select
<input type="button" value="Delete Selected"/> <input type="button" value="Delete All"/>				

IP Address Filtering Table

Client PC Description

Client PC IP address - Protocol

Port Range Ex:8000-8050,9000

Enable IP Filtering Table (up to 20 computers) Deny Allow

NO.	Client PC Description	Client PC IP address	Client Service	Protocol	Port Range	Select
<input type="button" value="Delete Selected"/> <input type="button" value="Delete All"/>						

Enable MAC Filtering Table:

Check the box to enable MAC address based filtering, and select 'Deny' or 'Allow' to decide the behavior of MAC filtering table. If you select deny, all MAC addresses listed in filtering table will be denied from connecting Internet; if you select allow, only MAC addresses listed in filtering table will be able to connect to Internet.

Enable IP Filtering Table:

This function is similar to MAC Filtering. The difference in between is that access to the router is controlled by IP address and here it offers more settings values.

10-3 URL Blocking

If you want to prevent computers in local network from accessing certain website (like pornography, violence, or anything you want to block), you can use this function to stop computers in local network from accessing the site you defined here.

Please check " Enable URL Blocking" first. Input the URL (host name or IP address of website, like <http://www.blocked-site.com> or <http://11.22.33.44>), or the keyword which is contained in URL (like pornography, cartoon, stock, or anything) in the URL/Keyword box field, then you can

block the URL according to your definition.

URL Blocking

Enable URL Blocking

URL/Keyword Add Reset

Current URL Blocking Table:

NO.	URL/Keyword	Select
		Delete Selected Delete All Reset

Save Apply Cancel

10-4 DoS (Denial of Service)

DoS (Denial of Service) is a common attack measure, by transmitting a great amount of data or request to your Internet IP address and server, the Internet connection will become very slow, and server may stop responding because the traffics is much more than it can handles.

BR-6479Gn has a built-in DoS attack prevention mechanism; when you activate it, BR-6479Gn will stop the DoS attack for you:

If you are not familiar with these functions, we suggest you to keep the factory default settings and leave them to technician to set up for you in case that the router's performance turns bad.



Denial of Service Feature

Enable	Name	Advanced Settings
<input type="checkbox"/>	Ping of Death	5 Packet(S) Per Second Burst 5
<input type="checkbox"/>	Discard Ping From WAN	
<input type="checkbox"/>	Port Scan	<input checked="" type="checkbox"/> NMAP FIN / URG / PSH <input checked="" type="checkbox"/> Xmas tree <input checked="" type="checkbox"/> Another Xmas tree <input checked="" type="checkbox"/> Null scan <input checked="" type="checkbox"/> SYN / RST <input checked="" type="checkbox"/> SYN / FIN <input checked="" type="checkbox"/> SYN (only unreachable port)
<input type="checkbox"/>	Sync Flood	30 Packet(S) Per Second Burst 30

Save Apply Cancel

Ping of Death

Ping of Death is a special packet, and it will cause certain computer to stop responding. Check this box and BR-6479Gn will filter this kind of packet out.

Discard Ping from WAN

Some malicious intruder will try to fill your network bandwidth with a lot of PING request data packet, to make your internet connection become very slow. Check this box and BR-6479Gn will ignore all inbound

Port Scan

PING requests, but when you activate this function, you will not be able to ping your own router from internet, too. Some malicious intruder will try to use a 'port scanner' to detect how many ports of your Internet IP address are open. Check this box and BR-6479Gn will block all traffics which are trying to scan your Internet IP address.

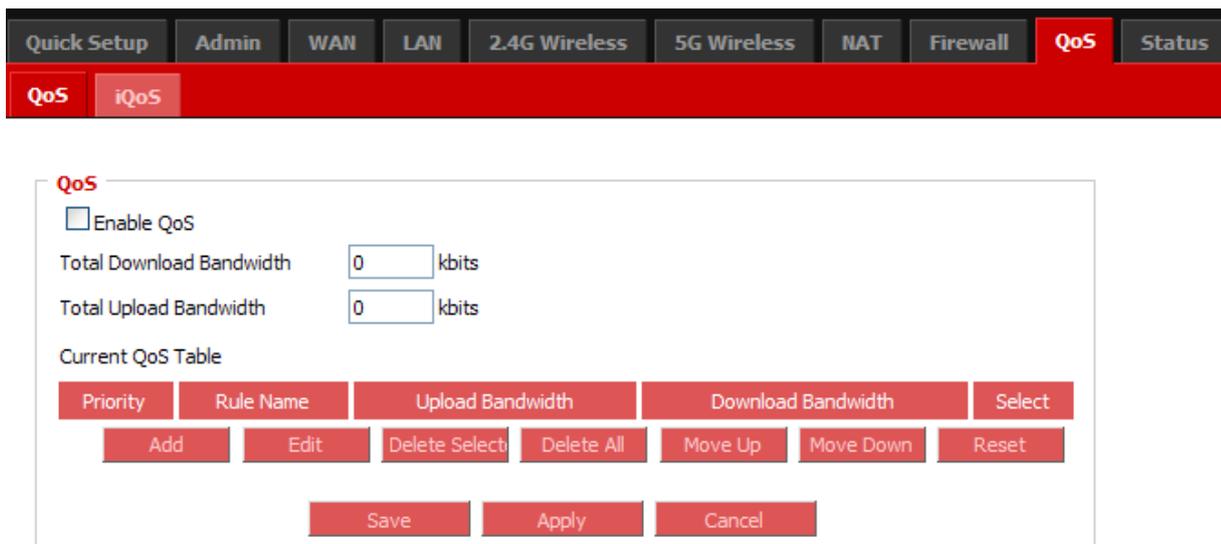
Sync Flood

This is another kind of attack, which uses a lot of fake connection request to occupy the memory of your server, and try to make your server become unusable. Check this box and BR-6479Gn will filter this kind of traffic out.

Chapter 11: QoS & iQoS

11-1 QoS

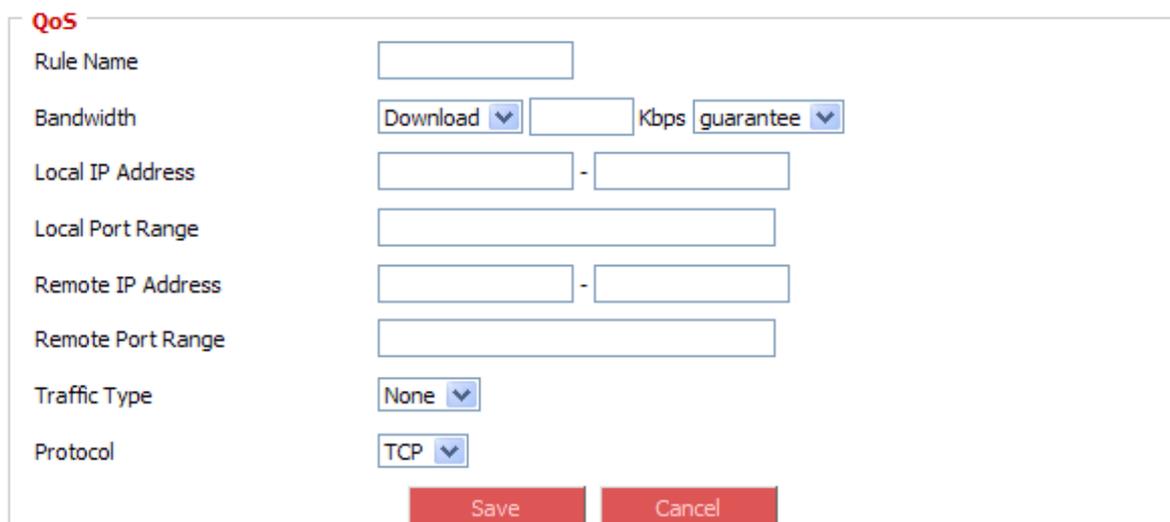
QoS (**Quality of Service**) setting is a way to quickly and effectively restrict the use of network bandwidth. Because of limitations of SOHO products' hardware and software, QoS can just offer some simple features, but for the demand of home or small office local area network usage, it has greatly improved an effective network bandwidth management.



Total Download Bandwidth	You can set the limit of total download bandwidth in kbits. To disable download bandwidth limitation, input '0' here.
Total Upload Bandwidth	You can set the limit of total upload bandwidth in kbits. To disable upload bandwidth limitation, input '0' here.
Current QoS Table	The current QoS rule table

QoS Rule settings :

Please click "Add" and you will be prompted to the rule setting page as follow.



Rule name	Input a name for this QoS rule for identification purpose. This name should be unique and not the same with others.
Bandwidth	Download/Upload bandwidth (guarantee/ max)
Local IP Address	Set the IP address range that will be affected by this QoS rule(If only one IP address is involved, input the IP address in left field only)
Local Port Range	Set the Port Range that will activate this QoS rule. If only one port is involved, input a single number here (1 to 65535); if multiple ports are involved, input starting / ending port number in x-y format (like 10-20).
Remote IP Address	Set the Remote IP Addresses that will trigger this QoS rule (if only one IP address is involved, input the IP address in left field only)
Remote Port Range	Set the Remote Port Range that will activate this QoS.
Traffic Type	If you're creating a QoS rule for a specific type of traffic, you can select it from this menu and you don't have to input port range above.
Protocol	Select the protocol type here (TCP or UDP).

11-2 iQoS

Different from the aforementioned QoS function, iQoS is a quicker, easier, and more effective way to manage Internet bandwidth. This is because iQoS can set specific packet transmission priority based on different applications, just like the lane diversion with no interference. To online game players or those who have special requirements for audio and video transmission, iQoS bandwidth management is a very helpful tool for them. What you need to be noted is that iQoS cannot be run with the QoS at the same time. You can only choose either iQoS or QoS. If QoS is enabled, then the iQoS function will automatically disable, but instead, if you enable iQoS, the QoS function will automatically disable.

iQoS
 iQoS is a smart tool for bandwidth management. iQoS cannot be functioned with QoS synchronously. Once the QoS function is enabled, the iQoS function will automatically become invalid.

Enable iQoS

Total Download Bandwidth kbits
 Total Upload Bandwidth kbits

Current iQoS Table :

High						Low
						

Double click the big icon to remove from table

Save Apply Cancel

High						Low
						
						

Double click the small icon

ck the small icon

Enabling iQoS, not only you can set up the download and upload bandwidth; but also you can set priorities for the following five network applications. The priority table starts from left to right as high to low and the factory default applications priorities are Network browsing/P2P/FTP/Multimedia transmission/Online game. You can rearrange it as you wish. As long as you double click any of the large icons, you can remove the application from the priority table and the next icon will move left. On the contrary, when you double click the selected small icons on below, it will move to the priority table to fill up the vacancies. (Note: The priority table must be filled up with applications, no vacancy is allowed)

				
Browsing Internet	P2P/ BT Download	FTP	Multimedia Transmission	Online Game

Chapter 12: Status

Here in this page, you can see the system status/ system log and security log.

The screenshot displays the 'Status' page of a network device. The top navigation bar includes 'Quick Setup', 'Admin', 'WAN', 'LAN', '2.4G Wireless', '5G Wireless', 'NAT', 'Firewall', 'QoS', and 'Status'. Below this, there are sub-tabs for 'Status', 'System Log', and 'Security Log'. The main content area is divided into several sections:

- Gateway:** A table showing configuration for the Gateway.

IP Address	192.168.2.1
Subnet Mask	255.255.255.0
DHCP Server	Enabled
NAT	Enabled
Firewall	Enabled
- Internet:** A table showing configuration for the Internet connection.

Dynamic IP	Disconnect
IP Address	0.0.0.0
Subnet Mask	0.0.0.0
Default Gateway	0.0.0.0
Primary DNS	0.0.0.0
- Information:** A table showing system information.

System Up Time	0day:2h:48
System Date	Fri Mar 16 16:35:41 UTC
Firmware Version	
2.4GHz LAN MAC Address	00:11:22:33
5GHz LAN MAC Address	
WAN MAC Address	
- System Log:** A scrollable text area showing log entries.

```
Mar 16 13:46:51 (none) syslog.info syslogd started: BusyBox v1.15.2
```
- Security Log:** A scrollable text area showing security-related log entries.

```
[2012-03-16 13:47:21]: start Dynamic IP  
[2012-03-16 13:47:22]: [DNS]: dns restart ...
```

At the bottom of the Security Log section, there are three buttons: 'Save', 'Clear', and 'Refresh'.

Appendix

Troubleshooting

If you found that the router is working improperly or stops responding, please don't panic! Before you contact your dealer of purchase for help, please read this troubleshooting first. Some problems can be solved by you in minutes.

Scenario	Solution
Router is not responding to me when I want to access it by web browser	<ol style="list-style-type: none">Please check the connection of power cord and network cable of this router. All cords and cables should be correctly and firmly inserted to the router.If all LEDs on this router are off, please check the status of A/C power adapter, and make sure it's correctly powered.You must use the same IP address section which router uses.Are you using MAC or IP address filter? Try to connect the router by another computer and see if it works; if not, please restore your router to factory default settings (pressing 'reset' button for over 10 seconds).Set your computer to obtain an IP address automatically (DHCP), and see if your computer can get an IP address.If you did a firmware upgrade and this happens, contact your dealer of purchase for help.If all above solutions don't work, contact the dealer of purchase for help.
Can't get connected to Internet	<ol style="list-style-type: none">Go to 'Status' -> 'Internet Connection' menu, and check Internet connection status.Please be patient, sometime Internet is just that slow.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.Check PPPoE / L2TP / PPTP user ID and password again.Call your Internet service provider and check if there's something wrong with their service.If you just can't connect to one or more website, but you can still use other internet services, please check URL/Keyword filter.Try to reset the router and try again later.Reset the device provided by your Internet service provider

	<p>too.</p> <p>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.</p>
I can't locate my router by my wireless client	<p>a. 'Broadcast ESSID' set to off?</p> <p>b. All two antennas are properly secured.</p> <p>c. Are you too far from your router? Try to get closer.</p> <p>d. Please remember that you have to input ESSID on your wireless client manually, if ESSID broadcast is disabled.</p>
File download is very slow or breaks frequently	<p>a. Are you using QoS function? Try to disable it and try again.</p> <p>b. Internet is slow sometimes, being patient.</p> <p>c. Try to reset the router and see if it's better after that.</p> <p>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.</p> <p>e. If this never happens before, call you Internet service provider to know if there is something wrong with their network.</p>
I can't log onto web management interface: password is wrong	<p>a. Make sure you're connecting to the correct IP address of the router!</p> <p>b. Password is case-sensitive. Make sure the 'Caps Lock' light is not illuminated.</p> <p>c. If you really forget the password, do a hard reset.</p>
Router become hot	<p>a. This is not a malfunction, if you can keep your hand on the router's case.</p> <p>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.</p>
The date and time of all event logs are wrong	<p>a. Adjust the internal clock of router.</p>

Glossary

Default Gateway (Router): Every non-router IP device needs to configure a default gateway's IP address. When the device sends out an IP packet, if the destination is not on the same network, the device has to send the packet to its default gateway, which will then send it out towards the destination.

DHCP: Dynamic Host Configuration Protocol. This protocol automatically gives every computer on your home network an IP address.

DNS Server IP Address: DNS stands for Domain Name System, which allows Internet servers to have a domain name (such as `www.Portablerouter.com`) and one or more IP addresses (such as `192.34.45.8`). A DNS server keeps a database of Internet servers and their respective domain names and IP addresses, so that when a domain name is requested (as in typing "Portablerouter.com" into your Internet browser), the user is sent to the proper IP address. The DNS server IP address used by the computers on your home network is the location of the DNS server your ISP has assigned to you.

DSL Modem: DSL stands for Digital Subscriber Line. A DSL modem uses your existing phone lines to transmit data at high speeds.

Ethernet: A standard for computer networks. Ethernet networks are connected by special cables and hubs, and move data around at up to 10/100 million bits per second (Mbps).

Idle Timeout: Idle Timeout is designed so that after there is no traffic to the Internet for a pre-configured amount of time, the connection will automatically be disconnected.

IP Address and Network (Subnet) Mask: IP stands for Internet Protocol. An IP address consists of a series of four numbers separated by periods, which identifies a single, unique Internet computer host in an IP network. Example: `192.168.2.1`. It consists of 2 portions: the IP network address, and the host identifier.

The IP address is a 32-bit binary pattern, which can be represented as four cascaded decimal numbers separated by ".": `aaa.aaa.aaa.aaa`, where each "aaa" can be anything from 000 to 255, or as four cascaded binary numbers separated by ".": `bbbbbbbb.bbbbbbbb.bbbbbbbb.bbbbbbbb`, where each "b" can either be 0 or 1.

A network mask is also a 32-bit binary pattern, and consists of consecutive leading 1's followed by consecutive trailing 0's, such as `11111111.11111111.11111111.00000000`. Therefore sometimes a network mask can also be described simply as "x" number of leading 1's.

When both are represented side by side in their binary forms, all bits in the IP address that correspond to 1's in the network mask become part of the IP network address, and the remaining

bits correspond to the host ID.

For example, if the IP address for a device is, in its binary form, 11011001.10110000.10010000.00000111, and if its network mask is, 11111111.11111111.11110000.00000000

It means the device's network address is 11011001.10110000.10010000.00000000, and its host ID is, 00000000.00000000.00000000.00000111. This is a convenient and efficient method for routers to route IP packets to their destination.

ISP Gateway Address: (see ISP for definition). The ISP Gateway Address is an IP address for the Internet router located at the ISP's office.

ISP: Internet Service Provider. An ISP is a business that provides connectivity to the Internet for individuals and other businesses or organizations.

LAN: Local Area Network. A LAN is a group of computers and devices connected together in a relatively small area (such as a house or an office). Your home network is considered a LAN.

MAC Address: MAC stands for Media Access Control. A MAC address is the hardware address of a device connected to a network. The MAC address is a unique identifier for a device with an Ethernet interface. It is comprised of two parts: 3 bytes of data that corresponds to the Manufacturer ID (unique for each manufacturer), plus 3 bytes that are often used as the product's serial number.

NAT: Network Address Translation. This process allows all of the computers on your home network to use one IP address. Using the portable router's NAT capability, you can access the Internet from any computer on your home network without having to purchase more IP addresses from your ISP.

Port: Network Clients (LAN PC) uses port numbers to distinguish one network application/protocol over another. Below is a list of common applications and protocol/port numbers:

Application	Protocol	Port Number
Telnet	TCP	23
FTP	TCP	21
SMTP	TCP	25
POP3	TCP	110
H.323	TCP	1720
SNMP	UCP	161
SNMP Trap	UDP	162
HTTP	TCP	80

PPTP	TCP	1723
PC Anywhere	TCP	5631
PC Anywhere	UDP	5632

PPPoE: Point-to-Point Protocol over Ethernet. Point-to-Point Protocol is a secure data transmission method originally created for dial-up connections; PPPoE is for Ethernet connections. PPPoE relies on two widely accepted standards, Ethernet and the Point-to-Point Protocol. It is a communications protocol for transmitting information over Ethernet between different manufacturers

Protocol: A protocol is a set of rules for interaction agreed upon between multiple parties so that when they interface with each other based on such a protocol, the interpretation of their behavior is well defined and can be made objectively, without confusion or misunderstanding.

Router: A router is an intelligent network device that forwards packets between different networks based on network layer address information such as IP addresses.

Subnet Mask: A subnet mask, which may be a part of the TCP/IP information provided by your ISP, is a set of four numbers (e.g. 255.255.255.0) configured like an IP address. It is used to create IP address numbers used only within a particular network (as opposed to valid IP address numbers recognized by the Internet, which must be assigned by InterNIC).

TCP/IP, UDP: Transmission Control Protocol/Internet Protocol (TCP/IP) and Unreliable Datagram Protocol (UDP). TCP/IP is the standard protocol for data transmission over the Internet. Both TCP and UDP are transport layer protocol. TCP performs proper error detection and error recovery, and thus is reliable. UDP on the other hand is not reliable. They both run on top of the IP (Internet Protocol), a network layer protocol.

WAN: Wide Area Network. A network that connects computers located in geographically separate areas (e.g. different buildings, cities, countries). The Internet is a wide area network.

Web-based management Graphical User Interface (GUI): Many devices support a graphical user interface that is based on the web browser. This means the user can use the familiar Netscape or Microsoft Internet Explorer to Control/configure or monitor the device being managed.