

User Manual

A-LINK WNAP4G

WLAN Gigabit Router



V2.0_20121122

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* Please press the "Ctrl" key to use the bookmark for .doc file.

* Please click the bookmark icon on the left hand side to check bookmark list for .pdf file.

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FCC 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 the FCC Rules. These limits are designed to provide reasonable protection against radio interference in a commercial environment. This equipment can generate, use and radiate radio frequency energy and, if not installed and used in accordance with the instructions in this manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures are necessary to correct the interference.

CE Declaration of Conformity

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022/A1 Class B.

Chapter 1 Introduction

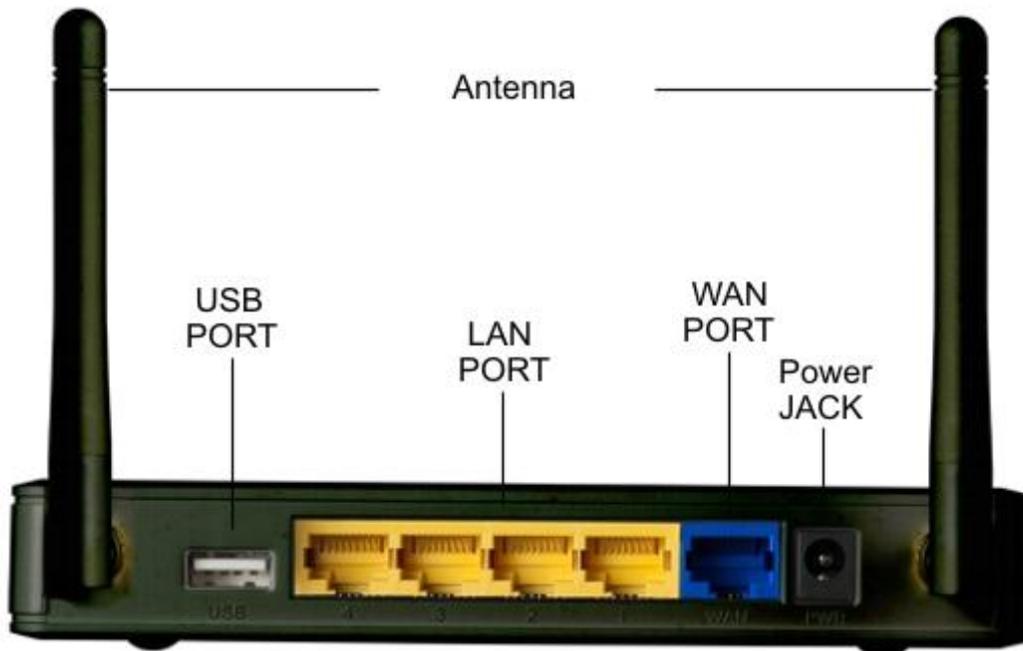
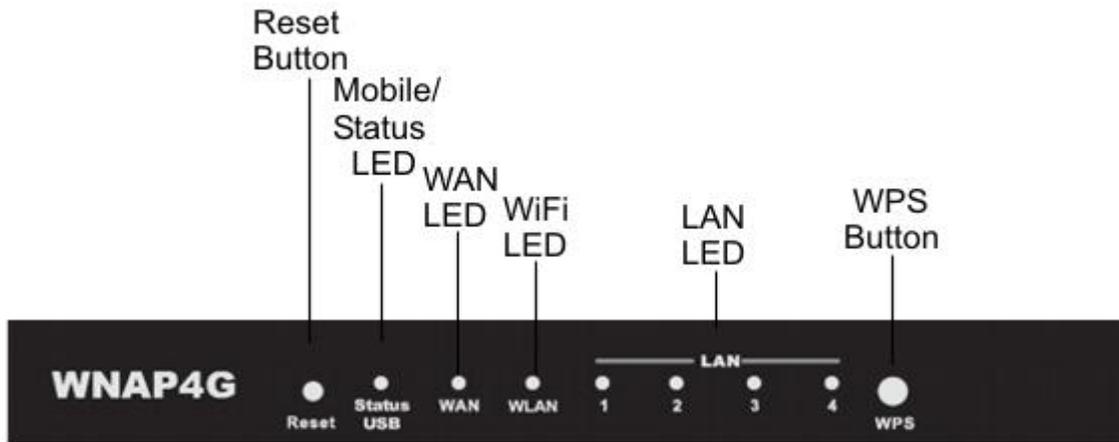
The WNAP4G Router is a high-performance device that supports gigabit Ethernet, wireless networking at home, work, or in a public place. The WNAP4G Router supports 3G/4G USB modems, either WCDMA or EVDO and even HSPA and LTE as well, and supports wireless data transfers up to 300M bps, and wired data transfers up to 100Mbps. The WNAP4G Router is compatible with industry security features.

1.1 Package List

Items	Description	Contents	Quantity
1	WNAP4G Router		1
2	SMA antenna		2
3	Power adapter		1
4	RJ-45 cable		1
5	USB cable		1
6	CD		1

1.2 Hardware Installation

A. Hardware configuration



B. LED indicators

LED	Indicator	Description
Status/USB	Green and Blink once per second	No external USB device is attached, and this router is working.
	Green and Steady On	An external USB device is attached
	Green and Blinking	Data packet transferred via attached USB device (e.g. USB drive, 3G/4G dongle)
Ethernet WAN	Green and Steady On	Ethernet WAN connection is established
	Green and Blinking	Data packet transferred via Ethernet WAN
WLAN	Green and Blinking	Data packet transferred via WiFi
	Green and Fast Blinking	In WPS PBC mode
	OFF	WiFi radio is disabled
Ethernet LAN 1~4	Green and Steady On	Ethernet LAN connection is established
	Green and Blinking	Data packet transferred via Ethernet LAN

C. Installation Steps



Note: *DO NOT* connect the router to power before performing the installation steps below.

Step 1.

Plug a USB modem into USB port.



Step 2.

Insert RJ45 cable into LAN Port on the back panel of the router. Then plug the other end of into computer.



Step 3.

Plug the power jack into the receptor on the back panel of the router. Then plug the other end into a wall outlet or power strip.



Chapter 2 Getting Started with Easy Setup Utility

There are two approaches for you to set up the WNAP4G Router quickly and easily. One is through executing the provided Windows Easy Setup Utility on your PC, and the other is through browsing the device web pages and configuration.

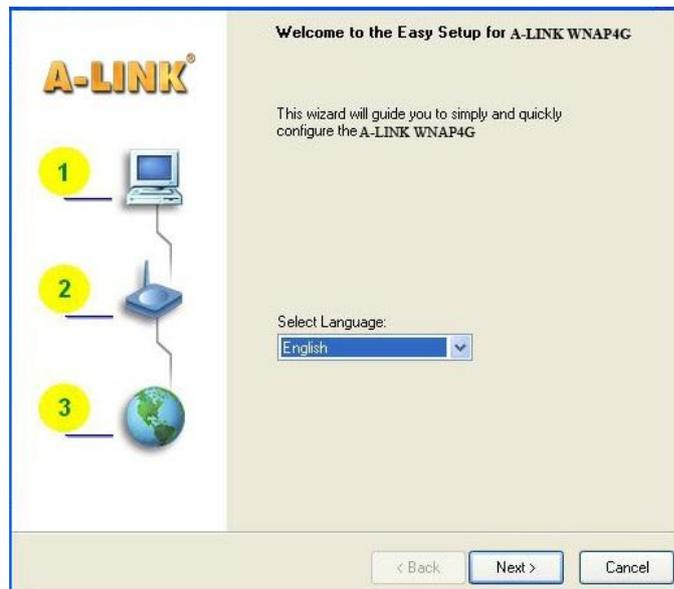
2.1 Easy Setup by Windows Utility

Step 1 :

Install the Easy Setup Utility from the provided CD then follow the steps to configure the device.

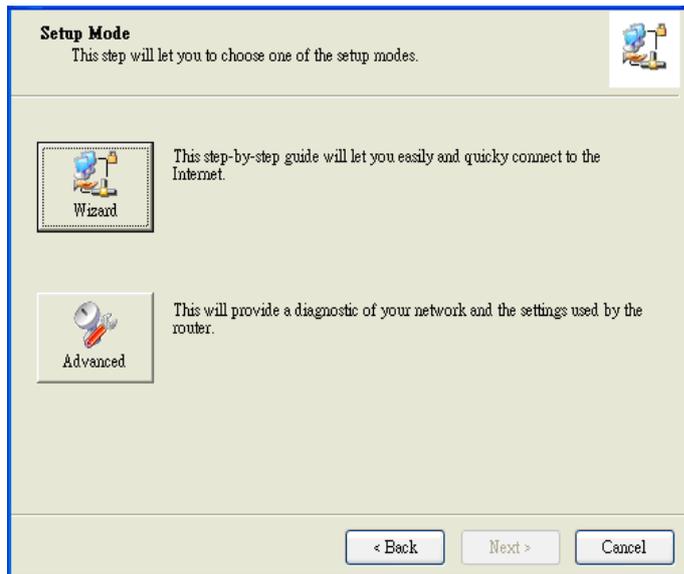
Step 2 :

Select Language then click “Next” to continue.



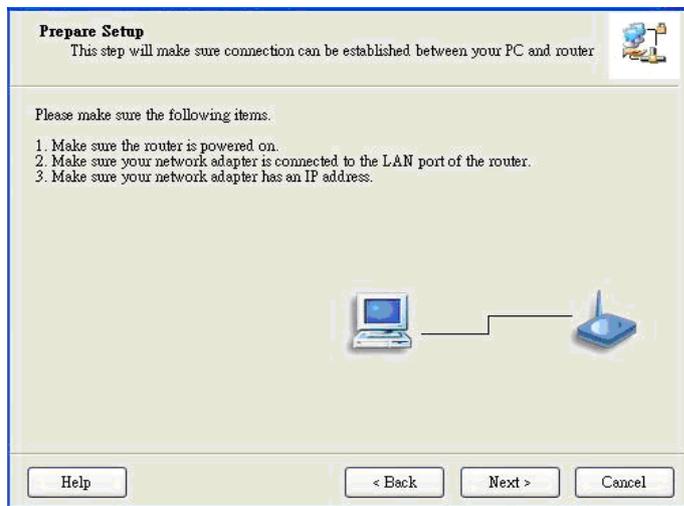
Step 3 :

Then click the “Wizard” to continue.



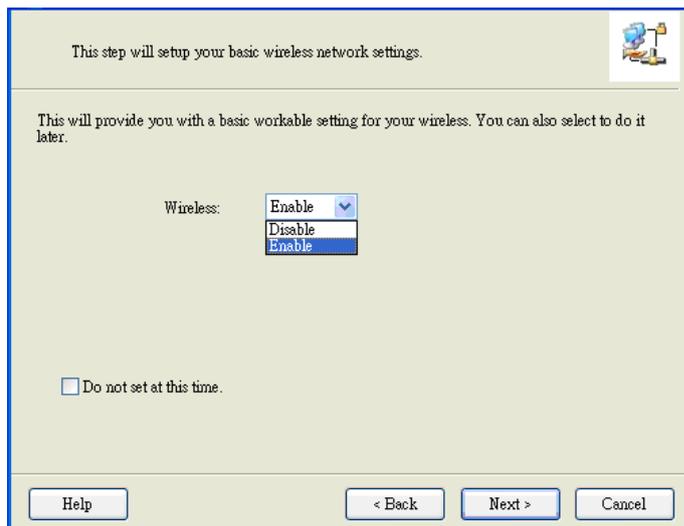
Step 4 :

Click “Next” to continue.



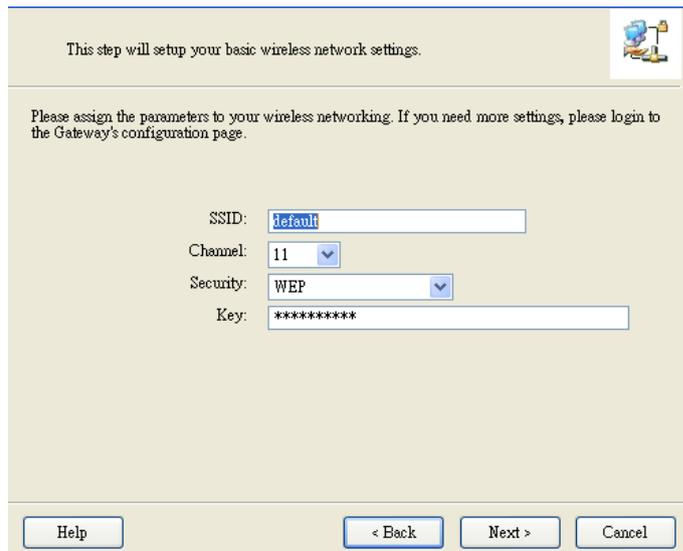
Step 5 :

Select Wireless Enable, and then click “Next” to continue.



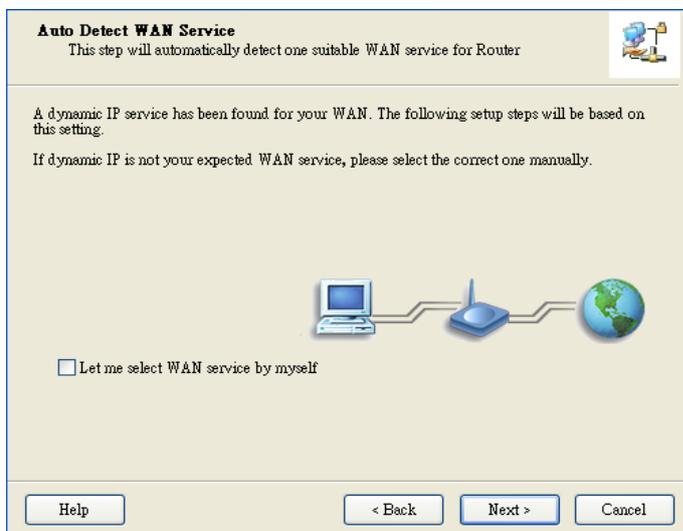
Step 6 :

Enter SSID, Channel and Security options, and then click “Next” to continue.



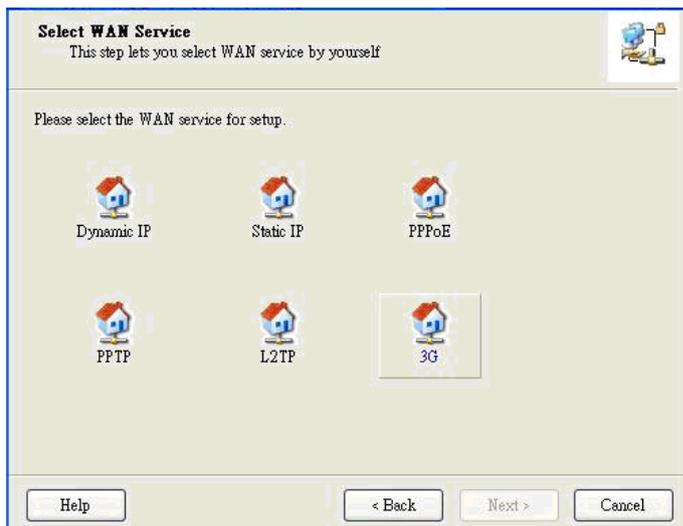
Step 7 :

Click” Let me select WAN service by myself” to select WAN service manually.



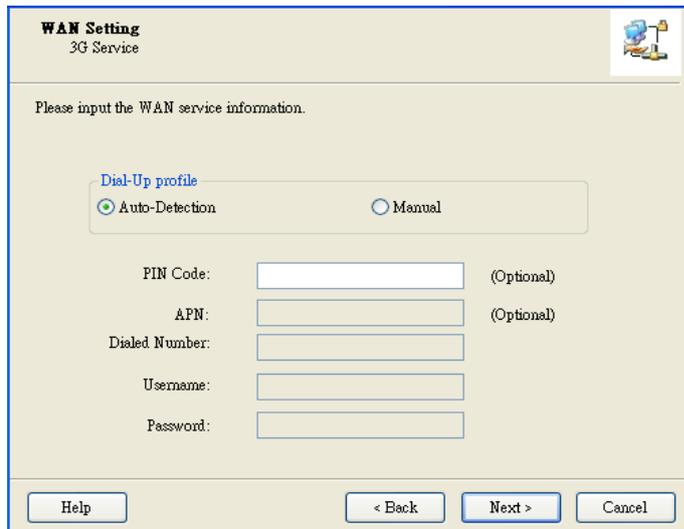
Step 8 :

Select 3G Service by clicking 3G icon to continue.



Step 9-1 :

Select “Auto-Detection” and the Utility will try to detect and configure the required 3G service settings automatically. Click “Next” to continue.



WAN Setting
3G Service

Please input the WAN service information.

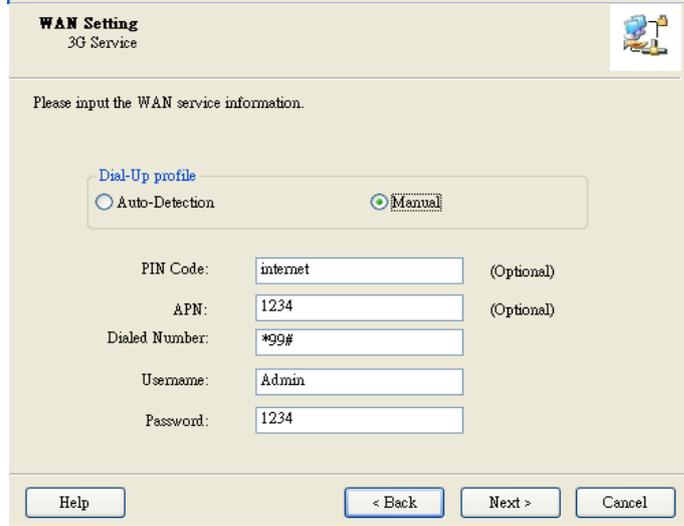
Dial-Up profile
 Auto-Detection Manual

PIN Code: (Optional)
APN: (Optional)
Dialed Number:
Username:
Password:

Help < Back Next > Cancel

Step 9-2 :

Or you can select “Manual” and manually fill in the required 3G service settings provided by your ISP. Click “Next” to continue.



WAN Setting
3G Service

Please input the WAN service information.

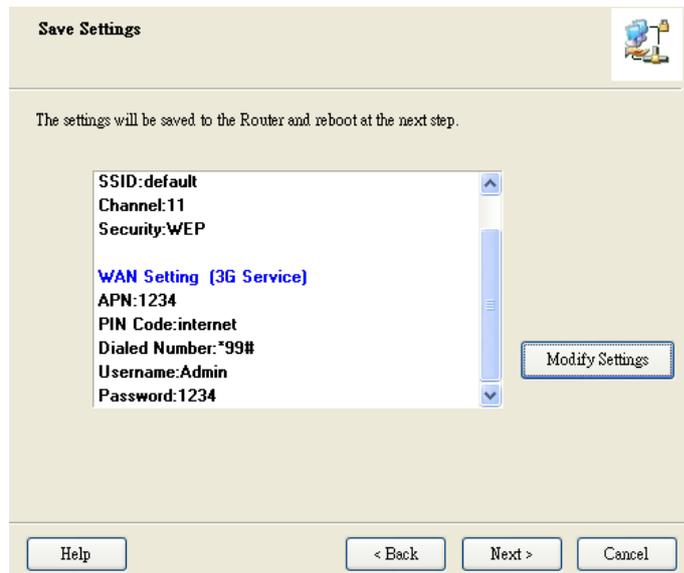
Dial-Up profile
 Auto-Detection Manual

PIN Code: (Optional)
APN: (Optional)
Dialed Number:
Username:
Password:

Help < Back Next > Cancel

Step 10:

Click “Next” to save your setting.



Save Settings

The settings will be saved to the Router and reboot at the next step.

SSID:default
Channel:11
Security:WEP

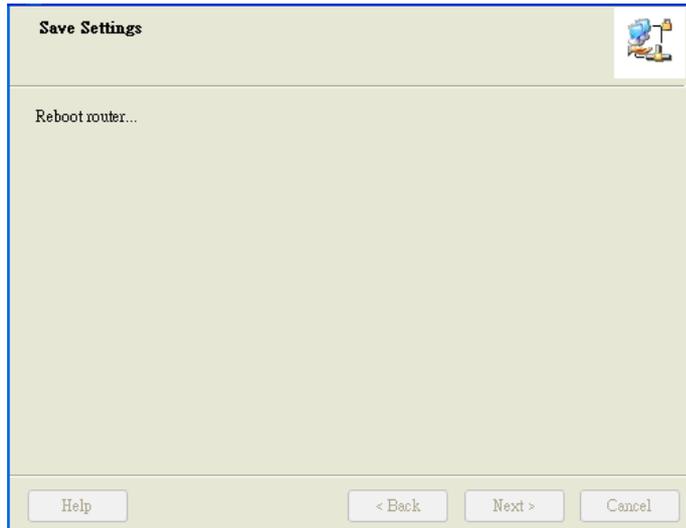
WAN Setting (3G Service)
APN:1234
PIN Code:internet
Dialed Number:*99#
Username:Admin
Password:1234

Modify Settings

Help < Back Next > Cancel

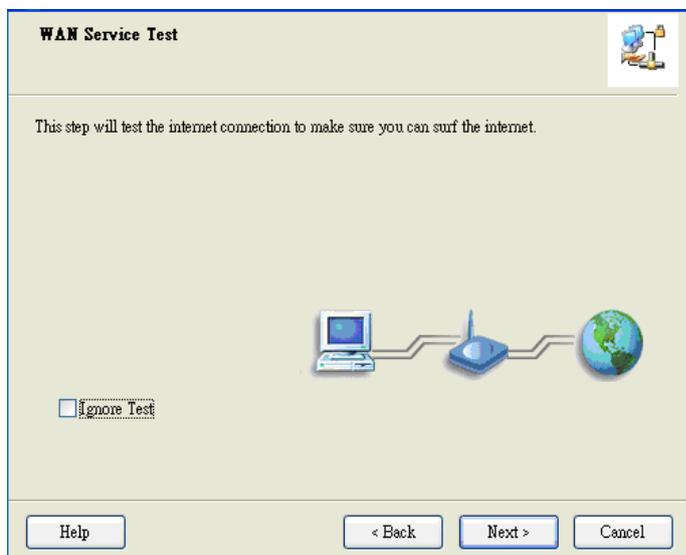
Step 11 :

The WNAP4G Router is rebooted to make your entire configuration take effect.



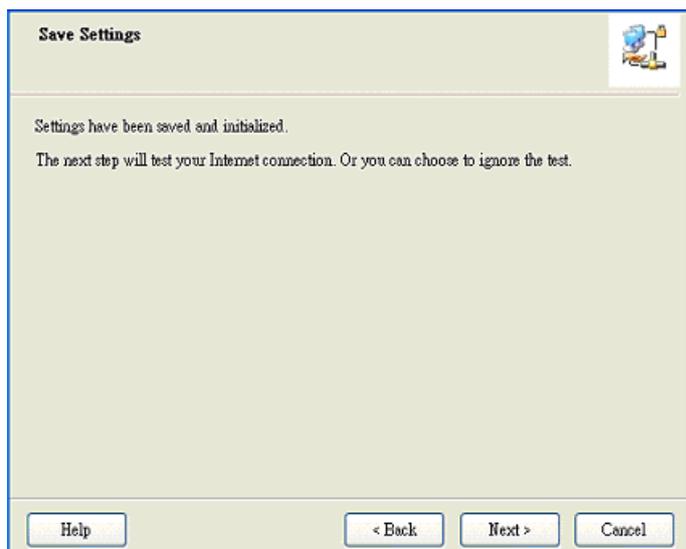
Step 12 :

Click "Next" to test the Internet connection or you can ignore test.



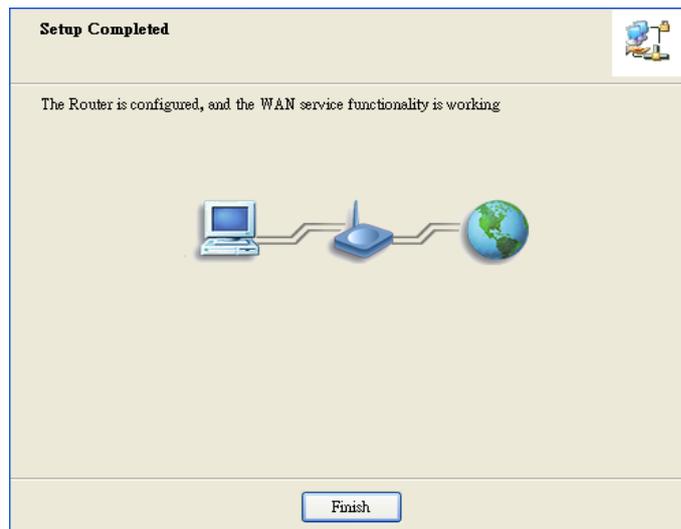
Step 13 :

Click "Next" to test WAN Networking service.



Step 14 :

Setup is completed.



2.2 Easy Setup by Configuring Web Pages

You can also browse web UI to configure the device.

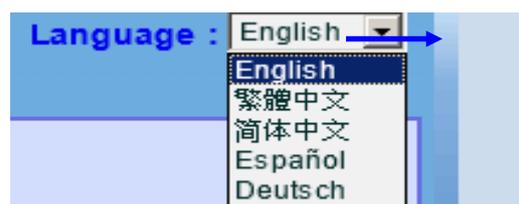
A. Browse to Activate the Setup Wizard

Step 1: Type in the IP Address (<http://192.168.1.254>)



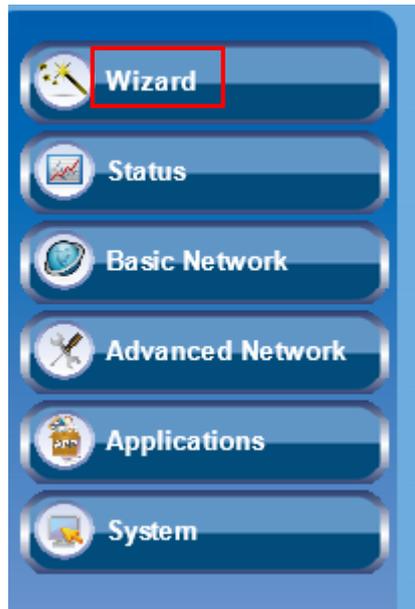
Step 2:

Type in the default password “admin” in the System Password and then click “login” button. Select your language.



Step 3:

Select “Wizard” for basic settings with simple way.



Step 4:

Press “Next” to start the Setup Wizard.



B. Configure with the Setup Wizard

Step 1:

Change System
Password.

Set up your system
password.

(Default : admin)

The screenshot shows the 'Setup Login Password' page. At the top, there is a blue header with the title 'Setup Login Password' and an '[EXIT]' button on the right. The main content area contains three rows of labels and input fields: 'Old Password', 'New Password', and 'Reconfirm', each followed by a text input box. At the bottom of the page, there is a navigation bar with a '< Back' button on the left, a breadcrumb trail '[Start > Password > Time > LAN/WAN > Wireless > Summary > Finish!]' in the center, and a 'Next >' button on the right.

Step 2:

Select Time Zone.

The screenshot shows the 'Setup Time Zone' page. At the top, there is a blue header with the title 'Setup Time Zone' and an '[EXIT]' button on the right. The main content area features a dropdown menu with the text '(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi'. Below the dropdown is a 'Detect Again' button. At the bottom of the page, there is a navigation bar with a '< Back' button on the left, a breadcrumb trail '[Start > Password > Time > LAN/WAN > Wireless > Summary > Finish!]' in the center, and a 'Next >' button on the right.

Step 3:

Select WAN Type.

Choose Auto-Detecting
or Manually to set WAN
Type.

The screenshot shows the 'Select WAN Type' page. At the top, there is a blue header with the title 'Select WAN Type' and an '[EXIT]' button on the right. The main content area contains two radio button options: 'Auto Detecting WAN Type' (which is selected) and 'Setup WAN Type Manually'. At the bottom of the page, there is a navigation bar with a '< Back' button on the left, a breadcrumb trail '[Start > Password > Time > LAN/WAN > Wireless > Summary > Finish!]' in the center, and a 'Next >' button on the right.

Step 4:

Select Wan Type.

If you want to use 3G service as the main internet access, please set the WAN interface as “Wireless WAN” and the WAN type as “3G”.

Select WAN Type

LAN IP Address: 192.168.1.254

WAN Interface: Wireless WAN

Manual: 3G

< Back [Start > Password > Time > LAN/WAN > Wireless > Summary > Finish!]

Step 5:

3G Mode.

Select Auto-Detection then click “Next” to continue.

Setup Wizard - 3G [EXIT]

Dial-Up Profile: Internet (optional)

Auto-Detection Manual

< Back [Start > Password > Time > LAN/WAN > Wireless > Summary > Finish!] Next >

Step 6:

Set up your Wireless Network.

Set up your SSID.

Setup Wizard - Wireless 2.4G settings [EXIT]

Wireless Module: Enable Disable

Network ID(SSID): default

Channel: 11

< Back [Start > Password > Time > LAN/WAN > Wireless > Summary > Finish!] Next >

Step 7:

Setup your Encryption key here, and then click “Next” to continue.

Step 8:

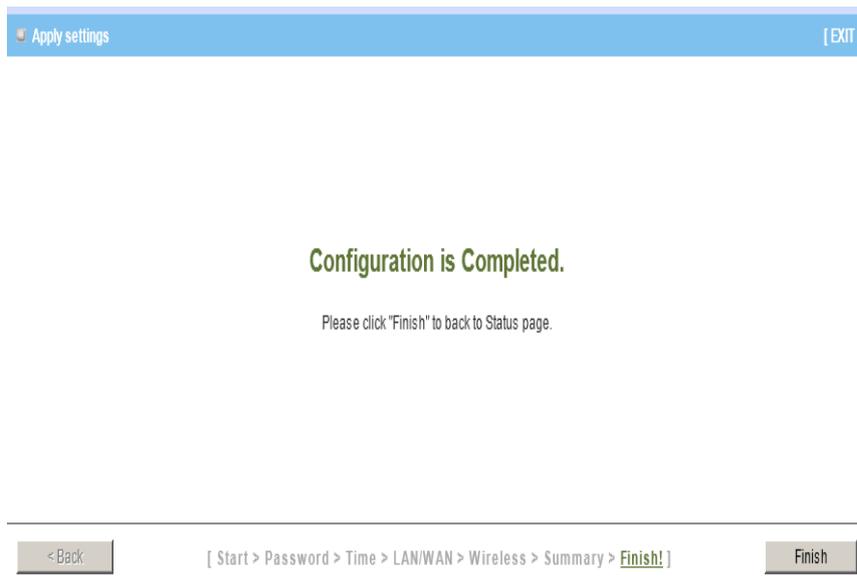
Apply your Setting.
Then click Apply Setting.

[WAN Setting]	
WAN Type	3G
APN	-
PIN Code	-
Dialed Number	-
Account	-
Password	*****

[Wireless Setting]	
Wireless 2.4G	Enable
SSID	default
Channel	11
Authentication	Auto (Open/Shared)
Encryption	WEP
WEP Key	1234567890

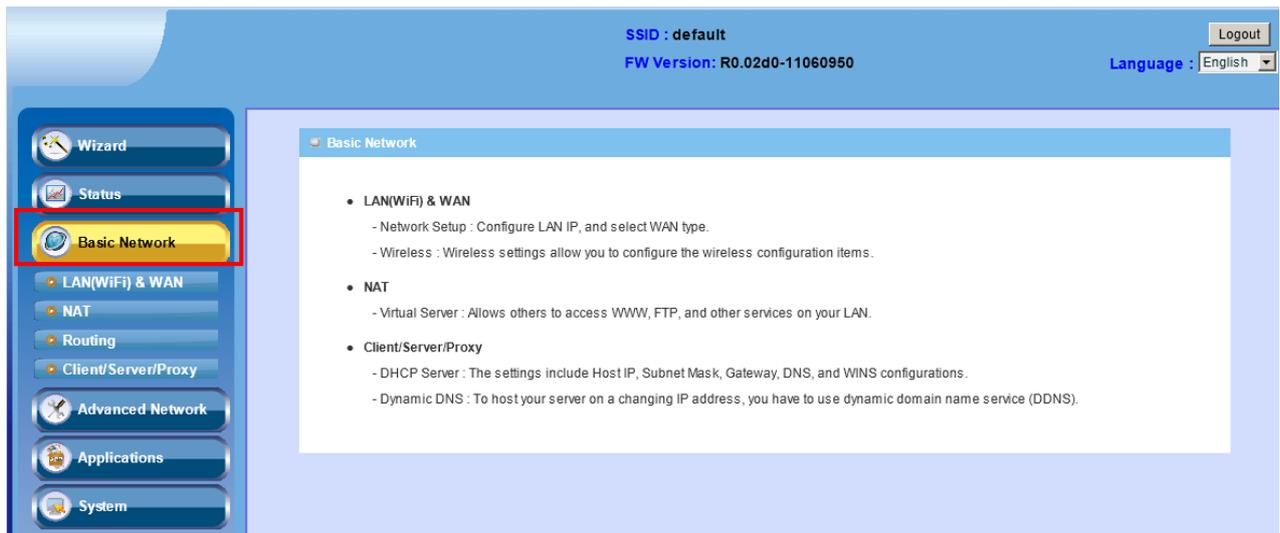
Step 9:

Click Finish to complete it.



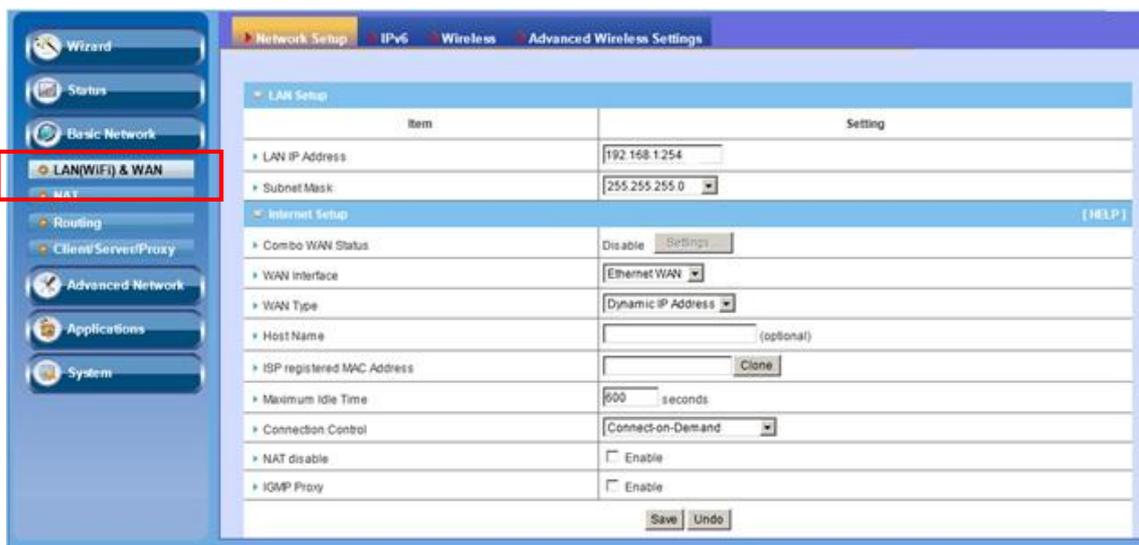
Chapter 3 Configurations- Basic Network

You can do Basic Network settings in this section for **(LAN(WiFi) & WAN, NAT, Routing and Client/Server/Proxy)** as shown in the icon below.



3.1 LAN(WiFi) & WAN Setup

- **Network Setup:** Configure LAN IP and select WAN type
- **IPv6:** six types of IPv6 settings- Static IPv6/ DHCPv6/ PPPoE/ 6 to 4 / IPv6 in IPv4 tunnel/ RD6
- **Wireless:** Wireless settings allow you to configure the wireless configuration items
- **Advanced Wireless Setting**



3.1.1 Network Setup

This router allows you to do **LAN Setup** and **Internet Setup**. Please see the following instructions to do the necessary settings.



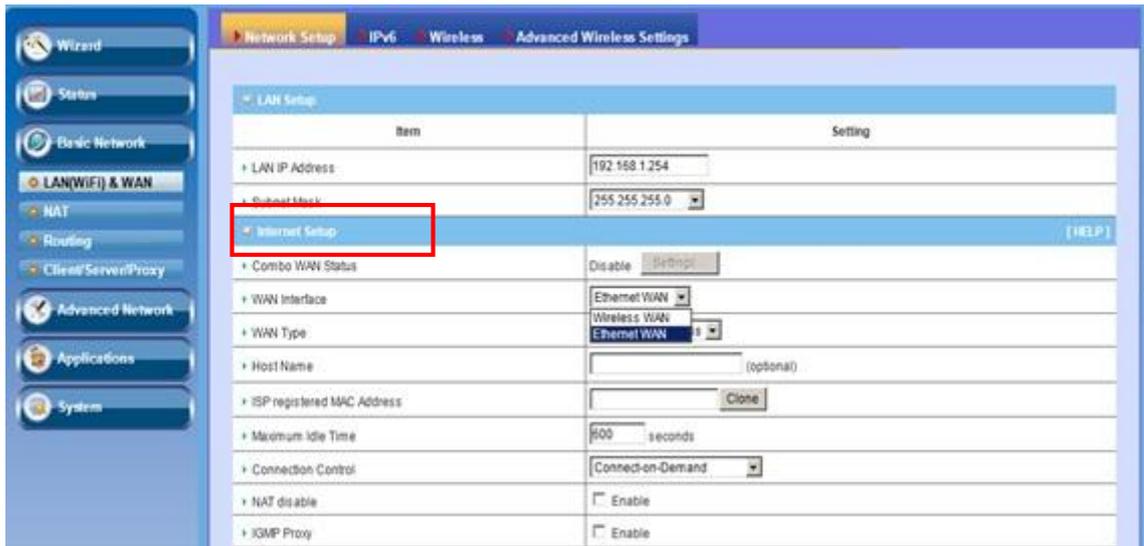
3.1.1.1 LAN Setup



1. **LAN IP Address:** The local IP address of this device. The computers on your network must use the LAN IP address of this device as their Default Gateway. You can change it if necessary.
2. **Subnet Mask:** Input your Subnet mask. (All devices in the network must have the same subnet mask.) The default subnet mask is 255.255.255.0.

3.1.1.2 Internet Setup

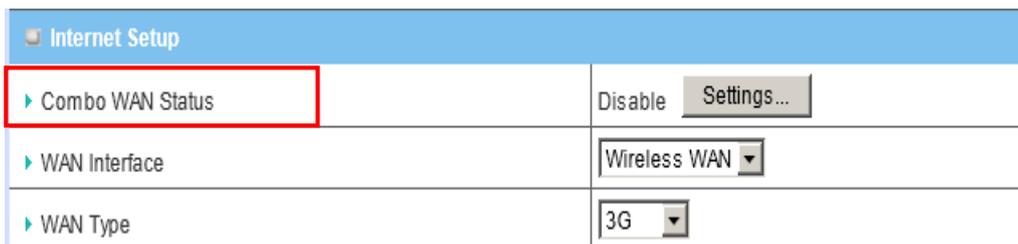
This device is equipped with two **WAN Interfaces** to support different **WAN Type** connections.



1. Combo WAN Status

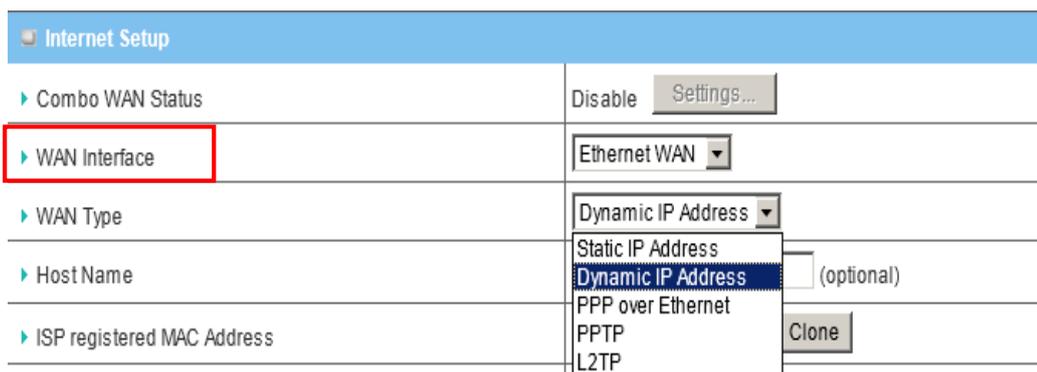
Display status of combo WAN. With Combo WAN feature, you can choose one primary WAN connection, and set another WAN connection for backup.

Otherwise, you can also choose “Load Sharing” to use Ethernet WAN and 3G WAN simultaneously. The combo WAN status will be showed here. Press “Settings” button to configure this feature.



2. WAN Interface

Select Ethernet WAN or Wireless WAN to continue.



3. WAN Type

You can choose the correct WAN Type of 3G or iBurst from the following options.

Internet Setup	
▶ Combo WAN Status	Disable <input type="button" value="Settings..."/>
▶ WAN Interface	Wireless WAN ▼
▶ WAN Type	3G ▼
▶ Dial-Up Profile	<input checked="" type="radio"/> 3G <input type="radio"/> iBurst <input type="radio"/> Auto-Detection <input type="radio"/> Manual

A. 3G

This device supports different WAN types of connection for users to connect to remote wireless ISP, such as 3G (WCDMA, HSxPA, HSPA+, CDMA2000, EV-DO, TD-SCDMA), iBurst, or Wi-Fi Hotspot.

Note: Users need to insert USB modem card for 3G WAN connections.

Internet Setup		[HELP]
▶ Combo WAN Status	Disable <input type="button" value="Settings..."/>	
▶ WAN Interface	Wireless WAN ▼	
▶ WAN Type	3G ▼	
▶ Dial-Up Profile	<input checked="" type="radio"/> Auto-Detection <input type="radio"/> Manual	
▶ PIN Code	<input type="text"/> (optional)	
▶ Primary DNS	<input type="text"/> (optional)	
▶ Secondary DNS	<input type="text"/> (optional)	
▶ Connection Control	Auto Reconnect (always-on) ▼	
▶ Allowed Connection Time	<input checked="" type="radio"/> Always <input type="radio"/> By Schedule	
▶ Keep Alive	<input checked="" type="radio"/> Disable <input type="radio"/> LCP Echo Request ▶ Interval <input type="text" value="10"/> seconds ▶ Max Failure Time <input type="text" value="3"/> times <input type="radio"/> Ping Remote Host ▶ Host IP <input type="text"/> ▶ Interval <input type="text" value="60"/> seconds	
▶ IGMP Proxy	<input type="checkbox"/> Enable	

a. **WAN Type:** Choose 3G for WAN connection.

b. **Dial-Up Profile:** Please select Auto-Detection or Manual. You can choose

“Auto-Detection”, and the router will try to detect and configure the required 3G service settings automatically. Otherwise, you can select “Manual”, and manually fill in the required 3G service settings provided by your carrier or ISP.

c. **Country***: Select your country.

d. **Telecom***: Select your telecom.

e. **3G Network***: Select the 3G network

f. **APN***: APN information for your 3G data card. It will show a value after you choose country and telecom. You can also change it manually.

g. **PIN Code**: Enter the PIN Code for your SIM card if required. (Optional)

h. **Dialed Number***: It will show a value after you choose country and telecom. You can also change it manually.

i. **Account***: The user name for 3G connection. It will show a value after you choose country and telecom. You can also change it manually.

j. **Password***: The password for 3G connection. It will show a value after you choose country and telecom. You can also change it manually.

k. **Authentication***: Choose authentication of 3G connection. You can leave it as “Auto” if you are not sure.

l. **Primary DNS***: You can assign a Primary DNS server if required.
(Optional)

m. **Secondary DNS***: You can assign a Secondary DNS server if required.
(Optional)

n. **Connection Control**: There are 3 options to start connection:

- Auto Reconnect (Always-on): The device will always try to link to Internet.
- Connect-on-demand: The device won't try to connect to Internet until LAN PCs or devices try to go to Internet. Once Internet connection is established, this device will drop the connection if maximum idle time is reached.

- **Manually:** The device won't try to connect to Internet until users press "connect" button at Status page. Once Internet connection is established, this device will drop the connection if maximum idle time is reached.
- o. **Allowed Connection Time:** You can limit WAN connection in a period of time if required.
- p. **Keep Alive:** There are three options for keep alive feature as below.
 - **Disable:** Disable keep alive feature.
 - **LCP Echo Request:** The device will constantly send LCP packets for keeping alive. Enter the time interval and the maximum failure count.
 - **Ping Remote Host:** Enter the Remote host IP address and the time interval to send the ping packets for keeping alive.
- q. **NAT Disable:** You can disable NAT feature if required.
- r. **IGMP Proxy:** Enable this feature allows multicast stream (e.g. IPTV stream) to pass-through this device.

Note: The items with * above are only available when choosing Manual for Dial-up Profile.

B. iBurst

Note: Users need to insert USB modem card for iBurst WAN connections.

Internet Setup	
▶ Combo WAN Status	Disable <input type="button" value="Settings..."/>
▶ WAN Interface	Wireless WAN ▼
▶ WAN Type	iBurst ▼
▶ Account	<input type="text"/>
▶ Password	<input type="text"/>
▶ Primary DNS	<input type="text"/>
▶ Secondary DNS	<input type="text"/>
▶ Connection Control	Connect-on-Demand ▼
▶ Maximum Idle Time	600 seconds
▶ Service Name	<input type="text"/> (optional)
▶ Assigned IP Address	<input type="text"/> (optional)
▶ MTU	0 (0 is auto)
▶ NAT disable	<input type="checkbox"/> Enable
▶ IGMP Proxy	<input type="checkbox"/> Enable
<input type="button" value="Save"/> <input type="button" value="Undo"/>	

- a. **WAN Type:** Choose iBurst for WAN connection.
- b. **Account:** Enter the User Name for iBurst connection.
- c. **Password:** Enter new Password for iBurst connection.
- d. **Primary DNS:** You can assign a Primary DNS server if required. (Optional)
- e. **Secondary DNS:** You can assign a Secondary DNS server if required. (Optional)
- f. **Connection Control:** There are 3 options to start connection:
 - Auto Reconnect (Always-on): The device will always try to link to Internet.
 - Connect-on-demand: The device won't try to connect to Internet until LAN PCs or devices try to go to Internet. Once Internet connection is established, this device will drop the connection if maximum idle time is reached.

- **Manually:** The device won't try to connect to Internet until users press "connect" button at Status page. Once Internet connection is established, this device will drop the connection if maximum idle time is reached.
- g. **Maximum Idle Time:** The amount of time of inactivity before disconnecting Internet connection. Set it to zero, or choosing "Auto-reconnect" mode to disable this feature.
- h. **Service Name:** Input the service name if your ISP requires it. (Optional)
- i. **Assigned IP Address:** Input a IP address if your ISP requires it. (Optional)
- j. **Maximum Transmission Unit (MTU):** You can change MTU value if required. The default MTU value is set to 0 (auto).
- k. **NAT disable:** You can disable NAT feature if required.
- l. **IGMP Proxy:** Enable this feature allows multicast stream (e.g. IPTV stream) to pass-through this device.

C. Static IP Address

Internet Setup	
▶ Combo WAN Status	Disable <input type="button" value="Settings..."/>
▶ WAN Interface	Ethernet WAN ▾
▶ WAN Type	Static IP Address ▾
▶ WAN IP Address	Static IP Address
▶ WAN Subnet Mask	Dynamic IP Address PPP over Ethernet PPTP L2TP
▶ WAN Gateway	<input type="text"/>
▶ Primary DNS	<input type="text"/>
▶ Secondary DNS	<input type="text"/>
▶ NAT disable	<input type="checkbox"/> Enable
▶ IGMP Proxy	<input type="checkbox"/> Enable

- a. **WAN Type:** Choose Static IP Address.
- b. **WAN IP Address:** Input the IP address you got from ISP.
- c. **Subnet Mask:** Input the subnet mask of IP address you got from ISP.
- d. **WAN Gateway:** Input the IP address of WAN gateway you got from ISP.
- e. **Primary DNS:** Input the IP address of primary DNS you got from ISP.
- f. **Secondary DNS:** Input the IP address of secondary DNS you got from ISP.
- g. **NAT disable:** You can disable NAT feature if required.
- h. **IGMP Proxy:** Enable this feature allows multicast stream (e.g. IPTV stream) to pass-through this device.

D. Dynamic IP Address

Internet Setup	
▶ Combo WAN Status	Disable <input type="button" value="Settings..."/>
▶ WAN Interface	Ethernet WAN ▼
▶ WAN Type	Dynamic IP Address ▼
▶ Host Name	<input type="text"/> (optional)
▶ ISP registered MAC Address	<input type="text"/> <input type="button" value="Clone"/>
▶ Maximum Idle Time	<input type="text" value="600"/> seconds
▶ Connection Control	Connect-on-Demand ▼
▶ NAT disable	<input type="checkbox"/> Enable
▶ IGMP Proxy	<input type="checkbox"/> Enable

- a. **WAN Type:** Choose Dynamic IP Address.
- b. **Host Name:** Optional, required by some ISPs, for example, @Home.
- c. **ISP registered MAC Address:** Some ISP (Cable company) will record your MAC address on PC. You can press “Clone” button to copy the MAC address on your PC here, or you can input it manually.
- d. **Maximum Idle Time:** The amount of time of inactivity before disconnecting Internet connection. Set it to zero, or choosing “Auto-reconnect” mode to disable this feature.
- e. **Connection Control:** There are 3 options to start connection:
 - Auto Reconnect (Always-on): The device will always try to link to Internet.
 - Connect-on-demand: The device won't try to connect to Internet until LAN PCs or devices try to go to Internet. Once Internet connection is established, this device will drop the connection if maximum idle time is reached.
 - Manually: The device won't try to connect to Internet until users press “connect” button at Status page. Once Internet connection is established, this device will drop the connection if maximum idle time is reached.
- f. **NAT disable:** You can disable NAT feature if required.

g. **IGMP Proxy:** Enable this feature allows multicast stream (e.g. IPTV stream) to pass-through this device.

E. PPP over Ethernet

Internet Setup	
▶ Combo WAN Status	Disable <input type="button" value="Settings..."/>
▶ WAN Interface	Ethernet WAN ▼
▶ WAN Type	PPP over Ethernet ▼
▶ IPv6 Dualstack	<input type="checkbox"/> Enable
▶ PPPoE Account	<input type="text"/>
▶ PPPoE Password	<input type="text"/>
▶ Primary DNS	<input type="text"/>
▶ Secondary DNS	<input type="text"/>
▶ Maximum Idle Time	<input type="text" value="600"/> seconds
▶ Connection Control	Manually ▼
▶ PPPoE Service Name	<input type="text"/> (optional)
▶ Assigned IP Address	<input type="text"/> (optional)
▶ MTU	<input type="text" value="0"/> (0 is auto)
▶ NAT disable	<input type="checkbox"/> Enable
▶ IGMP Proxy	<input type="checkbox"/> Enable

- a. **WAN Type:** Choose PPP over Ethernet.
- b. **IPv6 Dual Stack:** If your ISP supports IPv6 dual stack, you can check this check box to get an IPv4 address and an IPv6 address via one PPPoE connection. After you check this check box, you also need to enable IPv6 function at **Advanced Setting->IPv6** setting page.
- c. **PPPoE Account** and **Password:** The account and password your ISP assigned to you.
- d. **Primary DNS:** You can indicate IP address of primary DNS if required.
- e. **Secondary DNS:** You can indicate IP address of secondary DNS if

required.

f. **Connection Control:** There are 3 options to start connection:

- **Auto Reconnect (Always-on):** The device will always try to link to Internet.

- **Connect-on-demand:** The device won't try to connect to Internet until LAN PCs or devices try to go to Internet. Once Internet connection is established, this device will drop the connection if maximum idle time is reached.

- **Manually:** The device won't try to connect to Internet until users press "connect" button at Status page. Once Internet connection is established, this device will drop the connection if maximum idle time is reached.

g. **Maximum Idle Time:** the amount of time of inactivity before disconnecting your PPPoE session. Set it to zero or enable "Auto-reconnect" to disable this feature.

h. **PPPoE Service Name:** Optional. Input the service name if your ISP requires it.

i. **Assigned IP Address:** You can input a IP address if you got a fix IP address from ISP.

j. **Maximum Transmission Unit (MTU):** Most ISP offers MTU value to users. The default MTU value is 0 (auto).

k. **NAT disable:** You can disable NAT feature if required.

l. **IGMP Proxy:** Enable this feature allows multicast stream (e.g. IPTV stream) to pass-through this device.

F. PPTP

Internet Setup	
▶ Combo WAN Status	Disable <input type="button" value="Settings..."/>
▶ WAN Interface	Ethernet WAN ▼
▶ WAN Type	PPTP ▼
▶ IP Mode	Dynamic IP Address ▼
▶ My IP Address	<input type="text"/>
▶ My Subnet Mask	<input type="text"/>
▶ Gateway IP	<input type="text"/>
▶ Server IP Address/Name	<input type="text"/>
▶ PPTP Account	<input type="text"/>
▶ PPTP Password	<input type="text"/>
▶ Connection ID	<input type="text"/> (optional)
▶ Maximum Idle Time	<input type="text" value="600"/> seconds
▶ Connection Control	Connect-on-Demand ▼
▶ MTU	<input type="text" value="0"/> (0 is auto)
▶ IGMP Proxy	<input type="checkbox"/> Enable

- a. **WAN Type:** Choose PPTP.
- b. **IP Mode:** You can select “Static IP Address” or “Dynamic IP Address”.
- c. **My IP Address***, **My Subnet Mask***, and **Gateway IP***: The IP address, subnet mask, and IP address of gateway your ISP assigned to you.
- d. **Server IP Address/Name:** The IP address of the PPTP server.
- e. **PPTP Account** and **Password:** The account and password your ISP assigned to you.
- f. **Connection ID:** Optional. Input the connection ID if your ISP requires it.
- g. **Connection Control:** There are 3 options to start connection:
 - Auto Reconnect (Always-on): The device will always try to link to Internet.

- **Connect-on-demand:** The device won't try to connect to Internet until LAN PCs or devices try to go to Internet. Once Internet connection is established, this device will drop the connection if maximum idle time is reached.
- **Manually:** The device won't try to connect to Internet until users press "connect" button at Status page. Once Internet connection is established, this device will drop the connection if maximum idle time is reached.
- h. **Maximum Idle Time:** the time of no activity to disconnect your PPTP session. Set it to zero or enable "Auto-reconnect" to disable this feature.
- i. **Maximum Transmission Unit (MTU):** Most ISP offers MTU value to users. The default MTU value is 0 (auto).
- j. **IGMP Proxy:** Enable this feature allows multicast stream (e.g. IPTV stream) to pass-through this device.

Note: The items with * above are only available when choosing Static IP Address in IP mode.

G. L2TP

Internet Setup	
▶ Combo WAN Status	Disable <input type="button" value="Settings..."/>
▶ WAN Interface	Ethernet WAN ▾
▶ WAN Type	L2TP ▾
▶ IP Mode	Dynamic IP Address ▾
▶ IP Address	<input type="text"/>
▶ Subnet Mask	<input type="text"/>
▶ WAN Gateway IP	<input type="text"/>
▶ Server IP Address/Name	<input type="text"/>
▶ L2TP Account	<input type="text"/>
▶ L2TP Password	<input type="text"/>
▶ Maximum Idle Time	<input type="text" value="600"/> seconds
▶ Connection Control	Connect-on-Demand ▾
▶ MTU	<input type="text" value="0"/> (0 is auto)
▶ IGMP Proxy	<input type="checkbox"/> Enable

- a. **WAN Type:** Choose L2TP.
- b. **IP Mode:** You can select “Static IP Address” or “Dynamic IP Address”.
- c. **My IP Address***, **My Subnet Mask***, and **Gateway IP*:** The IP address, subnet mask, and IP address of gateway your ISP assigned to you.
- d. **Server IP Address/Name:** The IP address of the L2TP server.
- e. **L2TP Account** and **Password:** The account and password your ISP assigned to you.
- f. **Connection ID:** Optional. Input the connection ID if your ISP requires it.
- g. **Connection Control:** There are 3 options to start connection:
 - Auto Reconnect (Always-on): The device will always try to link to Internet.

- **Connect-on-demand:** The device won't try to connect to Internet until LAN PCs or devices try to go to Internet. Once Internet connection is established, this device will drop the connection if maximum idle time is reached.
- **Manually:** The device won't try to connect to Internet until users press "connect" button at Status page. Once Internet connection is established, this device will drop the connection if maximum idle time is reached.
- h. **Maximum Idle Time:** the time of no activity to disconnect your L2TP session. Set it to zero or enable "Auto-reconnect" to disable this feature.
- i. **Maximum Transmission Unit (MTU):** Most ISP offers MTU value to users. The default MTU value is 0 (auto).
- j. **IGMP Proxy:** Enable this feature allows multicast stream (e.g. IPTV stream) to pass-through this device.

Note. The items with * above are only available when choosing Static IP Address in IP mode.

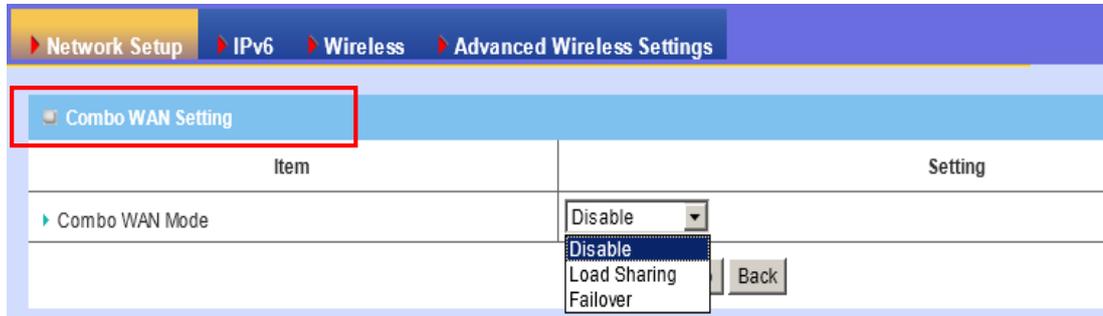
4. Combo WAN Setting

With Combo WAN feature, you can choose one primary WAN connection, and set another WAN connection for backup. Otherwise, you can also choose "Load Sharing" to use Ethernet WAN and 3G WAN simultaneously. The combo WAN status will be showed at Internet Setup page. Press "Settings" button to configure this feature.

Internet Setup	
▶ Combo WAN Status	Disable Settings...
▶ WAN Interface	Wireless WAN ▾
▶ WAN Type	3G ▾

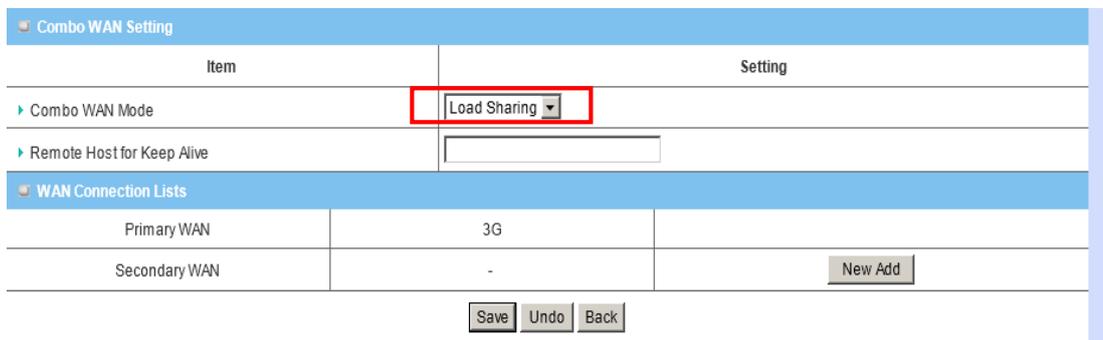
At Combo WAN setting page, you can choose Disable, Load Sharing, or Failover options.

This Combo WAN feature will be deactivated if you select “Disable” from the list.



A. Load Sharing

The feature of Load Sharing will activate 3G WAN and Ethernet WAN simultaneously.



- a. **Combo WAN Mode:** Choose Load Sharing mode.
- b. **Remote Host for Keep Alive:** Type an IP address or domain name of remote host to detect if Internet connection is alive.
- c. **Primary WAN:** The primary WAN is the WAN type you set at Internet Setup page.
- d. **Secondary WAN:** Press “New Add” button to add the secondary WAN. If the primary WAN is 3G or iBurst, then you can choose one of Static IP, Dynamic IP, and PPPoE as the secondary WAN. However, 3G can be the

secondary WAN if primary WAN is Static IP, Dynamic IP, or PPPoE.

Combo WAN Setting	
Item	Setting
▶ Combo WAN Mode	Load Sharing
▶ Remote Host for Keep Alive	<input type="text"/>
WAN Connection Lists	
Primary WAN	3G
Secondary WAN	-- Select one --
	<div style="border: 1px solid black; padding: 2px;"> -- Select one -- Static IP Dynamic IP PPPoE </div>
	to Back
	New Add

B. Failover

With this function enabled, when the primary WAN connection is broken, the device will automatically switch to secondary WAN connection and keep you connected to Internet. Meanwhile, if the device detects that the primary WAN connection is recovered, your Internet connection will be switched from secondary WAN back to primary WAN.

Combo WAN Setting	
Item	Setting
▶ Combo WAN Mode	Failover
▶ Remote Host for Keep Alive	<input type="text"/>
WAN Connection Lists	
Primary WAN	3G
Secondary WAN	-- Select one --
	<div style="border: 1px solid black; padding: 2px;"> -- Select one -- Static IP Dynamic IP PPPoE </div>
	to Back
	New Add

- a. **Combo WAN Mode:** Choose Failover mode.
- b. **Remote Host for Keep Alive:** Type an IP address or domain name of remote host to detect if Internet connection is alive.
- c. **Primary WAN:** The primary WAN is the WAN type you set at Internet Setup page.
- d. **Secondary WAN:** Press “New Add” button to add the secondary WAN. If

the primary WAN is 3G or iBurst, then you can choose one of Static IP, Dynamic IP, and PPPoE as the secondary WAN. However, 3G can be the secondary WAN if primary WAN is Static IP, Dynamic IP, or PPPoE.

3.1.2 IPv6

The growth of the Internet has created a need for more addresses than are possible with IPv4. **IPv6 (Internet Protocol version 6)** is a version of the Internet Protocol (IP) intended to succeed IPv4, which is the protocol currently used to direct almost all Internet traffic. IPv6 also implements additional features not present in IPv4. It simplifies aspects of address assignment (stateless address auto-configuration), network renumbering and router announcements when changing Internet connectivity providers. This router supports 6 types of IPv6 connection (Static IPv6/DHCPv6/PPPoE/6 to 4/IPv6 in IPv4 tunnel/6RD). **Please ask your ISP of what types of IPv6 are supported before you proceed with IPv6 setup.**

Item	Setting
▶ IPv6	<input checked="" type="radio"/> Disable <input type="radio"/> Enable
▶ IPv6 Connection	DHCPv6
▶ IPv6 DNS Settings	
▶ DNS Setting	address Automatically
▶ Primary DNS Address	NS address
▶ Secondary DNS Address	
▶ LAN IPv6 Address Settings	
▶ Enable DHCP-PD	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
▶ LAN IPv6 Address	/64
▶ LAN IPv6 Link-Local Address	
▶ Address Autoconfiguration Settings	
▶ Autoconfiguration	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
▶ Autoconfiguration Type	Stateless
▶ Router Advertisement Lifetime	3600 Seconds

Save Undo

3.1.2.1 Static IPv6

IPv6 Setting	
Item	Setting
▶ IPv6	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
▶ IPv6 Connection	Static IPv6

1. **IPv6:** Disable or enable the IPv6 functions.
2. **IPv6 Connection:** you can choose Static IPv6 from the list.
3. **WAN IPv6 address settings:** you can add IPv6 address / subnet prefix length / default Gateway / Primary DNS address and secondary DNS address.
4. **LAN IPv6 address settings:** you can add LAN IPv6 address, and IPv6 Link-Local address will be showed automatically.
5. **Address auto configuration setting:** Disable or enable this auto configuration setting. You may set stateless or stateful(Dynamic IPv6), and also check if need to send Router advertisement messages periodically.

3.1.2.2 DHCPv6

IPv6 Setting	
Item	Setting
▶ IPv6	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
▶ IPv6 Connection	DHCPv6

1. **IPv6 DNS settings:** You may obtain IPv6 DNS automatically or set DNS address manually for Primary DNS address and secondary DNS address.
2. **LAN IPv6 address settings:** You can add LAN IPv6 address, and IPv6 Link-Local address will be showed automatically.
3. **Address auto configuration setting:** Disable or enable this auto configuration setting. You may set stateless or stateful(Dynamic IPv6), and also check if need to send Router advertisement messages periodically.

3.1.2.3 PPPoE

IPv6 Setting	
Item	Setting
▶ IPv6	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
▶ IPv6 Connection	PPPoE

- PPPoE settings:** You need to type username and password of PPPoE connection. The service name is only required when ISP asks you to input it. MTU is 1492 by default.
- LAN IPv6 address settings:** You can add LAN IPv6 address, and IPv6 Link-Local address will be showed automatically.
- Address auto configuration setting:** Disable or enable this auto configuration setting. You may set stateless or stateful(Dynamic IPv6), and also check if need to send Router advertisement messages periodically.

3.1.2.4 When “6 to 4” is selected, you need to do the following settings.

IPv6 Setting	
Item	Setting
▶ IPv6	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
▶ IPv6 Connection	6 to 4
6 to 4 Settings	
▶ Primary DNS Address	<input type="text"/>
▶ Secondary DNS Address	<input type="text"/>
LAN IPv6 Address Settings	
▶ LAN IPv6 Address	<input type="text"/>
▶ LAN IPv6 Link-Local Address	<input type="text"/>
Address Autoconfiguration Settings	
▶ Autoconfiguration	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
▶ Autoconfiguration Type	Stateless
▶ Router Advertisement Lifetime	3600 Seconds

- 6 to 4 Settings:** you may obtain IPv6 DNS automatically or set DNS

address manually for Primary DNS address and secondary DNS address.

2. **LAN IPv6 address settings:** LAN IPv6 address and LAN IPv6 Link-Local address.

3. **Address auto configuration settings:** Disable or enable this auto configuration setting. You may set stateless or stateful (Dynamic IPv6), and also check if need to send Router advertisement messages periodically.

3.1.2.5 When “IPv6 in IPv4 Tunnel” is selected you need to do the following settings.

Item	Setting
▶ IPv6	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
▶ IPv6 Connection	IPv6 in IPv4 Tunnel
IPv6 in IPv4 Tunnel Settings	
▶ Remote IPv4 Address	196.190.107.183
▶ Local IPv4 Address	255.3.0.0
▶ Local IPv6 Address	/64
▶ Primary DNS Address	
▶ Secondary DNS Address	
LAN IPv6 Address Settings	
▶ LAN IPv6 Address	/64
▶ LAN IPv6 Link-Local Address	
Address Autoconfiguration Settings	
▶ Autoconfiguration	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
▶ Autoconfiguration Type	Stateless
▶ Router Advertisement Lifetime	3600 Seconds

Save Undo

1 **IPv6 in IPv4 Tunnel Settings:** you may add remote / local IPv4 address and local IPv6 address, then set DNS address manually for Primary DNS address and secondary DNS address.

2 **LAN IPv6 address setting:** LAN IPv6 address and LAN IPv6 Link-Local

address.

3 Address auto configuration setting: Disable or enable this auto configuration setting. You may set stateless or stateful (Dynamic IPv6), and also check if need to send Router advertisement messages periodically.

3.1.2.6 6RD

To set up this 6RD tunneling connection you will need to have the following information from your IPv6 Internet Service Provider. If you do not have this information, please contact your ISP. Remote IPv4 Address, IPv4 Mask Length, Remote Prefix, Prefix Length, Primary DNS Address, and Secondary DNS Address

The screenshot shows the router's configuration interface. At the top, there are navigation tabs: Network Setup, IPv6, Wireless, and Advanced Wireless Settings. Below these is a section for IPv6 Setting, which includes a table with columns 'Item' and 'Setting'. The 'IPv6' row has radio buttons for 'Disable' and 'Enable', with 'Enable' selected. The 'IPv6 Connection' row has a dropdown menu set to '6 RD', which is highlighted with a red box. Below this is a section for 6RD Settings, which includes several input fields: Remote IPv4 Address, IPv4 Mask Length, Remote Prefix, Prefix Length, Primary DNS Address, and Secondary DNS Address.

Item	Setting
▶ IPv6	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
▶ IPv6 Connection	6 RD
6RD Settings	
▶ Remote IPv4 Address	<input type="text"/>
▶ IPv4 Mask Length	<input type="text"/>
▶ Remote Prefix	<input type="text"/> ::
▶ Prefix Length	<input type="text"/>
▶ Primary DNS Address	<input type="text"/>
▶ Secondary DNS Address	<input type="text"/>

3.1.3 Wireless Settings

Wireless settings allow you to set the wireless configuration items.

Item	Setting
Wireless Module	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Wireless Operation Mode	AP Router Mode
AP Number	AP 1 <input checked="" type="checkbox"/> Enable
Wireless Schedule	(0) Always
Network ID(SSID)	default
SSID Broadcast	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Channel	11
Wireless Mode	B/G/N mixed
Authentication	Auto
Encryption	None
Scan Remote AP's MAC List	Scan
Remote AP MAC1	
Remote AP MAC2	
Remote AP MAC3	
Remote AP MAC4	

Save Undo WPS Setup... Wireless Client List..

1. **Wireless Module:** You can enable or disable wireless function.
2. **Wireless Operation Mode:** There are different wireless operation modes for you to configure.
 - A. **AP Router Mode:** The device functions as a router and Access Point simultaneously.
 - B. **AP only Mode:** The device functions as a pure access point.
 - C. **WDS Hybrid Mode:** The device can support WDS and AP mode simultaneously.
 - D. **WDS only Mode:** The device can provides WDS point-to-point bridging,

and point-to-multipoint bridging for deployment over large area. With the WDS feature, the WLAN coverage range can be easily extended.

E. **Lazy Mode:** Lazy mode can auto-learning WDS peers without input other AP's MAC address. Otherwise, you have to input the peer AP's MAC address one by one to extend your wireless range.

Wireless Setting	
Item	Setting
Wireless Module	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Wireless Operation Mode	WDS Only Mode ▾
Lazy Mode	<input checked="" type="checkbox"/>

F. **Universal Repeater Mode:** Universal Repeater is another technology used to extend wireless coverage. It provides the function to act as Adapter (client) and AP at the same time and can use this function to connect to a Root AP and use AP (SSID name is the same as Root AP) function to service all wireless stations within its coverage. All the stations within the coverage of this access point can be bridged to the Root AP.

3. **AP Number:** Always keep “AP1” as the default.
4. **Wireless Schedule:** You can limit Wi-Fi functions in a period of time if required.
5. **Network ID (SSID):** Network ID is used for identifying the Wireless LAN (WLAN). Client stations can roam freely over this device and other Access Points that have the same Network ID. (The factory default setting is “default_2.4g”)
6. **SSID Broadcast:** The router will broadcast beacons that have some information, including SSID so that wireless clients can know how many AP devices by scanning the network. Therefore, if this setting is configured as “Disable”, the wireless clients cannot find the device from beacons.
7. **Channel:** The radio channel number. The permissible channels depend on the Regulatory Domain. The factory default setting is as follow: channel 1~11 for North

America. (Channel 1~13 for European (ETSI); channel1~ 14 for Japan).

8. **Wireless Mode:** Choose “B/G mixed”, “B only”, “G only”, “N only”, “G/N mixed” or “B/G/N mixed”. The factory default setting is “B/G/N mixed”.

9. **Authentication mode:** You may select one of authentication to secure your wireless network: Open Shared, Auto, WPA-PSK, WPA, WPA2-PSK, WPA2, WPA-PSK/WPA2-PSK, or WPA /WPA2.

A. Open

Open system authentication simply consists of two communications. The first is an authentication request by the client that contains the station ID (typically the MAC address). This is followed by an authentication response from the AP/router containing a success or failure message. An example of when a failure may occur is if the client's MAC address is explicitly excluded in the AP/router configuration.

B. Shared

Shared key authentication relies on the fact that both stations taking part in the authentication process have the same "shared" key or passphrase. The shared key is manually set on both the client station and the AP/router. Three types of shared key authentication are available today for home or small office WLAN environments.

C. Auto

The AP will Select the Open or Shared by the client's request automatically.

D. WPA-PSK

Select Encryption and Pre-share Key Mode

If you select HEX, you have to fill in 64 hexadecimal (0, 1, 2...8, 9, A, B...F) digits. If you select ASCII, the length of pre-share key is from 8 to 63.

Fill in the key, Ex 12345678

E. WPA

Check Box was used to switch the function of the WPA. When the WPA function is enabled, the Wireless user must **authenticate** to this router first to use the Network service. RADIUS Server IP address or the 802.1X server's domain-name.

Select Encryption and RADIUS Shared Key

If you select HEX, you have to fill in 64 hexadecimal (0, 1, 2...8, 9, A, B...F) digits

If you select ASCII, the length of pre-share key is from 8 to 63.

Key value shared by the RADIUS server and this router. This key value is consistent with the key value in the RADIUS server.

F. WPA-PSK2

WPA-PSK2 user AES and TKIP for Same the encryption, the others are same the WPA-PSK.

G. WPA2

Another encryption options for WPA-PSK-TKIP and WPA-PSK2-AES, the others are same the WPA-PSK.

H. WPA/WPA2

Another encryption options for WPA-TKIP and WPA2-AES, the others are same the WPA.

By pressing "**WPS Setup**", you can configure and enable the easy setup feature WPS (Wi-Fi Protection Setup) for your wireless network.

[Network Setup](#)
[IPv6](#)
[Wireless](#)
[Advanced Wireless Settings](#)

[Wi-Fi Protected Setup](#)

Item	Setting
▶ WPS	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
▶ AP PIN	66653844 <input type="button" value="Generate New PIN"/>
▶ Config Mode	<input type="text" value="Registrar"/>
▶ Config Status	CONFIGURED <input type="button" value="Release"/>
▶ Config Method	<input type="text" value="Push Button"/>
▶ WPS status	NOUSED

1. **WPS:** You can enable this function by selecting “Enable”. WPS offers a safe and easy way to allow the wireless clients connected to your wireless network.
2. **AP PIN:** You can press Generate New Pin to get an AP PIN.
3. **Config Mode:** Select your config Mode from “Registrar” or “Enrollee”.
4. **Config Status:** It shows the status of your configuration.
5. **Config Method:** You can select the Config Method here from “Pin Code” or “Push Button”.
6. **WPS status:** According to your setting, the status will show “Start Process” or “No used”

By selecting **WDS Hybrid Mode**, you can connect this device to another AP via WDS connection.

Wireless Setting [HELP]	
Item	Setting
Wireless Module	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Wireless Operation Mode	WDS Hybrid Mode
Lazy Mode	<input type="checkbox"/>
Wireless Schedule	(0) Always
Network ID(SSID)	default
SSID Broadcast	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Channel	11
Authentication	Auto
Encryption	None
Scan Remote AP's MAC List	Scan
Remote AP MAC1	<input type="text"/> <input checked="" type="radio"/> Copy MAC to Here
Remote AP MAC2	<input type="text"/> <input type="radio"/> Copy MAC to Here
Remote AP MAC3	<input type="text"/> <input type="radio"/> Copy MAC to Here
Remote AP MAC4	<input type="text"/> <input type="radio"/> Copy MAC to Here

Save Undo WPS Setup... Wireless Client List...

- Wireless Module:** You can enable this function by selecting “Enable”
- Remote AP MAC 1~4:** Enter the MAC address for remote AP that you want to connect via WDS.
- Encryption type:** Select the appropriate category. Once you set up that type of encryption, second LAN PC must enter the same encryption type as the first one.

Press “**Wireless Clients List**” and the list of wireless clients will be shown consequently.

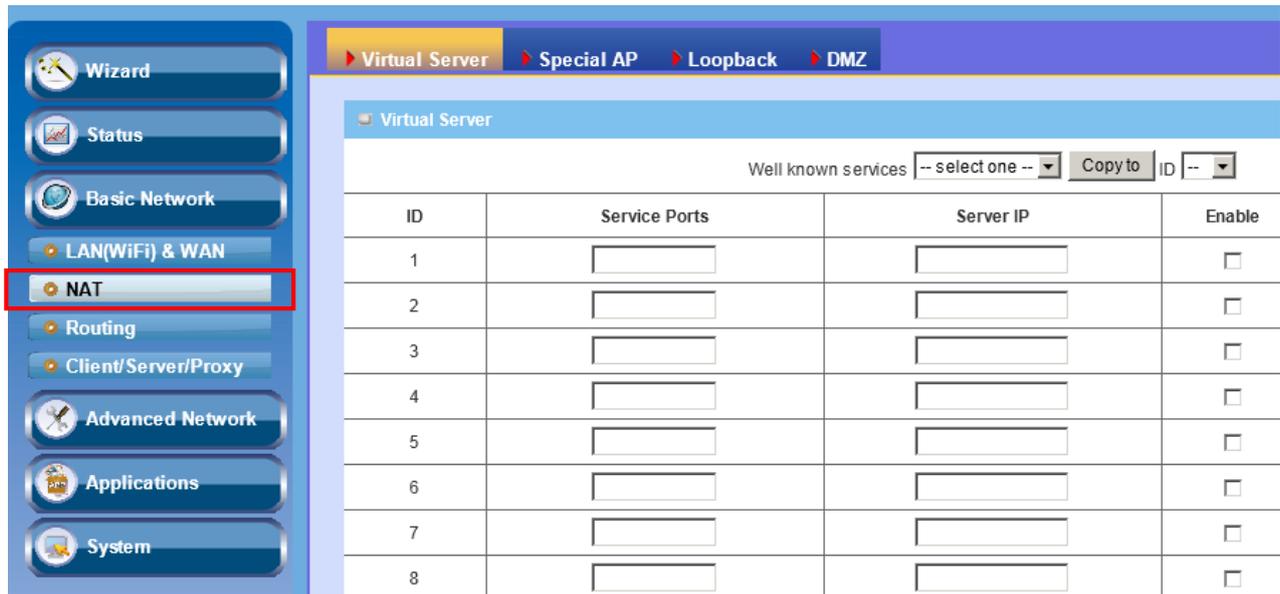
Network Setup IPv6 Wireless Advanced Wireless Settings	
Wireless Clients List	
ID	MAC Address
Back Refresh	

3.1.4 Advanced Wireless Settings

Item	Setting
Regulatory Domain	Europe (1-13)
Beacon Interval :	<input type="text" value="100"/> (msec, range:1~1000, default: 100)
Transmit Power :	<input type="text" value="100%"/>
RTS Threshold :	<input type="text" value="2347"/> (1~2347,default 2347)
Fragmentation :	<input type="text" value="2346"/> (256~2346,default 2346,even number only)
DTIM Interval :	<input type="text" value="1"/> (range: 1~255, default: 3)
WMM Capable	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
TX Rates :	<input type="text" value="Best"/>

Click on “Save” to store your settings or click “Undo” to give up the changes.

3.2 NAT



- **Virtual Server:** Allows others to access WWW.FTP. And other services on your LAN.
- **Special Application:** This configuration allows some applications to connect and work with the NAT router.
- **Loopback:** This option allows local hosts to access local virtual server via WAN IP address of this router
- **DMZ:** Allows a computer to be exposed to unrestricted 2-way communication for Internet games, Video conferencing, Internet telephony and other special applications.

3.2.1 Virtual Server

This product's NAT firewall filters out unrecognized packets to protect your Intranet, so all hosts behind this product are invisible to the outside world. If you wish, you can make some of them accessible by enabling the Virtual Server Mapping.

A virtual server is defined as a **Service Port**, and all requests to this port will be redirected to the computer specified by the **Server IP**. **Virtual Server** can work with **Scheduling Rules**, and give user more flexibility on Access control. For the details, please refer to **Scheduling Rule**.

ID	Service Ports	Server IP	Enable	Use Rule#
1	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
2	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
3	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
4	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
5	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
6	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
7	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
8	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
9	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
10	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always

For example, if you have an FTP server (port 21) at 192.168.123.1, a Web server (port 80) at 192.168.123.2, and a VPN server at 192.168.123.6, then you need to specify the following virtual server mapping table:

Service Ports	Server IP	Enable
<input type="text" value="21"/>	<input type="text" value="192.168.123.1"/>	<input checked="" type="checkbox"/>
<input type="text" value="80"/>	<input type="text" value="192.168.123.2"/>	<input checked="" type="checkbox"/>
<input type="text" value="1723"/>	<input type="text" value="192.168.123.6"/>	<input checked="" type="checkbox"/>

Click on “Save” to store your settings or click “Undo” to give up the changes.

3.2.2 Special AP

Some applications require multiple connections, like Internet games, Video conferencing, Internet telephony, etc. Because of the firewall function, these applications cannot work with a pure NAT router. **The Special Applications** feature allows some of these applications to work with this product. If the mechanism of Special Applications fails to make an application work, try setting your computer as the DMZ host instead.

ID	Trigger	Incoming Ports	Enable	Use Rule#
1	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
2	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
3	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
4	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
5	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
6	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
7	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
8	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always

1. **Trigger:** The outbound port number issued by the application.
2. **Incoming Ports:** When the trigger packet is detected, the inbound packets sent to the specified port numbers are allowed to pass through the firewall.
3. **Enable:** Check the checkbox to activate each of rule.
4. **Use Rule#:** you can set a schedule rule for each of rule.

This device provides some predefined settings. Select your application and click “Copy to” to add the predefined setting to your list.

Click on “Save” to store your settings or click “Undo” to give up the changes.

3.2.3 Loopback

With NAT Loopback enabled, you can access to the device using its WAN IP Address or domain name from the LAN side, just like you are accessing it from the internet. This function is helpful when there are some virtual servers operated under this device, and you can easily access to these servers no matter where you are.

Item	Setting	Enable
▶ NAT Loopback		<input type="checkbox"/>

Save Undo

3.2.4 DMZ

Item	Setting	Enable
▶ IP Address of DMZ Host	<input type="text"/>	<input type="checkbox"/>

Save Undo

1. DMZ Settings

DMZ (Demilitarized Zone) Host is a host without the protection of firewall. It allows a computer to be exposed to unrestricted 2-way communication for Internet games, Video conferencing, Internet telephony and other special applications.

Click on “Save” to store your settings or click “Undo” to give up the changes.

3.3 Routing

3.3.1 Static Routing

If you have more than one routers and subnets, you will need to enable routing table to allow packets to find proper routing path and allow different subnets to communicate with each other. The routing table allows you to determine which physical interface addresses are utilized for outgoing IP data grams.

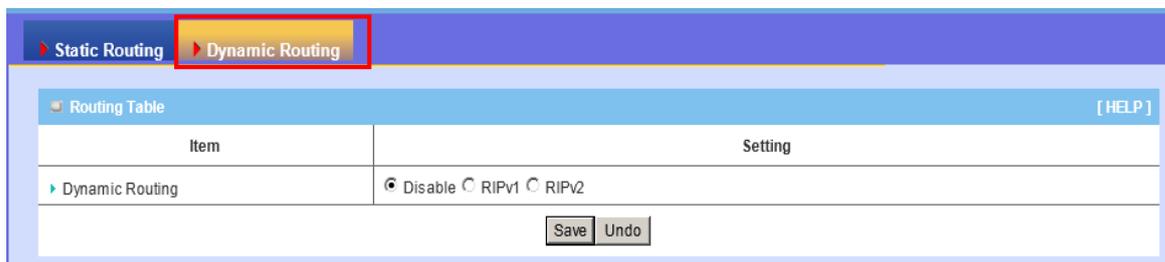
Static Routing: For static routing, you can specify up to 8 routing rules. You can enter the **destination IP address**, **subnet mask**, **gateway**, and **hop** for each routing rule, and then enable or disable the rule by checking or un-checking the Enable checkbox

Item		Setting			
Static Routing		<input checked="" type="radio"/> Disable <input type="radio"/> Enable			
ID	Destination	Subnet Mask	Gateway	Hop	Enable
1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
7	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
8	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

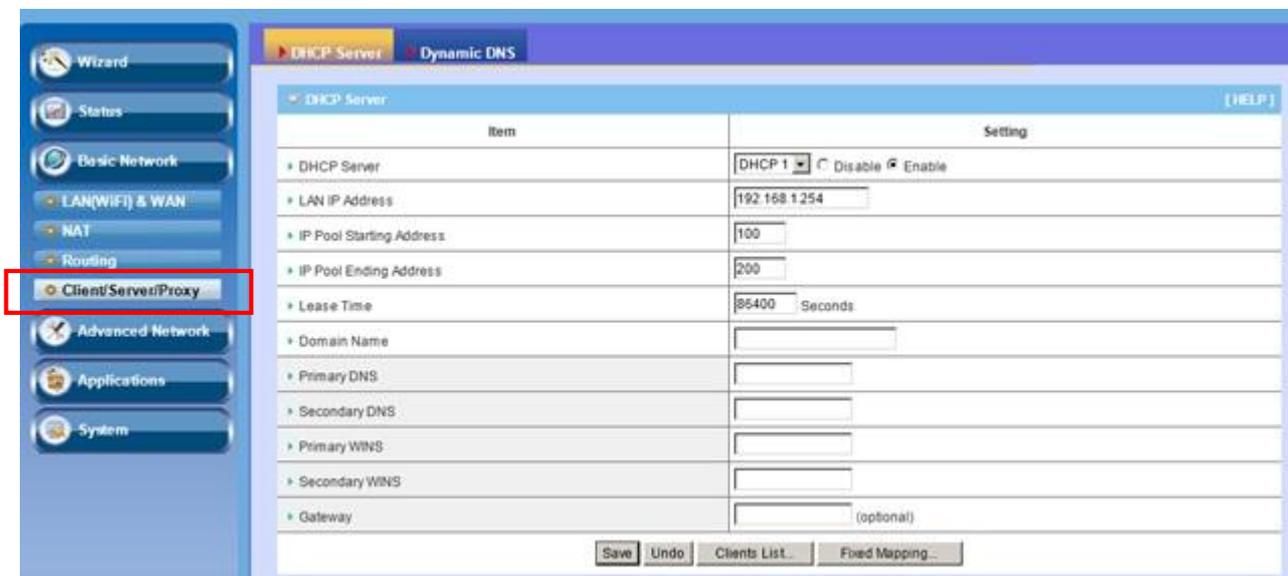
Save Undo

3.3.2 Dynamic Routing

Dynamic Routing: Routing Information Protocol (RIP) will exchange information about destinations for computing routes throughout the network. Please select RIPv2 only if you have different subnets in your network. Otherwise, please select RIPv1 if you need this protocol.



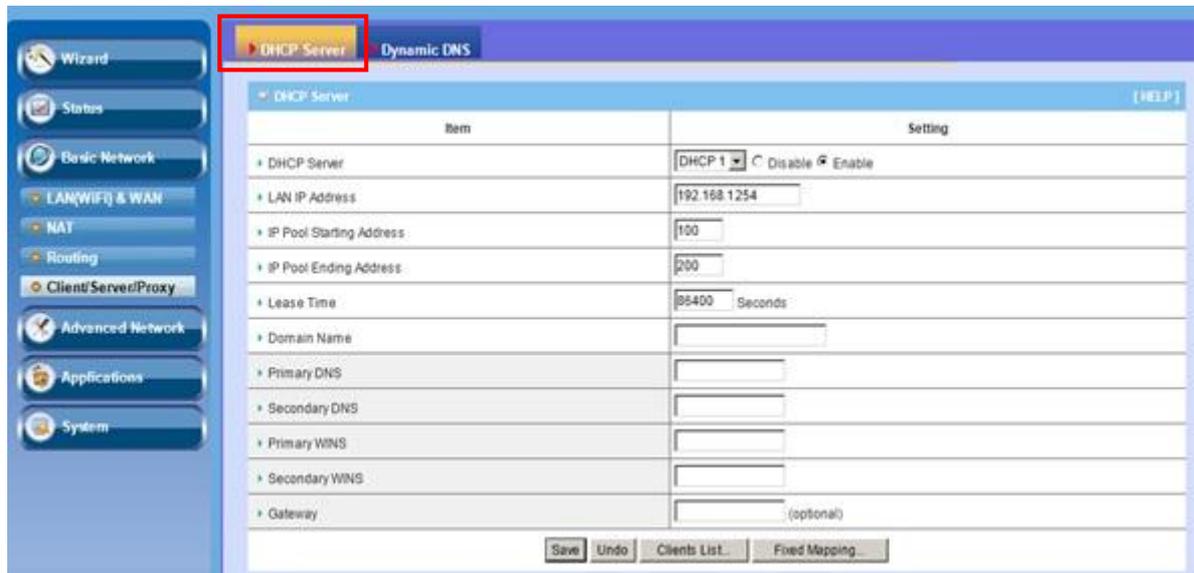
3.4 Client/Server/Proxy



- **DHCP Server:** The settings include Host IP, Subnet Mask, Gateway, DNS, and WINS configurations.

- **Dynamic DNS:** To host your server on a changing IP address, you have to use dynamic domain name service (DDNS).

3.4.1 DHCP Server



1. **DHCP Server:** You can have total four (DHCP1~DHCP4) different settings of DHCP server configurations on this device. If you divide LAN network into different groups via VLAN ID (Please refer to **Advanced Setting->VLAN** for detail), you can have different DHCP server settings for each of them.
2. **IP Pool Starting/Ending Address:** Whenever there is a request, the DHCP server will automatically allocate an unused IP address from the IP address pool to the requesting computer. You must specify the starting / ending address of the IP address pool.
3. **Lease Time:** DHCP lease time to the DHCP client.
4. **Domain Name:** Optional, this information will be passed to the clients.
5. **Primary DNS/Secondary DNS:** Optional. This feature allows you to assign a DNS Servers.

6. **Primary WINS/Secondary WINS:** Optional. This feature allows you to assign a WINS Servers
7. **Gateway:** Optional. Gateway Address would be the IP address of an alternate gateway. This function enables you to assign another gateway to your PC, when DHCP server offers an IP to your PC.

Click on “Save” to store your settings or click “Undo” to give up the changes.

Press “Clients List” and the list of DHCP clients will be shown consequently.

IP Address	Host Name	MAC Address	Type	Lease Time	Select
192.168.1.100	25613109	00-A2-24-61-A2-55	Wired	21:22:48	<input type="checkbox"/>

Press “Fixed Mapping” and the DHCP Server will reserve the special IP for designated MAC address.

[HELP]

DHCP clients: -- select one -- Copy to: ID: --

ID	MAC Address	IP Address	Enable
1	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
2	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
3	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
4	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
5	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
6	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
7	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
8	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
9	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
10	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

3.4.2 Dynamic DNS

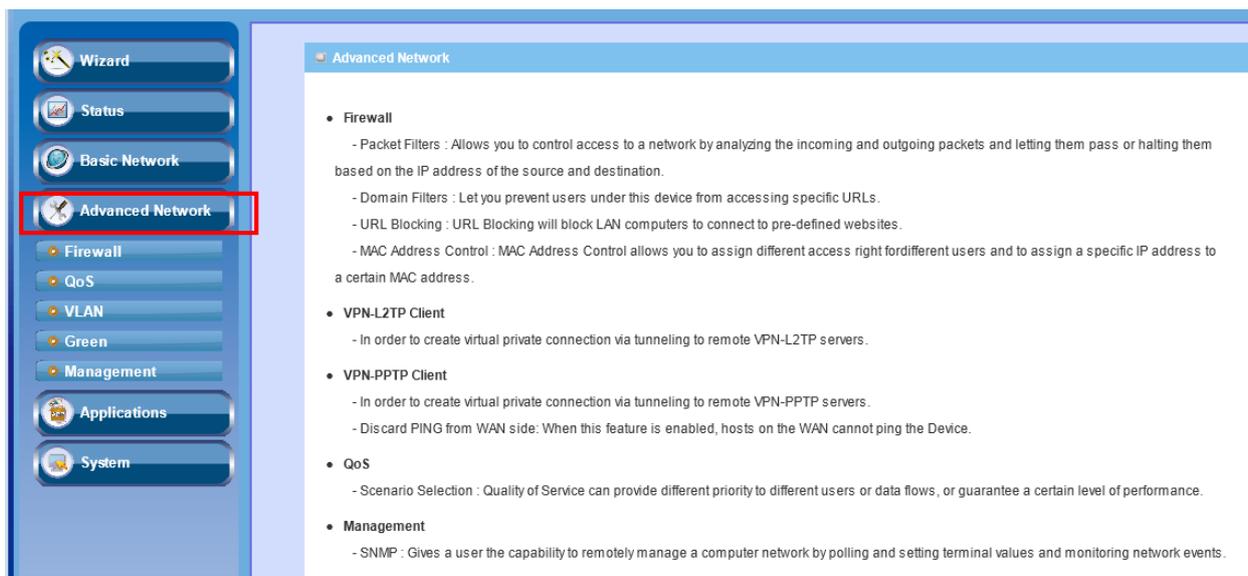
To host your server on a changing IP address, you have to use dynamic domain name service (DDNS). So that anyone wishing to reach your host only needs to know the name of it. Dynamic DNS will map the name of your host to your current IP address, which changes each time you connect your Internet service provider.

Before you enable **Dynamic DNS**, you need to register an account on one of these Dynamic DNS servers that we list in **Provider** field.

Item	Setting
▶ DDNS	<input checked="" type="radio"/> Disable <input type="radio"/> Enable
▶ Provider	<input type="text" value="DynDNS.org(Dynamic)"/>
▶ Host Name	<input type="text"/>
▶ Username / E-mail	<input type="text"/>
▶ Password / Key	<input type="text"/>

Chapter 4 Configurations- Advanced Network

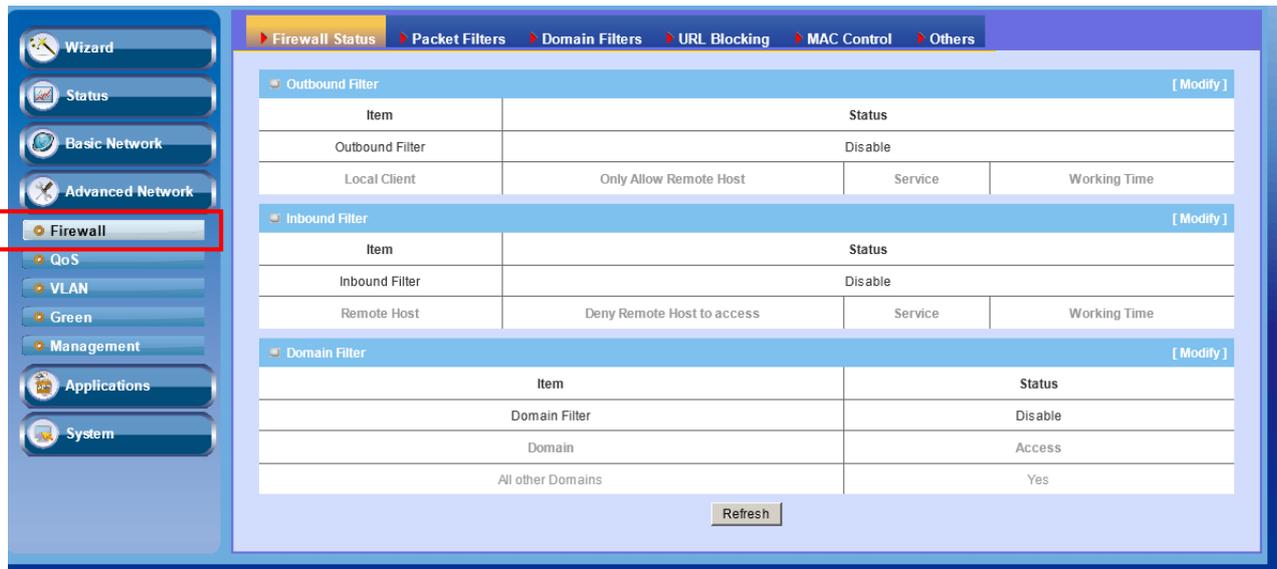
The Advanced Wireless Settings provide some 802.11 parameters for you to configure and adjust the wireless behavior and performance. If you are not familiar with 802.11 technology, it is not recommended to change the default settings.



This router also support many advanced network features, such as firewall, QoS, VLAN and Management. You can finish those configurations in this section.

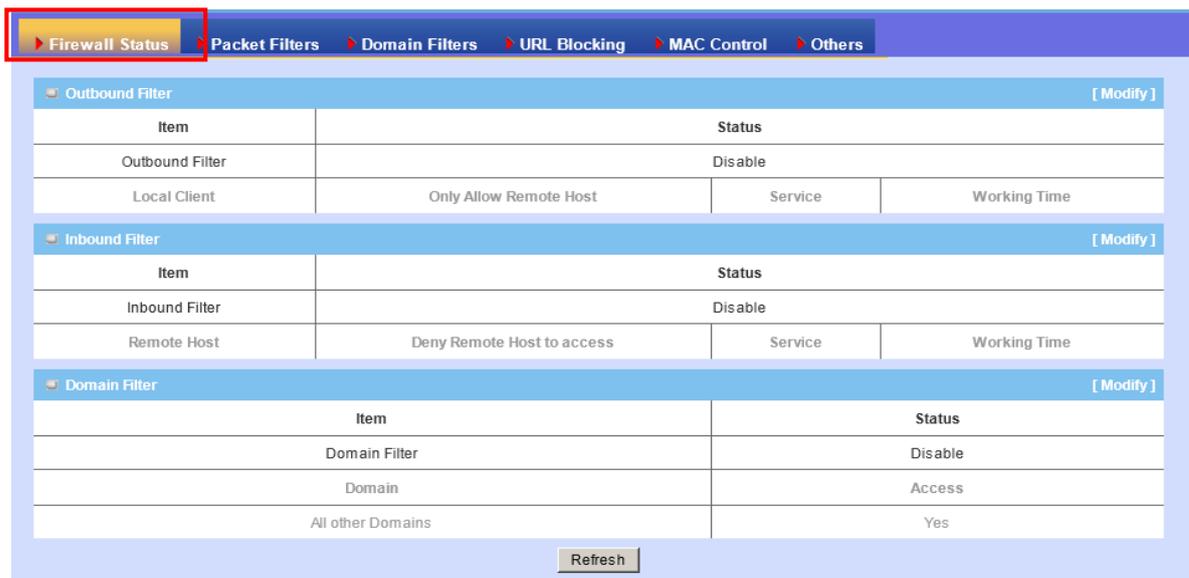
4.1 Firewall

The firewall functions include Packet Filters, Domain Filters, URL Blocking, and MAC Control.



4.1.1 Firewall Status

This page shows the status of Firewall settings such as Packet Filters (for both Outbound and Inbound Filters) and Domain Filters. You can do the settings by clicking the Modify button on the right hand side or by going into the specific page hereunder explained.



4.1.2 Packet Filters

Firewall Status Packet Filters Domain Filters URL Blocking MAC Control Others

Outbound Packet Filter [HELP]

Item		Setting		
Outbound Packet Filter		<input type="checkbox"/> Enable		
<input checked="" type="radio"/> Allow all to pass except those match the following rules.				
<input type="radio"/> Deny all to pass except those match the following rules.				
ID	Source IP	Destination IP : Ports	Enable	Use rule#
1	<input type="text"/>	<input type="text"/> : <input type="text"/>	<input type="checkbox"/>	(0) Always ▾
2	<input type="text"/>	<input type="text"/> : <input type="text"/>	<input type="checkbox"/>	(0) Always ▾
3	<input type="text"/>	<input type="text"/> : <input type="text"/>	<input type="checkbox"/>	(0) Always ▾
4	<input type="text"/>	<input type="text"/> : <input type="text"/>	<input type="checkbox"/>	(0) Always ▾
5	<input type="text"/>	<input type="text"/> : <input type="text"/>	<input type="checkbox"/>	(0) Always ▾
6	<input type="text"/>	<input type="text"/> : <input type="text"/>	<input type="checkbox"/>	(0) Always ▾
7	<input type="text"/>	<input type="text"/> : <input type="text"/>	<input type="checkbox"/>	(0) Always ▾
8	<input type="text"/>	<input type="text"/> : <input type="text"/>	<input type="checkbox"/>	(0) Always ▾

Save Undo Inbound Filter MAC Level

Packet Filter includes both outbound filter and inbound filter. And they have same way to setting. It enables you to control what packets are allowed to pass the router. Outbound filter applies on all outbound packets. However, inbound filter applies on packets that destined to Virtual Servers or DMZ host only. You can select one of the two filtering policies:

1. Allow all to pass except those match the specified rules.
2. Deny all to pass except those match the specified rules.

You can specify 8 rules for each direction: inbound or outbound. For each rule, you can define the following:

- Source IP address
- Source port
- Destination IP address

- Destination port
- Protocol: TCP or UDP or both.
- Use Rule#

For source or destination IP address, you can define a single IP address (4.3.2.1) or a range of IP addresses (4.3.2.1-4.3.2.254). An empty implies all IP addresses.

For source or destination port, you can define a single port (80) or a range of ports (1000-1999). Add prefix "T" or "U" to specify TCP or UDP protocol. For example,

T80, U53, U2000-2999, No prefix indicates both TCP and UDP are defined. An empty implies all port addresses. Packet Filter can work with **Scheduling Rules**,

and give user more flexibility on Access control. For Detail, please refer to

Scheduling Rule.

Each rule can be enabled or disabled individually.

Afterwards, click on "Save" to store your settings or click "Undo" to give up the changes.

4.1.3 Domain Filters

The screenshot shows the 'Domain Filter' configuration page. At the top, there is a navigation bar with 'Domain Filters' highlighted. Below the navigation bar, there are several settings:

- Domain Filter:** Enable
- Log DNS Query:** Enable
- Privilege IP Addresses Range:** From To

The main part of the page is a table with 10 rows for configuring domain filters. Each row has the following columns:

ID	Domain Suffix	Action	Enable	Use Rule#
1	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>	(0) Always
2	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>	(0) Always
3	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>	(0) Always
4	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>	(0) Always
5	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>	(0) Always
6	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>	(0) Always
7	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>	(0) Always
8	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>	(0) Always
9	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>	(0) Always
10	*(all others)	<input type="checkbox"/> Drop <input type="checkbox"/> Log	-	(0) Always

At the bottom of the table, there are 'Save' and 'Undo' buttons.

Domain Filter prevents users under this device from accessing specific URLs.

1. **Domain Filter:** Check if you want to enable Domain Filter.
2. **Log DNS Query:** Check if you want to log the action when someone accesses the specific URLs.
3. **Privilege IP Address Range:** Setting a group of hosts and privilege these hosts to access network without restriction.
4. **Domain Suffix:** A suffix of URL can be restricted, for example, ".com", "xxx.com".
5. **Action:** When someone is accessing the URL met the domain-suffix, what kind of action you want.

Check "Drop" to block the access. Check "Log" to log these access.

6. **Enable:** Check to enable each rule.

Afterwards, click on “Save” to store your settings or click “Undo” to give up the changes.

4.1.4 URL Blocking

URL Blocking will block LAN computers to connect with pre-define Websites. The major difference between “Domain filter” and “URL Blocking” is Domain filter requires user to input suffix (like .com or .org, etc), while URL Blocking requires user to input a keyword only. In other words, Domain filter can block specific website, while URL Blocking can block hundreds of websites by simply a keyword.

URL Blocking			[HELP]
Item		Setting	
URL Blocking		<input type="checkbox"/> Enable	
ID	URL	Enable	
1	<input type="text"/>	<input type="checkbox"/>	
2	<input type="text"/>	<input type="checkbox"/>	
3	<input type="text"/>	<input type="checkbox"/>	
4	<input type="text"/>	<input type="checkbox"/>	
5	<input type="text"/>	<input type="checkbox"/>	
6	<input type="text"/>	<input type="checkbox"/>	
7	<input type="text"/>	<input type="checkbox"/>	
8	<input type="text"/>	<input type="checkbox"/>	
9	<input type="text"/>	<input type="checkbox"/>	
10	<input type="text"/>	<input type="checkbox"/>	

Save Undo

1. **URL Blocking:** Check if you want to enable URL Blocking.
2. **URL:** If any part of the Website's URL matches the pre-defined word, the connection will be blocked. For example, you can use pre-defined word "sex" to

block all websites if their URLs contain pre-defined word "sex".

3. **Enable:** Check to enable each rule.

Afterwards, click on “Save” to store your settings or click “Undo” to give up the changes.

4.1.5 MAC Control

MAC Address Control allows you to assign different access right for different users and to assign a specific IP address to a certain MAC address.

The screenshot shows the 'MAC Address Control' configuration page. The top navigation bar includes 'Firewall Status', 'Packet Filters', 'Domain Filters', 'URL Blocking', 'MAC Control' (highlighted), and 'Others'. The main content area has a blue header with 'MAC Address Control' and a '[HELP]' link. Below the header is a table with two columns: 'Item' and 'Setting'. The 'Item' column contains 'MAC Address Control', 'Connection control', and 'Association control'. The 'Setting' column contains 'Enable', 'Wireless and wired clients with C checked can connect to this device; and allow unspecified MAC addresses to connect.', and 'Wireless clients with A checked can associate to the wireless LAN; and allow unspecified MAC addresses to associate.'. Below the table is a 'DHCP clients' dropdown menu with '-- select one --' and a 'Copy to ID' dropdown menu with '-- --'. Below the dropdown menus is a table with five rows and five columns: 'ID', 'MAC', 'C', 'A', and 'Use Rule#'. The 'ID' column contains 1, 2, 3, 4, 5. The 'MAC' column contains empty text boxes. The 'C' and 'A' columns contain checkboxes. The 'Use Rule#' column contains '(0) Always' with a dropdown arrow. Below the table are navigation buttons: '<<Previous', 'Next>>', 'Save', and 'Undo'.

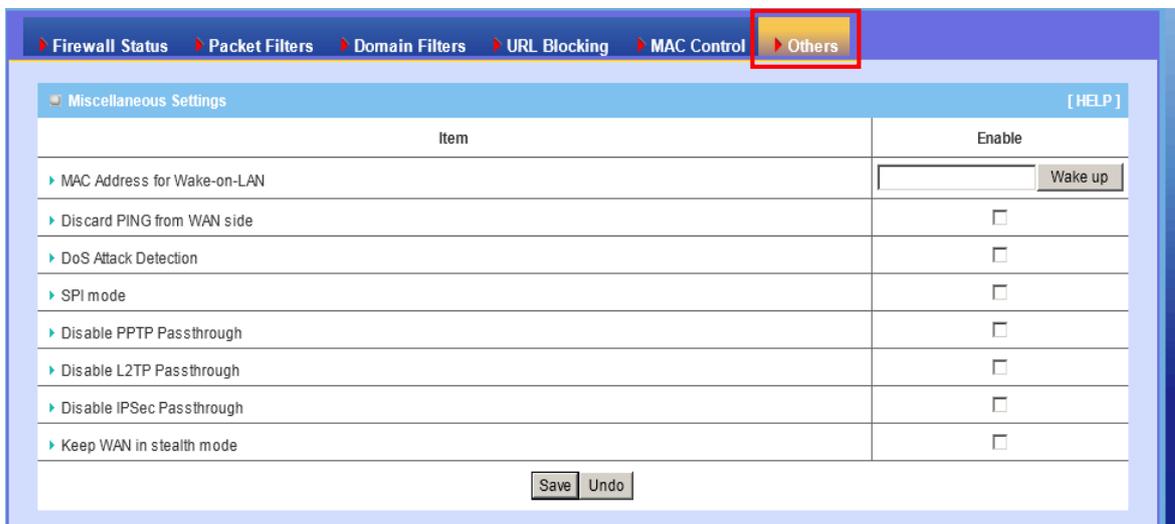
ID	MAC	C	A	Use Rule#
1		<input type="checkbox"/>	<input type="checkbox"/>	(0) Always
2		<input type="checkbox"/>	<input type="checkbox"/>	(0) Always
3		<input type="checkbox"/>	<input type="checkbox"/>	(0) Always
4		<input type="checkbox"/>	<input type="checkbox"/>	(0) Always
5		<input type="checkbox"/>	<input type="checkbox"/>	(0) Always

1. **MAC Address Control:** Check “Enable” to enable the “MAC Address Control”. All of the settings in this page will take effect only when “Enable” is checked.
2. **Connection control:** Check "Connection control" to enable the controlling of which wired and wireless clients can connect with this device. If a client is denied

to connect with this device, it means the client can't access to the Internet either. Choose "allow" or "deny" to allow or deny the clients, whose MAC addresses are not in the "Control table" (please see below), to connect with this device.

3. **Association control:** Check "Association control" to enable the controlling of which wireless client can associate to the wireless LAN. If a client is denied to associate to the wireless LAN, it means the client can't send or receive any data via this device. Choose "allow" or "deny" to allow or deny the clients, whose MAC addresses are not in the "Control table", to associate to the wireless LAN. Afterwards, click on "Save" to store your settings or click "Undo" to give up the changes.

4.1.6 Others



1. **MAC Address for Wake-on-LAN:** Input MAC address of host that you want to use WOL.
2. **Discard PING from WAN side:** When this feature is enabled, any host on the WAN cannot ping this product.
3. **DoS Attack Detection:** When this feature is enabled, the router will detect

and log the DoS attack coming from the Internet. Currently, the router can detect the following DoS attack: SYN Attack, WinNuke, Port Scan, Ping of Death, Land Attack etc.

4. **SPI mode:** You can enable this function and the router will check every incoming packet to verify if this packet is valid or not, and drop those invalid packets.

5. **Disable PPTP passthrough:** The PPTP passthrough is enabled by default. You can disable here.

6. **Disable L2TP passthrough:** The L2TP passthrough is enabled by default. You can disable here.

7. **Disable IPSec passthrough:** The IPSec passthrough is enabled by default. You can disable here.

8. **Stealth Mode:** If enable this option, router will become “hidden” if someone uses port scan utility to scan available ports on this router.

Afterwards, click on “Save” to store your settings or click “Undo” to give up the changes.

4.2 QoS (Quality of Service)

Quality of Service (QoS) helps to prioritize data as it enters your router. By attaching special identification marks or headers to incoming packets, QoS determines which queue the packets enter, based on priority. This is useful when there are certain types of data you want to give higher priority to, such as voice data packets given higher priority than Web data packets.

This router provides two types of Cross-layer QoS (support throughout Application/

Transport/ Data link/Network Layers in the network) tools. They are “Smart QoS” and “User Defined Rule-based QoS” to help you easily configure the QoS that you need. Please find more details in the later section.

The main goal of QoS is prioritizing incoming data, preventing data loss due to factors such as jitter, delay and dropping. Another important aspect of QoS is ensuring that prioritizing one data flow doesn’t interfere with other data flows. QoS can be toggled Activated and Deactivated. QoS must be activated before you can edit the following options. When you are done making changes, click on **Save** to save your changes.

4.2.1 Smart QoS

Scenario Selection

Adaptive Bandwidth Control

Item	Setting
▶ Cross-layer QoS	Disable ▾
▶ QoS Mode	Smart-QoS ▾
▶ Bandwidth of Upstream	<input type="text"/> Kbps (Kilobits per second)
▶ Bandwidth of Downstream	<input type="text"/> Kbps (Kilobits per second)
▶ Flexible Bandwidth Management	Disable ▾

Item	Select	Setting
▶ Game	<input type="checkbox"/>	<input type="text"/> %
▶ Chat	<input type="checkbox"/>	<input type="text"/> %
▶ VoIP	<input type="checkbox"/>	<input type="text"/> %
▶ P2P	<input type="checkbox"/>	<input type="text"/> %
▶ Video	<input type="checkbox"/>	<input type="text"/> %
▶ Web	<input type="checkbox"/>	<input type="text"/> %

Save

1. **QoS** : you can select enable/disable the QoS control
2. **QoS Mode** : select “Smart-QoS” for your own QoS control
3. **Bandwidth of Upstream / Bandwidth of Downstream** : you can input the value of maximize of upstream and downstream bandwidth from your ISP

4. Flexible Bandwidth Management (FBM):

Adaptive Bandwidth Control	
Item	Setting
▶ Cross-layer QoS	Disable ▾
▶ QoS Mode	Smart-QoS ▾
▶ Bandwidth of Upstream	<input type="text"/> Kbps (Kilobits per second)
▶ Bandwidth of Downstream	<input type="text"/> Kbps (Kilobits per second)
▶ Flexible Bandwidth Management	Enable ▾

A. When this management is enabled, system will share the bandwidth of those selected applications to other applications if user do not run those selected application, for example, If you select Game/ VoIP/ Video 3 applications for higher priority in your system, then the system will automatically reserve 10% of bandwidth to other application, and share the rest of bandwidth $(100-10)/3=30\%$ each to Game/VoIP/Video, so if user do not play a game, then the system will flexible share the 30% of bandwidth to other application.

Example for Smart-QoS with FBM enable : Mr. Wang selects Game/ VoIP/ Video 3 applications for higher priority in his system, the system will automatically reserve 10% of minimum rate of bandwidth to other application, and share the rest minimum rate of bandwidth $(100-10)/3=30\%$ each to Game/VoIP/Video. If Mr. Wang's son plays on-line game in the morning, the total bandwidth will all reserve to his son. By the evening, when Mr. Wang back home and wants to watch IPTV, then he will get the same priority with his son, and share the bandwidth.

B. When this management is disabled, system will allow you to input percentage of bandwidth manually.

Item	Select
▶ Game	<input type="checkbox"/>
▶ Chat	<input type="checkbox"/>
▶ VoIP	<input type="checkbox"/>
▶ P2P	<input type="checkbox"/>
▶ Video	<input type="checkbox"/>
▶ Web	<input type="checkbox"/>

4.2.2 User Defined Rule-based QoS

Scenario Selection

Adaptive Bandwidth Control

Item	Setting
▶ Cross-layer QoS	Disable ▾
▶ QoS Mode	User-defined QoS Rule ▾
▶ Bandwidth of Upstream	<input type="text"/> Kbps (Kilobits per second)
▶ Bandwidth of Downstream	<input type="text"/> Kbps (Kilobits per second)
▶ Flexible Bandwidth Management	Disable ▾

Advanced Setting

QoS Rules Table

1. **QoS:** You can enable/disable this QoS control.
2. **QoS Mode:** You can select User defined QoS rule for your own QoS control
3. **Bandwidth of Upstream / Bandwidth of Downstream:** You can input the value of maximize of upstream and downstream bandwidth from your ISP
4. **Create a QoS Rule:** You can press the button of 'Add New Rule' shown in the icon above to create a new QoS rule. you can enable the rule, and select QoS class type as below. Please do **"Class"** selection before you do **"Function"** selection. Each **"Class"** has its own subordinated **"Function"** options.
5. **Add a Conjunction (AND) Rule:** You can add a conjunction rule by clicking the "Add a Conjunction (AND) Rule..." button and you will be able to see two

more items- “And Rule - Class” and “And Rule – Class Info” in the icon below.

Item	Setting
▶ Rule	<input checked="" type="checkbox"/> Enable
▶ Class	TCPSPORT
▶ Class Info - PORT	<input type="text"/>
▶ Function	PRI
▶ Function data - Priority	<input type="text"/>
▶ Direction	In
▶ Schedule	(0) Always
▶ And Rule - Class	IP
▶ And Rule - Class Info	<input type="text"/>

Save Undo

A. Class: You can create your own QoS rule by different classes as below.

Item	Setting
▶ Rule	<input checked="" type="checkbox"/> Enable
▶ Class	IP
▶ Class Info - IP	<input type="text"/> - IP
▶ Function	<input type="text"/>
▶ Function data - Priority	<input type="text"/>
▶ Direction	In
▶ Schedule	(0) Always
▶ And Rule - Class	TCPSPORT
▶ And Rule - Class Info	<input type="text"/>

Save Undo

Class	Description
IP	IP address based
N	TCP port
UDPPORT	UDP port
MAC	MAC based
DSCP	DSCP based
TOS	TOS based
VLANPRI	VLAN enabled PRI

DSCP setting: You can set your own DSCP value here.

DiffServ Code Point: You can select code value.

Service Type: You can select their service type.

B. Function: You can set your own function value to enable your QoS rule as below.

The screenshot shows the 'QoS Rule Setting - Rule ID 1' interface. The 'Function' field is highlighted with a red box, and its dropdown menu is open, showing options: PRI, MAXR, MINR, SESSION, DROP, LOG, and ALERT. Other fields include 'Enable' (checkbox), 'Class' (dropdown set to 'IP'), 'Class Info - IP' (range input), 'Function data - Priority' (input), 'Direction', and 'Schedule'. Buttons for 'Save', 'Undo', and 'And a new Rule ...' are at the bottom.

Function	Description	Data
PRI	Priority	1~6
MAXR	Maximum bandwidth Rate	KBps/MBps
MINR	Minimum bandwidth Rate	KBps/MBps
SESSION	Connection session	number
DROP	Drop packet	None
LOG	Log event	None
ALERT	Alert event	None

PRI: Function data- Priority : 1~6

The screenshot shows the 'QoS Rule Setting - Rule ID 1' configuration page. The 'Function data - Priority' field is highlighted with a red box and contains the value '1'. Other fields include 'Rule' (checked), 'Class' (DSCP), 'DiffServ CodePoint' (IP Precedence 2(CS2)), 'Service Type' (IKE(UDP:500)), 'Function' (PRI), 'Direction' (In), 'Schedule' ((0) Always), 'And Rule - Class' (IP), and 'And Rule - Class Info' (empty). 'Save' and 'Undo' buttons are at the bottom.

Item	Setting
▶ Rule	<input checked="" type="checkbox"/> Enable
▶ Class	DSCP
▶ DiffServ CodePoint	IP Precedence 2(CS2)
▶ Service Type	IKE(UDP:500)
▶ Function	PRI
▶ Function data - Priority	1
▶ Direction	In
▶ Schedule	(0) Always
▶ And Rule - Class	IP
▶ And Rule - Class Info	

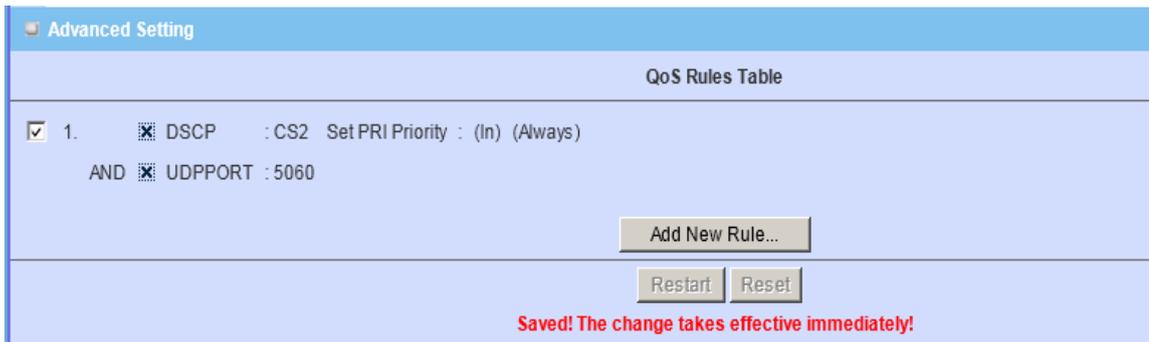
C. Direction: You can select inbond/ outbond for your direction.

Direction	
IN	inbond
OUT	outbond
BOTH	inbond & outbond

D. Schedule: leave the default value of “(0)Always” as it is.

7. Finishing QoS settings:

Once you saved the QoS rule, system will show you the rule as below, you can add another new rule accordingly.



System will show you all your QoS rules as below



Note 1. : You can move up or down the priority of all rules by pointing the ‘↑’or ‘↓’ if you want to change the priority.

Note 2. : You can unmark any rule if you do not want it enable now.



4.3 VLAN

The VLAN function allows you to divide local network into different “virtual LAN”. In some cases, ISP may need router to support “VLAN tag” for certain kinds of services (e.g. IPTV) to work properly.

There are four LAN ports with this router, so you can have up to 4 VLAN if required.

Those four LAN ports belong to one VLAN by default. If you want to divide them into different VLAN, you just need to assign different “VID” for them. If ISP requests a “VLAN Tag” with your outgoing data, please remember to check the checkbox of “Tx TAG”.

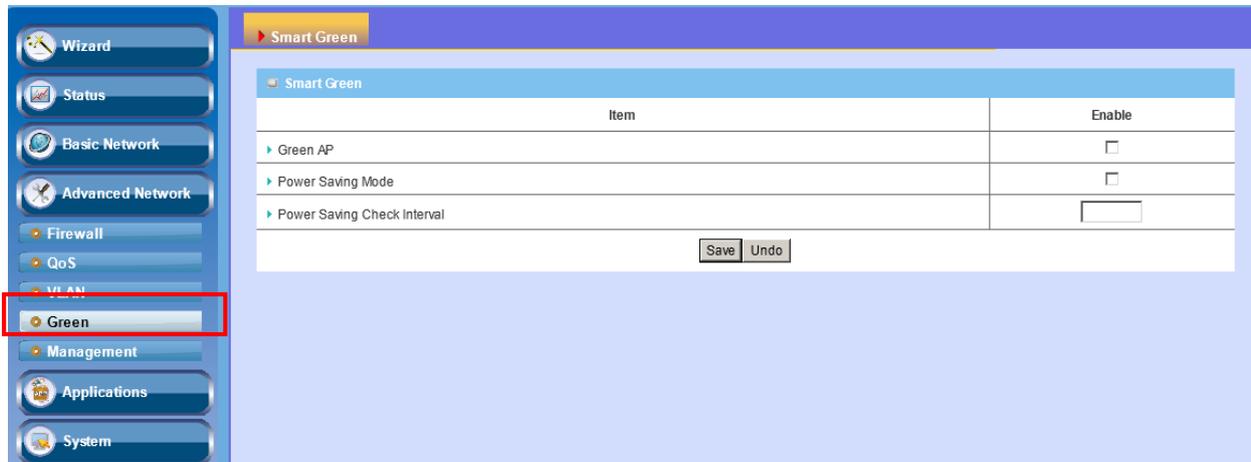
Ethernet	WAN/LAN	VID	Tx TAG
Port 1	WAN	0	<input checked="" type="checkbox"/>
Port 2	LAN	1	<input type="checkbox"/>
Port 3	LAN	1	<input type="checkbox"/>
Port 4	LAN	1	<input type="checkbox"/>
Port 5	LAN	1	<input type="checkbox"/>

VLAN ID on LAN	LAN/Wireless LAN(Interface)	Tag	Type	Internet or ISP map WAN(VLAN ID)
1	Port2, Port3, Port4, Port5	No	NAT	0

If you want to map WAN ID, you can press “WAN VLAN settings”, and change router type to Bridge and add WAN Map VLAN ID to your value.

Item	Setting
▶ VID	1
▶ Routing Type	NAT
▶ DHCP Setting	DHCP 1

4.4 Green



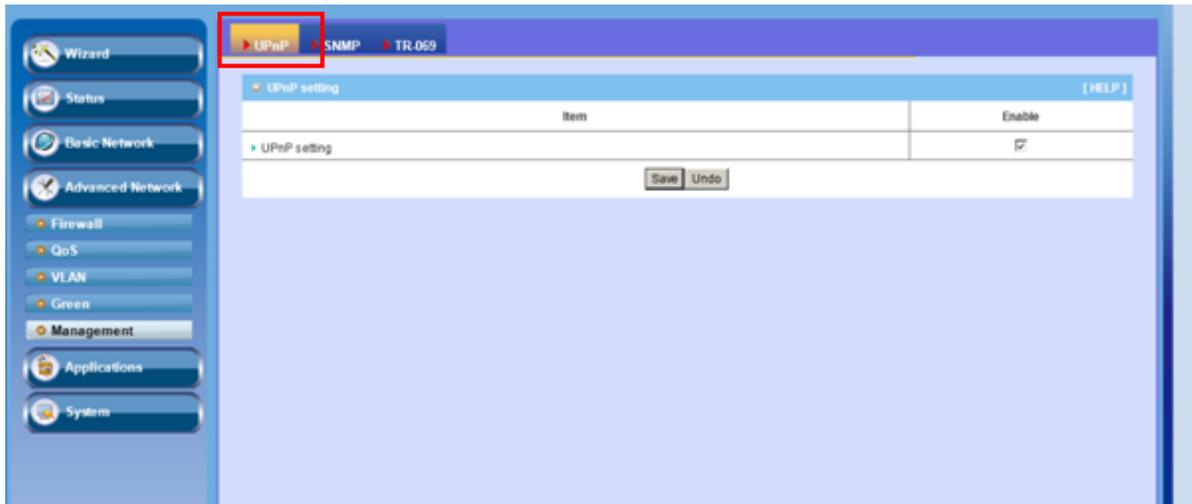
The Smart Green Settings provide different power saving options for you to configure.

- 1. Green AP:** With this function enabled, the device will try to turn off one wireless TX path to save the power when there is no any wireless client connected.
- 2. Power Saving Mode & Power Saving Check Interval:** With the power saving mode, and time interval been specified, the device will automatically check if the power saving criteria is meet or not periodically and reduce the overall power consumption of the device consequently.

4.5 Management

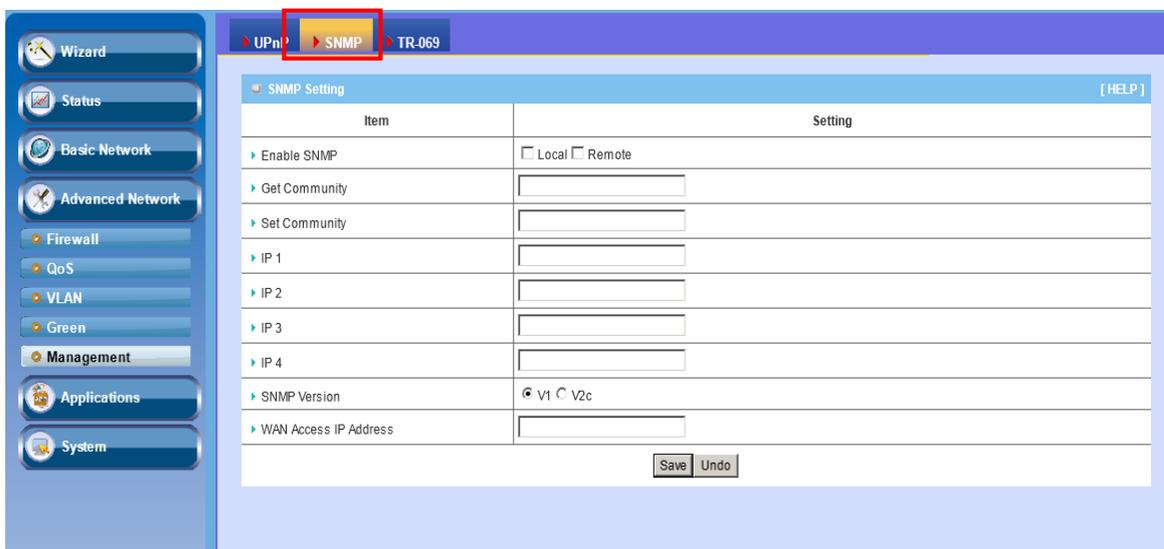
4.5.1 UPnP

The device supports the UPnP function. If the OS of your client computer supports this function, and you enabled it, like Windows XP, you can see the following icon when the client computer gets IP from the device.



4.5.2 SNMP

In brief, SNMP, the Simple Network Management Protocol, is a protocol designed to give a user the capability to remotely manage a computer network by polling and setting terminal values and monitoring network events.



1. **Enable SNMP:** You must check “Local”, “Remote” or both to enable SNMP function. If “Local” is checked, this device will respond request from LAN. If “Remote” is checked, this device will respond request from WAN.

2. **Get Community:** The community of GetRequest is that this device will respond.
3. **Set Community:** The community of SetRequest is that this device will accept.
4. **IP 1, IP 2, IP 3, IP 4:** Enter the IP addresses of your SNMP Management PCs. User has to configure where this device should send SNMP Trap message.
5. **SNMP Version:** Select proper SNMP Version that your SNMP Management software supports.
6. **WAN Access IP Address:** If you want to limit the remote SNMP access to specific computer, please enter the PC's IP address. The default value is 0.0.0.0, and it means that any Internet connected computer can get some information of the device with SNMP protocol.

Afterwards, click on **“Save”** to store your settings or click **“Undo”** to give up the changes.

4.5.3 TR-069 Remote Management

TR-069 Setting	
Item	Setting
▶ TR-069	<input checked="" type="radio"/> Disable <input type="radio"/> Enable
ACS Setting	
▶ ACS URL	<input type="text"/>
▶ ACS URL	<input type="text"/>
▶ ACS UserName	<input type="text"/>
CPE Setting	
▶ CPE Setting	<input type="text" value="8099"/>
▶ ConnectionRequest Port	<input type="text"/>
▶ ConnectionRequest UserName	<input type="text"/>
Inform Setting	
▶ Inform Setting	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
▶ Inform	<input type="text" value="900"/> seconds

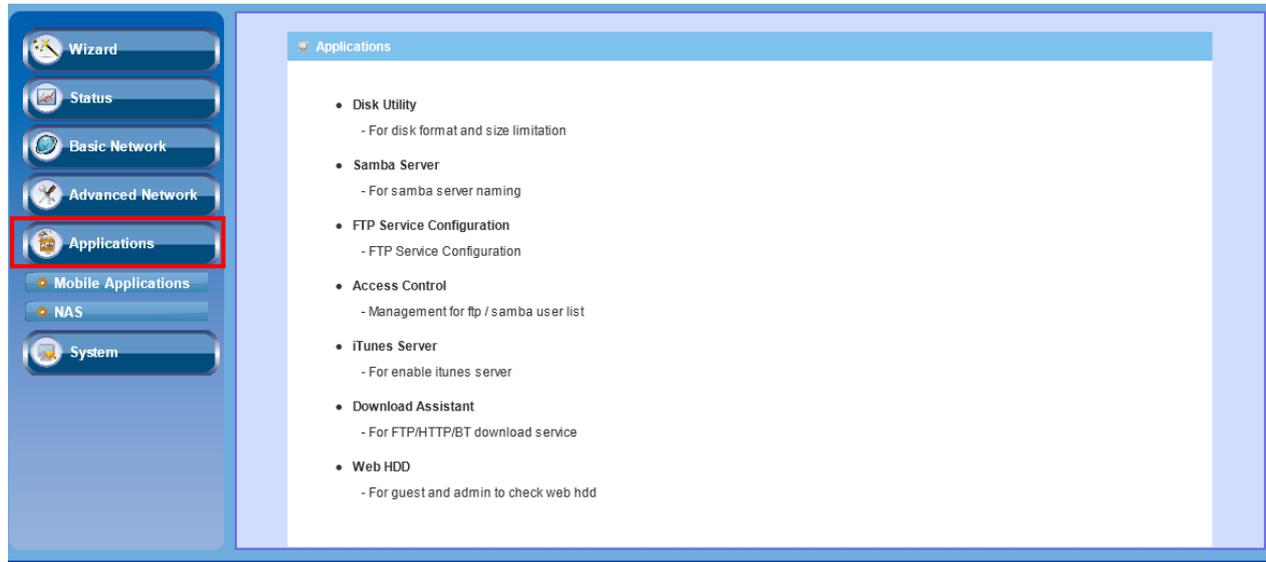
Save Undo

1. **TR-069:** Disable or enable the TR-069 settings.
2. **ACS setting:** you may add ACS URL/ Username/ Password.
3. **CPE setting:** you may add CPE connection request port/ username /password.
4. **Inform setting:** you may enable/disable the interval of informing CPE.

Note: TR-069 is a customized feature for **ISP only** and end user can not see this setting page. If you are an ISP please contact with us once you get any problem to configure.

Chapter 5 Configurations - Applications

In this section you can do Disk Utility, Samba Server, FTP Service Configuration, Access Control, iTunes Server, Download Assistant, and Web HDD settings.



5.1 USSD

USSD is a way to let subscribers finish some application on line, such as recharge SIM card.

Enter the USSD command you got from ISP or carrier, and press button “Send” to send this request to ISP or carrier. In most cases, ISP/Carrier will return a message regarding to your USSD command. The replied message will be showed at this page as well.

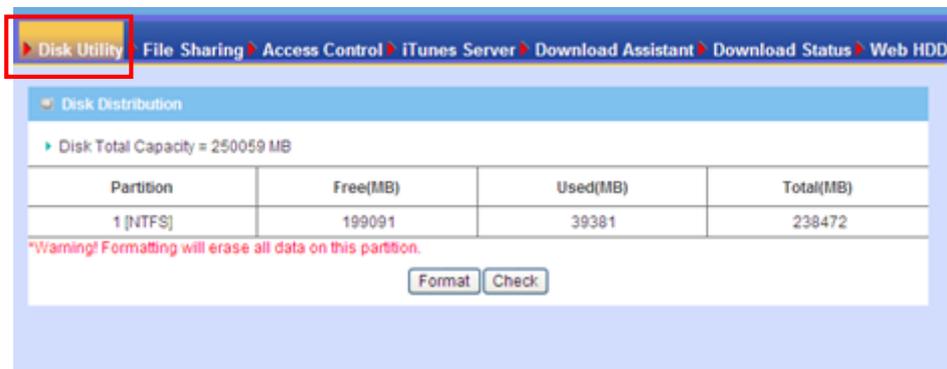
Please note some replied message is sent back via SMS, and this device can't deal with any SMS message. If you don't get any response after sending the command, please call your ISP/carrier to confirm you request has been accepted.



5.2 NAS

With NAS function on this device, you can share your USB drive or USB HDD via network easily.

5.2.1 Disk Utility



1. Format

This utility would format the certain partition.

Please be noted! This action will clear all your data in this partition. You will not be able to recover it any more.

2. Check

This utility could help you check the partition, find the lost files, try to fix some problems.

5.2.2 Samba Server

Item	Setting
▶ Samba Server	<input checked="" type="radio"/> Disable <input type="radio"/> Enable
▶ Computer Name	<input type="text"/>
▶ WorkGroup	<input type="text"/>
▶ Server Comment	<input type="text"/>

Save Undo

These settings are for Samba Server (Windows My Network Places).

1. Samba Server: Enable or Disable Samba server functions.

2. Computer Name

The name that is showed on the windows network neighbors search result.

3. WorkGroup

This name MUST be the same as your computer, or you could not search this device via windows.

4. Server Comment: Just a comment for recognize.

5.2.3 FTP Server Configuration

Item	Setting
▶ FTP	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
▶ FTP Port	<input type="text" value="21"/>
▶ FTP Max Connection per IP	<input type="text" value="2"/>
▶ FTP MAX Clients	<input type="text" value="5"/>
▶ Client Support UTF8	<input checked="" type="radio"/> Yes <input type="radio"/> No

Save Undo

These settings are for FTP service.

1. **FTP:** Enable or disable functions of FTP server on this device.

2. **FTP Port:**

The default port is 21, but sometimes you might want to hide your FTP service by changing it. We have the ability to receive the request on non-standard FTP port, but please be noted, some NAT router could not support non-standard FTP port, that means some of your clients might have to use passive mode to get file.

3. **FTP Max Connection per IP:** You can limit the maximum number of FTP connection for each client.

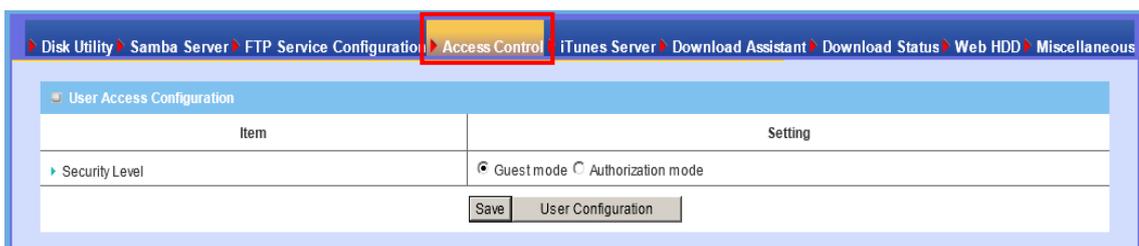
4. **FTP MAX Clients:** You can indicate how many FTP clients can access the FTP service on this device at the same time.

5. **Client Support UTF8:**

This option is used when your FTP client could support UTF8. Usually, the default value “No” is okay for most clients.

5.2.4 Access Control

5.2.4.1 User Access Configuration



The default setting is “Guest mode”, all clients could access as anonymous users.

If you want to control the permission, change to “Authorization mode” and save it, then go to “User Configuration”.

5.2.4.2 User Configuration

User Access Configuration			
Item	Setting		
▶ Username	<input type="text"/> ((Max. 20 users))		
▶ Password	<input type="text"/>		
ID	Username	Password	Select

New Add Delete Undo Back

In this page, you can manage the user account.

Key in the user name and password then press “Add” could let you add a new user.

If you want to delete an account, select it and click “Delete” button.

5.2.5 iTunes Server

iTunes Server Configuration	
Item	Setting
▶ Service	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
▶ Share Partition	<input type="text"/>
▶ Service Name	<input type="text"/>
▶ Service Port	<input type="text"/> 3689
▶ Access Password	<input type="text"/>

Save Undo

This function could enable the built-in iTunes Server to support iTunes which is a media player released by Apple.

1. **Server Name:** The name of this server, it will be shown on the iTunes.
2. **Share Partition:** Select which partition on USB drive that you want to share.
3. **Service Port:** The TCP port for WEB management interface, for example, if

the default value is 3689, then your iTunes server URL will be

http://This_Device_IP:3689

4. **Access Password:** The password for iTunes Server WEB management interface.

5.2.6 Download Assistant

With Download Assistant, you don't need to turn the computer all day on to wait for download to be finished. This device will help you download files from remote FTP server or HTTP server automatically

5.2.6.1 Download Assistant- FTP

If you want to download something from a FTP site regularly but you don't want to spend time on remembering doing this, this FTP download assistant could help you.

Item	Setting
Download Type	<input checked="" type="radio"/> FTP <input type="radio"/> HTTP <input type="radio"/> BT
Job Name	<input type="text"/>
URL	<input type="text"/> Port <input type="text" value="21"/>
Save To	<input type="text" value="/C/Downloads/FTP"/>
Login method	<input checked="" type="radio"/> Anonymous <input type="radio"/> Account
Username	<input type="text"/>
Password	<input type="text"/>
Start Time	<input type="radio"/> Schedule <input checked="" type="radio"/> At Once
Time	2012 Mar 07 00:00

*When you use the download service of FTP, HTTP, or BT, please check if these files you downloaded are legal or not.

E-mail Alert Configuration Save Undo

1. Job Name:

It's for you to remember the job easily, and the device would use this name to info you when the job is done.

2. URL:

The URL for the file you want to download.

You have to use this format:

IP/path/file, you don't have to add protocol part such like "ftp://".

3. Save To:

The destination path on USB disk that you want to save files.

Default value is /C/Download/FTP

4. Login method:

Anonymous, you can access this site without any authentication

Account, you have to enter the username and password to login.

5. Start Time:

Schedule: this device will start FTP download on the time that you specified. The schedule job that is saved could be check on Status page by selecting "View Scheduled Download Status".

Note: The FTP download would be started immediately.

5.2.6.2 HTTP

Item	Setting
Download Type	<input type="radio"/> FTP <input checked="" type="radio"/> HTTP <input type="radio"/> BT
Job Name	<input type="text"/>
URL	<input type="text"/>
Save To	<input type="text" value="/C/Downloads/HTTP"/>
Start Time	<input type="radio"/> Schedule <input checked="" type="radio"/> At Once
Time	2012 / Mar / 13 - 10 : 52

*When you use the download service of FTP, HTTP, or BT, please check if these files you downloaded are legal or not.

E-mail Alert Configuration Save Undo

1. Job Name:

It's for you to remember the job easily, and the device would use this name to info you when the job is done.

2. URL:

The URL for the file you want to download.

You have to use this format:

IP/path/file, you don't have to add protocol part such like "http://".

3. Save To:

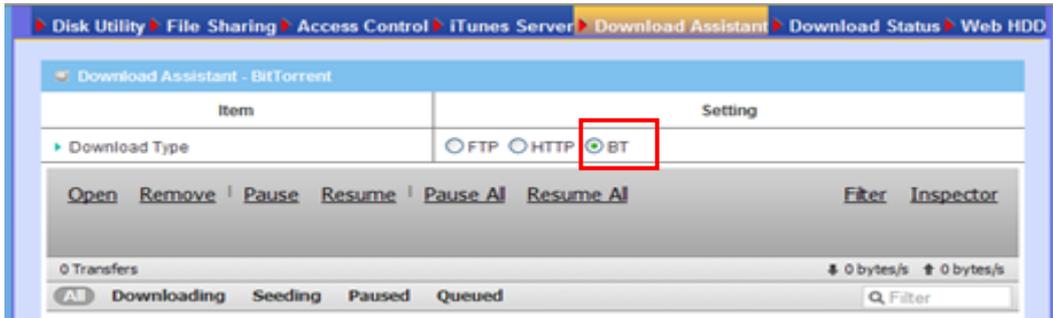
The destination path on USB disk that you want to save files.

Default value is /C/Download/HTTP

4. Start Time:

Schedule: this device will start FTP download on the time that you specified. The schedule job that is saved could be check on Status page by selecting "View Scheduled Download Status".

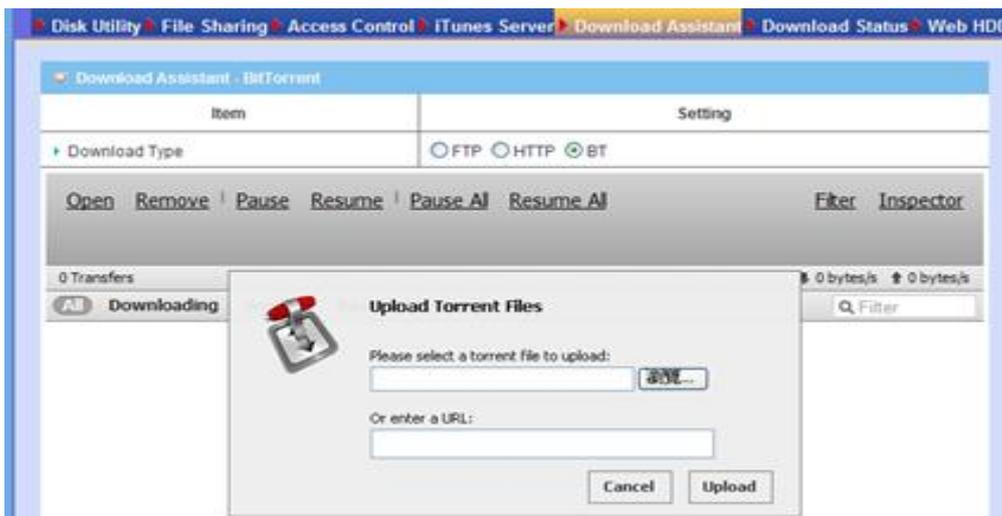
5.2.6.3 BT (Bit Torrent)



1. Start BT download

First, you have to get a seed file, which we called “torrent”. Then click the “Open” link on UI, it would pop up a sub menu to let you upload.

Or, if your torrent file could be download from network, you could just enter a URL.



2. BT download status- Job List

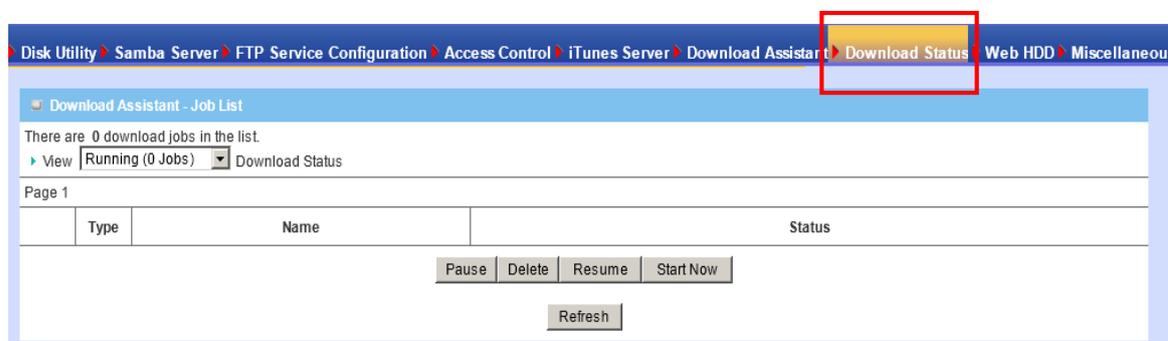
After you upload the torrent, download job would be started immediately.

The device could support 3 concurrent download jobs, other jobs would wait in job queue. If one of the three running job is done, the next new job would be started.

At this page, you could see the download process and the bandwidth.

5.2.7 Download Status

Select any job on the list, and click right button of mouse, you could see a menu with several actions you could do. You could “Pause”, “Delete” or “Remove” a job with this sub menu.



5.2.8 Web HDD

This Web HDD can allow you to enter HDD by web UI, and also can allow you to let 'guest' to enter the 'public' area only.



5.2.9 Miscellaneous

This setting is for UPnP AV media server service.

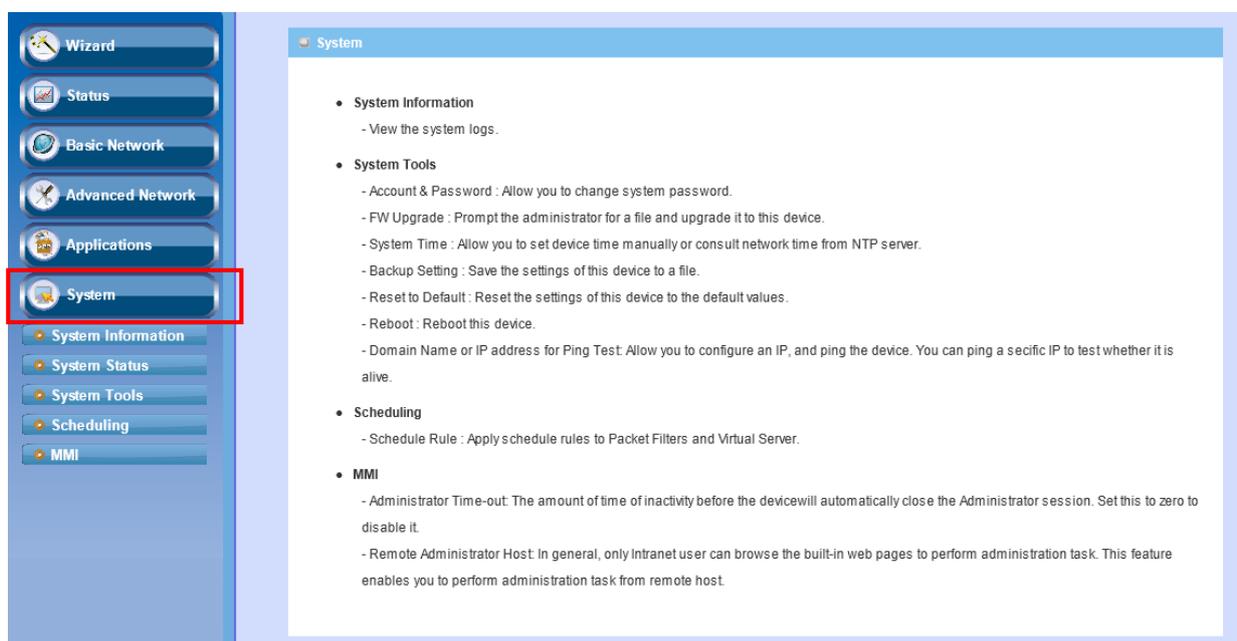


Item	Setting
Media Server	<input type="checkbox"/>

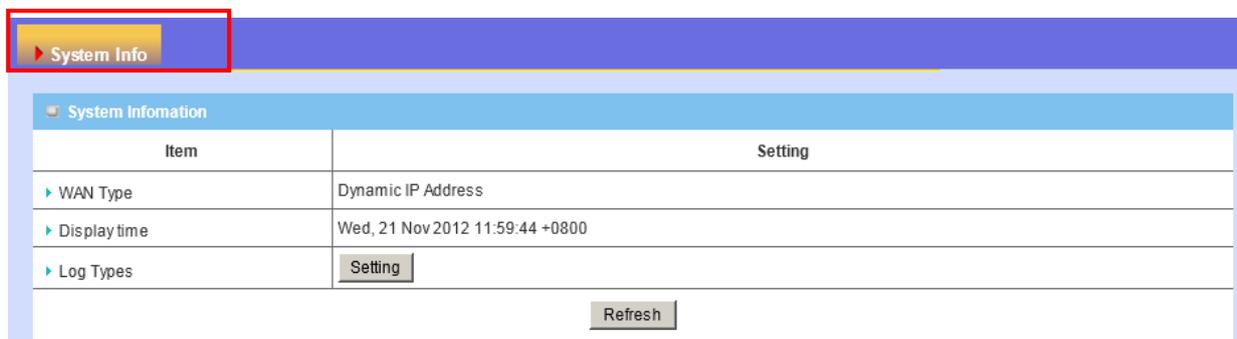
Save Undo

Chapter 6 System

In this section you can see system information, system logs, use system tools for system update and do service scheduling and system administration setting.



6.1 System Information

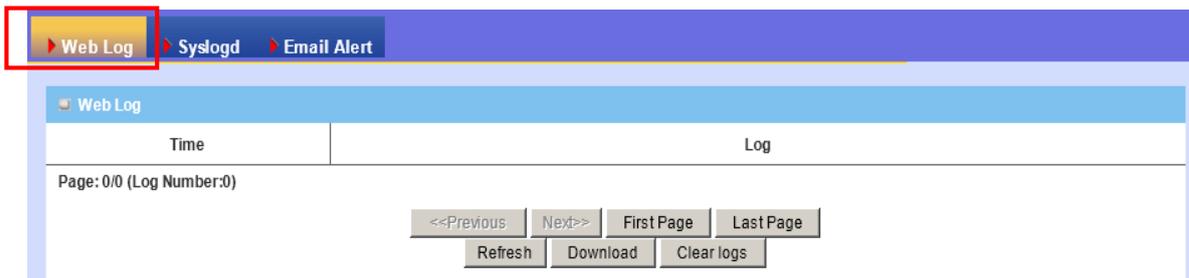


You can view the System Information and System log, and download/clear the System

log, in this page.

6.2 System Status

6.2.1 Web Log



6.2.2 System Log



This page supports two methods to export system logs to specific destination by means of syslog (UDP) and SMTP(TCP). The items you have to setup include:

1. **IP Address for Syslog**: Host IP of destination where syslog will be sent to.

Check **Enable** to enable this function.

6.2.3 Email Alert

Item	Setting	Enable
▶ Setting of Email alert		<input type="checkbox"/>
• SMTP Server : port	<input type="text"/> : <input type="text"/>	
• SMTP Username	<input type="text"/>	
• SMTP Password	<input type="text"/>	
• E-mail addresses	<input type="text"/>	
• E-mail subject	<input type="text"/>	

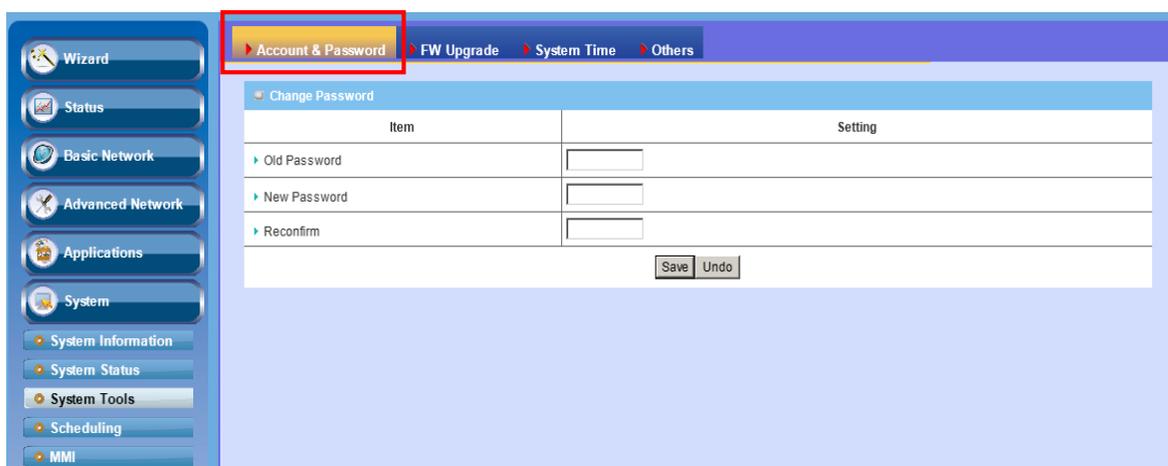
Save Undo
View Log... Email Log Now

- 1. Setting of Email alert:** Check if you want to enable Email alert (send syslog via email).
- 2. SMTP Server: Port:** Input the SMTP server IP and port, which are connected with ':'. If you do not specify port number, the default value is 25.
For example, "mail.your_url.com" or "192.168.1.100:26".
- 3. SMTP Username:** Enter the Username offered by your ISP.
- 4. SMTP Password:** Enter the User name offered by your ISP.
- 5. E-mail Addresses:** The recipients are the ones who will receive these logs. You can assign more than 1 recipient, using ';' or ',' to separate these email addresses.
- 6. E-mail Subject:** The subject of email alert is optional.
Afterwards, click on "Save" to store your settings or click "Undo" to give up the changes.

6.3 System Tools

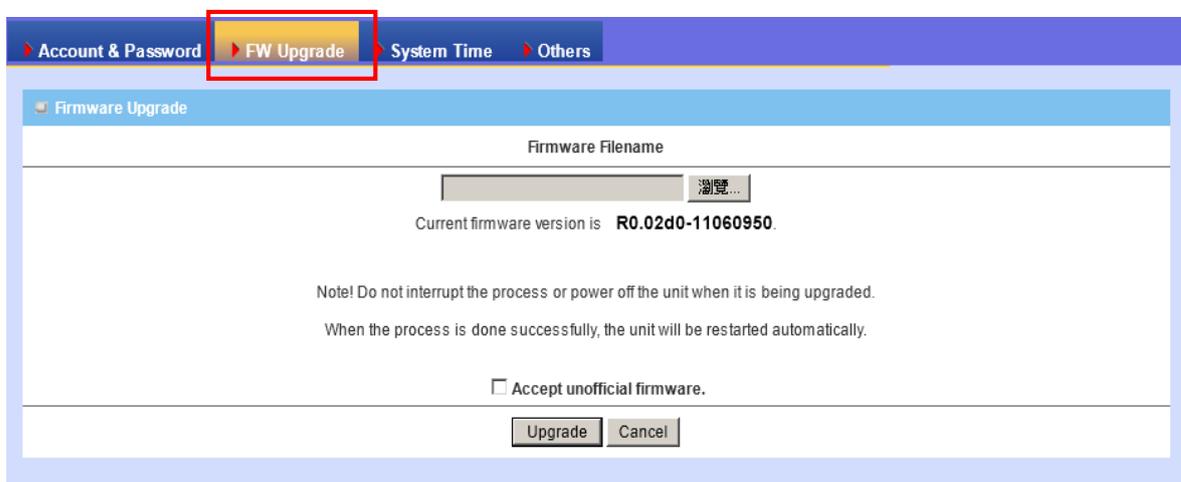
6.3.1 Account & Password

You can change the System Password here. We **strongly** recommend you to change the system password for security reason. Click on “Save” to store your settings or click “Undo” to give up the changes.



6.3.2 FW Upgrade

If new firmware is available, you can upgrade router firmware through the WEB GUI here.



Press “browse” button to indicate the file name of new firmware, and then press Upgrade button to start to upgrade new firmware on this device. If you want to upgrade a firmware which is from GPL policy, please check “Accept unofficial firmware”.

NOTE: Please do not turn the device off when upgrade is processing.

6.3.3 System Time

The screenshot shows a web interface for configuring system time. At the top, there are navigation tabs: "Account & Password", "FW Upgrade", "System Time" (highlighted with a red box), and "Others". Below the tabs is a "System Time" section with a "[HELP]" link. The settings are organized into a table:

Item	Setting
Time Zone	(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi
Auto-Synchronization	<input checked="" type="checkbox"/> Enable Time Server: Auto

Below the table are "Save" and "Undo" buttons. Underneath is a "Sync Result" section with a large empty text area. At the bottom, there are two buttons: "Sync with Time Server" and "Sync with my PC (undefined November 21, 2012 13:21:21)".

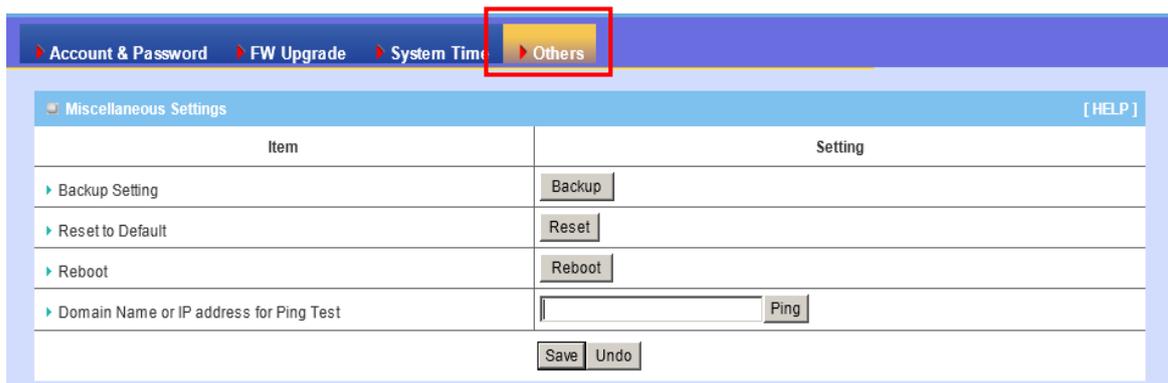
1. **Time Zone:** Select a time zone where this device locates.
2. **Auto-Synchronization:** Check the “Enable” checkbox to enable this function. Besides, you can select a NTP time server to consult UTC time.
3. **Sync with Time Server:** Click on the button if you want to set Date and Time by NTP Protocol .
4. **Sync with my PC:** Click on the button if you want to set Date and Time using PC’s Date and Time.

Afterwards, click on “Save” to store your settings or click “Undo” to give up

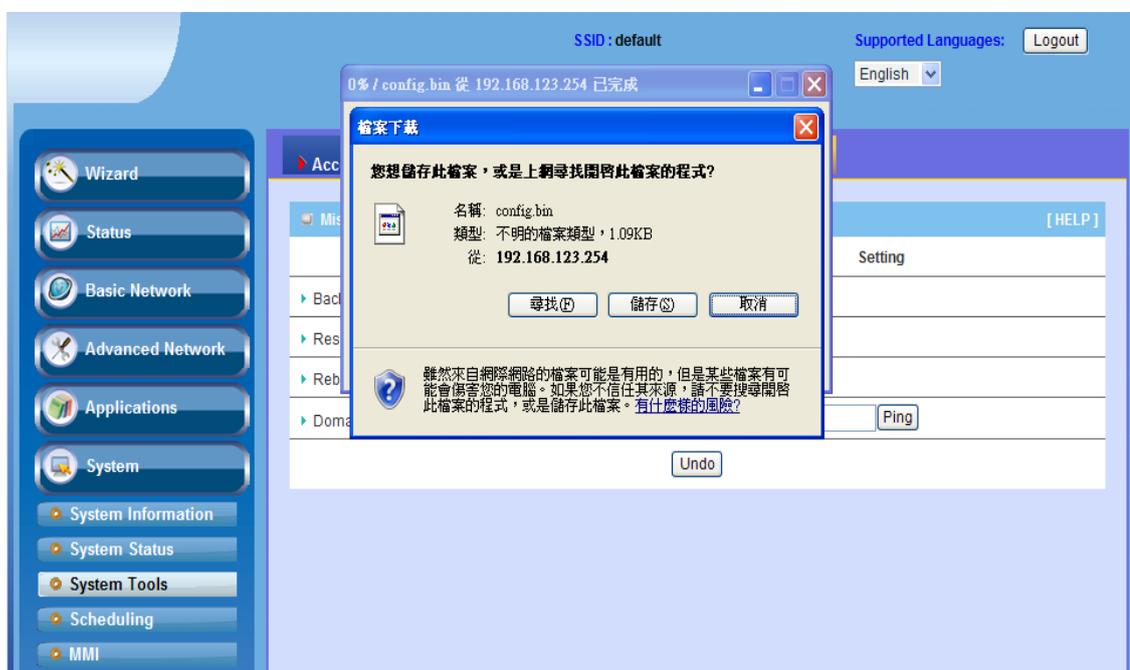
the changes.

6.3.4 Others

In this section you can do system backup, reset to default, system reboot settings and ping test.

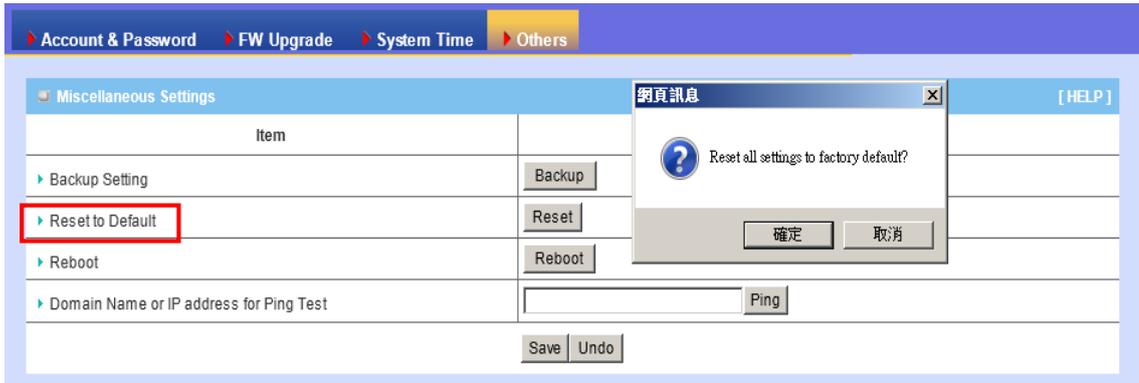


6.3.4.1 Backup Settling



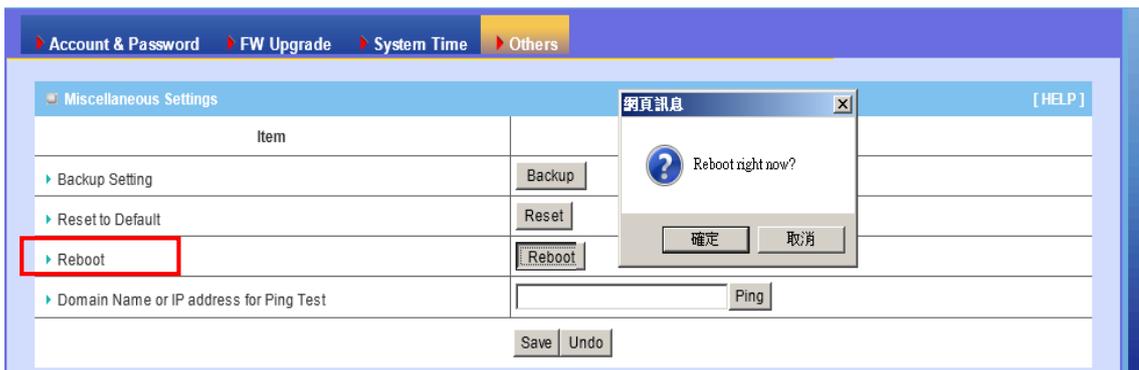
You can backup your settings by clicking the “**Backup Setting**” function item and save it as a bin file. Once you want to restore these settings, please click Firmware Upgrade button and use the bin file you saved.

6.3.4.2 Reset to Default



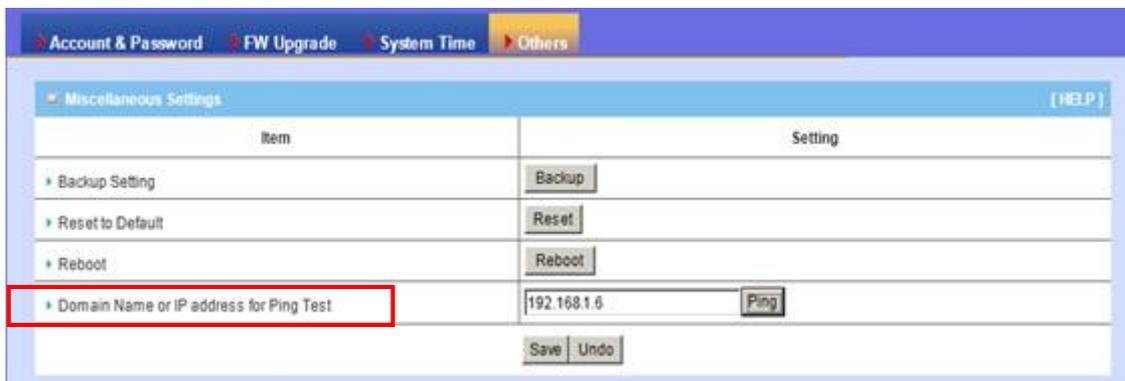
You can also reset this device to factory default settings by clicking the "Reset to default" function item.

6.3.4.3 Reboot



You can also reboot this device by clicking the "Reboot" function item.

6.3.4.4 Domain Name or IP Address for Ping Test



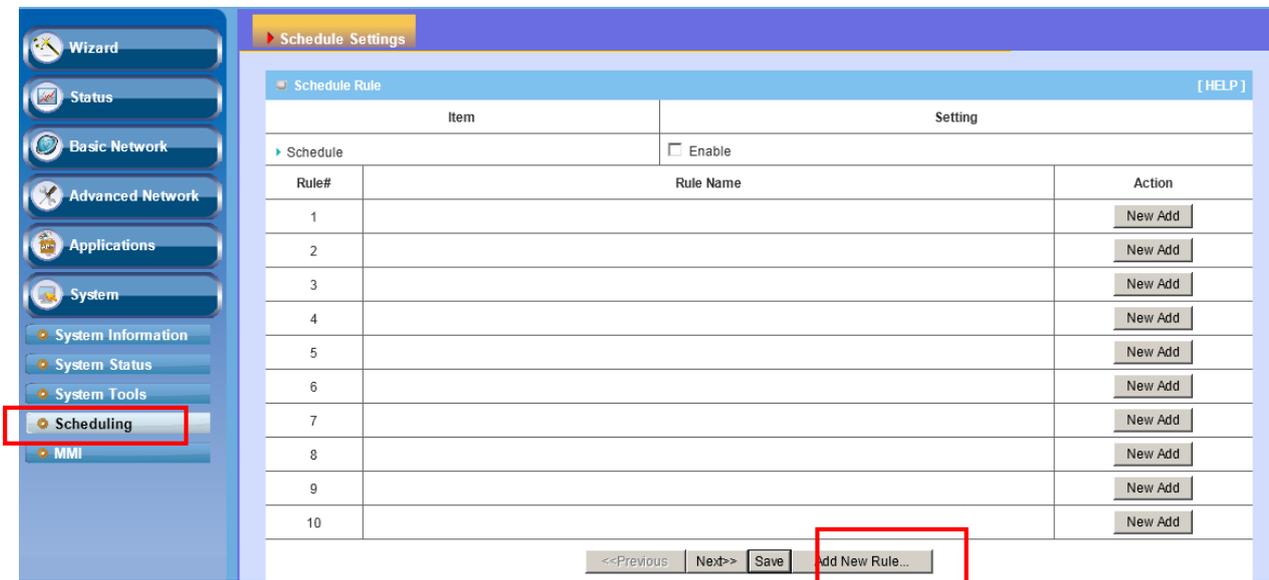
1. Domain Name or IP address for Ping Test allow you to configure an IP,

and ping the device. You can ping a specific IP to test whether it is alive.

Afterwards, click on “**Save**” to store your settings or click “**Undo**” to give up the changes.

6.4 Scheduling

You can set the schedule time to decide which service will be turned on or off. The added rules will be listed and you can decide if you want to enable the set rules by checking or un-checking the “Enable” box in the icon below.



Add New Rule: To create a schedule rule, click the “New Add” button or the “Add New Rule...” button at the bottom in the icon above. When the next icon popped out you can edit the **Name of Rule**, **Policy**, and set the schedule time (**Week day**, **Start Time**, and **End Time**). The following example configures “wake-up time” everyday from 06:00 to 07:00. Afterwards, click “**save**” to store your settings or click “**Undo**” to give up the changes.

Schedule Settings

Schedule Rule Setting [HELP]

Item		Setting	
▶ Name of Rule 1		<input type="text"/>	
▶ Policy		Inactivate <input type="checkbox"/> except the selected days and hours below.	
ID	Week Day	Start Time (hh:mm)	End Time (hh:mm)
1	-- choose one --	<input type="text"/>	<input type="text"/>
2	-- choose one --	<input type="text"/>	<input type="text"/>
3	-- choose one --	<input type="text"/>	<input type="text"/>
4	-- choose one --	<input type="text"/>	<input type="text"/>
5	-- choose one --	<input type="text"/>	<input type="text"/>
6	-- choose one --	<input type="text"/>	<input type="text"/>
7	-- choose one --	<input type="text"/>	<input type="text"/>
8	-- choose one --	<input type="text"/>	<input type="text"/>

Save Undo Back

6.5 MMI

You can set UI administration time-out duration give remote administration host port in this page. When the host port is given please remember to check the enable box and save your settings.

Web UI

Miscellaneous Settings [HELP]

Item	Setting	Enable
▶ Administrator Time-out	<input type="text" value="300"/> seconds (0 to disable)	
▶ Remote Administrator Host : Port	<input type="text"/> / <input type="text"/> : <input type="text"/>	<input type="checkbox"/>

Save Undo

Chapter 7 Troubleshooting

This Chapter provides solutions to problems for the installation and operation of the WNAP4G Router. You can refer to the following if you are having problems.

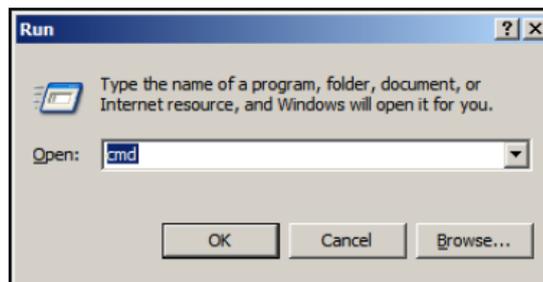
1 Why can't I configure the router even the cable is plugged and the LED is lit?

Do a **Ping test** to make sure that the WiFi Broadband Router is responding.

Note: It is recommended that you use an Ethernet connection to configure it

Go to **Start > Run**.

1. Type **cmd**.



2. Press **OK**.
3. Type **ipconfig** to get the IP of default gateway.
4. Type "**ping 192.168.1.254**". Assure that you ping the correct IP Address assigned to the WiFi Broadband Router. It will show four replies if you ping correctly.

```
Pinging 192.168.1.254 with 32 bytes of data:  
Reply from 192.168.1.254: bytes=32 time<1ms TTL=64  
Reply from 192.168.1.254: bytes=32 time<1ms TTL=64  
Reply from 192.168.1.254: bytes=32 time<1ms TTL=64  
Reply from 192.168.1.254: bytes=32 time<1ms TTL=64
```

Ensure that your Ethernet Adapter is working, and that all network drivers are installed properly. Network adapter names will vary depending on your specific adapter. The installation steps listed below are applicable for all network adapters.

1. Go to **Start > Right click on “My Computer” > Properties**.
2. **Select the Hardware Tab**.
3. Click **Device Manager**.
4. Double-click on **“Network Adapters”**.
5. Right-click on **Wireless Card bus Adapter** or **your specific network adapter**.
6. Select **Properties** to ensure that all drivers are installed properly.
7. Look under **Device Status** to see if the device is working properly.
8. Click **“OK”**.

2 What can I do if my Ethernet connection does not work properly?

- A. Make sure the RJ45 cable connects with the router.
- B. Ensure that the setting on your Network Interface Card adapter is “Enabled”.
- C. If settings are correct, ensure that you are not using a crossover Ethernet cable, not all Network Interface Cards are MDI/MDIX compatible, and use a patch cable is recommended.
- D. If the connection still doesn't work properly, then you can reset it to default.

3 Problems with 3G connection?

A. What can I do if the 3G connection is failed by Auto detection?

Maybe the device can't recognize your ISP automatically. Please select “Manual” mode, and filling in dial-up settings manually.

B. What can I do if my country and ISP are not in the list?

Please choose “Others” item from the list, and filling in dial-up settings manually.

C. What can I do if my 3G connection is failed even the dongle is plugged?

Please check the following items:

- I. Make sure you have inserted a validated SIM card in the 3G data card, and the subscription from ISP is still available
- II. If you activate PIN code check feature in SIM card, making sure the PIN code you fill in dial-up page is correct
- III. Checking with your ISP to see all dial-up settings are correct
- IV. Make sure 3G signal from your ISP is available in your environment

D. What can I do if my router can't recognize my 3G data card even it is plugged?

There might be compatibility issue with some certain 3G cards. Please check the

latest compatibility list to see if your 3G card is already supported.

E. What should I insert in APN, PIN Code, Account, Password, Primary DNS, and Secondary DNS?

The device will show this information after you choose country and Telcom. You can also check these values with your ISP.

F. Which 3G network should I select?

It depends on what service your ISP provide. Please check your ISP to know this information.

G. Why my 3G connection is keep dropping?

Please check 3G signal strength from your ISP in your environment is above middle level.

4 Something wrong with the wireless connection?

A. Can't setup a wireless connection?

- I. Ensure that the SSID and the encryption settings are exactly the same to the Clients.
- II. Move the WNAP4G Router and the wireless client into the same room, and then test the wireless connection.
- III. Disable all security settings such as **WEP**, and **MAC Address Control**.
- IV. Turn off the WNAP4G Router and the client, then restart it and then turn on the client again.
- V. Ensure that the LEDs are indicating normally. If no, make sure that the AC power and Ethernet cables are firmly connected.
- VI. Ensure that the IP Address, subnet mask, gateway and DNS settings are correctly entered for the network.
- VII. If you are using other wireless device, home security systems or ceiling fans, lights in your home, your wireless connection may degrade dramatically. Keep your product away from electrical devices that generate RF noise such as microwaves, monitors, electric motors...

B. What can I do if my wireless client can not access the Internet?

- I. Out of range: Put the router closer to your client.
- II. Wrong SSID or Encryption Key: Check the SSID or Encryption setting.
- III. Connect with wrong AP: Ensure that the client is connected with the correct Access Point.
 - i. **Right-click** on the **Local Area Connection icon** in the taskbar.
 - ii. Select **View Available Wireless Networks in Wireless Configure**.
Ensure you have selected the correct available network.
 - iii. Reset the WNAP4G Router to default setting

C. Why does my wireless connection keep dropping?

- I. Antenna Orientation.
 - i. Try different antenna orientations for the WNAP4G Router.
 - ii. Try to keep the antenna at least 6 inches away from the wall or other objects.
- II. Try changing the channel on the WNAP4G Router, and your Access Point and Wireless adapter to a different channel to avoid interference.
- III. Keep your product away from electrical devices that generate RF noise, like microwaves, monitors, electric motors, etc.

5 What to do if I forgot my encryption key?

1. Go back to advanced setting to set up your Encryption key again.
2. Reset the WNAP4G Router to default setting

6 How to reset to default?

1. Ensure the WNAP4G Router is powered on
2. Find the **Reset** button on the right side
3. Press the **Reset** button for 8 seconds and then release.
4. After the WNAP4G Router reboots, it has back to the factory **default** settings.

Appendix A. Spec Summary Table

Hardware & Port Configuration		CDW571A M-U02
Wireless WAN	USB 2.0 for external 3G/4G modem	1
Ethernet WAN	RJ-45 port, 10/100/1000Mbps, auto-MDI/MDIX	1
Ethernet LAN	RJ-45 port, 10/100/1000Mbps, auto-MDI/MDIX	4
USB Sharing	USB 2.0 for file sharing (shared USB port)	1
Antenna	1.8 dBi SMA antenna	2
WPS Button	For WPS connection	1
Reset Button	Reset setting to factory default	
LED Indication	Status(USB)/ WAN/ WLAN/ LAN1~4	•
Power Jack	DC Power Jack	•
Wireless LAN (WiFi)		
Standard	IEEE 802.11b/g/n compliance	•
SSID	SSID broadcast or in stealth mode	•
Channel	Auto-selection, manually	•
Security	WEP, WPA, WPA2, WPA-PSK, WPA2-PSK	•
WPS/ Wifi On-Off	WPS (Wi-Fi Protected Setup) / Wifi On-Off	•
WMM	WMM (Wi-Fi Multimedia)	•
Functionality		
Wireless WAN	PPP (for WCDMA/HSPA)	•
	PPPoE (for iBurst)	•
Ethernet WAN	PPPoE, DHCP client, Static IP, PPTP, L2TP	•
WAN Connection	Auto-reconnect, dial-on-demand, manually	•
Combo WAN	Auto-Failover, Load Sharing	•
IPv6 support	Dual Stack, 6-in-4, 6-to-4, Static IPv6	•
One-to-Many NAT	Virtual server, special application, DMZ	•
SPI Firewall	IP/Service filter, URL blocking, MAC control	•
DoS Protection	DoS (Deny of Service) detection	•
Routing Protocol	Static route, dynamic route (RIP v1/v2)	•
Storage/File Sharing	FAT16/FAT32, EXT2, NTFS (Read only)	•
	Samba server, FTP server	
Media server	UPnP AV media server, iTunes server	•
Management	SNMP, UPnP IGD, syslog	•
Administration	Web-based UI, remote login, backup/restore	•

	setting	
Environment & Certification		
Package Content	WNAP4G, DC 5V/2A power adapter, RJ-45 cable, USB cable, CD (Manual, Utility)	•
Operation Temp.	Temp.: 0~40°C, Humidity 10%~90% non-condensing	•
Storage Temp.	Temp.: -10~70°C, Humidity: 0~95% non-condensing	•
CE, FCC, RoHS	CE/FCC, RoHS compliance	•

*Specifications are subject to change without prior notice

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- dhcpcd-1.3
- ISC DHCP V2 P5
- util-linux 2.12b for fdisk application
- e2fsprogs 1.27
- mini-lpd
- samba 2.2.7a
- syslogd spread from busybox
- wireless tools
- ntpclient of NTP client implementation
- RT61apd for 802.1X application
- vsftpd-2.0.3
- quota-tools 3.13
- GNU Wget

Availability of source code

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