

User Manual

**CDW530AM
WiFi Combo Router**

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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.


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Chapter 1 . Introduction

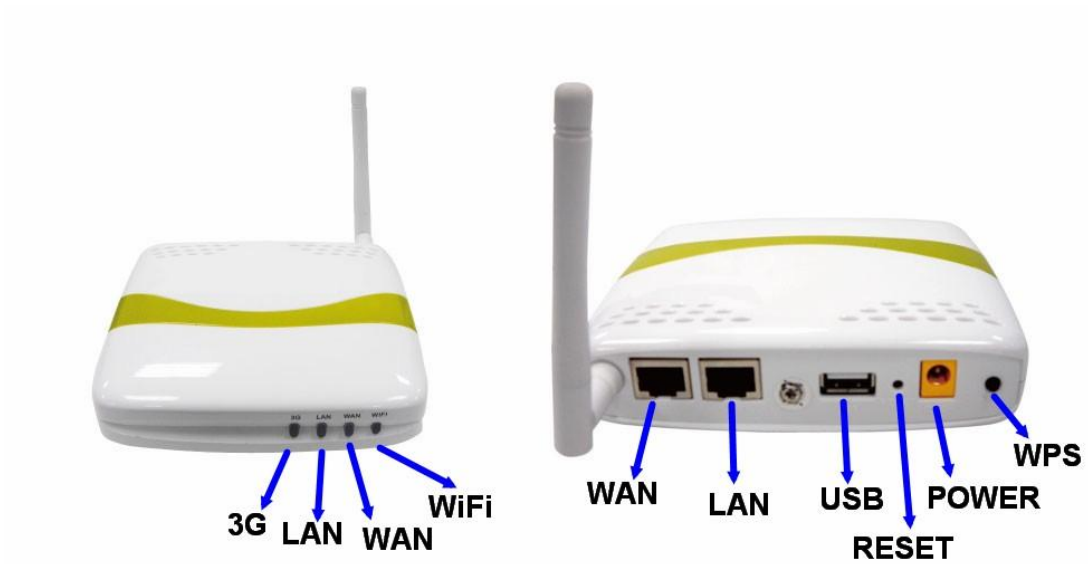
Congratulations on your purchase of this outstanding product: CDW530AM WiFi Combo Router. This product is specifically designed for those who need to have the internet access beyond his home and office. It provides a complete solution for Internet surfing and broadband sharing. Instructions for installing and configuring this product can be found in this manual. Before you install and use this product, please read this manual carefully for fully exploiting the functions of this product.

1.1 Package List

Items	Description	Contents	Quantity
1	WiFi Combo Router		1
2	RJ45 Cable		1
3	Power adapter		1
4	CD		1
5	Sponge		2
6	Quick Installation Guide		1
7	Stand		1

1.2 Hardware Installation

1.2.1 Hardware configuration



1.2.2 LED indicators

LED indicator:

	LED Status	Description
3G LED	Green	3G/3.5G is on.
	Green in flash	Data access
WAN LED	Green	It is connected to local Ethernet.
	Green in flash	Data access
LAN LED	Green	RJ45 cable is plugged, and Ethernet connection is established.
	Green in flash	Data access
WiFi LED	Green	WLAN is available.
	Green in flash	Data access

1.2.3 Installation Steps

Step 1. Attach the antenna:

Screw the antenna in a clockwise direction to the back panel of the unit.



DO NOT connect WiFi Combo Router to power before performing the installation steps below.

Step 2. Insert the USB modem to the router:

Plug your USB modem which is with activated SIM card provided by your 3G service provider. to the USB interface.

Step 3. Connect with the Ethernet patch cable:

Insert the Ethernet cable into RJ45 Ethernet Port on the back panel. And then plug the other end of RJ45 into the computer or Laptop computer. The Ethernet LED will show green color if the Ethernet connection is normally connected.

Step 4. Connect the power adapter:

Plug the other end of the power adapter into a wall outlet.

Step 5. Start to configure the device:

You can start to configure the device via the Easy Setup.
(see Easy Setup Utility)

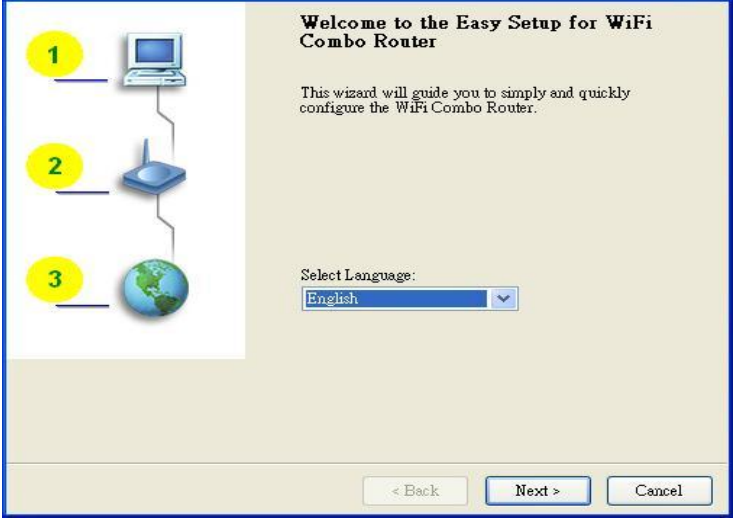
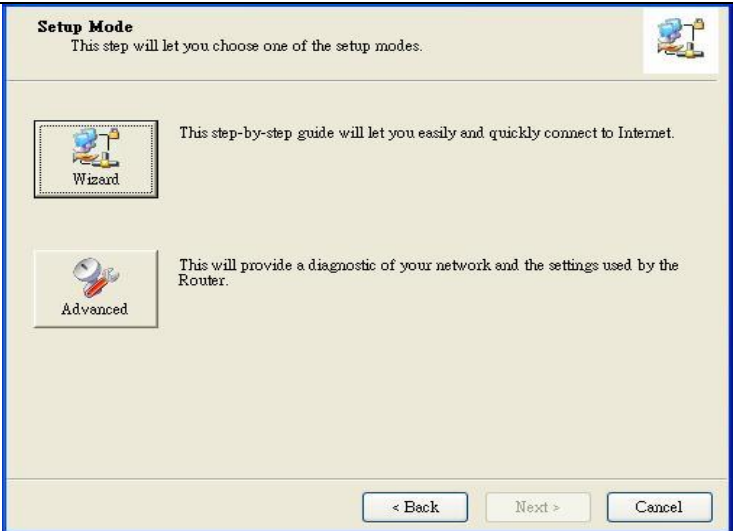






User Manual
→ Utility
Quick Installation Guide
Exit

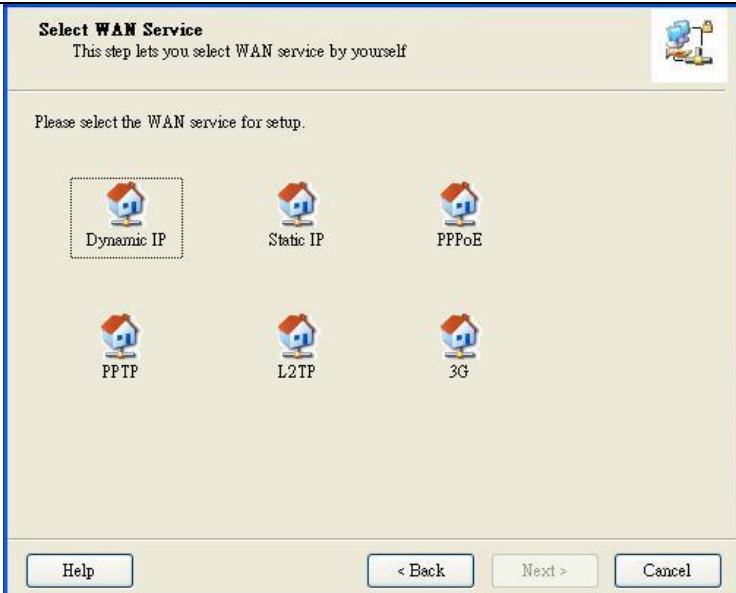
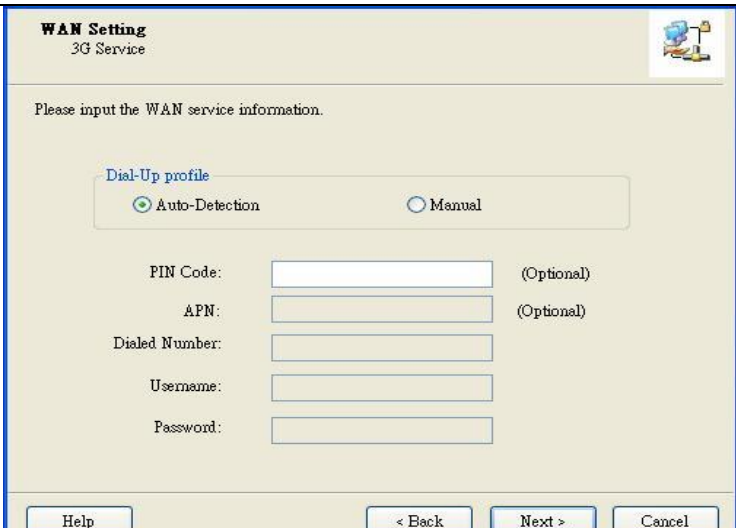
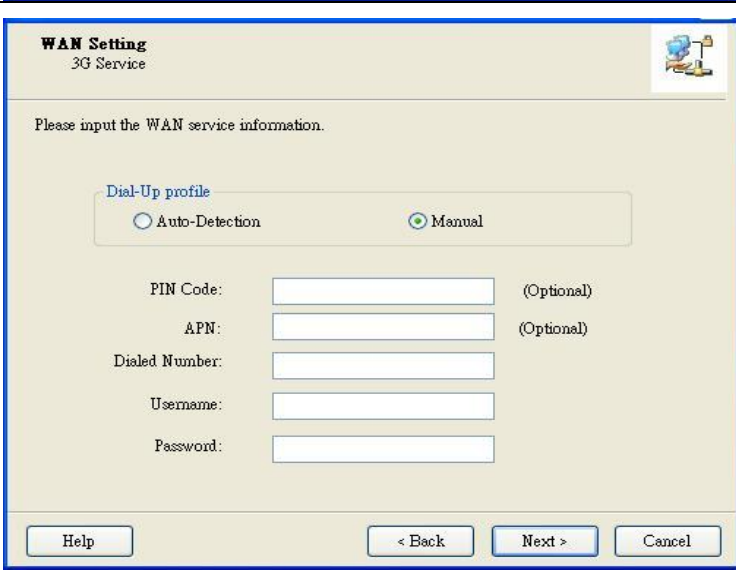
Chapter 2 . Getting Started

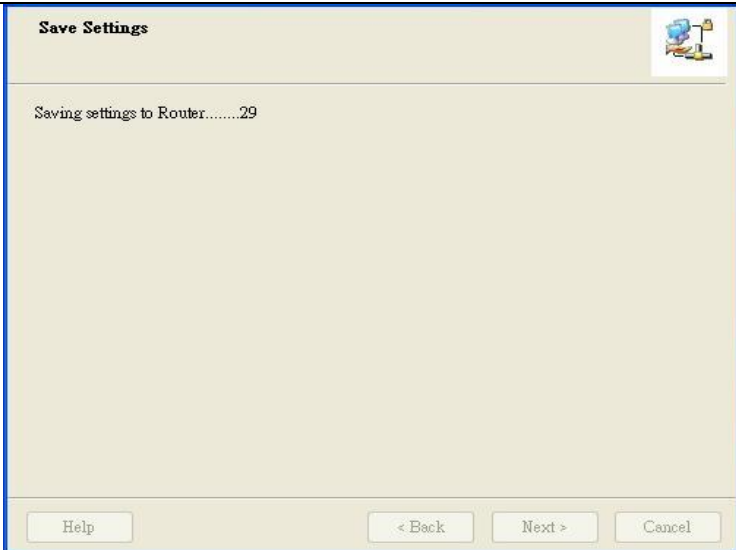
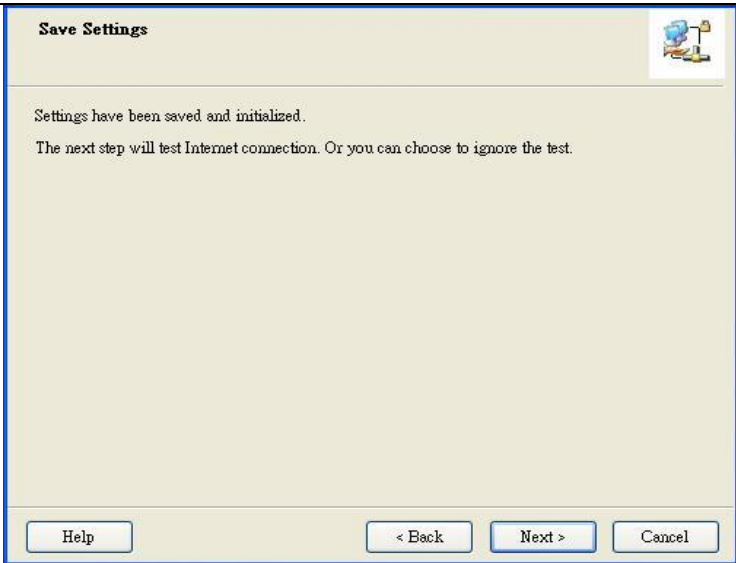
There are two approaches for you to set up the WiFi Combo Router quickly and easily. One is through executing the provided Windows Easy Setup Utility on your PC, and the other is through browsing the web pages of device and configuration.

2.1 Easy Setup by Windows Utility


<p>Step 1 : Install the Easy Setup Utility from the provided CD then follow the steps to configure the device.</p> <p>Step 2 : Select Language then click “Next” to continue.</p>	 <p>Welcome to the Easy Setup for WiFi Combo Router</p> <p>This wizard will guide you to simply and quickly configure the WiFi Combo Router.</p> <p>Select Language: English</p> <p>< Back Next > Cancel</p>
<p>Step 3 : Then click the “Wizard” to continue.</p>	 <p>Setup Mode This step will let you choose one of the setup modes.</p> <p>Wizard This step-by-step guide will let you easily and quickly connect to Internet.</p> <p>Advanced This will provide a diagnostic of your network and the settings used by the Router.</p> <p>< Back Next > Cancel</p>

<p>Step 4 : Click "Next" to continue.</p>	<div data-bbox="633 189 1364 756"> <p>Prepare Setup This step will make sure connection can be established between your PC and Router </p> <p>Please make sure the following items.</p> <ol style="list-style-type: none"> 1. Make sure the Router is powered on. 2. Make sure your network adapter is connected to the LAN port of the Router. 3. Make sure your network adapter has an IP address.  <p>Help < Back Next > Cancel</p> </div>
<p>Step 5 : Select Wireless Enable, and then click "Next" to continue.</p>	<div data-bbox="633 777 1364 1323"> <p>This step will setup your basic wireless network settings. </p> <p>This will provide you with a basic workable setting for your wireless. You can also select to do it later.</p> <p>Wireless: <input type="button" value="Enable"/> <input type="button" value="Disable"/> <input type="button" value="Enable"/></p> <p><input type="checkbox"/> Do not set at this time.</p> <p>Help < Back Next > Cancel</p> </div>
<p>Step 6 : Enter SSID, Channel and Security options, and then click "Next" to continue.</p>	<div data-bbox="633 1344 1364 1890"> <p>This step will setup your basic wireless network settings. </p> <p>Please assign the parameters to your wireless networking. If you need more settings, please login to the Gateway's configuration page.</p> <p>SSID: <input type="text" value="default"/></p> <p>Channel: <input type="button" value="6"/></p> <p>Security: <input type="button" value="WEP"/></p> <p>Key: <input type="text" value="*****"/></p> <p>Help < Back Next > Cancel</p> </div>


<p>Step 7 : Select 3G Service by clicking 3G icon to continue.</p>	
<p>Step 8-1 : Select "Auto-Detection", and the Utility will try to detect and configure the required 3G service settings automatically. Click "Next" to continue. Default PIN Code is empty, if you have PIN Code, you must enter it. For example "0000". If no, just Click "Next" to continue.</p>	
<p>Step 8-2 : Or you can select "Manual" and manually fill in the required 3G service settings provided by your ISP. Click "Next" to continue.</p>	

<p>Step 9 : The WiFi Combo Router is rebooted to make your entire configuration take effect.</p>	
<p>Step 10 : Click "Next" to test the Internet connection or you can ignore test.</p>	
<p>Step 11 : Click "Next" to test WAN Networking service.</p>	

Step 12 :
Congratulations!
Setup is completed.
Now you have already
connected to Internet
successfully.

Setup Completed 

The Router is configured, and the WAN service functionality is working

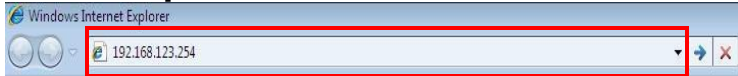


2.2 Easy Setup by Configuring Web Pages

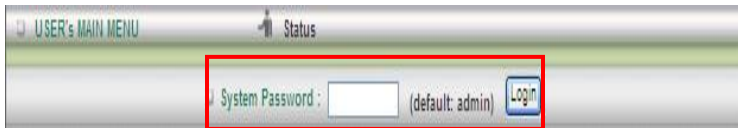
You can also browse UI of the web to configure the device.

Browse to Activate the Setup Wizard

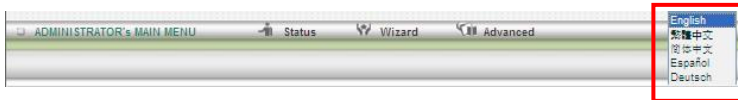
Type in the IP Address
(<http://192.168.123.254>)



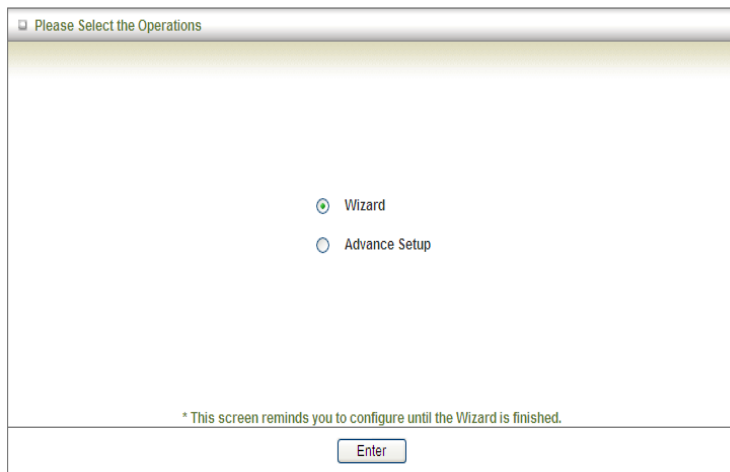
Type the default
password 'admin' in the
System Password and
then click 'login' button.



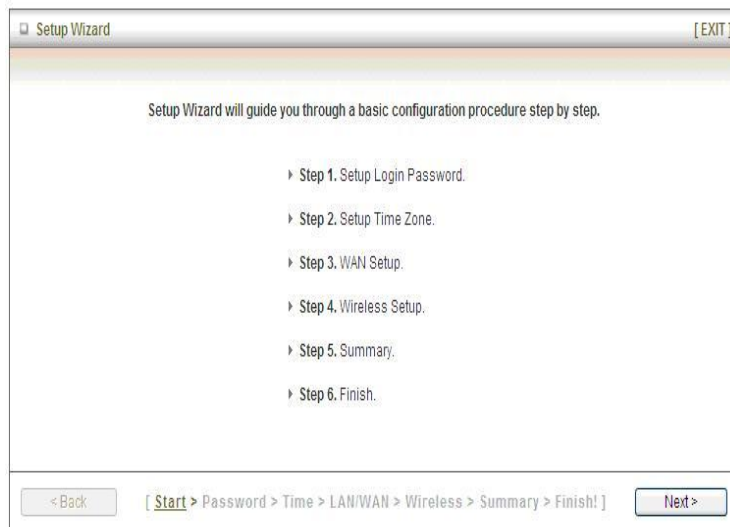
Select your language.



Select "Wizard" for basic
settings in simple way.



Press "Next" to start the
Setup Wizard.



Configure with the Setup Wizard

Step 1:

Setup login password.
Enter your system
password.

The screenshot shows a window titled "Setup Wizard - Setup Login Password" with a close button "[EXIT]" in the top right corner. The main area contains three input fields, each preceded by a right-pointing arrow: "Old Password", "New Password", and "Reconfirm". Below the input fields is a navigation bar with a "< Back" button, a breadcrumb path "[Start > Password > Time > LAN/WAN > Wireless > Summary > Finish!]", and a "Next >" button.

Step 2:

Select Time Zone.

The screenshot shows a window titled "Setup Wizard - Setup Time Zone" with a close button "[EXIT]" in the top right corner. The main area features a dropdown menu displaying "(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi". Below the dropdown is a "Detect Again" button. The navigation bar at the bottom includes a "< Back" button, a breadcrumb path "[Start > Password > Time > LAN/WAN > Wireless > Summary > Finish!]", and a "Next >" button.

Step 3:

Setup Wan Type.

The screenshot shows a window titled "Setup Wizard - Select WAN Type" with a close button "[EXIT]" in the top right corner. The main area contains two radio button options: "Auto Detecting WAN Type" (which is selected) and "Setup WAN Type Manually". The navigation bar at the bottom includes a "< Back" button, a breadcrumb path "[Start > Password > Time > LAN/WAN > Wireless > Summary > Finish!]", and a "Next >" button.

Step 4:

Select LAN IP address and 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”.

The screenshot shows the 'Setup Wizard - Select WAN Type' window. It has a title bar with a close button and '[EXIT]'. The main area contains three fields: 'LAN IP Address' with the value '192.168.123.254', 'WAN Interface' with a dropdown menu set to 'Wireless WAN', and 'WAN Type' with a dropdown menu set to '3G'. At the bottom, there is a navigation bar with a '< Back' button, a breadcrumb trail '[Start > Password > Time > LAN/WAN > Wireless > Summary > Finish!]', and a 'Next >' button.

Step 5-1:

Set up 3G Dial-up profile.
If you select Auto-Detection and know the default pin code please fill in the blank. If not, leave it empty.

The screenshot shows the 'Setup Wizard - 3G' window. It has a title bar with a close button and '[EXIT]'. The main area contains two fields: 'Dial-Up Profile' with radio buttons for 'Auto-Detection' (selected) and 'Manual', and 'PIN Code' with an empty text box and '(optional)' label. At the bottom, there is a navigation bar with a '< Back' button, a breadcrumb trail '[Start > Password > Time > LAN/WAN > Wireless > Summary > Finish!]', and a 'Next >' button.

Step 5-2:

If you select “Manual” Dial-up Profile, please fill in the Country and Telecom information that you subscribed. However,

The screenshot shows the 'Setup Wizard - 3G' window. It has a title bar with a close button and '[EXIT]'. The main area contains several fields: 'Dial-Up Profile' with radio buttons for 'Auto-Detection' and 'Manual' (selected); 'Country' with a dropdown menu set to 'Albania'; 'Telecom' with a dropdown menu set to 'Vodafone'; '3G Network' with a dropdown menu set to 'WCDMA/HSPA'; 'APN' with an empty text box and '(optional)' label; 'PIN Code' with an empty text box and '(optional)' label; 'Dialled Number' with the value '#777'; 'Account' with the value '980192905@apbw.vpn02' and '(optional)' label; and 'Password' with a masked text box (four dots) and '(optional)' label. At the bottom, there is a navigation bar with a '< Back' button, a breadcrumb trail '[Start > Password > Time > LAN/WAN > Wireless > Summary > Finish!]', and a 'Next >' button.

Step 6:
 Set up your Wireless Settings.
 Type your network ID in the blank of SSID.

Setup Wizard - Wireless settings [EXIT]

Wireless Module Enable Disable

Network ID(SSID) default

Channel 6

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

Step 7:
 Set up Wireless Security.
 Enter your Authentication and Encryption

Setup Wizard - Wireless settings [EXIT]

Authentication Auto

Encryption WEP

WEP Key 1 HEX 1234567890

WEP Key 2 HEX 1234567890

WEP Key 3 HEX 1234567890

WEP Key 4 HEX 1234567890

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

Step 7:
 Apply your Setting.
 Confirm the information you set up in User Interface. If it is correct, please click 'Apply settings'.

Setup Wizard - Summary [EXIT]

Please confirm the information below

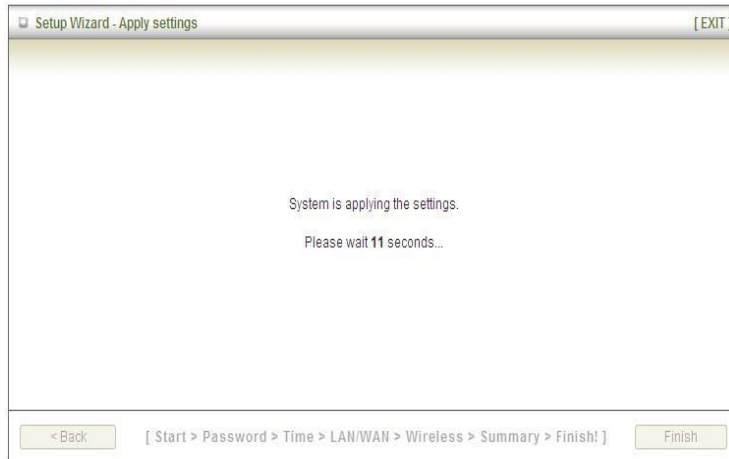
[WAN Setting]	
WAN Type	3G
APN	-
PIN Code	-
Dialed Number	#777
Username	800192905@apbw.vpn02
Password	*****
[Wireless Setting]	
Wireless	Enable
SSID	default
Channel	6
Authentication	Auto (Open/Shared)
Encryption	WEP
WEP Key	1234567890

Do you want to proceed the network testing?

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

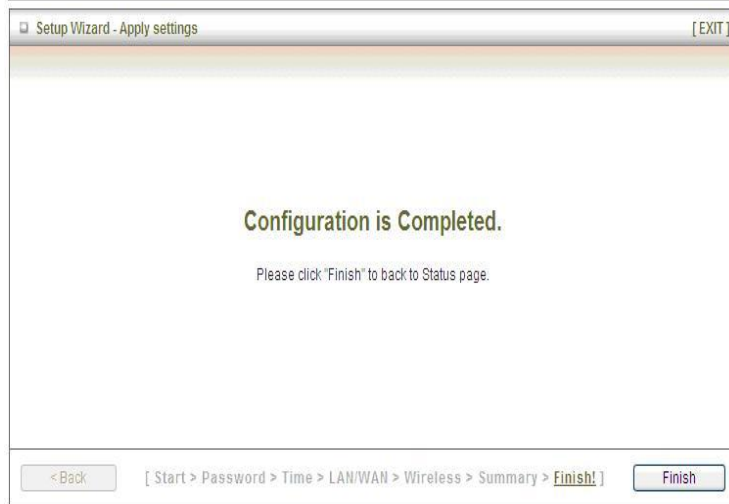
Step 8:

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



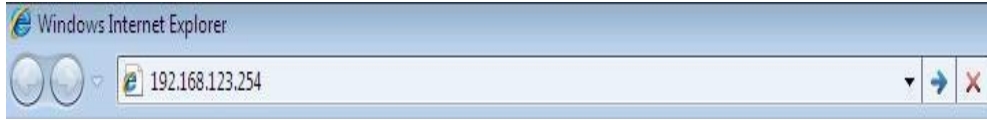
Step 9

Click Finish to complete it.

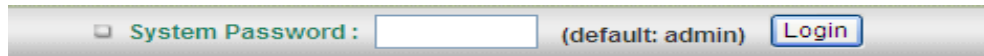


Chapter 3 . Making Configuration

Whenever you want to configure your network or this device, you can access the Configuration Menu by opening the web-browser and typing in the IP Address of the device. The default IP Address is: 192.168.123.254.



Enter the default password “admin” in the System Password and then click ‘login’ button.



Afterwards, select ‘Advanced’ indicated in the user interface for further configuring this device. In the “Advanced” page, it could be categorized four sections, respectively Basic Setting, Forwarding Rules, Security Setting, and Advanced Setting.

3.1 Basic Setting



3.1.1 Network Setup

There are two ways to configure the network, respectively LAN Setup and Internet setup.

3.1.1.1 LAN type

LAN Setup	
Item	Setting
▶ LAN IP Address	192.168.123.254
▶ Subnet Mask	255.255.255.0

1. **LAN IP Address:** The local IP address of this device. The computer 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.

3.1.1.1 Internet Setup

1. **WAN Interface:** Select Ethernet WAN or Wireless WAN to continue.
2. **WAN Type:** WAN connection type of your ISP. You can click WAN Type combo button to choose a correct one from the following options:

Wireless WAN

A. 3G

Internet Setup [HELP]	
WAN Interface:	Wireless WAN
WAN Type:	3G
Dial-Up Profile:	<input type="radio"/> Auto-Detection <input checked="" type="radio"/> Manual
Country:	Albania
Telecom:	Vodafone
3G Network:	WCDMA/HSPA
APN:	<input type="text"/> (optional)
PIN Code:	<input type="text"/> (optional)
Dial Number:	#777
Account:	<input type="text"/> (optional)
Password:	<input type="text"/> (optional)
Authentication:	<input checked="" type="radio"/> Auto <input type="radio"/> PAP <input type="radio"/> CHAP
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"/> seconds
	Max. Retries: <input type="text"/> times
<input type="radio"/> Ping Remote Host	
Host IP: <input type="text"/>	
Interval: <input type="text"/> seconds	
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

For 3G WAN Networking. The WAN fields may not be necessary for your connection. The information on this page will only be used when your service provider requires you to enter a User Name and Password to connect with the 3G network.

Please refer to your documentation or service provider for additional information.

1. **Dial-Up Profile:** Select “Auto-Detection” or “Manual” to continue. If “Auto-Detection” is

selected, the device will try to configure some ISP specific dial-up parameters automatically. However, if you choose "Manual", you must enter the following information.

2. **Country:** Select your country.
3. **Telecom:** Select your telecom.
4. **3G Network:** Select the 3G Network
5. **APN:** Enter the APN for your PC card here.(Optional)
6. **Pin Code:** Enter the Pin Code for your SIM card. (Optional)
7. **Dial-Number:** This field should not be altered except when required by your service provider.
8. **Account:** Enter the new User Name for your PC card here, you can contact to your ISP to get it. (Optional)
9. **Password:** Enter the new Password for your PC card here, you can contact to your ISP to get it. (Optional)
10. **Authentication:** Choose your authentication.
11. **Primary DNS:** This feature allows you to assign a Primary DNS Server, contact to your ISP to get it. (Optional)
12. **Secondary DNS:** This feature allows you to assign a Secondary DNS Server, you can contact to your ISP to get it. (Optional)
13. **Connection Control:** Select your connection control. There are 3 modes to select:
 - Connect-on-demand: The device will link up with ISP when the clients send outgoing packets.
 - Auto Reconnect (Always-on): The device will link with ISP until the connection is established.
 - Manually: The device will not make the link until someone clicks the connect-button in the Status-page.
14. **Allowed Connection Time:** The router would be continually connected if you click on the "Always". However, if you would like to make the router connected within certain time, you have to choose "By Schedule" and select the Name of Rule you set up in Scheduling or click the button of Add.
15. **Alive:** This feature must collocate with the function "Auto" of "Auto Connect". Enable it to keep the connection always be established.
 - LCP Echo Request: Enter the time interval and the maximum failure count. The device will constantly send out the LCP packets for keeping the connection alive.
 - Ping Remote Host: Enter the Remote host IP and the time interval to send the ping packets for keeping the connection alive.

B. iBurst

Internet Setup [HELP]	
▶ WAN Interface	Wireless WAN
▶ WAN Type	iBurst
▶ Account	<input type="text"/>
▶ Password	<input type="password"/>
▶ 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
<input type="button" value="Save"/> <input type="button" value="Undo"/>	

1. **Primary DNS:** This feature allows you to assign a Primary DNS Server, contact to your ISP to get it. (Optional)
2. **Secondary DNS:** This feature allows you to assign a Secondary DNS Server, you can contact to your ISP to get it. (Optional)
3. **Account:** Enter the new User Name for your PC card here, you can contact to your ISP to get it. (Optional)
4. **Password:** Enter the new Password for your PC card here, you can contact to your ISP to get it. (Optional)
5. **Connection Control:** Select your connection control. There are 3 modes to select:
 - Connect-on-demand: The device will link up with ISP when the clients send outgoing packets.
 - Auto Reconnect (Always-on): The device will link with ISP until the connection is established.
 - Manually: The device will not make the link until someone clicks the connect-button in the Status-page.
6. **Maximum Idle Time:** The time of no activity to disconnect your iBurst session. Set it to zero or enable "Auto-reconnect" to disable this feature. If Auto-reconnect is enabled, this device will connect with ISP automatically after system is restarted or connection is dropped.
7. **Service Name:** Input the service name if your ISP requires it.
8. **Assigned IP Address:** It is required by some ISPs. (Optional)
9. **MTU:** Most ISP offers MTU value to users. The default MTU value is 0 (auto).
10. **NAT disable:** The device would not send private IP to other LAN PC if you select disable.

Ethernet WAN

A. Static IP Address

Internet Setup [HELP]	
▶ WAN Interface	Ethernet WAN ▾
▶ WAN Type	Static IP Address ▾
▶ Activate WWAN for Auto-Failover	<input type="checkbox"/> Enable Remote Host for keep alive: <input type="text"/>
▶ WAN IP Address	<input type="text"/>
▶ WAN Subnet Mask	<input type="text"/>
▶ WAN Gateway	<input type="text"/>
▶ Primary DNS	<input type="text"/>
▶ Secondary DNS	<input type="text"/>
▶ NAT disable	<input type="checkbox"/> Enable
<input type="button" value="Save"/> <input type="button" value="Undo"/>	

1. **Activate WWAN for Auto-Failover:** With this function enabled, when the Ethernet WAN connection is broken, the device will automatically activate the WWAN connection and keep you connected to internet with the alternative WWAN broadband service. Meanwhile, if the device detected that the Ethernet WAN connection is recovered, your broadband connection will be switched to use the Ethernet WAN service.
2. **WAN IP Address, Subnet Mask, Gateway, Primary and Secondary DNS:** Enter the proper settings provided by your ISP.
3. **NAT disable:** The device would not send private IP to other LAN PC if you select disable.

B. Dynamic IP Address

Internet Setup [HELP]	
▶ WAN Interface	Ethernet WAN ▼
▶ WAN Type	Dynamic IP Address ▼
▶ Activate WWAN for Auto-Failover	<input type="checkbox"/> Enable Remote Host for keep alive: <input type="text"/>
▶ Host Name	<input type="text"/> (optional)
▶ ISP registered MAC Address	<input type="text"/> <input type="button" value="Clone"/>
▶ Connection Control	Connect-on-Demand ▼
▶ NAT disable	<input type="checkbox"/> Enable
<input type="button" value="Save"/> <input type="button" value="Undo"/>	

1. **Activate WWAN for Auto-Failover:** With this function enabled, when the Ethernet WAN connection is broken, the device will automatically activate the WWAN connection and keep you connected to internet with the alternative WWAN broadband service. Meanwhile, if the device detected that the Ethernet WAN connection is recovered, your broadband connection will be switched to use the Ethernet WAN service.
2. **Host Name:** Optional, required by some ISPs, for example, @Home.
3. **ISP registered MAC Address:** Enter MAC address of your ISP. (Optional)
4. **Connection Control:** There are 3 modes to select:
 - Connect-on-demand:** The device will link up with ISP when the clients send outgoing packets.
 - Auto Reconnect (Always-on):** The device will link with ISP until the connection is established.
 - Manually:** The device will not make the link until someone clicks the connect-button in the Status-page.
5. **NAT disable:** The device would not send private IP to other LAN PC if you select disable.

C. PPP over Ethernet

Internet Setup [HELP]	
▶ WAN Interface	Ethernet WAN
▶ WAN Type	PPP over Ethernet
▶ Activate WWAN for Auto-Failover	<input type="checkbox"/> Enable Remote Host for keep alive: <input type="text"/>
▶ PPPoE Account	<input type="text"/>
▶ PPPoE Password	*****
▶ Primary DNS	<input type="text"/>
▶ Secondary DNS	<input type="text"/>
▶ Connection Control	Connect-on-Demand
▶ Maximum Idle Time	600 seconds
▶ PPPoE Service Name	<input type="text"/> (optional)
▶ Assigned IP Address	<input type="text"/> (optional)
▶ MTU	0 (0 is auto)
▶ NAT disable	<input type="checkbox"/> Enable
<input type="button" value="Save"/> <input type="button" value="Undo"/>	

1. **Activate WWAN for Auto-Failover:** With this function enabled, when the Ethernet WAN connection is broken, the device will automatically activate the WWAN connection and keep you connected to internet with the alternative WWAN broadband service. Meanwhile, if the device detected that the Ethernet WAN connection is recovered, your broadband connection will be switched to use the Ethernet WAN service.
2. **PPPoE Account and Password:** The account and password your ISP assigned to you. For security, this field appears blank. If you don't want to change the password, leave it blank.
3. **Connection Control:** There are 3 modes to select:
 - Connect-on-demand:** The device will link up with ISP when the clients send outgoing packets.
 - Auto Reconnect (Always-on):** The device will link with ISP until the connection is established.
 - Manually:** The device will not make the link until someone clicks the connect-button in the Status-page.
4. **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.
5. **PPPoE Service Name:** Optional. Input the service name if your ISP requires it. Otherwise, leave it blank.
6. **Assigned IP Address:** It is required by some ISPs. (Optional)
7. **Maximum Transmission Unit (MTU):** Most ISP offers MTU value to users. The default MTU value is 0 (auto).

8. **NAT disable:** The device would not send private IP to other LAN PC if you select disable.

D. PPTP

Internet Setup [HELP]	
▶ WAN Interface	Ethernet WAN
▶ WAN Type	PPTP
▶ Activate WWAN for Auto-Failover	<input type="checkbox"/> Enable Remote Host for keep alive: <input type="text"/>
▶ 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	*****
▶ Connection ID	<input type="text"/> (optional)
▶ Maximum Idle Time	600 seconds
▶ Connection Control	Connect-on-Demand
▶ MTU	0 (0 is auto)
<input type="button" value="Save"/> <input type="button" value="Undo"/>	

1. **Activate WWAN for Auto-Failover:** With this function enabled, when the Ethernet WAN connection is broken, the device will automatically activate the WWAN connection and keep you connected to internet with the alternative WWAN broadband service. Meanwhile, if the device detected that the Ethernet WAN connection is recovered, your broadband connection will be switched to use the Ethernet WAN service
2. **IP Mode:** Please check the IP mode your ISP assigned, and select "Static IP Address" or "Dynamic IP Address".
3. **My IP Address** and **My Subnet Mask:** The private IP address and subnet mask your ISP assigned to you.
4. **Gateway IP** and **Server IP Address/Name:** The IP address of the PPTP server and designated Gateway provided by your ISP.
5. **PPTP Account** and **Password:** The account and password your ISP assigned to you. If you don't want to change the password, keep it blank.
6. **Connection ID:** Optional. Input the connection ID if your ISP requires it.
7. **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. If Auto-reconnect is enabled, this

device will connect with ISP automatically after system is restarted or connection is dropped.

8. **Connection Control:** There are 3 modes to select:

Connect-on-demand: The device will link up with ISP when the clients send outgoing packets.

Auto Reconnect (Always-on): The device will link with ISP until the connection is established.

Manually: The device will not make the link until someone clicks the connect-button in the Status-page.

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

E. L2TP

Internet Setup [HELP]	
WAN Interface	Ethernet WAN
WAN Type	L2TP
Activate WWAN for Auto-Failover	<input type="checkbox"/> Enable Remote Host for keep alive: <input type="text"/>
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="password"/>
Maximum Idle Time	600 seconds
Connection Control	Connect-on-Demand
MTU	0 (0 is auto)
<input type="button" value="Save"/> <input type="button" value="Undo"/>	

- Activate WWAN for Auto-Failover:** With this function enabled, when the Ethernet WAN connection is broken, the device will automatically activate the WWAN connection and keep you connected to internet with the alternative WWAN broadband service. Meanwhile, if the device detected that the Ethernet WAN connection is recovered, your broadband connection will be switched to use the Ethernet WAN service
- IP Mode:** Please check the IP mode your ISP assigned, and select "Static IP Address" or "Dynamic IP Address".
- My IP Address and My Subnet Mask:** The private IP address and subnet mask your ISP

assigned to you.

4. **Gateway IP** and **Server IP Address/Name**: The IP address of the L2TP server and designated Gateway provided by your ISP.
5. **L2TP Account** and **Password**: The account and password your ISP assigned to you. If you don't want to change the password, keep it blank.
6. **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. If Auto-reconnect is enabled, this device will connect with ISP automatically, after system is restarted or connection is dropped.
7. **Connection Control**: There are 3 modes to select:
 - Connect-on-demand**: The device will link up with ISP when the clients send outgoing packets.
 - Auto Reconnect (Always-on)**: The device will link with ISP until the connection is established.
 - Manually**: The device will not make the link until someone clicks the connect-button in the Status-page.
8. **Maximum Transmission Unit (MTU)**: Most ISP offers MTU value to users. The default MTU value is 0 (auto).

3.1.2 DHCP Server

DHCP Server [HELP]	
Item	Setting
▶ DHCP Server	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
▶ IP Pool Starting Address	<input type="text" value="100"/>
▶ IP Pool Ending Address	<input type="text" value="200"/>
▶ Lease Time	<input type="text" value="86400"/> Seconds
▶ Domain Name	<input type="text"/>

1. **DHCP Server**: Choose either **Disable** or **Enable**. If you enable the DHCP Server function, the following settings will be effective.
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.

Press “**More>>**” and you can find more settings.

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.

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

DHCP Clients List					
IP Address	Host Name	MAC Address	Type	Lease Time	Select
192.168.123.100	joseph	00-0B-6A-F4-40-D6	Wired	23:59:34	<input type="checkbox"/>

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

Fixed Mapping				[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"/>	

3.1.3 Wireless Settings

Wireless Setting [HELP]	
Item	Setting
Wireless Module	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Network ID(SSID)	default
SSID Broadcast	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Channel	6
Wireless Mode	B/G/N mixed
Authentication	Auto
Encryption	WEP
<input checked="" type="radio"/> WEP Key 1	HEX 1234567890
<input type="radio"/> WEP Key 2	HEX 1234567890
<input type="radio"/> WEP Key 3	HEX 1234567890
<input type="radio"/> WEP Key 4	HEX 1234567890
<input type="button" value="Save"/> <input type="button" value="Undo"/> <input type="button" value="WDS Setting..."/> <input type="button" value="WPS Setup..."/> <input type="button" value="Wireless Client List..."/>	

Wireless settings allow you to set the wireless configuration items.

1. **Wireless Module:** You can enable or disable wireless function.
2. **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”)
3. **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 can not find the device from beacons.
4. **Channel:** The radio channel number. The permissible channels depend on the Regulatory Domain. The factory default setting is as the following: channel 6 for North America; channel 7 for European (ETSI); channel 7 for Japan.
5. **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”.
6. **Authentication mode:** You may select one of the following authentications to secure your wireless network: Open, Shared, Auto, WPA-PSK, WPA, WPA2-PSK, WPA2, WPA-PSK/WPA2-PSK, or WPA /WPA2.

- **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.
- **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.
- **Auto**

The AP will Select the Open or Shared by the client's request automatically.
- **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
- **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.
- **WPA2-PSK**

WPA2-PSK user AES and TKIP for Same the encryption, the others are same as the WPA2-PSK.
- **WPA-PSK/WPA2-PSK**

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

- **WPA/WPA2**

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

Press **“WDS Setting”** and It allows PC to get connected to wireless network within the area.

WDS Setting [HELP]	
Item	Setting
▶ Wireless Bridging	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
▶ Remote AP MAC 1	<input type="text"/>
▶ Remote AP MAC 2	<input type="text"/>
▶ Remote AP MAC 3	<input type="text"/>
▶ Remote AP MAC 4	<input type="text"/>
▶ Encryption type	WEP ▼
▶ Encryption key	<input type="text"/>
<input type="button" value="Save"/> <input type="button" value="Undo"/> <input type="button" value="Back"/>	

1. **Wireless Bridging:** You could enable this function by selecting “Enable”.
2. **Remote AP MAC 1~Remote AP MAC 2:** Enter the wireless MAC into the blank.
3. **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.
4. **Encryption key:** Set up encryption key based on the rule of encryption type. Once you set up encryption, second LAN PC must enter the same encryption type as the first one.

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

Wi-Fi Protected Setup	
Item	Setting
▶ WPS	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
▶ AP PIN	22192677 <input type="button" value="Generate New PIN"/>
▶ Config Mode	Registrar ▼
▶ Config Status	CONFIGURED <input type="button" value="Release"/>
▶ Config Method	Push Button ▼
▶ WPS status	NOUSED
<input type="button" value="Save"/> <input type="button" value="Trigger"/> <input type="button" value="Cancel"/>	

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”.

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

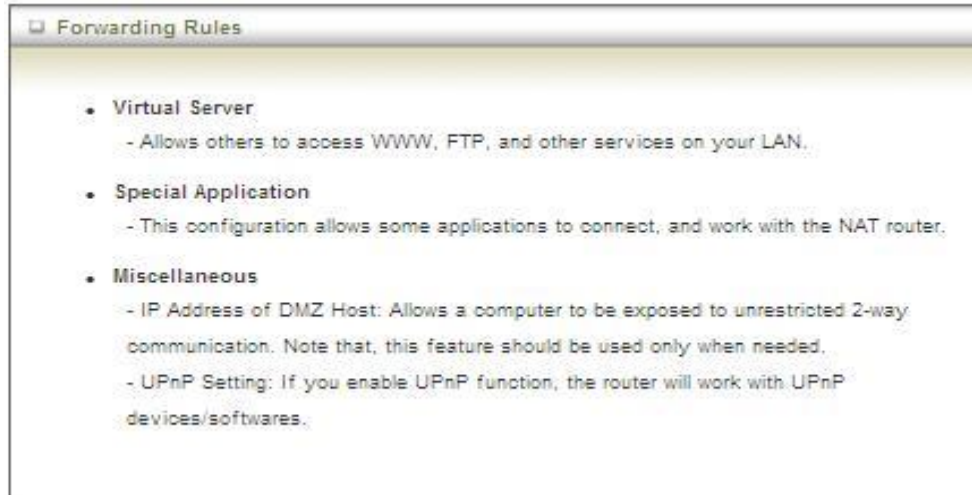
Wireless Clients List	
ID	MAC Address
<input type="button" value="Back"/> <input type="button" value="Refresh"/>	

3.1.4 Change Password

Change Password	
Item	Setting
▶ Old Password	<input type="text"/>
▶ New Password	<input type="text"/>
▶ Reconfirm	<input type="text"/>
<input type="button" value="Save"/> <input type="button" value="Undo"/>	

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.

3.2 Forwarding Rules



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**.

Virtual Server [HELP]

Well known services -- select one -- Copy to ID --

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
11	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	(0) Always
12	<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 Port	Server IP	Enable
21	192.168.123.1	V
80	192.168.123.2	V
1723	192.168.123.6	V

Afterwards, 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.

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

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.

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

3.2.3 Miscellaneous

Miscellaneous Items		[HELP]
Item	Setting	Enable
▶ IP Address of DMZ Host	<input type="text"/>	<input type="checkbox"/>
▶ UPnP setting		<input checked="" type="checkbox"/>

1. IP Address of DMZ Host

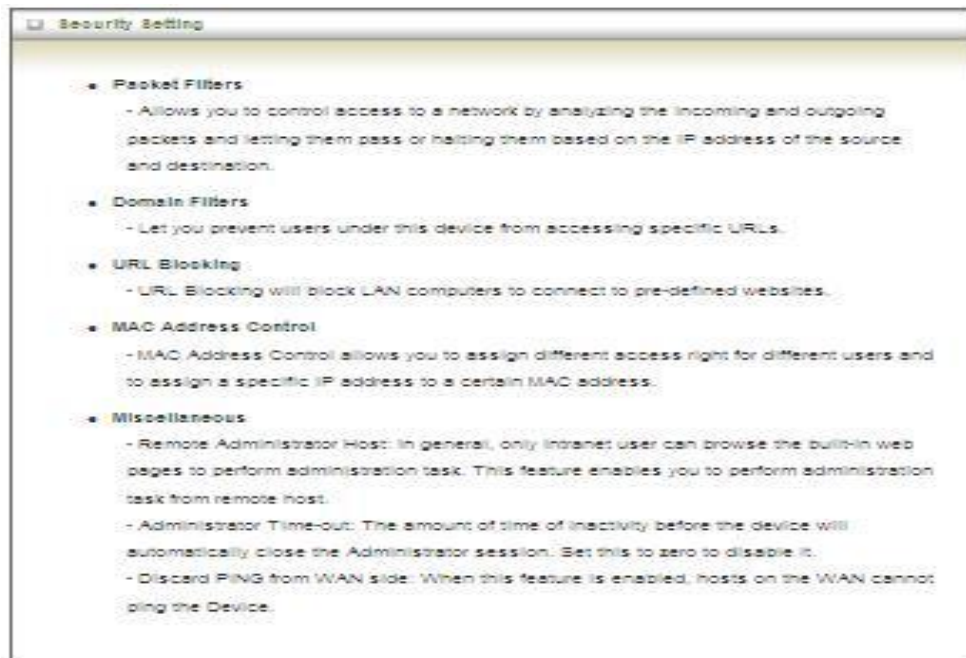
DMZ (Demilitarized Zone) Host is a host without the protection of firewall. It allows a computer to be exposed to unrestricted 2-way communication for Internet games, Video conferencing, Internet telephony and other special applications.

2. UPnP Setting

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.

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

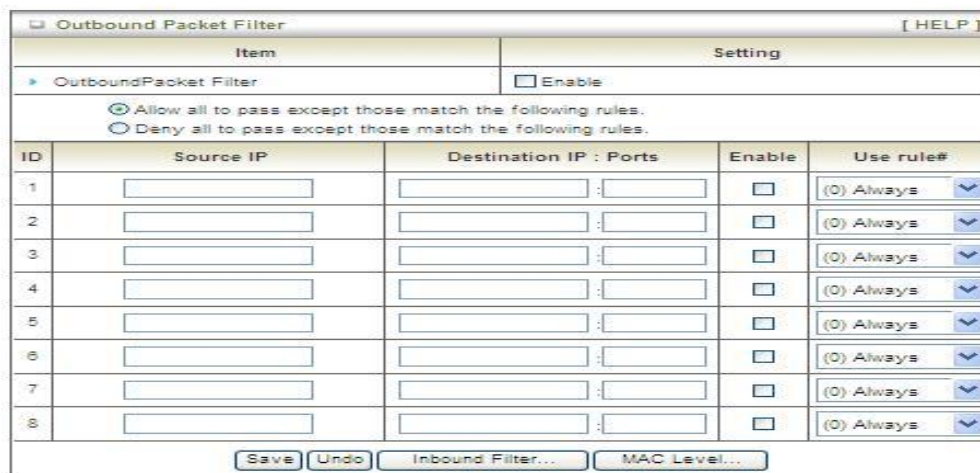
3.3 Security Setting



3.3.1 Packet Filters

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.

3.3.2 Domain Filters

Domain Filter [HELP]			
Item	Setting		
Domain Filter	<input type="checkbox"/> Enable		
Log DNS Query	<input type="checkbox"/> Enable		
Privilege IP Addresses Range	From <input type="text"/> To <input type="text"/>		
ID	Domain Suffix	Action	Enable
1	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
2	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
3	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
4	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
5	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
6	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
7	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
8	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
9	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
10	* (all others)	<input type="checkbox"/> Drop <input type="checkbox"/> Log	-

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.

3.3.3 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"/>
<input type="button" value="Save"/> <input type="button" value="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.

3.3.4 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.

Item	Setting			
▶ MAC Address Control	<input type="checkbox"/> Enable			
<input type="checkbox"/> Connection control	Wireless and wired clients with C checked can connect to this device; and <input type="button" value="allow"/> unspecified MAC addresses to connect.			
<input type="checkbox"/> Association control	Wireless clients with A checked can associate to the wireless LAN; and <input type="button" value="allow"/> unspecified MAC addresses to associate.			
DHCP clients: <input type="button" value="-- select one --"/> <input type="button" value="Copy to"/> ID <input type="button" value="--"/>				
ID	MAC Address	IP Address	C	A
1	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

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.

3.3.5 Miscellaneous

Miscellaneous Items		[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"/>
▶ Discard PING from WAN side		<input type="checkbox"/>
▶ DoS Attack Detection		<input type="checkbox"/>
<input type="button" value="Save"/> <input type="button" value="Undo"/>		

1. **Administrator Time-out:** The time of no activity to logout automatically, you may set it to zero to disable this feature.
2. **Remote Administrator Host/Port**
 In general, only Internet user can browse the built-in web pages to perform administration task. This feature enables you to perform administration task from remote host. If this feature is enabled, only the specified IP address can perform remote administration. If the specified IP address is 0.0.0.0, any host can connect with this product to perform administration task. You can use subnet mask bits "/nn" notation to specified a group of trusted IP addresses for example, "10.1.2.0/24".
 NOTE: When Remote Administration is enabled, the web server port will be shifted to 80. You can change web server port to other port, too.
3. **Discard PING from WAN side:** When this feature is enabled, any host on the WAN cannot ping this product.
4. **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.

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

3.4 Advanced Setting

Advanced Setting

- **System Log**
- Send system log to a dedicated host or email to specific receipts.
- **Dynamic DNS**
- To host your server on a changing IP address, you have to use dynamic domain name service (DDNS).
- **QoS Rule**
- Quality of Service can provide different priority to different users or data flows, or guarantee a certain level of performance.
- **SNMP**
- Gives a user the capability to remotely manage a computer network by polling and setting terminal values and monitoring network events.
- **Routing**
- If you have more than one routers and subnets, you may want to enable routing table to allow packets to find proper routing path and allow different subnets to communicate with each other.
- **System Time**
- Allow you to set device time manually or consult network time from NTP server.
- **Schedule Rule**
- Apply schedule rules to Packet Filters and Virtual Server.

3.4.1 System Log

System Log		[HELP]
Item	Setting	Enable
▶ IP address for syslogd	<input type="text"/>	<input type="checkbox"/>
▶ 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 style="width: 100%;" type="text"/>	
• E-mail subject	<input type="text"/>	
<input type="button" value="Save"/> <input type="button" value="Undo"/> <input type="button" value="View Log..."/> <input type="button" value="Email Log Now"/>		

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.
2. **Setting of Email alert:** Check if you want to enable Email alert (send syslog via email).
3. **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".
4. **SMTP Username:** Enter the Username offered by your ISP.
5. **SMTP Password: Enter the User name offered by your ISP.**
6. **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.
7. **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.

3.4.2 Dynamic DNS

To host your server on a changing IP address, you have to use dynamic domain name service (DDNS). Therefore, 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.

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

1. **DDNS:** Select enable if you would like to trigger this function.
2. **Provider:** The DDNS provider supports service for you to bind your IP(even private IP) with a certain Domain name. You could choose your favorite provider.
3. **Host Name:** Register a domain name to the DDNS provider. The fully domain name is

concatenated with hostname(you specify) and a suffix(DDNS provider specifies).

4. **Username/E-mail:** Input username or E-mail based on the DDNS provider you select.
5. **Password/Key:** Input password or key based on the DDNS provider you select.

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

3.4.3 QoS

QoS provide different priority to different users or data flows, or guarantee a certain level of performance.

QoS Rule					
Item			Setting		
QoS Control			<input type="checkbox"/> Enable		
Bandwidth of Upstream			<input type="text"/> kbps (Kilobits per second)		
ID	Local IP : Ports	Remote IP : Ports	QoS Priority	Enable	Use Rule#
1	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High <input type="button" value="v"/>	<input type="checkbox"/>	(0) Always <input type="button" value="v"/>
2	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High <input type="button" value="v"/>	<input type="checkbox"/>	(0) Always <input type="button" value="v"/>
3	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High <input type="button" value="v"/>	<input type="checkbox"/>	(0) Always <input type="button" value="v"/>
4	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High <input type="button" value="v"/>	<input type="checkbox"/>	(0) Always <input type="button" value="v"/>
5	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High <input type="button" value="v"/>	<input type="checkbox"/>	(0) Always <input type="button" value="v"/>
6	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High <input type="button" value="v"/>	<input type="checkbox"/>	(0) Always <input type="button" value="v"/>
7	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High <input type="button" value="v"/>	<input type="checkbox"/>	(0) Always <input type="button" value="v"/>
8	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High <input type="button" value="v"/>	<input type="checkbox"/>	(0) Always <input type="button" value="v"/>

1. **QoS Control:** Check Enable to enable this function.
2. **Bandwidth of Upstream:** Set the limitation of upstream bandwidth.
3. **Local IP : Ports:** Define the Local IP address and ports of packets.
4. **Remote IP : Ports:** Define the Remote IP address and ports of packets.
5. **QoS Priority :** This defines the priority level of the current Policy Configuration. Packets associated with this policy will be serviced based upon the priority level set. For critical applications High or Normal level is recommended. For non-critical applications select a Low level.
6. **Enable:** Check to enable the corresponding QOS rule.
7. **User Rule#:** The QoS rule can work with Scheduling Rule number#. Please refer to the Section 3.4.1.7 Schedule Rule.

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

3.4.4 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.

SNMP Setting [HELP]	
Item	Setting
▶ Enable SNMP	<input type="checkbox"/> Local <input type="checkbox"/> Remote
▶ Get Community	<input type="text"/>
▶ Set Community	<input type="text"/>
▶ IP 1	<input type="text"/>
▶ IP 2	<input type="text"/>
▶ IP 3	<input type="text"/>
▶ IP 4	<input type="text"/>
▶ SNMP Version	<input checked="" type="radio"/> V1 <input type="radio"/> V2c
▶ WAN Access IP Address	<input type="text"/>
<input type="button" value="Save"/> <input type="button" value="Undo"/>	

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.

3.4.5 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.

Routing Table [HELP]					
Item		Setting			
▶ Dynamic Routing		<input checked="" type="radio"/> Disable <input type="radio"/> RIPv1 <input type="radio"/> RIPv2			
▶ 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"/>
<input type="button" value="Save"/> <input type="button" value="Undo"/>					

1. **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.
2. **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.

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

3.4.6 System Time

System Time [HELP]	
Item	Setting
▶ Time Zone	(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi
▶ Auto-Synchronization	<input checked="" type="checkbox"/> Enable Time Server (RFC-868): Auto
<input type="button" value="Save"/> <input type="button" value="Undo"/>	
<input type="button" value="Sync with Time Server"/>	
<input type="button" value="Sync with my PC (undefined December 21, 2009 09:29:06)"/>	

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.

3.4.7 Scheduling

You can set the schedule time to decide which service will be turned on or off.

Schedule Rule		[HELP]
Item	Setting	
▶ Schedule	<input type="checkbox"/> Enable	
Rule#	Rule Name	Action
1		<input type="button" value="New Add"/>
2		<input type="button" value="New Add"/>
3		<input type="button" value="New Add"/>
4		<input type="button" value="New Add"/>
5		<input type="button" value="New Add"/>
6		<input type="button" value="New Add"/>
7		<input type="button" value="New Add"/>
8		<input type="button" value="New Add"/>
9		<input type="button" value="New Add"/>
10		<input type="button" value="New Add"/>
<input type="button" value=" << Previous"/> <input type="button" value=" Next >>"/> <input type="button" value=" Save"/> <input type="button" value=" Add New Rule..."/>		

1. **Schedule:** Check to enable the schedule rule settings.
2. **Add New Rule:** To create a schedule rule, click the “New Add” button. 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.

Edit Schedule Rule				[HELP]
Item	Setting			
▶ Name of Rule 1	<input type="text" value="wake-up time"/>			
▶ Policy	Inactivate <input type="button" value="v"/> except the selected days and hours below.			
ID	Week Day	Start Time (hh:mm)	End Time (hh:mm)	
1	<input type="text" value="Every Day"/> <input type="button" value="v"/>	<input type="text" value="06:00"/>	<input type="text" value="07:00"/>	
2	<input type="text" value="-- choose one --"/> <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>	
3	<input type="text" value="-- choose one --"/> <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>	
4	<input type="text" value="-- choose one --"/> <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>	
5	<input type="text" value="-- choose one --"/> <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>	
6	<input type="text" value="-- choose one --"/> <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>	
7	<input type="text" value="-- choose one --"/> <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>	
8	<input type="text" value="-- choose one --"/> <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>	
<input type="button" value=" Save"/> <input type="button" value=" Undo"/> <input type="button" value=" Back"/>				

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

3.5 Tool Box

Toolbox

- **View Log**
- View the system logs.
- **Firmware Upgrade**
- Prompt the administrator for a file and upgrade it to this device.
- **Backup Setting**
- Save the settings of this device to a file.
- **Reset to Default**
- Reset the settings of this device to the default values.
- **Reboot**
- Reboot this device.
- **Miscellaneous**
 - MAC Address for Wake-on-LAN: Let you to power up another network device remotely.
 - 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.

3.5.1 System Info

System Information

item	setting
▶ WAN Type	3G
▶ Display time	Mon, 21 Dec 2009 09:52:30 +0800

System Log

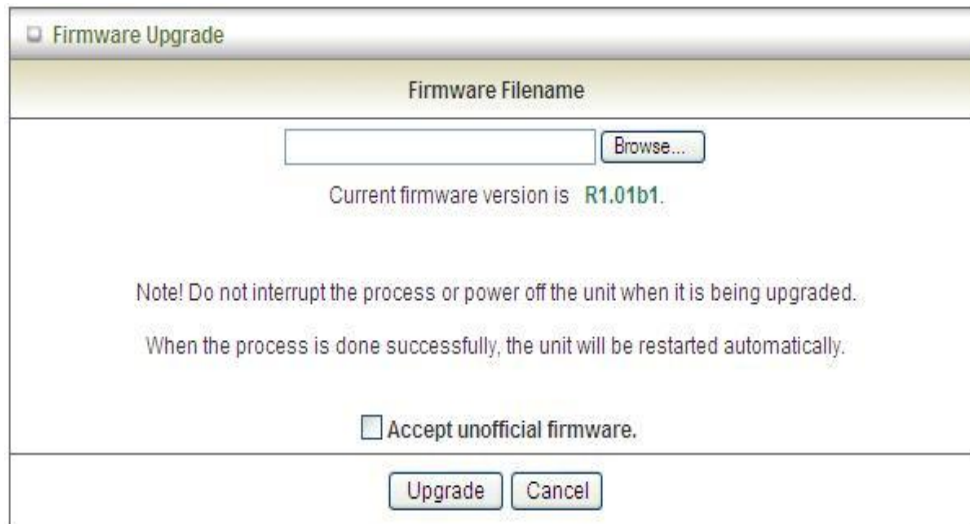
Time	Log
Dec 21 08:31:59	kernel: klogd started: BusyBox v1.3.2 (2009-12-16 11:06:05 CST)
Dec 21 08:32:04	udhcpd[816]: udhcpd (v0.9.9-pre) started
Dec 21 08:32:04	udhcpd[816]: SIOCGIFINDEX failed: No such device
Dec 21 08:32:07	syslog: Failure parsing line 11 of /etc/udhcpd.conf
Dec 21 08:32:07	udhcpd[1417]: udhcpd (v0.9.9-pre) started
Dec 21 08:32:07	udhcpd[1417]: Unable to open /var/run/udhcpd/leases for reading
Dec 21 08:32:08	init: Starting pid 1453, console /dev/ttyS1: /bin/bash
Dec 21 08:32:09	commander: STOP WANTYPE 3G
Dec 21 08:32:29	udhcpd[1419]: sending OFFER of 192.168.123.100
Dec 21 08:32:29	udhcpd[1419]: sending ACK to 192.168.123.100
Dec 21 08:37:43	udhcpd[1419]: Received a SIGUSR1
Dec 21 08:53:15	udhcpd[1419]: sending OFFER of 192.168.123.101
Dec 21 08:59:44	rtalart: fail to read pid file
Dec 21 09:20:01	udhcpd[1419]: sending OFFER of 192.168.123.101
Dec 21 09:20:05	udhcpd[1419]: sending OFFER of 192.168.123.101

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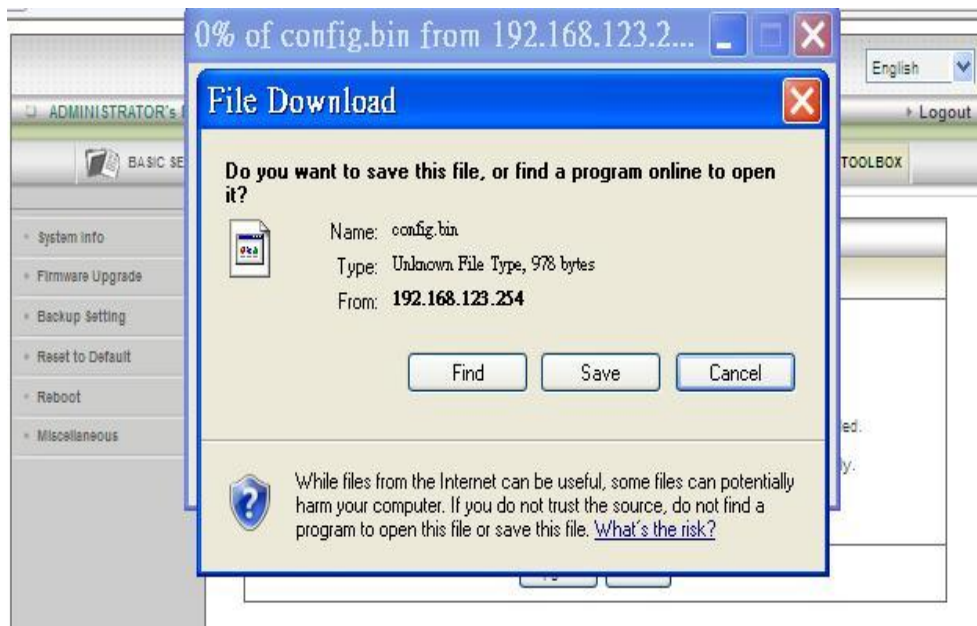
You can view the System Information and System log, and download/clear the System log, in this page.

3.5.2 Firmware Upgrade

You can upgrade firmware by clicking “Upgrade” button.



3.5.3 Backup Setting



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.

3.5.4 Reset to Default



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

3.5.5 Reboot



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

3.5.6 Miscellaneous

Miscellaneous Items [HELP]	
Item	Setting
▶ MAC Address for Wake-on-LAN	<input type="text"/> <input type="button" value="Wake up"/>
▶ Domain Name or IP address for Ping Test	<input type="text"/> <input type="button" value="Ping"/>
<input type="button" value="Save"/> <input type="button" value="Undo"/>	

1. **MAC Address for Wake-on-LAN:** It enables you to power up a networked device remotely. If you would like to trigger this function, you have to know the MAC address of this device. For instance if the MAC address is 00-11-22-33-44-55, enter it into the blank

of MAC Address for Wake-on-LAN. Afterwards, click "Wake up" button which makes the router to send the wake-up frame to the target device immediately.

2. **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.

4 . Troubleshooting

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

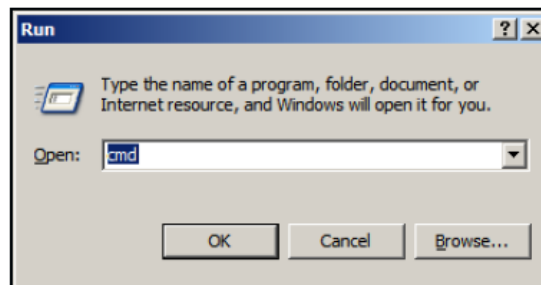
1 Why can't I configure the router even the cable is plugged and the LED is lit?

Do a **Ping test** to make sure that the WiFi Combo 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 192.168.123.254**". Assure that you ping the correct IP Address assigned to the WiFi Combo Router. It will show four replies if you ping correctly.

```
Pinging 192.168.123.254 with 32 bytes of data:  
Reply from 192.168.123.254: bytes=32 time<1ms TTL=64  
Reply from 192.168.123.254: bytes=32 time<1ms TTL=64  
Reply from 192.168.123.254: bytes=32 time<1ms TTL=64  
Reply from 192.168.123.254: 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 provider. Please check your ISP to know this information.

G. Why does my 3G connection 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 WiFi Combo 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 WiFi Combo Router and the client, then restart it and then turn on the client again.
- V. Ensure that the LEDs are indicating normally. If not, make sure that the 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 WiFi Combo Router to default setting

C. Why does my wireless connection keep dropping?

- I. Antenna Orientation.
 - i. Try different antenna orientations for the WiFi Combo 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 WiFi Combo 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 WiFi Combo Router to default setting

6 How to reset to default?

1. Ensure the WiFi Combo 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 WiFi Combo Router reboots, it has back to the factory **default** settings.

Appendix A. Spec Summary Table

3G Access	USB port
Wireless	
Standard	IEEE 802.11 B\G\N (1T1R, not MINO solution)
Data Rate	54, 48, 36, 24, 18, 12, 9, and 6 Mbps per channel, Auto Fall-Back
Frequency	2.4 – 2.462 GHz, CCK / OFDM modulation
Range Coverage	Tx/Rx power 18dbm/Per Cell indoors approx. 35-100 meters; outdoors up to 100-300 meters
# of Channels	1-11 for N. America (FCC);1-11 for Canada (DOC) 1-13 Europe (Except Spain and France) (ETSI) 1-14 Japan (TELEC);
Security	64-bit and 128-bit WEP Encryption; WPA encryption
Antenna	Detachable Antenna 1.8dBI
Firewall	IP Filtering NAT (Network Address Translation) with VPN Pass through MAC Filtering
Supported WAN type	3G,Static IP, Dynamic IP, PPPoE,PPTP,L2TP
Connection Scheme	Connect-on-demand, Auto-Disconnect
NAT function	Class C ;One-to-Many; Max 253 Users; Virtual Server; DMZ Host
VPN	PPTP, L2TP and IPSec Pass Through
Config.& Management	Web-Based IE, Navigator browser and SNMP
	DHCP Server and Client
Working Environment	Temperature: 0~40°C, Humidity 10%~90% non-condensing
OS supported	Windows 95/98/ME/NT/2000/XP; Linux
Power	Switching 5V 2.0A

Appendix B. Licensing information

This product includes copyrighted third-party software licensed under the terms of the GNU General Public License. Please refer to the GNU General Public License below to check the detailed terms of this license.

The following parts of this product are subject to the GNU GPL, and those software packages are copyright by their respective authors.

- Linux-2.4.28 system kernel
- busybox_1_00_rc2
- bridge-utils 0.9.5
- 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

Please visit our web site or contact us to obtain more information.

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Preamble

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