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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.

Please note: Open the battery cover, and FCC ID:PBLCDM530AM002 is marked inside the battery case.

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Chapter 1 Introduction

Congratulations on your purchase of this outstanding product: CDM530AM-002 WiFi Mobile Router. This product is specifically designed for mobile user who needs 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

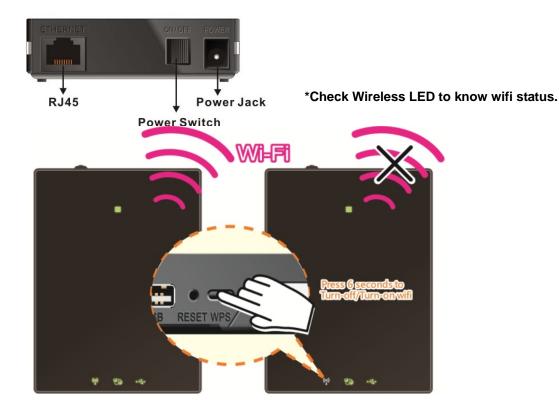
Items	Description	Contents	Quantity
1	WiFi Mobile Router		1
2	Power adapter		1
3	CD		1
4	Li-ion Battery		1

1.2 Hardware Installation

A. Hardware configuration Power LED







B. LED indicators

Power LED indicator:

Power Source	ON/OFF Switch	LED Status	Description
	ON	Green in flash	Device ON, and Battery is in use.
Battery Only	ON	Red	Device ON, and Battery is low.
	OFF	N/A	Device OFF
	ON	Green	Device ON, and Battery is fully charged.
Power Adapter	ON	Amber	Device ON, and Battery is charging
	ON	Red in Flash	Device ON, Battery is charging , and System Temperature is too high and ready to shut down
	OFF	Amber	Device OFF, and Battery is charging.
	OFF	N/A	Device OFF

Other LED indicator:

	LED Status	Description
Ethernet LED	Green	RJ45 cable is plugged, and Ethernet connection is established.
	Green in flash	Data access
	Green	3G/3.5G is on
USB LED	Green in flash	Data access
WiFi LED	Green	WLAN is on
VVIII I LLD	Green in flash	Data access

C. Installation Steps

Step 1. Install the battery:

Turn OFF the power switch, open the battery lid, and then insert the Li-ion battery into the battery holder.



Battery needs to stay in the compartment to power-on the device.



Step 2.

Close the battery lid



Connect with the power adapter to the receptor on the back panel of it.



Step 4. Start to Charge the Battery:

Then plug the other end of the power adapter into a wall outlet.



If it is the first time to put the battery in, the power LED will show amber which means the battery is been charging. It will take about 3 hours to fully charge the battery, and when the battery is fully charged, the power LED will show green.



Turn ON the power switch.





Step 6. Connect with a USB 3G modem:

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



Step 7. Connect with Ethernet 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 8. Start to configure the device: You can start to configure the device via the Easy Setup Utility. (see Easy Setup Utility)



Chapter 2 Getting Started with Easy Setup Utility

There are two approaches for you to set up the WiFi Mobile 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.

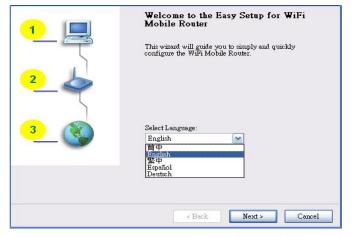
2.1 Easy Setup by Windows Utility

Step 1:

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

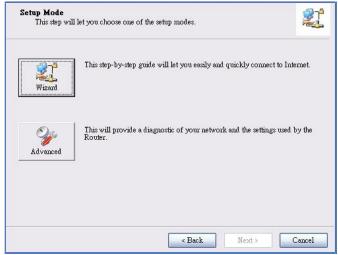
Step 2:

Select Language then click "Next" to continue.



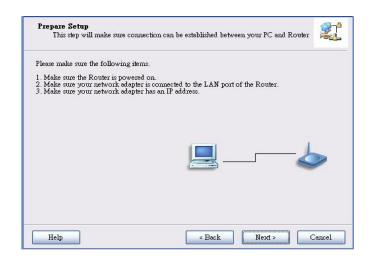
Step 3:

Then click the "Wizard" to continue.



Step 4:

Click "Next" to continue.



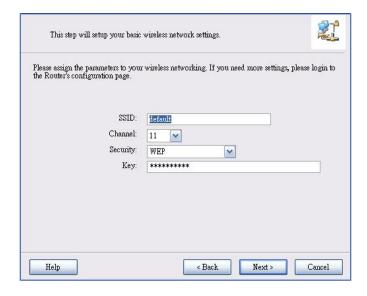
Step 5:

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:

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



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.



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.



Step 9:

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



Step 10:

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



Step 11:

Click "Next" to test WAN Networking service.



Step 12 : Setup is completed.



2.2 Easy Setup by Configuring Web Pages

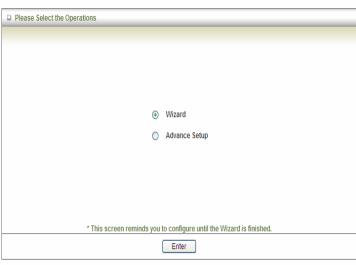
You can also browse web UI to configure the device.

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

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

Select your language.

Select "Wizard" for basic settings with simple way.



Press "Next" to start the Setup Wizard.



Configure with the Setup Wizard

Step 1: Change System Password.
Set up your system password.

(Default : admin)



Step 2: Select Time Zone.



Step 3: 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".



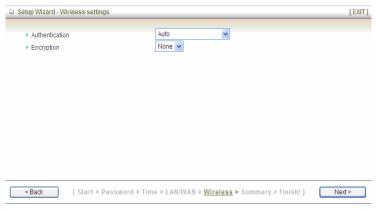
Step 4: Set up 3G profile. Select "Auto Detection".



Step 5: Set up your Wireless Network. Set up your SSID.

➤ Wireless Module ➤ Network ID(SSID) Channel Disable Disable default 11 ✓			
	reless Module	Enable Disable	
Channel 11 v	etwork ID(SSID)	default	
	nannel	11	
<back [start=""> Password > Time > LAN/WAN > Wireless > Summary > Finish!] N</back>	ck [Start > Password	> Time > LAN/WAN > Wireless > Summary > Finish! 1	Next>

Step 6: Set up Wireless Security. Set up your Authentication and Encryption.



Step 7: Apply your Setting. Then click Apply Setting.



Step 8: 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

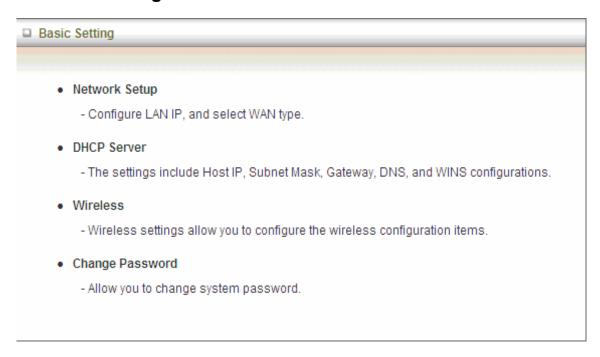


Enter the default password "admin" in the System Password and then click 'login' button.



Then, you can browse the "Advanced" configuration pages for configuring this device.

3.1 Basic Setting



3.1.1. Network Setup



1. Ethernet port Configuration:

Off: Disable the Ethernet port.

LAN: The Ethernet port is as LAN port. **WAN:** The Ethernet port is as LAN port.

Auto: It will be WAN Port if a DHCP server can be detected on the Ethernet port. Otherwise, it will be LAN port.

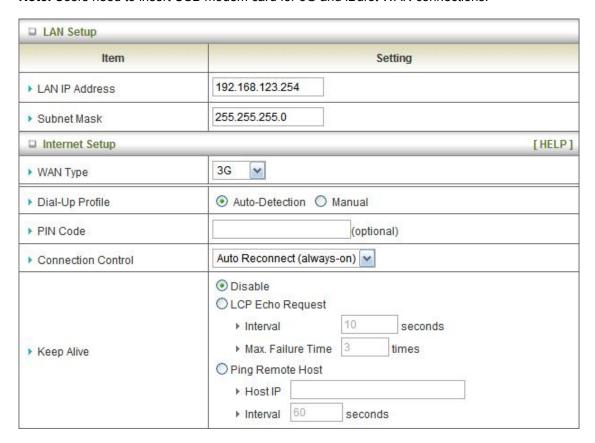
- LAN IP Address: The local IP address of this device. The computers on your network
 must use the LAN IP address of this device as their Default Router. You can change it if
 necessary.
- Subnet Mask: Input your Subnet mask. (All devices in the network must have the same subnet mask.) The default subnet mask is 255.255.255.0.
- 4. WAN Interface: Select Ethernet WAN or Wireless WAN to continue.
- 5. **WAN Type**: WAN connection type of your ISP. You can click WAN Type combo button to choose a correct one from the following options:



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 and iBurst WAN connections.



3G WAN Types: 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: Please select Auto-Detection or Manual to continue.

You can Select "Auto-Detection", and the Utility will try to detect and configure the required 3G service settings automatically. Or you can select "Manual" and manually fill in the required 3G service settings provided by your ISP.

- 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.
- 9. Password: Enter the new Password for your PC card here, you can contact to your ISP to get it.
- 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.
- 12. Secondary DNS: This feature allows you to assign a Secondary DNS Server, you can contact to your ISP to get it.
- 13. 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.

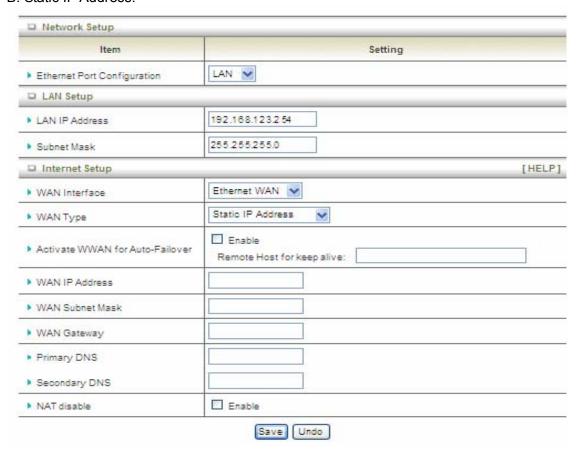
Manually: The device will not make the link until someone clicks the Connect-button in the Status-page.

14. Keep Alive: you can diagnose your connection by it.

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.

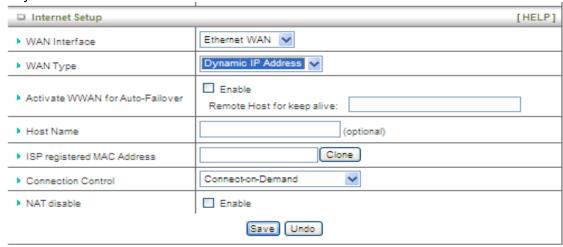
Ping Remote Host: Enter the Remote host IP and the time interval to send the ping packets for keeping the connection alive.

B. Static IP Address:



- 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, Router, Primary and Secondary DNS**: Enter the proper settings provided by your ISP.

C. Dynamic IP Address:



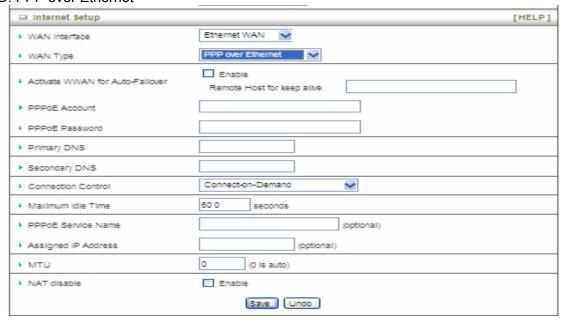
- Activate WWAN for Auto-Failover: With this function enabled, when the Ethernet WAN
 connection is broken, the device will automatically activate the WWAN connection and
 keep you connected to internet with the alternative WWAN broadband service. Meanwhile,
 if the device detected that the Ethernet 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. 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.

D. PPP over Ethernet



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

E. PPTP

☐ Internet Setup		[HELP]
▶ WAN Interface	Ethernet WAN 💉	
▶ WAN Type	PPTP	
Activate WWAN for Auto-Fallover	Enable Remote Host for keep alive:	
▶ IP Mode	Dynamic IP Address	
My IP Address		
My Subnet Mask		
▶ Gateway IP		
▶ Server IP Address/Name		
▶ PPTP Account		
▶ PPTP Password		
▶ Connection ID	(optional)	
Maximum idle Time	60 0 seconds	
Connection Control	Connect-on-Demand	
► MTU	0 (0 is auto)	
	Save Undo	

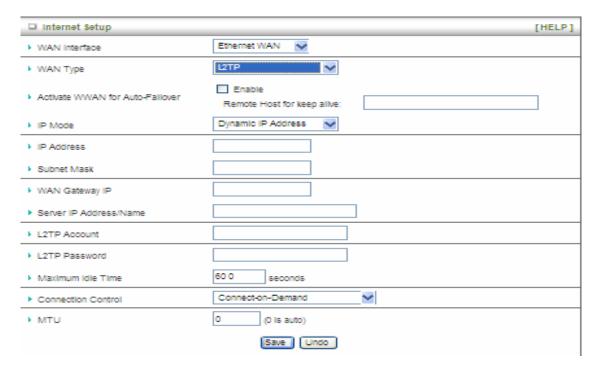
- 1. Activate WWAN for Auto-Failover: With this function enabled, when the Ethernet WAN connection is broken, the device will automatically activate the WWAN connection and keep you connected to internet with the alternative WWAN broadband service. Meanwhile, if the device detected that the Ethernet 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. **Router IP** and **Server IP Address/Name**: The IP address of the PPTP server and designated Router 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.

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

F. L2TP



- 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. Router IP and Server IP Address/Name: The IP address of the L2TP server and designated Router 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. Connection ID: Optional. Input the connection ID if your ISP requires it.

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

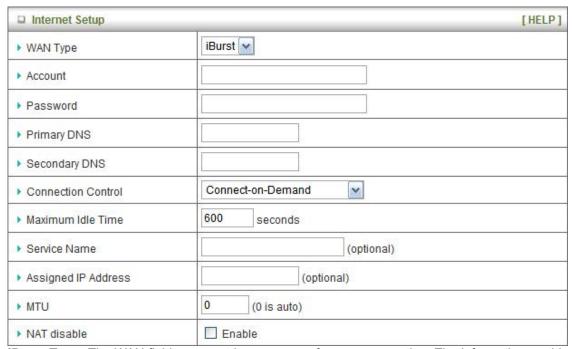
Connect-on-demand: The device will link up with ISP when the clients send outgoing packets.

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.

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

G. iBurst



iBurst Type: 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 iBurst network.

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

- 1. Account: Enter the new User Name for your PC card here, you can contact to your ISP to get it.
- 2. Password: Enter the new Password for your PC card here, you can contact to your ISP to get it.

- 3. Primary DNS/Secondary DNS: Optional, This feature allows you to assign a DNS Servers
- 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. 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.
- 6. Service Name: optional. Input the service name if your ISP requires it. Otherwise, leave it blank.
- 7. Assigned IP Address: Optional, Input the IP address you want. Usually, leave it blank.
- 8. Maximum Transmission Unit (MTU): Most ISP offers MTU value to users. The default MTU value is 0(auto).
- 9. NAT disable: the option bridges data form WAN port to LAN port.

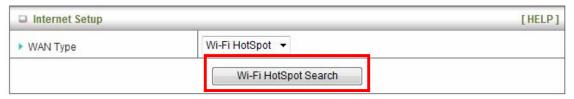
H. Wi-Fi HotSpot



Wi-Fi HotSpot Types: This WAN type allows you to share one Wi-Fi Hotspot account with your friends or colleagues. Local clients connect to this device via Wi-Fi connection, and surfing Internet by connecting to remote Wi-Fi Hotspot. Just follow a few steps below to connect to remote Wi-Fi HotSpot.

Note. If choosing Wi-Fi HotSpot WAN type, the wireless channel of WLAN will be set to as same as wireless channel of remote Wi-Fi HotSpot.

Step 1: Click "Wi-Fi HotSpot" Search" button to search any available Wi-Fi Hotspot or Wi-Fi AP (Access Point) in your environment.



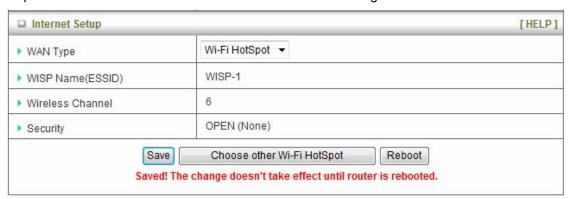
Step 2: After finish searching, it will list all available Wi-Fi APs in your environment. You can select one of the lists to start to connect, or press "Refresh" button to search again.



Step 3: Click "Save" button to save settings after selecting. There will be a field here for you to input encryption key if remote Wi-Fi Hotspot or Wi-Fi AP requires.



Step 4: Click "Reboot" button to restart device to take new settings effective.



3.1.2. DHCP Server



- 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.
- Domain Name: Optional, this information will be passed to the clients.
 Press "More>>" and you can find more settings
- Primary DNS/Secondary DNS: Optional. This feature allows you to assign a DNS Servers
- Primary WINS/Secondary WINS: Optional. This feature allows you to assign a WINS Servers
- Router: Optional. Router Address would be the IP address of an alternate Router. This
 function enables you to assign another Router 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.

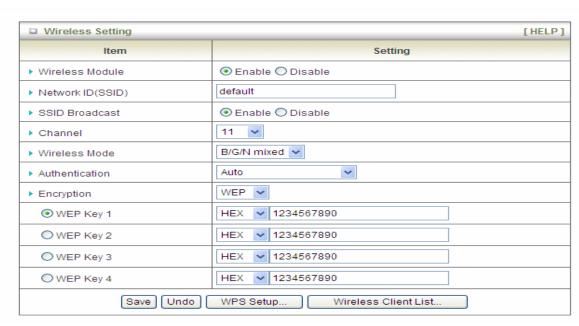
Press "Clients List" and the list of DHCP clients will be shown consequently.



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



3.1.3. Wireless Settings



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 follow: channel 1~11 for North America. (Channel 1~13 for European (ETSI); channel1~ 14 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".
- 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.

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.

WPA-PSK2

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

WPA2

WPA2 add uses AES and TKIP for encryption, the others are same the WPA.

WPA-PSK/WPA-PSK2

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

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.



- 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.



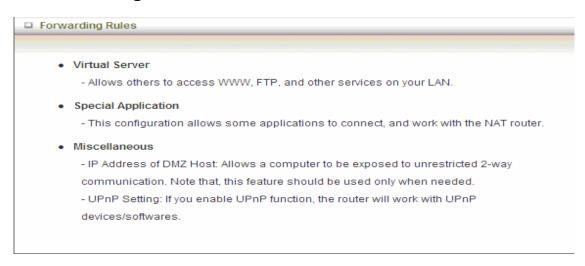
3.1.4. Change Password



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.

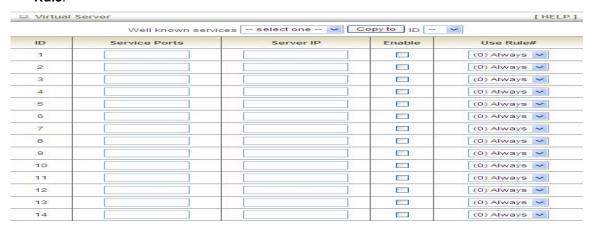
3.2 Forwarding Rules



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**.



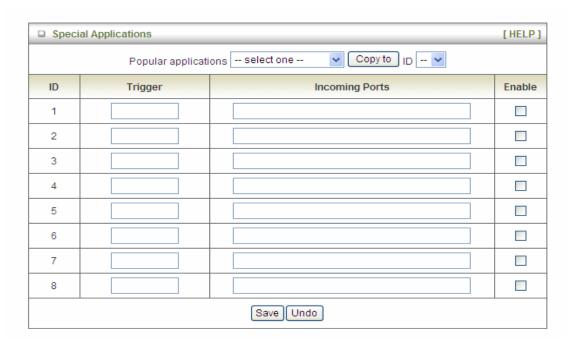
For example, if you have an FTP server (port 21) at 192.168.123.1, a Web server (port 80) at 192.168.123.2, and a VPN server at 192.168.123.6, then you need to specify the following virtual server mapping table:

Service Port	Server IP	Enable
21	192.168.123.1	V
80	192.168.123.2	V
1723	192.168.123.6	V

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.



- 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.

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 Miscellaneous



1. IP Address of DMZ Host

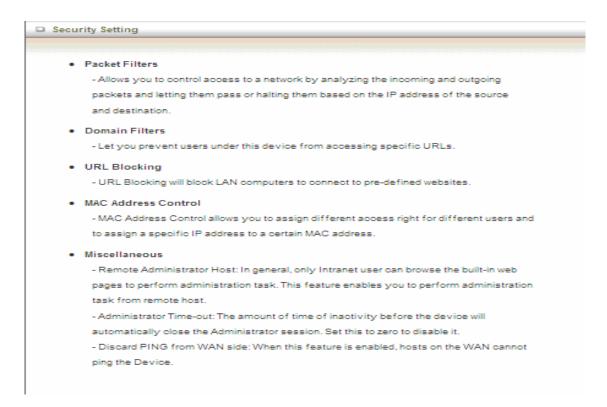
DMZ (Demilitarized Zone) Host is a host without the protection of firewall. It allows a computer to be exposed to unrestricted 2-way communication for Internet games, Video conferencing, Internet telephony and other special applications.

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.



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.

Packet Filter 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

	Outbound Packet Filter				[HELP]			
Item			Setting					
▶ OutboundPacket Filter			Enable					
Allow all to pass except those match the following rules. Deny all to pass except those match the following rules.								
ID	Source IP	De	stination IP : Ports	Enable	Use rule#			
1			:		(0) Always 🗸			
2			:		(0) Always 🗸			
3			:		(0) Always 🗸			
4			:		(0) Always 🗸			
5			:		(0) Always 🕶			
6			:		(0) Always 🕶			
7			:		(0) Always 🕶			
8			:		(0) Always 🕶			
Save Undo Inbound Filter MAC Level								

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

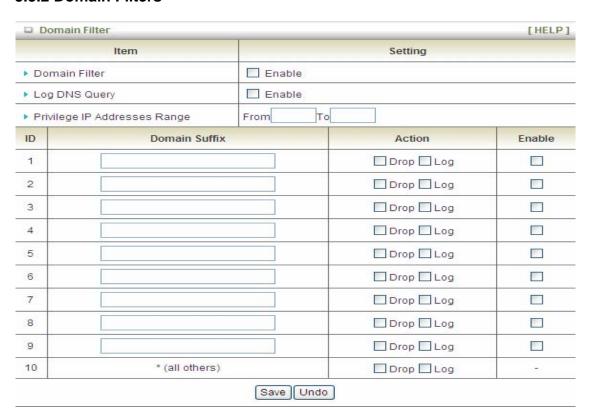
- · Source IP address
- · Source port
- Destination IP address
- Destination port
- Protocol: TCP or UDP or both.
- Use Rule#

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.

3.3.2 Domain Filters

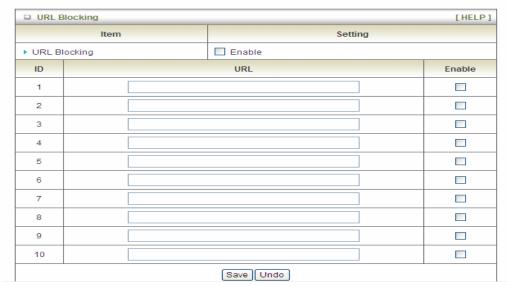


Domain Filter prevents users under this device from accessing specific URLs.

- 1. Domain Filter: Check if you want to enable Domain Filter.
- 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 this access.
- 6. **Enable**: Check to enable each rule.

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 require user to input suffix (like .com or .org, etc), while URL Blocking require 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**.



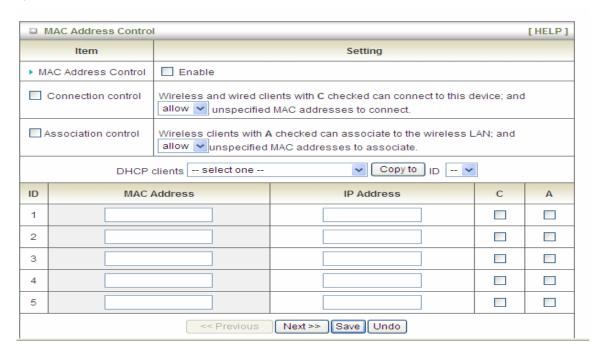
- 1. URL Blocking: Check if you want to enable URL Blocking.
- 2. **URL**: If any part of the Website's URL matches the pre-defined word, the connection will be blocked.

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.

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.



- 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.

3.3.5 Miscellaneous

□ Miscellaneous Items [HE					
Item	Setting	Enable			
► Administrator Time-out	300 seconds (0 to disable)				
▶ Remote Administrator Host : Port	/ : : : : : : : : : : : : : : : : : : :				
▶ Discard PING from WAN side					
▶ DoS Attack Detection					
Save Undo					

1. **Administrator Time-out**: The time of no activity to logout automatically, you may set it to zero to disable this feature.

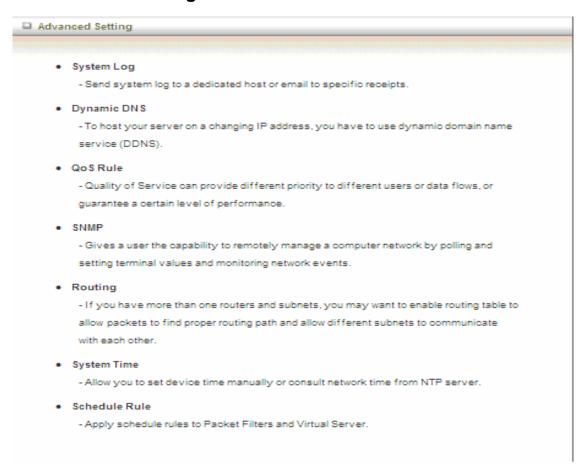
2. Remote Administrator Host/Port

In general, only Intranet 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".

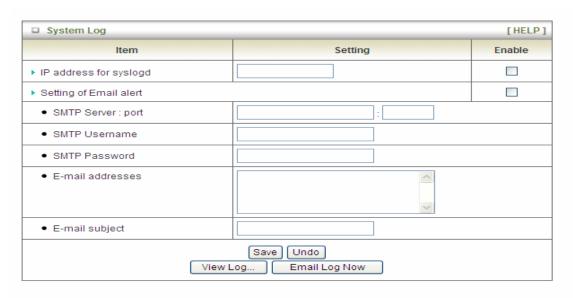
NOTE: When Remote Administration is enabled, the web server port will be shifted to 80. You can change web server port to other port, too.

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

3.4 Advanced Setting



3.4.1 System Log



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

- IP Address for Sys log: Host IP of destination where sys log will be sent to. Check Enable to enable this function.
- 2. E-mail Alert Enable: Check if you want to enable Email alert (send syslog via email).
- SMTP Server IP and 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. **Send E-mail alert to:** The recipients who will receive these logs, you can assign more than 1 recipient, using ';' or ',' to separate these email addresses.
- 5. **E-mail Subject**: The subject of email alert, this setting is optional.

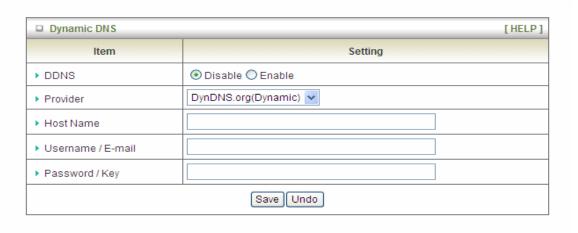
Click on "Save" to store your settings or click "Undo" to give up the changes.

3.4.2 Dynamic DNS

To host your server on a changing IP address, you have to use dynamic domain name service (DDNS). So that anyone wishing to reach your host only needs to know the name of it.

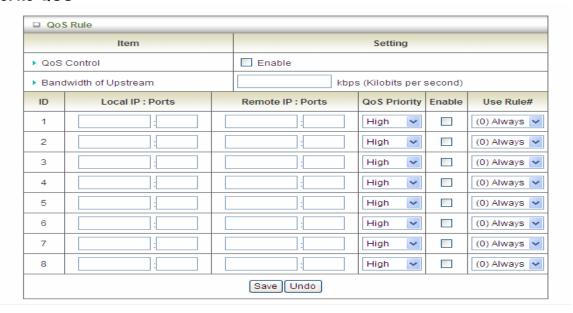
Dynamic DNS will map the name of your host to your current IP address, which changes each time you connect your Internet service provider.

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



To enable **Dynamic DNS** click the check box next to **Enable** in the **DDNS** field. Next you have to enter the appropriate information about your Dynamic DNS Serve .**Provider**, **Host Name**, **Username/E-mail**, and **Password/Key**. You can get this information when you register an account on a Dynamic DNS server.

3.4.3 QOS



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

- 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
- 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 3.1.4.7 Schedule Rule.

3.4.4 SNMP

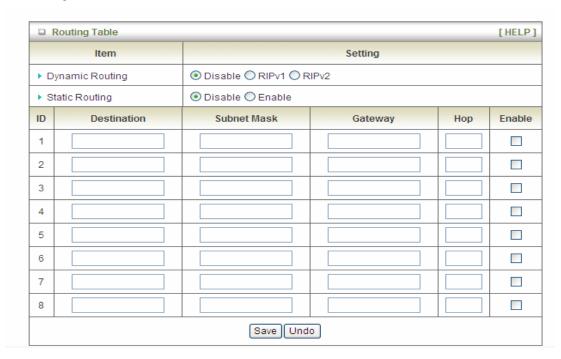
In brief, SNMP, the Simple Network Management Protocol, is a protocol designed to give a user the capability to remotely manage a computer network by polling and setting terminal values and monitoring network events.



- 1. **Enable SNMP**: You must check "Local", "Remote" or both to enable SNMP function. If "Local" is checked, this device will response request from LAN. If "Remote" is checked, this device will response request from WAN.
- 2. Get Community: The community of GetRequest that this device will respond.
- 3. Set Community: The community of SetRequest 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 to where this device should send SNMP Trap message.
- 5. **SNMP Version**: Select proper SNMP Version that your SNMP Management software supports.
- 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.

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 address to use for outgoing IP data grams.



- 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 subnet 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**, **Router**, and **hop** for each routing rule, and then enable or disable the rule by checking or un-checking the Enable checkbox.

3.4.6 System Time



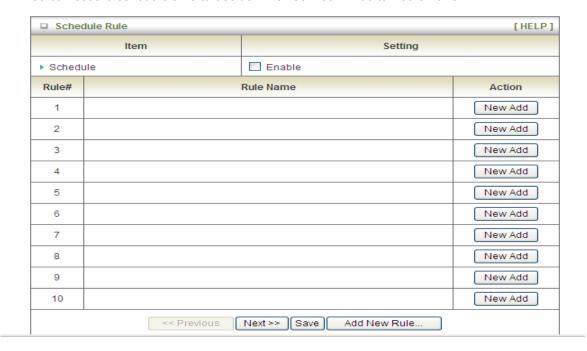
- 1. **Time Zone**: Select a time zone where this device locates.
- 2. **Auto-Synchronization**: Check the "Enable" checkbox to enable this function. Besides, you can select a NTP time server to consult UTC time.
- 3. **Sync with Time Server**: Click on the button if you want to set Date and Time by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

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

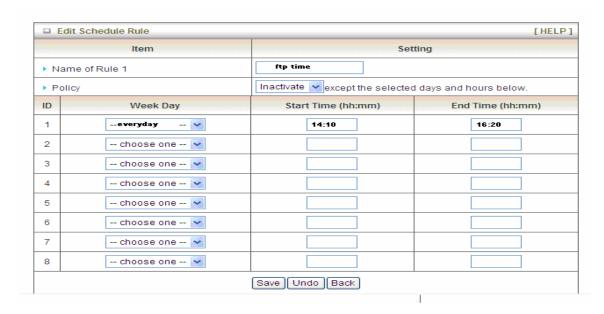
49

3.4.7 Scheduling

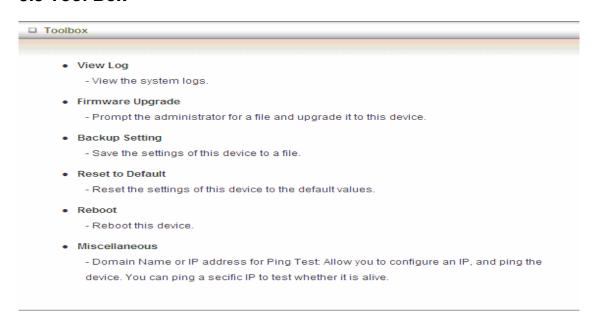
You can set the schedule time to decide which service will be turned on or off.



- 1. **Schedule**: Check to enable the schedule rule settings.
- 2. Add New Rule: To create a schedule rule, click the "Add New Rule" 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 "ftp time" as everyday 14:10 to 16:20.



3.5 Tool Box



3.5.1 System Info

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



3.5.2 Firmware Upgrade

□ Firmware Upgrade					
Firmware Filename					
Browse					
Current firmware version is R1.05.					
Note! Do not interrupt the process or power off the unit when it is being upgraded.					
When the process is done successfully, the unit will be restarted automatically.					
Accept unofficial firmware.					
Upgrade Cancel					

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



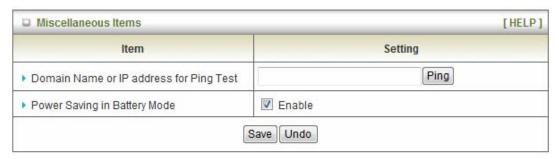
You can also reset this device to factory default settings by clicking the **Reset to default** function item.

3.5.5 Reboot



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

3.5.6 Miscellaneous



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.

Power Saving in Battery Mode

Enable this option to activate power saving policy when power is supplied by battery.

.

Chapter 4. Troubleshooting

This Chapter provides solutions to problems for the installation and operation of the WiFi Mobile 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 Mobile 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 Router.
- 4. Type "ping 192.168.123.254". Assure that you ping the correct IP Address assigned to the WiFi Mobile 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
```

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**".

9.

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

- A. Make sure the RJ45 cable connect 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 WiFi Mobile 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 Mobile 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, Router 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 Mobile Router to default setting

C. Why does my wireless connection keep dropping?

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

6 How to reset to default?

- 1. Ensure the WiFi Mobile 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 Mobile Router reboots, it has back to the factory default settings.

Appendix A. Spec Summary Table

Device Interface		CDM530AM-002
Wireless WAN	USB 2.0 for external HSPA modem	1
Ethernet WAN/LAN	RJ-45 port, 10/100Mbps, WAN/LAN Configurable	1
Antenna	PIFA internal antenna	1
WPS Button	For WPS connection/ Wifi On-Off	1
Reset Button	Reset router setting to factory default	1
LED Indication	Power / Ethernet / USB / WiFi	•
Battery	3.7V / 1700mAh Li-ION battery	1
-	Compliant to NP120 form factor (35.3 x 52.8 x 11mm)	_
Power Switch	Slide ON/OFF switch	1
Power Jack	Power Jack, DC 5V/1A	1
Wireless LAN (WiFi)		
Standard	IEEE 802.11b/g/n (1x1) compliance	•
SSID	SSID broadcast or in stealth mode	•
Channel	Auto-selection, manually	•
Security	WEP, WPA-PSK, WPA2-PSK	•
WPS	WPS (Wi-Fi Protected Setup)	•
Functionality		
	PPP (for WCDMA/HSxPA/EVDO/Blackberry Phone)	•
Wireless WAN	Wifi Hotspot	•
Wileless WAIN	PPPoE (for iBurst)	Optional
	DHCP Client (WM Phone)	•
Ethernet WAN	PPPoE, DHCP client, Static IP, PPTP, L2TP	•
WAN Connection	Auto-reconnect, dial-on-demand, manually	•
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 and protection	•
Management	SNMP, UPnP IGD, syslog	•
Administration	Web-based UI, remote login, backup/restore setting	•
Environment & Certific	ation	
	Device dimension (mm)	107 x 76 x 21
Package Information	Package dimension (mm)	198x145x68
	Package weight (g)	500 g
Operation Temp.	Temp.: 0~40°C, Humidity 10%~90% non-condensing	•
Storage Temp.	Temp.: -10~70°C, Humidity: 0~95% non-condensing	•
EMI Certification	CE/FCC	•
RoHS	RoHS compliance	•

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Linux-2.6.21 system kernel busybox_1_00_rc2 bridge-utils 0.9.5 dhcpcd-1.3 ISC DHCP V2 P5 syslogd spread from busybox wireless tools ntpclient of NTP client implementation RT5350 for 802.1X application GNU Wget

Availability of source code

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

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END OF TERMS AND CONDITIONS

FCC statement in User's Manual (for class B)

"Federal Communications Commission (FCC) 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 harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:

- 1. The device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:
 - (1) This device may not cause harmful interference, and
 - (2) this device must accept any interference received, including interference that may cause undesired operation.
- 2. This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.
- Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.