# **NetComm 3G Wireless Router**

**N3G007W** 

**User Guide** 

**NetComm** 

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#### **FCC Interference Statement**

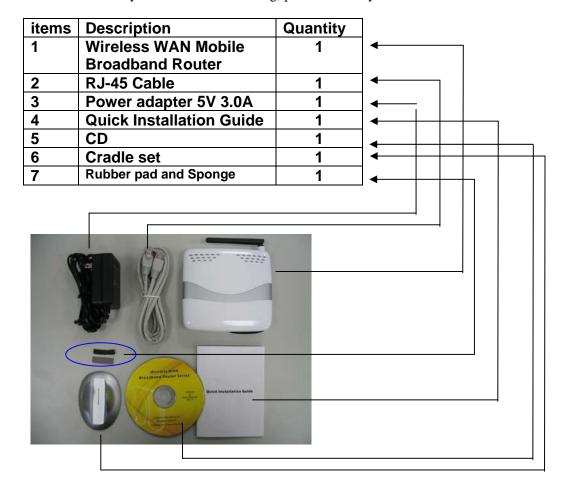
This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against radio interference in a commercial environment. This equipment can generate, use and radiate radio frequency 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.

Table of Contents	
FCC Interference Statement	2
System Requirements for Configuration	
1. Introduction	
1.1. Connections	5
1.1.1. Wireless WAN Mobile Broadband Router (Rear View)	
1.1.2. LEDs- Wireless WAN Mobile Broadband Router (Front View)	
	6
1.2. Features	
2. Configuring Wireless WAN Mobile broadband Router	8
2.1. Installation Considerations	8
2.1.1. Installation Instructions- Get Start Networking	8
2.1.2. Establish WiFi Connection 1	1
2.2. Using the Configuration Menu 1	1
<b>2.2.1. Wizard setting</b>	4
2.2.2. Advanced Setup > Basic Setting	
3. Troubleshooting5	
4. Technical Specifications 5	

# **Package Contents**

Importance: Check your product package contents FIRST.

The Wireless WAN Mobile Broadband Router package should contain the items listed below. If any of the items are missing, please contact your reseller.



**Caution:** Using a power supply with a different voltage rating than the one included with the Wireless WAN Mobile Broadband Router will cause damage and void the warranty for this product.

### **System Requirements for Configuration**

• A compatible USB 3G modem card with service

**Note:** Subject to services and service terms available from your carrier.

- Computers with Windows, Macintosh, or Linux-based operating systems with an installed Ethernet adapter.
- Internet Explorer version 6.0 or Netscape Navigator version 7.0 and above.

#### WiFi System Requirements

• An 802.11b, 802.11g Adapter, or 802.11n later

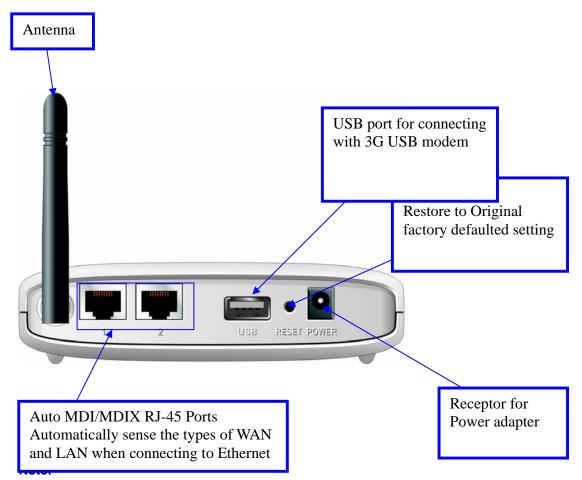
#### 1. Introduction

The Wireless WAN Mobile Broadband Router is a high-performance tool that supports wireless networking at home, work, or in a public place. The Wireless WAN Mobile Broadband Router supports uses a Type II PC card or USB 3G modem card, either WCDMA or EVDO and even HSDPA as well, and supports wireless data transfers up to 54 Mbps, and wired data transfers up to 100 Mbps.

The Wireless WAN Mobile Broadband Router is compatible with industry security features.

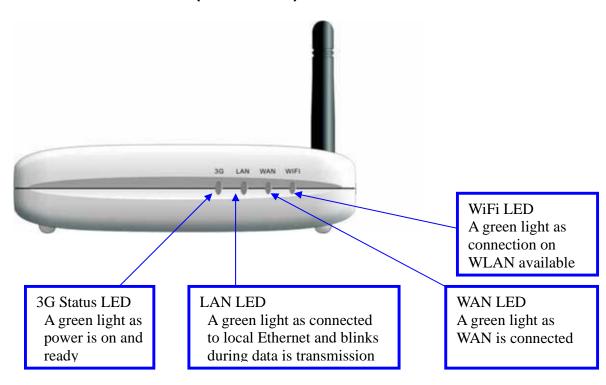
# 1.1. Connections: 3G modem interface depending on the difference of models

### 1.1.1. Wireless WAN Mobile Broadband Router (Rear View)



Contains a reset button to restore the setting back to original factory defaulted setting as if your convenience of forgetting your applicable setting

# 1.1.2. LEDs- 3G Wireless WAN Mobile Broadband Router (Front View)



#### 1.2. Features

- Automatic take over back up with 3G connection as Ethernet WAN failover.
- Implementation within 3 minutes allows the network to go where wires cannot go even outside the home or office.
- Fully compatible with the 802.11g standard to provide a wireless data transfer rate of up to 54Mbps.
- Backwards compatible with the 802.11b standard to provide a wireless data rate of up to 11Mbps.
- Utilizes **OFDM** technology (**O**rthogonal **F**requency **D**ivision **M**ultiplexing).
- User-friendly configuration and diagnostic utilities.
- Operates in the 2.4GHz frequency range.
- Advanced Firewall features.
- Supports NAT with VPN pass-through, providing added security.
  - MAC Filtering
  - IP Filtering
  - Port Scheduling
- DHCP server enables all networked computers to automatically receive IP addresses.
- Web-based interface for Managing and Configuring.
- Access Control to manage users on the network.
- Supports special applications that require multiple connections.
- Equipped with 2\*10/100 Ethernet ports, for LAN and WAN access, and USB port for 3G network connection.
- Connects multiple computers to a Broadband either WCDMA or EV-DO even HSDPA modem to share the Internet connection.

**Note:** The Wireless WAN Mobile Broadband Router is designed to work with either EVDO or WCDMA (UMTS) even up to 3.5G HSPA PC interface.

Please refer to your service provider for detailed feature information.

# 2. Configuring Wireless WAN Mobile broadband Router

#### 2.1. Installation Considerations

The Wireless WAN Mobile Broadband Router allows you access your network using a wireless connection, from virtually anywhere within its operating range. Keep in mind however, that the number, thickness, and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit this range.

Typical ranges vary depending on the types of materials used, and background RF (radio frequency) noise in your home or business.

To maximize your wireless range, please follow these guidelines:

- 1. Keep the number of walls and ceilings between the Wireless WAN Mobile Broadband Router and other network devices to a minimum. Each wall or ceiling can reduce the Wireless WAN Mobile Broadband Router's range from 3-90 feet (1-30 meters).

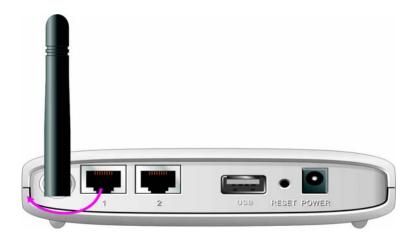
  Note: The same considerations apply to your broadband EVDO connection.
- 2. Keep your product aware from electrical devices (such as microwaves, air conditioners, and televisions) that emit large quantities of RFI (Radio Frequency Interference).

# 2.1.1. Installation Instructions- Get Start Networking

#### **Connect the Wireless Router to Your Network**

**Note:** *DO NOT connect Wireless WAN Mobile Broadband Router to power before performing the installation steps below.* 

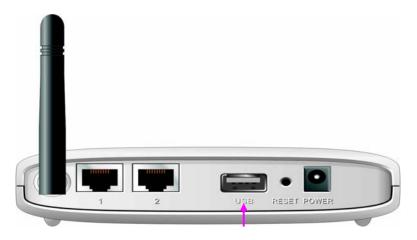
1. Attach the antenna.---picture 2.1



Picture 2.1

- a. Remove the antenna from its plastic wrapper.
- b. Screw the antenna in a clockwise direction to the back panel of the unit.
- c. Once secured, position the antenna upward at its connecting joint. This will ensure optimal reception.

2. Plug in **USB** modem *with service* to the Wireless WAN Mobile Broadband Router ---see **Picture 2.2** 



Picture 2.2

**Note:** The Wireless WAN Mobile Broadband Router is designed to work with either UMTS or EV-DO and even HSDPA 3G card that can be used as a modem (support tethered data). Please refer to your service provider for detailed feature information.

3. Insert the Ethernet patch cable into LAN Port on the back panel of the Wireless WAN Mobile Broadband Router, and an available Ethernet port on the network adapter in the computer you will use to configure the unit.-see Picture 2.3



**Note:** The Wireless WAN Mobile Broadband Router LAN Port is "Auto-MDI/MDIX." This provides patch Ethernet cable LAN Port access.

4. Connect the power adapter to the receptor on the back panel of your Wireless WAN

Mobile Broadband Router. Then plug the other end of the power adapter into a wall outlet or power strip.---Picture 2.4



Picture 2.4

- a. The Power LED will turn ON to indicate power has been applied.
- b. Other LEDs will flash ON and OFF as the Wireless WAN Mobile Broadband Router performs initialization and Internet connection processes. This will take a few minutes.
- c. When complete, the following LEDs will illuminate green: M1, WAN, LAN, and WiFi  $\,$



#### 2.1.2. Establish WiFi Connection

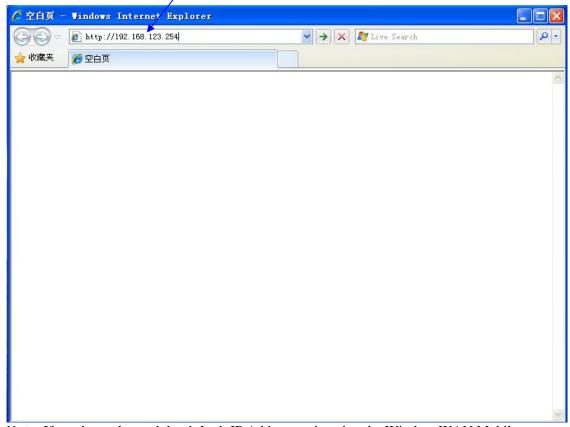
If you selected either **WEP** or **WPA-PSK** encryption, ensure these settings match your WiFi adapter settings.

WiFi and encryption settings must match for access to the Wireless WAN Mobile Broadband Router Configuration Menu, and the Internet. Please refer to your WiFi adapter documentation for additional information.

# 2.2. Using the Configuration Menu

Once properly configured, the Wireless WAN Mobile Broadband Router will obtain and assign IP address information automatically. Configuration settings can be established through the Wireless WAN Mobile Broadband Router Configuration Menu. You can access this interface by performing the steps listed below:

- 1. Open a web-browser.
- 2. Type in the **IP Address** (<u>http://192.168.123.254</u>) of the Wireless WAN Mobile Broadband Router



**Note:** If you have changed the **default** IP Address assigned to the Wireless WAN Mobile Broadband Router, ensure you enter the correct IP Address now.

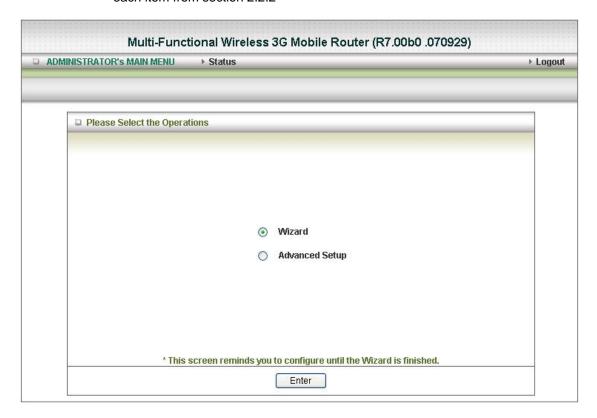
2. Type "admin" in the Password field.



3. Click "logon" button.

# 2.2.1. Wizard setting

- Press "Wizard" button → for basic settings with simpler way. (Please check section 2.2.1)
- Or you may click on "Advanced Setup" -→ for advanced settings. (Please check each item from section 2.2.2

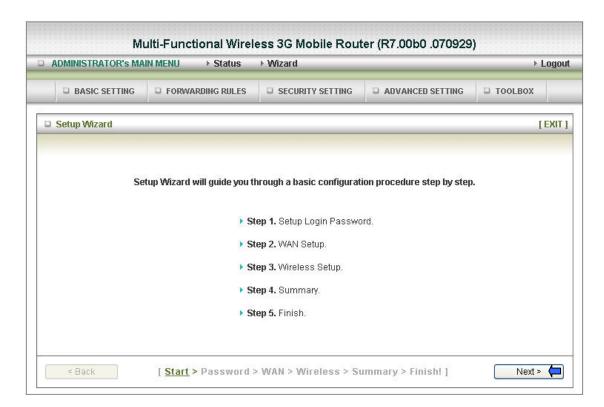


#### • Click on "Enter" button to get start.

With wizard setting steps, you could configure the router in a very simple way. This configuration wizard includes settings of

- a. Login Password,
- b. WAN Setup
- c. Wireless Setup,

Press "Next" button to start configuration.



Step 1: Allow you to change the system password.



You can change Password here.

It is recommended that you change the system password into the one you prefer to on the basis

of security

- 1. Key in your Old Password ( if it is the first initiation, the " admin" will be the defaulted one.
- 2: Enter your New Password
- 3: Enter your Password again for confirmation; it must be the same as the New Password.
- 4: Then click on "Next" to get into next installation.

Step 2: Select the WAN internet connection, 3G card, iBurst card or Wired Ethernet port.



Step 2-1: Select 3G WAN Type will be used for Internet connection.

Please enter the following information, this will have been provided to you by your 3G broadband service provider.  LAN IP Address 192.168.123.254  APN Pin Code  Disated Number  Username		IN MENU	Status	> Wizard			> Log
Please enter the following information, this will have been provided to you by your 36 broadband service provider.  LAN IP Address 192.168.123.254  APN  Pin Code  Disled Number  Username	☐ BASIC SETTING	□ FORWARDE	ING PULES	☐ SECURITY SETT	HIG D AL	VARCED SETTING	□ TOOLBOX
LAN IP Address	Setup Wizard - WAN	Settings - 3G					[EX
APN     Pin Code     Dialed Number      Username	Please enter the fo	Bowing informa	tion, this w	M have been provide	d to you by y	our 3G broadband s	ervice provider.
Pin Code  Dialed Number  Username	LAN IP Address		192	168.123.254			
Dialed Number     Username	+ APN						
▶ Username	Pin Code						
	<ul> <li>Dialed Number</li> </ul>					150	
Paccumed	<ul> <li>Username</li> </ul>						
* 1 doamuru	► Password						

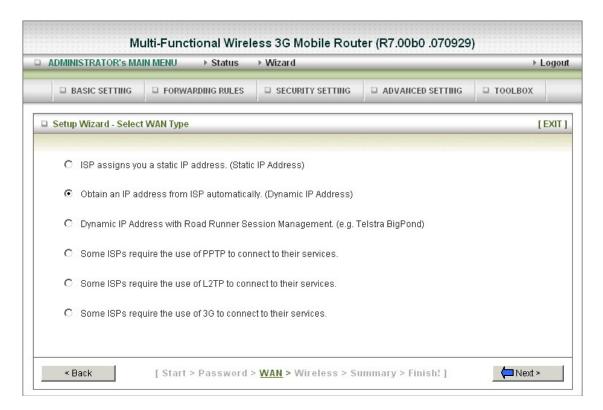
Enter the information by your 3G broadband service provider. Click on "Next" button

Step 2-2: Select iBurst WAN Type will be used for Internet connection.

BASIC SETTING	FORWARDING RULES	SECURITY SETTING	ADVANCED SETTING	□ TOOLBOX
1		-		1
Setup Wizard - WAN Sett	tings - iBurst			[EX
LAN IP Address	192.1	168.123.254		
▶ Username		ar qualificación de la characterística de la		
▶ Password				
▶ Primary DNS	0.0.0	.0		
▶ Secondary DNS	0.0.0	.0		
▶ Service Name		(0	optional)	
► Assigned IP Address	0.0.0	.0 (optional	)	

Enter the information by your iBurst broadband service provider. Click on "Next" button

Step 2-3: Select WAN Types will be used for Internet connection



Pick up one of types you preferred to. Click on "**Next**" button

Step 3: Configure the LAN IP Address, Host Name and WAN MAC Address.



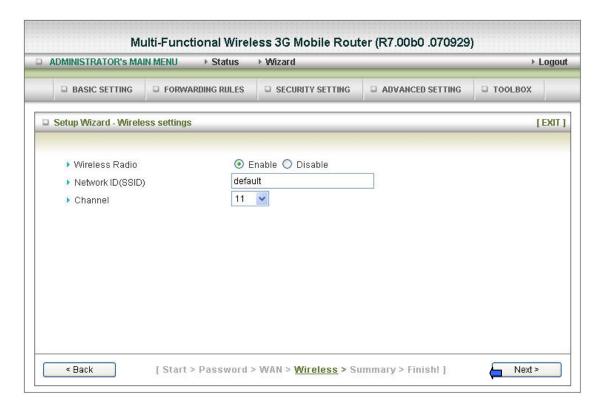
LAN is short for Local Area Network, and is considered your internal network. These are the IP settings of the LAN interface for the Wireless WAN Mobile Broadband Router, and they may be referred to as Private settings. You may change the LAN IP address if needed. The LAN IP address is private to your internal network and cannot be seen on the Internet.

**Note:** There are 254 addresses available on the Wireless WAN Mobile Broadband Router when using a 255.255.255.0 (Class C) subnet. Example: The router's IP address is 192.168.123.1. The available client IP range is 192.168.123.2 through 192.168.123.254.

- **1. LAN IP Address-** The IP address of the LAN interface. The **default** IP address is: **192.168.123.254**
- 2. Host Name is optional
- 3. WAN's MAC Address

  If you click the Clone MAC button, you will find the MAC address of your NIC shown in WAN's MAC Address
- 4. Click on "Next" to continue.

**Step 4: Configure the wireless settings.** 



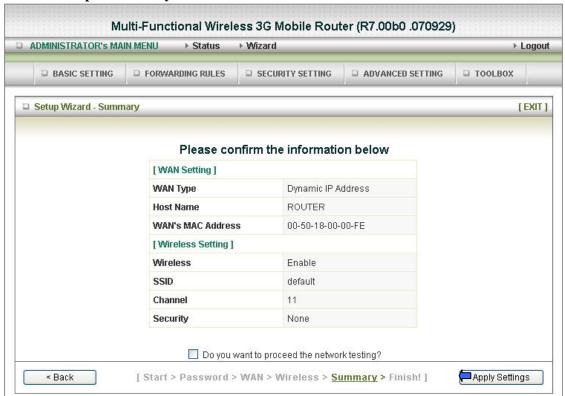
- 1. Select **Enabled** or **Disabled**. The **default** setting is **Enabled**.
- 2. Network ID( SSID) will be defaulted
- 3: Channel→ Select Wireless Channel matching to your local area for Wireless connection
- 4: Click on "Next" to continue.

Step 5: Select the Wireless security method of your wireless configuration.

ADMINISTRATOR'S MA	IIN MENU > Status	→ Wizard		> Lo
BASIC SETTING	□ FORWARDING RULE	S SECURITY SETTING	☐ ADVANCED SETTING	□ TOOLBOX
Setup Wizard - Wireld	ess Security			[E
► Security	_	lone 💌		

Click on "Next" to continue.

**Step 6: Summary** 



#### Click on the "Apply Settings" button

Step 7: System is applying.



Clicking "Finish" button to back to Status Page

# 2.2.2. Advanced Setup > Basic Setting

- 1. **LAP IP Address:** the local IP address of this device. The computers on your network must use the LAN IP address of your product as their Default Gateway. You can change it if necessary.
- 2. **LAN Netmask:** the Netmask of the local IP address
- 3. **WAN's MAC Address:** The WAN's MAC of this device. If you want to clone the MAC address from your NIC, just click the Clone MAC and save
- 4. **WAN Type**: WAN connection type of your ISP. You can select a correct one from the following options

# Advanced Setup > Basic Setting > Primary Setup

Select the WAN types you prefer to get on the internet connection

	Multi-Functional Wireless 3G Mo	bile Router (R7.03a3_0504) English
□ ADMINISTRATOR'S I	MAIN MENU → Status → Wizard	≻ Logout
BASIC SETTING	□ FORWARDING RULES □ SECURITY	SETTING D ADVANCED SETTING D TOOLBOX
Primary Setup	□ Primary Setup	[Help]
DHCP Server	Item	Setting
• Wireless	▶ LAN IP Address	192.168.123.254
Change Password	▶ LAN NetMask	255.255.255.0
	▶ WAN's MAC Address	00-22-15-23-B1-7F Save Restore MAC
	▶ Auto-Backup	☑ Enable checking wired-WAN alive Internet host:
	▶ WAN Type	
	O Static IP Address	ISP assigns you a static IP address.
	O Dynamic IP Address	Obtain an IP address from ISP automatically.
	O Dynamic IP Address with Road Runner Session Management	Dynamic IP Address with Road Runner Session Management is a WAN connection used in Australia. (eg. Telstra BigPond)
	O PPP over Ethernet	Some ISPs require the use of PPPoE to connect to their services.
	OL2TP	Some ISPs require the use of L2TP to connect to their services.
	ОРРТР	Some ISPs require the use of PPTP to connect to their services.
	<b>⊙</b> 3G	3G
	O iBurst	iBurst PC card connectivity
	► APN	
	▶ Pin Code	
	▶ Dialed Number	
	▶ Username	user25
	▶ Password	•••••
	► Authentication	● Auto ○ PAP ○ CHAP
	▶ Primary DNS	0.0.0.0
	▶ Secondary DNS	0.0.0.0
e de la companya de	▶ Auto Connect	Auto
	▶ Keep Alive	Disable     Use Ping     Interval: 60
	▶ Bridge ethernet ports	☐ Enable
	Save Undo	Virtual Computers

**Caution:** 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 to the 3G network.

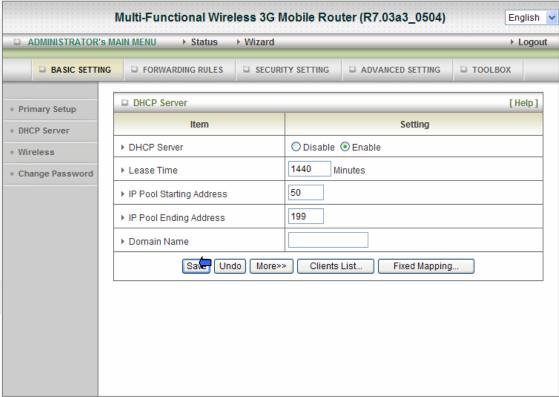
Please refer to your documentation or service provider for additional information.

- **APN-** Enter the APN for your PC card here.
- **Pin Code-**Enter the Pin Code for your PC card
- **Dial-Number-** This field should not be altered except when required by your service provider.
- User Name- Enter the new User Name for your PC card here.
- **Password** Enter the new **Password** for your PC card here.
- Primary DNS- This feature allows you to assign a Primary DNS Server (Optional)
- Secondary DNS- This feature allows you to assign a Secondary DNS Server (Optional)
- Auto Connect: There are 2 modes to select:
  Auto: The device will link up with ISP when the clients send outgoing packets.
  Manual: Manually: The device will not make the link until someone clicks the
- **Maximum Idle Time**: The Connection will be broken when the idle time arrives.
- **Keep Alive**: There are 3 modes to select: Disable / Use Ping /Use LCP Echo Request

connect-button in the Status-page.

- **Bridge two Ethernet ports:** Bridge the two ports, wired WAN and wired LAN. So we have 2 LAN ports and don't have wired WAN port.
- 1: Pick up one of the types you preferred to.
- 2: Click on "Next" button

Advanced Setup > Basic Setting > DHCP Server



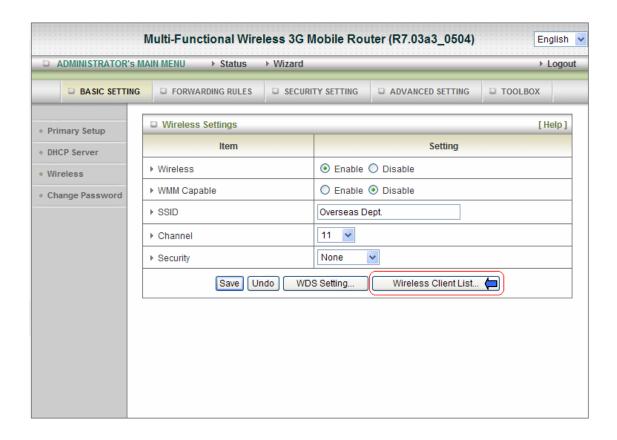
- 1. DHCP Server: Choose either Disable or Enable
- 2. Lease Time: DHCP lease time to the DHCP client
- 3. IP Pool Starting/Ending Address: Whenever there is a request, the DHCP server will automatically allocate an unused IP address from the IP address pool to the requesting computer. You must specify the starting / ending address of the IP address pool
- **4. Domain:** Optional, this information will be passed to the client
- 5. DHCP Clients List...: The web page shows the DHCP client list.
- **6. Fixed Mapping...**: Reference the page "MAC Address Control"

Please press the "More>>" button for more Settings.

- 7. Primary DNS/Secondary DNS: This feature allows you to assign a DNS Servers
- 8. Primary WINS/Secondary WINS: This feature allows you to assign a WINS Servers
- Gateway: The 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.

After you finish your selection then

Either Click on "Save" to store what you just pick or click "Undo" to give up



- Wireless Enabled is the default. Selecting this option will allow you to set your Wireless Access Point (WAP) settings.
- WMM Capable- *Disable* is the default. WMM® Quality of Service is a set of features for Wi-Fi networks that improve the user experience for audio, video, and voice applications by prioritizing data traffic.
- SSID- Service Set Identifier (SSID) is the name designated for a specific wireless local area network (WLAN). The SSID's factory default setting is default. The SSID can be easily changed to establish a new wireless network. (Note: SSID names may contain up to 32 ASCII characters).
- Channel- Channel 11 is the default. Devices on the network must share the same channel. (Note: Wireless adapters automatically scan and match the wireless settings. You may also select the channel you wish to use).
- Security- You may select from three levels of encryption to secure your wireless network: No Encryption, WEP, 802.1x, WPA-PSK, WPA, WPA2-PSK, or WPA2.
  - 1. No Encryption None:

No Wi-Fi security settings are on the device.

2. WEP

When you enable the 128 or 64 bit WEP key security, please select one WEP key to be used and input 26 or 10 hexadecimal (0, 1, 2...8, 9, A, B...F) digits.

3. 802.1X

Check Box was used to switch the function of the 802.1X. When the 802.1X function is enabled, the Wireless user must authenticate to this router first to use the Network service.

- 1. RADIUS Server IP: IP address or the 802.1X server's domain-name.
- 2. RADIUS port: The default port is 1812.

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

#### 4. WPA-PSK

- 1. Select Encryption type, TKIP or AES
- 2. Passphrase: The length of pre-share key is from 8 to 63.
- 3. Fill in the key, Ex 12345678

#### 5. **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.

- 1. IP address or the 802.1X server's domain-name.
- 2. Select Encryption and key in RADIUS Server IP/ Port / Shared Key.
- 3. Key value shared by the RADIUS server and this router. This key value is consistent with the key value in the RADIUS server.

#### 6. WPA2-PSK

- 1. Select Encryption type, TKIP or AES.
- 2. Passphrase: The length of pre-share key is from 8 to 63.
- 3. Fill in the key, Ex 12345678.

#### 7. WPA2

Check Box was used to switch the function of the WPA2. When the WPA2 function is enabled, the Wireless user must authenticate to this router first to use the Network service, RADIUS Server.

- 1. IP address or the 802.1X server's domain-name.
- 2. Select Encryption and key in RADIUS Server IP/ Port / Shared Key.
- 3. Key value shared by the RADIUS server and this router. This key value is consistent with the key value in the RADIUS server.
- WDS Setting...- The web Page is WDS operation, and WDS is defined by the IEEE802.11 standard has been made available. Using WDS it is possible to wirelessly connect Access Points, and in doing so extend a wired infrastructure to locations where cabling is not possible or inefficient to implement.
- Wireless Client List... The page shows a list of wireless client

Click on "Save" to store what you just select or "Undo" to give up

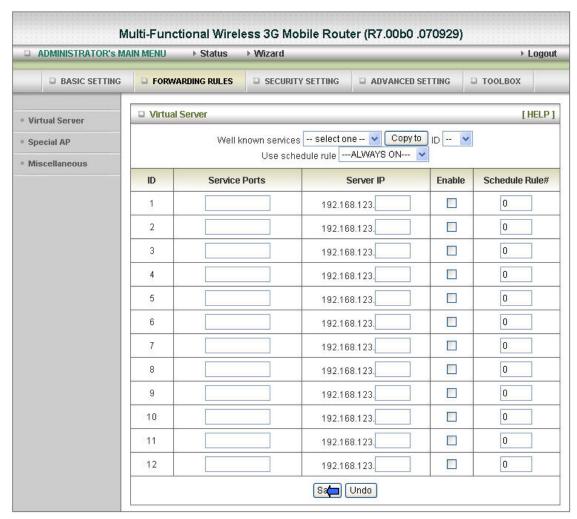
Advanced Setup > Basic Setting > Change Password



You can change Password here. We **strongly** recommend you to change the system password for security reason.

Click on "Save" to store what you just select or "Undo" to give up

Advanced Setup > Forwarding Rules > 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 Detail, 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 what you just select or "Undo" to give up

Advanced Setup > Forwarding Rules > Special AP