

WIQ318AM User's Manual

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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.

The specification is subject to change without notice.

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Chapter 1 Introduction

Congratulations on your purchase of this outstanding Wireless Broadband Router. This product is specifically designed for Small Office and Home Office needs. It provides a complete SOHO solution for Internet surfing, and is easy to configure and operate even for non-technical users. 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.

Functions and Features

Router Basic functions

- **Auto-sensing Ethernet Switch**
Equipped with a 4-port auto-sensing Ethernet switch.
- **WAN type supported**
The router supports some WAN types, Static, Dynamic, PPPoE , PPTP ,L2TP, Dynamic IP with Road Runner.
- **Firewall**
All unwanted packets from outside intruders are blocked to protect your Intranet.
- **DHCP server supported**
All of the networked computers can retrieve TCP/IP settings automatically from this product.
- **Web-based configuring**
Configurable through any networked computer's web browser using Netscape or Internet Explorer.
- **Virtual Server supported**
Enable you to expose WWW, FTP and other services on your LAN to be accessible to Internet users.
- **User-Definable Application Sensing Tunnel**
User can define the attributes to support the special applications requiring multiple connections, like Internet gaming, video conferencing, Internet telephony and so on, then this product can sense the application type and open multi-port tunnel for it.
- **DMZ Host supported**
Lets a networked computer be fully exposed to the Internet; this function is used when special application sensing tunnel feature is insufficient to allow an application to function correctly.
- **Statistics of WAN Supported**
Enables you to monitor inbound and outbound packets

Wireless functions

- **High speed for wireless LAN connection**
Up to 54Mbps data rate by incorporating Orthogonal Frequency Division Multiplexing (OFDM).
- **Roaming**
Provides seamless roaming within the IEEE 802.11b (11M) and IEEE 802.11g (54M) WLAN infrastructure.
- **IEEE 802.11b compatible (11M)**
Allowing inter-operation among multiple vendors.
- **IEEE 802.11g compatible (54M)**
Allowing inter-operation among multiple vendors.
- **Auto fallback**
54M, 48M, 36M, 24M, 18M, 12M, 6M data rate with auto fallback in 802.11g mode.
11M, 5.5M, 2M, 1M data rate with auto fallback in 802.11b mode.

Security functions

- **Packet filter supported**
Packet Filter allows you to control access to a network by analyzing the incoming and outgoing packets and letting them pass or halting them based on the IP address of the source and destination.
- **Domain Filter Supported**
Let you prevent users under this device from accessing specific URLs.
- **URL Blocking Supported**
URL Blocking can block hundreds of websites connection by simply a **keyword**.
- **VPN Pass-through**
The router also supports VPN pass-through.
- **802.1X supported**
When the 802.1X function is enabled, the Wireless user must authenticate to this router first to use the Network service.
- **Support WPA-PSK and WPA version 1 and 2**
When the WPA function is enabled, the Wireless user must authenticate to this router first to use the Network service
- **SPI Mode Supported**
When SPI Mode is enabled, the router will check every incoming packet to detect if this packet is valid.
- **DoS Attack Detection Supported**

When this feature is enabled, the router will detect and log the DoS attack comes from the Internet.

Advanced functions

- **System time Supported**

Allow you to synchronize system time with network time server.

- **E-mail Alert Supported**

The router can send its info by mail.

- **Dynamic dns Supported**

At present, the router has 3 ddns: dyndns, TZO.com and dhs.org.

- **SNMP Supported**

The router supports basic SNMP function.

- **Routing Table Supported**

Now, the router supports static routing.

- **Schedule Rule supported**

Customers can control some functions, like virtual server and packet filters when to access or when to block.

Other functions

- **UPNP (Universal Plug and Play) Supported**

The router also supports this function. The applications: X-box, Msn Messenger.

Packing List

- Wireless broadband router unit
- Installation CD-ROM
- Power adapter
- CAT-5 UTP Fast Ethernet cable

Chapter 2 Hardware Installation

2.1 Panel Layout

2.1.1. Front Panel



Figure 2-1 Front Panel

LED: Ports:

Port	Description
PWR	Power inlet
WAN	the port where you will connect your cable (or DSL) modem or Ethernet router.
Port 1-4	the ports where you will connect networked computers and other devices.

2.1.2. Rear Panel



Figure 2-2 Rear Panel

LED:

LED	Function	Color	Status	Description
Power	Power indication	Green	On	Power is being applied to this product.
Status	System status	Green	Blinking	Status is flashed once per second to indicate system is alive.
WAN	WAN port activity	Green	On	The WAN port is linked.
WLAN	Wireless activity	Green	Blinking	The WAN port is sending or receiving data.
			Blinking	Sending or receiving data via wireless
Link. 1~4	Link status	Green	On	An active station is connected to the corresponding LAN port.
Speed 10/100	Data Rate	Green	Blinking	The corresponding LAN port is sending or receiving data.
			On	Data is transmitting in 100Mbps on the corresponding LAN port.
Reset				To reset system settings to factory defaults

2.2 Procedure for Hardware Installation

2. Decide where to place your Wireless Broadband Router

You can place your Wireless Broadband Router on a desk or other flat surface, or you can mount it on a wall. For optimal performance, place your Wireless Broadband Router in the center of your office (or your home) in a location that is away from any potential source of interference, such as a metal wall or microwave oven. This location must be close to power and network connection.

2. Setup LAN connection

- a. Wired LAN connection: connects an Ethernet cable from your computer's Ethernet port to one of the LAN ports of this product.
- b. Wireless LAN connection: locate this product at a proper position to gain the best transmit performance.

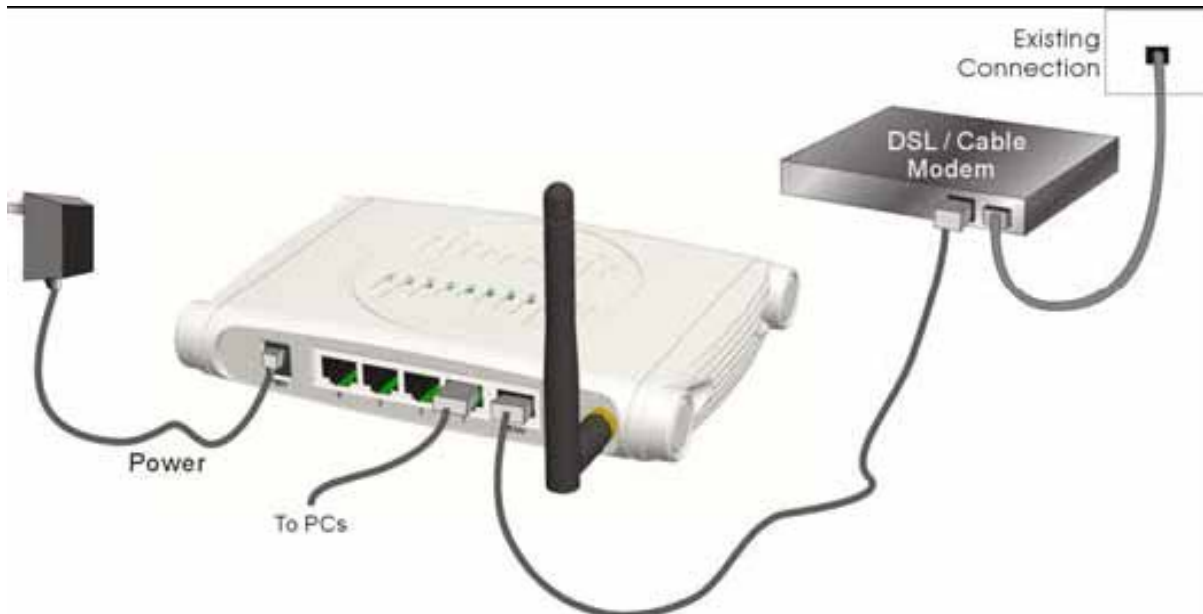


Figure 2-3 Setup of LAN and WAN connections for this product.

3. Setup WAN connection

Prepare an Ethernet cable for connecting this product to your cable/xDSL modem or Ethernet backbone. Figure 2-3 illustrates the WAN connection.

4. Power on

Connecting the power cord to power inlet and turning the power switch on, this product will automatically enter the self-test phase. When it is in the self-test phase, the indicators M1 will be lighted ON for about 10 seconds, and then M1 will be flashed 3 times to indicate that the self-test operation has finished. Finally, the M1 will be continuously flashed once per second to indicate that this product is in normal operation.

Chapter 3 Network Settings and Software Installation

To use this product correctly, you have to properly configure the network settings of your computers and install the attached setup program into your MS Windows platform (Windows 95/98/NT/2000).

3.1 Make Correct Network Settings of Your Computer

The default IP address of this product is 192.168.123.254, and the default subnet mask is 255.255.255.0. These addresses can be changed on your need, but the default values are used in this manual. If the TCP/IP environment of your computer has not yet been configured, you can refer to **Appendix A** to configure it. For example,

1. configure IP as 192.168.123.1, subnet mask as 255.255.255.0 and gateway as 192.168.123.254, or more easier,
2. configure your computers to load TCP/IP setting automatically, that is, via DHCP server of this product.

After installing the TCP/IP communication protocol, you can use the **ping** command to check if your computer has successfully connected to this product. The following example shows the ping procedure for Windows 95 platforms. First, execute the **ping** command

ping 192.168.123.254

If the following messages appear:

Pinging 192.168.123.254 with 32 bytes of data:

Reply from 192.168.123.254: bytes=32 time=2ms TTL=64

a communication link between your computer and this product has been successfully established.

Otherwise, if you get the following messages,

Pinging 192.168.123.254 with 32 bytes of data:

Request timed out.

There must be something wrong in your installation procedure. You have to check the following items in sequence:

1. Is the Ethernet cable correctly connected between this product and your computer?

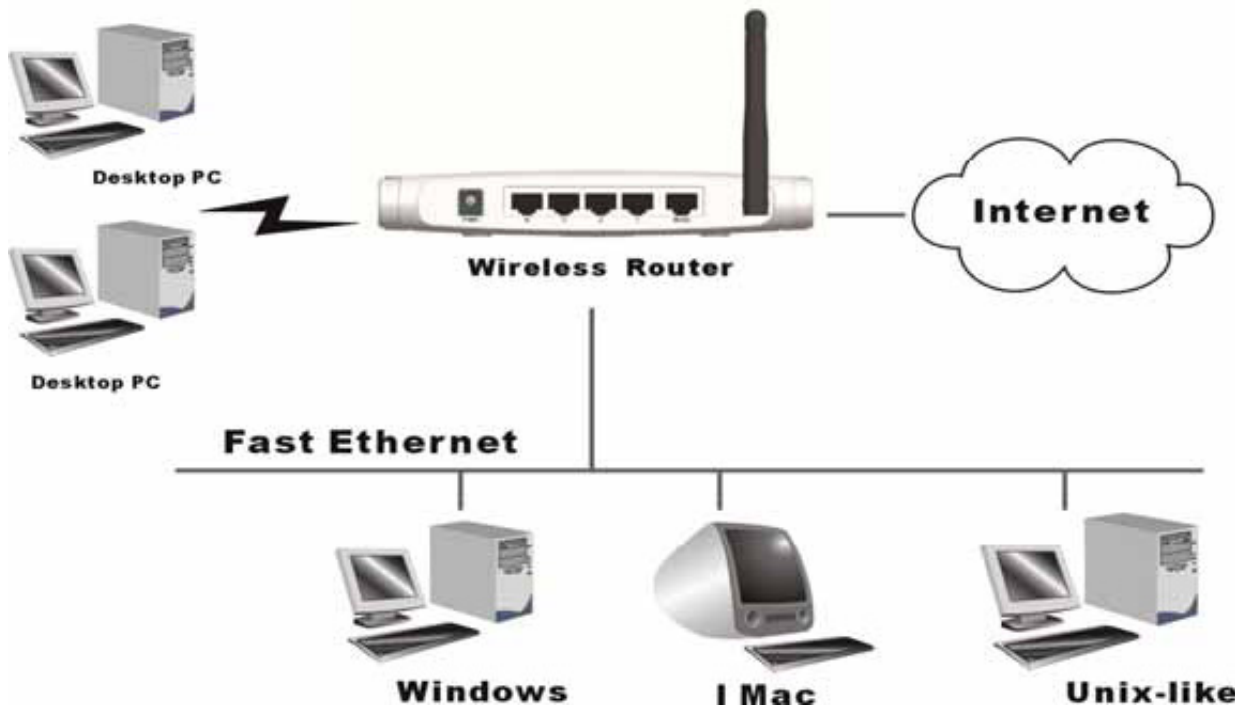
Tip: The LAN LED of this product and the link LED of network card on your computer must be lighted.

2. Is the TCP/IP environment of your computers properly configured?

Tip: If the IP address of this product is 192.168.123.254, the IP address of your computer must be 192.168.123.X and default gateway must be 192.168.123.254.

Chapter 4 Configuring Wireless Broadband Router

This product provides Web based configuration scheme, that is, configuring by your Web browser, such as Netscape Communicator or Internet Explorer. This approach can be adopted in any MS Windows, Macintosh or UNIX based platforms.



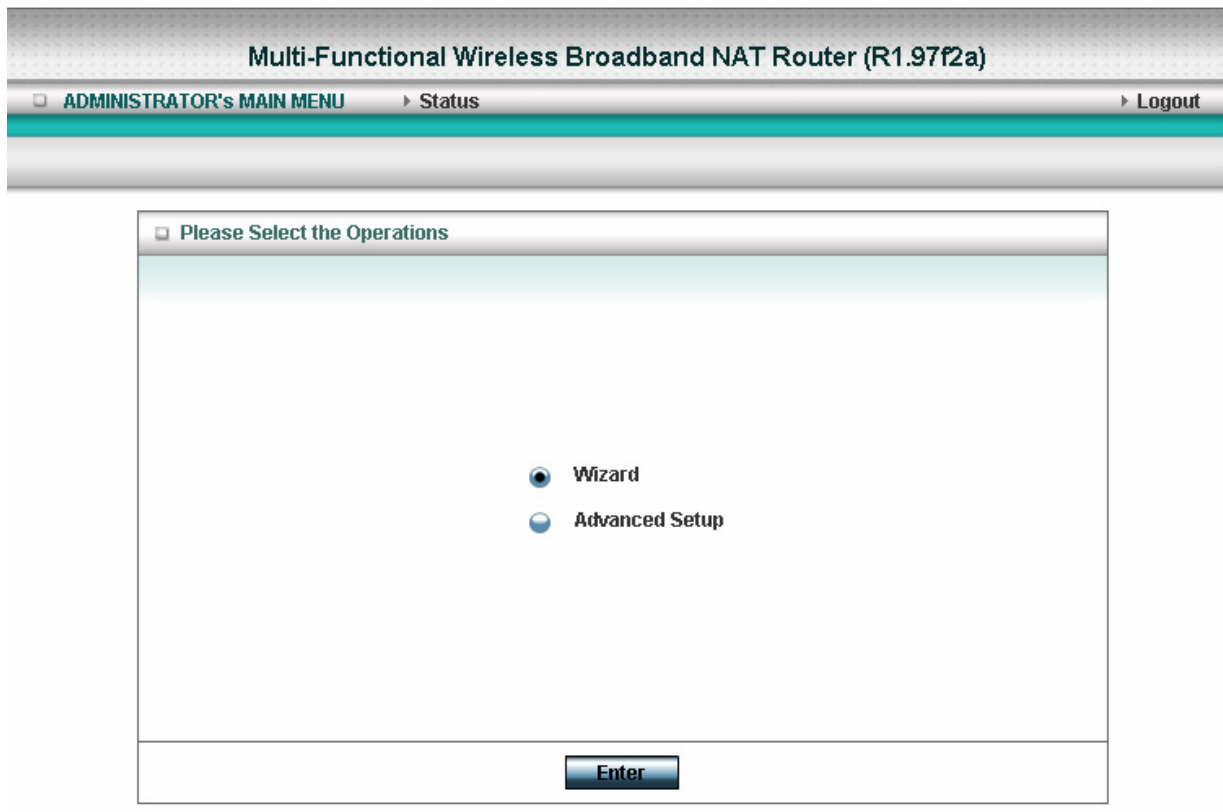
4.1 Login to Configure from Wizard

Activate your browser, and **disable the proxy** or **add the IP address of this product into the exceptions**. Then, type this product's IP address in the Location (for Netscape) or Address (for IE) field and press ENTER. For example: **http://192.168.123.254**.

After the connection is established, you will see the web user interface of this product. There are two appearances of web user interface: for general users and for system administrator.

To log in as an administrator, enter the system password (the factory setting is "admin") in the **System Password** field and click on the **Log in** button. If the password is correct, the web appearance will be changed into administrator configure mode. As listed in its main menu, there are several options for system administration.

The user can setup step by step to finish the connection with Wizard.



Setup Wizard will guide you through a basic configuration procedure step by step. Press "Next >"

Multi-Functional Wireless Broadband NAT Router (R1.97f2a)

ADMINISTRATOR's MAIN MENU ▶ Status ▶ Wizard ▶ Logout

BASIC SETTING FORWARDING RULES SECURITY SETTING ADVANCED SETTING TOOLBOX

Setup Wizard - Setup Wizard [EXIT]

Setup Wizard will guide you through a basic configuration procedure step by step.

- ▶ Step 1. Set Password.
- ▶ Step 2. WAN Setup.
- ▶ Step 3. Wireless Setup.
- ▶ Step 4. Summary.
- ▶ Step 5. Finish.

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

If the user finishes those steps and the router shows as below. It means that customers can enjoy Internet.

Multi-Functional Wireless Broadband NAT Router (R1.97f2a)

ADMINISTRATOR's MAIN MENU ▶ Status ▶ Wizard ▶ Logout

BASIC SETTING FORWARDING RULES SECURITY SETTING ADVANCED SETTING TOOLBOX

Setup Wizard - WAN Connection Test [EXIT]

Congratulations!!

The Internet connection is established.

Connection information are

WAN Type	Dynamic IP Address
IP Address	210.202.197.182
Subnet Mask	255.255.255.240
Gateway	210.202.197.190
Domain Name Server	192.168.123.10, 192.168.122.3

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

4.2 Status

Multi-Functional Wireless Broadband NAT Router (R1.97f1)

ADMINISTRATOR's MAIN MENU Status Logout

Wizard Advanced Setup

System Status [HELP]

Item	WAN Status	Sidenote
IP Address	211.74.184.162	PPPoE
Subnet Mask	255.255.255.255	
Gateway	211.74.184.162	
Domain Name Server	168.95.1.1	
Connection Time	03:10:14	Disconnect
MAC Address	00-04-61-4A-8A-33	

Wireless Status

Item	WLAN Status	Sidenote
SSID	default	
Channel	11	
Security	None	
MAC Address	00-50-18-00-0F-DA	

This option provides the function for observing this product's working status:

A. WAN Port Status.

If the WAN port is assigned a dynamic IP, there may appear a **“Renew”** or **“Release”** button on the Sidenote column. You can click this button to renew or release IP manually.

B. Statistics of WAN: enables you to monitor inbound and outbound packets

4.4 Basic Setting

Please Select "Advanced Setup" to Setup

Multi-Functional Wireless Broadband NAT Router (R1.97f2a)

ADMINISTRATOR's MAIN MENU ▶ Status ▶ Wizard ▶ Logout

BASIC SETTING FORWARDING RULES SECURITY SETTING ADVANCED SETTING TOOLBOX

System Status [HELP]

Item	WAN Status	Sidenote
Remaining Lease Time	00:24:30	Renew
IP Address	210.202.197.182	Release
Subnet Mask	255.255.255.240	
Gateway	210.202.197.190	
Domain Name Server	192.168.123.10, 192.168.122.3	
MAC Address	00-50-18-AF-BE-CD	

Wireless Status

Item	WLAN Status	Sidenote
SSID	default	
Channel	11	
Security	None	
MAC Address	00-50-18-AF-BE-CE	

4.4.1 Primary Setup – WAN Type, Virtual Computers

Multi-Functional Wireless Broadband NAT Router (R1.97f2a)

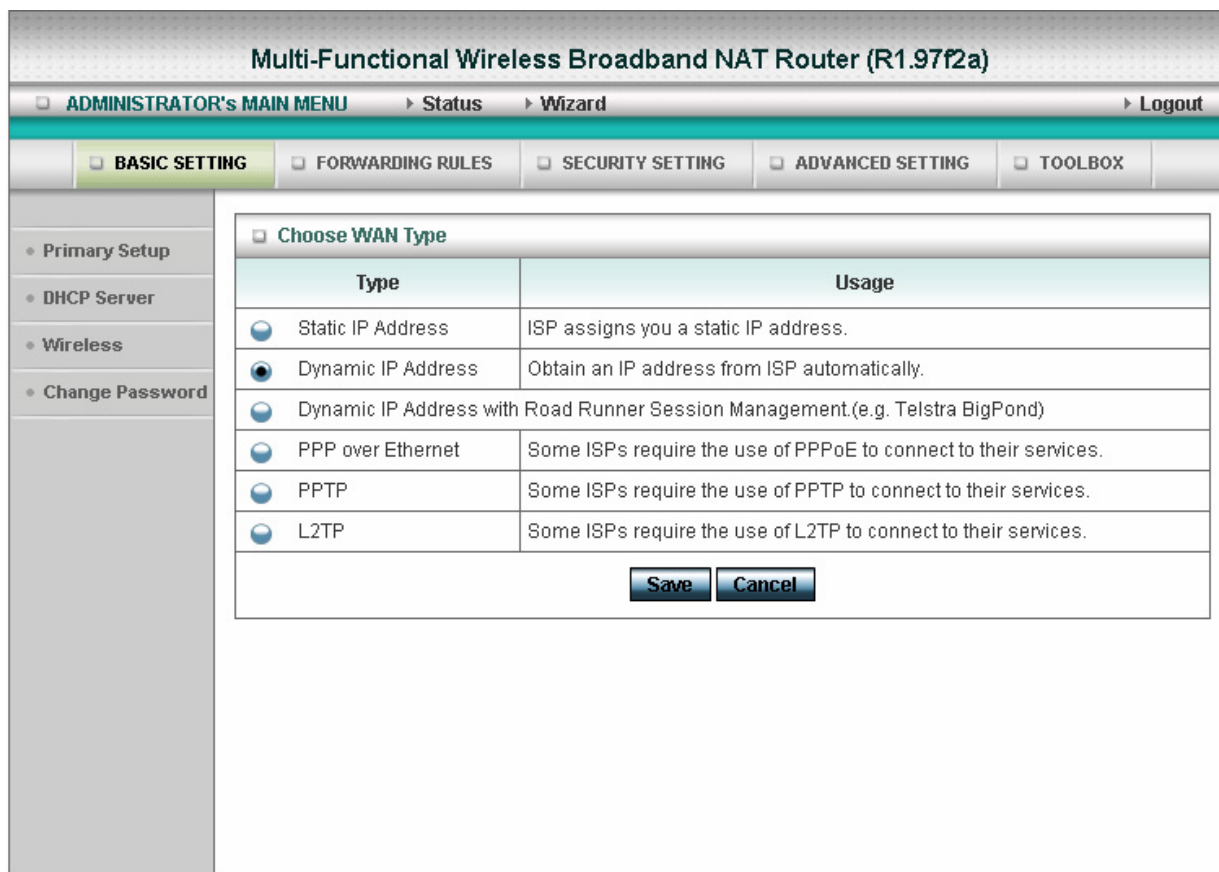
ADMINISTRATOR's MAIN MENU ▶ Status ▶ Wizard ▶ Logout

BASIC SETTING FORWARDING RULES SECURITY SETTING ADVANCED SETTING TOOLBOX

- Primary Setup
- DHCP Server
- Wireless
- Change Password

Primary Setup [HELP]	
Item	Setting
▶ LAN IP Address	<input type="text" value="192.168.122.217"/>
▶ WAN Type	Dynamic IP Address <input type="button" value="Change ..."/>
▶ Host Name	<input type="text"/> (optional)
▶ WAN's MAC Address	<input type="text" value="00-50-18-AF-BE-CD"/> <input type="button" value="Clone MAC"/>
▶ Renew IP Forever	<input checked="" type="checkbox"/> Enable (Auto-reconnect)

Press “Change”



This option is primary to enable this product to work properly. The setting items and the web appearance depend on the WAN type. Choose correct WAN type before you start.

1. **LAN 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. **WAN Type:** WAN connection type of your ISP. You can click **Change** button to choose a correct one from the following four options:
 - A. Static IP Address: ISP assigns you a static IP address.
 - B. Dynamic IP Address: Obtain an IP address from ISP automatically.
 - C. Dynamic IP Address with Road Runner Session Management.(e.g. Telstra BigPond)
 - D. PPP over Ethernet: Some ISPs require the use of PPPoE to connect to their services.
 - E. PPTP: Some ISPs require the use of PPTP to connect to their services.
 - F. L2TP: Some ISPs require the use of L2TP to connect to their services

4.4.1.1 Static IP Address

WAN IP Address, Subnet Mask, Gateway, Primary and Secondary DNS: enter the proper setting provided by your ISP.

4.4.1.2 Dynamic IP Address

1. Host Name: optional. Required by some ISPs, for example, @Home.
2. Renew IP Forever: this feature enables this product to renew your IP address automatically when the lease time is expiring-- even when the system is idle.

4.4.1.3 Dynamic IP Address with Road Runner Session Management.(e.g. Telstra BigPond)

1. LAN IP Address is the IP address of this product. It must be the default gateway of your computers.
2. WAN Type is Dynamic IP Address. If the WAN type is not correct, change it!
3. Host Name: optional. Required by some ISPs, e.g. @Home.
4. Renew IP Forever: this feature enable this product renew IP address automatically when the lease time is being expired even the system is in idle state.

4.4.1.4 PPP over Ethernet

1. 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 empty.
2. PPPoE Service Name: optional. Input the service name if your ISP requires it. Otherwise, leave it blank.
3. 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.
4. **Maximum Transmission Unit (MTU):** Most ISP offers MTU value to users. The most common MTU value is 1492.
5. 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 upw with ISP until the connection is established.

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

4.4.1.5 PPTP

First,Please check your ISP assigned and Select Static IP Address or Dynamic IP Address.

1. My IP Address and My Subnet Mask: the private IP address and subnet mask your ISP assigned to you.
2. Server IP Address: the IP address of the PPTP server.
3. PPTP Account and Password: the account and password your ISP assigned to you. If you don't want to change the password, keep it empty.
3. Connection ID: optional. Input the connection ID if your ISP requires it.
4. 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 product will connect to ISP automatically, after system is restarted or connection is dropped.
5. 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 up with ISP until the connection is established.

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

Multi-Functional Wireless Broadband NAT Router (R1.97f2a)

ADMINISTRATOR's MAIN MENU ▶ Status ▶ Wizard ▶ Logout

BASIC SETTING FORWARDING RULES SECURITY SETTING ADVANCED SETTING TOOLBOX

Primary Setup DHCP Server Wireless Change Password

Primary Setup [HELP]

Item	Setting
▶ LAN IP Address	192.168.122.217
▶ WAN Type	PPTP <input type="button" value="Change..."/>
▶ IP Mode	Static IP Address ▼
▶ My IP Address	Dynamic IP Address Static IP Address
▶ My Subnet Mask	255.255.255.0
▶ Gateway IP	0.0.0.0
▶ Server IP Address/Name	<input type="text"/>
▶ PPTP Account	<input type="text"/>
▶ PPTP Password	<input type="text"/>
▶ Connection ID	<input type="text"/> (optional)
▶ Maximum Idle Time	600 seconds
▶ Connection Control	Auto reconnect(Always-on) ▼
▶ MTU	1460

4.4.1.6 L2TP

First, Please check your ISP assigned and Select Static IP Address or Dynamic IP Address.

For example: Use Static

1. My IP Address and My Subnet Mask: the private IP address and subnet mask your ISP assigned to you.
2. Server IP Address: the IP address of the PPTP server.
3. PPTP Account and Password: the account and password your ISP assigned to you. If you don't want to change the password, keep it empty.
3. Connection ID: optional. Input the connection ID if your ISP requires it.
4. 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 product will

connect to ISP automatically, after system is restarted or connection is dropped.

6. 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 up 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.

Multi-Functional Wireless Broadband NAT Router (R1.97f2a)

ADMINISTRATOR's MAIN MENU ▶ Status ▶ Wizard ▶ Logout

BASIC SETTING FORWARDING RULES SECURITY SETTING ADVANCED SETTING TOOLBOX

- Primary Setup
- DHCP Server
- Wireless
- Change Password

Primary Setup [HELP]	
Item	Setting
▶ LAN IP Address	<input type="text" value="192.168.122.217"/>
▶ WAN Type	PPTP <input type="button" value="Change..."/>
▶ IP Mode	Static IP Address <input type="button" value="▼"/>
▶ My IP Address	<input type="text" value="10.0.0.100"/>
▶ My Subnet Mask	<input type="text" value="255.255.255.0"/>
▶ Gateway IP	<input type="text" value="10.0.0.1"/>
▶ Server IP Address/Name	<input type="text"/>
▶ PPTP Account	<input type="text"/>
▶ PPTP Password	<input type="text"/>
▶ Connection ID	<input type="text"/> (optional)
▶ Maximum Idle Time	<input type="text" value="600"/> seconds
▶ Connection Control	Auto reconnect(Always-on) <input type="button" value="▼"/>
▶ MTU	<input type="text" value="1460"/>

4.4.1.7 Virtual Computers(Only for Static and dynamic IP address Wan type)

The screenshot shows the configuration interface for a Multi-Functional Wireless Broadband NAT Router (R1.97f2a). The page title is "Multi-Functional Wireless Broadband NAT Router (R1.97f2a)". The navigation bar includes "ADMINISTRATOR's MAIN MENU", "Status", "Wizard", and "Logout". The main menu tabs are "BASIC SETTING", "FORWARDING RULES", "SECURITY SETTING", "ADVANCED SETTING", and "TOOLBOX". The left sidebar contains "Primary Setup", "DHCP Server", "Wireless", and "Change Password". The main content area is titled "Virtual Computers" and includes a "[HELP]" link. It features a table with the following columns: "ID", "Global IP", "Local IP", and "Enable". The table contains five rows, each with an ID from 1 to 5. The "Global IP" column has empty input boxes. The "Local IP" column shows "192.168.122." followed by empty input boxes. The "Enable" column has checkboxes, all of which are currently unchecked. Below the table are "Save" and "Undo" buttons.

ID	Global IP	Local IP	Enable
1	<input type="text"/>	192.168.122. <input type="text"/>	<input type="checkbox"/>
2	<input type="text"/>	192.168.122. <input type="text"/>	<input type="checkbox"/>
3	<input type="text"/>	192.168.122. <input type="text"/>	<input type="checkbox"/>
4	<input type="text"/>	192.168.122. <input type="text"/>	<input type="checkbox"/>
5	<input type="text"/>	192.168.122. <input type="text"/>	<input type="checkbox"/>

Virtual Computer enables you to use the original NAT feature, and allows you to setup the one-to-one mapping of multiple global IP address and local IP address.

- Global IP: Enter the global IP address assigned by your ISP.
- Local IP: Enter the local IP address of your LAN PC corresponding to the global IP address.
- Enable: Check this item to enable the Virtual Computer feature.

4.4.2 DHCP Server

Multi-Functional Wireless Broadband NAT Router (R1.97f2a)

ADMINISTRATOR's MAIN MENU | Status | Wizard | Logout

BASIC SETTING | FORWARDING RULES | SECURITY SETTING | ADVANCED SETTING | TOOLBOX

Primary Setup
DHCP Server
Wireless
Change Password

DHCP Server [HELP]

Item	Setting
DHCP Server	<input checked="" type="radio"/> Disable <input type="radio"/> Enable
Lease Time	0 Minutes
IP Pool Starting Address	100
IP Pool Ending Address	199
Domain Name	
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0
Primary WINS	0.0.0.0
Secondary WINS	0.0.0.0
Gateway	0.0.0.0 (optional)

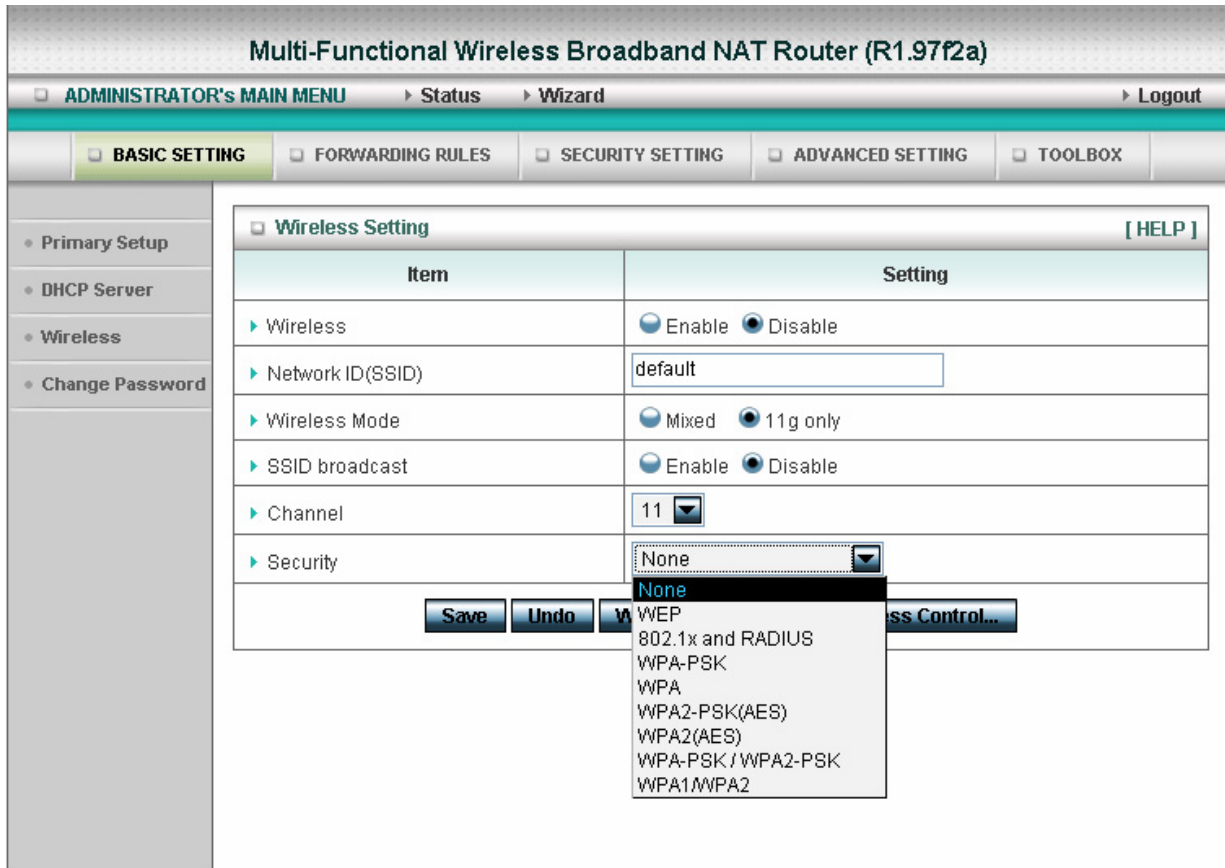
Save Undo Clients List... Fixed Mapping...

Press “More>>”

The settings of a TCP/IP environment include host IP, Subnet Mask, Gateway, and DNS configurations. It is not easy to manually configure all the computers and devices in your network. Fortunately, DHCP Server provides a rather simple approach to handle all these settings. This product supports the function of DHCP server. If you enable this product’s DHCP server and configure your computers as “automatic IP allocation” mode, then when your computer is powered on, it will automatically load the proper TCP/IP settings from this product. The settings of DHCP server include the following items:

1. **DHCP Server:** Choose “Disable” or “Enable.”
2. **IP pool starting Address/ IP pool starting 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 and ending address of the IP address pool.
3. **Domain Name:** Optional, this information will be passed to the client.
4. **Primary DNS/Secondary DNS:** This feature allows you to assign DNS Servers
5. **Primary WINS/Secondary WINS:** This feature allows you to assign WINS Servers
6. **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.

4.4.3 Wireless Setting, 802.1X setting and WDS



Wireless settings allow you to set the wireless configuration items.

Wireless : The user can enable or disable wireless function.

Network ID (SSID): Network ID is used for identifying the Wireless LAN (WLAN). Client stations can roam freely over this product and other Access Points that have the same Network ID. (The factory setting is “default”)

SSID Broadcast: The router will Broadcast beacons that have some information, including ssid so that The wireless clients can know how many ap devices by scanning function in the network. Therefore, This function is disabled, the wireless clients can not find the device from beacons.

Channel: The radio channel number. The permissible channels depend on the Regulatory Domain. The factory setting is as follow: **channel 6** for North America; **channel 7** for European (ETSI); **channel 7** for Japan.

Security: Select the data privacy algorithm you want. Enabling the security can protect your data while

it is transferred from one station to another.

There are several security types to use:

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.

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.

RADIUS Server

IP address or the 802.1X server's domain-name.

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.

The screenshot shows the configuration interface for a Multi-Function Wireless Broadband NAT Router (R1.97f2a). The main menu includes 'ADMINISTRATOR's MAIN MENU', 'Status', 'Wizard', and 'Logout'. The 'BASIC SETTING' tab is selected, with other tabs for 'FORWARDING RULES', 'SECURITY SETTING', 'ADVANCED SETTING', and 'TOOLBOX'. The left sidebar contains navigation options: 'Primary Setup', 'DHCP Server', 'Wireless', and 'Change Password'. The 'Wireless Setting' section is expanded, showing a table of configuration items:

Item	Setting
Wireless	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Network ID(SSID)	default
Wireless Mode	<input type="radio"/> Mixed <input checked="" type="radio"/> 11g only
SSID broadcast	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Channel	11
Security	802.1x and RADIUS
Encryption Key Length	<input checked="" type="radio"/> 64 bits <input type="radio"/> 128 bits
RADIUS Server IP	192.168.123.33
RADIUS port	1812
RADIUS Shared Key	

At the bottom of the configuration area, there are buttons for 'Save', 'Undo', 'WDS Setting...', and 'MAC Address Control...'.

WPA-PSK

1. 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 ASCII, the length of pre-share key is from 8 to 63.

2. Fill in the key, Ex 12345678

The screenshot shows the configuration interface for a Multi-Functional Wireless Broadband NAT Router (R1.97f2a). The main menu includes Administrator's Main Menu, Status, Wizard, and Logout. The current page is the Basic Setting section, specifically the Wireless Setting page. The settings are as follows:

Item	Setting
Wireless	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Network ID(SSID)	default
Wireless Mode	<input type="radio"/> Mixed <input checked="" type="radio"/> 11g only
SSID broadcast	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Channel	11
Security	WPA-PSK
Encryption	<input checked="" type="radio"/> TKIP <input type="radio"/> AES
Preshare Key Mode	ASCII
Preshare Key	

Buttons at the bottom: Save, Undo, WDS Setting..., MAC Address Control...

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 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.