54M Wireless Router
User Manual
IP0489

Ver1.0.0.c

Contents

Section one Introduction

Thank you for purchasing 54M Wireless Broadband Router. This user guide will assist you with the installation procedure.

1.1 About the 54M Wireless Router

54M Wireless Router is a hybrid design product which combines Ethernet technology and wireless access into a single stand-alone unit. The device allows you take advantages of both mobility and fast connection. All PCs whenever on wireless LAN or Ethernet LAN can share files, printers and other network resource. Moreover, all users can share single account of Internet access by having this device connect to a DSL/Cable modem.

1. Ethernet / Fast Ethernet

Ethernet is the most widely-used network access method, especially in a Local Area.Network (LAN) and is defined by the IEEE as the 802.3 standard. Normally, Ethernet is a shared media LAN. All stations on the segment share the total bandwidth, which could be 10 Mbps (Ethernet), 100 Mbps (Fast Ethernet). With a switched Ethernet, each sender and receiver has the full bandwidth.*Fast Ethernet* is defined by the IEEE 802.3u standard, a high-speed version of Ethernet with 100 Mbps transmission rate.

2. Wireless LAN

Wireless Local Area Network systems (WLANs) transmit and receive data through the air by using radio frequency (RF). This offers some advantages like mobility, ease of installation, and scalability over traditional wired systems.

Mobility: WLANs combine data connectivity with user mobility. This provides users with access to network anywhere in their organization. For example, users can roam from a conference room to their office without being disconnected from the LAN. This is impossible with wired networks.

1.2 Package contents

After carefully unpacking the shipping carton, check the contents listed below.

➢ 54M Wireless Broadband Router Router

➢ A power adapter

➢ 54M Wireless Broadband Router User Manual

If any of the listed contents are damaged or missing, please contact the retailer from whom you purchased the 54M Wireless Router for assistance.

1.3 Features

The 54M Wireless Router has the following features that make it excellent for network connections.

➢ Complies with IEEE802.11g, IEEE802.11b, IEEE802.3, IEEE802.3u standards
➢ 1 10/100M Auto-Negotiation WAN RJ45 port, 4 10/100M Auto-Negotiation LAN RJ45 ports
➢ Supports Auto MDI/MDIX
➢ Supports Wireless Roaming, can move among different AP and no break
➢ Supports 54/48/36/24/18/12/9/6/11/5.5/3/2/1Mbps wireless LAN data transfer rates
➢ Provides 64/128 bit WEP encryption security
➢ Supports wireless Relay/Bridging/WDS/WDS+AP mode
➢ Provides WPA and WPA2 authentication and TKIP/AES encryption security
➢ Provides wireless LAN ACL (Access Control List) filtering
➢ Built-in NAT and DHCP server supporting static IP address distributing
➢ Supports Virtual Server, Special Application, and DMZ host
➢ Built-in firewall supporting IP address filtering, Domain Name filtering, and MAC address filtering
➢ Supports TCP/IP, PPPoE, DHCP, ICMP, NAT
➢ Supports UPnP, Dynamic DNS, Static Routing,
➢ Supports Flow Statistics
➢ Supports ICMP-FLOOD, UDP-FLOOD, TCP-SYN-FLOOD filter
➢ Supports firmware upgrade
➢ Supports Remote and Web management

Section Two Hardware Installation

2.1 Panel Layout

2.1.1 The Front Panel

The front panel of the 54M Wireless Router consists of several LED indicators, which is designed to indicate connections. Viewed from left to right. The table describes the LEDs on the front panel of the router.

Name	Action	Description
Power	OFF	No Power
	ON	Power on
M1	ON	The router is initialising
	Flashing	The router is working properly
	OFF	The router has a hardware error
WLAN	OFF	The Wireless Radio function is disabled
	Flashing	The Wireless Radio function is enabled
1/2/3/4	OFF	There is no device linked to the corresponding port
	ON	There is a device linked to the corresponding port but no activity
	Flashing	There is an active device linked to the corresponding port

2.1.2 The Rear Panel

The rear panel contains the following features. (Viewed from left to right:)
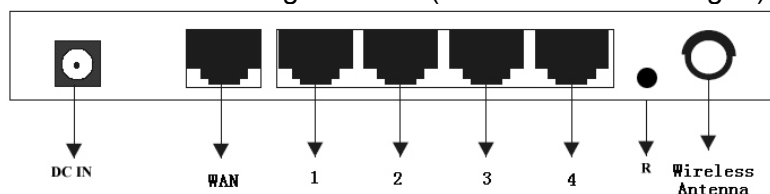
1. Wireless antenna
2. WAN RJ45 port for connecting the router to a cable, DSL modem or Ethernet
3. Four LAN 10/100Mbps RJ45 ports for connecting the router to the local PCs
4. AC power socket: only use the power adapter supplied with the 54M WIRELESS ROUTER 54Mbps Wireless Router, use of a different adapter may result in product damage.
5. Factory Default Reset button

There is a way to reset the router's factory defaults:

1.Use the Factory Default Reset button: First, turn on the router's power. Second, press and hold the default reset button, until the system LED lights up(about 5 seconds). Last, release the reset button and wait for the router to reboot.

Notice: Ensure the router is powered on before it restarts completely.

2.2 System Requirements

➤ Broadband Internet Access Service (DSL/Cable/Ethernet)

➤ One DSL/Cable modem that has an RJ45 connector (you do not need it if you connect the router to Ethernet)

➤ Each PC on the LAN needs a working Ethernet Adapter and an Ethernet cable with RJ45 connectors

➤ TCP/IP protocol must be installed on each PC

➤ Web browser, such as Microsoft Internet Explorer 5.0 or later, Netscape Navigator 6.0 or later

2.3 Installation Environment Requirements

➤ Not in direct sunlight or near a heater or heating vent

➤ Not cluttered or crowded. There should be at least 2 inches (5 cm) of clear space on all sides of the router

> ➢ Well ventilated (especially if it is in a closet)
> ➢ Operating temperature: 0℃~40℃
> ➢ Operating Humidity: 5%~90%RH, Non-condensing

2.4 Connecting the Router

Before you install the router, you should connect your PC to the Internet through your broadband service successfully. If there is any problem, please contact your ISP. After that, please install the router according to the following steps. Don't forget to pull out the power plug and keep your hands dry.

1. Power off your PC(s), Cable/DSL modem, and the router.
2. Locate an optimum location for the router. The best place is usually near the center of the area in which your PC(s) will wirelessly connect. The place must accord with the Installation Environment Requirements.
3. Adjust the direction of the antenna. Normally, upright is a good direction.
4. Connect the PC(s) and each Switch/Hub on your LAN to the LAN Ports on the router.
5. Connect the DSL/Cable Modem to the WAN port on the router.
6. Connect the AC power adapter to the AC power socket on the router, and the other end into an electrical outlet. The router will start to work automatically.
7. Power on your PC(s) and Cable/DSL modem.
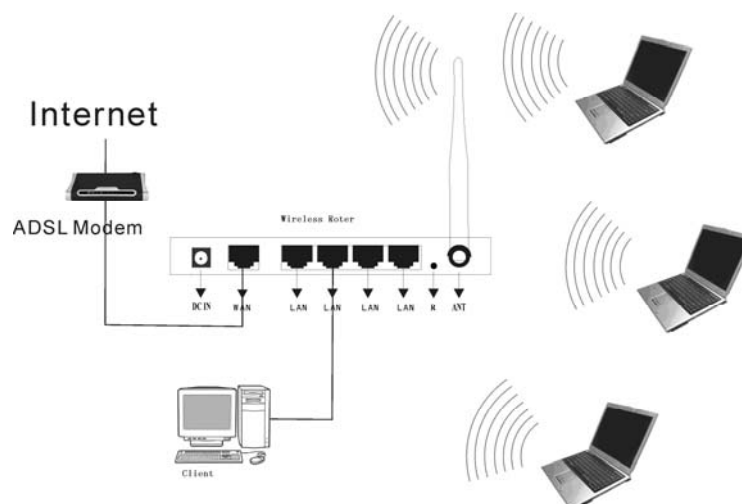
Section Three: Quick Installation Guide

After connecting the 54M Wireless Router into your network, you should configure it. This chapter describes how to configure the basic functions of your 54M Wireless Router. These procedures only take you a few minutes. You can access the Internet via the router immediately after successfully configured.

3.1 TCP/IP configuration

The default IP address of the 54Mbps Wireless Router is 192.168.1.254, and the default Subnet Mask is 255.255.255.0. These values can be seen from the LAN. They can be changed as you desire, as an example we use the default values for description in this guide.

Connect the local PCs to the LAN ports on the router. There are then two means to configure the IP address for your PCs.

Configure the IP address manually

1) Set up the TCP/IP Protocol for your PC(s). If you need instructions as to how to do this.

2) Configure the network parameters. The IP address is 192.168.1.xxx ("xxx" is from 2 to 254), Subnet Mask is 255.255.255.0, and Gateway is 192.168.1.254

(The router's default IP address)

Obtain an IP address automatically

1) Set up the TCP/IP Protocol in "**Obtain an IP address automatically**" mode on your PC(s). If you need instructions as to how to do this,

2) Power off the router and PC(s). Then turn on the router, and restart the PC(s). The built-in DHCP server will assign IP addresses for the PC(s).

Now, you can run the Ping command in the **command prompt** to verify the network connection between your PC(s) and the router.

Open a command prompt, and type *ping 192.168.1.254*, then press **Enter**.

```
Pinging 192.168.1.254 with 32 bytes of data:

Reply from 192.168.1.254 : bytes=32 time<10ms TTL=64
Reply from 192.168.1.254: bytes=32 time<10ms TTL=64
Reply from 192.168.1.254 : bytes=32 time<10ms TTL=64
Reply from 192.168.1.254 : bytes=32 time<10ms TTL=64

Ping statistics for 192.168.1. 254
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  0ms, Average =  0ms
```

If the result displayed is similar to that shown in the top of figure, the connection between your PC and the router has been established.

```
Pinging 192.168.1.254 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for  192.168.1.254
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  0ms, Average =  0ms
```

If the result displayed is similar to that shown in the top of figure, it means that your PC has not connected to the router. Please check it following these steps:

1. Is the connection between your PC and the router correct?
    Notice: The 1/2/3/4 LEDs of LAN port on the router and LEDs on your PC's adapter should be lit.
2. Is the TCP/IP configuration for your PC correct?
    Notice: If the router's IP address is 192.168.1.254, your PC's IP address must be within the range of 192.168.1.2 ~ 192.168.1.253, the gateway must be 192.168.1.254

3.2 Quick Setup wizard

With a Web-based (Internet Explorer or Netscape$^{®}$ Navigator) utility, the 54Mbps Wireless Router is easy to configure and manage. The Web-based utility can be used on any Windows, Macintosh or UNIX OS with a web browser.

Connect to the router by typing *http://192.168.1.254* in the address field of web browser.

```
http://192.168.1. 254          ▼
```

After a moment, a login window will appear similar to that shown in Figure. Enter **admin** for the User Name and Password, both in lower case letters. Then click the **OK** button or press the **Enter** key.

Note: If the above screen does not prompt, it means that your web-browser has been set to a proxy. Go to Tools menu>Internet Options>Connections>LAN Settings, in the screen that appears, cancel the Using Proxy checkbox, and click OK to finish it.

If the User Name and Password are correct, you can configure the router using the web browser.

Please click the **Setup Wizard** link on the left of the main menu and the Setup Wizard screen will appear.
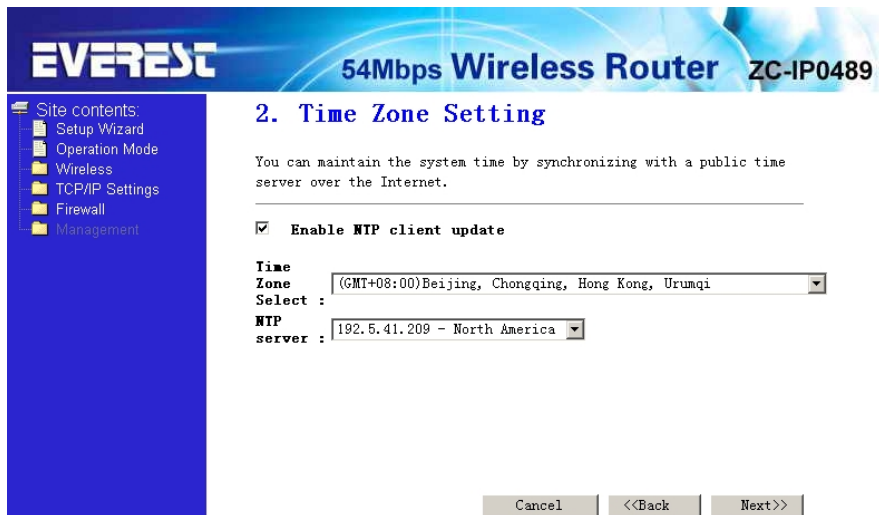
Click **SetupWizard**, the **SetupWizard** will appear.
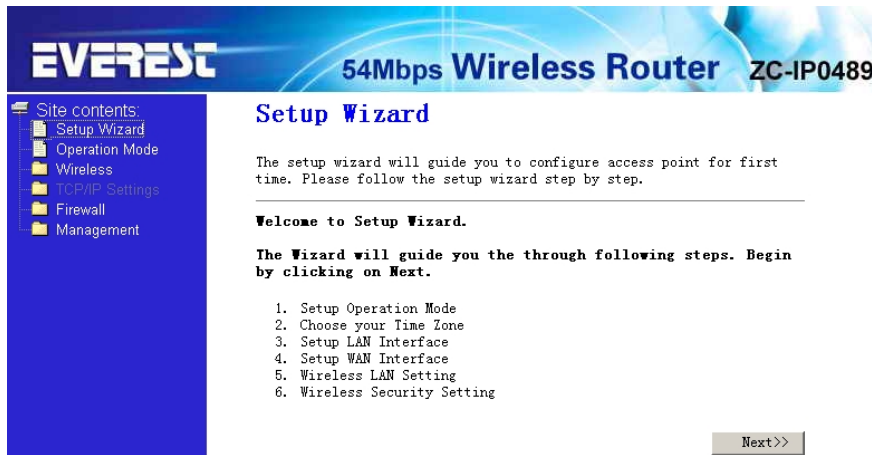
The router supports three modes: gateway, bridge, wireless ISP. You can setup different modes to LAN and WLAN interface for NAT and bridging function.
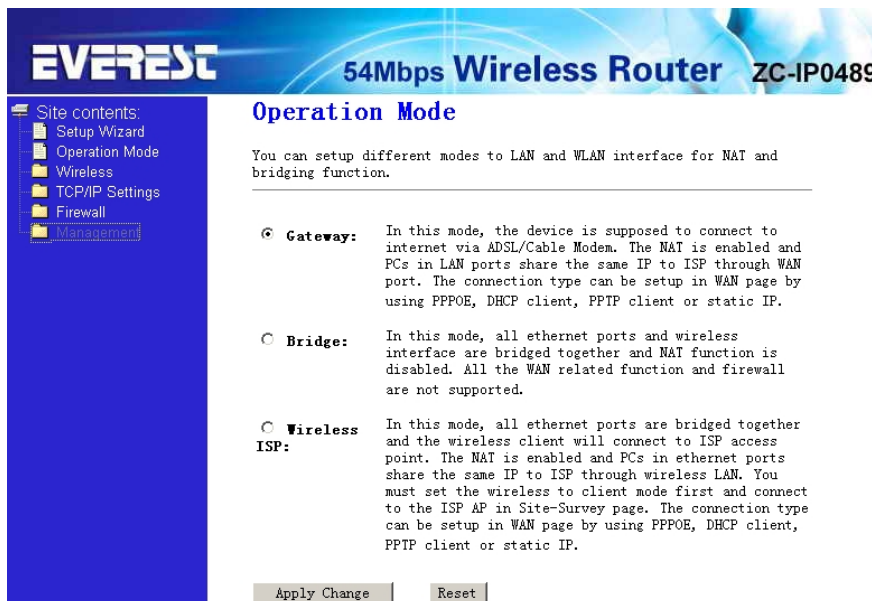
Click **next**, **Time Zone Setting** will appear. You can select the time zone what you need.

Click **next**, **LAN Interface setup** will appear. In this page, you can set IP address, Subnet Mask.

IP Address - Enter the IP address of your router in dotted-decimal notation (factory default: 192.168.1.254).

Subnet Mask - An address code that determines the size of the network. Normally use 255.255.255.0 as the subnet mask.

Notice : The same to all PCs' Subnet Mask with router in you LAN.
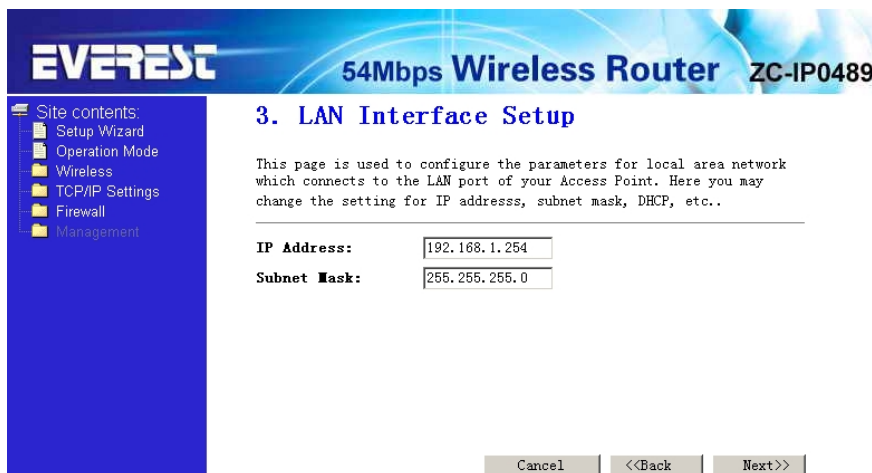

Click next, WAN Interface will appear. In this page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point.

WAN Access Type: Here you can select the access method to static IP, DHCP, PPPoE or PPTP by click the item value of WAN Access type.
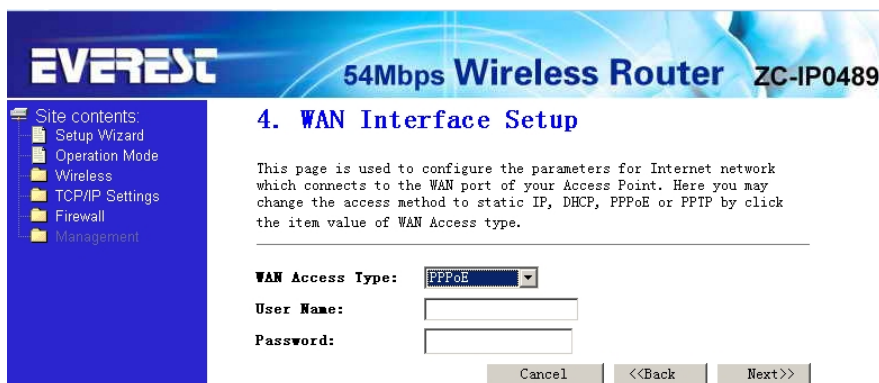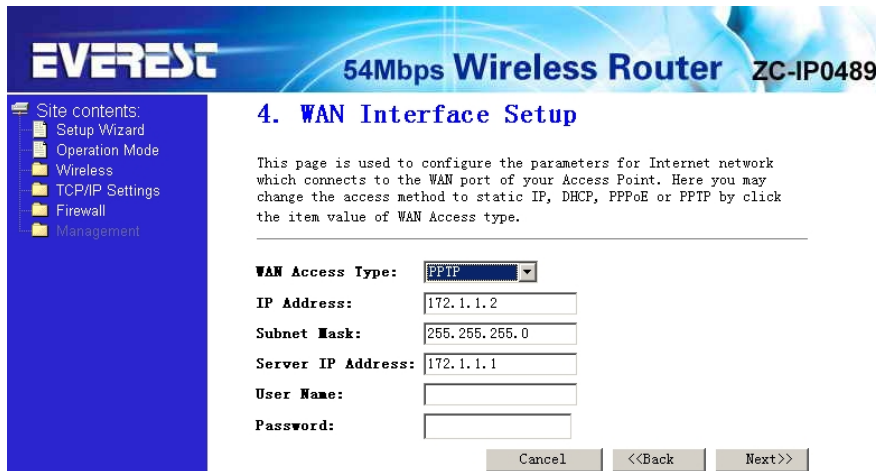

    User Name and **Password -** Enter the **User Name** and **Password** provided by your ISP.
**Services name**: Default is blank.
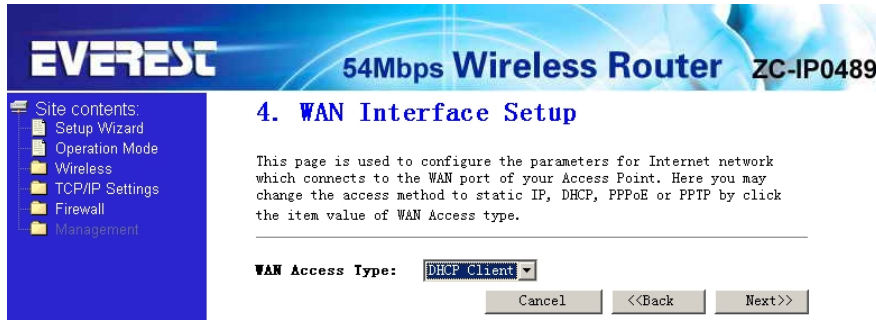
If you choose " **DHCP Client**", the router will automatically receive the IP parameters from your ISP without needing to enter any parameters.

If you Choose "**PPTP**", the Static IP settings page will appear, shown in the figure.

You can get IP **Address Subnet Mask, server IP Address, User Name and Password** from your ISP

If you Choose "**Static IP**", the Static IP settings page will appear, shown in figure.
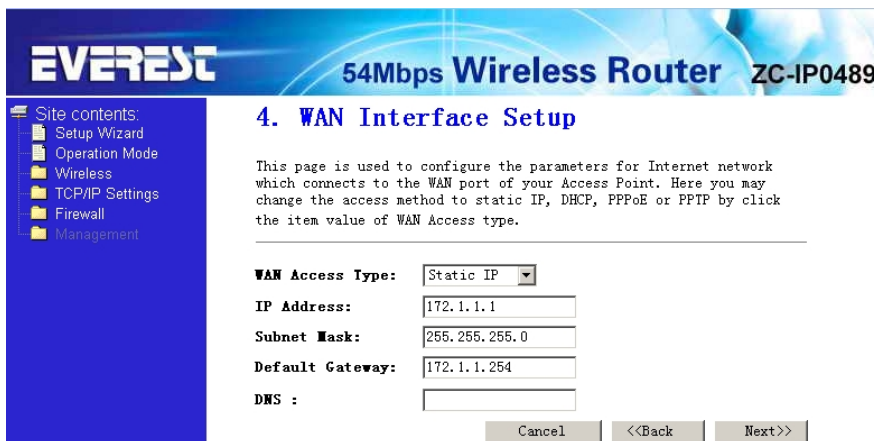
Note: The IP parameters should have been provided by your ISP.

**IP Address -** This is the WAN IP address as seen by external users on the Internet (including your ISP). Enter the IP address into the field.

Subnet Mask - The Subnet Mask is used for the WAN IP address, it is usually 255.255.255.0

Default Gateway - Enter the gateway into the box if required.

DNS - Enter the DNS Server IP address into the boxes if required.
Click **next**, **wireless basic setting** will appear.
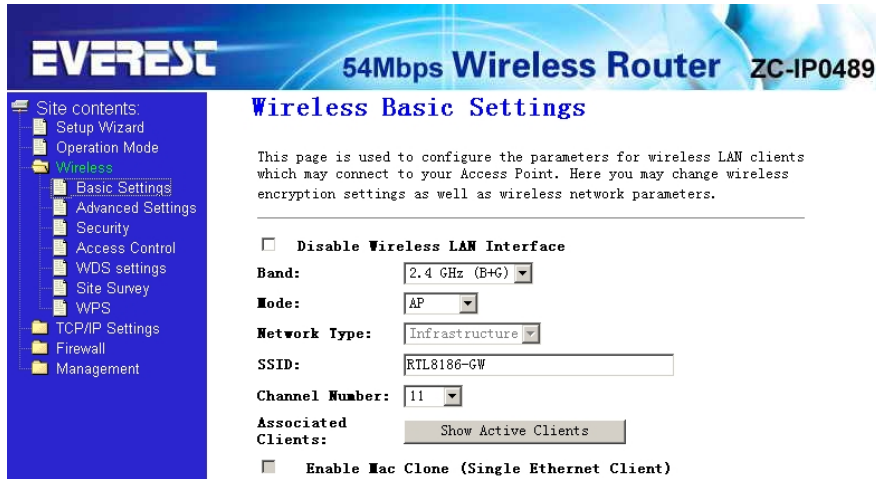
This page is used to configure these parameters.

Band - Indicates the current mode (**2.4GHz(G)**-54Mbps (802.11g), **2.4GHz(B)**11Mbps (802.11b)).

2.4GHz(G+B), which allows both 802.11g and 802.11b wireless stations to connect to the router.

Mode-Default is **AP**,you can select **Client**,**WDS,AP+WDS**

Network Type-Default is Infrastructure,when **mode** is **client,Network Type** may be **AD-HOC**

SSID - Enter a value of up to 32 characters. The same name (SSID) must be ssigned to all wireless devices in your network. The default SSID is Kingnet, but

it is recommended strongly that you change your networks name (SSID) to a different value. This value is case-sensitive.

Channel – From 1 to 13.This field determines which operating frequency will be used. It is not necessary to change the wireless channel unless you notice interference problems with another nearby access point.
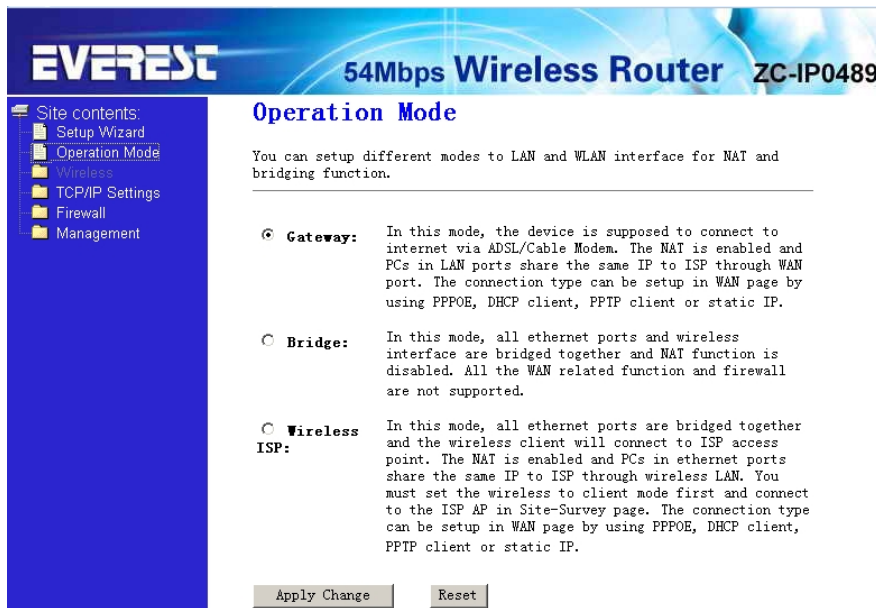
Click next, Wirelss Security Setup will appear.this page allow you setuo the security. You can select None WEP WPA(TKIP),WPA2(AES),WPA2 Mixed.

Click Apply Changes,you will find the page show set secceful.

Notice: If you change the parameters of wireless, The router will reboot automatically.

3.3 Operation mode

Gateway：(default) In this mode, the device is supposed to connect to internet via ADSL/Cable Modem. The NAT is enabled and PCs in LAN ports share the same IP to ISP through WAN port. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client or static IP.

Bridge: In this mode, all ethernet ports and wireless interface are bridged together and NAT function is disabled. All the WAN related function and firewall are not supported.

Wireless ISP: In this mode, all ethernet ports are bridged together and the wireless client will connect to ISP access point. The NAT is enabled and PCs in ethernet ports share the same IP to ISP through wireless LAN. You must set the wireless to client mode first and connect to the ISP AP in Site-Survey page. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client or static IP.

4   Section four Configuration Guide
4.1 Login

After you login successful, Browser will show administrator WEB. on the left is contents. it contains: Wireless setting, WAN Settings, LAN Settings, Network Security, System Services, Management, Status Show, Exit Setting.

4.2 Wireless Setting

it contains **Wireless Basic settings, Advance Settings, security, Access Control, WDS Settings, Site Survey.**

4.2.1 Wireless Basic settings

Band: Indicates the current mode (**2.4GHz(G)**-54Mbps (802.11g**)**, **2.4GHz(B)**11Mbps (802.11b)).

2.4GHz(G+B), which allows both 802.11g and 802.11b wireless stations to connect to the router.

Mode: Default is **AP**,you can select **Client**,**WDS,AP+WDS**

Network Type: Default is Infrastructure,when **mode** is **client,Network Type** should be setting **AD-HOC**

SSID: Enter a value of up to 32 characters. The same name (SSID) must be ssigned to all wireless devices in your network. The default SSID is Kingnet, but

it is recommended strongly that you change your networks name (SSID) to a different value. This value is case-sensitive.

Channel: From 1 to 13. This field determines which operating frequency will be used. It is not necessary to change the wireless channel unless you notice interference problems with another nearby access point.

Associated Client: click show active client, you can check the list of wireless client.

Enable MAC Clone: it only adapt to wireless client.

4.2.2 Wireless Advanced Settings
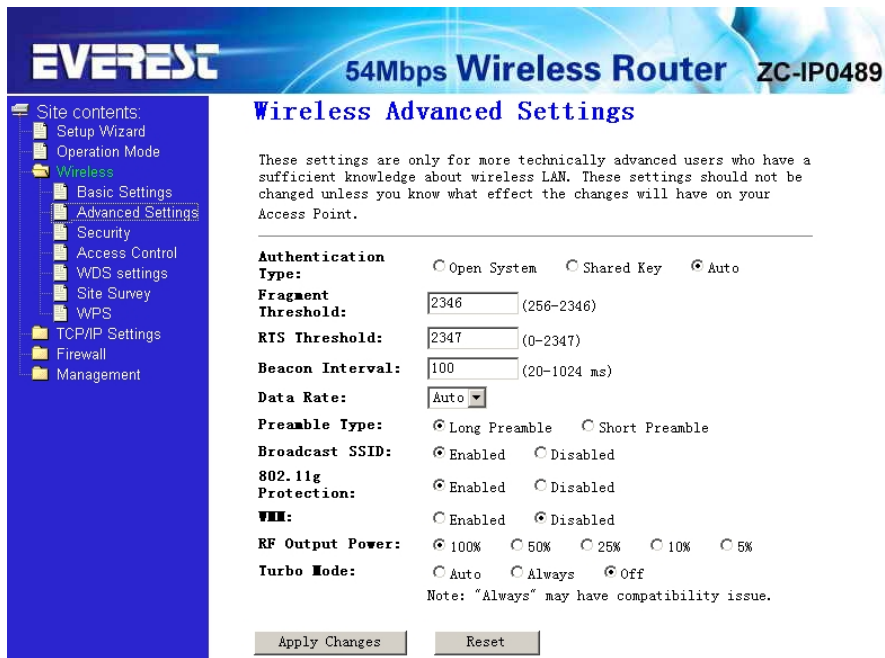
These settings are only for more technically advanced users who have a sufficient knowledge about wireless LAN. These settings should not be changed unless you know what effect the changes will have on your Access Point.

4.2.3 Wireless security setup

This page allows you setup the wireless security. Turn on WEP or WPA by using Encryption Keys could prevent any unauthorized access to your wireless network.

Encryption: you can select **None,WEP,WPA,WPA2, WPA2 Mixed**

WEP:Wired Equivalent Protoco.

WPA:(WI-FI Protected Access Wi-Fi) WPA is an intermediate solution for the security issues. It uses Temporal Key Integrity Protocol (TKIP) to replace WEP.

TKIP: TKIP is a compromise on strong security and possibility to use existing hardware. It still uses RC4 for the encryption like WEP, but with per-packet RC4 keys. In addition, it implements replay protection, keyed packet authentication mechanism (Michael MIC).

WPA Authentication Mode: Keys can be managed using two different mechanisms. WPA can either