# AirCruiser™ G Wireless Router

GN-BR01G

# User's Guide

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# Chapter 1 Introduction

## Overview

Thank you for purchasing the 54Mbps AirCruiser G Wireless Router. With the advantages of 54 Mbps high-speed wireless data rates and 4-ports 10/100 wired Ethernet, the AirCruiser G Wireless Router is the ideal networking device for you to share a broadband connection in your home or office. The AirCruiser G Wireless Router gives you a simple, cost-effective wireless networking solution.

Providing transmission speeds of up to 54Mbps, the AirCruiser G Wireless Router allows users to share network resources, retrieve emails, download large files, conduct a video conference, and distribute or display digital photos, videos or MP3 files. Furthermore, the router supports up to 128-bit WEP encryption to safeguard your privacy on-line. To get the most from your 54M AirCruiser G Wireless Router, please read through this manual completely.

## Features

- Interoperability with 54Mbps (802.11g) and 11Mbps (802.11b) devices
- 4 10/100Mbps Ethernet LAN port
- Single 10/100Mbps WAN port
- Built-in SmartSetup 3
- Wake On LAN function
- Hardware reset button
- 64 / 128-bit WEP
- Wi-Fi® Protected Access (WPA)
- Dynamic DNS
- UPnP™ (Universal Plug and Play)
- Network Address Translation (NAT)
- VPN pass-through
- 802.1x RADIUS Authentication

## Package Contents

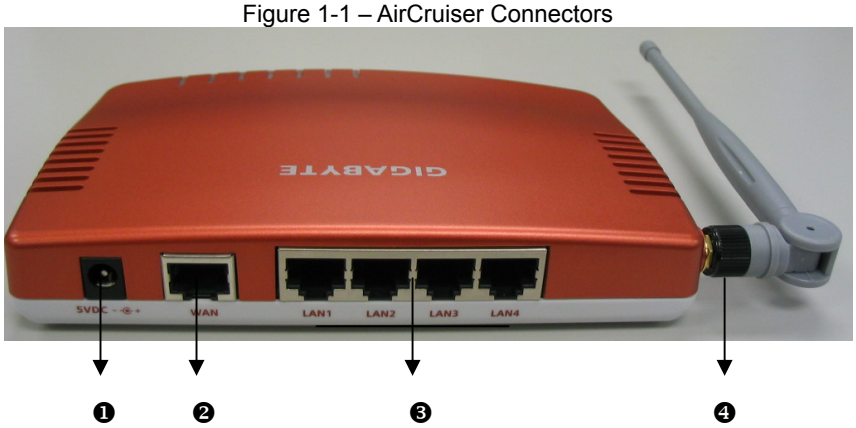
Please check that the AirCruiser G Wireless Router package contents include:

- AirCruiser G Wireless Router
- Detachable External 2.4GHz antenna
- Cat. 5 Ethernet patch cable
- AirCruiser G Quick Installation Guide
- Resource CD
- Power adaptor

If there are any missing or damaged parts, please contact your local distributor or dealer immediately. If a replacement unit is needed, return the device with the original packing material, otherwise the warranty will be voided.

## AirCruiser G Wireless Router Rear Panel

Figure 1-1 – AirCruiser Connectors




❶ **Power socket**
Socket connects to the AirCruiser power adapter

❷ **One Ethernet WAN port**
Connect your DSL or cable modem to the router through this Internet port.

❸ **Four 10/100Mbps LAN Ports**
Use these Ethernet LAN ports to connect the router to local PCs

❹ **Antenna**
The dipole-type 2.4GHz antenna is removable.

## AirCruiser G Wireless Router Front Panel

**The table below describes the LED indicators on the front panel of the Router.**

| LED | STATUS | DESCRIPTION |
|---|---|---|
| Power | On | Power is supplied to the Router |
| | Off | Power is NOT supplied to the Router |
| WLAN | Flashing | Data is being transmitted wirelessly |
| WAN | On | WAN port has detedted a link with a DSL/Cable modem. |
| | Flashing | Data is being transmitted/received through WAN port. |
| LAN | On | LAN port has detected a link with a 10/100Mbps device |
| | Flashing | Data is being transmitted/received through LAN port. |

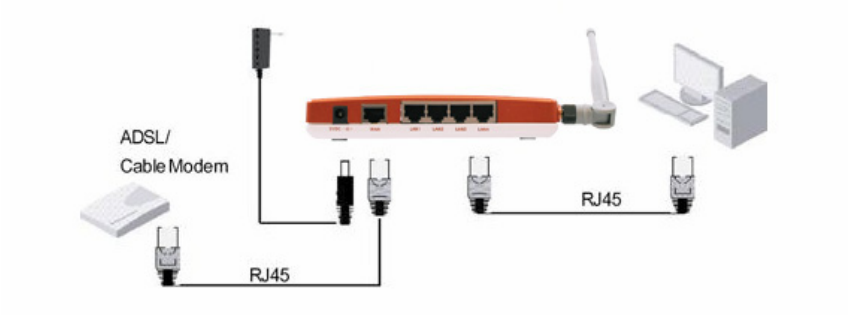
# Chapter 2 Installation

This chapter covers the installation of the AirCruiser G Wireless Router. Please take note of this as you reach Step 3.

| AirCruiser G Wireless Router - Factory Default Settings | |
|---|---|
| SSID (Network Name)<br>Broadcasting SSID<br>Wireless Security<br>IP Address of Web Configuration Utility | GIGABYTE<br>YES<br>Open System (OFF)<br>192.168.1.254 |
| Configuration Utility Username/Password | admin/admin |

## Installing the Router

Your GIGABYTE AirCruiser G Wireless Router has built-in setup and security configuration software called SmartSetup 3 that will help you configure your router for both Internet access and wireless security. Before you start, make sure your Computer TCP/IP setting is set to “Obtain and IP address automatically” For more information, check Windows Help. Follow the 4 steps below for Quick Installation.



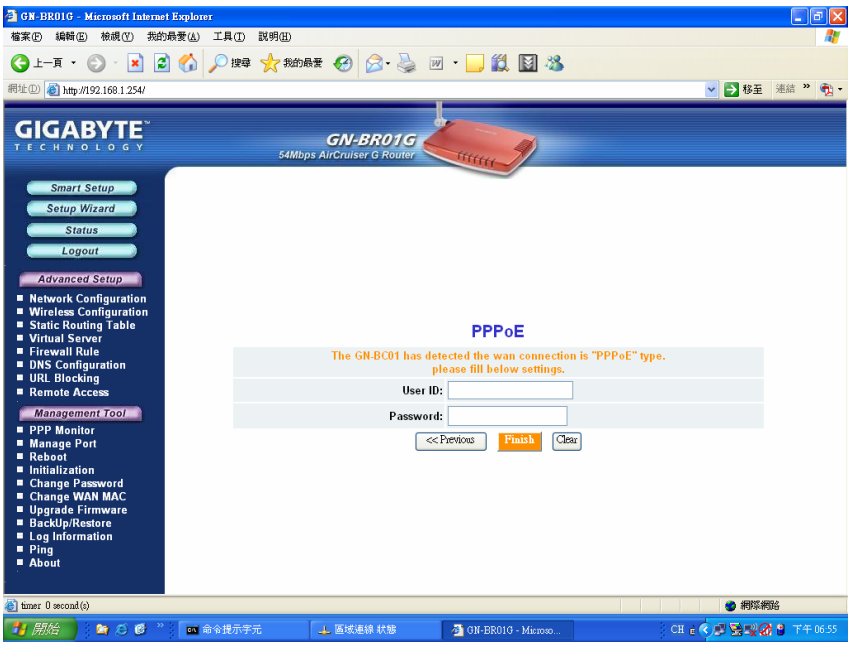

Step 1 With power OFF to all devices; connect your router to your network as shown in the diagram above.

Step 2 Power ON your computer, modem and Router, and then launch either Internet Explorer or Netscape Navigator.

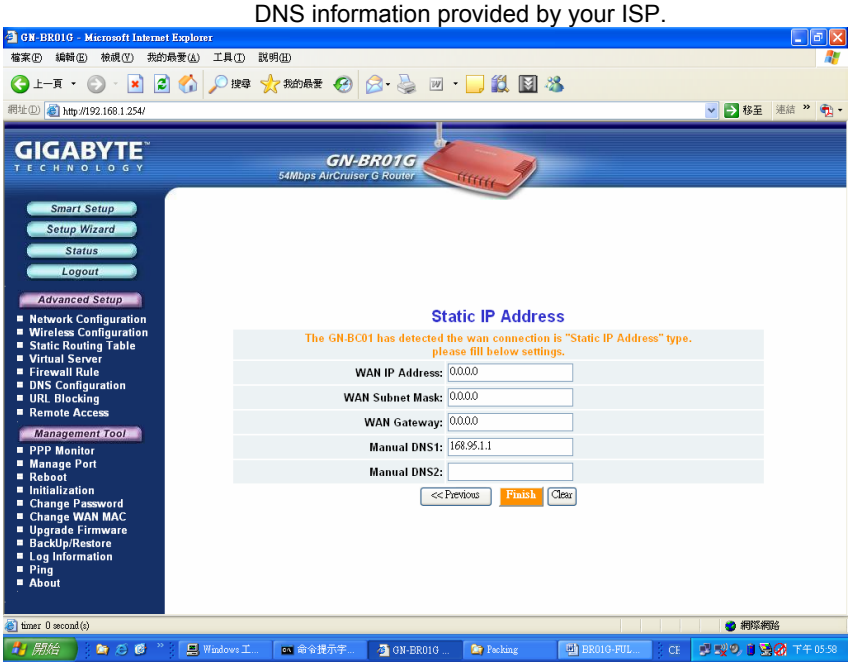
Step 3 SmartSetup 3 should automatically detect your wireless network and open up the web-based configuration screen. Based on your Internet service, you may be required to enter your ISP account’s username and password or other additional information as prompted. See below for screenshots.

- **Dynamic IP Address** — If you use a dynamic IP address, you can directly connect to Internet without having to login. The Router will automatically restart.

- **PPPoE** — If you use a PPPoE connection, please enter your ISP user ID and password.



**Static IP address** If you use a static IP address, please enter your WAN IP address, WAN subnet Mask, WAN Gateway, and DNS information provided by your ISP.




Step 4 Once you have entered your information, click the **Finish** button. The Router will save and restart automatically. You are now connected to the Internet and may re-launch your browser.

**Note:** GIGABYTE's Smart Setup 3 wireless router configuration software will automatically detect your ISP connection type. However, to configure your router manually, please refer to **Chapter 5 – AirCruiser G Wireless Router settings** in this manual.

# Chapter 3 Connections & Configuration

## What You Will Need

Please prepare the following before you begin connecting your Router:

1. Have active Internet service provided through either ADSL or cable Modem.
2. Valid ISP user account and password information. (Your ISP will supply you with this)

### Hardware Requirements

Before setting up the Router, each computer on your network must have an installed Ethernet NIC (network interface card) and an Ethernet cable. If you wish to connect wirelessly to each desktop computer or laptop, a wireless network PCI adapter card is required to be properly installed.

### System Requirements

- Windows, Macintosh or Linux Operating System
- Support HTTP standard JavaScript-enabled browser, for examples, Microsoft Internet Explorer or Netscape Navigator 4.0 or above.

### Internet Configuration Requirements

To successfully connect your Router to the Internet, you may need one or more of the following configuration parameters associated with your ISP account:

- Host and Domain Names
- ISP User ID and password
- ISP Domain Name Server (DNS)
- Fixed IP address or known as Static IP address
- Subnet Mask
- Default Gateway

## Making a Wired Connection

Step 1 Turn off all the hardware devices in your network, including the ADSL/Cable modem by unplugging their power supply.

Step 2 Connect the Ethernet cable of your ADSL/Cable modem to the WAN port of the Router.

Step 3 Connect one end of a new Ethernet cable to a LAN port in the rear panel of the Router to the 10/100 Ethernet port of your computer. (NOTE: It does not matter which numbered LAN port is selected).

Step 4 Plug the power adapter cord into the router's power jack and then plug the power adapter into a power outlet.

Step 5 Turn on your ADSL/Cable modem. After verifying all the connections, proceed to **Chapter 4 – Configuring the AirCruiser G Wireless Router**.

## Making a Wireless Connection

Step 1 Turn off all the hardware devices in your network, including the ADSL/Cable modem by unplugging their power supply.

Step 2 Connect the Ethernet cable of your ADSL/Cable modem to the WAN port of the Router.

Step 3 Plug the power adapter cord into the router's power jack and then plug the power adapter into a power outlet.

Step 4 Turn on your ADSL/Cable modem. After verifying all the connections, proceed to **Chapter 4 – Configuring the AirCruiser G Wireless Router**

**Note:** If using a wireless connection, please refer to the user manual of the wireless adapter to install. The SSID of the wireless adapter and the Router should be identical. The default SSID assigned to the Router is **GIGABYTE**. (WARNING: The SSID field is case sensitive, so for example "a" is different from "A").

# Chapter 4
# Configuring the AirCruiser G Wireless Router

Step 1 Power ON your computer, and then launch the web browser of your choice.

Step 2 SmartSetup 3 should automatically detect your wireless network and open up the web-based configuration screen. If it does not, simply type **192.168.1.254** into the address bar of your web browser.

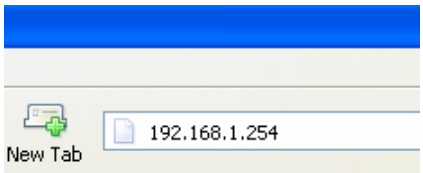



Figure 4-1 – Access the AirCruiser G configuration menu using any web browser.

Step 3 SmartSetup 3 should open the web-based configuration screen, and auto detect your type of Internet Connection (PPPoE, Static, Dynamic, etc.) if it does not, simply type 192.168.1.254 into the address bar of your web browser. When prompted for username/password type: admin for both.

Types of Broadband Internet connections automatically detected by SmartSetup 3:

**Dynamic IP Address** If you use a dynamic IP address, you can directly connect to Internet without having to login. The Router will then automatically restart.

**PPPoE** Most common type of ISP Connection. If you use a PPPoE connection, please enter your ISP user ID and password.

**Static IP address** If you use a static IP address, please enter your WAN IP address, WAN subnet Mask, WAN Gateway, and DNS information provided by your ISP.

Step 4 When prompted by the dialog box for username and password, key in the default user name: **admin** and the default password: **admin** Press OK.

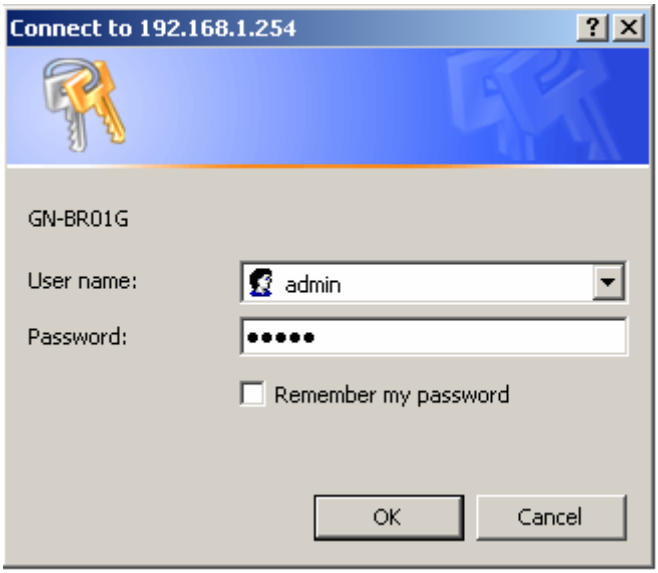



Figure 4-2 – The username/password is admin/admin.

Step 5 The AirCruiser G Wireless Router's **web browser based** configuration screen will prompt you for certain ISP related information (Figure 4-3). You can contact your ISP service provider for this information at any time. After entering the ISP information, click the **Finish** button. The Router will save and restart automatically.

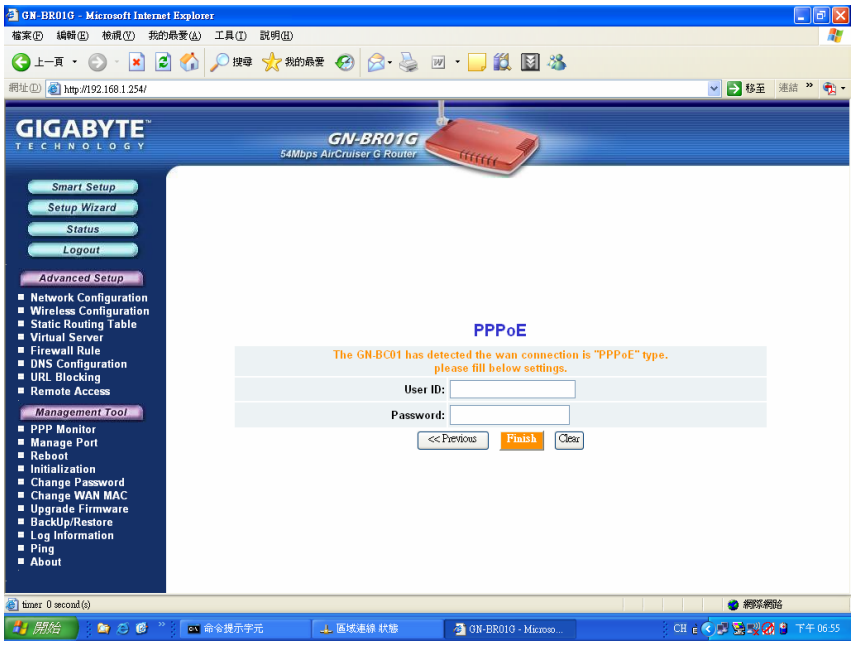



Figure 4-3 – Initial ISP Internet setting for the AirCruiser G.

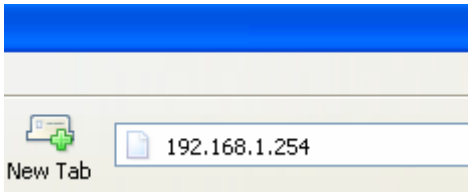
**The AirCruiser G Wireless Router is now active! The SSID (Network Name) is GIGABYTE, and should now be visible from any wireless 11b or 11g adapter.**

# Chapter 5
# AirCruiser G Wireless Router Settings

The default settings of your AirCruiser G Wireless Router generally do not require modification. However, from time to time you may want to change settings such as firewall or SSID number. You can change AirCruiser Wireless PCI ROUTER wireless router settings using an Internet browser (Internet Explorer or Netscape Navigator) and accessing the web-based utility.

## Login to the AirCruiser G Wireless Router

Whenever you want to change Router settings, you'll need to open the AirStream web configuration utility. In the address bar of your browser, type **`192.168.1.254`** and then press the **ENTER** key.




When you login, you will be greeted by the AirCruiser Welcome Screen (Figure 5-1). On the left panel are the Advanced Settings, Management Options, and SmartSetup wizards which allow easy access to the AirCruiser G configuration settings.

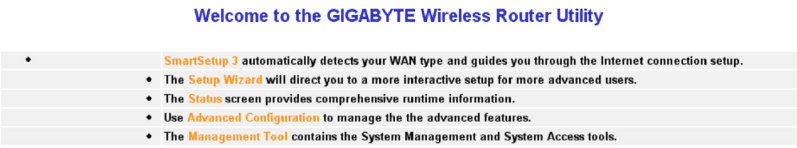



Figure 5-1 – AirCruiser G Main Login Screen

## AirCruiser G Wireless Router Configuration Utility

In Chapter 6 below, each of the configuration options will be introduced and its parameters explained. Normally, users will not need to adjust any of the AirCruiser G Wireless Router settings, however GIGABYTE recommends you setup some form of security, or at least hide your SSID (Network Name).

After you have completed making modifications to the configuration settings of your AirCruiser G, please click the **Logout** button to end your session.

**Note:** For security reasons, you will be automatically logged out of the Configuration Utility after 5 minutes of inactivity.

# Chapter 6 Advanced Settings

In this chapter, details for configuring the advanced settings of the AirCruiser G Wireless Router are explained.

## The Network Configuration Screen

The **Network Configuration** screen consists of two sub-areas: **LAN Configuration** (which also includes DHCP Options, and Forced IP-MAC Mapping), and **WAN Configuration** in which you can configure up to 4 backup WAN connections (other internet service providers accounts) in the event your primary WAN connection fails.

### The LAN Configuration Tab

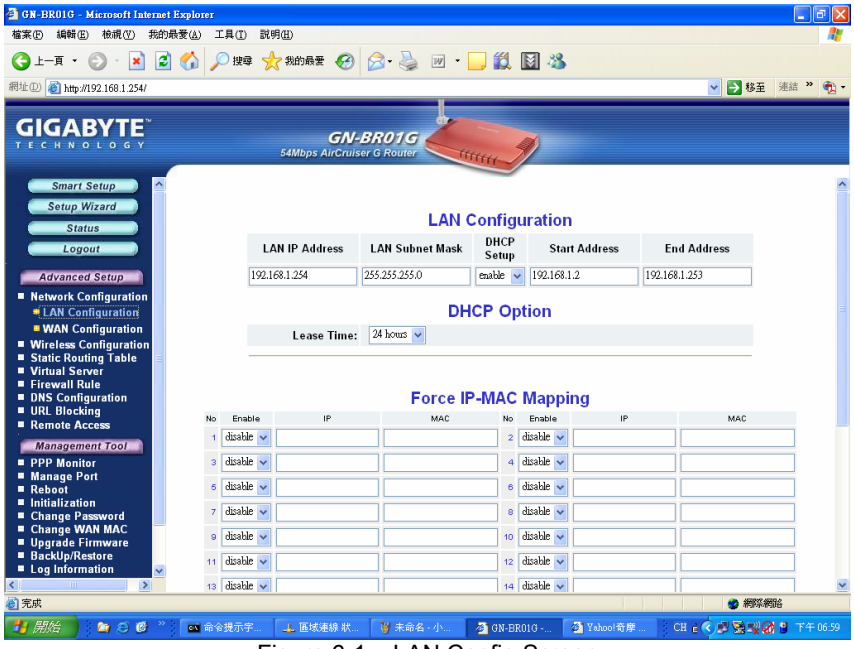


Figure 6-1 – LAN Config Screen

**LAN Configuration**

Allows you to modify the LAN parameters, and if you want to enable DHCP automatic IP address assignments, you can enable it here, and specify a Start and End address for the IP range.

**DHCP Option**

The DHCP server "leases" out address for specific times (Time To Live) to the various hosts. If a host does not use a given address for some period of time, that IP address can then be assigned to another machine. When assignments are made or changed, the DHCP server must update the information in the DNS server. The AirCruiser G DHCP Lease Table displays the associated IP/MAC assignment and Time To Lease.

**Force IP-MAC Mapping**

Allows you to manually assign a specific IP address to a specific network device (MAC address) on the network. This will be updated in the ARP table automatically.

Verify the settings, and then apply these to your router, click the **Submit** button.

## The WAN Configuration Tab

Select the type of Internet Service you are using, and press the **NEXT>>** button to continue with modifications.

**Note:** If you don't know which type of Internet connection you have, click SmartSetup button, and it will auto detect this for you.

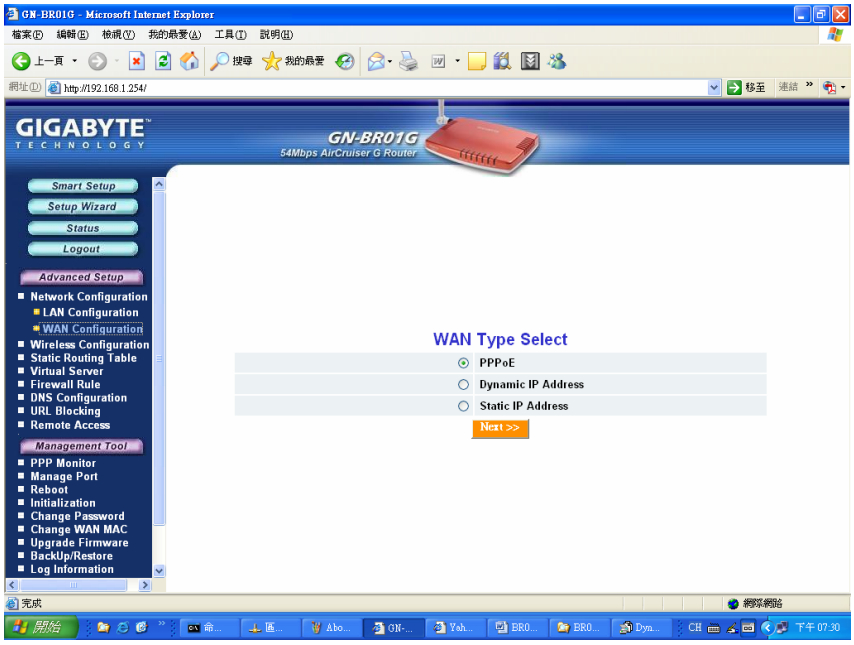



Figure 6-2 –WAN Config Screen

A screen based on the Internet (WAN) connection type you selected will appear and provide parameter fields.

## WAN Configuration - PPPoE

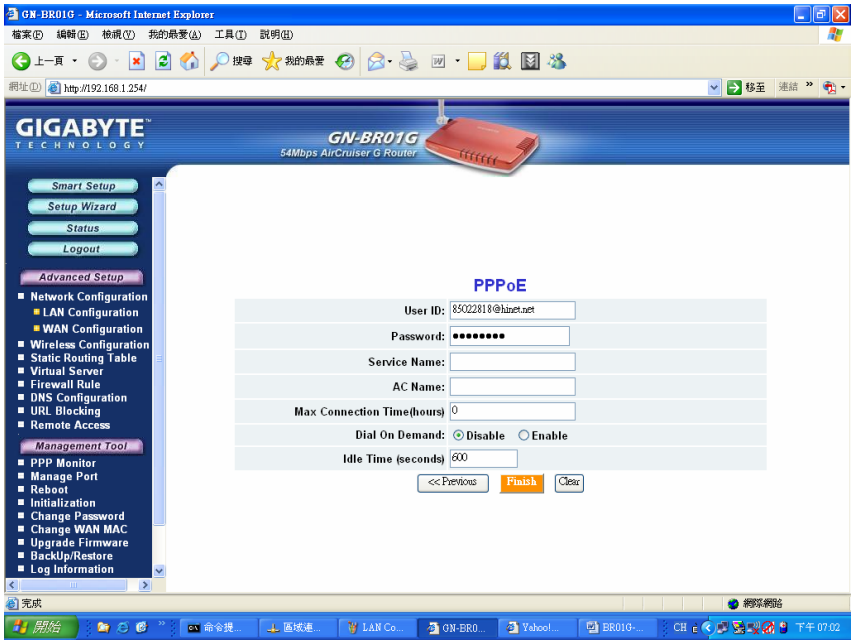



Figure 6-3 – PPPoE Config Screen

Your Internet Service Provider will supply you with the following account information you will need:

- **ISP Name**
- **User ID/Password**
- **Service Name**
- **AC Name**
- **DNS1 and DNS2 Address**
- **DNS Domain Name**

Enter the information provided by your ISP in the fields provided.

## WAN Configuration – Dynamic IP Address

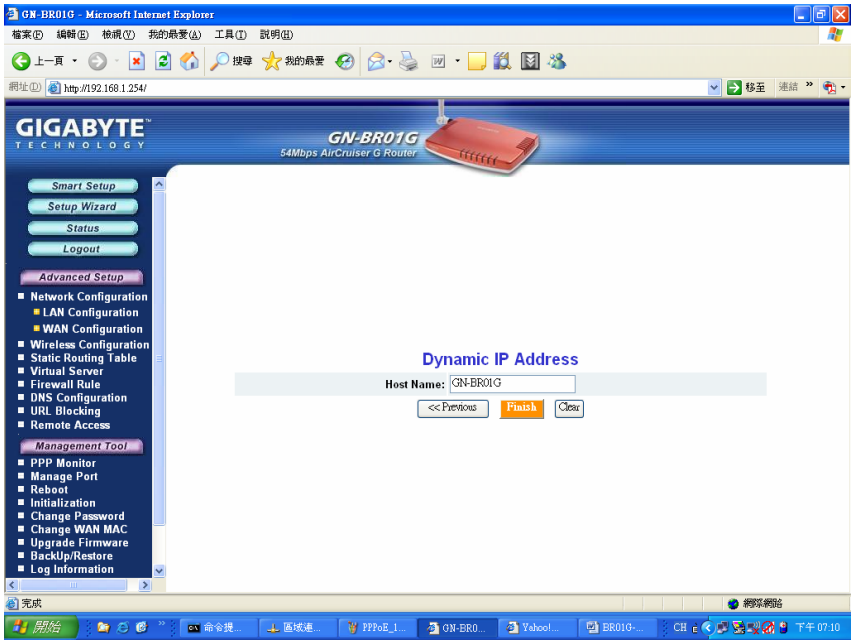



Figure 6-4 – Dynamic IP Config

### Host Name

This is a free form field (Default BR01G) which assigns a host name to your IP connection. You may choose a name of your preference, or leave the default. Press Finish.

## WAN Configuration Tab - Static IP Address

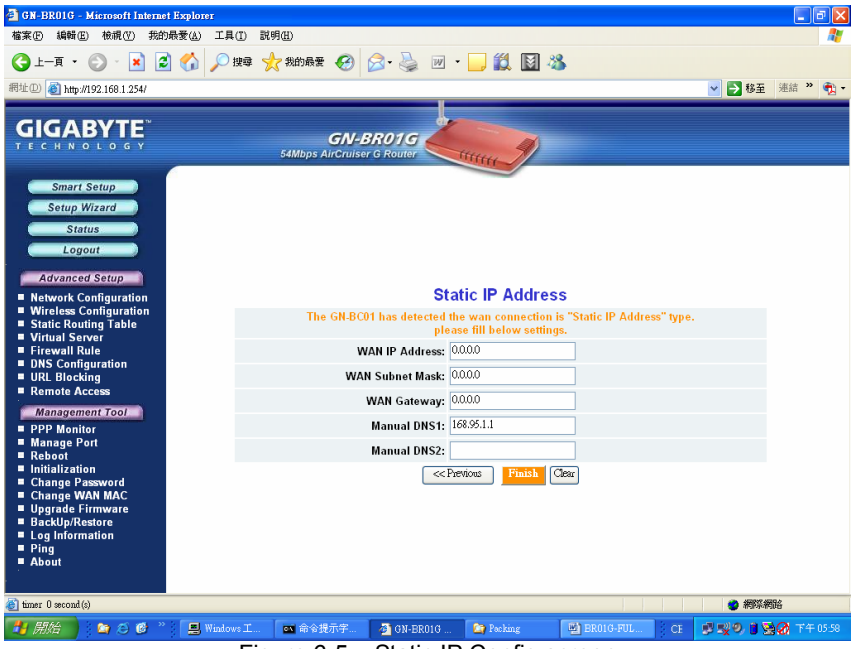



Figure 6-5 – Static IP Config screen

Your Internet Service Provider will supply you with the following account information you will need:

- **ISP Name**
- **WAN IP Address**
- **WAN Subnet Mask**
- **WAN Gateway**
- **DNS1 and DNS2**
- **DNS Domain Name**

This information is all provided by your ISP. In the event that your ISP has assigned you several Static IP addresses, you will only need to one.

# The Wireless Configuration Screen

The **Wireless Configuration** screen allows you to configure the Router's WLAN function.

## The 802.11g Tab

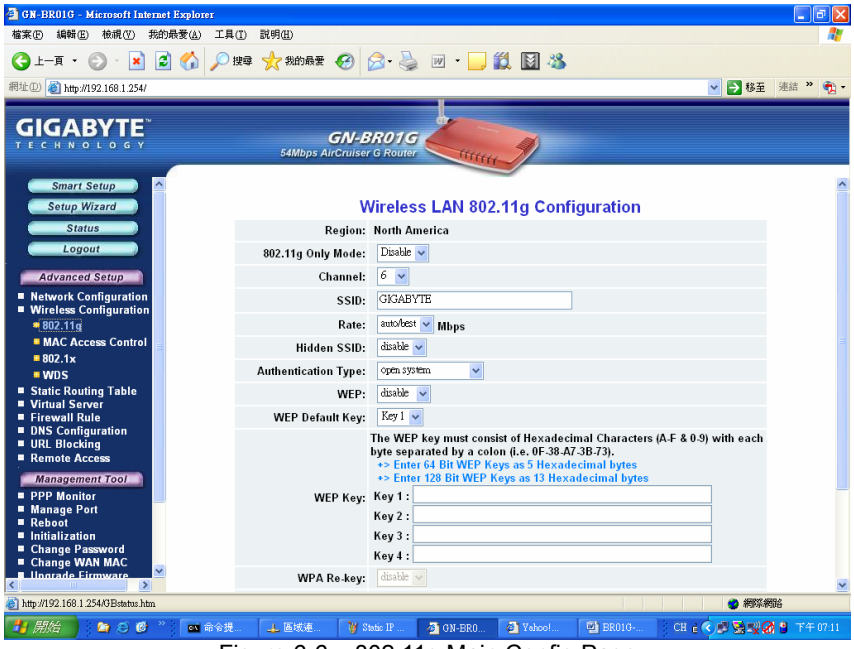



Figure 6-6 – 802.11g Main Config Page

**Region**

Indicates the geographical region you are in. Verify that the region indicated is correct. If not, please contact your local distributor or dealer immediately.

**802.11g Only Mode**

The mixture of both 11b and 11g traffic on your wireless network results in the reduction of the network performance. For this reason, the **802.11g Only Mode** allows you to restrict all traffic to 11g (54Mbps) traffic only. Keep in mind, however that enabling this feature comes at the expense of eliminating all 11b based traffic by the AirCruiser G. Enable will restrict all traffic to 802.11g traffic, while disable will allow a mixture of both 11b and 11g. The default setting is **Disable**.

**Auto Channel Select**

The Router uses channel 6 as the default channel. Enabling Auto Channel Select allows the Router to auto-select a non-conflicting channel.

**Channel**

The channel may be manually changed (if there are other wireless networks operating in your area) by selecting a channel from the drop-down list.

**SSID**

The SSID (Service Set Identifier) is the name of your wireless network. The SSID is up to 32 ASCII characters in length and case sensitive (i.e. Letters in upper case "**A~Z**" and lower case "**a~z**" are unique). The default SSID is "**GIGABYTE**". To change the SSID, type in the SSID you want to use in the SSID field and click **Submit**. If you make a change to the SSID, any wireless devices on your network must also be reconfigured to connect to the new network name.

**Rate**

Select a wireless data transmission rate from the drop- down list. The default setting **auto/best** automatically detects and sets the optimum transmission rate.

**Hidden SSID**

For security purposes, you may choose to hide your network's SSID by selecting **enable** from the drop-down list. This will prevent computers scanning for the presence of wireless networks to detect your network name. The default setting is **disable**.

**Authentication Type**

Select an authentication type from the drop-down list. The default setting is **Open System**.

Open System: The sender and the receiver do NOT share a secret key. Each party generates its own key-pair and asks the receiver to accept a randomly generated key. Once accepted, this key will only be used for a short period of time. Afterwards, a new key will be generated and agreed upon.

Shared Key: Authentication is based upon a secret key shared by both the sender and the receiver. If **Shared Key** is selected, you cannot choose the WEP **disable** option.

WPA Pre-shared key:, The WPA Pre-shared Key authentication standard uses a password or " key" between 8 and 32 characters. This encryption key is changed after every dialog box using the Temporary Key Integrity Protocol (TKIP), which allows users to change keys based on dialog box and automatically synchronize keys between devices on the network. The TKIP encryption algorithm is stricter than the one used by WEP but is based on the same standard.

WPA: The 802.1x authentication protocol, allows users to authenticate wireless network access through a RADIUS Server and is a required by WPA standard. If no RADIUS Server exists in your network environment, you still can use WPA through the use of WPA Pre-shared Key.

**WEP Key**

The AirCruiser G supports two WEP standards: **64-bit,152-bit**. Select either **64-bits** or **152-bits** from the drop-down list activate WEP encryption. The **64-bits** encryption uses 40 bits as a secret key, (user-defined) and the remaining 24 bits are reserved. The **128-bits** encryption uses 104 bits as a secret key, (user-defined) and the remaining 24 bits are reserved.

**WPA Re-key**

Enabling the requirement for WPA rekeying of a Passphrase for increased security. Default is **disable**.

**WEP Re-key Timer**

Specify time (in minutes) for expiration of the current WPA Key.

**WPA PSK Passphrase**

The Passphrase must be between 8 and 64 characters.

**WPA PSK Re-key**

A user without a RADIUS server, may specify generating a new WPA PSK key more frequently than each time he connects to the network.

**WPA PSK Re-key Timer**

Specify time (in minutes) for expiration of the current WPA PSK key

## The MAC Access Control Tab

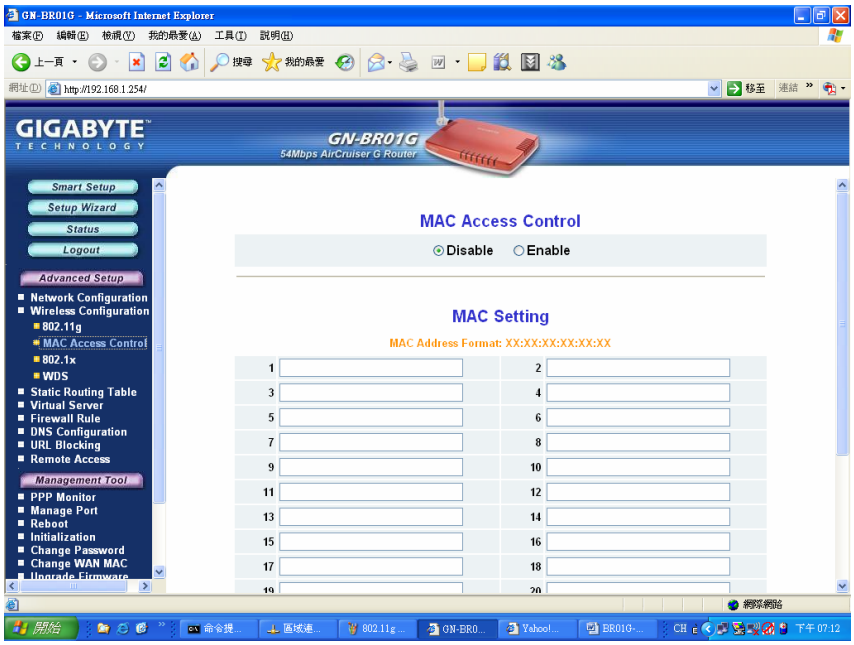



Figure 6-7 – MAC Access Control

The **MAC Access Control** screen allows you to specify the Media Access Controller (MAC) address of up to 32 devices on your network. Only those devices listed in the table will have access to transmit data through the AirCruiser G. In this way, even if someone manages to obtain all the information necessary to connect to your network, if their MAC address is not permitted, they still cannot connect. Keep in mind, however that MAC addresses can be spoofed, so it is not a panacea but rather another component of your existing security process. Enable the feature, then key in the MAC addresses to be allowed. Enter the MAC in the form separated by colon. The default setting is **Disable**.

## The RADIUS Server Configuration Tab

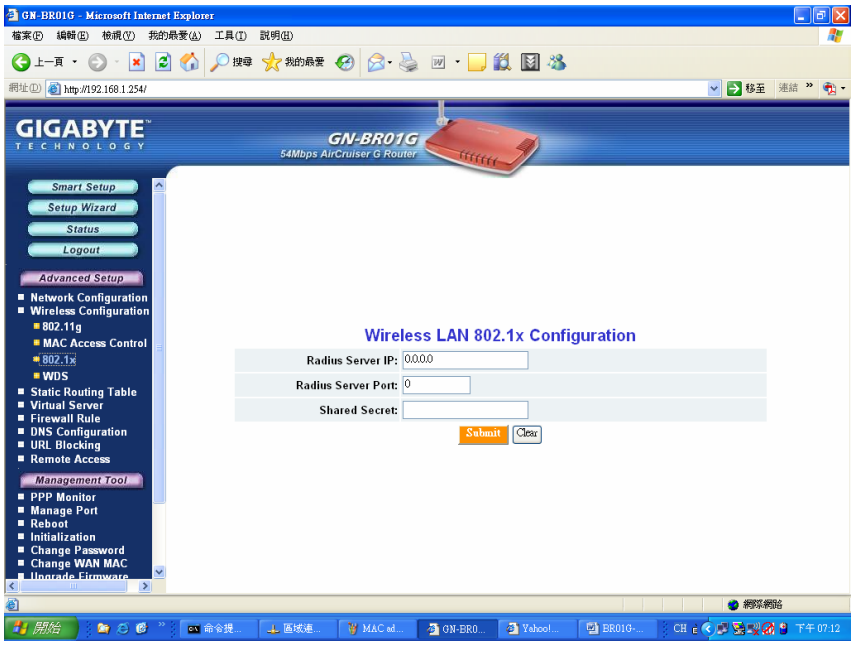



Figure 6-8 – RADIUS Config

Your AirCruiser G supports 802.1x and RADIUS Server authentication. RADIUS provides a centralized, server-based authentication of client access to the network.

| | |
|---|---|
| **RADIUS Server IP** | Assign an IP address for the RADIUS Server. |
| **RADIUS Server Port** | Enter a value within the range 1~65536 for the port. |
| **Shared Secret** | Enter a password up to 256 characters (uppercase "**A~Z**", lowercase "**a~z**" or numeric "**0~9**") in length. |

Verify the settings, and then to apply these to your network, click the **Submit** button.

# The Static Routing Table Screen

The **Static Routing Table** displays the AirCruiser G Wireless Router routing settings. To add or modify, enter a value into the field and click the **Submit** button.

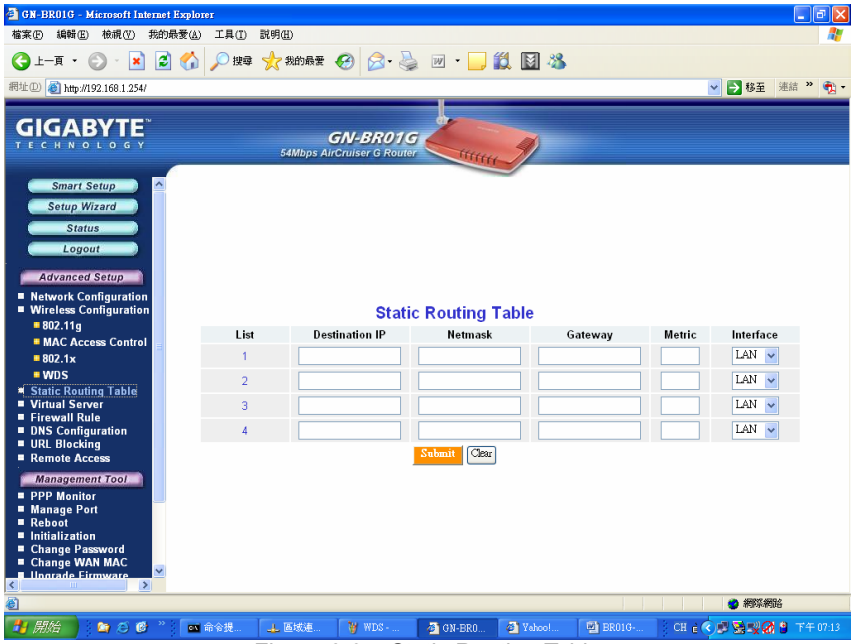



Figure 6-9 – Static Routing Table

**Destination IP**

Enter the Destination IP address that will be assigned to a specific network or host.

**Netmask**

Enter the netmask associated with the Destination IP.

**Gateway**

Enter an IP address that will be assigned to the interface connecting to subnets.

**Metric**

The "**Metric**" value is a number between 1 and 15 that represents the number of Routers between your network and the destination. Generally, setting the Metric value as either 2 or 3 is sufficient for most applications. If this is a direct connection, please set the value to 1.