

Step

1

CHECK THE REQUIREMENTS FOR INSTALLATION

HWRGM1A



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Hi-Gain Wireless-108G

MIMO Router with AMP Technology

This QIG Will Guide You Through
the Initial Setup of your Product

What You Will Need To Get Started:

- One Ethernet-based broadband internet connection
(Such as Cable or DSL)
- One Mac equipped with a network adapter and TCP/IP protocol
(If you are unfamiliar with what this is please refer to the user's
manual in the CD)
- Safari Web-Browser or
Microsoft Internet Explorer 5 or later (Netscape V4.7 or later)

Check Your Package Contents:



Wireless-G Router



Power Adapter



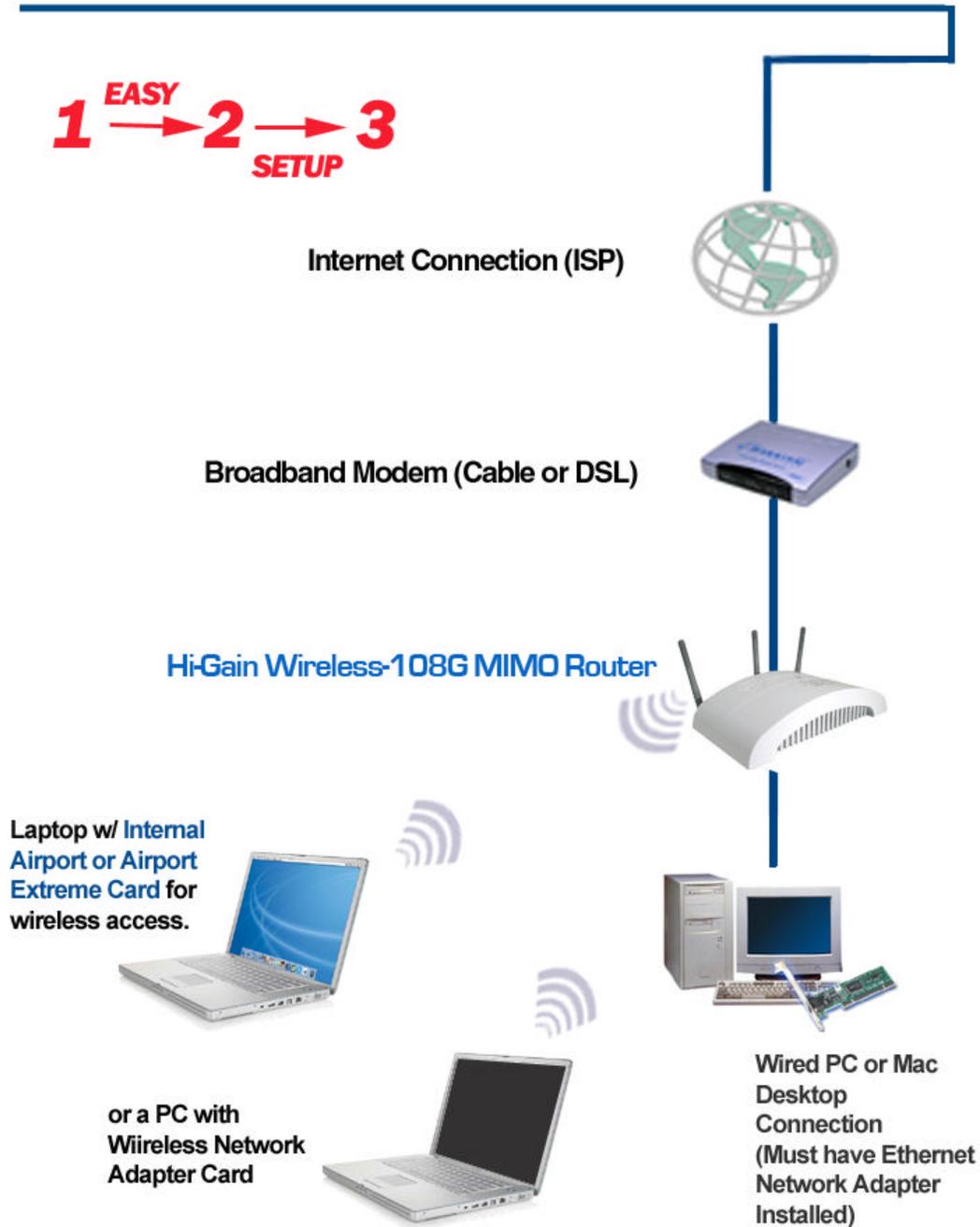
CD-Rom
Contains:
Users Manual
Installation Wizard
(PC and Mac)



Ethernet Cable

TYPICAL NETWORK DIAGRAM FOR THE HWRGM1A

1 *EASY* → **2** → **3**
SETUP

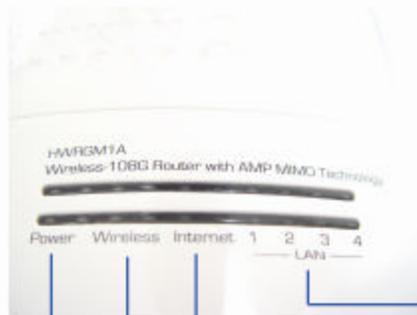




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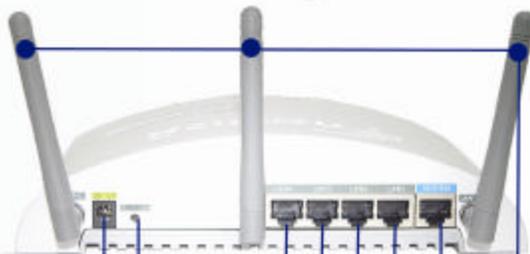
PRODUCT OVERVIEW

LED Description



- LAN Ports (1~4)** - LED is ON when a connection (with the specific port) between a PC and the router/network is detected.
- Internet Connection** - LED is ON, when there is an established connection with a Cable/DSL Modem.
- Wireless** - LED is ON (Blinking) when wireless data activity is detected.
- Power** - LED is ON, when the power adapter is connected and the unit is powered.

Back Panel Description



- Removeable Antenna** - Removeable Omni Directional antenna. Upgradable to Hawking Hi-Gain Antennas for better wireless coverage.
- Modem Port** - For connecting directly to your Broadband Modem's ethernet port.
- LAN Ports** - Connects your wired network devices and computers to your network.
- Reset Switch** - To reset your router to default settings.
- Power** - Power Adapter plug

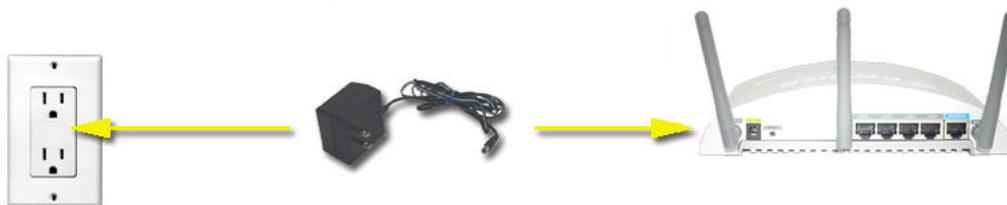
Step

2

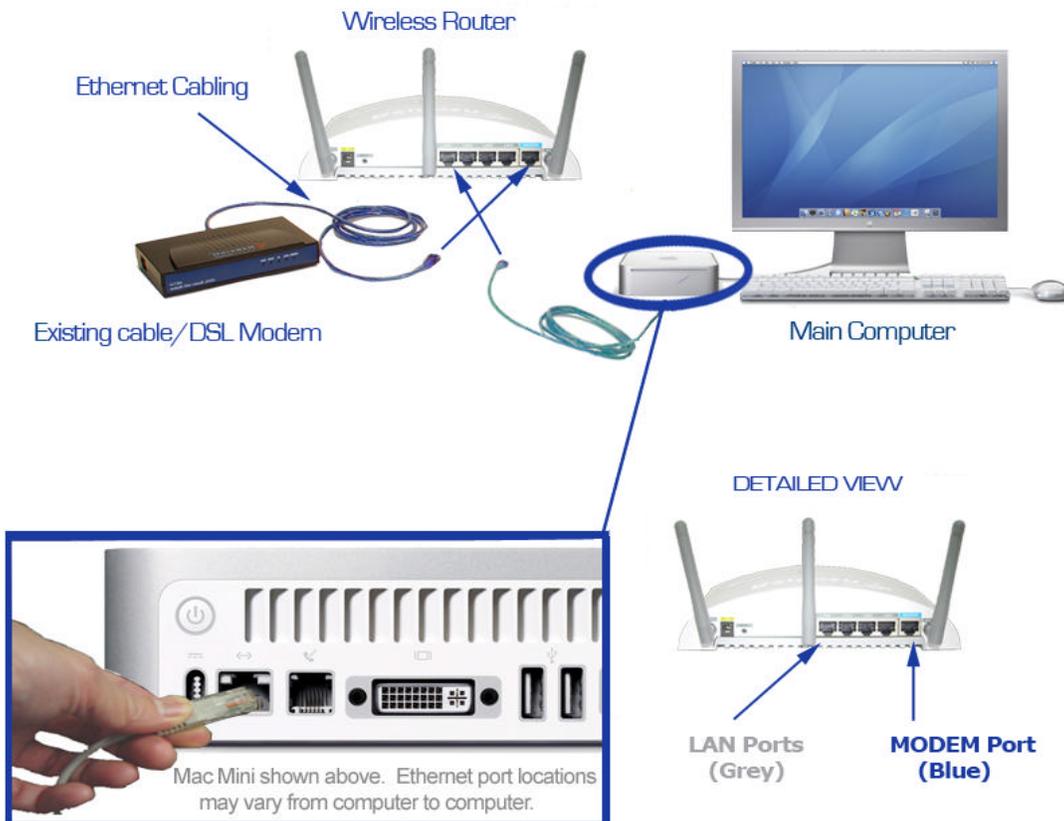
CONNECT THE ROUTER

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- 1) Remove the router and the power adapter from your package. Plug one end of the power into an available power outlet and the other into the "DC-IN" (YELLOW) on the router. (Place the router in between your cable/DSL modem and your computer to avoid cable clutter and usage of long cables)**



- 2) Connect an ethernet cable your existing Cable/DSL modem to the "MODEM" port of your Router. Connect another ethernet cable from any one of the 4 "LAN" ports on the Router to the open ethernet port on your computer. Turn on the power of each unit.**



Step 3

CONFIGURE YOUR ROUTER

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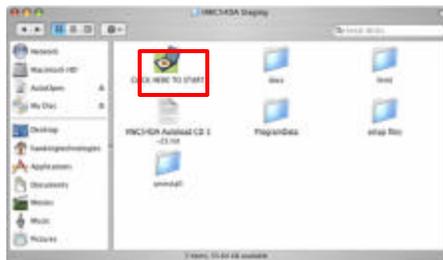
1) POWER ON: After you have correctly connected your router to your Computer and Cable/DSL modem, please power on all units .

2) INSERT THE SETUP CD (FOR MAC OS X ONLY): Find the Setup-CD in your package and insert it into your CD-Rom drive. Wait for the Auto-Load Folder to load. If the page does not load, please click on the “HWRGM1A Setup CD” icon on your desktop to load the folder. Once the folder is open, click on the file “CLICK HERE TO START.” This should open up the Setup Wizard Window. If this still does not work you may open your web browser and enter the following into the URL field:

- Type in <http://192.168.1.254> in your URL section and hit ENTER.

Note: PC Users please skip this section and advance to the Windows installation instructions directly following the Mac installation.

- 1-Insert CD and wait for the Autoload page. If the autoload page does not open double click the CD-Rom Icon
- 2-Open the CLICK HERE TO START file
- 3-Select SETUP WIZARD from the menu



3) SETUP WIZARD:

Click on the ‘**Setup Wizard**’ tab to begin configuration of your Router. If your web-browser does not auto-load or cannot find the page, please **skip to STEP 4, the Computer Configuration page**. You may return to this step after you have correctly configured your PC or Mac.

LOGIN AND PASSWORD



To view this page, you will need to log in to area "Default: admin/1234" on 192.168.1.254
Your password will be sent in the clear.
Name:
Password:
 Remember this password in my keychain
Cancel Log In

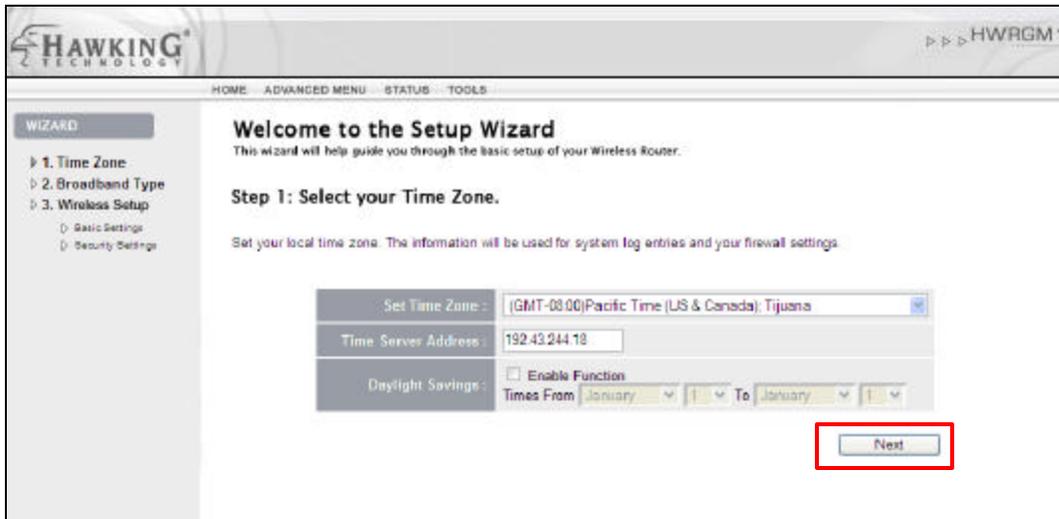
When the Login pop-up for the Router appears, please enter “**admin**” for the username and “**1234**” for the password to access the configuration screen. (Note: By default, the username and password is admin/1234, if this does not work, reset the router and try logging in again.)



When the menu bar on the left loads, select the “**SETUP WIZARD**” option in the main menu.

TIME ZONE SETTING

To setup the internal clock of your Router please select the appropriate Time Zone of your specific geographical location. You do not need to change the Time Server Address.



The screenshot shows the 'Welcome to the Setup Wizard' page for a Hawking Technology router. The page is titled 'Step 1: Select your Time Zone.' and includes instructions: 'Set your local time zone. The information will be used for system log entries and your firewall settings.' The form contains three main sections: 'Set Time Zone:' with a dropdown menu set to '(GMT-08:00)Pacific Time (US & Canada), Tijuana'; 'Time Server Address:' with a text input field containing '192.43.244.18'; and 'Daylight Savings:' with an unchecked 'Enable Function' checkbox and two date pickers both set to 'January'. A 'Next' button is highlighted with a red rectangle at the bottom right of the form.

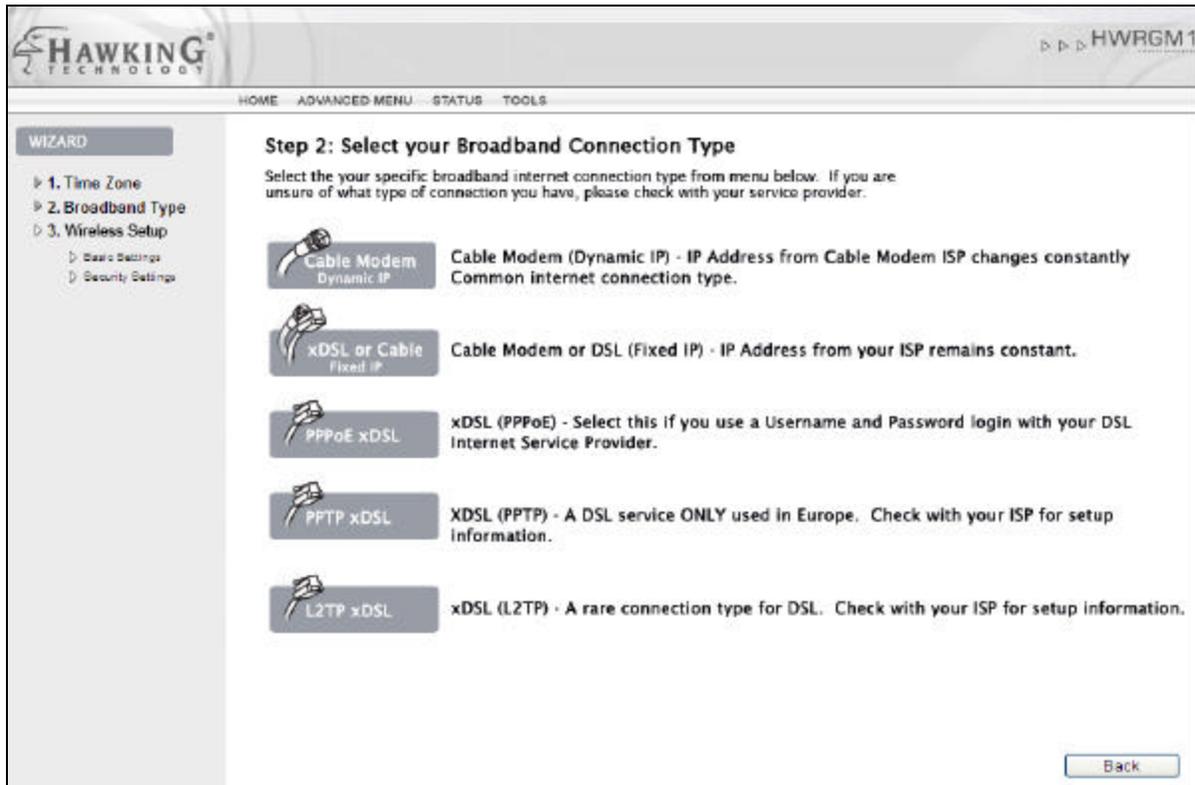
You can also adjust your time settings to support Daylight Savings Time. To do so click Enable and enter the correct times for Daylight Savings.

Select **NEXT** to continue.

WAN INTERFACE SETUP (BROADBAND CONNECTION TYPE)

The WAN Interface Setup configures your router to your specific Broadband Internet Connection Type.

View the menu of Broadband Connections Types and select the one that applies to your connection. If you do not know what type of Broadband Internet Service Provider you have please contact your Internet Service Provider for this information.



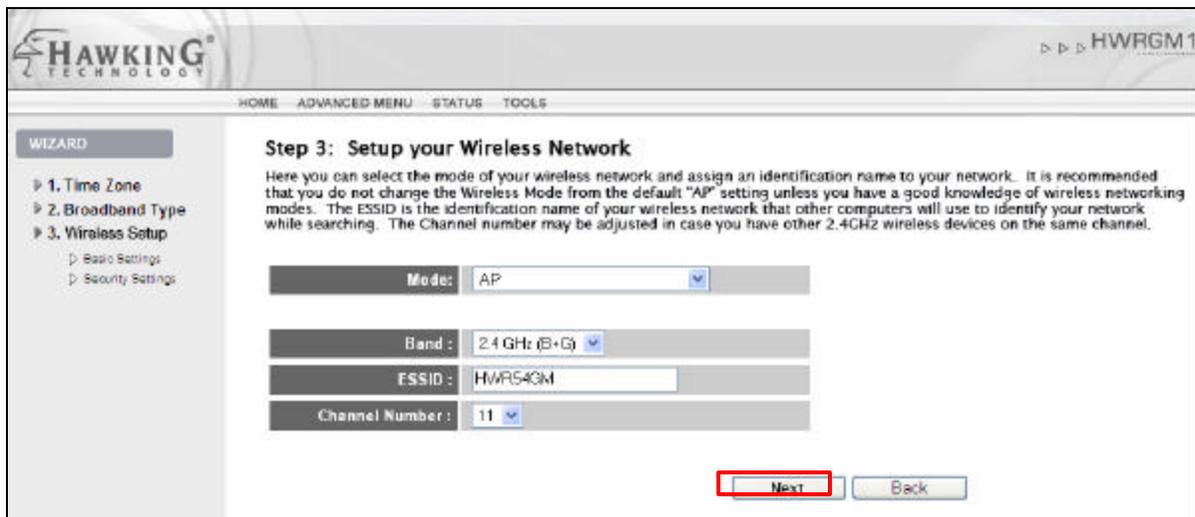
After you have selected your broadband internet connection type you will be taken to a page to complete the configuration of your specific internet connection. Fill out the required information and select NEXT to continue. If you are not sure of some of the requested requirements please check with your network administrator or your internet service provider.

WIRELESS SETTINGS

This page will guide you through your initial setup for wireless access. If you **do not** wish to use wireless access in your network you may select “**Disable**”. Otherwise select “**Enable**” to allow wireless access and click **NEXT** to continue with your wireless settings.



The screenshot shows the 'Step 3: Setup your Wireless Network' page. The sidebar on the left contains a 'WIZARD' menu with three main steps: 1. Time Zone, 2. Broadband Type, and 3. Wireless Setup. Under '3. Wireless Setup', there are sub-items for 'Basic Settings' and 'Security Settings'. The main content area has the title 'Step 3: Setup your Wireless Network' and a sub-header 'Enable or disable wireless access within your network. Enabling wireless access lets you surf the internet and share files wirelessly around your home or office. (Wireless enabled computer required)'. Below this, there are two radio buttons: 'Enable' (which is selected) and 'Disable'. To the right of these buttons are two buttons: 'Next' (highlighted with a red box) and 'Back'.



The screenshot shows the 'Step 3: Setup your Wireless Network' page with configuration options. The sidebar is the same as in the previous screenshot. The main content area has the title 'Step 3: Setup your Wireless Network' and a sub-header 'Here you can select the mode of your wireless network and assign an identification name to your network. It is recommended that you do not change the Wireless Mode from the default "AP" setting unless you have a good knowledge of wireless networking modes. The ESSID is the identification name of your wireless network that other computers will use to identify your network while searching. The Channel number may be adjusted in case you have other 2.4GHz wireless devices on the same channel.' Below this, there are four configuration fields: 'Mode' (set to AP), 'Band' (set to 2.4 GHz (B+G)), 'ESSID' (set to HWR54GM), and 'Channel Number' (set to 11). At the bottom right, there are two buttons: 'Next' (highlighted with a red box) and 'Back'.

Mode: AP (Access Point) mode is the default setting for your Wireless Router. AP mode is for basic wireless access and it is recommended that you **do not** change this setting unless you are familiar with advanced wireless modes.

Band: Hawking recommends using B+G for your band settings. The band settings let you set your wireless access for 802.11b, 802.11g or both networks.

ESSID: The SSID is the identification name of your wireless network. Your individual computers will use this ID to recognize and connect to your network. The default ID of your network is: Hawking.

Channel #: Lets you select the channel number your wireless network operates on. You will not need to change this unless there is wireless interference within your network.

Select **NEXT** to continue

WIRELESS SECURITY SETUP

Hawking recommends that you enable wireless security within your network. Note that implementing wireless security may have an impact on your network's performance, but if you are transmitting sensitive data, enabling wireless security should give you peace of mind that your network is safe from intruders.

The screenshot shows the 'Step 3: Setup your Wireless Network' page. The sidebar on the left lists the setup steps: 1. Time Zone, 2. Broadband Type, and 3. Wireless Setup (with sub-options for Basic Settings and Security Settings). The main content area contains the following text: 'Last you may choose to use wireless security within your network to prevent outside intruders from entering your network freely. Hawking recommends that wireless security is used to avoid any unwanted intrusions. The Hawking Wireless Router features several types of wireless security, ranging from low to high. WEP is the basic type while WPA is more advanced. View the Quick Installation Guide if you are unfamiliar with setting up wireless security. If you wish to not enable wireless security you may select "Disable" from the Encryption field below. Click FINISH when you have completed your selection and made your settings. Your router setup is now complete.'

The configuration form includes the following fields:

- Encryption: WEP
- Key Length: 64-bit
- Key Format: Hex(10 characters)
- Default Tx Key: Key2
- Encryption Key 1: [text input]
- Encryption Key 2: [text input]
- Encryption Key 3: [text input]
- Encryption Key 4: [text input]

At the bottom of the form, there is a checkbox labeled 'Enable 802.1x Authentication' which is currently unchecked. To the right of the form are two buttons: 'Finish' and 'Back'.

This Quick Installation Guide will go over two types of wireless security. WEP and WPA. Please view the users manual if you need a more detailed description of wireless security.

(Note: Airport Extreme Card Users: Later versions of Mac OSX will support more advanced security options, if you are unaware of what Wireless Security setting your Mac is compatible with please check with Apple Support)

If you do not wish to add security in your network simply select **Disable** from the Encryption type and click **FINISH**. Otherwise select WEP or WPA from the Encryption selection and continue to the instructions of your specific encryption selection below.

Basic Wireless Security Settings: WEP Encryption

WEP encryption provides basic wireless security for your network.

Security Settings

This page allows you to set wireless security within your network. Wireless Security prevents outside intruders from entering your wireless network freely. The Hawking Wireless-108G MIMO Router features several types of wireless security, ranging from low to high. WEP is the basic type while WPA is more advanced. Consult the users manual if you are unsure how to setup your wireless security.

Encryption :	WEP
Key Length :	64-bit
Key Format :	Hex (10 characters)
Default Tx Key :	Key2
Encryption Key 1 :	XXXXXXXXXX
Encryption Key 2 :	XXXXXXXXXX
Encryption Key 3 :	XXXXXXXXXX
Encryption Key 4 :	XXXXXXXXXX

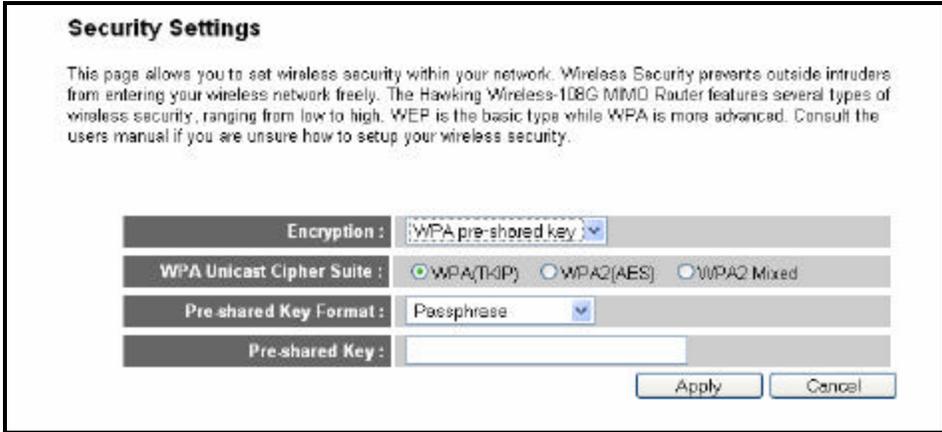
Enable 802.1x Authentication

Apply Cancel

- 1) Select “**WEP**” under **Encryption**
 - 2) **Key Length** lets you choose the strength of your encryption key. A **128-Bit** key is more secure than a **64-Bit** Key.
 - 3) **Key Format** choose **HEX**
 - 4) **Default Tx Key** select **Key 1**
 - 5) For the **Encryption Key 1** field you will need to enter your specific WEP key. This Key functions similar to the password into your network.
64-Bit Key: 10 digit key. Characters can be numerical (0-9) or letters (A -F) or a combination.
Sample 64Bit Key: 0A12B3C45D
128-Bit Key: 26 digit key. Same characters as 64Bit.
Sample 128Bit Key: 0000011111AAAAFFFFFF222222
- 5) Select **APPLY** to complete your installation. The router will reboot.

Advanced Security Settings: WPA Encryption

WPA is more advanced wireless security for your network.



The screenshot shows a web interface titled "Security Settings". Below the title is a paragraph of text explaining the purpose of the page. Below the text are four configuration rows: "Encryption" with a dropdown menu set to "WPA pre-shared key"; "WPA Unicast Cipher Suite" with three radio buttons, "WPA(TKIP)" being selected; "Pre shared Key Format" with a dropdown menu set to "Passphrase"; and "Pre-shared Key" with an empty text input field. At the bottom right of the form are "Apply" and "Cancel" buttons.

- 1) Select “WPA-Pre-Shared Key” under Authentication
- 2) Select “WPA (TKIP)” under Encryption
- 3) Key Format choose Passphrase
- 4) WPA Pre-Shared Key functions similar to a password into your wireless network. All wireless devices in your network will need to have this key entered in order to function properly. The key must be at least 8 letters long.
Sample Passphrase Key: hawkingtech
- 5) Select **FINISH** to complete your installation. The router will reboot.

IMPORTANT: Always remember that each device in your wireless network **MUST** use the same encryption method and key to function properly. Please save your encryption keys in a safe place. (If you happen to forget your key you may reset the router to regain access)

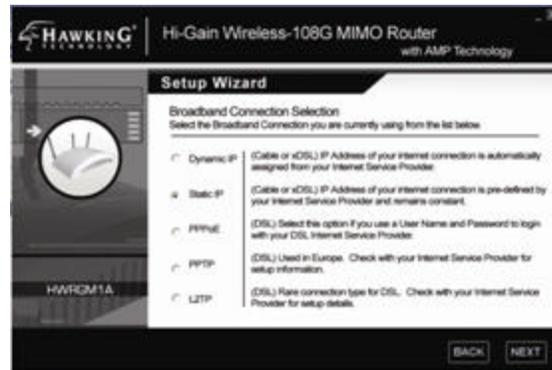
Your router is now successfully setup for wired and wireless networking!

Windows Setup

- 1) Insert the Setup CD into your CD-Rom Drive
- 2) Wait for the Autoload page to appear
- 3) Select Setup Wizard from the Autoload CD menu
- 4) Follow the steps and fill in the correct information



- 1) Scan for your router
 - Click Search to Scan for your device
 - Highlight the device and click NEXT



- 2) Select your Internet Service Provider Type
 - View the list of ISP connection types
 - Select your ISP type and click NEXT



- 3) Adjust your LAN settings and Login
 - It is recommended that you do not Change your LAN IP Address settings
 - You may choose a new password if you



- 4) Setup your Wireless Network
 - Enable wireless access to your network
 - Select an ID for your wireless network

do not wish to use the default “1234”



- 5) Setup Wireless Security
- Enable or Disable wireless security
 - View pg 9 -11 for Security setup information



- 6) Setup Summary – Click “SET” to apply
- Wait for your router to reboot.



IMPORTANT TEST – PLEASE COMPLETE

In order for all computers connected to the Wireless Router to work they must be configured correctly. To test this, please open your web browser and type www.hawkingtech.com in your web browser's address bar. If this does not work, **POWER OFF YOUR CABLE MODEM OR DSL MODEM FOR 30 SECONDS. MAKE SURE YOUR WIRELESS ROUTER IS TURNED ON AND CONNECTED TO THE CABLE/DSL MODEM BEFORE YOU POWER-ON YOUR MODEM AGAIN.** (This lets your ISP re-adjust its settings to your new router) Now power on your PC and try going to www.hawkingtech.com again.

If the page opens with no problem then you may skip the rest of this section and enjoy your new Wireless-108G MIMO Router. However, if it does not load, please follow the following steps to complete the configuration process for each computer that fails the test.

Note: If your computer is not loading the Setup Wizard page during initial setup you may also follow the following steps to correctly configure your Mac or PC.

Mac OSX SETUP (For OSX 10.3 and 10.4 – Using the Built-in Ethernet Port)

- 1.) Click the **APPLE** button in your OSX top right bar. Find the ‘**Systems Preferences**’ tab and select it.
- 2.) In the top bar of the **Systems Preferences** window select the **NETWORK** icon.
- 3.) In the Network bar select the drop down menu in the **Show** field and select **Built-In Ethernet**.
- 4.) Next select the **TCP/IP** in the navigation bar
- 5.) Drop down the **Configure IPv4** window and select **Using DHCP**
- 6.) Click on **Renew DHCP Lease** and the select **Apply Now**.

Your Mac IP settings are now setup for dynamic networking. Please test your internet connection again.



For OSX 10.3 and 10.4 – Using the Wireless Airport Cards

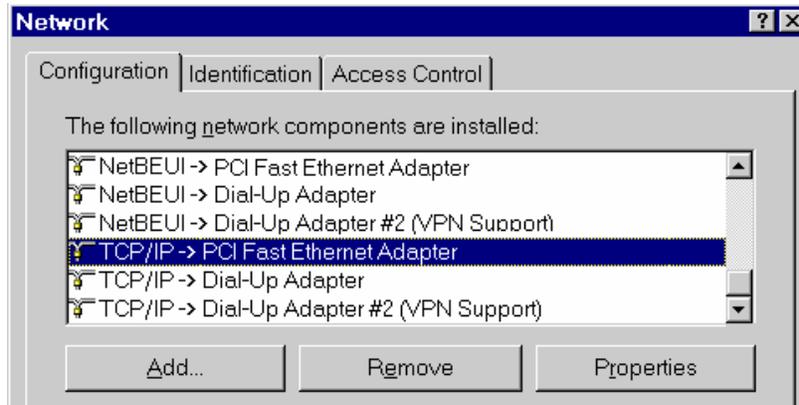
Follow the same steps as listed above for the “Built-In Ethernet” however for step 3 follow this step instead:

- 3.) In the Network bar select the drop down menu in the **Show** field and select **Airport**.

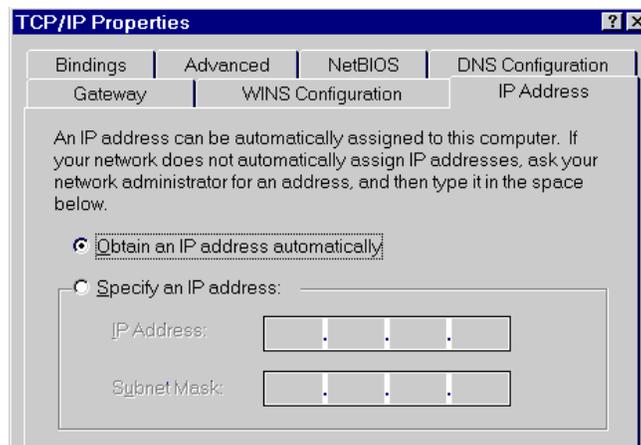
The rest of the steps are exactly the same as those listed above.

PC SETUP (For Windows 98/ME/XP)

1.) Click the **START** button in your Windows tool bar. Find the “**CONTROL PANEL**” tab and select it. Double click the **Network Connections (XP)** or if you are using 98/ME, right click the **Network Neighborhoods** icon and select **Properties**. Find your “**Local Area Connection**” (XP), right click the icon and select **Properties**.



2.) Select the **TCP/IP** protocol option associated with your Network Adapter. (If you do not have the TCP/IP protocol please click “**Add...**” to add this protocol) Select the **Properties** tag after you have highlighted your TCP/IP protocol associated with the Network Adapter as indicated in the illustration above.



3.) Be sure to check the selection entitled “**Obtain an IP address automatically**” if it has not yet been chosen. Select **OK**. Your computer may request for you to reboot at this time. If so, reboot and test your connection.

Troubleshooting and Common Issues

Overview

This section covers some common problems that may be encountered while using the Wireless Router and some possible solutions to them. If you follow the suggested steps and the Wireless Router still does not function properly, contact your dealer for further advice.

General Problems

Problem 1: Can't connect to the Wireless Router to configure it.

Solution 1: Check the following:

- The Wireless Router is properly installed, LAN connections are OK, and it is powered ON.
- Ensure that your Mac or PC and the Wireless Router are on the same network segment. (If you don't have a router, this must be the case.)
- If your Mac or PC is set to "Obtain an IP Address automatically" (DHCP client), restart it.
- If your Mac or PC uses a Fixed (Static) IP address, ensure that it is using an IP Address within the range 192.168.1.1 to 192.168.1.253 and thus compatible with the Wireless Router's default IP Address of 192.168.1.254.
Also, the Network Mask should be set to 255.255.255.0 to match the Wireless Router.
In Windows, you can check these settings by using *Control Panel-Network* to check the *Properties* for the TCP/IP protocol.
- In OSX you can check this from the System Preferences/Network/TCP/IP settings windows.

Internet Access

Problem 1: When I enter a URL or IP address I get a time out error.

Solution 1: A number of things could be causing this. Try the following troubleshooting steps.

- Check if other computers work. If they do, ensure that your computers IP settings are correct. If using a Fixed (Static) IP Address, check the Network Mask, Default gateway and DNS as

well as the IP Address.

- If the computers are configured correctly, but still not working, check the Wireless Router. Ensure that it is connected and ON. Connect to it and check its settings. (If you can't connect to it, check the LAN and power connections.)
- If the Wireless Router is configured correctly, check your Internet connection (DSL/Cable modem etc) to see that it is working correctly.

Problem 2: Some applications do not run properly when using the Wireless Router.

Solution 2: The Wireless Router processes the data passing through it, so it is not transparent.

Use the *Special Applications* feature to allow the use of Internet applications which do not function correctly.

If this does solve the problem you can use the *DMZ* function. This should work with almost every application, but:

- It is a security risk, since the firewall is disabled.
- Only one (1) PC can use this feature.

Wireless Access

Problem 1: My Mac or PC can't locate the Wireless Access Point.

Solution 1: Check the following.

- Your computer is set to *Infrastructure Mode*. (Access Points are always in *Infrastructure Mode*)
- The SSID on your computer and the Wireless Access Point are the same.
Remember that the SSID is case-sensitive. So, for example "Workgroup" does NOT match "workgroup".
- Both your computer and the Wireless Router must have the same setting for WEP. The default setting for the Wireless Router is disabled, so your wireless station should also have WEP disabled.
- If WEP is enabled on the Wireless Router, your PC must have WEP enabled, and the key must match.
- If the Wireless Router's *Wireless* screen is set to *Allow LAN access to selected Wireless Stations only*, then each of your Wireless stations must have been selected, or access will be blocked.
- To see if radio interference is causing a problem, see if connection is possible when close to the Wireless Router.

Remember that the connection range can be as little as 100 feet in poor environments.

Problem 2: Wireless connection speed is very slow.

Solution 2: The wireless system will connect at the highest possible speed, depending on the distance and the environment. To obtain the highest possible connection speed, you can experiment with the following:

- Wireless Router location.
Try adjusting the location and orientation of the Wireless Router.
- Wireless Channel
If interference is the problem, changing to another channel may show a marked improvement.
- Radio Interference
Other devices may be causing interference. You can experiment by switching other devices Off, and see if this helps. Any "noisy" devices should be shielded or relocated.
- RF Shielding
Your environment may tend to block transmission between the wireless stations. This will mean high access speed is only possible when close to the Wireless Router.

Common Issues for Mac Users

Check to See if ALL Computers are Affected

If you have more than one computer that connects through the Wireless-G Router, check to see if all clients are affected. This may allow you to skip sections of this guide that are not relevant to you. Consider these questions:

Is Only One Computer Affected?

If so, concentrate on troubleshooting client settings on that computer. Make sure that its AirPort card is properly installed, with the antenna connected.

If All Computers are Affected:

- 1 Unplug the Wireless-G Router.
- 2 Wait 30 seconds.
- 3 Plug the base station back in.
- 4 Try to connect to the Internet from a client computer.

If it fails try:

1. Unplug the power to your Cable or DSL Modem
2. Make sure your Wireless-G Router is powered ON.

3. Wait 5 minutes
4. Plug the power of the Cable/DSL Modem Back in.
5. Try to connect to the Internet from a client computer.

This lets the Cable or DSL Modem as sociate itself correctly to the new Router.

If ONLY one Computer is Affected:

Concentrate on factors that affect wireless clients, such as:

- Network selection and security keys
- Hardware access control
- Client TCP/IP settings
- Signal strength
- Sources of interference

Check all settings, cable routing, connections, and power supplies of your Wireless-G Router.

How do I File Share without using Apple Talk?

Using standard TCP/IP methods, file sharing and local networking can be accomplished.

Connecting to a Server

To connect to a server (OS X 10.1 and above) using your Mac Keyboard hit the Apple Symbol and K simultaneously. This will bring up a window to Connect to a Server. Enter the Server IP address here and it will be added to your network.

Connecting to Mac Computers over the LAN

OS X will automatically find Mac OSX based computers in your network. You simply have to view your Network from the Finder and you will see all local computers.

Connecting to Windows Based Computers via the LAN

Using OS X you will need to enter your System Preferences and open the Network page to change your settings and allow for Windows Computers to be networked.

Can clients connect to the Wireless -108G MIMO Router but not make any IP connections?

If clients get a strong signal connection to the base station but cannot use the network (such as Web browsing or local file sharing), check to see if you are experiencing a PPPoE scenario or if your computer is set on the wrong IP settings, or if the Router is on Static IP and DHCP is off.

Lost network password

Hit the RESET button on the back panel of the Router for over 5 seconds and the Router will return to default settings. (Login: Admin, Password: None).

I'm having trouble with Wireless Security on my Mac

Use the latest version of the Mac OS that you can (later versions of OSX support more security types)

It is best to have the latest version of the Mac OS that you can use, whether you have Mac OS 9 or Mac OS X. Use the Software Update control panel (Mac OS 9) or Software Update preferences (Mac OS X) to install software updates. Because some updates are prerequisite for others, repeatedly use Software Update until there are no updates left to install.

View the Apple website for the latest information on your OS updates and AirPort Card Updates.

For Mac OS 9

AirPort versions 2.0 and 2.0.2 for Mac OS 9 work with Mac OS 9.0.4 or later, but Mac OS 9.1 or later is best.

For Mac OS X

To get the latest version of AirPort software that works with your version of Mac OS X, use Software Update preferences.

Does my Airport Express work with the Hawking Wireless Router?

Yes, set up the Airport Express in Client mode and have it detect and connect to your wireless router using the SSID you have chosen. (default hawking)



CONTACT INFORMATION & TECHSUPPORT

HWRGM1A

For more information regarding the advanced usage and configuration of the HWRGM1A please refer to your Users Manual (CD-Rom)

If you are having technical difficulties using the product, Hawking Technologies offers free technical support to assist you.

24/7 Technical Support (For US and Canada):

Phone: 800-756-7832

Email: techsupport@hawkingtech.com

Website: <http://www.hawkingtech.com/support.php>

RMA Information (For Warranty Issues / Returns)

Website: <http://www.hawkingtech.com/customerservice.php>

Thank You for choosing Hawking Technologies.