



# Gateway Installation and User Guide

4011G

Version 9.1.1 Rev. 001



## Notice to Users

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## CHAPTER 1

# Presenting the 4011G Gateway

The 2Wire HomePortal® 4011G Gateway is the first point of contact between you, your service provider, and your digital home. This all-in-one intelligent manageable device includes modem, router, wireless access point, firewall and more.

The 2Wire 4011G Gateway supports ADSL, ADSL2, and ADSL2+ technology. It is available with a single Ethernet LAN port or an optional four Ethernet LAN ports and an 802.11b/g wireless interface. The 2Wire 4011G Gateway includes an array of the most common home networking technologies accommodating a variety of environments.

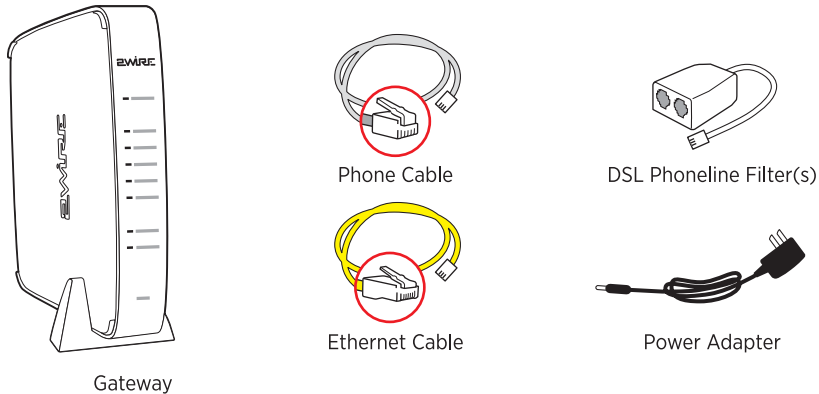
Setting up the 4011G Gateway is simple; it requires no complicated installation. Within minutes of unpacking the shipping box and connecting several color-coded cables, you can immediately access the Internet.

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## CHAPTER 2

# Installing Your Gateway

Before installing your gateway, review the package content and ensure that you have items available as shown below.



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**Note** The gateway and the stand are packaged separately in the container. You should place the gateway on the stand.

---

Installing your gateway consists of the following tasks:

- [Determining a Wireless Access Point Location](#) on page 4
- [Installing the DSL Filter](#) on page 4
- [Connecting the Power Adapter](#) on page 6
- [Connecting the Phone Line](#) on page 7
- [Connecting Your Computer to the Gateway](#) on page 7
- [Configuring Wireless Adapters](#) on page 8
- [Starting Your Gateway](#) on page 9

## Determining a Wireless Access Point Location

Wireless signals are affected by many items in common households. Reliability and performance are the major considerations when planning your wireless network location.

### Avoiding Interference

Wireless signals are subject to interference from other electronic devices including (but not limited to) microwave ovens, cordless telephones, and garage door openers. Proper installation will minimize interference. Place your gateway at least 5 feet (1.52 meters) from cordless phones, microwaves, or other electronic devices to avoid potential interference, and more than 6 inches (15.24 centimeters) away from television to avoid audio hissing or static.

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**Note** Whenever possible, use the stand provided with the gateway and install it in the vertical position. If that is not possible, be sure that it is installed in a manner that nothing can be stacked on the top of it.

---

### Avoiding Obstructions

The wireless signal degrades with distance and obstructions (such as ceilings, walls, and furniture). Consider the layout of your home or business when deciding where to place your gateway.

- Consider where you will use your wireless devices when placing your gateway. In a single-story building, place the gateway as high and as close to each wireless computer as possible. To minimize interference, do not place the gateway behind large objects or other obstructions.
- Place the gateway in an open area where wireless range will not be directly affected by surroundings. Wireless signal strength will be much stronger in an open area as opposed to an area with obstructions.
- Keep the gateway away from any large metal objects. Because metal objects can reflect or obstruct signals, wireless signal quality and speed may be adversely impacted.

## Installing the DSL Filter

Regular telephone and Digital Subscriber Line (DSL) signals are carried over the same line. Converting your regular telephone line to DSL can cause high-pitched tones and static when using the phone. Installing a filter on every telephone or telephone device sharing the same telephone number as your DSL separates these signals and eliminates the noise.

---

**Note** Do *not* install DSL filters if your telephone line is only carrying a DSL signal.

---



You need one DSL Phoneline filter for each telephone device (desktop phone, analog modem, FAX, or answering machine). If you have several telephone devices connected to each other and are using a single telephone wall jack, install only one filter, connecting it between the wall jack and the first device in the series.

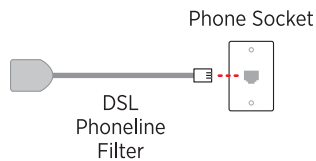
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**Note** Do not connect a 2Wire DSL Phoneline filter to an ADSL modem or to a home phoneline network adapter. The filter blocks access to the phone line for these devices.

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#### For an Individual Device

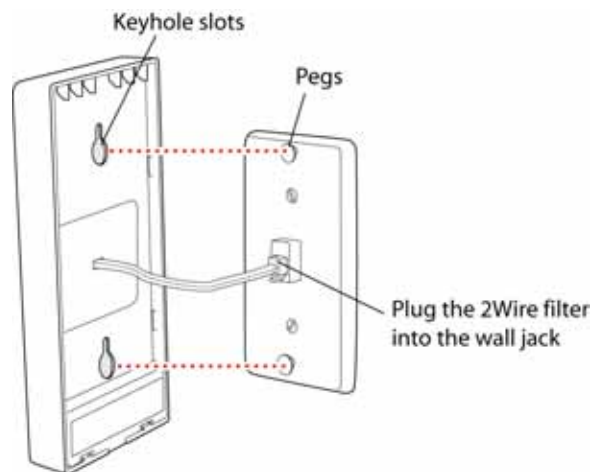
To install the DSL Phoneline filter, simply connect the cable from your telephone device to the 2Wire DSL Phoneline filter, then connect the cable from the filter to your telephone wall outlet.



#### For Wall-Mounted Telephones

To install the filter between the original wall plate and your wall-mounted phone:

1. Lift the telephone from the wall pegs, and disconnect the phone cord from the wall jack.
2. Connect the phone cord from the back of the 2Wire DSL filter into the wall jack, and mount the filter on the wall plate pegs.



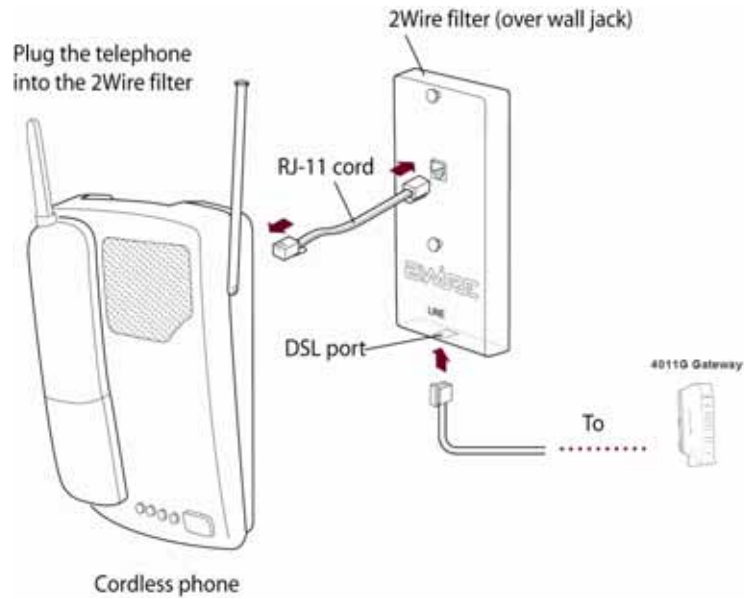
3. Connect the phone cord to the phone jack located on the front of the mounted 2Wire DSL filter.

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**Note** If you have a DSL modem, you can connect it to the phone jack located at the bottom of the filter.

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4. Attach the telephone to the mounting pegs on the 2Wire DSL filter and your installation is complete.



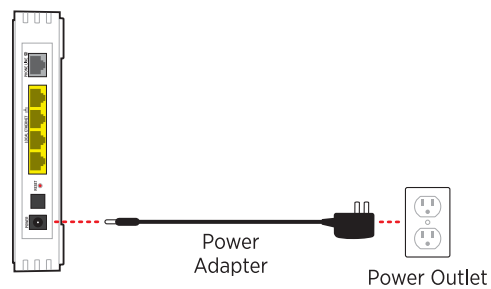
## Connecting the Power Adapter

1. Connect one end of the power adapter to the **POWER** port of your gateway.
2. Connect the other end of power adapter to an electrical outlet.

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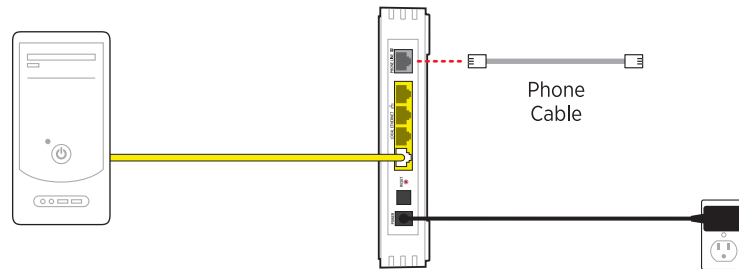
**Note** You can use an AC extension cord provided it is compliant to local regulatory requirements.

---



## Connecting the Phone Line

1. Connect one end of the telephone line (gray) to the **PHONE LINE** port of your gateway.
2. Connect the other end of the telephone line to the DSL Phoneline filter if one is used, or to the telephone wall outlet.



## Connecting Your Computer to the Gateway

There are two ways to connect your computer to the gateway: via Ethernet or Wireless. With either connection, the first computer you connect to the network is used to configure the gateway for proper operation.

### Connecting via Ethernet Ports

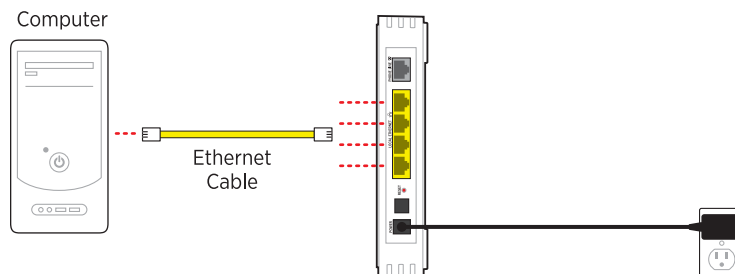
You can directly connect up to four computers to the gateway using the Ethernet connection. Connect one end of the Ethernet cable (yellow) to any available ETHERNET port (yellow) on the gateway and the other end to the computer's Ethernet port.

You are now ready to start your gateway.

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**Note** A 6-foot Ethernet cable is provided with your gateway. Use a CAT5 RJ-45 cable if you need additional or longer Ethernet cable.

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## Connecting via Wireless

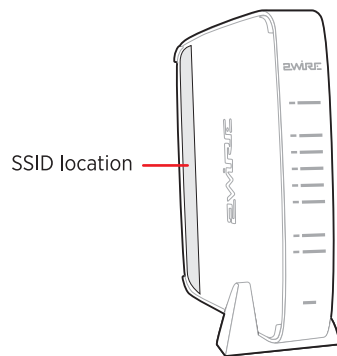
Your gateway has an integrated Wi-Fi access point (AP) that enables you to connect your wireless-enabled computers to your home network. By default, the gateway is shipped with WEP enabled and a preconfigured network name. Refer to the [Configuring the Wireless Network](#) section to configure your wireless network.

Most laptop computers are equipped with an internal 802.11b/g card. If your computer is not equipped with an internal card, you can install an external wireless adapter for wireless networking. The 2Wire wireless adapter provides a 2Wire Setup Wizard that automatically configures it to communicate with the gateway during setup. If you are using a non-2Wire wireless adapter, you must manually configure it to communicate with the gateway. Refer to the [Configuring Wireless Adapters](#) section to install a wireless network adapter.

## Configuring Wireless Adapters

You must manually configure the Wireless adapter to communicate with the gateway. This section provides instructions to configure your adapter with WPA.

1. Install and configure your wireless adapter according to the manufacturer's instructions.
2. Use the network adapter configuration software or Windows network connection wizard to set the network name (SSID) and encryption key (WPA).



3. Enter **2WIRE** (in capital letters) as the network name, followed by the last three digits of the gateway serial number (for example, 2WIRE110), located on the bottom of your gateway.
4. Enter the encryption key that is located inside the brackets beneath the bar code on the bottom of your gateway, (for example, 1234567890).

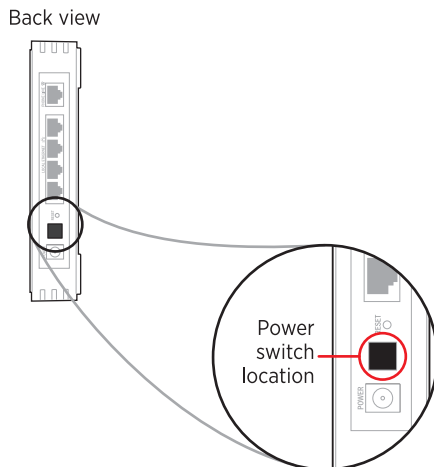
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**Note** For Mac OS X users, you may need to enter the “\$” character at the beginning of the encryption key (for example, \$1234567890).

---

## Starting Your Gateway

When cables are connected, your gateway is ready to be turned on. The **POWER** switch is located on the back of the gateway. The following illustration shows the **POWER** switch location and the table lists and describes the indicators when the gateway is operating under different states.



### Gateway Indicators Description

Indicators	Description
POWER	<p>The <b>POWER</b> indicator is off for a brief period of time, and then changes to solid green within few seconds of power application.</p> <ul style="list-style-type: none"> <li>• Constant green indicates that power is on.</li> <li>• Red indicates that the gateway is faulty.</li> </ul>
ETHERNET 1 – 4	<ul style="list-style-type: none"> <li>• Solid green indicates that a device (such as a computer) is connected to an ETHERNET port.</li> <li>• Flickering green indicates that inbound activity from devices is associated with the Ethernet port. The flickering of the light is synchronized to the actual data traffic.</li> </ul>
WIRELESS	<ul style="list-style-type: none"> <li>• Solid green indicates that there is Wireless client associated to a specific Access Point.</li> <li>• Flickering green indicates that there is inbound/outbound activity. The flickering of the light is synchronized to the actual data traffic.</li> </ul>
BROADBAND	<p>This indicator shows the gateway DSL status.</p> <ul style="list-style-type: none"> <li>• Constant green indicates successful broadband connection and no interruption in Internet access.</li> <li>• Flashing green indicates that the gateway is attempting to establish a broadband connection.</li> <li>• Red indicates that there is no DSL signal.</li> </ul>
SERVICE	<ul style="list-style-type: none"> <li>• Constant green indicates that the gateway has obtained a WAN IP address from your service provider through the DHCP or PPP connection and the broadband connection is up.</li> <li>• Flashing green at a faster pace indicates that the gateway is attempting to obtain an IP address.</li> <li>• Flashing green at a slower pace indicates that the service provider's network is not responding, a misconfiguration, or an authentication failure.</li> </ul>

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## CHAPTER 3

# Starting the User Interface

Verify that your computers have one of the following browsers installed:

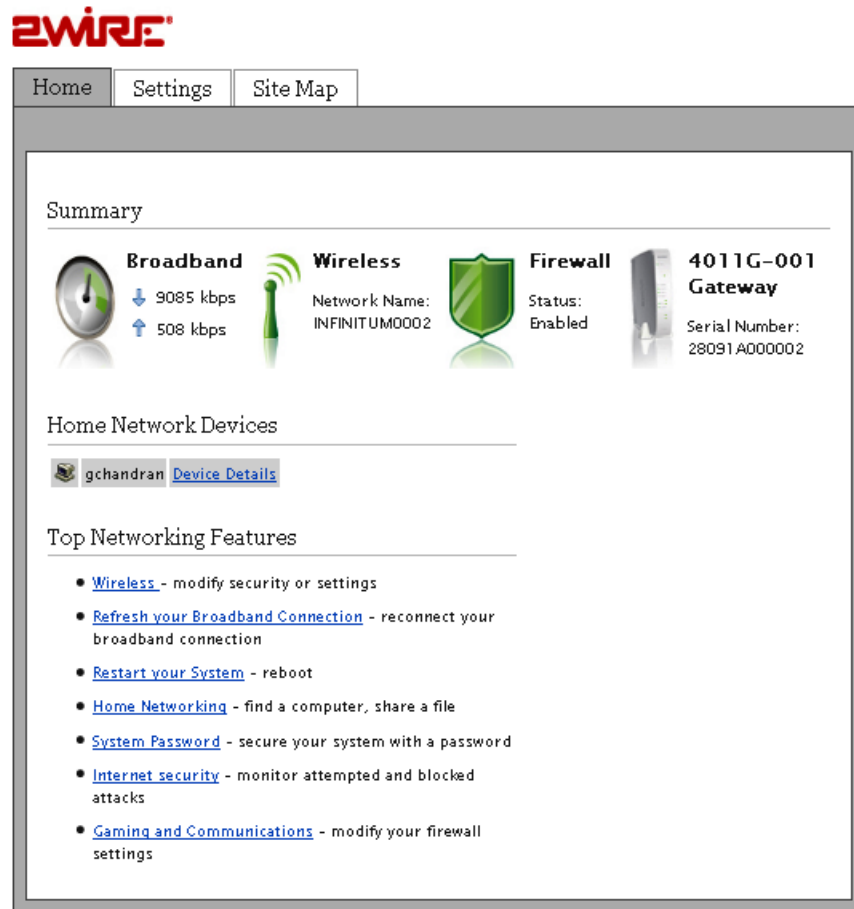
- Microsoft Internet Explorer 5.5 or higher
- Mozilla Firefox 2.0 or higher
- Safari 2.0




## Navigating the User Interface

The *Home* page appears when you enter one of the following URLs into a compatible browser on a computer connected to the gateway.


- <http://gateway.2Wire.net>
- <http://home>
- <http://192.168.1.254>

This page contains four panes. The following section describes each pane that is indicated by the numbered red arrow.



1. The *tab* pane of the user interface contains the following three tabs that are arranged horizontally. Clicking any of these tabs displays a page that enables you to access associated information.
  - The *Home* tab provides the most relevant information about your broadband service at a glance. It also provides links to access more detailed information.
  - The *Settings* tab provides the most comprehensive system information. Clicking this tab opens a page that provides sub-tabs to access other pages to configure your gateway and view system status.
  - The *Site Map* tab provides a textual view of the user interface. Clicking any links on this page takes you directly to the page of interest.
2. The *Summary* pane displays the status of each service. Except the fourth icon, gateway, you can click other icons to directly access more information.
  - The *Broadband* icon  displays the Internet upload and download rates in kbps.
  - The *Wireless* icon  displays the wireless network name.
  - The *Firewall* icon  displays the current Firewall status- enabled or disabled.



- The *4011G Gateway* icon  displays the gateway device serial number.
3. The *Home Network Devices* pane displays all devices that are connected to the gateway. You can click the links to view the detailed information of the connected devices.
  4. The *Top Networking Features* pane provides shortcuts to directly access the most commonly used pages.

## Setting up Your Password

A system password protects your gateway settings from being modified or changed by someone who has not been given permission to do so. When a password is set up, you will be required to enter a system password whenever you attempt to access a configuration page (for example, when you try to change the broadband connection settings).

To set up a password:

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface; the *Home* page opens.

The screenshot displays the 2Wire gateway user interface. At the top left is the 2Wire logo. Below it are navigation tabs for Home, Settings, and Site Map. The main content area is titled "Summary" and features four status cards: Broadband (showing 9085 kbps download and 508 kbps upload), Wireless (showing Network Name: INFINITUM0002), Firewall (showing Status: Enabled), and 4011G-001 Gateway (showing Serial Number: 28091A000002). Below the summary is a section for "Home Network Devices" with a device named "gchandran" and a link to "Device Details". The "Top Networking Features" section lists several actions: Wireless (modify security or settings), Refresh your Broadband Connection (reconnect your broadband connection), Restart your System (reboot), Home Networking (find a computer, share a file), System Password (secure your system with a password), Internet security (monitor attempted and blocked attacks), and Gaming and Communications (modify your firewall settings).

- Click [Settings](#) then click **Password**; the *Administration Password* page opens.

— Or —

Click [System Password](#) from the *Top Networking Features* pane; the *Administration Password* page opens.

**Z-WIRE**

Home Settings Site Map

System Info Broadband LAN Firewall Diagnostics

Status **Password** Date & Time

### Administration Password

The administration password restricts system configuration changes from being made to users who know the password. It is strongly recommended that you enable password security to protect your system from unauthorized changes.

**Enable Password Protection:**

**Enter Current Password:**

**Select Password:**

Use Default System password (printed on the base of the system)

Create or Edit a Custom Password:

Enter New Password:

Confirm New Password:

Enter a Password Hint:

Note: When you choose to password protect the system settings, you should also set up a password hint in case you forget your password. This hint can be a word, phrase, or question that will help you remember your password if you forget it.

Location of SSID and WiFi Key on the bottom label

■ Serial Number ● Default Password

Save

3. Select the **Enable Password Protection** check box.

---

**Note** Make sure to select this check box or your password will not save.

---

4. Select the password option:

- When **Use Default System password** is selected, no further action is required, go to 7.
- When **Create or Edit a Custom Password** is selected, continue with the next step.

---

**Note** The default system password is printed on the bottom of the gateway.

---

5. Enter a new password having minimum 6 alphanumeric characters in the **Enter New Password** field.

---

**Note** The password is case-sensitive and prompts an error message if you enter less than 6 alphanumeric characters.

---

6. Re-enter the new password in **Confirm New Password** field.

---

**Note** Although optional, it is strongly recommended that you enter a password hint to remind you if you forget your password.

---

7. Click **Save**; a message appears informing you of the status.

## Changing the Current Password

To change the current password:

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface; the *Home* page opens.

The screenshot displays the 2Wire gateway user interface. At the top left is the 2Wire logo. Below it are navigation tabs for Home, Settings, and Site Map. The main content area is titled "Summary" and features several status indicators: Broadband (9085 kbps download, 508 kbps upload), Wireless (Network Name: INFINITUM0002), Firewall (Status: Enabled), and Gateway (Model: 4011G-001, Serial Number: 28091A000002). Below the summary is a section for "Home Network Devices" showing a device named "gchandran" with a "Device Details" link. The "Top Networking Features" section lists several actions: Wireless (modify security or settings), Refresh your Broadband Connection (reconnect your broadband connection), Restart your System (reboot), Home Networking (find a computer, share a file), System Password (secure your system with a password), Internet security (monitor attempted and blocked attacks), and Gaming and Communications (modify your firewall settings).

- Click [Settings](#) then click **Password**; the *Administration Password* page opens.

— Or —

Click [System Password](#) from the *Top Networking Features* pane; the *Administration Password* page opens.

**zWIRE**

Home Settings Site Map

System Info Broadband LAN Firewall Diagnostics

Status **Password** Date & Time

### Administration Password

The administration password restricts system configuration changes from being made to users who know the password. It is strongly recommended that you enable password security to protect your system from unauthorized changes.

**Enable Password Protection:**

**Enter Current Password:**

**Select Password:**

Use Default System password (printed on the base of the system)

Create or Edit a Custom Password:

Enter New Password:

Confirm New Password:

Enter a Password Hint:

Note: When you choose to password protect the system settings, you should also set up a password hint in case you forget your password. This hint can be a word, phrase, or question that will help you remember your password if you forget it.

Location of SSID and WiFi Key on the bottom label

Serial Number Default Password

Save

- Verify that the **Enable Password Protection** check box is selected.
- Enter the current password in the **Enter Current Password** field.
- Select the password option:
  - When Use **Default System password** is selected, no further action is required, go to 8.
  - When **Create or Edit a Custom Password** is selected, continue with the next step.

---

**Note** The default system password is printed on the bottom of the gateway.

---

6. Enter a new password between 5 and 31 alphanumeric characters in the **Enter New Password** field.

---

**Note** The password is case-sensitive.

---

7. Re-enter the new password in **Confirm New Password** field.

---

**Note** Although optional, it is strongly recommended that you enter a password hint to remind you if you forget your password.

---

8. Click **Save**; a message appears informing you of the status.

## Configuring Date and Time

The 2Wire gateway sets the time automatically using time servers on the Internet. It retrieves date and time information in Greenwich Mean Time (GMT). Your local time is set using the Time Zone setting you configured when you set up your system.

To change your time zone settings:

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface; the *Home* page opens.

The screenshot displays the 2Wire gateway user interface. At the top left is the 2Wire logo. Below it are navigation tabs for Home, Settings, and Site Map. The main content area is titled "Summary" and features several status indicators: Broadband (9085 kbps download, 508 kbps upload), Wireless (Network Name: INFINITUM0002), Firewall (Status: Enabled), and a 4011G-001 Gateway (Serial Number: 28091A000002). Below the summary is a section for "Home Network Devices" showing a device named "gchandran" with a "Device Details" link. The "Top Networking Features" section lists several actions: Wireless (modify security or settings), Refresh your Broadband Connection (reconnect your broadband connection), Restart your System (reboot), Home Networking (find a computer, share a file), System Password (secure your system with a password), Internet security (monitor attempted and blocked attacks), and Gaming and Communications (modify your firewall settings).



- Click [Settings](#); the *Settings* page opens displaying the system information.

The screenshot shows the 2Wire user interface. At the top is the 2Wire logo. Below it are navigation tabs: Home, Settings (selected), and Site Map. A secondary set of tabs includes System Info (selected), Broadband, LAN, Firewall, and Diagnostics. Under System Info, there are sub-tabs: Status (selected), Password, and Date & Time. The main content area is titled "System Information" and contains a table of system details:

<b>Manufacturer:</b>	2Wire
<b>Model:</b>	4011 G-001
<b>Serial Number:</b>	28091 A000083
<b>Hardware Version:</b>	2700-000780-001
<b>Software Version:</b>	9.1.1.1.2
<b>Key Code:</b>	52AD-2AD4-6266-22NA-B27M
<b>First Use Date:</b>	Fri Nov 20 05:30:31 UTC 2009
<b>Current Date &amp; Time:</b>	12-22-2009 & 01:38:14
<b>Time Since Last Boot:</b>	3:53
<b>DSL Modem</b>	A2p8025f6.d22
<b>System Password:</b>	Custom: xxxxxxxx

- Click [Date & Time](#); a page similar to the following opens.

The screenshot shows the 2Wire user interface with the "Date & Time" sub-tab selected. The main content area is titled "Current Time Settings" and contains the following configuration options:

**Time Zone:** (GMT-08:00) Pacific Time - US and Canada, Tijuana (selected)

**Date:** Friday, September 04, 2009

**Time:** 04:03:40 AM

**Time Configuration**

**Manual Configuration:**  Override automatic time configuration

Set Time: [ ] : [ ] : [ ] (hh:mm:ss)

Set Date: [ ] / [ ] / [ ] (yyyy/mm/dd)

**Daylight Savings Time:**  Automatically adjust for daylight savings

**Time Servers**

**Primary Time Server:** http1.2wire.com

**Secondary Time Server:** http2.2wire.com

A "Save" button is located at the bottom right of the configuration area.

- Select the appropriate time zone from the **Time Zone** drop-down list.
- Click **Save**.

## Overriding Automatic Date and Time Configuration

Typically, the 2Wire Gateway sets the date and time automatically using time servers on the Internet. You can override these settings and manually set them.

To manually change the date and time settings:

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface; the *Home* page opens.
2. Click [Settings](#); the *Settings* page opens displaying the system information.

The screenshot shows the 2Wire Gateway user interface. At the top left is the 2Wire logo. Below it are navigation tabs: Home, Settings (selected), and Site Map. Underneath are sub-tabs: System Info (selected), Broadband, LAN, Firewall, and Diagnostics. A secondary navigation bar contains links for Status, Password, and Date & Time. The main content area is titled "System Information" and displays the following data:

<b>Manufacturer:</b>	2Wire
<b>Model:</b>	4011 G-001
<b>Serial Number:</b>	28091 A000083
<b>Hardware Version:</b>	2700-000780-001
<b>Software Version:</b>	9.1.1.12
<b>Key Code:</b>	52AD-2AD4-6266-22NA-B27M
<b>First Use Date:</b>	Fri Nov 20 05:30:31 UTC 2009
<b>Current Date &amp; Time:</b>	12-22-2009 & 01:38:14
<b>Time Since Last Boot:</b>	3:53
<b>DSL Modem</b>	A2p8025f6.d22
<b>System Password:</b>	Custom. XXXXXXXX

3. Click [Date & Time](#); a page similar to the following opens.

The screenshot shows the 2Wire user interface. At the top left is the 2Wire logo. Below it are navigation tabs: Home, Settings (selected), and Site Map. Under Settings, there are sub-tabs: System Info, Broadband, LAN, Firewall, and Diagnostics. The main content area is titled 'Date & Time' and contains the following sections:

- Current Time Settings:**
  - Time Zone:** A dropdown menu showing '(GMT-08:00) Pacific Time - US and Canada, Tijuana'.
  - Date:** 'Friday, September 04, 2009'
  - Time:** '04:03:40 AM'
- Time Configuration:**
  - Manual Configuration:** An unchecked checkbox labeled 'Override automatic time configuration'.
  - Set Time:** Three input fields for hours, minutes, and seconds, followed by '(hh:mm:ss)'.
  - Set Date:** Three input fields for year, month, and day, followed by '(yyyy/mm/dd)'.
  - Daylight Savings Time:** A checked checkbox labeled 'Automatically adjust for daylight savings'.
- Time Servers:**
  - Primary Time Server:** An input field containing 'ntp1.2wire.com'.
  - Secondary Time Server:** An input field containing 'ntp2.2wire.com'.

A 'Save' button is located in the bottom right corner of the main content area.

4. Select **Manual Configuration** to override the automatic time configuration.
5. Enter the desired time and date information in the **Set Time** and **Set Date** fields.
6. Select **Daylight Savings Time** to enable the automatic daylight saving time adjustment, if applicable.
7. Click **Save**.

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## CHAPTER 4

# Configuring the Wireless Network

When the gateway is properly installed, the wireless network is functional. Your gateway is preconfigured with settings that optimize Wi-Fi performance. It is recommended that you leave the default settings in place.

If you are knowledgeable with the wireless technology and want to modify these settings, this section provides instructions to perform the following advanced configurations:


- [Setting up your Wireless Network](#) on page 26
- [Securing your Wireless Network](#) on page 28
- [Customize Private Wireless Settings](#) on page 31

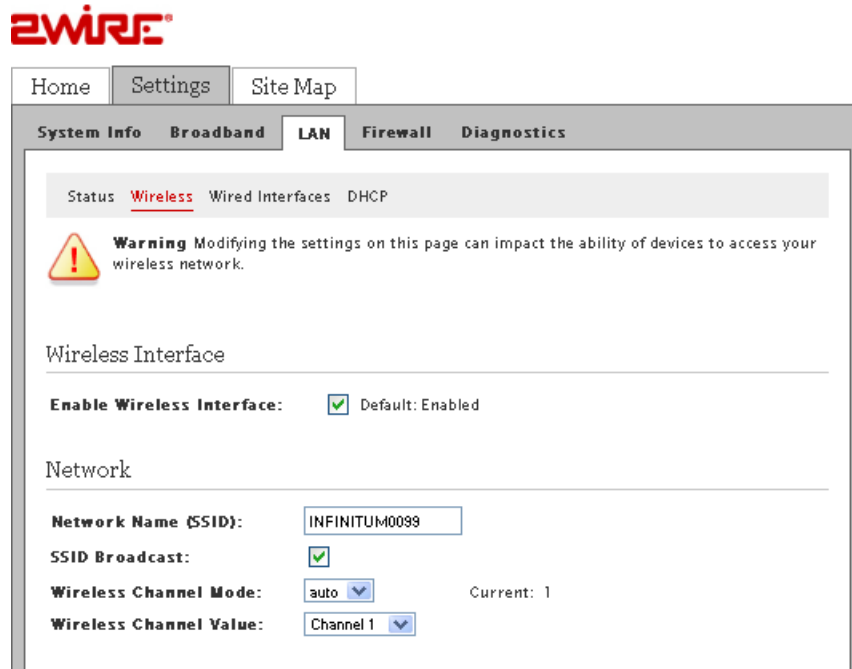
## Setting up your Wireless Network

If you are in a densely populated area, or if you regularly connect to more than one wireless network (such as one at work and one at home), it is good practice to give your wireless network a unique name, which makes it easy to identify when you select the wireless network to which to connect. The default wireless network name is 2WIREXXX, where XXX represents the last three digits of the serial number on the gateway (for example, 2WIRE954).


1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface; the *Home* page opens.

The screenshot displays the 2Wire gateway user interface. At the top left is the 2Wire logo. Below it are navigation tabs for Home, Settings, and Site Map. The main content area is titled "Summary" and features several status cards: Broadband (showing 9085 kbps download and 508 kbps upload), Wireless (showing Network Name: INFINITUM0002), Firewall (showing Status: Enabled), and 4011G-001 Gateway (showing Serial Number: 28091A000002). Below the summary is a section for "Home Network Devices" with a user profile for "gchandran" and a link to "Device Details". The "Top Networking Features" section lists several actions: Wireless (modify security or settings), Refresh your Broadband Connection (reconnect broadband), Restart your System (reboot), Home Networking (find computer, share file), System Password (secure system), Internet security (monitor attacks), and Gaming and Communications (modify firewall settings).

- Click ; the *Wireless Interface* page opens.



- Enter a name assigned to your wireless network in the **Network Name (SSID)** field.

This name appears next to  on the *Home* page.

- Enable or disable the broadcast of the SSID over the wireless network by selecting or deselecting the check box.
  - Enabled* is the default setting, which means that your SSID is visible to anyone who is scanning for a network to which to connect.
  - Disabled secures your wireless network by not announcing its presence. Deselect the **Enable** check box to disable it.

---

**Note** If you add a PC or device later, the wireless client will be unable to scan and connect to your wireless network when the SSID broadcast is disabled. You will need to manually add a wireless profile in the client device to connect to the wireless network instead of selecting the SSID name from a typical scan list.

---

- Select the channel mode (radio frequency band) that the access point (AP) uses for your wireless network.

---

**Note** It is best to select *Auto* because a channel is automatically selected to minimize interference.

---

- Select a channel value from its drop-down list if you selected a channel mode other than *Auto* in 5.
- Click **Save**.

## Securing your Wireless Network

In addition to using the encryption key to secure your wireless network, you can also use the MAC address filtering feature to enhance the overall security solution provided by WPA/WEP.


---

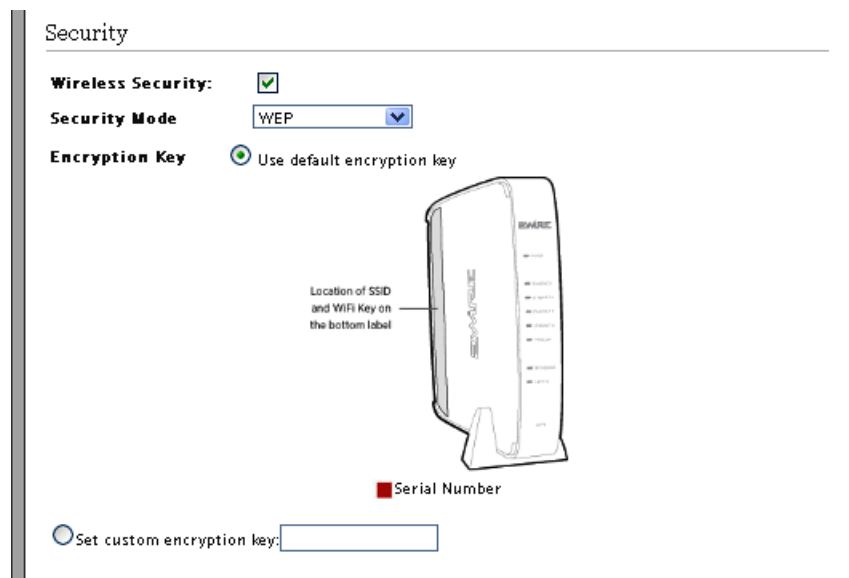
**m** **Wireless security is enabled by default. Do not disable the security authentication and security features; they protect your private data transmission over the wireless link. Doing so may compromise the security of your PCs or other devices and lead to theft of service or loss of bandwidth.**

---

### Using the Encryption Key

It is good practice to customize an encryption key for wireless communication. When it is defined, each wireless client needs to have that encryption key to connect to your wireless network.

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Wireless Interface* page opens.
3. Scroll down to the *Security* pane.





4. Select an authentication setting from the **Security Mode** drop-down list:

---

**Note** Check the capabilities of the wireless clients that will be accessing this network and find the most secure protocol that is supported by all.

---

- *wep*. The Wireless Encryption Protocol (WEP) is an older security protocol that allows any wireless clients within the radio range to access your network without an encryption key. This setting provides the least level of security. For security reasons, do not select this setting unless there is compatibility issue with an older wireless client. For added protection, set an encryption key on your AP and enter the same key into your other wireless clients.
  - *wpaPsk*. This default setting provides good security and works with most wireless clients but perhaps not on some older clients. This setting requires that an encryption key to be set on the AP and that the wireless client be configured to use Wi-Fi Protected Access – Pre-Shared Key (WPA-PSK) with the same encryption key.
  - *wpa2Psk*. This setting requires that wireless clients use only WPA2-PSK to access your networks. An encryption key must be configured on the AP and entered into the wireless client. WPA2-PSK is currently the most secure Wi-Fi encryption protocol but may not be available on many wireless clients.
  - *wpaPskMixed*. This setting allows a wireless client to use either WPA-PSK or WPA2-PSK to access your network. An encryption key must be configured on the AP and the same key must be entered on the wireless client.
5. Select the radio button next to **Use default encryption key** field and use the WEP Key for wireless authentication.
  6. Select the radio button next to the **Set custom encryption key** field to manually configure the encryption key. Enter your encryption key consisting a minimum of 8 characters.

---

**Note** This pass phrase is applicable only for the WpaPsk and Wpa2Psk security modes.

---

7. Click **Save**.

## Using the MAC Address Filtering


The MAC address is a factory-programmed address assigned to each hardware device. The *MAC address filtering* feature enables you to block or allow wireless connection to all devices or an individual device. It is most often used to allow only “known and trusted” devices to associate to the AP. By default, the *MAC address filtering* is disabled, meaning that all discovered devices are allowed. When enabled, the wireless connection is only available to the devices having their MAC addresses added to the allowed list.

---

**Note** Security is not optimized if you use only *MAC address filtering* option. It should be used in combination with the wireless security protocols to enhance the overall security solution.

---

To enable the MAC filter to block all devices:

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Wireless Interface* page opens.

3. Scroll down to the *MAC Filtering* pane.

## MAC Filtering

**MAC Filtering**

[Edit Blocked/Allowed Device List](#)


4. Click [Edit Blocked/Allowed Device List](#); the *Wireless MAC Filtering* page opens.

The screenshot shows the eMule web interface. At the top left is the eMule logo. Below it are navigation tabs: Home, Settings, and Site Map. Under Settings, there are sub-tabs: System Info, Broadband, LAN, Firewall, and Diagnostics. The LAN tab is selected. Below the sub-tabs, there are links for Status (Wireless), Wired Interfaces, and DHCP. The main content area is titled 'Wireless MAC Filtering'. It contains an 'Enable MAC Filtering' checkbox (currently unchecked), an 'Authentication Type' dropdown menu (set to 'blacklist'), and a 'Save' button. Below this is a section for 'MAC Address List' with a sub-section 'Add New MAC Address to List Manually'. This section includes an 'Enter MAC address' text input field and an 'Add To List' button. A 'Back' button is located at the bottom right of the main content area.

5. Enter the MAC address you want to block in the **Enter MAC address** field.
6. Click **Add to List**.
7. Select the **Enable** check box to block all devices.
8. Select the Authentication Type: blacklist (default), whitelist.
  - *blacklist* is the default setting that blocks all devices.
  - *whitelist* is a setting that allows access to all devices.
9. Click **Save**; a dialog box opens confirming that the configuration is changed.

## Customize Private Wireless Settings

The *Advanced Settings* pane allows you to customize wireless settings. It is recommended that you leave the default settings in place; however, if you are experiencing connection or performance difficulties, altering these settings may improve performance.

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Wireless Interface* page opens.
3. Scroll down to the *Advanced Settings* pane.

Advanced Settings

---

**Power Setting:**

**Wireless Mode:**

**DTIM Period:**

**Maximum Connection Rate:**

1. Select a power setting from its associated drop-down list.
2. Select a wireless mode from its associated drop-down list.
3. Enter a value in the range from 1 to 3 seconds in the **DTIM Period** field. (The default is 1.)  
This Delivery Traffic Indication Message (DTIM) value determines the interval at which the access point sends its broadcast traffic.
4. Select the maximum rate at which your wireless connection works: auto or 6, 9, 18, 24, 36, 48, and 54 Mbps.
5. Click **Save**.

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# Configuring Firewall Settings


The gateway includes default firewall settings that block unwanted access from the Internet; it is recommended that you leave the default settings in place. If necessary, you can allow Internet traffic or users through the firewall to your LAN devices, applications, and servers. This section provides instructions to:

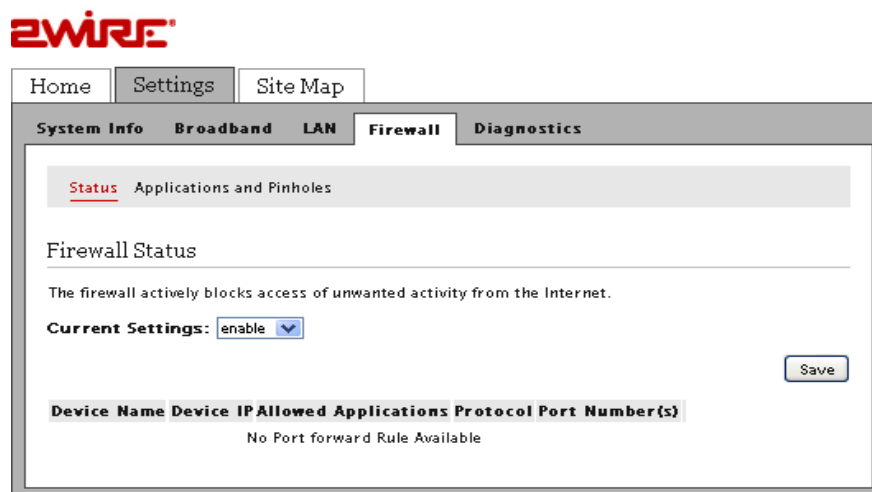
- [Hosting Applications](#) on page 33
- [Removing Hosted Applications](#) on page 35
- [Defining New Application Profiles](#) on page 37
- [Deleting Application Profiles](#) on page 41

## Hosting Applications

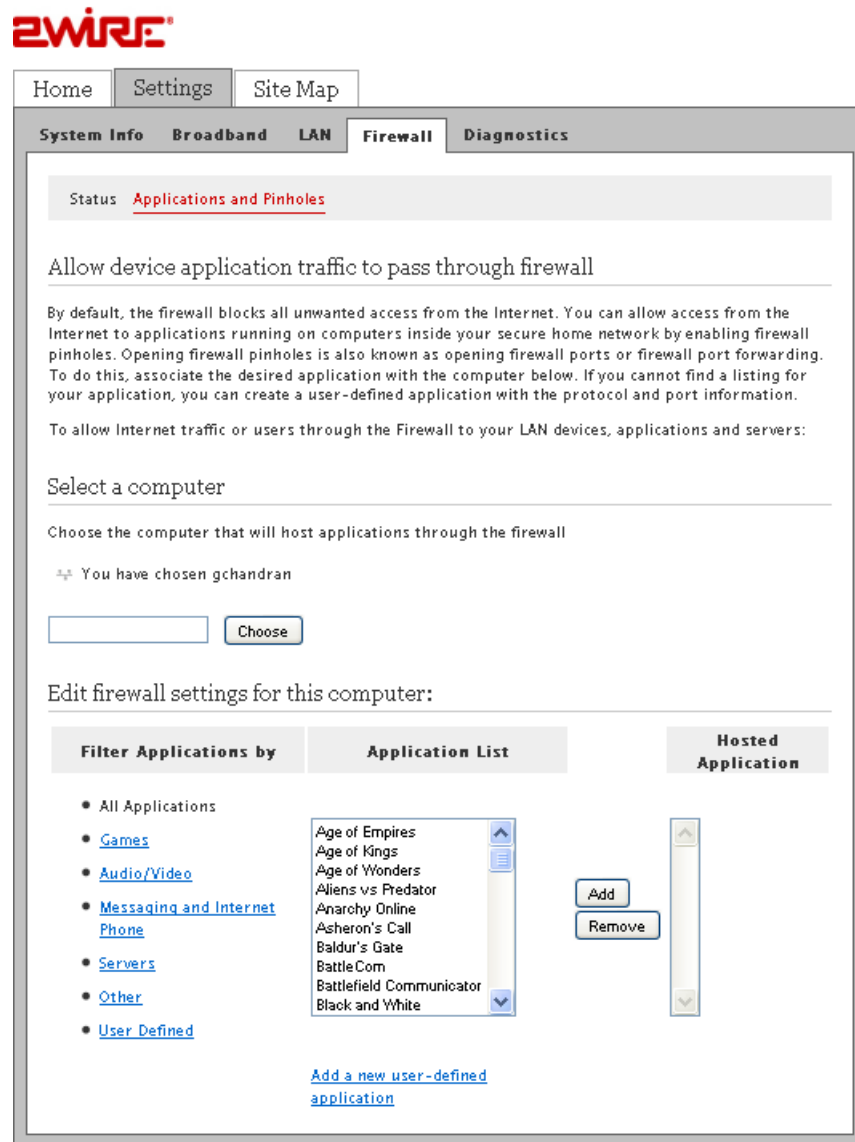
To allow access from the Internet to applications running on computers inside your home network, you need to open firewall pinholes and associate the intended application(s) with a computer connected with your gateway. If you cannot find a listing for your application, you can define an application profile that includes the protocol and port information (refer to [Defining New Application Profiles](#) on page 37).

To host applications:

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Firewall Status* page opens.



3. Select [Applications and Pinholes](#); a page similar to the following opens.



4. Select the computer that you want to host the application(s).


**Note** If the computer you want to select is unlisted because it is powered off, you still can select it as long as it is on the same network and you know its IP address. Enter the intended IP address, then click **Choose**.

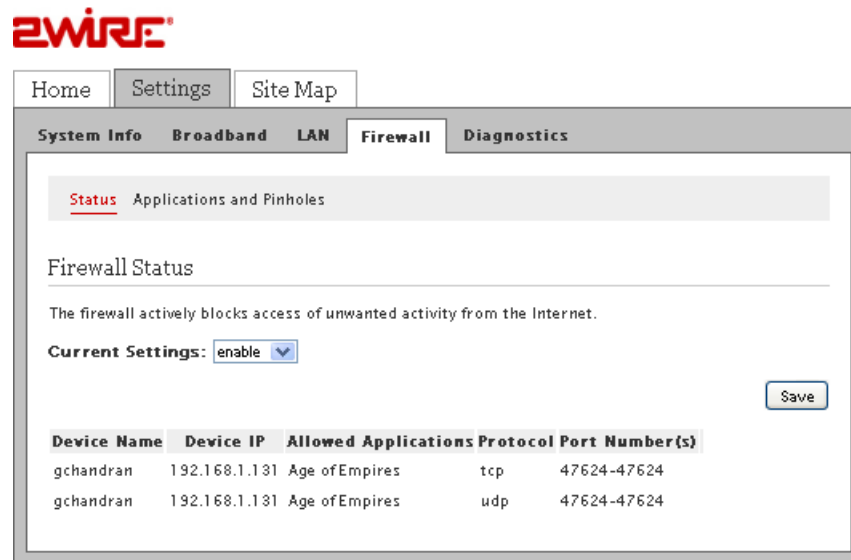
5. Filter the application list by selecting the category; your selection is displayed in the *Application List* panel.
6. Select from the *Application List* panel the application(s) you want to host.

**Note** To select multiple applications, hold down the [Shift] or [Ctrl] keys while making your selections. Using the [Shift] key lets you make your selections in a contiguous order while the [Ctrl] key selects the groups in a random order.

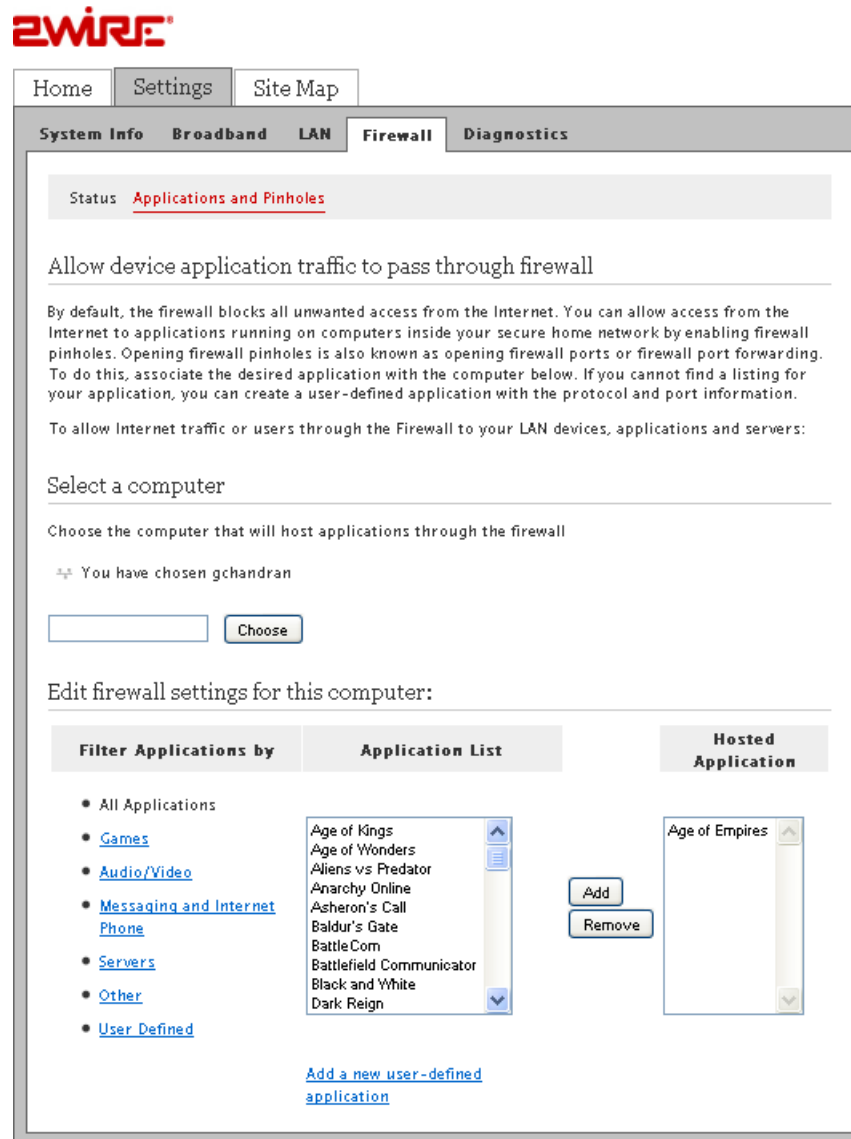
7. Click **Add**; the application(s) you selected appears in the *Hosted Applications* panel.

## Removing Hosted Applications

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Firewall Status* page opens, displaying the current hosted application settings.



3. Select [Applications and Pinholes](#); a page opens showing the current hosted applications.



4. Select the application(s) you want to remove from the *Hosted Applications* panel, click **Remove**.

---

**Note** To select multiple applications, hold down the [Shift] or [Ctrl] keys while making your selections. Using the [Shift] key lets you make your selections in a contiguous order while the [Ctrl] key selects the groups in a random order.

---


5. Click **Save**; a message appears informing you of the status. The application(s) you selected is removed from the *Hosted Applications* panel and returned to the *Application List* panel.

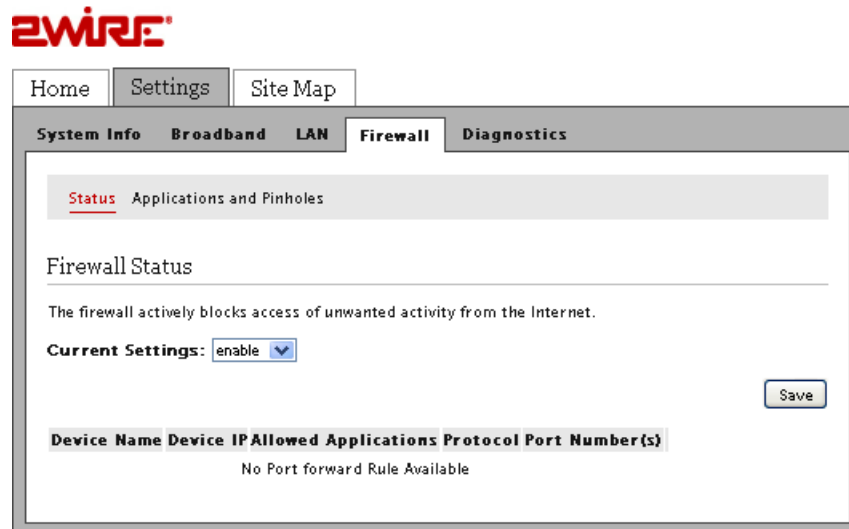


## Defining New Application Profiles

An application profile includes protocol and port information that allow your system's firewall to pass through application-specific data. You can define an application profile that is not included in the Application List. This feature is typically used if the application for which you would like to pass through data to a given computer is new or has been recently updated to a new version.

To define a new application profile:

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Firewall Status* page opens.



3. Select [Applications and Pinholes](#); a page similar to the following opens.

**ZyXEL**

Home Settings Site Map

System Info Broadband LAN **Firewall** Diagnostics

Status [Applications and Pinholes](#)

### Allow device application traffic to pass through firewall

By default, the firewall blocks all unwanted access from the Internet. You can allow access from the Internet to applications running on computers inside your secure home network by enabling firewall pinholes. Opening firewall pinholes is also known as opening firewall ports or firewall port forwarding. To do this, associate the desired application with the computer below. If you cannot find a listing for your application, you can create a user-defined application with the protocol and port information.

To allow Internet traffic or users through the Firewall to your LAN devices, applications and servers:

### Select a computer

Choose the computer that will host applications through the firewall

🔍 You have chosen gchandran

### Edit firewall settings for this computer:

Filter Applications by	Application List	Hosted Application
<ul style="list-style-type: none"> <li>All Applications</li> <li>Games</li> <li>Audio/Video</li> <li>Messaging and Internet</li> <li>Phone</li> <li>Servers</li> <li>Other</li> <li>User Defined</li> </ul>	<ul style="list-style-type: none"> <li>Age of Empires</li> <li>Age of Kings</li> <li>Age of Wonders</li> <li>Aliens vs Predator</li> <li>Anarchy Online</li> <li>Asheron's Call</li> <li>Baldur's Gate</li> <li>BattleCom</li> <li>Battlefield Communicator</li> <li>Black and White</li> </ul> <p><a href="#">Add a new user-defined application</a></p>	<p><input type="button" value="Add"/></p> <p><input type="button" value="Remove"/></p>

- Click [Add a new user-defined application](#); the *Firewall Application Profile Definition* page opens.

zWIRE

Home Settings Site Map

System Info Broadband LAN **Firewall** Diagnostics

Status [Applications and Pinholes](#)

### Firewall Application Profile Definition

If the desired application requires multiple ports of both TCP and UDP ports, you will need to add multiple definitions. Current definitions for this profile are shown in the Definition List below.

**Application Profile Name:**

**Create Application Definition**

Protocol: TCP  UDP

Port (or Range): From:  To:

Map to Host Port:  Default/blank = same port as above

Application Type:

Note: In some rare instances, certain application types require specialized firewall changes in addition to simple port forwarding. If the application you are adding appears in the application type menu above, it is recommended that you select it.

**Definition List**

Description	Protocol	Port (or Range)	Host Port

- Enter the application profile name in the **Application Profile Name** field.

---

**Note** For easy identification, use the name of the application (for example, Redwing Game Server).

---

- Create a definition for your application that is to be allowed through the firewall.
  - In the **Protocol** field, select the **TCP** or **UDP** radio button. If the application you are adding requires both, you need to create a separate definition for each.
  - In the **Port (or Range)** field, enter the port or port range the application uses. For example, some applications require only one port to be opened (such as TCP port 500); others require that all TCP ports from 600 to 1000 be opened.

---

**Note** If only one port is required, enter the port number in the **From** field.

---

- In the **Map to Host Port** field, enter a value that maps the port range you established in the **Port** field to the local computer. For example, if you set the value to 4000 and the port range being opened is 100 to 108, the forwarded data to the first value in the

range will be sent to 4000. Subsequent ports will be mapped accordingly; 101 will be sent to 4001, 102 will be sent to 4002, and so forth.

- From the **Application Type** drop-down list, select the application type. If you do not know the application type, select nothing.


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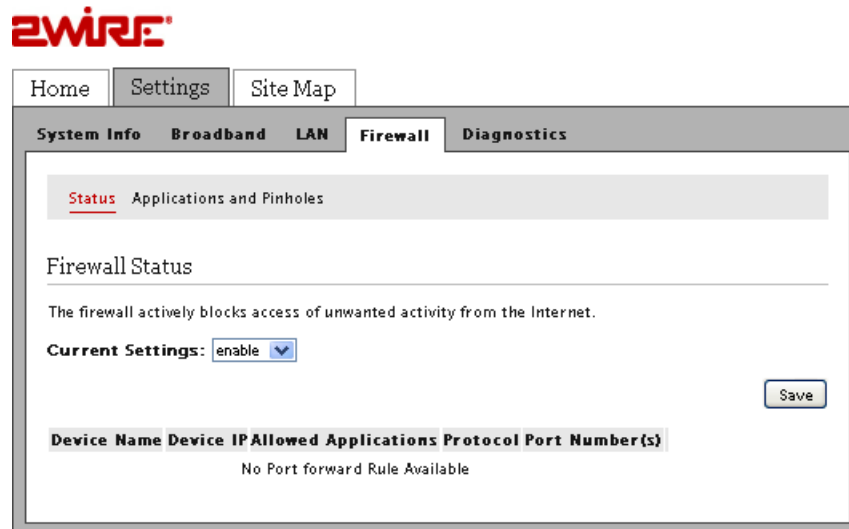
**Note** You can find the above information in the documentation provided by the company that produces the application.

---

7. Click **Add To List**; a Configuration Successful message appears on the following page indicating that the profile is created.

## Deleting Application Profiles

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Firewall Status* page opens.



3. Select [Applications and Pinholes](#); a page similar to the following opens.

**ZWIRE**

Home Settings Site Map

System Info Broadband LAN Firewall Diagnostics

Status [Applications and Pinholes](#)

Allow device application traffic to pass through firewall

By default, the firewall blocks all unwanted access from the Internet. You can allow access from the Internet to applications running on computers inside your secure home network by enabling firewall pinholes. Opening firewall pinholes is also known as opening firewall ports or firewall port forwarding. To do this, associate the desired application with the computer below. If you cannot find a listing for your application, you can create a user-defined application with the protocol and port information.

To allow Internet traffic or users through the Firewall to your LAN devices, applications and servers:

Select a computer

Choose the computer that will host applications through the firewall

📁 You have chosen gchandran

Choose

Edit firewall settings for this computer:

Filter Applications by	Application List	Hosted Application
<ul style="list-style-type: none"> <li>All Applications</li> <li>Games</li> <li>Audio/Video</li> <li>Messaging and Internet</li> <li>Phone</li> <li>Servers</li> <li>Other</li> <li>User Defined</li> </ul>	<ul style="list-style-type: none"> <li>Age of Empires</li> <li>Age of Kings</li> <li>Age of Wonders</li> <li>Aliens vs Predator</li> <li>Anarchy Online</li> <li>Asheron's Call</li> <li>Baldur's Gate</li> <li>BattleCom</li> <li>Battlefield Communicator</li> <li>Black and White</li> </ul> <p><a href="#">Add a new user-defined application</a></p>	<p>Add</p> <p>Remove</p>

- Click [Add a new user-defined application](#); the *Firewall Application Profile Definition* page opens.

**zWIRE**

Home Settings Site Map

System Info Broadband LAN **Firewall** Diagnostics

Status [Applications and Pinholes](#)

### Firewall Application Profile Definition

If the desired application requires multiple ports of both TCP and UDP ports, you will need to add multiple definitions. Current definitions for this profile are shown in the Definition List below.

**Application Profile Name:**

**Create Application Definition**

Protocol: TCP  UDP

Port (or Range): From:  To:

Map to Host Port:  Default/blank = same port as above

Application Type:

Note: In some rare instances, certain application types require specialized firewall changes in addition to simple port forwarding. If the application you are adding appears in the application type menu above, it is recommended that you select it.

**Definition List**

Description	Protocol	Port (or Range)	Host Port
chat	udp	500	500

- Select the profile you want to delete, click **Remove Rule**.

**Note** Be sure to select the intended application. Once you click **Remove Rule**, the profile is deleted.

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## CHAPTER 6

# Configuring LAN Devices

Typically, your Internet service provider automatically assigns and configures a dynamic IP address when your system connects to the Internet. Business or power users may use a static address enabling them to run advanced services such as Internet servers and video conferences. The availability of static IP addresses is usually an additional service offered by service providers. In addition, changes from the default behavior of the gateway for private IP addressing may also be used by some users.

---

**Note** Configure these settings *only* if you are familiar with computer networking technologies.

---


This section provides instructions to:

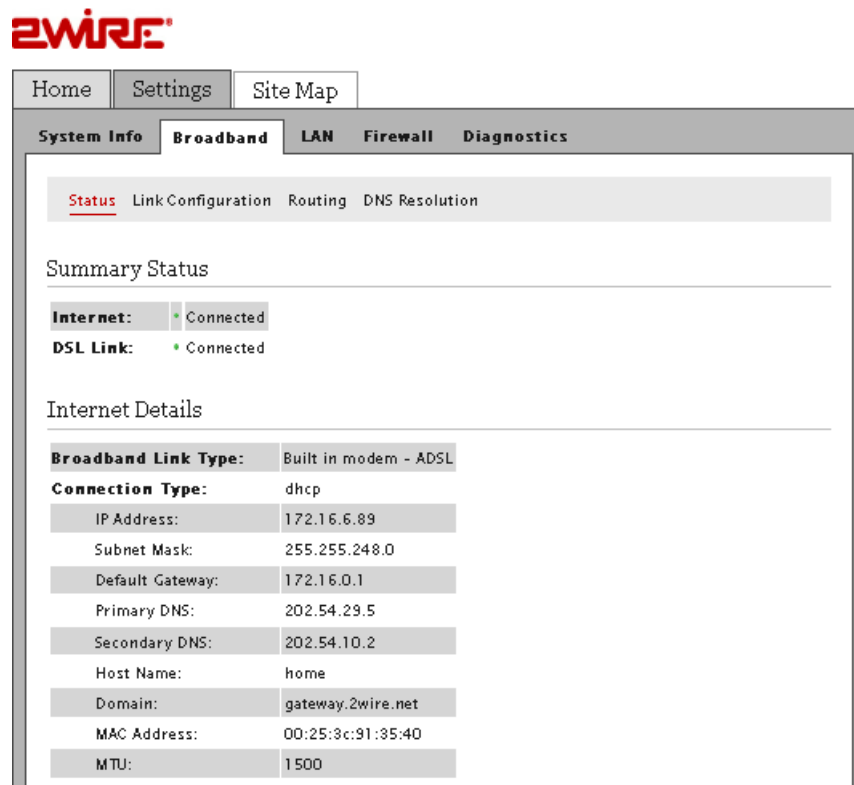
- [Adding New Static Routes](#) on page 46
- [Configuring DHCP](#) on page 47
- [Allocating an Address Pool for All Devices](#) on page 52
- [Disabling Ethernet Interfaces](#) on page 56

## Adding New Static Routes

You can create a local network that has broadband network-accessible IP addresses by creating a route from the Internet to the specified public network. This feature is typically used in conjunction with broadband service that provides a range of available IP addresses.

**Note** Add the static routes first if you want to use the public address with your DHCP configuration.

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Broadband Status* page opens.



The screenshot shows the 2Wire gateway user interface. At the top left is the 2Wire logo. Below it are navigation tabs: Home, Settings, and Site Map. A secondary set of tabs includes System Info, Broadband (selected), LAN, Firewall, and Diagnostics. Under the Broadband tab, there are sub-tabs: Status (selected), Link Configuration, Routing, and DNS Resolution. The main content area is titled "Summary Status" and shows the following information:

- Internet:** Connected
- DSL Link:** Connected

Below this is the "Internet Details" section, which contains the following information:

<b>Broadband Link Type:</b>	Built in modem - ADSL
<b>Connection Type:</b>	dhcp
<b>IP Address:</b>	172.16.6.89
<b>Subnet Mask:</b>	255.255.248.0
<b>Default Gateway:</b>	172.16.0.1
<b>Primary DNS:</b>	202.54.29.5
<b>Secondary DNS:</b>	202.54.10.2
<b>Host Name:</b>	home
<b>Domain:</b>	gateway.2wire.net
<b>MAC Address:</b>	00:25:3c:91:35:40
<b>MTU:</b>	1500

- Click [Routing](#); the following page opens.

Static Routes

**Add New Route**

Subnet IP:

Subnet Mask:

Gateway IP:

Static Route List:

Subnet IP	Subnet Mask	Gateway IP
192.168.1.0	255.255.255.0	0.0.0.0
192.168.1.0	255.255.255.0	192.168.1.254

- Enter information in the following fields:
  - In the **Subnet IP** field, enter the router address (this is the router address from the secondary subnet provided by the service provider).
  - In the **Subnet Mask** field, enter the subnet mask (this is the router mask from the secondary subnet provided by the service provider).
  - In the **Gateway IP** field, enter the IP address of the router for the specified subnet.
- Click **Add to List**.

## Configuring DHCP

Dynamic Host Configuration Protocol (DHCP) allows for dynamic allocation of network addresses and configuration to newly attached hosts. The gateway can be both a DHCP client and DHCP server. The gateway acts as a client when it communicates to your service provider over the Internet using DHCP. For this communication, you cannot modify the related DHCP settings. The gateway is a DHCP server to your local network devices such as the computers connecting to it.

**Note** If you change the local network IP address range, you must renew the DHCP lease on all devices on the gateway's local network and manually reconfigure all devices configured with static IP addresses.

To configure the default DHCP information used as a local server:

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* in the address line; the *Home* page opens.

The screenshot shows the 2Wire Home page with the following sections:

- Summary:**
  - Broadband:** 9085 kbps (down), 508 kbps (up)
  - Wireless:** Network Name: INFINITUM0002
  - Firewall:** Status: Enabled
  - 4011G-001 Gateway:** Serial Number: 28091A000002
- Home Network Devices:** gchandran [Device Details](#)
- Top Networking Features:**
  - [Wireless](#) - modify security or settings
  - [Refresh your Broadband Connection](#) - reconnect your broadband connection
  - [Restart your System](#) - reboot
  - [Home Networking](#) - find a computer, share a file
  - [System Password](#) - secure your system with a password
  - [Internet security](#) - monitor attempted and blocked attacks
  - [Gaming and Communications](#) - modify your firewall settings

2. Click [Settings](#); the *System Information* page opens.

The screenshot shows the 2Wire Settings page with the following sections:

- System Info:** Broadband LAN Firewall Diagnostics
- Status:** Password Date & Time
- System Information:**

<b>Manufacturer:</b>	2Wire
<b>Model:</b>	4011G-001
<b>Serial Number:</b>	28091A000003
<b>Hardware Version:</b>	2700-000780-001
<b>Software Version:</b>	9.1.1.12
<b>Key Code:</b>	52AD-2AD4-6266-22NA-B27M
<b>First Use Date:</b>	Fri Nov 20 05:30:31 UTC 2009
<b>Current Date &amp; Time:</b>	12-22-2009 & 01:38:14
<b>Time Since Last Boot:</b>	3:53
<b>DSL Modem:</b>	A2pB025f6.d22
<b>System Password:</b>	Custom: xxxxxxx

- Click [LAN](#); a page similar to the following opens, displaying the private network information and LAN devices connected to your network.

The screenshot displays the Z-Wire web interface. At the top, there is a navigation bar with 'Home', 'Settings', and 'Site Map'. Below this is a secondary navigation bar with 'System Info', 'Broadband', 'LAN', 'Firewall', and 'Diagnostics'. The 'LAN' tab is selected, and a sub-menu shows 'Status' (highlighted), 'Wireless', 'Wired Interfaces', and 'DHCP'. The main content area is divided into several sections:

- Private Network:** Displays network configuration details:
  - Router/Gateway Address: 192.168.1.254
  - Subnet Mask: 255.255.255.0
  - Private Network DHCP Info:
    - Range: 192.168.1.64 - 192.168.1.253
    - Timeout: 86400 seconds
- Interfaces:** Shows the status of network interfaces:
  - Ethernet: Enabled
  - Wireless: Enabled
- Wireless:** Displays wireless network settings:
  - Wireless Channel: 1
  - Wireless Power Level: 0 dBm
  - SSID Name: INFINITUM0099
    - Status: Up
    - SSID Broadcast: enable
    - Security: wep
- Devices:** A table listing connected devices:
 

Device	Interface	MAC Address	IP Address	
Unknown_00-e0-4c-76-a3-53	Ethernet	00:e0:4c:76:a3:53	192.168.1.106	<a href="#">Device Details</a>
Unknown_00-1c-23-09-0f-48	Ethernet	00:1c:23:09:0f:48	192.168.1.131	<a href="#">Device Details</a>
- Traffic Statistics:** A table showing network traffic:
 

Interface	Bytes	Packets	Errors
<b>Ethernet</b>			
Port 1 Transmit	822334	1383	0
Port 1 Receive	218367	2003	0
<b>Wireless</b>			
Transmit	0	0	262
Receive	0	0	0

- Click **DHCP**; the *DHCP Configuration* page opens.

**Z-WIRE**

Home Settings Site Map

System Info Broadband LAN Firewall Diagnostics

Status Wireless Wired Interfaces **DHCP**

**Warning** Modifying the settings on this page can impact the ability of devices to access your private network.

DHCP Configuration

**DHCP Server Enabled**  Unchecking will stop the DHCP server from assigning IP addresses to LAN DHCP clients.

**DHCP Network Range** If you change the IP address range, you must renew the DHCP lease for all devices on the network.

192.168.1.0 / 255.255.255.0 (default)  
 172.16.0.0 / 255.255.0.0  
 10.0.0.0 / 255.0.0.0  
 Configure manually

Router Address:

Subnet Mask:

First DHCP Address:

Last DHCP Address:

**DHCP Lease Time:**  hours

Select Default Address Allocation Pool for the DHCP Server

Warning: This selection modifies the default LAN network used by the DHCP server for address assignments to new devices. The default setting is Private Network. Change it only to Public Network when you want every new device getting a public address assigned. The recommendation is Private Network. You can change the setting for each individual on the 'IP Address Allocation' page.

**New Device DHCP Pool:**

- Select **Configure manually** if you want to set up a range for the DHCP address IP pool.
- Enter information in the following fields:
  - In the **Router Address** field, enter the IP address of your gateway used for all communication on your local devices.
  - In the **Subnet Mask** field, enter the subnet mask used for all communication on your local devices (the default is 255.255.255.0).
  - In the **First DHCP Address** field, enter the first IP address in the DHCP address pool that you will be distributing over the private network.
  - In the **Last DHCP Address** field, enter the last IP address in the DHCP address pool that you will be distributing over the private network.

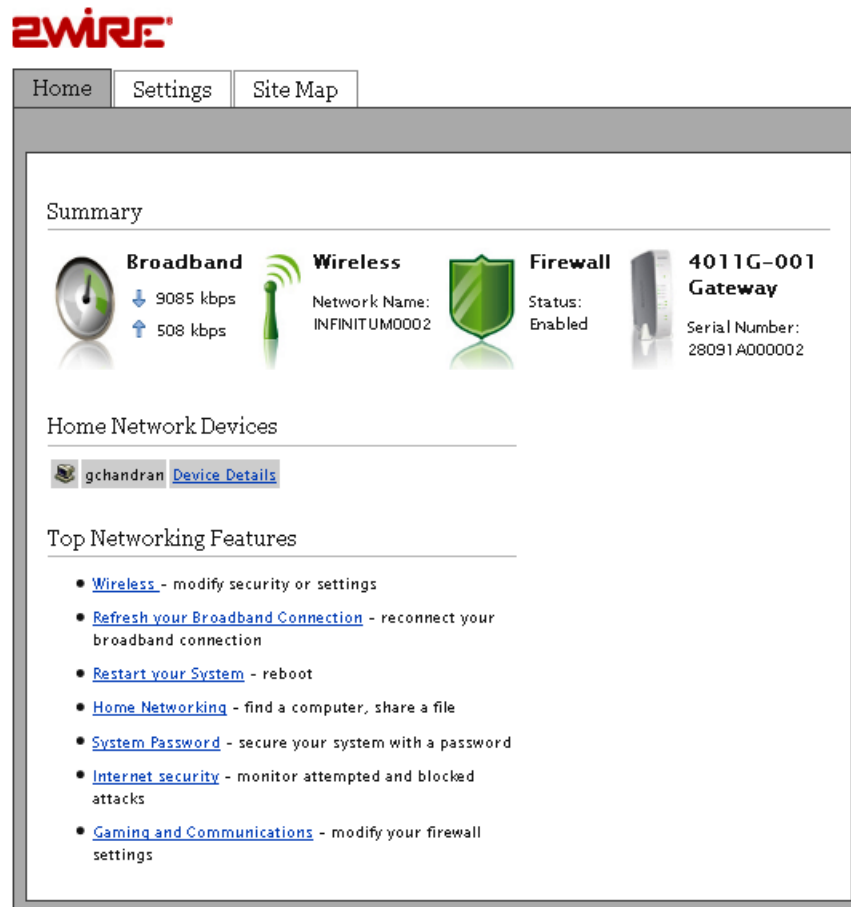
7. Enter a numerical value in the **DHCP Lease Time** field that represents the number of hours you can use the assigned IP address before the DHCP lease expires. Select a public IP address pool that is assigned via DHCP on the local area network.
8. Select **Private Network** from the **New Device DHCP Pool** drop-down list.
9. Click **Save**.

## Allocating an Address Pool for All Devices

The default DHCP server address allocation pool is set to Private Network. You can change it to Public Network when you want all devices to have the same addresses assigned. To change the address setting for individual devices, refer to [Allocating an Address Pool for All Devices](#) on page 52.

To change the default address allocation pool:





1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* in the address line; the *Home* page opens.




**2WIRE**

Home Settings Site Map

Summary

	<b>Broadband</b> ↓ 9085 kbps ↑ 508 kbps		<b>Wireless</b> Network Name: INFINITUM0002		<b>Firewall</b> Status: Enabled		<b>4011G-001 Gateway</b> Serial Number: 28091A000002
---	---	---	---	---	---------------------------------------	--	--

Home Network Devices

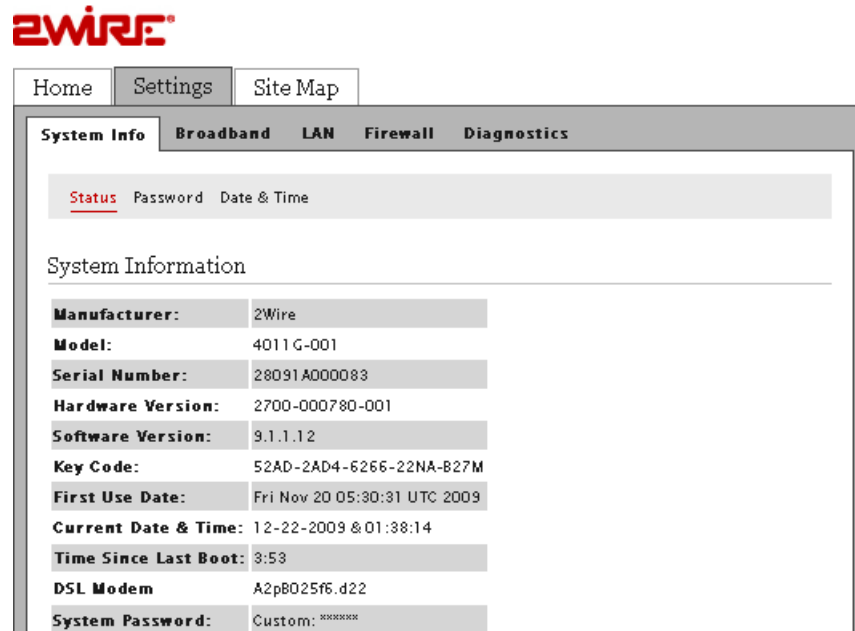
 gchandran [Device Details](#)

Top Networking Features

- [Wireless](#) - modify security or settings
- [Refresh your Broadband Connection](#) - reconnect your broadband connection
- [Restart your System](#) - reboot
- [Home Networking](#) - find a computer, share a file
- [System Password](#) - secure your system with a password
- [Internet security](#) - monitor attempted and blocked attacks
- [Gaming and Communications](#) - modify your firewall settings



2. Click [Settings](#); the *System Information* page opens.



The screenshot displays the 2Wire web interface. At the top left is the 2Wire logo. Below it are navigation tabs: Home, Settings (selected), and Site Map. A secondary set of tabs includes System Info (selected), Broadband, LAN, Firewall, and Diagnostics. Under the System Info tab, there are links for Status, Password, and Date & Time. The main content area is titled "System Information" and contains a table of system details.

<b>Manufacturer:</b>	2Wire
<b>Model:</b>	4011G-001
<b>Serial Number:</b>	28091A000083
<b>Hardware Version:</b>	2700-000780-001
<b>Software Version:</b>	9.1.1.12
<b>Key Code:</b>	52AD-2AD4-6266-22NA-B27M
<b>First Use Date:</b>	Fri Nov 20 05:30:31 UTC 2009
<b>Current Date &amp; Time:</b>	12-22-2009 & 01:38:14
<b>Time Since Last Boot:</b>	3:53
<b>DSL Modem</b>	A2pB025f6.d22
<b>System Password:</b>	Custom: xxxxxxxx

- Click [LAN](#); a page similar to the following opens, displaying the private network information and LAN devices connected to your network.

The screenshot displays the Z-Wire web interface. At the top, there is a navigation bar with 'Home', 'Settings', and 'Site Map'. Below this is a secondary navigation bar with 'System Info', 'Broadband', 'LAN', 'Firewall', and 'Diagnostics'. The 'LAN' tab is selected, and a sub-menu shows 'Status', 'Wireless', 'Wired Interfaces', and 'DHCP'. The 'Status' sub-tab is active.

**Private Network**

**Router/Gateway Address:** 192.168.1.254  
**Subnet Mask:** 255.255.255.0  
**Private Network DHCP Info:**  
 Range: 192.168.1.64 - 192.168.1.253  
 Timeout: 86400 seconds

**Interfaces**

Interface	Status
Ethernet	Enabled
Wireless	Enabled

**Wireless**

**Wireless Channel:** 1  
**Wireless Power Level:** 0 dBm  
**SSID Name:** INFINITUM0099  
 Status: Up  
 SSID Broadcast: enable  
 Security: wep

**Devices**

Device	Interface	MAC Address	IP Address	
Unknown_00-e0-4c-76-a3-53	Ethernet	00:e0:4c:76:a3:53	192.168.1.106	<a href="#">Device Details</a>
Unknown_00-1c-23-09-0f-48	Ethernet	00:1c:23:09:0f:48	192.168.1.131	<a href="#">Device Details</a>

**Traffic Statistics**

Interface	Bytes	Packets	Errors
<b>Ethernet</b>			
Port 1 Transmit	822334	1383	0
Port 1 Receive	218367	2003	0
<b>Wireless</b>			
Transmit	0	0	262
Receive	0	0	0

- Click **DHCP**; the *DHCP Configuration* page opens.

**Z-WIRE**

Home Settings Site Map

System Info Broadband LAN Firewall Diagnostics

Status Wireless Wired Interfaces **DHCP**

**Warning** Modifying the settings on this page can impact the ability of devices to access your private network.

### DHCP Configuration

**DHCP Server Enabled**  Unchecking will stop the DHCP server from assigning IP addresses to LAN DHCP clients.

**DHCP Network Range** If you change the IP address range, you must renew the DHCP lease for all devices on the network.

192.168.1.0 / 255.255.255.0 (default)  
 172.16.0.0 / 255.255.0.0  
 10.0.0.0 / 255.0.0.0  
 Configure manually

Router Address:

Subnet Mask:

First DHCP Address:

Last DHCP Address:

**DHCP Lease Time:**  hours

### Select Default Address Allocation Pool for the DHCP Server

Warning: This selection modifies the default LAN network used by the DHCP server for address assignments to new devices. The default setting is Private Network. Change it only to Public Network when you want every new device getting a public address assigned. The recommendation is Private Network. You can change the setting for each individual on the 'IP Address Allocation' page.

**New Device DHCP Pool:**

- Select **Private Network** from the **New Device DHCP Pool** drop-down list.
- Click **Save**.

## Disabling Ethernet Interfaces

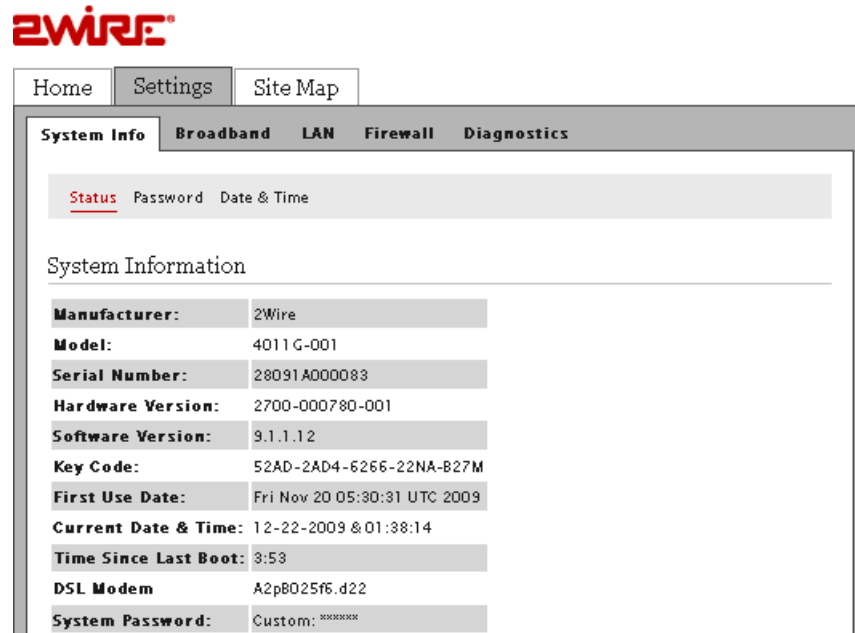
Disabling Ethernet networking enhances security. When Ethernet networking is enabled, users can connect through Ethernet port without going through any authentication. If Ethernet port is disabled and default wireless settings are changed, then the user has to obtain the correct wireless authentication parameters from the local administrator. Thus, disabling Ethernet networking enhances physical security and is more suited for business environment such as kiosks, schools, and so on.

By default, the gateway is shipped with the Ethernet interface enabled. When disabled, you will be unable to access the Internet using the Ethernet port connection. Before you disable the Ethernet ports, make sure that the wireless connection is set up and working properly.

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* in the address line; the *Home* page opens.

The screenshot displays the 2Wire gateway web interface. At the top, there is a navigation bar with tabs for "Home", "Settings", and "Site Map". Below this is a "Summary" section with four main status indicators: Broadband, Wireless, Firewall, and Gateway. The Broadband section shows a speed of 9085 kbps download and 508 kbps upload. The Wireless section shows the network name "INFINITUM0002". The Firewall section shows the status as "Enabled". The Gateway section shows the model "4011G-001" and serial number "28091A000002". Below the summary is a "Home Network Devices" section with a user profile "gchandran" and a link to "Device Details". The "Top Networking Features" section lists several links: "Wireless" (modify security or settings), "Refresh your Broadband Connection" (reconnect your broadband connection), "Restart your System" (reboot), "Home Networking" (find a computer, share a file), "System Password" (secure your system with a password), "Internet security" (monitor attempted and blocked attacks), and "Gaming and Communications" (modify your firewall settings).

2. Click [Settings](#); the System Information page opens.



The screenshot displays the 2Wire web interface. At the top left is the 2Wire logo. Below it are navigation tabs: Home, Settings (selected), and Site Map. A secondary set of tabs includes System Info (selected), Broadband, LAN, Firewall, and Diagnostics. Under the System Info tab, there are links for Status, Password, and Date & Time. The main content area is titled "System Information" and contains a table of system details.

<b>Manufacturer:</b>	2Wire
<b>Model:</b>	4011G-001
<b>Serial Number:</b>	28091A000083
<b>Hardware Version:</b>	2700-000780-001
<b>Software Version:</b>	9.1.1.12
<b>Key Code:</b>	52AD-2AD4-6266-22NA-B27M
<b>First Use Date:</b>	Fri Nov 20 05:30:31 UTC 2009
<b>Current Date &amp; Time:</b>	12-22-2009 & 01:38:14
<b>Time Since Last Boot:</b>	3:53
<b>DSL Modem</b>	A2pB025f6.d22
<b>System Password:</b>	Custom: xxxxxxxx

- Click [LAN](#); a page similar to the following opens, displaying the private network information and LAN devices connected to your network.

The screenshot displays the Z-Wire web interface. At the top, there is a navigation bar with 'Home', 'Settings', and 'Site Map'. Below this is a secondary navigation bar with 'System Info', 'Broadband', 'LAN' (selected), 'Firewall', and 'Diagnostics'. Under the 'LAN' tab, there are sub-tabs for 'Status', 'Wireless', 'Wired Interfaces', and 'DHCP'. The 'Status' sub-tab is active, showing the following information:

**Private Network**

- Router/Gateway Address:** 192.168.1.254
- Subnet Mask:** 255.255.255.0
- Private Network DHCP Info:**
  - Range:** 192.168.1.64 - 192.168.1.253
  - Timeout:** 86400 seconds

**Interfaces**

Interface	Status
Ethernet	Enabled
Wireless	Enabled

**Wireless**

- Wireless Channel:** 1
- Wireless Power Level:** 0 dBm
- SSID Name:** INFINITUM0099
  - Status: Up
  - SSID Broadcast: enable
  - Security: wep

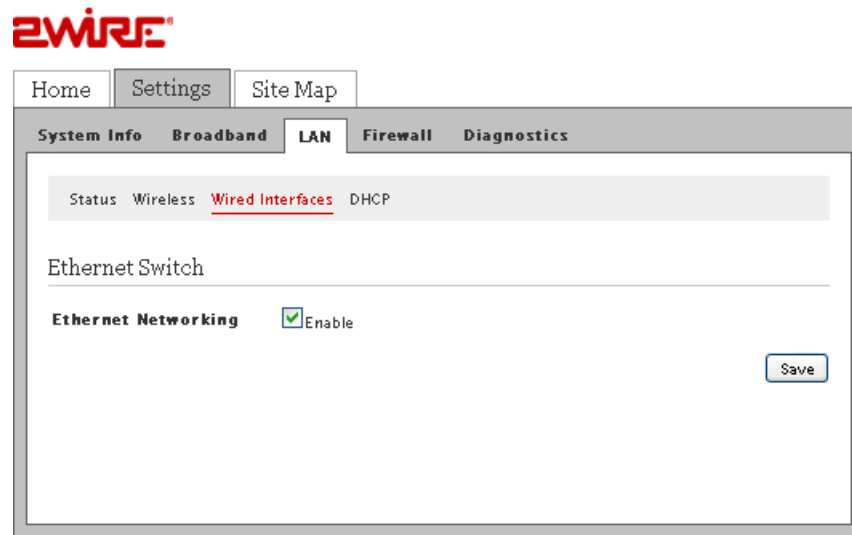
**Devices**

Device	Interface	MAC Address	IP Address	
Unknown_00-e0-4c-76-a3-53	Ethernet	00:e0:4c:76:a3:53	192.168.1.106	<a href="#">Device Details</a>
Unknown_00-1c-23-09-0f-48	Ethernet	00:1c:23:09:0f:48	192.168.1.131	<a href="#">Device Details</a>

**Traffic Statistics**

Interface	Bytes	Packets	Errors
<b>Ethernet</b>			
Port 1 Transmit	822334	1383	0
Port 1 Receive	218367	2003	0
<b>Wireless</b>			
Transmit	0	0	262
Receive	0	0	0

- Click [Wired Interfaces](#); a page similar to the following opens.



- Deselect **Enable** to disable the Ethernet connection.
- Click **Save**.

This page is intentionally left blank.



## CHAPTER 7

# Configuring the Broadband Connection

Typically your Broadband and Internet connection settings are automatically provided by your service provider. When the gateway is properly connected it automatically detects which DSL line to use; it does not require further configuration.


If the information was not automatically provided and you need to manually configure your Broadband and Internet connection settings, make sure to have the following ATM information and authentication settings from your service provider:

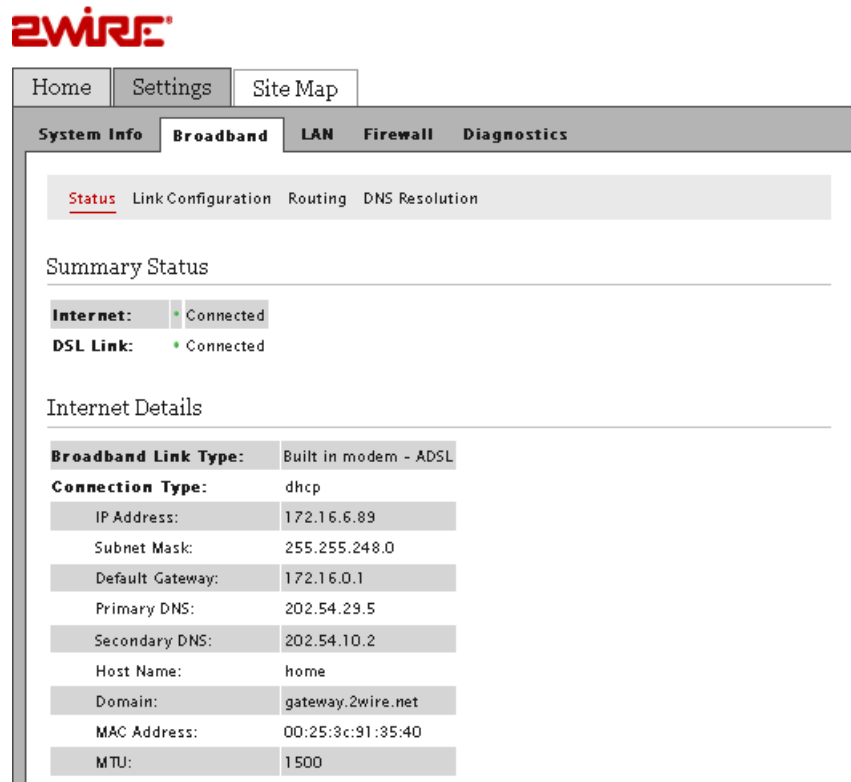
- Circuit identifier (VPI/VCI)
- Encapsulation method
- PPP username
- PPP password

## Configuring DSL and ATM Settings

- C** Modifying the gateway broadband configuration settings may impede or interrupt your broadband service. Modify these settings only if you are familiar with networking technology.

All information you need to configure this setting is provided by your service provider.

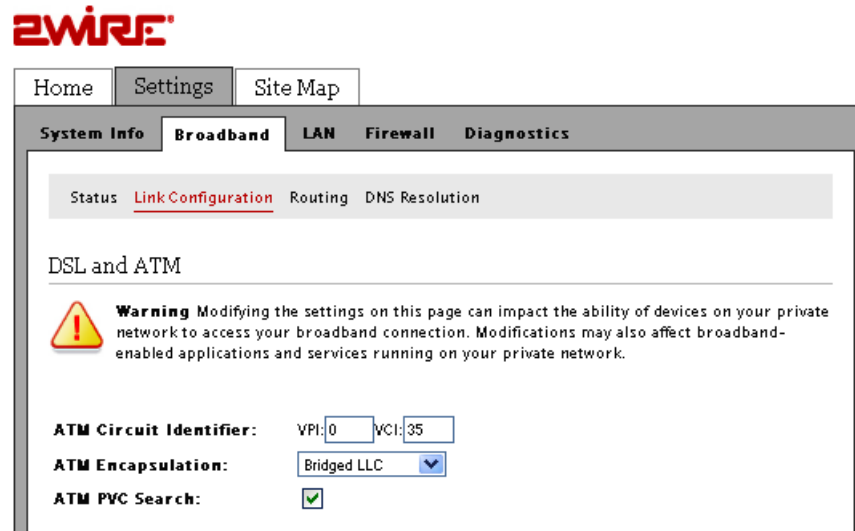
1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Summary Status* page opens.



The screenshot shows the 2Wire gateway user interface. At the top is the 2Wire logo. Below it are navigation tabs: Home, Settings, and Site Map. Underneath are sub-tabs: System Info, Broadband, LAN, Firewall, and Diagnostics. The Broadband sub-tab is active, showing a sub-menu with Status, Link Configuration, Routing, and DNS Resolution. The main content area displays the Summary Status page, which indicates that both the Internet and DSL Link are connected. Below this, the Internet Details section provides a list of network parameters.

Internet Details	
<b>Broadband Link Type:</b>	Built in modem - ADSL
<b>Connection Type:</b>	dhcp
<b>IP Address:</b>	172.16.6.89
<b>Subnet Mask:</b>	255.255.248.0
<b>Default Gateway:</b>	172.16.0.1
<b>Primary DNS:</b>	202.54.29.5
<b>Secondary DNS:</b>	202.54.10.2
<b>Host Name:</b>	home
<b>Domain:</b>	gateway.2wire.net
<b>MAC Address:</b>	00:25:3c:91:35:40
<b>MTU:</b>	1500


- Click [Link Configuration](#); a page similar to the following opens.

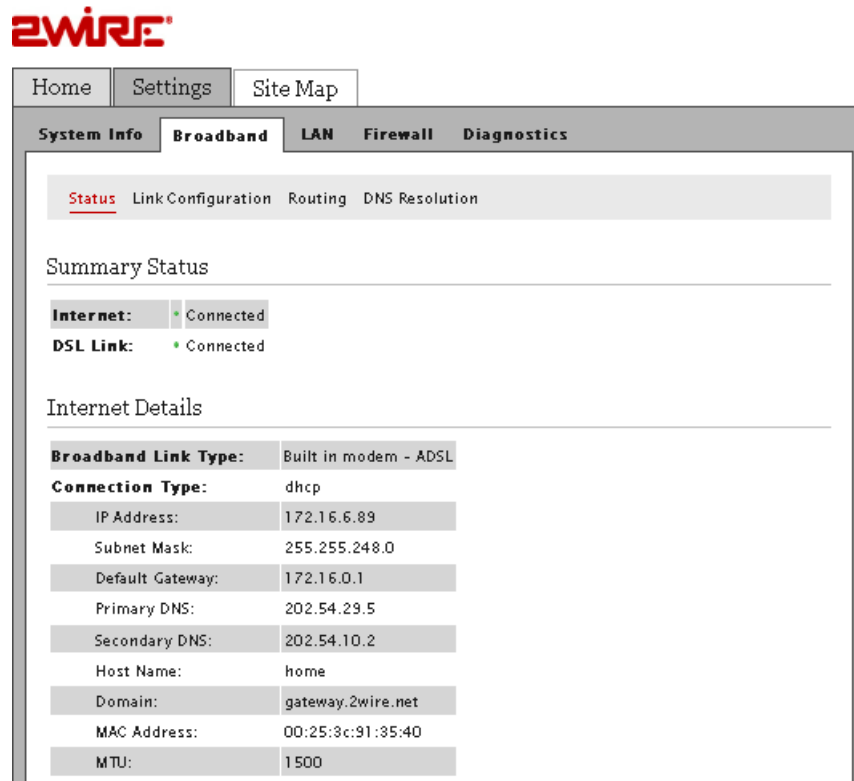


- Enter the VPI and VCI you want the gateway to use in connecting to the ISP.
- Select the encapsulation method from the **ATM Encapsulation** drop-down list.
  - For PPPoE or Bridging, select Bridged LLC or Bridged VC-Mux.
  - For PPPoA, select Routed LLC or Routed VC-Mux.
- Select the **ATM/PVC Search** check box to enable the PVC search. PVC search enables the device to automatically detect ISP's VPI/VCI values so that the end user need not enter VPI/VCI values.
- Click **Save**.

## Configuring the Connection Type

The connection type identifies the method by which the gateway connects to the ISP.

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Summary Status* page opens.



**2WIRE**

Home Settings Site Map

System Info **Broadband** LAN Firewall Diagnostics

Status Link Configuration Routing DNS Resolution

Summary Status

**Internet:** ● Connected

**DSL Link:** ● Connected

Internet Details

<b>Broadband Link Type:</b>	Built in modem - ADSL
<b>Connection Type:</b>	dhcp
IP Address:	172.16.6.89
Subnet Mask:	255.255.248.0
Default Gateway:	172.16.0.1
Primary DNS:	202.54.29.5
Secondary DNS:	202.54.10.2
Host Name:	home
Domain:	gateway.2wire.net
MAC Address:	00:25:3c:91:95:40
MTU:	1500

3. Click [Link Configuration](#); the *Link Configuration* page opens.
4. Scroll down to the *Connection Type* pane.

### Connection Type

**Connection Type:**  ▼


5. Select the connection type from its corresponding drop-down list.
  - If you selected the Direct IP, continue with the next step.
  - If you selected the PPPoE or PPPoA, continue with the [Configuring PPP Authentication and Settings](#) section to set up your username and password.
6. Select the **Enable** check box for **Auto Wan Address Mode** field to automatically select the WAN interfaces (ADSL/ADSL2/ADSL2+).

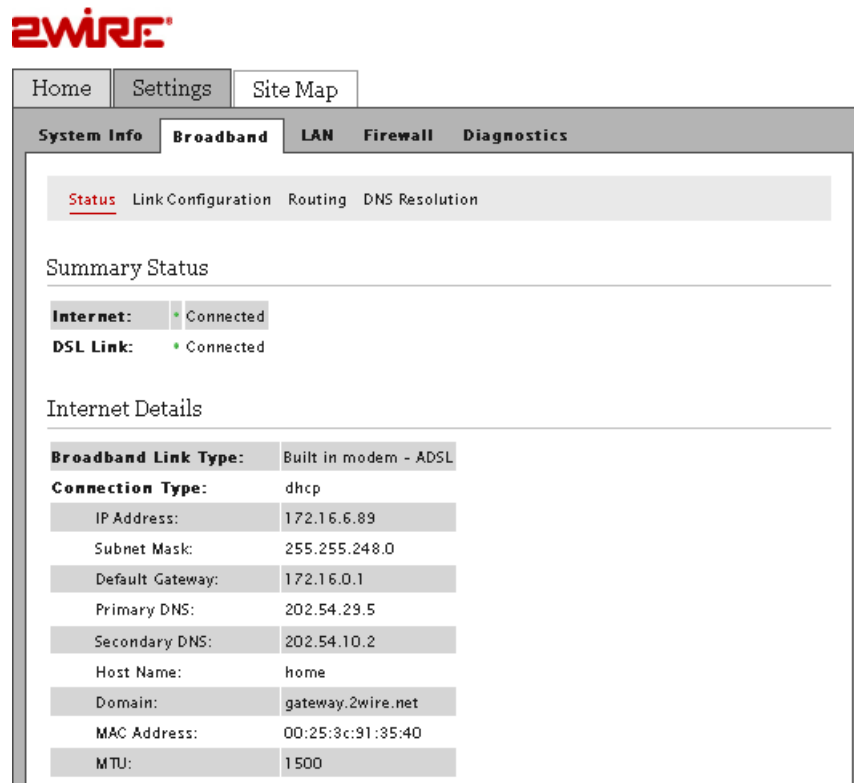
7. Click **Save**.

## Configuring PPP Authentication and Settings

The PPPoE or PPPoA connection type requires authentication to be connected.

To configure the PPP authentication settings:

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Summary Status* page opens.



The screenshot shows the 2Wire gateway user interface. At the top, there is a navigation bar with tabs for Home, Settings, and Site Map. Below this, there are sub-tabs for System Info, Broadband, LAN, Firewall, and Diagnostics. The Broadband sub-tab is active, and within it, the Status sub-tab is selected. The main content area displays the Summary Status page, which shows the following information:

**Internet:** Connected  
**DSL Link:** Connected

**Internet Details**

<b>Broadband Link Type:</b>	Built in modem - ADSL
<b>Connection Type:</b>	dhcp
<b>IP Address:</b>	172.16.6.89
<b>Subnet Mask:</b>	255.255.248.0
<b>Default Gateway:</b>	172.16.0.1
<b>Primary DNS:</b>	202.54.29.5
<b>Secondary DNS:</b>	202.54.10.2
<b>Host Name:</b>	home
<b>Domain:</b>	gateway.2wire.net
<b>MAC Address:</b>	00:25:3c:91:35:40
<b>MTU:</b>	1500

3. Click [Link Configuration](#); the *Link Configuration* page opens.
4. Scroll down to the *PPP Authentication and Settings* pane.

## PPP Authentication and Settings

---

Username and password are required if you select PPPoE or PPPoA connection type

**Username:**

**Password:**

**Confirm Password:**

**PPP on Demand:**  Minutes (0="always-on" connection)


**Upstream MTU:**

5. Enter your user name in the **Username** field (this is given to you by your service provider).
6. Enter your password in the **Password** field (this is given to you by your service provider).
7. Re-enter your password in the **Confirm Password** field.
8. Enter a value for the length of time you want the PPP session to remain active in the **PPP on Demand** field.
  - Setting the value to **0** indicates that the PPP session will remain on all the time.
  - Setting the value between **1** to **10080** minutes, the PPP session will time-out accordingly if the gateway does not detect outbound traffic destined for the Internet in the specified time.
9. Click **Save**.

## Modifying Broadband IP Addresses

By default, the gateway automatically obtains its broadband IP and DNS addresses from your service provider. If you purchased a static IP from your service provider, you need to change the broadband IP to the static IP assigned to you from your service provider.

To manually modify the broadband IP:

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Summary Status* page opens.



Home Settings Site Map

System Info **Broadband** LAN Firewall Diagnostics

Status Link Configuration Routing DNS Resolution

Summary Status

**Internet:** ● Connected  
**DSL Link:** ● Connected

Internet Details

<b>Broadband Link Type:</b>	Built in modem - ADSL
<b>Connection Type:</b>	dhcp
IP Address:	172.16.6.89
Subnet Mask:	255.255.248.0
Default Gateway:	172.16.0.1
Primary DNS:	202.54.29.5
Secondary DNS:	202.54.10.2
Host Name:	home
Domain:	gateway.2wire.net
MAC Address:	00:25:3c:91:35:40
MTU:	1500



3. Click [Link Configuration](#); the *Link Configuration* page opens.
4. Scroll down to the *Broadband IP Network* pane.

#### Broadband IP Network (Primary Connection)

---

**IP Addressing:**  Obtain IP address automatically (dynamic IP or DHCP)  
 Manually specify IP address settings:  
IP Address:   
Subnet Mask:   
Default Gateway:


**DNS:**  Obtain DNS information automatically  
 Manually specify DNS information:  
Primary Server:   
Secondary Server:   
Tertiary Server:   
Domain Name:

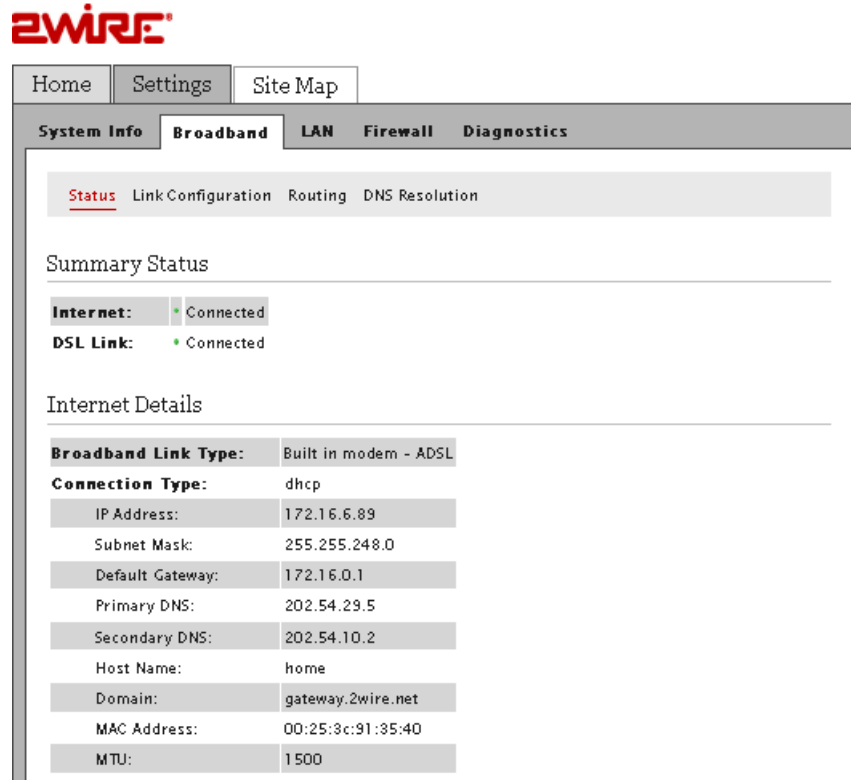
**System MAC Address:**  Use the built-in system MAC address: 00:25:3c:91:35:42  
 Override the built-in MAC address  
Specify MAC address:

5. Click the **Manually specify IP address settings** radio button.
6. Enter the following information:
  - In the **IP Address** field, enter the IP address you want the gateway to use.
  - In the **Subnet Mask** field, enter the subnet mask you want the gateway to use.
  - In the **Default Gateway** field, enter the default gateway address you want the gateway to use.
7. Click **Save**.

## Specifying DNS Information Manually

By default, the gateway automatically obtains its DNS server addresses from your service provider.

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Summary Status* page opens.



The screenshot shows the 2Wire gateway user interface. At the top is the 2Wire logo. Below it are navigation tabs: Home, Settings, and Site Map. Underneath are sub-tabs: System Info, Broadband, LAN, Firewall, and Diagnostics. The Broadband sub-tab is active, and within it, the Status sub-tab is selected. The main content area displays the Summary Status page, which shows the following information:

**Internet:** Connected  
**DSL Link:** Connected

**Internet Details**

<b>Broadband Link Type:</b>	Built in modem - ADSL
<b>Connection Type:</b>	dhcp
<b>IP Address:</b>	172.16.6.89
<b>Subnet Mask:</b>	255.255.248.0
<b>Default Gateway:</b>	172.16.0.1
<b>Primary DNS:</b>	202.54.29.5
<b>Secondary DNS:</b>	202.54.10.2
<b>Host Name:</b>	home
<b>Domain:</b>	gateway.2wire.net
<b>MAC Address:</b>	00:25:3c:91:95:40
<b>MTU:</b>	1500

3. Click [Link Configuration](#); the *Link Configuration* page opens.
4. Scroll down to the *Broadband IP Network* pane.

## Broadband IP Network (Primary Connection)

**IP Addressing:**  Obtain IP address automatically (dynamic IP or DHCP)  
 Manually specify IP address settings:  
 IP Address:   
 Subnet Mask:   
 Default Gateway:

**DNS:**  Obtain DNS information automatically  
 Manually specify DNS information:  
 Primary Server:   
 Secondary Server:   
 Tertiary Server:   
 Domain Name:

**System MAC Address:**  Use the built-in system MAC address: 00:25:3c:91:35:42  
 Override the built-in MAC address  
 Specify MAC address:

5. Click the **Manually specify your DNS information** radio button.
6. Enter the following information:
  - In the **Primary Server** field, enter the IP address of the primary DNS server that the gateway is to use for DNS name resolution.
  - In the **Secondary Server** field, enter the IP address of the secondary DNS server that the gateway is to use for DNS name resolution.
  - In the **Domain Name** field, enter the specific domain name to be used by the gateway.
7. Click **Save**.

---

**Note** Skip the following steps if you do not want to manually add the new DNS information to the resolution table at this time.

---

8. Add the new DNS information by clicking the *DNS Resolution* tab on the *Link Configuration* page; the *Domain Name Server Resolution* page opens.

Home Settings Site Map

System Info Broadband LAN Firewall Diagnostics

Status Link Configuration Routing DNS Resolution

### Domain Name Server Resolution

Manually define a Domain Name and IP Address to resolve:

**Add a New DNS Name**

DNS Name:

IP Address:


**Name resolution table:**

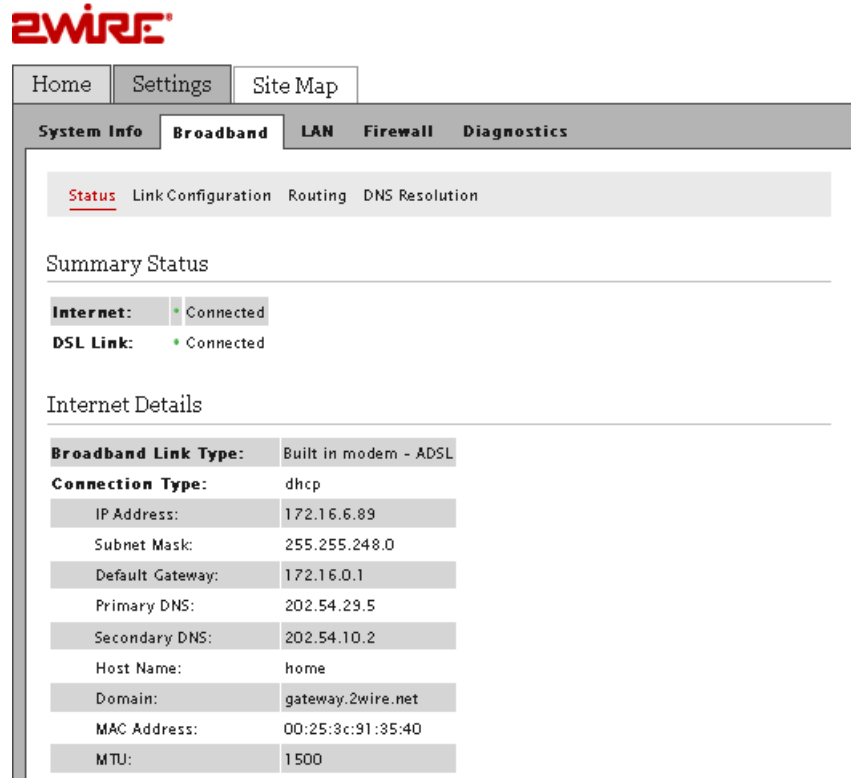
DNS name	IP Address	Entry Type
gchandran	192.168.1.131	learned
gateway.2wire.net	192.168.1.254	learned
home	192.168.1.254	learned
gateway	192.168.1.254	learned

9. Enter the name of the primary server you defined in 6 in the **DNS Name** field.
10. Enter the primary server IP address you defined in 6 in the **IP Address** field.
11. Click **Add to Name Resolution Table**.

## Overriding the System MAC Address

By default, the gateway uses its built-in hardware address for identification. You can override the default MAC address if you are using devices that require a different MAC address.

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Summary Status* page opens.



The screenshot shows the 2Wire gateway user interface. At the top is the 2Wire logo. Below it are navigation tabs: Home, Settings, and Site Map. Underneath are sub-tabs: System Info, Broadband, LAN, Firewall, and Diagnostics. The 'Broadband' sub-tab is selected, and within it, the 'Status' sub-tab is active. The main content area displays the 'Summary Status' page, which shows the following information:

**Internet:** Connected  
**DSL Link:** Connected

**Internet Details**

<b>Broadband Link Type:</b>	Built in modem - ADSL
<b>Connection Type:</b>	dhcp
<b>IP Address:</b>	172.16.6.89
<b>Subnet Mask:</b>	255.255.248.0
<b>Default Gateway:</b>	172.16.0.1
<b>Primary DNS:</b>	202.54.29.5
<b>Secondary DNS:</b>	202.54.10.2
<b>Host Name:</b>	home
<b>Domain:</b>	gateway.2wire.net
<b>MAC Address:</b>	00:25:3c:91:95:40
<b>MTU:</b>	1500

3. Click [Link Configuration](#); the *Link Configuration* page opens.
4. Scroll down to the *Broadband IP Network* pane.

## Broadband IP Network (Primary Connection)

**IP Addressing:**  Obtain IP address automatically (dynamic IP or DHCP)  
 Manually specify IP address settings:  
 IP Address:   
 Subnet Mask:   
 Default Gateway:

**DNS:**  Obtain DNS information automatically  
 Manually specify DNS information:  
 Primary Server:   
 Secondary Server:   
 Tertiary Server:   
 Domain Name:


**System MAC Address:**  Use the built-in system MAC address: 00:25:3c:91:35:42  
 Override the built-in MAC address  
 Specify MAC address:

5. Select the **Override the built-in MAC address** button.
6. Enter the MAC address in the corresponding field.
7. Click **Save**.

## Changing to the Bridging Mode

By default, the 2Wire Gateway is configured in the routing mode.

**Note** When routing is disabled, the NAT and the DHCP server are also disabled. Ensure that the WAN protocol is compatible to bridging mode, that is, switch PPPoE IP through Bridge LLC or Bridge VC-Mux before you disable routing.

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface.
2. Click  on the *Home* page; the *Summary Status* page opens.



Home Settings Site Map

System Info **Broadband** LAN Firewall Diagnostics

[Status](#) Link Configuration Routing DNS Resolution

Summary Status

**Internet:** ● Connected  
**DSL Link:** ● Connected

Internet Details

<b>Broadband Link Type:</b>	Built in modem - ADSL
<b>Connection Type:</b>	dhcp
<b>IP Address:</b>	172.16.6.89
<b>Subnet Mask:</b>	255.255.248.0
<b>Default Gateway:</b>	172.16.0.1
<b>Primary DNS:</b>	202.54.29.5
<b>Secondary DNS:</b>	202.54.10.2
<b>Host Name:</b>	home
<b>Domain:</b>	gateway.2wire.net
<b>MAC Address:</b>	00:25:3c:91:35:40
<b>MTU:</b>	1500

3. Click [Link Configuration](#); the *Link Configuration* page opens.
4. Scroll down to the *Routing* pane.

Routing

**Routing**  Enable (Default is enabled. Routing disabled = Bridge mode)

Warning: When you disable routing, the gateway's local IP address gets set to 192.168.1.254/255.255.255.0  
 If you want to connect to the gateway when it is in bridged mode to change its configuration parameters, you must:

1. Configure your computer's IP address to work on the same subnet (ex. 192.168.1.x, 255.255.255.0)
2. Attach your computer to the local network port of the gateway
3. Enter 192.168.1.254 as the address in a web browser

Note: When routing is disabled, NAT and the DHCP Server are disabled.

5. Deselect the **Enable** check box.
6. Click **Save**.

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## CHAPTER 8

# Finding Solutions

This section provides helpful information to solve common issues, which includes instructions to

- [Diagnosing Connection Issues](#) on page 78
- [Recovering the Gateway Password](#) on page 79
- [Performing Broadband Link Tests](#) on page 79
- [Viewing the Gateway Information](#) on page 81
- [Viewing the Broadband Status](#) on page 82
- [Viewing the LAN Status](#) on page 85
- [Resetting the Gateway](#) on page 88

## Diagnosing Connection Issues

Symptoms	Problems	What to Do...
The <b>POWER</b> indicator on the gateway does not light.	Faulty power supply	<ul style="list-style-type: none"> <li>• Verify that the AC power cable is securely connected to the gateway.</li> <li>• Ensure that the AC power cable is not plugged in to a switched outlet that is turned off.</li> <li>• Power up the gateway with a known good power outlet.</li> </ul>
The <b>POWER</b> indicator on the gateway remains solid red.	System failure	Press the <b>Reset</b> button on the gateway for 10 seconds.
No connection to the Internet via the Ethernet connection.	No communication is established	<ul style="list-style-type: none"> <li>• Check the telephone line is properly connected.</li> <li>• Check the <b>BROADBAND</b> and <b>SERVICE</b> indicators on the gateway, they should light green.</li> </ul>
	Loose Ethernet cable connection	<ul style="list-style-type: none"> <li>• Check the Ethernet cable connection on your computer and gateway, and make sure that it is securely seated in both ports.</li> <li>• Check the <b>ETHERNET</b> indicator on the gateway, it should light green.</li> <li>• Verify that you can connect to the Internet via wireless connection.</li> </ul>
No connection to the Internet via the wireless connection.	No communication is established	<ul style="list-style-type: none"> <li>• Check the telephone line is properly connected.</li> <li>• Check the <b>BROADBAND</b> and <b>SERVICE</b> indicators on the gateway, they should light green.</li> <li>• Check the <b>WIRELESS</b> indicator on the gateway, it should light green.</li> </ul>
	Mismatch network name and/or encryption key	<ul style="list-style-type: none"> <li>• Verify the network name ("Setting up your Wireless Network" on page 26).</li> <li>• Verify the encryption key ("Using the Encryption Key" on page 28).</li> <li>• Check the <b>SERVICE</b> indicator on the gateway, it should light green.</li> </ul>
	MAC address is blocked	Verify that the MAC address in question is allowed ("Using the MAC Address Filtering" on page 29).
Weak wireless signals. Hissing or static sounds.	Radio interference	<ul style="list-style-type: none"> <li>• Change the wireless settings ("Customize Private Wireless Settings" on page 31).</li> <li>• Change the access point location ("Determining a Wireless Access Point Location" on page 4).</li> </ul>
The <b>BROADBAND</b> indicator blinks green for an extended period of time, then turns solid red.	Broadband connection Failure	Call your service provider if the broadband connection failed to connect after 10 minutes.
The <b>SERVICE</b> indicator lights red.	Broadband service authentication failure	Call your service provider if the broadband connection failed to connect after 10 minutes.

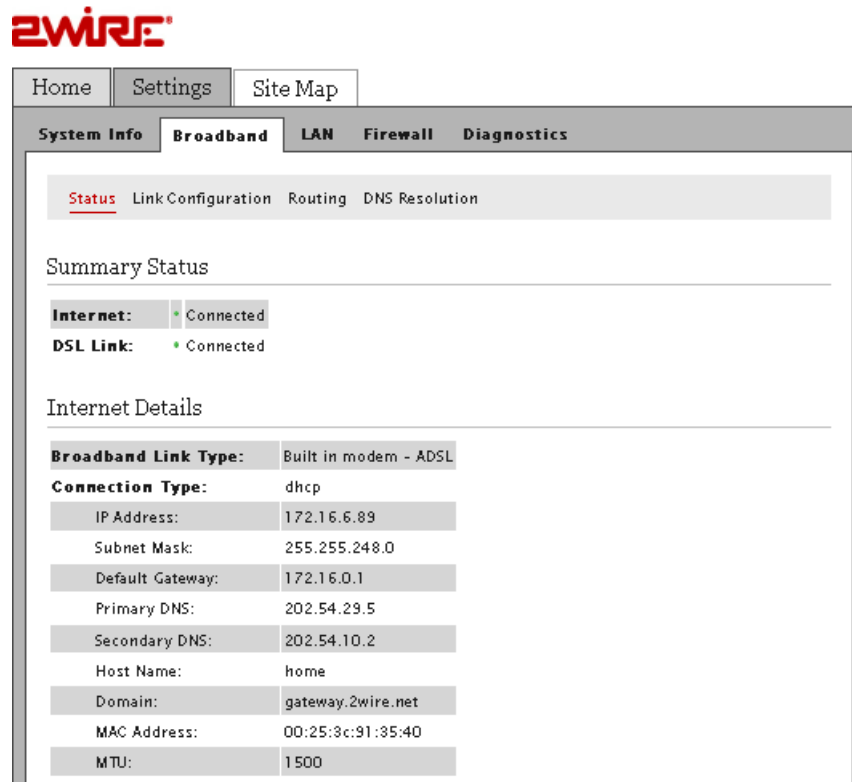
## Recovering the Gateway Password

Call your service provider if you have changed the default gateway password and misplaced the new one.

## Performing Broadband Link Tests

Your gateway includes a test that helps you to diagnose broadband connection issues.

1. Open a Web browser and enter `http://gateway.2Wire.net` to access the gateway user interface.
2. Click  on the *Home* page; the *Summary Status* page opens.



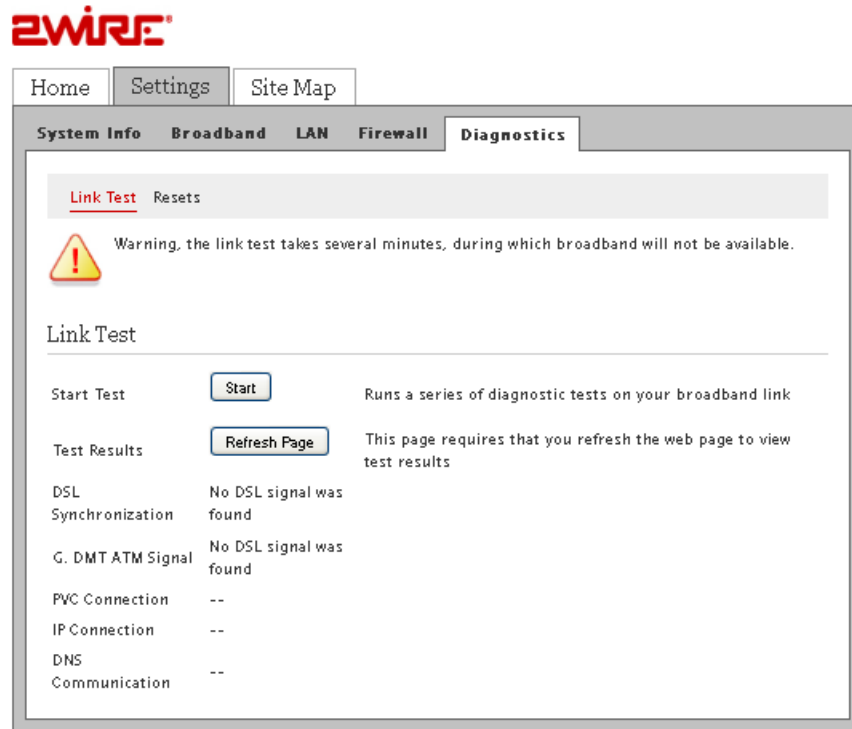
The screenshot shows the 2Wire gateway user interface. At the top left is the 2Wire logo. Below it are navigation tabs: Home, Settings, and Site Map. A secondary set of tabs includes System Info, Broadband (selected), LAN, Firewall, and Diagnostics. Under the Broadband tab, there are sub-tabs: Status (selected), Link Configuration, Routing, and DNS Resolution. The main content area displays the Summary Status page, which shows the following information:

**Internet:** ● Connected  
**DSL Link:** ● Connected

**Internet Details**

<b>Broadband Link Type:</b>	Built in modem - ADSL
<b>Connection Type:</b>	dhcp
<b>IP Address:</b>	172.16.6.89
<b>Subnet Mask:</b>	255.255.248.0
<b>Default Gateway:</b>	172.16.0.1
<b>Primary DNS:</b>	202.54.29.5
<b>Secondary DNS:</b>	202.54.10.2
<b>Host Name:</b>	home
<b>Domain:</b>	gateway.2wire.net
<b>MAC Address:</b>	00:25:3c:91:35:40
<b>MTU:</b>	1500

3. Click [Diagnostics](#); the *Link Test* page opens.



4. Click **Start**; the gateway initiates the test, and displays the test results.

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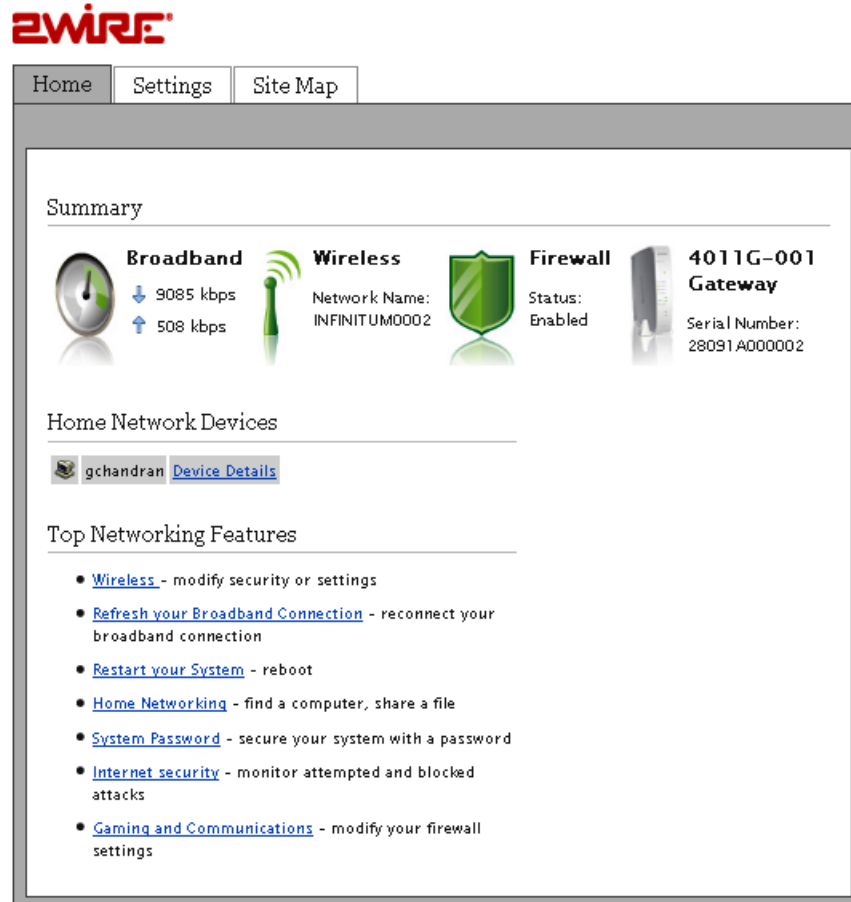
**Note** You will be unable to access the Internet when the test is taking place.

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5. Interpret the issues:
  - DSL issue indicates that the DSL service is not yet activated, and/or loose cable connections on your gateway.
  - IP connection issue indicates that your service provider's network is unreachable.
  - DNS issue indicates that the DNS servers within your service provider's network are unreachable.

## Viewing the Gateway Information

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface; the *Home* page opens.



2. Click [Settings](#); the *System Information* page opens, displaying read-only information, for example,

The screenshot shows the 2Wire gateway user interface. At the top left is the 2Wire logo. Below it are navigation tabs: Home, Settings, and Site Map. A secondary set of tabs includes System Info, Broadband (selected), LAN, Firewall, and Diagnostics. Under the Broadband tab, there are sub-tabs: Status (selected), Link Configuration, Routing, and DNS Resolution. The main content area is titled 'Summary Status' and shows 'Internet: Connected' and 'DSL Link: Connected'. Below this is the 'Internet Details' section, which contains a table of network parameters.

<b>Broadband Link Type:</b>	Built in modem - ADSL
<b>Connection Type:</b>	dhcp
<b>IP Address:</b>	172.16.6.89
<b>Subnet Mask:</b>	255.255.248.0
<b>Default Gateway:</b>	172.16.0.1
<b>Primary DNS:</b>	202.54.29.5
<b>Secondary DNS:</b>	202.54.10.2
<b>Host Name:</b>	home
<b>Domain:</b>	gateway.2wire.net
<b>MAC Address:</b>	00:25:3c:91:35:40
<b>MTU:</b>	1500

## Viewing the Broadband Status





1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* to access the gateway user interface; the *Home* page opens.



Home Settings Site Map


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Summary

 <p><b>Broadband</b> ↓ 9085 kbps ↑ 508 kbps</p>	 <p><b>Wireless</b> Network Name: INFINITUM0002</p>	 <p><b>Firewall</b> Status: Enabled</p>	 <p><b>4011G-001 Gateway</b> Serial Number: 28091A000002</p>
--	--	--	--

---


Home Network Devices

 gchandran [Device Details](#)

---

Top Networking Features

- [Wireless](#) - modify security or settings
- [Refresh your Broadband Connection](#) - reconnect your broadband connection
- [Restart your System](#) - reboot
- [Home Networking](#) - find a computer, share a file
- [System Password](#) - secure your system with a password
- [Internet security](#) - monitor attempted and blocked attacks
- [Gaming and Communications](#) - modify your firewall settings

2. Click  on the *Home* page; the *Summary Status* page opens.



Home Settings Site Map

System Info **Broadband** LAN Firewall Diagnostics

Status Link Configuration Routing DNS Resolution

Summary Status

**Internet:** ● Connected  
**DSL Link:** ● Connected

Internet Details

<b>Broadband Link Type:</b>	Built in modem - ADSL
<b>Connection Type:</b>	dhcp
<b>IP Address:</b>	172.16.6.89
<b>Subnet Mask:</b>	255.255.248.0
<b>Default Gateway:</b>	172.16.0.1
<b>Primary DNS:</b>	202.54.29.5
<b>Secondary DNS:</b>	202.54.10.2
<b>Host Name:</b>	home
<b>Domain:</b>	gateway.2wire.net
<b>MAC Address:</b>	00:25:3c:91:35:40
<b>MTU:</b>	1500

3. View the Internet information:

Item	Description
Broadband Link Type	Built-in ADSL Modem or External Broadband Modem via Ethernet.
Connection Type	The method by which the gateway connects to the ISP: Direct_IP, DHCP, PPPoA, or PPPoE.
IP Address	The broadband address of your gateway.
Subnet Mask	The subnet mask to be used by the gateway on the broadband link.
Default Gateway	The IP address of the default gateway (default router) that the gateway connects to on the broadband link.
Primary DNS	The IP address of the primary DNS server that the gateway is to use for DNS name resolution on the broadband link.
Secondary DNS	The IP address of the secondary DNS server the gateway uses for DNS name resolution on the broadband link.
Host Name	The gateway host name. This field is present only if a host name has been configured.
Domain	The domain name associated with the gateway on the broadband link.
MAC Address	The gateway MAC address.
MTU	The maximum size of the packets (in bytes) sent from a computer to the network.







## Viewing the LAN Status

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* in the address line; the *Home* page opens.


**2WIRE**

Home Settings Site Map

Summary

 <b>Broadband</b> ↓ 9085 kbps ↑ 508 kbps	 <b>Wireless</b> Network Name: INFINITUM0002	 <b>Firewall</b> Status: Enabled	 <b>4011G-001 Gateway</b> Serial Number: 28091A000002
---	---	---	---

Home Network Devices

 gchandran [Device Details](#)

Top Networking Features

- [Wireless](#) - modify security or settings
- [Refresh your Broadband Connection](#) - reconnect your broadband connection
- [Restart your System](#) - reboot
- [Home Networking](#) - find a computer, share a file
- [System Password](#) - secure your system with a password
- [Internet security](#) - monitor attempted and blocked attacks
- [Gaming and Communications](#) - modify your firewall settings

2. Click [Settings](#); the *System Information* page opens.

The screenshot displays the 2Wire web interface. At the top left is the 2Wire logo. Below it are navigation tabs: Home, Settings (selected), and Site Map. A secondary set of tabs includes System Info (selected), Broadband, LAN, Firewall, and Diagnostics. Under the System Info tab, there are links for Status, Password, and Date & Time. The main content area is titled "System Information" and contains a table of system details.

<b>Manufacturer:</b>	2Wire
<b>Model:</b>	4011G-001
<b>Serial Number:</b>	28091A000083
<b>Hardware Version:</b>	2700-000780-001
<b>Software Version:</b>	9.1.1.12
<b>Key Code:</b>	52AD-2AD4-6266-22NA-B27M
<b>First Use Date:</b>	Fri Nov 20 05:30:31 UTC 2009
<b>Current Date &amp; Time:</b>	12-22-2009 & 01:38:14
<b>Time Since Last Boot:</b>	3:53
<b>DSL Modem</b>	A2pB025f6.d22
<b>System Password:</b>	Custom: xxxxxxxx

- Click [LAN](#); a page similar to the following opens, displaying the private network information and LAN devices connected to your network.

**zWIRE**

Home Settings Site Map

System Info Broadband **LAN** Firewall Diagnostics

[Status](#) Wireless Wired Interfaces DHCP

### Private Network

**Router/Gateway Address:** 192.168.1.254  
**Subnet Mask:** 255.255.255.0  
**Private Network DHCP Info:**  
 Range: 192.168.1.64 - 192.168.1.253  
 Timeout: 86400 seconds

### Interfaces

**Interface Status**  
 Ethernet Enabled  
 Wireless Enabled

### Wireless

**Wireless Channel:** 1  
**Wireless Power Level:** 0 dBm  
**SSID Name:** INFINITUM0099  
 Status: Up  
 SSID Broadcast: enable  
 Security: wep

### Devices

Device	Interface	MAC Address	IP Address
Unknown_00-e0-4c-76-a3-53	Ethernet	00:e0:4c:76:a3:53	192.168.1.106 <a href="#">Device Details</a>
Unknown_00-1c-23-09-0f-48	Ethernet	00:1c:23:09:0f:48	192.168.1.131 <a href="#">Device Details</a>

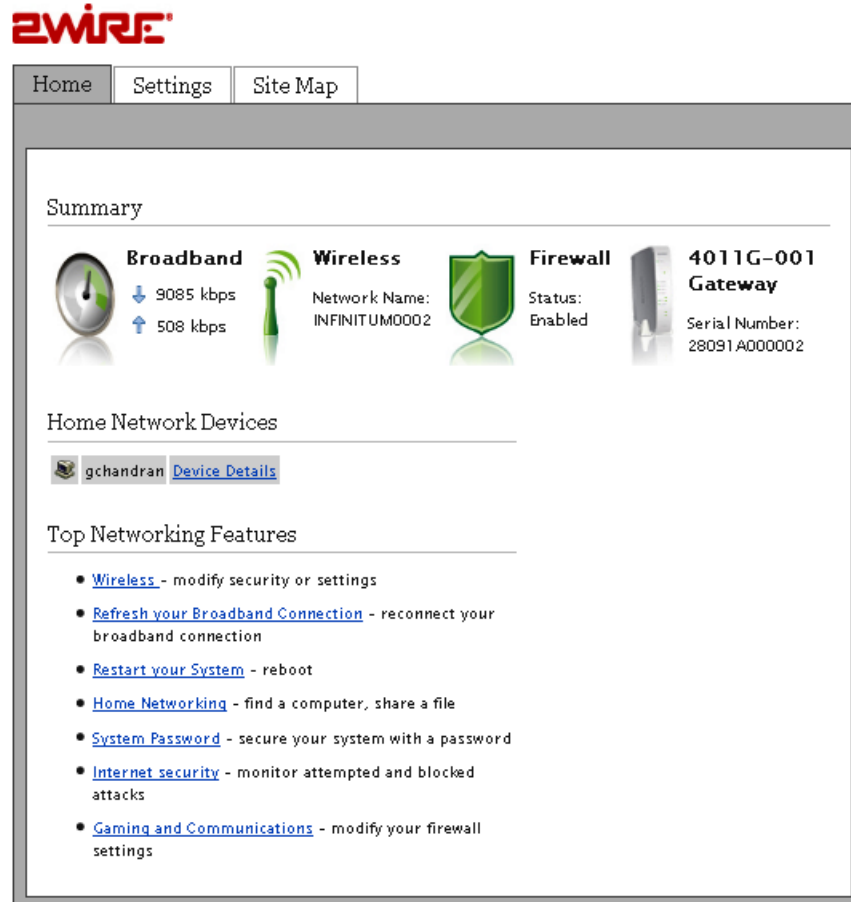
### Traffic Statistics

Interface	Bytes	Packets	Errors
<b>Ethernet</b>			
Port 1 Transmit	822334	1383	0
Port 1 Receive	218367	2003	0
<b>Wireless</b>			
Transmit	0	0	262
Receive	0	0	0


## Resetting the Gateway

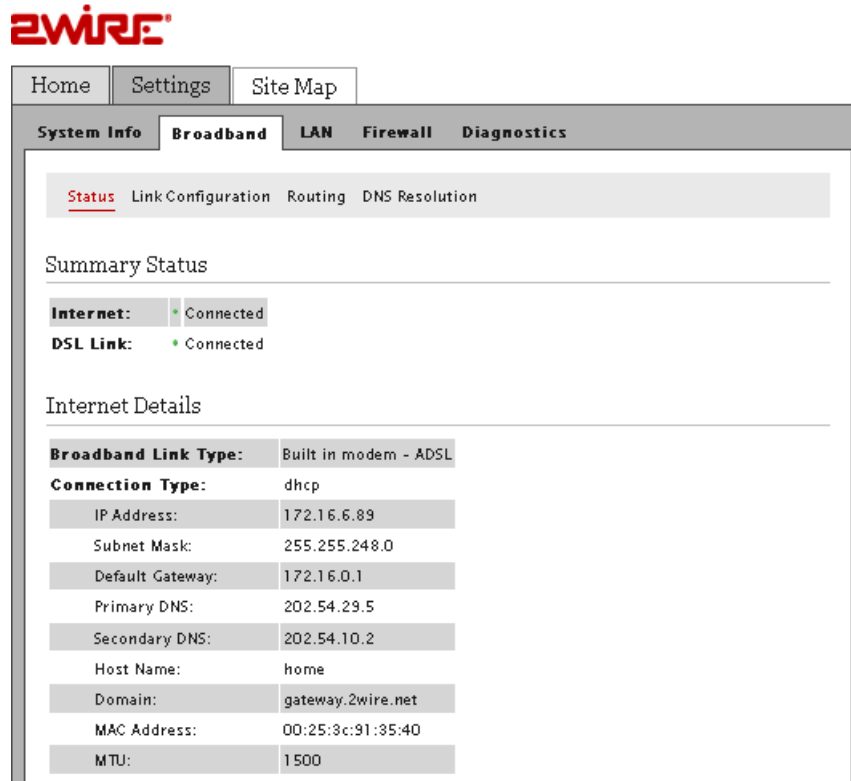
Resetting the gateway may cause your broadband connection to not function properly and may require reconfiguration of the system to reconnect the broadband service.

1. Open a Web browser and enter *http://home*, *http://gateway.2Wire.net*, or *http://192.168.1.254* in the address line; the *Home* page opens.



The screenshot displays the 2Wire gateway web interface. At the top left is the 2Wire logo. Below it are navigation tabs for Home, Settings, and Site Map. The main content area is titled "Summary" and features several status cards: Broadband (showing 9085 kbps download and 508 kbps upload), Wireless (showing Network Name: INFINITUM0002), Firewall (showing Status: Enabled), and 4011G-001 Gateway (showing Serial Number: 28091A000002). Below the summary is a section for "Home Network Devices" with a user icon labeled "gchandran" and a link to "Device Details". The "Top Networking Features" section lists several actions: Wireless (modify security or settings), Refresh your Broadband Connection (reconnect your broadband connection), Restart your System (reboot), Home Networking (find a computer, share a file), System Password (secure your system with a password), Internet security (monitor attempted and blocked attacks), and Gaming and Communications (modify your firewall settings).

- Click  on the *Home* page; the *Summary Status* page opens.



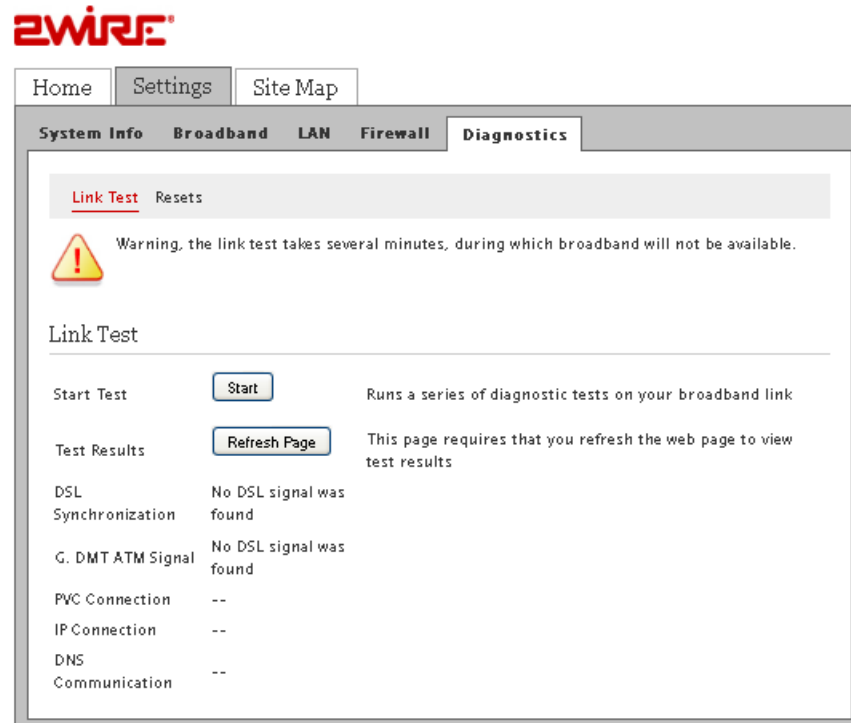
The screenshot shows the 2Wire gateway web interface. At the top is the 2Wire logo. Below it are navigation tabs: Home, Settings, and Site Map. A secondary set of tabs includes System Info, Broadband, LAN, Firewall, and Diagnostics. Under the Broadband tab, there are sub-tabs: Status, Link Configuration, Routing, and DNS Resolution. The main content area is titled "Summary Status" and shows the following information:

- Internet:** Connected
- DSL Link:** Connected


Below this is the "Internet Details" section, which lists the following configuration:

<b>Broadband Link Type:</b>	Built in modem - ADSL
<b>Connection Type:</b>	dhcp
<b>IP Address:</b>	172.16.6.89
<b>Subnet Mask:</b>	255.255.248.0
<b>Default Gateway:</b>	172.16.0.1
<b>Primary DNS:</b>	202.54.29.5
<b>Secondary DNS:</b>	202.54.10.2
<b>Host Name:</b>	home
<b>Domain:</b>	gateway.2wire.net
<b>MAC Address:</b>	00:25:3c:91:35:40
<b>MTU:</b>	1500

- Click [Diagnostics](#); the *Link Test* page opens.



The screenshot shows the 2Wire gateway web interface with the Diagnostics tab selected. The main content area is titled "Link Test" and includes a warning message:

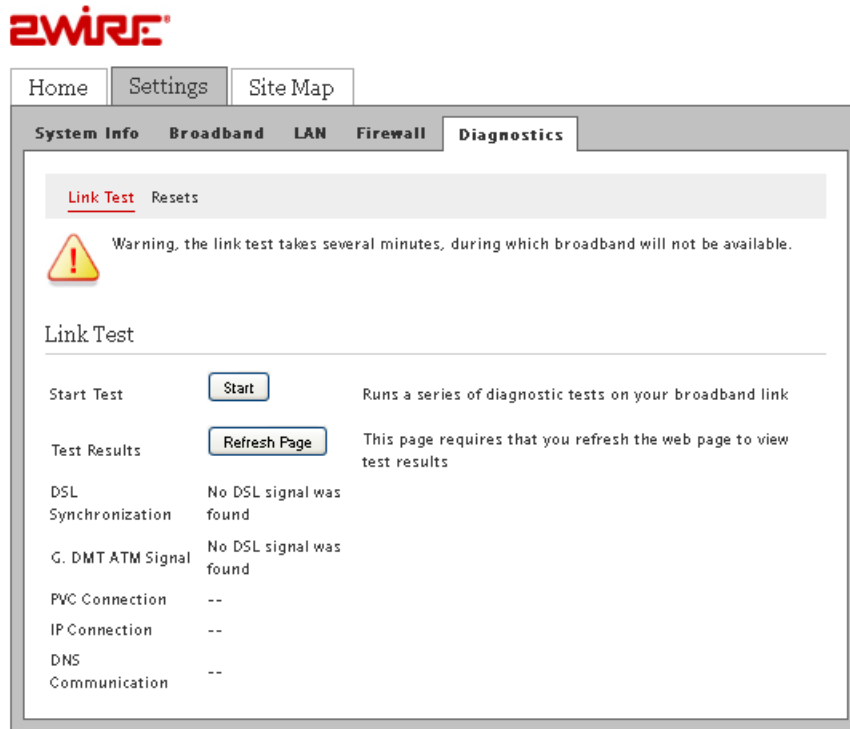
 Warning, the link test takes several minutes, during which broadband will not be available.

Below the warning, there are two buttons: "Start" and "Refresh Page". The "Start" button is used to begin the test, and the "Refresh Page" button is used to view the results.

The test results are displayed as follows:

DSL Synchronization	No DSL signal was found
G. DMT ATM Signal	No DSL signal was found
PVC Connection	--
IP Connection	--
DNS Communication	--

- Click [Resets](#); the following page opens.



- Click the button you want to clear or reset.
  - Clear Device List.* The **Clear** button clears all devices from the Local Network list.
  - Reset IP/PPP.* The **Reset** button resets the PPP connection and/or releases and renews the broadband IP address.
  - Reset Broadband.* The **Reset** button re-establishes the broadband link.
  - Reset System.* The **Reboot** button allows you to restart the gateway.
  - Reset to Factory Default State.* The **Reset** button resets the gateway to an unprovisioned default state. Doing so will remove all your saved configuration settings, while resetting them to their respective default factory settings.