

# Chapter 7

## Troubleshooting

This chapter provides information about troubleshooting your Wireless-G Router Model WGR614v9. After each problem description, instructions are provided to help you diagnose and solve the problem. As a first step, please review the Quick Tips.



**Tip:** NETGEAR provides helpful articles, documentation, and the latest software updates at <http://www.netgear.com/support>.

This chapter includes the following sections:

- “Troubleshooting Quick Tips”
- “Troubleshooting Basic Functions” on page 7-3
- “Troubleshooting the Web Configuration Interface” on page 7-4
- “Troubleshooting the Internet Connection” on page 7-5
- “Troubleshooting a Network Using the Ping Utility” on page 7-7
- “Problems with Date and Time” on page 7-9
- “Solving Wireless Connection Problems” on page 7-9
- “Restoring the Default Configuration and Password” on page 7-13

### Troubleshooting Quick Tips

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This section describes tips for troubleshooting some common problems:

#### **Be sure to restart your network in this sequence.**

1. Turn off *and* unplug the modem.
2. Turn off the wireless router and computers.
3. Plug in the modem and turn it on. Wait 2 minutes.

4. Turn on the wireless router and wait 1 minute.
5. Turn on the computers.

**Make sure that the Ethernet cables are securely plugged in.**

- The Internet status light on the wireless router is on if the Ethernet cable connecting the wireless router and the modem is plugged in securely and the modem and wireless router are turned on.
- For each powered-on computer connected to the wireless router by an Ethernet cable, the corresponding numbered router LAN port light is on.

**Make sure that the wireless settings in the computer and router match exactly.**

- For a wirelessly connected computer, the wireless network name (SSID) and WEP or WPA security settings of the router and wireless computer must match exactly.
- If you have enabled the wireless router to restrict wireless access by MAC address, you must add the wireless computer's MAC address to the router's wireless card access list.

**Make sure that the network settings of the computer are correct.**

- Wired and wirelessly connected computers *must* have network (IP) addresses on the same network as the router. The simplest way to do this is to configure each computer to obtain an IP address automatically using DHCP. Click the link to the online document [“Preparing Your Network” in Appendix B](#), or see the documentation that came with your computer.
- Some cable modem service providers require you to use the MAC address of the computer initially registered on the account. Your wireless router can capture and use that MAC address, as described in [“Configuring Your Internet Connection Using the Smart Setup Wizard” on page 1-1](#).

**Check the Test light to verify correct router operation.**


If the Test light does not turn off within 2 minutes after you turn the router on, reset the router according to the instructions in [“Restoring the Default Configuration and Password” on page 7-13](#).

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## Troubleshooting Basic Functions

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After you turn on power to the router, the following sequence of events should occur:

1. When power is first applied, verify that the Power light  is on.
2. After approximately 10 seconds, verify that:
  - a. The Power light is solidly on.
  - b. The Internet light is on.
  - c. A numbered LAN port light is on for any local port that is connected to a computer. This indicates that a link has been established to the connected device.

If any of the above conditions does not occur, see the appropriate following section.

### The Power light is not on or is blinking.

If the Power and other lights are off when your router is turned on:

- Make sure that the power cord is properly connected to your router and that the power adapter is properly connected to a functioning power outlet.
- Check that you are using the 12V DC 1A power adapter that NETGEAR supplied for this product.
- If the Power light blinks alternately green and amber every second, the router software is corrupted. This can happen if a firmware upgrade is interrupted, or if the router detects a problem with the firmware. For recovery instructions, contact Technical Support at [www.netgear.com/support](http://www.netgear.com/support).

If the error persists, you have a hardware problem and should contact Technical Support at [www.netgear.com/support](http://www.netgear.com/support).

### The lights never turn off.

When the router is turned on, the lights turn on for about 10 seconds and then turn off. If all the lights stay on, there is a fault within the router.

If all lights are still on 1 minute after power-up:

- Cycle the power to see if the router recovers.
- Clear the router's configuration to factory defaults as explained in [“Restoring the Default Configuration and Password” on page 7-13](#).

If the error persists, you might have a hardware problem and should contact Technical Support at [www.netgear.com/support](http://www.netgear.com/support).

### **The Internet or Ethernet port lights are not on.**

If either the Ethernet port lights or the Internet light does not come on when the Ethernet connection is made, check the following:

- Make sure that the Ethernet cable connections are secure at the router and at the modem or computer.
- Make sure that power is turned on to the connected modem or computer.
- Make sure that you are using the correct cable:

When connecting the router's Internet port to a cable or DSL modem, use the cable that was supplied with the cable or DSL modem. This cable could be a standard straight-through Ethernet cable or an Ethernet crossover cable.

### **The Wireless light is not on.**

If the Wireless light does not come on, verify that the wireless feature is turned on according to the instructions in [“Viewing Advanced Wireless Settings” on page 2-10](#).

## **Troubleshooting the Web Configuration Interface**

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If you are unable to access the router's Web Configuration Interface from a computer on your local network, check the following:

- If you are connecting from a wireless computer, try connecting from a wired computer.
- Check the Ethernet connection between the wired computer and the router as described in [“Troubleshooting Basic Functions” on page 7-3](#).
- Make sure that your computer's IP address is on the same subnet as the router. For instructions, click the link to the online document [“Preparing Your Network” in Appendix B](#) to configure your computer.



**Note:** If your computer's IP address is shown as 169.254.x.x: Windows and Mac OS generate and assign an IP address if the computer cannot reach a DHCP server. These autogenerated addresses are in subnet 169.254.x.x. If your IP address is in this range, check the connection from the computer to the router, and reboot your computer.

- Make sure that your browser has Java, JavaScript, or ActiveX enabled. If you are using Internet Explorer, click **Refresh** to be sure that the Java applet is loaded.
- Try closing the browser and opening it again, or try a different browser.
- Make sure that you are using the correct login information. The factory default login name is **admin**, and the password is **password**. Make sure that Caps Lock is off when entering this information.

If the router does not save changes you have made in the Web Configuration Interface, check the following:

- When entering configuration settings, be sure to click **Apply** before moving to another screen or tab, or your changes could be lost.
- Click **Refresh** or **Reload** in the Web browser. The changes might have occurred, but the Web browser might be caching the old configuration.

## Troubleshooting the Internet Connection

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If you can access your router but you are unable to access the Internet, you should first determine whether the router can obtain an IP address from your Internet Service Provider (ISP). Unless your ISP provides a static IP address, your router must request an IP address from the ISP. You can determine whether the request was successful using the Web Configuration Manager.

To check the WAN IP address:

1. Start your browser, and select an external site such as <http://www.netgear.com>.
2. Access the main menu of the router's configuration at <http://www.routerlogin.net>.
3. Under Maintenance, select **Router Status**.
4. Check that an IP address is shown for the Internet port. If 0.0.0.0 is shown, your router has not obtained an IP address from your ISP.

If your router is unable to obtain an IP address from the ISP, you might need to force your cable or DSL modem to recognize your new router by restarting your network, as described in “[Be sure to restart your network in this sequence.](#)” on page 7-1.

If your router is still unable to obtain an IP address from the ISP, the problem might be one of the following:

- Your ISP might require a login program.  
Ask your ISP whether they require PPP over Ethernet (PPPoE) or some other type of login.

- If your ISP requires a login, the login name or password might be set incorrectly.
- Your ISP might check for your computer's host name.  
Assign the computer host name of your ISP account as the account name in the Basic Settings screen.
- Your ISP allows only one Ethernet MAC address to connect to Internet and might check for your computer's MAC address. In this case, do one of the following:
  - Inform your ISP that you have bought a new network device, and ask them to use the router's MAC address.
  - Configure your router to spoof your computer's MAC address. This procedure is explained in [“Configuring Your Internet Connection Using the Smart Setup Wizard” on page 1-1](#).

If your router can obtain an IP address, but your computer is unable to load any Web pages from the Internet:

- Your computer might not recognize any DNS server addresses.  
A DNS server is a host on the Internet that translates Internet names (such as www addresses) to numeric IP addresses. Typically, your ISP provides the addresses of one or two DNS servers for your use. If you entered a DNS address during the router's configuration, reboot your computer, and verify the DNS address as described in the online document you can access from [“Preparing Your Network” in Appendix B](#). You can also configure your computer manually with DNS addresses, as explained in your operating system documentation.
- Your computer might not have the router configured as its TCP/IP gateway.  
If your computer obtains its information from the router by DHCP, reboot the computer, and verify the gateway address as described in the online document you can access from [“Preparing Your Network” in Appendix B](#).
- You might be running login software that is no longer needed.  
If your ISP provided a program to log you in to the Internet (such as WinPoET), you no longer need to run that software after installing your router. You might need to go to Internet Explorer and select **Tools > Internet Options**, click the Connections tab, and select **Never dial a connection**.

## Troubleshooting a Network Using the Ping Utility

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Most network devices and routers contain a ping utility that sends an echo request packet to the designated device. The device then responds with an echo reply. Troubleshooting a network is made very easy by using the ping utility in your computer or workstation.

### Testing the LAN Path to Your Router

You can ping the router from your computer to verify that the LAN path to your router is set up correctly.

To ping the router from a running Windows PC:

1. From the Windows toolbar, click Start, and then select **Run**.
2. In the field provided, type **ping** followed by the IP address of the router, as in this example:  
`ping www.routerlogin.net`
3. Click **OK**.

You should see a message like this one:

```
Pinging <IP address > with 32 bytes of data
```

If the path is working, you see this message:

```
Reply from < IP address >: bytes=32 time=NN ms TTL=xxx
```

If the path is not working, you see this message:

```
Request timed out
```

If the path is not functioning correctly, you could have one of the following problems:

- Wrong physical connections
  - For a wired connection, make sure that the numbered LAN port light is on for the port to which you are connected. If the light is off, follow the instructions in [“The Internet or Ethernet port lights are not on.”](#) on page 7-4.
  - Check that the corresponding Link lights are on for your network interface card. If your router and computer are connected to a separate Ethernet switch, make sure that the Link lights are on for the switch ports that are connected to your computer and router.
- Wrong network configuration
  - Verify that the Ethernet card driver software and TCP/IP software are both installed and configured on your computer.

- Verify that the IP address for your router and your computer are correct and that the addresses are on the same subnet.

## Testing the Path from Your Computer to a Remote Device

After verifying that the LAN path works correctly, test the path from your computer to a remote device.

1. From the Windows toolbar, click the Start button, and then select **Run**.
2. In the Windows Run window, type:

```
ping -n 10 <IP address>
```

where <IP address> is the IP address of a remote device such as your ISP's DNS server.

If the path is functioning correctly, replies like those shown in the previous section are displayed. If you do not receive replies:

- Check that your computer has the IP address of your router listed as the default gateway. If the IP configuration of your computer is assigned by DHCP, this information is not be visible in your computer's Network Control Panel. Verify that the IP address of the router is listed as the default gateway as described in the online document you can access from [“Preparing Your Network” in Appendix B](#).
- Check to see that the network address of your computer (the portion of the IP address specified by the subnet mask) is different from the network address of the remote device.
- Check that your cable or DSL modem is connected and functioning.
- If your ISP assigned a host name to your computer, enter that host name as the account name in the Basic Settings screen.
- Your ISP could be rejecting the Ethernet MAC addresses of all but one of your computers. Many broadband ISPs restrict access by allowing traffic only from the MAC address of your broadband modem, but some ISPs additionally restrict access to the MAC address of a single computer connected to that modem. If this is the case, you must configure your router to “clone” or “spoof” the MAC address from the authorized computer. For more information, see [“Configuring Your Internet Connection Using the Smart Setup Wizard” on page 1-1](#).

## Problems with Date and Time

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Under Content Filtering in the main menu, select **E-mail** to display a screen that shows the current date and time of day. The Wireless-G Router uses the Network Time Protocol (NTP) to obtain the current time from one of several network time servers on the Internet. Each entry in the log is stamped with the date and time of day. Problems with the date and time function can include the following:

- Date shown is January 1, 2000.  
Cause: The router has not yet successfully reached a network time server. Check that your Internet access settings are correct. If you have just completed configuring the router, wait at least 5 minutes, and check the date and time again.
- Time is off by one hour.  
Cause: The router does not adjust for daylight savings time. In the E-mail screen, select the **Adjust for Daylight Savings Time** check box.

## Solving Wireless Connection Problems

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The first steps in solving wireless connection problems are these:

1. Using your wireless card's setup utility program, make sure that your wireless card can find your wireless router.
2. Configure and test with the simplest wireless connection possible, and then add security.

The topics in this section describe these steps.

### Using Your Wireless Card Setup Program

When you install a NETGEAR wireless card in your computer, a Smart Wizard utility program is installed that can provide helpful information about your wireless network. You can find this program in your Windows Program menu or as an icon in your system tray. Other wireless card manufacturers might include a similar program.

If you have no specific wireless card setup program installed, you can use the basic setup utility in Windows by following these steps:

1. Open the Windows Control Panel, and double-click **Network Connections**.
2. In the LAN section, double-click **Wireless Network Connection**.

Use the setup program to scan for available wireless networks. Look for a network name (SSID) of NETGEAR or your custom SSID if you have changed it. If your wireless network does not appear, check these conditions:

- Is your router's wireless radio enabled? See [“Viewing Advanced Wireless Settings” on page 2-10](#).
- Is your router's SSID broadcast enabled? See [“Viewing Advanced Wireless Settings” on page 2-10](#).
- Is your router set to a wireless standard that is not supported by your wireless card? Check the Mode setting as described in [“Viewing and Configuring Basic ISP Settings” on page 1-5](#).

If your wireless network appears, but the signal strength is weak, check these conditions:

- Is your router too far from your computer, or too close? Place your computer near the router, but at least 6 feet away, and see whether the signal strength improves.
- Is your wireless signal obstructed by objects between the router and your computer? See [“Optimizing Wireless Performance” on page 5-13](#).

If your wireless network appears and has good signal strength, configure your wireless card and router for the simplest possible connection as described in the next section.

## Setting Up and Testing Basic Wireless Connectivity



**Note:** If you use a wireless computer to change wireless settings, you might be disconnected when you click **Apply**. Reconfigure your wireless adapter to match the new settings, or access the wireless router from a wired computer to make any further changes.

Follow these instructions to set up and test basic wireless connectivity. Once you have established basic wireless connectivity, you can enable security settings appropriate to your needs.

1. Select **Wireless Settings** under Setup in the main menu of the WGR614v9 router.



**Figure 7-1**

2. For the wireless network name (SSID), use the default name, or choose a suitable descriptive name. In the **Name (SSID)** field, you can enter a value of up to 32 alphanumeric characters. The default SSID is NETGEAR.




**Note:** The SSID is case-sensitive; NETGEAR is not the same as nETgear. Also, the SSID of any wireless access adapters must match the SSID you specify in the Wireless-G Router. If they do not match, you will not get a wireless connection to the Wireless-G Router.

3. Select the region in which the wireless interface will operate.
4. Set the channel. The default channel is **Auto**.

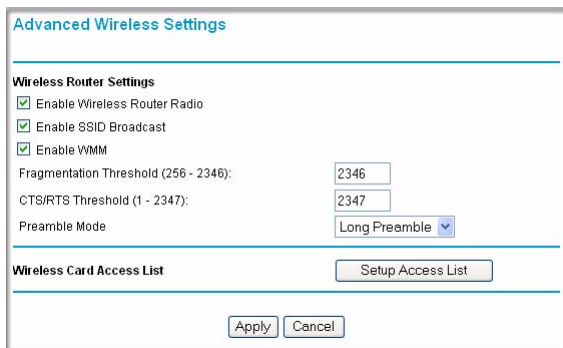
This field determines which operating frequency is used. It should not be necessary to change the wireless channel unless you notice interference problems with another nearby wireless router or access point. Select a channel that is not being used by any other wireless networks within several hundred feet of your router. For more information about the wireless channel frequencies, click the link to the online document [“Wireless Networking Basics” in Appendix B](#).

5. Set the mode to **b and g**.

- For Security Options, select **None**.
- Click **Apply** to save your changes.

	<b>Note:</b> If you are configuring the router from a wireless computer and you change the router's SSID, channel, or security settings, you will lose your wireless connection when you click <b>Apply</b> . You must then change the wireless settings of your computer to match the router's new settings.
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- Select **Wireless Settings** under Advanced in the main menu of the WGR614v9 router.



**Figure 7-2**

- Make sure that the **Enable Wireless Router Radio** and **Enable SSID Broadcast** check boxes are selected.
- Click **Setup Access List**.
- Make sure that the **Turn Access Control On** check box is *not* selected.
- Configure and test your wireless computer for wireless connectivity.

Program the wireless adapter of your computer to have the same SSID and channel that you specified in the router, and disable encryption. Check that your computer has a wireless link and can obtain an IP address by DHCP from the router.

Once your computer has basic wireless connectivity to the router, you can configure the advanced wireless security functions of the computer and router (for more information about security, see [Chapter 2, “Safeguarding Your Network”](#)).

## Restoring the Default Configuration and Password

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This section explains how to restore the factory default configuration settings, changing the router's administration password back to **password**. You can erase the current configuration and restore factory defaults in two ways:

- Use the Erase function of the router (see “Erasing the Configuration” on page 6-7).
- Use the restore factory settings button on the rear panel of the router. Use this method for cases when the administration password or IP address is not known.

To restore the factory default configuration settings when you do not know the administration password or IP address, you must use the restore settings button on the rear panel of the router.

1. Press and hold the restore settings button for 10 seconds.
2. Release the restore settings button, and wait for the router to reboot.

If the wireless router fails to restart, or the Power light continues to blink or turns solid amber, the unit might be defective. If the error persists, you might have a hardware problem and should contact Technical Support at <http://www.netgear.com/support>.

