NETGEAR®

R6300v2 Smart WiFi Router

User Manual

Technical Support

Thank you for choosing NETGEAR. To register your product, get the latest product updates, or get support online, visit us at *http://support.netgear.com*.

Phone (US & Canada only): 1-888-NETGEAR

Phone (Other Countries): See support information card.

Trademarks

Statement of Conditions

Hardware Setup

1

Getting to know your router

The NETGEAR R6300 WiFi Router delivers next-generation WiFi at gigabit speeds. It offers the ultimate mobility for WiFi devices with speeds up to three times faster than 802.11n.

Compatible with next-generation WiFi devices, and backward compatible with 802.11 a/b/g and n devices, it enables HD streaming throughout your home. The R6300 with simultaneous dual-band WiFi technology offers speeds up to 450[1] to 1300[2] Mbps and avoids interference, ensuring top WiFi speeds and reliable connections. This makes it ideal for larger homes with multiple devices. In addition, four Gigabit Ethernet ports offer ultra-fast wired connections. Wirelessly access and share a USB hard drive and USB printer using the two USB 2.0 ports.

If you already set up your router, you can skip this chapter. If you have not done that yet, this chapter covers the hardware setup. *Chapter 3, genie Basic Settings*, explains how to set up your Internet connection.

This chapter contains the following sections:

- *Unpack Your Router*
- *Position Your Router*
- *Hardware Features*

For information about ReadySHARE features in your product, see *Chapter 5, USB Storage*, and *www.netgear.com/readyshare*.

The NETGEAR genie® app provides easy installation from an iPad, tablet, computer, or smartphone. It includes a personal dashboard, allowing you to manage, monitor, and repair your home network. NETGEAR customers can download the app at *www.netgear.com/genie* or from the Google Play or App Store.

For more information about the topics covered in this manual, visit the Support website at *http://support.netgear.com*.

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1. *Maximum wireless signal rate derived from IEEE standard 802.11 specifications. Actual data throughput and wireless coverage will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate and wireless coverage. NETGEAR makes no express or implied representations or warranties about this product's compatibility with any future standards. 802.11ac 1300 Mbps is approximately 3x faster than 802.11n 450 Mbps.*
2. *Up to 1300 Mbps wireless speeds achieved when connecting to other 802.11ac 1300 Mbps devices.*

Unpack Your Router

Open the box and remove the router, cables, and installation guide.

Ethernet cable

Power adapter

Power cord

Dual Band WiFi Router
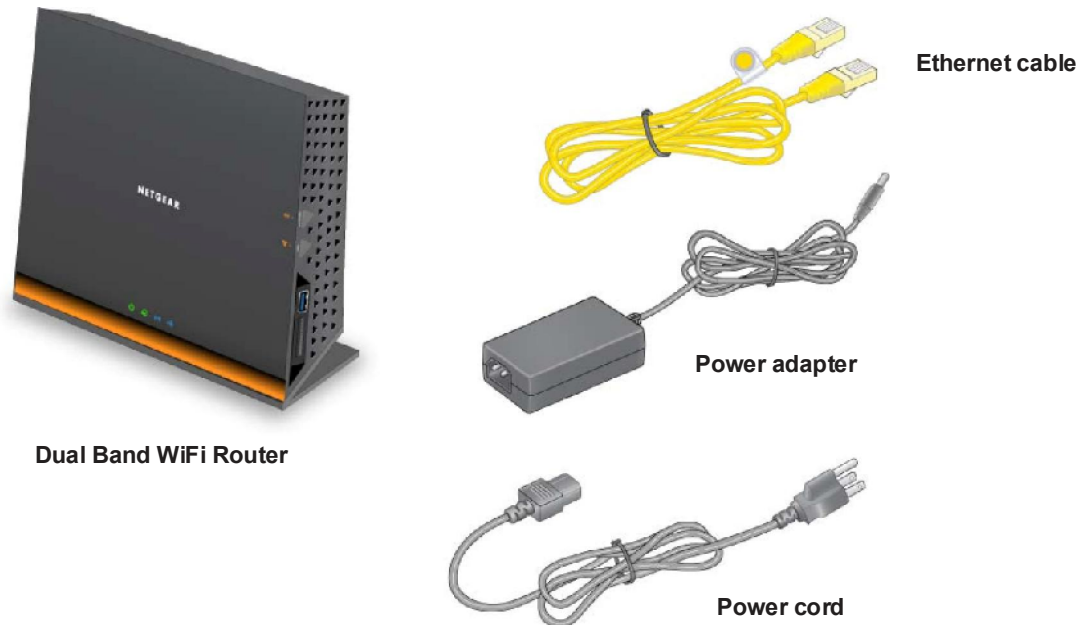
Figure 1. Check the package contents

Your box contains the following items:

- R6300 smart WiFi Router
- AC power adapter and power cord (plug varies by region)
- Category 5 (Cat 5) Ethernet cable
- Installation guide with cabling and router setup instructions

If any parts are incorrect, missing, or damaged, contact your NETGEAR dealer. Keep the carton and original packing materials, in case you need to return the product for repair.

Position Your Router

The router lets you access your network from virtually anywhere within the operating range of your wireless network. However, the operating distance or range of your wireless connection can vary significantly depending on the physical placement of your router. For example, the thickness and number of walls the wireless signal passes through can limit the range. For best results, place your router:

- Near the center of the area where your computers and other devices operate, and preferably within line of sight to your wireless devices.
- So it is accessible to an AC power outlet and near Ethernet cables for wired computers.

- In an elevated location such as a high shelf, keeping the number of walls and ceilings between the router and your other devices to a minimum.
- Away from electrical devices that are potential sources of interference. Equipment that might cause interference includes ceiling fans, home security systems, microwaves, computers, the base of a cordless phone, or 2.4 GHz cordless phone.
- Away from any large metal surfaces, such as a solid metal door or aluminum studs. Large expanses of other materials such as glass, insulated walls, fish tanks, mirrors, brick, and concrete can also affect your wireless signal.

When you use multiple access points, it is better if adjacent access points use different radio frequency channels to reduce interference. The recommended channel spacing between adjacent access points is five channels (for example, use Channels 1 and 6, or 6 and 11).

Hardware Features

Before you cable your router, take a moment to become familiar with the front, side, and back panels and the label. Pay particular attention to the LEDs on the front panel.

Front and Side Panel

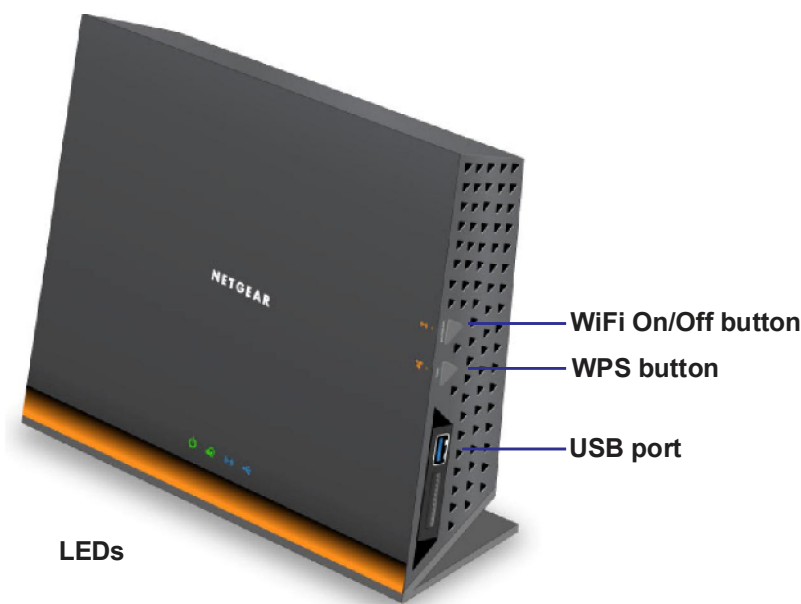The router front panel has the status LEDs and icons shown in the following figure.

Figure 2. Router, front and side view

Table 1. Front panel LED descriptions

LED	Description
Power (power icon)	• **Solid amber**. The router is starting up. • **Blinking amber**. The firmware is upgrading, or the Reset button was pressed. • **Solid green**. The router is ready. • **Blinking green**. The firmware is corrupted. See *www.netgear.com/support*. • **Off**. Power is not supplied to the router.
Internet (internet icon)	• **Solid green**. The Internet connection is ready. • **Solid amber**. The Ethernet cable connection to the modem has been detected. • **Off**. No Ethernet cable is connected to the modem.
Wireless (wireless icon)	• **Solid blue**. The wireless radio is operating in either 2.4 GHz or 5 GHz mode. • **Blinking**: The router is in WPS mode. • **Off**. The wireless radios are off for both 2.4 GHz and 5 GHz.
USB (USB icon)	• **Solid blue**: The USB device has been accepted by the router and is ready to be used. • **Blinking blue**: A second USB HDD is plugged in and is trying to connect. • **Off**: No USB device is connected, someone clicked the Safely Remove Hardware button, and it is now safe to remove the attached USB device.

The WiFi On/Off and WPS buttons toggle the WiFi and WPS functions on and off.

• **WiFi On/Off button**. Pressing and holding the WiFi On/Off button for 2 seconds turns the 2.4 GHz and 5 GHz wireless radios on and off. If the 2.4 GHz and 5 GHz LEDs are lit, then the wireless radio is on. If these LEDs are off, then the wireless radios are turned off and you cannot connect wirelessly to the router.

• **WPS button**. You can use this button to use WPS to add a wireless device or computer to your wireless network. The LED below the WPS button blinks green when the router is trying to add the wireless device or computer. The LED stays solid green when wireless security is enabled in the router.

Back Panel

The back panel has the connections shown in the following figure.

Power connector

Power On/Off

USB port   Ethernet LAN ports 1–4   Internet port   Reset button
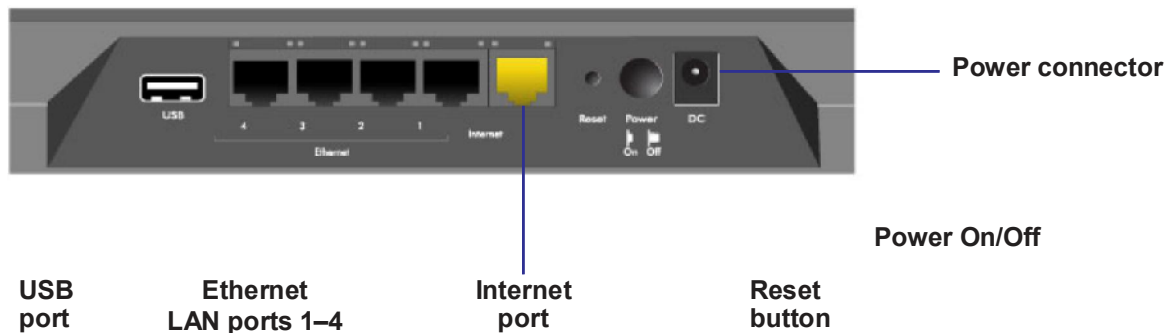
Figure 3. Router, rear view

See *Factory Settings* on page 115 for information about restoring factory settings.

2

Getting Started with NETGEAR genie

Connecting to the router

This chapter explains how to use NETGEAR genie to set up your router after you complete cabling as described in the installation guide and in the previous chapter.

This chapter contains the following sections:

- *Router Setup Preparation*
- *Types of Logins and Access*
- *NETGEAR genie Setup*
- *Use NETGEAR genie after Installation*
- *Upgrade Router Firmware*
- *Router Dashboard (Basic Home Screen)*
- *Add Wireless Devices or Computers to Your Network*
- *NETGEAR genie App and Mobile genie App*

Router Setup Preparation

You can set up your router with the NETGEAR genie automatically, or you can use the genie menus and screens to set up your router manually. Before you start the setup process, get your ISP information, and make sure the computers and devices in the network have the settings described here.

Use Standard TCP/IP Properties for DHCP

If you set up your computer to use a static IP address, you need to change the settings so that it uses Dynamic Host Configuration Protocol (DHCP).

Gather ISP Information

If you have DSL broadband service, you might need the following information to set up your router and to check that your Internet configuration is correct. Your Internet service provider (ISP) should have provided you with all of the information needed to connect to the Internet. If you cannot locate this information, ask your ISP to provide it. When your Internet connection is working, you no longer need to launch the ISP's login program on your computer to access the Internet. When you start an Internet application, your router automatically logs you in.

* The ISP configuration information for your DSL account
* ISP login name and password
* Fixed or static IP address settings (special deployment by ISP; this is rare)

Wireless Devices and Security Settings

Make sure that the wireless device or computer that you are using supports WPA or WPA2 wireless security, which is the wireless security supported by the router.

Types of Logins and Access

There are separate types of logins that have different purposes. It is important that you understand the difference so that you know which login to use when.

* **Router login** logs you in to the router interface from NETGEAR genie. See *Use NETGEAR genie after Installation* on page 15 for details about this login.
* **ISP login** logs you in to your Internet service. Your service provider has provided you with this login information in a letter or some other way. If you cannot find this login information, contact your service provider.
* **Wireless network key or password**. Your router is preset with a unique wireless network name (SSID) and password for wireless access. This information is on the label on the bottom of your router.

NETGEAR genie Setup

NETGEAR genie runs on any device with a web browser. It is the easiest way to set up the router because it automates many of the steps and verifies that those steps have been successfully completed. It takes about 15 minutes to complete.

➢ **To use NETGEAR genie to set up your router:**

1. Turn the router on by pressing the **On/Off** button, if not done yet.

2. Make sure that your device is connected with an Ethernet cable (wired) or wirelessly (with the preset security settings listed on the bottom label) to your router.

3. Launch your Internet browser.

    • The first time you are set up the Internet connection for your router, the browser goes to http://www.routerlogin.net, and the NETGEAR genie screen displays.

    • If you already used the NETGEAR genie, type **http://www.routerlogin.net** in the address field of your browser to display the NETGEAR genie screen. See *Use NETGEAR genie after Installation* on page 15.

4. Follow the onscreen instructions to complete NETGEAR genie setup. NETGEAR genie guides you through connecting the router to the Internet.

If the browser cannot display the web page:

• Make sure that the computer is connected to one of the four LAN Ethernet ports, or wirelessly to the router.

• Make sure that the router has full power, and that its wireless LED is lit.

• Close and re-open the browser to make sure the browser does not cache the previous page.

• Browse to **http://www.routerlogin.net.**

• If the computer is set to a static or fixed IP address (this is uncommon), change it to obtain an IP address automatically from the router.

If the router does not connect to the Internet:

1. Review your settings to be sure that you have selected the correct options and typed everything correctly.

2. Contact your ISP to verify that you have the correct configuration information.

3. Read *Chapter 10, Troubleshooting*. If problems persist, register your NETGEAR product and contact NETGEAR technical support.

Use NETGEAR genie after Installation

When you first set up your router, NETGEAR genie automatically starts when you launch an Internet browser on a computer that is connected to the router. You can use NETGEAR genie again if you want to view or change settings for the router.

1. Launch your browser from a computer or wireless device that is connected to the router.

2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

    The login window displays:

User name:	👤 admin ⌄
Password:	********
	☐ Remember my password
	OK Cancel

3. Enter **admin** for the router user name and **password** for the router password, both in lowercase letters.

    Note: The router user name and password are different from the user name and password for logging in to your Internet connection. See Types of Logins and Access on page 13 for more information.

Upgrade Router Firmware

When you set up your router and are connected to the Internet, the router automatically checks for you to see if newer firmware is available. If it is, a message is displayed on the top of the screen. See *Upgrade the Router Firmware* on page 71 for more information about upgrading firmware.

Click the message when it shows up, and click **Yes** to upgrade the router with the latest firmware. After the upgrade, the router restarts.

⚠️ **CAUTION:**

Do not try to go online, turn off the router, shut down the computer, or do anything else to the router until the router finishes restarting and the Power LED has stopped blinking for several seconds.

Router Dashboard (Basic Home Screen)

The router Basic Home screen has a dashboard that lets you see the status of your Internet connection and network at a glance. You can click any of the six sections of the dashboard to view more detailed information. The left column has the menus, and at the top there is an Advanced tab that is used to access additional menus and screens.
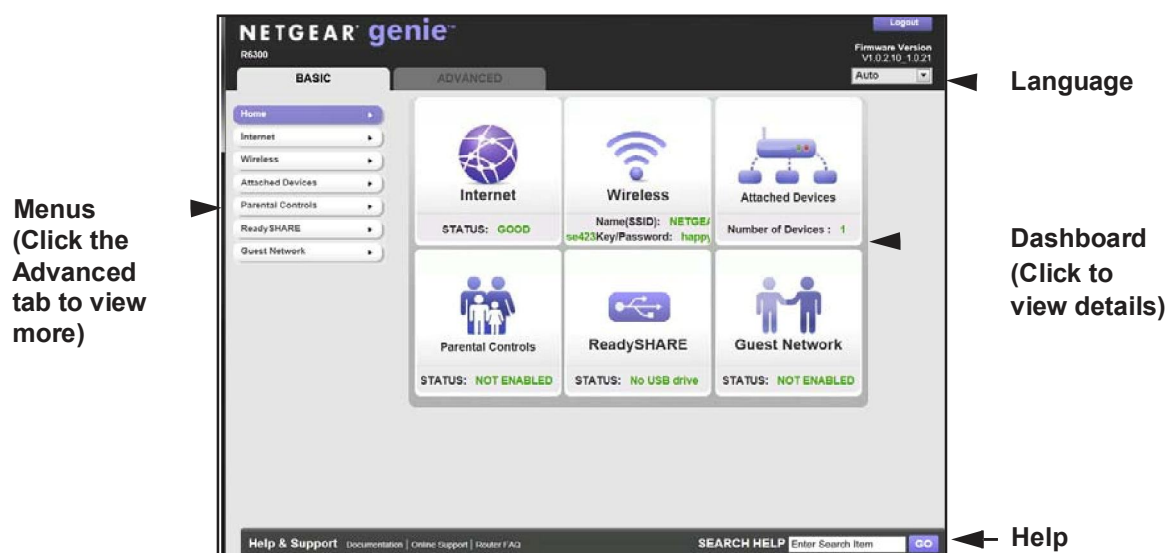
Figure 5. Router Basic Home screen with dashboard, language, and online help

- **Home**. This dashboard screen displays when you log in to the router.
- **Internet**. Set, update, and check the ISP settings of your router.
- **Wireless**. View or change the wireless settings for your router.
- **Attached Devices**. View the devices connected to your network.
- **Parental Controls**. Download and set up parental controls to prevent objectionable content from reaching your computers.
- **ReadySHARE**. If you connected a USB storage device to the router, then it is displayed here.
- **Guest Network**. Set up a guest network to allow visitors to use your router's Internet connection.
- **Advanced tab**. Set the router up for unique situations such as when remote access by IP or by domain name from the Internet is needed. See *Chapter 9, Advanced Settings*. Using this tab requires a solid understanding of networking concepts.
- **Help & Support**. Go to the NETGEAR support site to get information, help, and product documentation. These links work once you have an Internet connection.

Add Wireless Devices or Computers to Your Network

Choose either the manual or the WPS method to add wireless devices and other equipment to your wireless network. See *Guest Networks* on page 28 for instructions on how to set up a guest network.

Manual Method

➢ **To connect manually:**

1. Open the software that manages your wireless connections on the wireless device (laptop computer, gaming device, iPhone) that you want to connect to your router. This software scans for all wireless networks in your area.

2. Look for your network and select it. If you did not change the name of your network during the setup process, look for the default Wi-Fi network name (SSID) and select it. The default SSID is printed on the label on the bottom of the router.

3. Enter the router password and click **Connect**. The default router passphrase is printed on the product label on the bottom of the router.

4. Repeat steps 1–3 to add other wireless devices.

Wi-Fi Protected Setup (WPS) Method

Wi-Fi Protected Setup (WPS) is a standard for easily adding computers and other devices to a home network while maintaining security. To use WPS, make sure that all wireless devices to be connected to the network are Wi-Fi certified and support WPS. During the connection process, the client gets the security settings from the router so that every device in the network has the same security settings.

➢ **To use WPS to join the wireless network:**

If your wireless device supports WPS (Push 'N' Connect), follow these steps:

1. Press the **WPS** button on the router front panel 🌀 .

2. Within 2 minutes, press the **WPS** button on your wireless device, or follow the WPS instructions that came with the device. The device is now connected to your router.

3. Repeat steps 1–2 to add other WPS wireless devices.

NETGEAR genie App and Mobile genie App

The genie app is the easy dashboard for managing, monitoring, and repairing your home network. See the NETGEAR genie App User Manual for details about these products.

Retrieve wireless password

About genie

Language

Menu

Dashboard (Click to view details)

Support

- Automatically repair common wireless network problems.
- Have easy access to router features like Live Parental Controls, guest access, broadband usage meter, speed test, and more.

Use the genie mobile app on your iPhone, iPad, or Android phone:

Phone status

Log in to the router

Search NETGEAR support

Information about genie mobile app and the connected router

➢
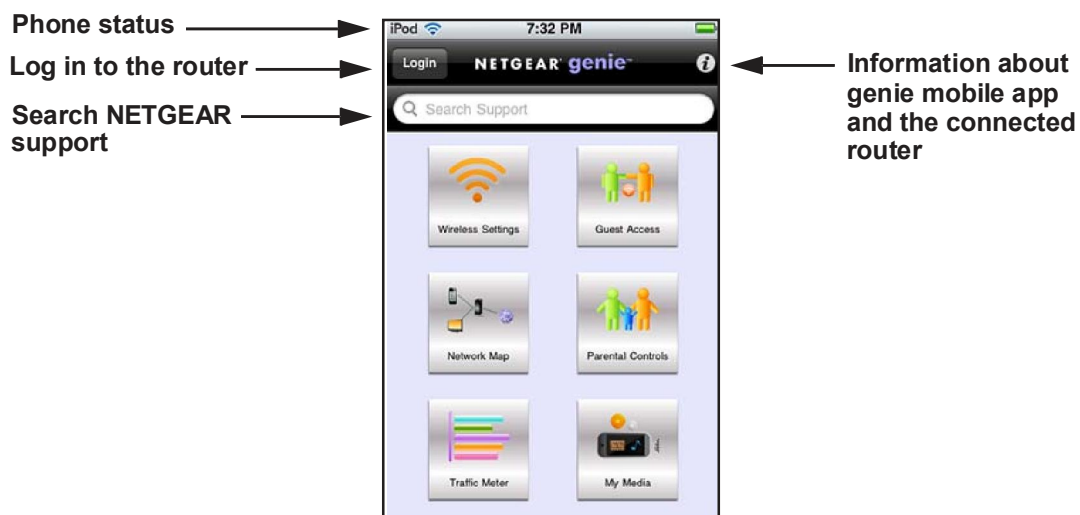
Troubleshooting

This chapter provides information to help you diagnose and solve problems you might have with your router. If you do not find the solution here, check the NETGEAR support site at *http://support.netgear.com* for product and contact information.

This chapter contains the following sections:

- *Quick Tips*
- *Troubleshooting with the LEDs*
- *Cannot Log In to the Router*
- *Cannot Access the Internet*
- *Changes Not Saved*
- *Wireless Connectivity*
- *Restore the Factory Settings and Password*
- *Troubleshoot Your Network Using the Ping Utility*

Quick Tips

This section describes tips for troubleshooting some common problems

Sequence to Restart Your Network

Be sure to restart your network in this sequence:

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

Check Ethernet Cable Connections

Make sure that the Ethernet cables are securely plugged in.

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

Wireless Settings

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

* For a wirelessly connected computer, the wireless network name (SSID) and wireless security settings of the router and wireless computer need to match exactly.
* If you set up an access list in the Advanced Wireless Settings screen, you have to add each wireless computer's MAC address to the router's access list.

Network Settings

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

* Wired and wirelessly connected computers need to 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.
* Some cable modem service providers require you to use the MAC address of the computer initially registered on the account. You can view the MAC address in the Attached Devices screen.

Troubleshooting with the LEDs

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 LED is on.

2. Verify that the Power LED turns amber within a few seconds, indicating that the self-test is running.

3. After approximately 30 seconds, verify the following:

    • The Power LED is solid green.

    • The Internet LED is on.

    • A numbered Ethernet port LED is on for any local port that is connected to a computer. This indicates that a link has been established to the connected device.

The LEDs on the front panel of the router can be used for troubleshooting.

Power LED Is Off or Blinking

• Make sure that the power cord is securely connected to your router and that the power adapter is securely connected to a functioning power outlet.

• Check that you are using the 12V DC, 5A power adapter that NETGEAR supplied for this product.

• If the Power LED blinks slowly and continuously, the router firmware is corrupted. This can happen if a firmware upgrade is interrupted, or if the router detects a problem with the firmware. If the error persists, you have a hardware problem. For recovery instructions, or help with a hardware problem, contact technical support at *www.netgear.com/support.*

Power LED Stays Amber

When the router is turned on, the Power LED turns amber for about 20 seconds and then turns green. If the LED does not turn green, the router has a problem.

If the Power LED is still amber 1 minute after you turn on power to the router:

1. Turn the power off and back on to see if the router recovers.

2. Press and hold the **Reset** button to return the router to its factory settings. as explained in *Restore the Factory Settings and Password* on page 113.

If the error persists, you might have a hardware problem and should contact technical support at *www.netgear.com/support.*

LEDs Never Turn Off

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

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

*   Cycle the power to see if the router recovers.
*   Press and hold the **Reset** button to return the router to its factory settings as explained in *Restore the Factory Settings and Password* on page 113.

If the error persists, you might have a hardware problem and should contact technical support at *www.netgear.com/support*.

Internet or Ethernet Port LEDs Are Off

If either the Ethernet port LEDs or the Internet LED does not light 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.
*   Be 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.

Wireless LEDs Are Off

If the Wireless LEDs stay off, check to see if the Wi-Fi On/Off button on the router has been pressed. This button turns the wireless radios in the router on and off. The Wireless LEDs are lit when the wireless radio is turned on.

The Push 'N' Connect (WPS) Button Blinks Amber

If after using the WPS function the button blinks amber, check the following:

*   Make sure that you are using the button and not the router's built-in registrar.
*   Check that PIN verification has succeeded for the wireless device you are adding to the wireless network.
*   Make sure that you have not pressed the WPS button on the side of the router after disabling the WPS feature (you logged in to the router and disabled this previously).
*   Check that the router is not in the temporary AP setup locked state (if you are using the wireless repeater function).

Cannot Log In to the Router

If you are unable to log in to the router from a computer on your local network, check the following:

- If you are using an Ethernet-connected computer, check the Ethernet connection between the computer and the router as described in the previous section.
- Make sure that your computer's IP address is on the same subnet as the router. If you are using the recommended addressing scheme, your computer's address should be in the range of 192.168.1.2 to 192.168.1.254.
- If your computer's IP address is shown as 169.254.x.x, recent versions of Windows and Mac OS generate and assign an IP address if the computer cannot reach a DHCP server. These auto-generated addresses are in the range of 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.
- If your router's IP address was changed and you do not know the current IP address, clear the router's configuration to factory defaults. This sets the router's IP address to 192.168.1.1. This procedure is explained in *Factory Settings* on page 115.
- 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 quitting the browser and launching it again.
- 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 you enter this information.
- If you are attempting to set up your NETGEAR router as an additional router behind an existing router in your network, consider replacing the existing router. NETGEAR does not support such a configuration.
- If you are attempting to set up your NETGEAR router as a replacement for an ADSL gateway in your network, the router cannot perform many gateway services. For example, the router cannot convert ADSL or cable data into Ethernet networking information. NETGEAR does not support such a configuration.

Cannot Access the Internet

If you can access your router but not the Internet, check to see if the router can obtain an IP address from your Internet service provider (ISP). Unless your ISP provides a fixed IP address, your router requests an IP address from the ISP. You can determine whether the request was successful using the Router Status screen.

➢ **To check the WAN IP address:**

1. Start your browser, and select an external site such as *www.netgear.com*.
2. Access the router interface at **www.routerlogin.net.**
3. Select **Administration > 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 cannot 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 *Sequence to Restart Your Network* on page 106.

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

- Your Internet service provider (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 and 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 Internet Setup 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 clone your computer's MAC address.

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.You can 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.

- 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**.

Troubleshoot PPPoE

If you are using PPPoE, try troubleshooting your Internet connection.

➢ **To troubleshoot a PPPoE connection:**

1. Log in to the router.

2. Select **Administration > Router Status**.

3. Click **Connection Status**. If all of the steps indicate OK, then your PPPoE connection is up and working.

If any of the steps indicate Failed, you can attempt to reconnect by clicking **Connect**. The router continues to attempt to connect indefinitely.

If you cannot connect after several minutes, you might be using an incorrect service name, user name, or password. There also might be a provisioning problem with your ISP.

Note: Unless you connect manually, the router does not authenticate using PPPoE until data is transmitted to the network.

Troubleshooting Internet Browsing

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

- 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, restart your computer.

  Alternatively, you can configure your computer manually with a DNS address, as explained in the documentation for your computer.

- Your computer might not have the router configured as its default gateway.

  Reboot the computer and verify that the router address (www.routerlogin.net) is listed by your computer as the default gateway address.

- You might be running log in 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**.

Changes Not Saved

If the router does not save the changes you make in the router interface, check the following:

- When entering configuration settings, always click the **Apply** button before moving to another screen or tab, or your changes are lost.
- Click the **Refresh** or **Reload** button in the web browser. The changes might have occurred, but the old settings might be in the web browser's cache.

Wireless Connectivity

If you are having trouble connecting wirelessly to the router, try to isolate the problem.

- Does the wireless device or computer that you are using find your wireless network?

  If not, check the Wireless LEDs on the front of the router. It should be lit. If it is not, you can press the **WiFi On/Off** button on the back of the router to turn the router's wireless radio back on.

  If you disabled the router's SSID broadcast, then your wireless network is hidden and does not show up in your wireless client's scanning list. (By default, SSID broadcast is enabled.)

- Does your wireless device support the security that you are using for your wireless network (WPA or WPA2)?

- If you want to view the wireless settings for the router, use an Ethernet cable to connect a computer to a LAN port on the router. Then log in to the router, and select **Wireless** (see (*Basic Wireless Settings* on page 26).

  Note: Be sure to click **Apply** if you make changes.

Wireless Signal Strength

If your wireless device finds your network, 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 blocked by objects between the router and your computer?

Restore the Factory Settings and Password

This section explains how to restore the factory 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 *Erase* on page 78).

- Use the Reset button on the back of the router. See *Factory Settings* on page 115. If you restore the factory settings and the router fails to restart, or the green Power LED continues to blink, 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*.

Troubleshoot Your Network Using the Ping Utility

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. You can easily troubleshooting a network by using the ping utility in your computer or workstation.

Test 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 LED is on for the port to which you are connected.

Check that the appropriate LEDs are on for your network devices. If your router and computer are connected to a separate Ethernet switch, make sure that the link LEDs 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.

Test 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 visible in your computer's Network Control Panel. Verify that the IP address of the router is listed as the default gateway.
- 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 Internet Setup 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. Some ISPs additionally restrict access to the MAC address of a single computer connected to that modem. If this is the case, configure your router to "clone" or "spoof" the MAC address from the authorized computer.

Supplemental Information

A

This appendix provides factory default settings and technical specifications for the R6300 WiFi Router 802.11ac Dual Band Gigabit.

Factory Settings

You can return the router to its factory settings. Use the end of a paper clip or a similar object to press and hold the **Reset** button on the back of the router for at least 7 seconds. The router resets, and returns to the factory configuration settings shown in the following table.

Table 4. Factory default settings

Feature		Default behavior
Router login	User login URL	www.routerlogin.com or www.routerlogin.net
	User name (case-sensitive)	admin
	Login password (case-sensitive)	password
Internet connection	WAN MAC address	Use default hardware address
	WAN MTU size	1500
	Port speed	Autosensing
Local network (LAN)	LAN IP address	192.168.1.1
	Subnet mask	255.255.255.0
	DHCP server	Enabled
	DHCP range	192.168.1.2 to 192.168.1.254
	Time zone	Pacific time
	Time zone daylight savings time	Disabled
	Allow a registrar to configure this router	Enabled

Table 4. Factory default settings (Continued)

Feature		Default behavior
Local network (LAN) continued	DHCP starting IP address	192.168.1.2
	DHCP ending IP address	192.168.1.254
	DMZ	Disabled
	Time zone	GMT for WW except NA and GR, GMT+1 for GR, GMT-8 for NA
	Time zone adjusted for daylight savings time	Disabled
	SNMP	Disabled
Firewall	Inbound (communications coming in from the Internet)	Disabled (except traffic on port 80, the HTTP port)
	Outbound (communications going out to the Internet)	Enabled (all)
	Source MAC filtering	Disabled
Wireless	Wireless communication	Enabled
	SSID name	See router label
	Security	WPA2-PSK (AES)
	Broadcast SSID	Enabled
	Transmission speed	Auto*
	Country/region	United States in the US; otherwise varies by region
	RF channel	6 until region selected
	Operating mode	Up to 217 Mbps
Firewall	Inbound (communications coming in from the Internet)	Disabled (bars all unsolicited requests)
	Outbound (communications going out to the Internet)	Enabled (all)

*. Maximum wireless signal rate derived from IEEE Standard 802.11 specifications. Actual throughput can . Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate.

Technical Specifications

Table 5. R6300 Router specifications

Feature	Description
Data and routing protocols	TCP/IP, RIP-1, RIP-2, DHCP, PPPoE, PPTP, Bigpond, Dynamic DNS, UPnP, and SMB
Power adapter	• North America: 120V, 60 Hz, input • UK, Australia: 240V, 50 Hz, input • Europe: 230V, 50 Hz, input • All regions (output): 12V DC @ 5A, output
Dimensions	Dimensions: 205 x 255 x 77 mm (8.07 x 10.04 x 3.03 in)
Weight	Weight: 654 g (1.44 lb)
Operating temperature	0° to 40° C (32° to 104° F)
Operating humidity	90% maximum relative humidity, noncondensing
Electromagnetic Emissions	FCC Part 15 Class B VCCI Class B EN 55 022 (CISPR 22), Class B C-Tick N10947
LAN	10BASE-T or 100BASE-Tx or 1000BASE-T, RJ-45
WAN	10BASE-T or 100BASE-Tx or 1000BASE-T, RJ-45
Wireless	Maximum wireless signal rate complies with the IEEE 802.11 standard. See the footnote for the previous table.
Radio data rates	Auto Rate Sensing
Data encoding standards	IEEE 802.11ac draft 2.0 IEEE 802.11n version 2.0 IEEE 802.11n, IEEE 802.11g, IEEE 802.11b 2.4 GHz IEEE 802.11n, IEEE 802.11a 5.0 GHz
Maximum computers per wireless network	Limited by the amount of wireless network traffic generated by each node (typically 50–70 nodes).

Table 5. R6300 Router specifications (Continued)

Feature	Description

Operating frequency range	2.4 GHz
	    2.412–2.462 GHz (US)
	    2.412–2.472 GHz (Japan)
	    2.412–2.472 GHz (Europe ETSI)
	5 GHz
	    5.18–5.24 + 5.745–5.825 GHz (US)
	    5.18–5.24 GHz (Europe ETSI)

802.11 security	WPA-PSK, WPA2-PSK, and WPA/WPA2

Notification of Compliance

B

NETGEAR Dual Band - Wireless

Regulatory Compliance Information

This section includes user requirements for operating this product in accordance with National laws for usage of radio spectrum and operation of radio devices. Failure of the end-user to comply with the applicable requirements may result in unlawful operation and adverse action against the end-user by the applicable National regulatory authority.

Note: Note: This product's firmware limits operation to only the channels allowed in a particular Region or Country. Therefore, all options described in this user's guide may not be available in your version of the product.

Europe - EU Declaration of Conformity

CE0700①

Marking by the above symbol indicates compliance with the Essential Requirements of the R&TTE Directive of the European Union (1999/5/EC). This equipment meets the following conformance standards:

EN300 328 (2.4Ghz), EN301 489-17, EN301 893 (5Ghz), EN60950-1

For complete DoC please visit the NETGEAR EU Declarations of Conformity website at:
http://support.netgear.com/app/answers/detail/a_id/11621/

EDOC in Languages of the European Community

Language	Statement
Cesky [Czech]	*NETGEAR* Inc. tímto prohlašuje, že tento Radiolan je ve shode se základními požadavky a dalšími príslušnými ustanoveními smernice 1999/5/ES.
Dansk [Danish]	Undertegnede *NETGEAR Inc.* erklærer herved, at følgende udstyr Radiolan overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erklärt *NETGEAR Inc.*, dass sich das Gerät Radiolan in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Eesti [Estonian]	Käesolevaga kinnitab *NETGEAR Inc.* seadme Radiolan vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, *NETGEAR Inc.*, declares that this Radiolan is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Español [Spanish]	Por medio de la presente *NETGEAR Inc.* declara que el Radiolan cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ *NETGEAR Inc.* ΔΗΛΩΝΕΙ ΟΤΙ Radiolan ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Français [French]	Par la présente *NETGEAR Inc.* déclare que l'appareil Radiolan est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente *NETGEAR Inc.* dichiara che questo Radiolan è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo *NETGEAR Inc.* deklarē, ka Radiolan atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo *NETGEAR Inc.* deklaruoja, kad šis Radiolan atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart *NETGEAR Inc.* dat het toestel Radiolan in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]	Hawnhekk, *NETGEAR Inc.*, jiddikjara li dan Radiolan jikkonforma mal-htigijiet essenzjali u ma provvedimenti ohrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, *NETGEAR Inc.* nyilatkozom, hogy a Radiolan megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
Polski [Polish]	Niniejszym NETGEAR Inc. oświadcza, że Radiolan jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
Português [Portuguese]	*NETGEAR Inc.* declara que este Radiolan está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	NETGEAR Inc. izjavlja, da je ta Radiolan v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	*NETGEAR Inc.* týmto vyhlasuje, že Radiolan spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	*NETGEAR Inc.* vakuuttaa täten että Radiolan tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar *NETGEAR Inc.* att denna Radiolan står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

Íslenska [Icelandic]	Hér með lýsir *NETGEAR Inc.* yfir því að Radiolan er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.
Norsk [Norwegian]	*NETGEAR Inc.* erklærer herved at utstyret *Radiolan* er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 - 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

FCC Requirements for Operation in the United States

FCC Information to User

This product does not contain any user serviceable components and is to be used with approved antennas only. Any product changes or modifications will invalidate all applicable regulatory certifications and approvals.

FCC Guidelines for Human Exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Declaration of Conformity

We, NETGEAR, Inc., 350 East Plumeria Drive, San Jose, CA 95134, declare under our sole responsibility that the R6300 WiFi Router 802.11ac Dual Band Gigabit complies with Part 15 Subpart B of FCC CFR47 Rules. Operation is subject to the following two conditions:

• This device may not cause harmful interference, and
• This device must accept any interference received, including interference that may cause undesired operation.

FCC Radio Frequency Interference Warnings & Instructions

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following methods:

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and the receiver.
• Connect the equipment into an electrical outlet on a circuit different from that which the radio receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

FCC Caution

• Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
• This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

- For product available in the US/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.
- This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

Canadian Department of Communications Radio Interference Regulations

This digital apparatus (R6300 WiFi Router 802.11ac Dual Band Gigabit) does not exceed the Class B limits for radio-noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

This Class [B] digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe [B] est conforme à la norme NMB-003 du Canada

Industry Canada

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE: Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Caution:

The device for the band 5150-5250 MHz is only for indoor usage to reduce po-tential for harmful interference to co-channel mobile satellite systems.

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

NOTE IMPORTANTE: Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Avertissement:

Le dispositif fonctionnant dans la bande 5150-5250 MHz est réservé uniquement pour une utili-sation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

All cables used to connect peripherals must be shielded and grounded. Operation with cables connected to peripherals that are not shielded and grounded may result in interference to radio and television reception.

GPL License Agreement

GPL may be included in this product; to view the GPL license agreement go to
ftp://downloads.netgear.com/files/GPLnotice.pdf.

For GNU General Public License (GPL) related information, please visit
http://support.netgear.com/app/answers/detail/a_id/2649 .

Interference Reduction Table

The table below shows the Recommended Minimum Distance between NETGEAR equipment and household appliances to reduce interference (in feet and meters).

Household Appliance	Recommended Minimum Distance (in feet and meters)
Microwave ovens	30 feet / 9 meters
Baby Monitor - Analog	20 feet / 6 meters
Baby Monitor - Digital	40 feet / 12 meters
Cordless phone - Analog	20 feet / 6 meters
Cordless phone - Digital	30 feet / 9 meters
Bluetooth devices	20 feet / 6 meters
ZigBee	20 feet / 6 meters