

Wireless Router Setup Manual



NETGEAR®

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Getting to Know Your Wireless Router

Congratulations on your purchase of the NETGEAR® RangeMax™ Dual Band Wireless-N Router WNDR3300.

Before you begin installing your router, check the package contents (see [Unpacking Your New Wireless Router](#)). Become familiar with the front and back panels of your router—especially the status lights—and the important information on the router label (see “[Bottom Label](#)” on page 8).

Unpacking Your New Wireless Router

The product package should contain the following items:

- The wireless router
- A snap-on stand for your wireless router
- An AC power adapter (varies by region)
- A yellow Ethernet cable
- The *Resource CD*, which includes:
 - The Smart Wizard™ Installation Assistant (Autorun.exe)
 - A PDF version of this manual
 - A link to the online *Reference Manual*
- Warranty and Support Information cards

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

To prepare your router for installation:

1. Carefully peel off the protective film covering the sides of your router.

2. Set up your wireless router by inserting the router into the stand supplied with your router.



Figure 1

3. Place your router in an area suitable for installation (near an AC power outlet and accessible to the Ethernet cables for your wired computers).

Router Front Panel

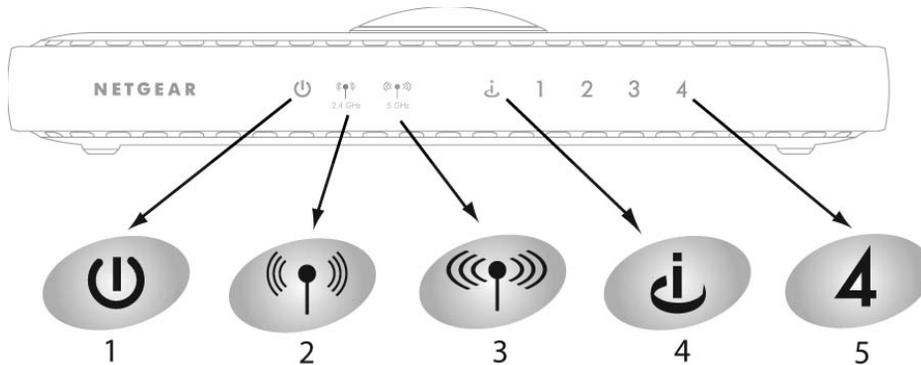


Figure 2

You can use the status lights on the front of the wireless router to verify various conditions.

Table 1. Status Light Descriptions

Item	Function	Activity	Description
1	Power	On green solid	Power is supplied to the router.
		Blinking	The unit is starting up, or the restore factory settings button is being pushed to restore the factory default settings.
		Off	Power is not supplied to the router.
2	2.4 GHz Mode	On amber ^a	The unit is operating in Legacy G mode at 2.4 GHz (5 GHz Mode [item 3] is also on).
		On green ^b	The unit is operating in 11n mode at 2.4 GHz (5 GHz Mode [item 3] is off).
		Blinking	Data is being communicated over the wireless network.
3	5 GHz Mode	On blue ^c	The unit is operating in 11n mode at 5 GHz (2.4 GHz Mode [item 2] is also on, amber).
		Off	11n mode at 5 GHz is off (2.4 GHz Mode [item 2] is on, green).
		Blinking	Data is being communicated over the wireless network.

Table 1. Status Light Descriptions (continued)

Item	Function	Activity	Description
4	Internet	Amber off	No Ethernet cable is connected to the modem.
		Amber on	The Ethernet cable connection to the modem is good.
		Amber blinking	Packets are being transmitted and received from a modem or other network device, but no IP address has been received.
		Green off	No IP address has been received.
		On	IP address has been received.
		Blinking	IP address has been received, and data is being transmitted and received.
5	LAN	Green	The LAN port has detected a 100 Mbps link with an attached device.
		Amber	The LAN port has detected a 10 Mbps link with an attached device.

- a. On amber (default setting) signifies a 5 GHz interference-free Wireless-N and legacy 2.4 GHz 802.11g network. NETGEAR recommends this if you have Dual Band clients (Dual Band Wireless-N laptops, Dual Band Wireless-N adapters) and/or 802.11 b/g laptops to connect.
- b. On green signifies a 2.4 GHz Wireless-N network. NETGEAR recommends this if you have only 2.4 GHz Wireless-N clients (most adapters are 2.4 GHz, if not specified as Dual Band) AND/OR 802.11 b/g laptops to connect.
- c. On blue signifies a 5 GHz interference-free network.



For more information on modes, see [“To change modes if you notice interference:”](#) on page 19, and the online *Reference Manual*, available on the *Resource CD*.

Router Back Panel

The rear panel of the WNDR3300 router contains the items in the list that follows the figure.

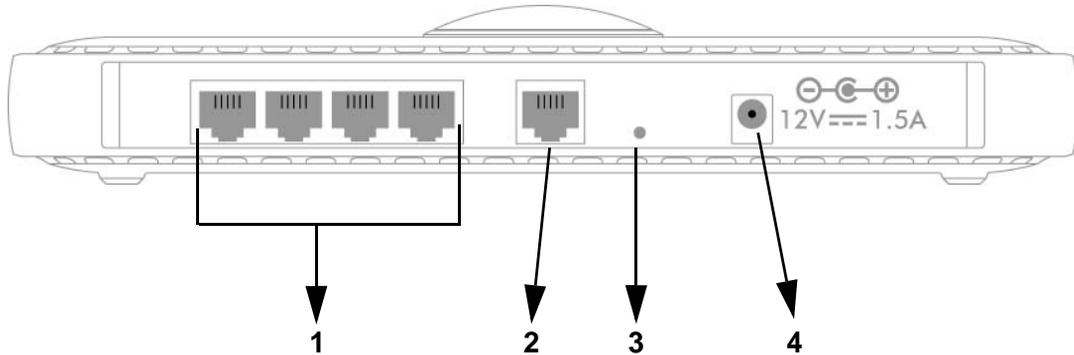


Figure 3

The back of the wireless router includes:

1. Four local (LAN) 10/100 Mbps Ethernet ports for connecting the router to local computers
2. Internet (WAN) Ethernet port for connecting the router to a cable or DSL modem
3. Restore factory settings button
4. AC power adapter outlet

Top Panel



Figure 4

The top of the wireless router includes a dome that performs two functions:

- 1. Antenna display lights.** The lights identify the activity of the eight internal antennas, flashing to show which combination of antennas is receiving the strongest signals. These status lights are off by default but can be turned on.

To turn the antenna display lights on or off:

- a.** Push the dome for less than 2 seconds, then release. If lights are off, they will turn on.
 - b.** Push the dome for less than 2 seconds, then release. If lights are on, they will turn off.
- 2. Wi-Fi Protected Setup (WPS).** The dome acts as a push-button for the router to enable WPS security with other WPS-enabled devices. Pushing on the dome for over 5 seconds opens a 2-minute window for the router to connect with other WPS-enabled devices.



Before using these WiFi Protected Setup (WPS) push-button procedures, verify that your device (a notebook, adapter, or other device) supports WPS. If you do not have any other WPS-enabled devices, there is no need to open the 2 minute period when security will be disabled, or to configure your router security for WPS.

To connect to another device using WPS:

- a.** Open the networking utility of the device that supports WiFi Protected Setup (WPS) and follow the utility's instructions for when to proceed to step b.

- b. Push the wireless router's dome for 5 seconds, then release. The dome lights should begin to blink.



While the router is in WPS enable mode (a maximum of 2 minutes), wireless security is not enabled. Indoors, computers can connect over wireless networks at a range of several hundred feet. Unlike wired network data, your wireless data transmissions can extend beyond your walls, and anyone with a compatible adapter can receive them, allowing others outside your immediate area to access your network. For more information about security, see the *Reference Manual* that is available from a link on the *Resource CD* as well as a link in the main menu of your router.

- c. While the dome lights are blinking, you have 2 minutes to enable WPS on the device you are trying to connect with the router. The blinking ceases when one of these two conditions occurs:
 - WPS is enabled between the router and the other device you are connecting to.
 - The 2-minute window period expires for establishing a WPS connection. Whether or not a connection is established, your router security and SSID (service set identification key) are now configured for WPS.

The lights return to off or antenna display, depending on how you have set them.

- d. If after enabling WPS you need to connect a device that does not include WPS functionality, you will need to first log in to the router and obtain the security key. For more information, refer to [“Accessing the Wireless Router after Installation and Checking for New Firmware” on page 16](#), and the online *Reference Manual*, available as a link on the *Resource CD*.
- e. If you want to disable WPS, you have to reset your router to factory default settings. For information about resetting to the default settings, see [“Restoring the Default Password and Configuration Settings” on page 32](#).

Bottom Label

View the label on the bottom of the wireless router to identify the serial number, port connectors, status lights, and default login information.

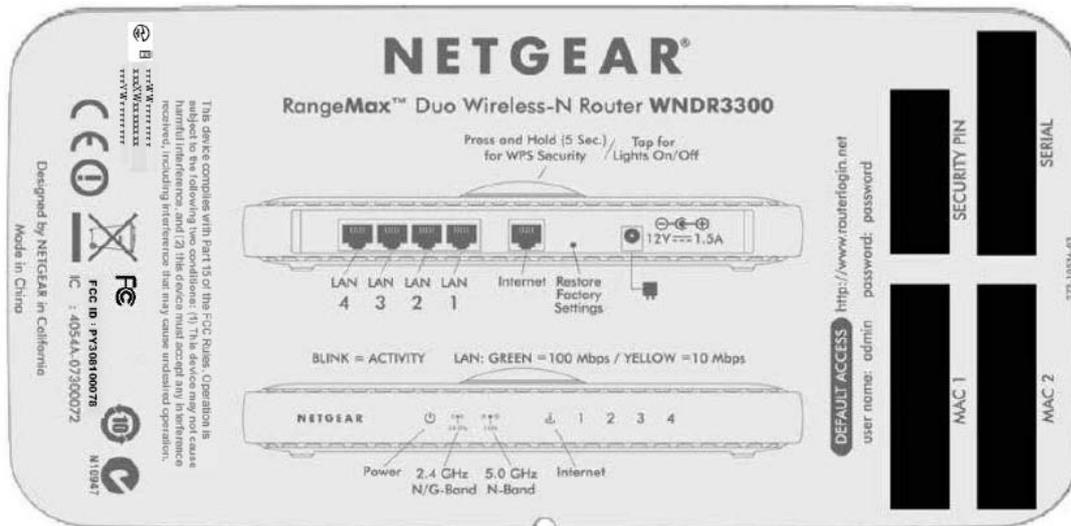


Figure 5

What You Need Before You Begin

Prepare the following before you set up your router:

- Internet service.
- The configuration information your Internet Service Provider (ISP) gave you. Depending on how your Internet account was set up, you might need one or more of these settings for the wireless router to access the Internet:
 - Host and domain names
 - Internet login name and password (frequently an e-mail address and password)
 - Domain Name Server (DNS) addresses
 - Fixed or static IP address

Your ISP should have provided you with all the information needed to connect to the Internet. If you cannot locate this information, you can ask your ISP to provide it.

- For cable modem service, use the computer you first used to set up your Internet service.

Updating Your Router Firmware

NETGEAR is always improving the operability and features included with your router. To make it easy for you to receive the best, most up-to-date features of your router, NETGEAR provides a variety of methods for updating your product.

- The Smart Wizard installation assistant lets you check for and install updates as part of the setup activity.
- The router includes an update feature that lets you check for and install updates. You must be logged in to the router to use this feature.

These options are discussed in [“Accessing the Wireless Router after Installation and Checking for New Firmware”](#) on page 16.

Two Setup Methods: Smart Wizard Setup or Manual Setup

You have two methods available for setting up your wireless router:

- **Smart Wizard setup.** This option is the easiest. The wizard guides you through the setup process, automates many of the steps, and verifies that necessary conditions exist and that steps you perform have been successfully completed. This option requires a PC running Microsoft Windows.
- **Manual setup.** This option is best if you cannot use the wizard on the CD, are replacing an existing wireless router, or are technically knowledgeable. Follow the instructions in this manual to set up your wireless router.

Use the setup option that best suits you.

Smart Wizard Setup

The wizard setup process takes about 20 minutes to complete.

1. Insert the NETGEAR CD into a Windows PC. The CD automatically starts and detects the language that you are using on your PC. Accept the language option, or change to a different language.



If the CD does not automatically start, browse the CD and double-click Autorun. Be sure to double-click the Autorun file that begins with an uppercase A.

2. When the Welcome screen displays, click **Setup** to start the Smart Wizard. Follow the wizard instructions.
3. When you are asked to log in, refer to the bottom label for the default login information, or see the steps in [“Connecting Your Wireless Router”](#).

Manual Setup

There are two steps to setting up your wireless router:

1. Connect the router to the ADSL or cable modem, and connect a computer to the router.



Your computer has to be set to automatically get its TCP/IP network settings from the router through DHCP. This is usually the case. If you are unsure about this, use the wizard on the CD, which automatically takes care of this for you, or refer to the documentation for your computer.

2. Configure the router to use your Internet service.

Connecting Your Wireless Router

To connect your wireless router:

1. Connect the wireless router, the computer, and the modem.
 - a. Turn off your computer.
 - b. Turn off and unplug the cable or ADSL broadband modem.

- c. Locate the Ethernet cable (1) that connects your computer to the modem.

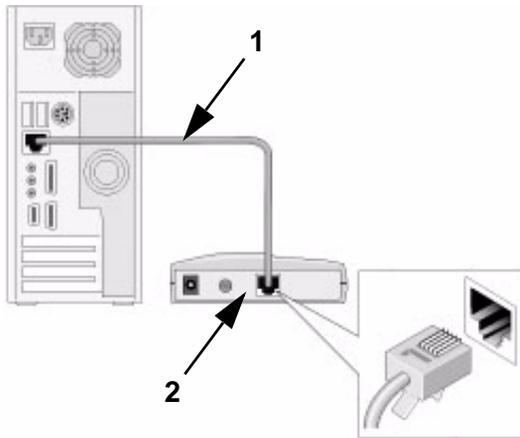


Figure 6

- d. Disconnect the cable at the modem (2). You will connect it to the router later.
- e. Use the label on the bottom of the wireless router to locate the Internet port, which is on the left next to the power connection.
- f. Locate the Ethernet cable that came with the NETGEAR product. Securely insert that Ethernet cable into your modem and into the Internet port of the wireless router (3).

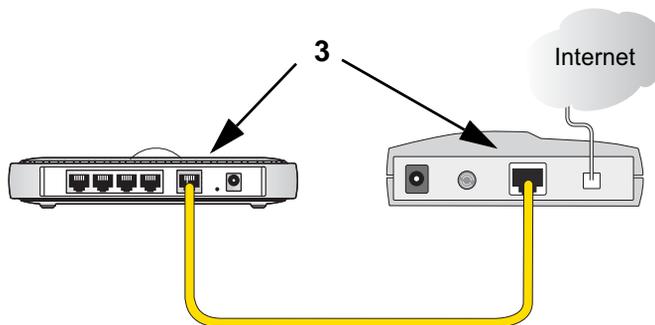


Figure 7

- g. Locate the cable you removed from the modem in step 1c. Securely insert that cable (4) into a LAN port on the router such as LAN port 1.

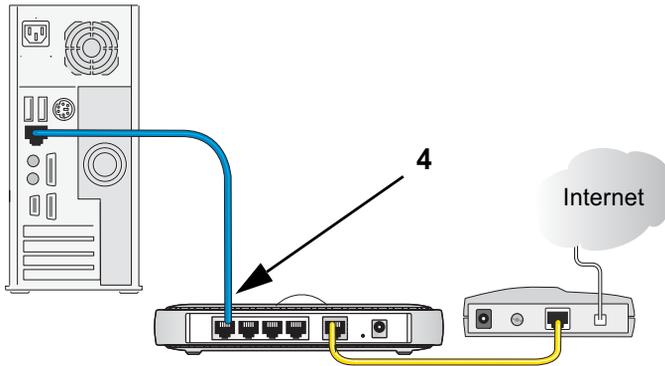


Figure 8

Your network cables are connected, and you are ready to start your network.

2. Start your network in the correct sequence.

	Failure to start or restart your network in the correct sequence could prevent you from accessing the Internet.
---	---

- a. First, plug in and turn on the cable or DSL modem. Wait 2 minutes.
- b. Now, plug the power cord into your wireless router and into a power outlet. Wait 1 minute.
- c. Last, turn on your computer.

	For DSL customers, if software logs you in to the Internet, <i>do not</i> run that software. You might need to go to the Internet Explorer Tools menu, select Internet Options, and then click the Connections tab, where you can select Never dial a connection .
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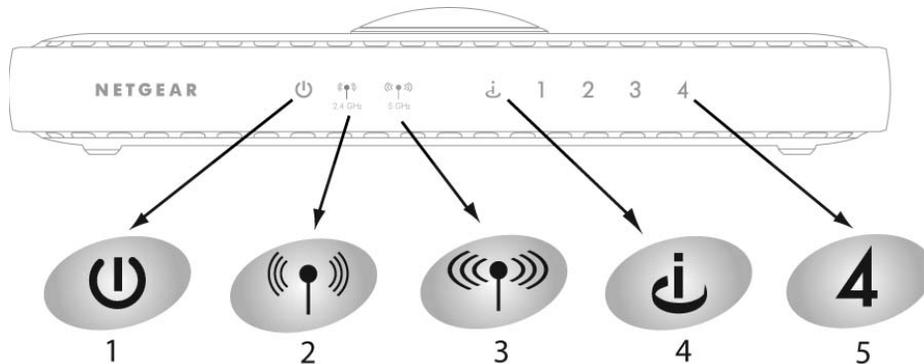


Figure 9

- d. Check the wireless router status lights to verify the following:
- **Power.** The Power light (1) should turn solid green. If it does not, see “[Basic Functions Are Not Working](#)” on page 22.
 - **Mode.** The Mode light (2) should be on: the Mode light (3) should be off.
 - **Internet.** The Internet port light (4) should be lit. If it is not, make sure that the Ethernet cable is securely attached to the wireless router Internet port and that the modem, and that the modem is powered on.
 - **LAN.** A LAN light (5) should be lit. Green indicates that your computer is communicating at 100 Mbps; amber indicates 10 Mbps. If a LAN light is not lit, check that the Ethernet cable from the computer to the router is securely attached at both ends, and that the computer is turned on.
3. Connect to the wireless router by typing **http://www.routerlogin.net** in the address field of your browser, and then press Enter.



Figure 10



Connect to the wireless router by typing any one of these three URLs in the address field of your browser, then pressing Enter:

- <http://www.routerlogin.net>
- <http://www.routerlogin.com>
- <http://192.168.1.1>

A login window like the one in the following figure opens:



Figure 11

4. For security reasons, the router has its own user name and password. When prompted, enter **admin** for the router user name and **password** for the router password, both in lowercase letters.

	The router user name and password are not the same as any other user name or password you might use to log in to your Internet connection.
--	--

After logging in, if you see a window with a message about firmware upgrades, click **Close Window**.

On the left, click **Setup Wizard** to view the following screen.

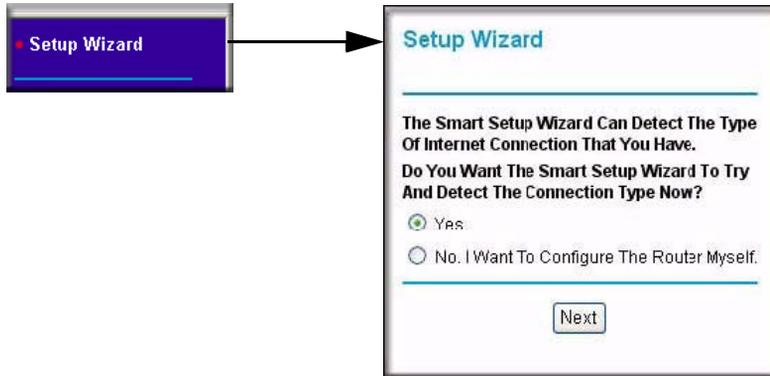


Figure 12

If you cannot connect to the wireless router, verify your computer networking setup. It should be set to obtain *both* IP and DNS server addresses automatically, which is usually the case. For help with this, consult the documentation that came with your computer, or see the links in “[Related Documents](#)” on page 33.

5. Click **Next**. The wizard assists you with configuring your wireless router to access the Internet.

Advanced users who want to manually configure the router can select the **No** radio button, enter **admin** and **password** as the user name and password when prompted, and fill in the required information on the Basic Settings screen (for more information about basic settings, refer to the *Reference Manual*, available as a link on the *Resource CD*).

6. Click **Done** to finish.

You are now connected to the Internet! The wireless router displays its home page.

If you do not click Logout, the wireless router waits 5 minutes after there is no activity before it automatically logs you out.

Product Registration, Support, and Documentation

Register your product at <http://www.NETGEAR.com/register>. Registration is required before you can use NETGEAR’s telephone support service. Product updates and Web support are always available by going to <http://www.NETGEAR.com/support>.

Documentation is available on the CD, on the support website, and on the documentation website. When the wireless router is connected to the Internet, click the **Knowledge Base** or the

Documentation link under Web Support to view support information or the documentation for the wireless router.

Accessing the Wireless Router after Installation and Checking for New Firmware

The Smart Wizard appears only when you first install the router or when the router is in its factory default state (for example, if you have reset the router to its factory default settings). If you want to change the settings after installing and configuring your router using the Smart Wizard, you must open a browser window and log in to the router.



The factory default state is restored when you use the restore factory settings button. See “[Restoring the Default Password and Configuration Settings](#)” on page 32 for more information about this feature.

To access the router using its login name and password:

1. Connect to the wireless router by typing **http://www.routerlogin.net** in the address field of your browser, and then press Enter.



Figure 13



You can connect to the wireless router by typing any one of these three URLs in the address field of your browser, then pressing Enter:

- <http://www.routerlogin.net>
- <http://www.routerlogin.com>
- <http://192.168.1.1>

2. For security reasons, the router has its own user name and password. When prompted, enter **admin** for the router user name and **password** for the router password, both in lowercase letters.



The router user name and password are not the same as any other user name or password you might use to log in to your Internet connection.

A login window like the one in the following figure opens:



Figure 14

Enter the user name and password.

To update your router firmware:

1. If the Router Upgrade screen does not display automatically, select **Router Upgrade** under Maintenance on the main menu. The Router Upgrade screen displays.
2. Click **Browse**, and locate the unzipped firmware image that you downloaded to your PC (the file ends in .chk).
3. Once you have selected the file, click **Upload** to send the software to the router. The upload process takes several minutes. When the software upload process is complete, the router restarts.



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! When the Power light stops blinking, wait a few seconds more before using the router.

4. After the router has restarted, select **Router Status** under Maintenance on the main menu. Check the firmware version to verify that your router now has the new software installed.

If you are unable to successfully upgrade using this method, refer to the online *Reference Manual* available through the **Documentation** link on the router main menu (or through a link on the *Resource CD*) for other ways to upgrade the router.

If you selected the **No** radio button during installation, and you want to check for new firmware later, use the following procedure. Determine the firmware version currently running on your router before you check for updates on the NETGEAR website. Then go to the NETGEAR website and select the model number for this router. If a later version of the firmware is available, upload the firmware to your computer, and upgrade your router.

To manually check for new router firmware:

1. Open a browser window, and type **http://www.routerlogin.net** in the address field of your browser. Press Enter.
2. When prompted, enter the default user name and password (**admin** for the router user name and **password** for the router password), both in lowercase letters. If you changed the user name and password from the defaults, then enter your new user name and password.
3. Select **Router Status** under Maintenance on the router main menu. When the Router Status screen displays, note the version number of your router firmware.
4. Go to <http://www.NETGEAR.com/support>, and select **Downloads** from the menu bar.
5. From the **Product Selection** drop-down list, select your router model number. The Product Support page for your router displays.
6. Under Downloads, check the most recent firmware version offered against the firmware version shown on the Router Status screen.
7. If the version on the NETGEAR website is more recent, click its version number, then click **Right-click and Save to Download**, and save the file to a location on your hard disk.
8. Follow the procedure in “[To update your router firmware:](#)” on page 17 to complete the upgrade process.

Setting Up and Testing Basic Wireless Connectivity

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

To set up and test basic wireless connectivity:

1. Log in to the wireless router at its default LAN address of **http://192.168.1.1** with the default user name of **admin** and default password of **password**, or using whatever LAN address and password you have set up.
2. Select **Wireless Settings** under Setup in the main menu.
3. Note that the default SSID (service set identification key) is NETGEAR.



The SSID of any wireless adapters must match the SSID you configure in the wireless router. If they do not match, you will not get a wireless connection.

4. Select the region in which the wireless interface will operate.
5. To save your changes, click **Apply**.



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 Apply. You must then change the wireless settings of your computer to match the router's new settings.

6. Configure and test your computers for wireless connectivity.

Program the wireless adapter of your computers to have the same wireless network name (SSID) as the wireless router. Check that they have a wireless link and are able to obtain an IP address by DHCP from the router.

To change modes if you notice interference:

You might notice interference from nearby devices, such as another router. By default, your WNDR3300 router is set to: **Up to 270Mbps at 5GHz & 54Mbps at 2.4GHz**, which provides the best operation for most situations. There are 4 wireless mode combinations available for the WNDR3300 router. To select another mode that might improve your wireless communications, do the following:

1. Log in to the wireless router at its default LAN address of **http://192.168.1.1** with the default user name of **admin** and default password of **password**, or using whatever LAN address and password you have set up.
2. Select **Wireless Settings** under Setup in the main menu.
3. Select a wireless mode:

- Up to 270Mbps at 5GHz & 54Mbps at 2.4GHz (default setting)
- Up to 270Mbps at 2.4GHz
- Up to 130Mbps at 2.4GHz
- Up to 130Mbps at 5GHz & 54Mbps at 2.4GHz

4. To save your changes, click **Apply**.

Implementing Appropriate Wireless Security



Indoors, computers can connect over 802.11g wireless networks at a range of over 300 feet. Such distances can allow others outside your immediate area to access your network.

Unlike wired network data, your wireless data transmissions can extend beyond your walls and can be received by anyone with a compatible adapter. For this reason, use the security features of your wireless equipment. The wireless router provides highly effective security features, which are covered in detail in the *Reference Manual* that is available from a link on the *Resource CD* as well as a link in the main menu of your router. Follow the instructions in this manual and in the router help screens to implement the security features appropriate to your needs.



For more information on wireless security, refer to [“To connect to another device using WPS:” on page 6](#) and the online *Reference Manual*, available as a link on the *Resource CD*.

Help with Troubleshooting

This chapter gives information about troubleshooting your wireless router. You can find help with the following problems:

- [“Common Things That Can Go Wrong”](#)
- [“Basic Functions Are Not Working”](#) on page 22
- [“I Am Unable to Log In to the Wireless Router”](#) on page 23
- [“The Internet Service Connection Is Not Working”](#) on page 23
- [“Testing the Path from a PC to Your Router”](#) on page 26
- [“Testing the Path from a PC to the Internet”](#) on page 27

Basic Troubleshooting

Here are some tips for correcting simple problems you might have.

Common Things That Can Go Wrong

Verify that you do not have these common problems.

Be sure to always start your network in this sequence:

1. Turn off and unplug the modem from its power outlet, and turn off the wireless router and computer.
2. Turn on the modem, and wait 2 minutes.
3. Turn on the wireless router, and wait 1 minute.
4. Turn on the computer.

Make sure that the Ethernet cables are securely plugged in:

1. Verify that the Internet status light on the wireless router is lit if the Ethernet cable to the wireless router from the modem is plugged in securely and the modem and wireless router are both turned on (see [“Router Front Panel”](#) on page 3).

2. Verify that for each powered-on computer connected to the wireless router with a securely plugged in Ethernet cable, the corresponding wireless router LAN port status light is lit (see [“Router Front Panel” on page 3](#)). The label on the bottom of the wireless router identifies the number of each LAN port (see [“Bottom Label” on page 8](#)).

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

1. Verify that your LAN-connected computers are configured to obtain an IP address automatically through DHCP. For help with this, see the documentation for your computer or [“Related Documents” on page 33](#).
2. Verify whether the MAC address is needed. Some cable modem services require you to use the MAC address of the computer registered on the account. If this is the case, in the Router MAC Address section of the Basic Settings screen, select **Use this Computer’s MAC Address**. To save your settings, click **Apply**. Restart the network in the correct sequence.

Check the router status lights to verify correct router operation:

If the Power light does not turn solid green within 2 minutes after you turn the router on, reset the router according to the instructions in [“Restoring the Default Password and Configuration Settings” on page 32](#).

Basic Functions Are Not Working

After you turn on power to the router, check these status lights:

1. When power is first applied, verify that the Power light blinks and then turns solid green.
 - a. Make sure that the power cord is properly connected to your router and that the power supply adapter is properly connected to a functioning power outlet.
 - b. Check that you are using the power adapter supplied by NETGEAR for this product.
If the error persists, you have a hardware problem and should contact Technical Support.
2. After approximately 20 seconds, verify the following:
 - a. The appropriate Mode light is lit (the 2.4 GHz mode is the default).
 - b. The Internet port is connected and its light is lit.
 - c. The LAN port lights are lit for any local ports that are connected.

If a port's light is lit, a link has been established to the connected device. If a LAN port is connected to a 100 Mbps device, verify that the port's light is green. If the port is 10 Mbps, the light is amber.



For more information about the status lights, see [“Router Front Panel” on page 3](#).

If the LAN or Internet port lights are not on when the Ethernet connection is made:

1. Make sure that the Ethernet cable connections are secure at the router and at the computer.
2. Make sure that power is turned on to the connected computer.
3. Make sure that you are using Ethernet cables like the cable that was supplied with the wireless router.

I Am Unable to Log In to the Wireless Router

If you are unable to log in to the wireless router, 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 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.
- Typically, your computer's address should be in the range of 255.255.255.0.2 to 255.255.255.0.254. Refer to your computer's documentation for help with finding your computer's IP address.



If your computer's IP address is 169.254.x.x, verify that you have a good connection from the computer to the router, and then restart 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 starting it again.

The Internet Service Connection Is Not Working

If your router is unable to access the Internet, check that the Internet connection is working, and then check that the wireless router can get an Internet address.

Check that the Internet connection is working:

- 1. Internet connection.** First verify that your cable or ADSL modem has a successful connection. The cable or ADSL modem status lights indicate if the modem connection is successful or not. Check your modem documentation, or call your Internet Service Provider for help with verifying that the modem has a successful connection.
- 2. Wireless router Internet light is green or blinking green.** If your Internet light is green or blinking green, then you have a good Internet connection, and your wiring is correct.
- 3. Wireless router Internet light blinking amber.** If your Internet light is blinking amber, then your wireless router is attempting to make an Internet connection with the service provider. The light should turn green within several minutes. If it does not, check the Internet connection on the modem.
- 4. Wireless router Internet light off.** If the Internet light is off, verify that the Ethernet cable is securely connected between the cable or ADSL modem, and that both the modem and wireless router are turned on.

Obtaining an Internet IP Address

If your wireless router is unable to access the Internet, and your Internet light is amber or blinking amber, check the wireless router to see if it is able to get an Internet IP address from your service provider. Unless you have a static IP address, your wireless router automatically requests an IP address from your service provider.

To check the Internet IP address from the browser interface:

1. Log in to the wireless router.
2. Select **Router Status** under Maintenance on the main menu to check that an IP address is shown for the Internet port. If 0.0.0.0 is shown, your wireless router has not obtained an IP address from your service provider.

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

- Your service provider might require a login. Ask your service provider whether they require PPP over Ethernet (PPPoE) login.
- The service name, user name, and password might be set incorrectly. See [“Troubleshooting PPPoE”](#).
- Your service provider might check for your computer’s host name. Assign the computer host name of your ISP account to the wireless router in the Basic Settings screen.

- Your service provider 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 service provider that you have bought a new network device, and ask them to use the wireless router's MAC address.
 - Configure your router to spoof your computer's MAC address. This can be done in the Basic Settings screen. Refer to the online help, which you can access from the wireless router main menu.

Troubleshooting PPPoE

To troubleshoot a PPPoE connection:

1. Log in to the wireless router.
2. Select **Router Status** under Maintenance on the main menu.
3. Click the **Connection Status** button.
4. If all the steps indicate OK, then your PPPoE connection is up and working.
5. If any of the steps indicate Failed, you can attempt to reconnect by clicking **Connect**. The wireless router will continue 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.



Unless you connect manually, the wireless router will not authenticate using PPPoE until data is transmitted to the network.

Troubleshooting Internet Browsing

If your wireless 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 when you configured the wireless router, restart your computer. Alternatively, you can configure your computer manually with DNS addresses, as explained in the documentation for your computer.

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

Restart the computer, and verify that the wireless router address (192.168.1.1) is listed by your computer as the default gateway address.



The factory default wireless router address is 192.168.1.1. However, if the router detects a conflict with the address it gets from your modem, it automatically picks a different address for itself. In this case, you can log in to the router using **www.routerlogin.net** to verify its LAN IP address. Select **LAN IP Setup** under Advanced on the main menu. Take note of the LAN TCP/IP setup IP address, which should match the default gateway IP address on your computer.

Troubleshooting Connectivity Using the Ping Utility

Most computers and routers have a diagnostic utility called *ping* that sends an request to a target device. The device then replies. The ping utility makes it easy to troubleshoot a network..



This section includes advanced troubleshooting techniques.

Testing the Path from a PC to Your Router

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

1. From the Windows toolbar, click **Start** and select Run.
2. In the field provided, type **Ping** followed by the address of the router, as in this example:

```
ping www.routerlogin.net
```

or

```
ping 192.168.1.1
```

3. Click **OK**.

You should see a message like this one:

```
Pinging 192.168.1.1 with 32 bytes of data
```

If the path is working, you see this message:

```
Reply from 192.168.1.1: 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
 - Make sure that the LAN port light is on. If the light is off, follow the instructions in [“If the LAN or Internet port lights are not on when the Ethernet connection is made:”](#) on page 23.
 - Check that the corresponding lights are on for your computer’s network interface card.
- 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 on both begin with 255.255.255.0.

Testing the Path from a PC to the Internet

After verifying that the path between your computer and the wireless router works correctly, test the path from your PC to the Internet. From the Windows Start > Run... menu, 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 as in the previous section are displayed. If you do not receive replies:

- Check that your PC has the IP address of your router listed as the default gateway. If the IP configuration of your PC is assigned by DHCP, this information is not visible in your PC’s Network Control Panel. Verify that the IP address of the router is listed as the TCP/IP default gateway.
- Check to see that the network address of your PC (the portion of the IP address specified by the netmask) is different from the network address of the remote device.
- If your ISP assigned a host name to your PC, enter that host name as the account name in the Basic Settings screen.

Default Configuration

Default Configuration Settings

This section provides factory default settings and technical specifications for the RangeMax Dual Band Wireless-N Router WNDR3300.

Table 2. Wireless Router Default Configuration Settings

Feature		Default Setting
Smart Wizard		Enabled
Router Login		
	Router Login URL	http://www.routerlogin.net or http://www.routerlogin.com
	Login name (case-sensitive) printed on product label	admin
	Login password (case-sensitive) printed on product label	password
Internet Connection		
	WAN MAC Address	Use default hardware address
	MTU Size	1500
Local Network		
	Router Lan IP address printed on product label (also known as modem IP address)	192.168.1.1
	Router Subnet	255.255.255.0
	DHCP Server	Enabled
	Time Zone	Pacific Time
	Time Zone Adjusted for Daylight Saving Time	Disabled

Table 2. Wireless Router Default Configuration Settings (continued)

Feature		Default Setting
Firewall		
	Inbound (communications coming in from the Internet)	Disabled (bars all unsolicited requests)
	Outbound (communications going out to the Internet)	Enabled (all)
Wireless		
	Wireless Communication	Enabled
	SSID Name	NETGEAR
	Security	Disabled
	Broadcast SSID	Enabled
	Transmission Speed	Auto ^a
	Country/Region	United States in the US, otherwise varies by region
	RF Channel	6 until region selected
	Operating Mode	<ul style="list-style-type: none"> • Mode 1. 802.11n 2.4G mode • Mode 2. 802.11n 5G + Legacy 802.11g at 2.4G
	Data Rate	Best
	Output Power	Full
<p>a. Maximum Wireless signal rate derived from IEEE Standard 802.11 specifications. Actual throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead lower actual data throughput rate.</p>		
Network Protocol and Standards Compatibility		
	Data and Routing Protocols:	TCP/IP, RIP-1, RIP-2, DHCP PPP over Ethernet (PPPoE)
Power Adapter		
	North America:	120V, 60 Hz, input
	United Kingdom, Australia:	240V, 50 Hz, input
	Europe:	230V, 50 Hz, input
	Japan:	100V, 50/60 Hz, input
	All regions (output):	12 V DC @ 1.5A output, 18W maximum

Table 2. Wireless Router Default Configuration Settings (continued)

Feature	Default Setting
Physical Specifications	
Dimensions:	28 x 175 x 119 mm (1.1 x 6.89 x 4.68 in.)
Weight:	0.5 kg (1.2 lb)
Environmental Specifications	
Operating temperature:	0° to 40° C (32° to 104° F)
Operating humidity:	90% maximum relative humidity, noncondensing
Electromagnetic Emissions	
Meets requirements of:	FCC Part 15 Class B
	VCCI Class B
	EN 55 022 (CISPR 22), Class B C-Tick N10947
Interface Specifications	
LAN:	10BASE-T or 100BASE-Tx, RJ-45
WAN:	10BASE-T or 100BASE-Tx, RJ-45
Wireless:	Maximum wireless signal rate complies with the IEEE 802.11 standard. Actual throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate.
Radio Data Rates:	Auto Rate Sensing
Frequency	2.4 Ghz & 5 Ghz
Data Encoding:	Standards IEEE 802.11n draft version 1.0 IEEE 802.11n, IEEE 802.11g, IEEE 802.11b 2.4 GHz IEEE 802.11n, IEEE 802.11g 5.0 GHz
Maximum Computers Per Wireless Network:	Limited by the amount of wireless network traffic generated by each node. Typically 30-70 nodes.
Operating Frequency Ranges (2.4G):	2.412–2.462 GHz (US) 2.412–2.472 GHz (Japan) 2.412–2.472 GHz (Europe ETSI)

Table 2. Wireless Router Default Configuration Settings (continued)

Feature		Default Setting
	Operating Frequency Ranges (5G):	5.18–5.24 + 5.745–5.825 GHz (US) 5.18–5.24 GHz (Europe ETSI)
	802.11 Security:	40-bit (also called 64-bit) and 128-bit WEP, WPA-PSK and WPA2-PSK.

Restoring the Default Password and Configuration Settings

You can restore the factory default configuration settings that reset the router's user name to **admin**, the password to **password**, and the IP address to **192.168.1.1**.



This procedure will erase all the current configuration settings and restore the factory defaults.

To restore the factory default configuration settings:

1. Use a sharp object such as a pen or a paper clip to press and hold the restore factory settings button, located on the rear panel of the router, for about 20 seconds, until the Power light begins to blink (see [“Router Back Panel”](#) on page 5).
2. Release the restore factory settings button, and wait for the router to restart, and for the Power light to stop blinking and become solid green.

The factory default settings will be restored so that you can access the router from your Web browser using the factory defaults.

Related Documents

This table provides links to reference documents that you can use to gain a more complete understanding of the technologies used in your NETGEAR product.

Table 3. Reference Documents

Document	Link
TCP/IP Networking Basics	http://documentation.netgear.com/reference/enu/tcpip/index.htm
Preparing Your Network	http://documentation.netgear.com/reference/enu/wsdhcp/index.htm
Glossary	http://documentation.netgear.com/reference/enu/glossary/index.htm

Registration and Certifications

Product Registration, Support, and Documentation

Register your product at <http://www.NETGEAR.com/register>. You must register before you can use our telephone support service. Product updates and Web support are always available by going to <http://www.netgear.com/support>.

Setup documentation is available on the CD, on the support website, and on the documentation website. When the wireless router is connected to the Internet, click the KnowledgeBase link to view support information, or click the Documentation link to view the online *Reference Manual* for this wireless router.

Maximum Wireless Signal Rate Derived from IEEE Standard 802.11 Specifications

Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate.

Federal Communications Commission (FCC) Compliance Notice: Radio Frequency Notice

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 generates, 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 measures:

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

This transmitter is restricted to indoor use only within the 5.15-5.25 GHz band.

FCC Statement:

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 USA/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.

FCC Radiation Exposure Statement:

This equipment complies with FCC 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.

CE Statement:

Hereby, NETGEAR, declares that this device is in compliance with the essential requirement and other relevant provisions of the R&TTE Directive 1999/5/EC.

This device will be sold in the following EEA countries: Austria, Italy, Belgium, Liechtenstein, Denmark, Luxembourg, Finland, Netherlands, France, Norway, Germany, Portugal, Greece, Spain, Iceland, Sweden, Ireland, United Kingdom, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Slovakia, Poland, Slovenia, Bulgaria, Romania.