# NETGEAR®

# Universal Dual Band WiFi Range Extender WN2500RP

## User Manual

## Technical Support

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# Getting Started

# 1

This chapter covers the following topics:

- *Hardware Features*
- *How the Extender Works*
- *Connect a Computer to the Extender with an Ethernet Cable*
- *Log In to the Extender*
- *Use NETGEAR Genie to Set Up the Extender*

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

# Hardware Features

## Front Panel

| LEDs | Description |
|---|---|
| Power | • **On**. Power is supplied to the extender.<br>• **Off**. Power is not supplied to the extender. |
| Link Rate 2.4 GHz | • **Green**. The wireless connection between the extender and the router is optimum.<br>• **Yellow**. The wireless connection between the extender and the router is good.<br>• **Red**. The wireless connection between the extender and the router is poor. |
| Link Rate 5 GHz | • **Green**. The wireless connection between the extender and the router is optimum.<br>• **Yellow**. The wireless connection between the extender and the router is good.<br>• **Red**. The wireless connection between the extender and the router is poor. |
| Wireless Device to Extender | • **On**. The extender is connected to a wireless computer or device.<br>• **Off**. No wireless device or computer is connected to the extender. |
| 1–4 LAN ports | • **Green**. The LAN port has detected an Ethernet link with a device.<br>• **Off**. No link is detected on this port. |
| WPS | • **Blinking**. A WPS-capable wireless computer or device is connecting to the extender.<br>• **Off**. No WPS activity is taking place. |

## Rear Panel



Restore Factory Settings    WPS    4 LAN Ethernet ports    Power    Power On/Off button
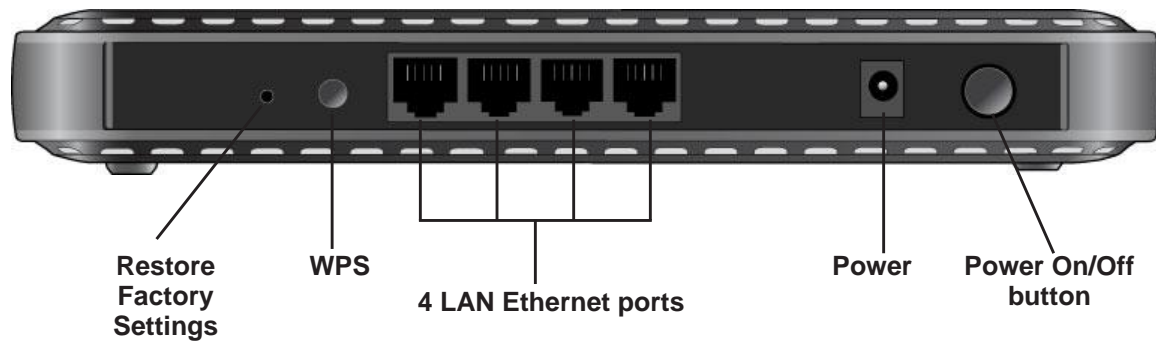
**Figure 1. Rear panel**

## Attach the Feet

The extender comes with two feet in the package. You can attach them as shown so that you can use the extender in a vertical position.



**Figure 2. Attach the feet if you want to use a vertical position**

# How the Extender Works

The extender works like a bridge between a wireless router and a computer or wireless device outside the wireless router's range. To do this, the extender has two main jobs:

1. The extender connects to a wireless network that is up and running.

   When the extender connects wirelessly to a network, it acts as a network client. This is similar to how a computer connects to a network.

2. The extender acts as an access point for computers.

   The extender has its own wireless network called NETGEAR_EXT that wireless computers can join. In its role as an access point, the extender performs tasks that wireless routers do, such as broadcasting its network name (SSID).

The extender needs to do each of these jobs so that both ends of the bridge are in place.



**Figure 3. Range extender in a home**

## When to Use Your Extender

NETGEAR recommends that you connect to the extender only when your home network connection is poor. Because data traffic routed through the extender is inherently slower than traffic routed directly from the network, the computer should stay on the network if the connection is good enough. NETGEAR recommends that you connect through the extender network only when the computer is in a "dead zone" where connection from the network is very poor or non-existent.
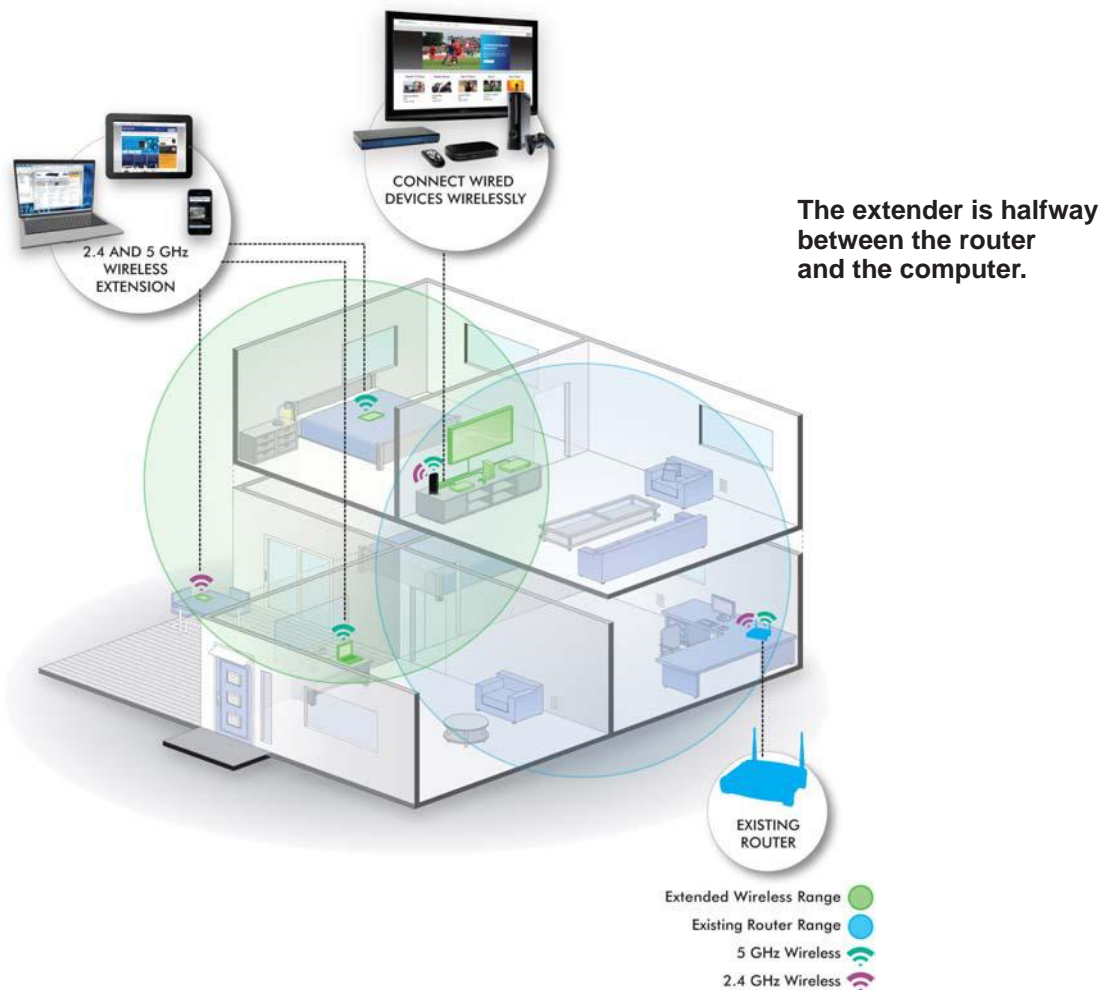
The extender LEDs can help you tell if the extender is correctly set up and working as it should.

- The best performance is delivered when a the Link Rate LED ▨ or ▨ and the Wireless Device to Extender LED ▨ are green.
- A workable performance is delivered when the Link Rate LED is amber and the Wireless Device to Extender LED ▨ is green.

## Positioning Your Extender

The ideal location to place the extender is half-way between your wireless router and your computer.

The best connection is established when there is a clear line of sight between the extender and the wireless router and also a clear line of sight between the extender and the computer you are using. If this straight path is blocked by a thick wall or other materials, move the extender to a different location half-way between the computer and the router.

If there is no power outlet nearby, or you prefer to place the extender elsewhere, move the extender closer to the computer. If the Link Rate LED is green or amber and the Wireless Device to Extender LED is green, the extender is working as expected.

➢ **To improve the Link Rate LED from red or amber to green:**

- Once you successfully connect to the extender from a computer that is outside the range of your router and log in to www.mywifiext.net, the Smart Wizard guides you through the process to connect the extender to a router.
- If the Link Rate LED is red or the Smart Wizard cannot connect the extender to a router, move the extender closer to the router or to a different spot where it provides a better line of sight. As you move the extender, continue to check the Link Rate and the Wireless Device to Extender LEDs on the front panel until you find a location where the Link Rate LED is green or amber, and the Wireless Device to Extender LED is green. Note that you might have to unplug the extender as you move it to a different location. If you do, from the new location, power up the extender and continue to check the LEDs.

  Once the LEDs show that the extender is in a good location, open a browser and go to *http://www.mywifiext.net* to continue the setup process.

# Connect a Computer to the Extender with an Ethernet Cable

⚠️ **CAUTION:**

Do not use an Ethernet cable to connect the extender to a router. If you do so, the extender does not work because it is designed to use only a wireless connection to the router.

You can use the LAN ports on the extender to connect wired devices such as Ethernet-enabled gaming consoles, printers, or computers.

**Note:** Before you connect wired devices or computers, first install and set up your extender as described in the *Universal Dual Band WiFi Range Extender WN2500RP Installation Guide* that came in the package.

➢ **To cable a computer to the extender:**

1. Locate the four LAN ports on the rear panel of the extender..
2. Use an Ethernet cable to connect your computer to one of these LAN ports.



3. Connect the extender power adapter, and plug it into an electrical outlet.
4. Log in as described in the following section.

# Log In to the Extender

You can log in to the extender to use NETGEAR Genie or to use the menu selections to view or change the extender's settings.

1. On your computer, launch an Internet browser such as Mozilla Firefox or Microsoft Internet Explorer.

2. In the address field of your browser, enter **http://www.mywifiext.net**. You are prompted to enter a user name and password.

   If you do not see the log in prompt, make sure to include *http://* when you type **http://www.mywifiext.net** in your browser.

3. Type **admin** for the user name. The default password is **password**. NETGEAR recommends that you set a more secure password after you log in (see *Set the Password* on page 23).

   - If your extender has an Internet connection, the Firmware Upgrade screen displays (see *Upgrade the Firmware* on page 24), and the software automatically checks for new firmware at the NETGEAR website.

   - The Status screen displays with the menu on the left. This screen shows what the current settings are for the extender.

If you have trouble connecting:

- If you start your computer, connect the Ethernet cable to the extender, and launch your browser quickly, the computer might still need a couple of minutes to recognize the Ethernet LAN connection before you can connect.

- Make sure that your Ethernet cable is securely connected to the extender and the computer, and that the extender LAN LED is on. If the LED is not lit, reconnect the Ethernet cable, and relaunch your Internet browser.

# Use NETGEAR Genie to Set Up the Extender

The Smart Wizard can help you set up your extender to connect to a wireless network. For information about more configuration options, see *Chapter 2, Extender Network Settings*.

The *Universal Dual Band WiFi Range Extender WN2500RP Installation Guide* (included in the package) explains how to install your extender. During installation, when you launch your Internet browser, the Smart Wizard automatically displays.

➢ **After installation, to use NETGEAR Genie again:**

1.  Log in to the extender.

> **Note:** Once you begin using NETGEAR Genie, you have to complete all of its steps before you can exit.

2.  From the menu, select **Setup Wizard**. The following screen displays:



This is the same Smart Wizard that displays during installation, as described in the installation guide.

3.  Either select a network from the list, or select the **Manually input my wireless SSID** radio button and type the SSID.

**4.** Enter the passphrase for your wireless network and click **Continue**. The next screen displays:



**5.** Make sure that the correct network name is shown, and then click **Continue**. The following screen displays:



After about 2 minutes, the extender displays the following screen:



**6.** Review the settings, and make sure they are correct. Then, join the extender network with your wireless computer or device.

**7.** Select the check box after you successfully connect.

**8.** Click **Continue**.

# Extender Network Settings 2

This chapter covers the following topics:

- *Connect the Extender to an Existing Network*
- *Use WPS to Join the Extender's Wireless Network*
- *Extender Wireless Settings*
- *Extender IP Address Setup*
- *Status Screen*
- *Attached Devices*
- *Back Up and Manage Extender Settings*
- *Set the Password*
- *Upgrade the Firmware*
- *Advanced Wireless Settings*

# Connect the Extender to an Existing Network

You can wirelessly connect the extender to your home network.

1. Select **Setup > Connect to an Existing Network**. The extender scans for wireless networks, and displays a list.





If your wireless network is not on the list, and it is up and running, see *Positioning Your Extender* on page 8 for suggestions.

2. Select the radio button for your network, and click **Continue**.

If you selected the manual option, you are prompted to type the network name (SSID) and to enter the password to access it:



3. Enter your network's passphrase or key, and click **Continue**.

The extender joins your wireless network.

# Use WPS to Join the Extender's Wireless Network

WPS (Wi-Fi Protected Setup) lets you connect a computer or wireless device to the extender's network without entering the wireless network passphrase or key. Instead, you use a WPS button or enter a PIN to connect. WPS supports WPA and WPA2 wireless security.

> **Note:** You *cannot* use the Push 'N' Connect WPS button to connect the extender to your wireless network. The WPS button on the extender can be used only to connect a computer to the extender.

The *Universal Dual Band WiFi Range Extender WN2500RP Installation Guide* explains how to use WPS during installation.

➢ **To join the extender's network using WPS:**

1. Select **Add WPS Client**. The following screen displays:
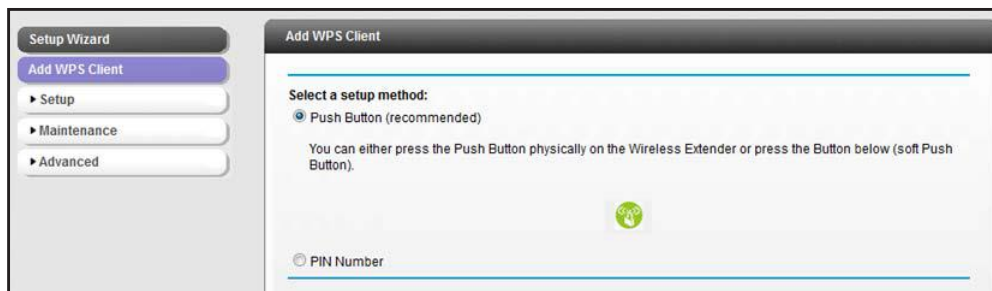


2. Select a radio button.

   • **Push Button (recommended)**. Either click the 🌿 button or press the (((•))) **WPS** button on the front of the extender.

   • **PIN Number**. Select the radio button, and a PIN displays.

   The extender tries to find the wireless client (the computer) that is attempting to join the network. If you are using a WPS button, it tries for 2 minutes. If you are using a PIN, it tries for 4 minutes.

3. Go to your wireless computer. Use its WPS software to try to connect to the extender.

# Extender Wireless Settings

You can use the Wireless Settings screen to change the network name (SSID) for the extender's network and to set up wireless security. If you do not change these settings, the network name is NETGEAR_EXT, and the network is open (no wireless security is set up).

> **Note:** If you use a wireless computer to change the extender's wireless settings, you will be disconnected when you click **Apply**. To reconnect, you have to select the new network name that you created, and enter its passphrase or wireless security key.

➢ **To change the wireless settings for the extender's network:**

1. Select **Setup > Wireless Settings** to display the following screen:



2. In the Name (SSID) field, you can type in a new name to customize your extender network. This will make it easier to identify your extender if more than one is operating in your neighborhood.

3. In the Security Options section of the screen, select the type of wireless security that you want to use on your network.

   • **None**. This is an open wireless network. Any wireless computer or device is allowed to join this network.

   • **WEP**. WEP is an older standard, and is less secure than WPA or WPA2. WEP uses encryption keys and data encryption for data security. You can select 64-bit or 128-bit encryption.

- **WPA-PSK [TKIP]**. WPA is more secure than WEP. When using wireless computers or devices that support WPA, you can enter a passphrase to join the extender's wireless network.

- **WPA2-PSK [AES]**. WPA2 is even more secure, but some older computers do not support this standard. When using wireless computers or devices that support WPA2, you can enter the passphrase to join the extender's wireless network.

- **WPA-PSK [TKIP] + WPA2-PASK [AES]**. When using wireless computers or devices that support either WPA or WPA2, you can enter the passphrase to join the extender's wireless network.

4. Click **Apply** to save your settings.

5. Use your wireless computer to connect to the extender's network with its new settings. The Smart Wizard can guide you through this process.

## Set Up WPA, WPA2, or WPA + WPA2

Both WPA and WPA2 provide strong data security. WPA with TKIP can be used on Windows systems with Service Pack 2 or later. WPA2 with AES is a hardware implementation; see your device documentation before implementing it.

➢ **To configure WPA or WPA2 in the extender:**

1. On the Wireless Setting screen, select the radio button for the WPA or WPA2 option of your choice.

2. The settings displayed on the screen depend on which security option you select.

3. For WPA-PSK or WPA2-PSK, enter the passphrase.

4. Click **Apply** to save your settings.

## Set Up WEP

WEP is a legacy wireless security setting. NETGEAR recommends that you use a newer standard such as WPA2 or WPA unless you have older wireless equipment that supports only WEP.

➢ **To set up WEP:**

1. In the Wireless Settings screen, in the Security Options section, select the **WEP** radio button.

2. Select the authentication type: **Automatic**, **Open System**, or **Shared Key**. The default is Open System.

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**Note:** The authentication is separate from the data encryption. You can select authentication that requires a shared key, but still leaves data transmissions unencrypted. Security is stronger if you use both the Shared Key and WEP encryption settings.

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3. Select the encryption strength setting:

- **WEP 64-bit encryption**. Enter 10 hexadecimal digits (any combination of 0–9, a–f, or A–F).

- **WEP 128-bit encryption**. Enter 26 hexadecimal digits (any combination of 0–9, a–f, or A–F).

4. Enter the encryption keys. You can manually or automatically program the four data encryption keys. These values have to be identical on all computers and access points in your network:

- **Passphrase**. To use a passphrase to generate the keys, enter a passphrase, and click **Generate**. This automatically creates the keys. Wireless computers have to use the passphrase or keys to access the extender.

> **Note:** Not all wireless computers support passphrase key generation. If your computer does not support the passphrase, then you will need to type the encryption key in order to join the wireless network.

- **Key 1**–**Key 4**. These values are *not* case-sensitive. You can manually enter the four data encryption keys. These values have to be identical on all computers and access points in your network. Enter 10 hexadecimal digits (any combination of 0–9, a–f, or A–F).

5. Select which of the four keys will be the default.

Data transmissions are always encrypted using the default key. The other keys can be used only to decrypt received data. The four entries are disabled if WPA-PSK or WPA authentication is selected.

6. Click **Apply** to save your settings.

# Extender IP Address Setup

From the extender menu at http://www.mywifiext.net, under the Maintenance heading, select **Setup > IP Address Settings**.



The IP Address Setup screen shows whether the extender is set to get its IP address dynamically from the router (this is the most common setting), or is set up with a static IP address.

- **Get Dynamically IP Address From Router**. The wireless network router assigns an IP address when the extender connects to its wireless network. Most networks are set up so that the router automatically does this.

- **Use Static IP Address**. Specify a static IP address. This is not usually necessary. If you set this up, you should be technically experienced or have a technically experienced person help you.

  - **IP Address**. The static IP address.
  - **IP Subnet Mask**. The subnet mask associated with the IP address.
  - **Gateway IP Address**. The IP address for the gateway.
  - **Primary DNS**. The primary Domain Name Server (DNS).
  - **Secondary DNS**. The secondary Domain Name Server (DNS).

# Status Screen

When you connect to http://www.mywifiext.net, after the automatic firmware check, the Status screen displays. You can also select **Status** from the menu to display this screen:
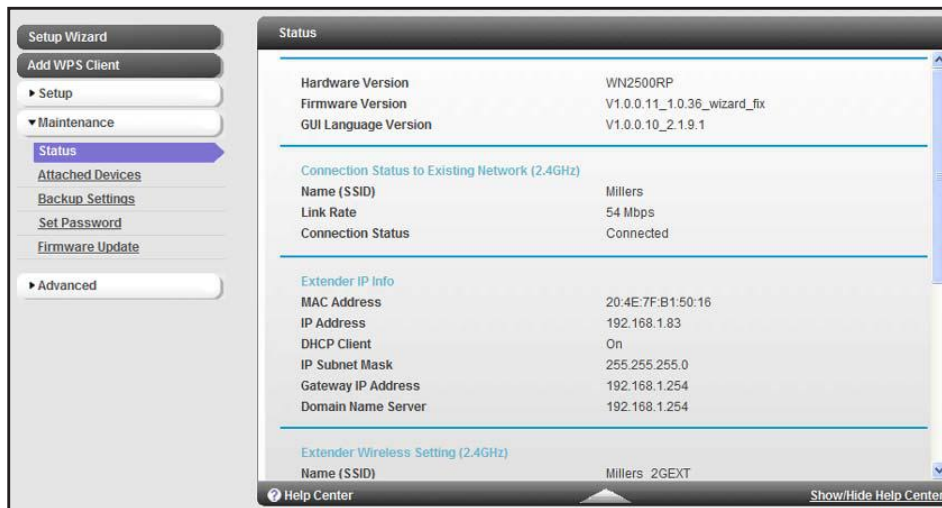


This screen shows the current settings and the status of your extender.

You can click **Show Statistics** to see device performance statistics such as the number of packets sent and number of packets received for each port. See *Show Statistics* on page 21.

The following fields are displayed in the Status screen:

- **Hardware Version**. The hardware version of the extender.
- **Firmware Version**. The current firmware version of the extender. If you upgrade the firmware, this field changes.
- **GUI Language Version**. The language version running on the extender. If you upgrade the firmware, this field changes.

### Connection Status to Existing Network

- **Name (SSID)**. Your extender is set up to connect to this SSID, also called the wireless name.
- **Connection Status**. The status of your wireless connection (connected or disconnected).
- **Link Rate**. The actual transmission (Tx) and receive (Rx) link rate in the current wireless connection.

### Extender PC Info

- **MAC Address**. The physical address of the extender, as seen from the local area network (LAN).
- **IP Address**. The IP address of the extender. The default is 192.168.1.250.
- **DHCP Server**. Identifies the network DHCP server on the wireless network.

- **IP Subnet Mask**. The IP subnet mask associated with the LAN IP address of the extender. The default is 255.255.255.0.
- **Gateway IP Address**. The IP address of the wireless network gateway.
- **Domain Name Server**. The IP address of the Domain Name Server (DNS) of the wireless network.

### Extender Wireless Settings

- **Name (SSID)**. The name (SSID) of the wireless network.
- **Region**. The location where the extender is operating.
- **Channel**. The channel of the wireless network.
- **Wireless AP**. On or Off.
- **Broadcast Name**. On or Off.
- **Wi-Fi Protected Setup**. Configured.

## Show Statistics

Scroll to the bottom of the Status screen, and click **Show Statistics**. The following screen displays:

**Show Statistics**

System Up Time 00:12:38

| Port | Status | TxPkts | RxPkts | Collisions | Tx B/s | Rx B/s | Up Time |
|------|--------|--------|--------|-----------|--------|--------|---------|
| LAN1 | 100M/Full | | | | | | 00:12:08 |
| LAN2 | Link Down | 16640 | 23002 | 0 | 9614 | 3361 | -- |
| LAN3 | Link Down | | | | | | -- |
| LAN4 | Link Down | | | | | | -- |
| WLAN 2.4G | 300 Mbps | 19848 | 11576 | 0 | 2977 | 2262 | 00:12:31 |
| WLAN 5G | 300 Mbps | | | | | | |

Poll Interval : 5 (secs)  Set Interval  Stop

The screen shows statistics for the LAN (local), and wireless LAN (WLAN) ports. For each port, the screen displays the following:

- **Status**. The status of the port.
- **TxPkts**. The number of packets transmitted on this port since reset or manual clear.
- **RxPkts**. The number of packets transmitted on this port since reset or manual clear.
- **Collisions**. The number of collisions on this port since reset or manual clear.
- **Tx B/s**. The current line utilization—percentage of current bandwidth used on this port.
- **Rx B/s**. The average line utilization for this port.
- **Up Time**. The time elapsed since the last power cycle or reset.
- **Poll Interval**. Specify the poll interval frequency. If you change this value, click **Set Interval** so that your change takes effect.

# Attached Devices

Select **Maintenance > Attached Devices** to display the following screen:



# Back Up and Manage Extender Settings

Select **Maintenance > Backup Settings** to display this screen.



The Backup and Restore options in the Backup Settings screen let you save and retrieve a file containing your extender's configuration settings. Once you have your extender working correctly, you should back up the information to have it available if something goes wrong. When you back up the settings, they are saved as a file on your computer. You can restore the device's settings from this file.

➢ **To back up settings:**

1. Click **Backup**. Your browser extracts the configuration file from the extender.
2. If you do not have your browser set up to save downloaded files automatically, locate where you want to save the file.
3. You can give the file a meaningful name at this time, such as internet_adapter.cfg.

➢ **To restore settings:**

1. On the Backup Settings screen, click **Browse**.
2. Locate and select the previously saved backup file.
3. Click **Restore**.

   A screen displays letting you know that the device has been successfully restored to the previous settings. The extender restarts. This takes about 1 minute.

> **CAUTION:**
>
> Do not try to go online, turn off the extender, shut down the computer, or do anything else to the extender until it finishes restarting!

4. Close the message window.

➢ **To erase settings:**

Under some circumstances (for example, if you have lost track of the changes that you made to the extender settings), you might want to erase the configuration. After an erase, the extender returns to its factory settings (see *Factory Settings* on page 30).

To erase the configuration, click the **Erase** button in the Backup Settings screen. The extender automatically shuts down and reboots with its factory settings.

> **CAUTION:**
>
> Do not try to go online, turn off the extender, shut down the computer, or do anything else to the extender until it finishes restarting!

# Set the Password

The user name to access the extender is admin, and its default password is password. NETGEAR strongly recommends that you set a more secure password.

➢ **To set the password:**

1. Select **Maintenance > Set Password**. The following screen displays:

2. Type the old password, type the new password twice, and then click **Apply**.

# Upgrade the Firmware

Unless you changed the settings in the Firmware Upgrade screen previously, the extender is set up to check for new firmware automatically at log in.

If you do not want to use the automatic firmware check, clear the **Check for New Version Upon Login** check box.

➢ **To check for firmware and upgrade if it is available:**

1.  Select **Maintenance > Firmware Update**. The following screen displays:
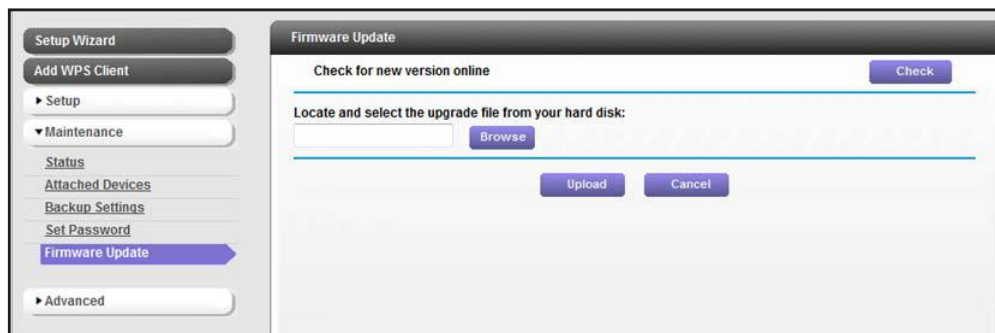


2.  Click **Check** to see if new firmware is available. If it is, follow the onscreen prompts to download it onto your computer.

3.  In the Browse field, enter the path for the new firmware, or click **Browse** to locate and select the file.

4.  Click **Upload** to install the new firmware on your extender.

⚠ **CAUTION:**

Once you start the firmware upgrade, do not try to go online, turn off the extender, shut down the computer, or do anything else to the extender until it finishes restarting!

# Advanced Wireless Settings

The extender is already configured with the optimum settings. Do not alter these settings unless directed by NETGEAR support. Incorrect settings might disable the extender unexpectedly.

➢ **To view or change the advanced wireless settings:**

From the extender menu at http://www.mywifiext.net, select **Advanced > Wireless Settings**. The following screen displays:
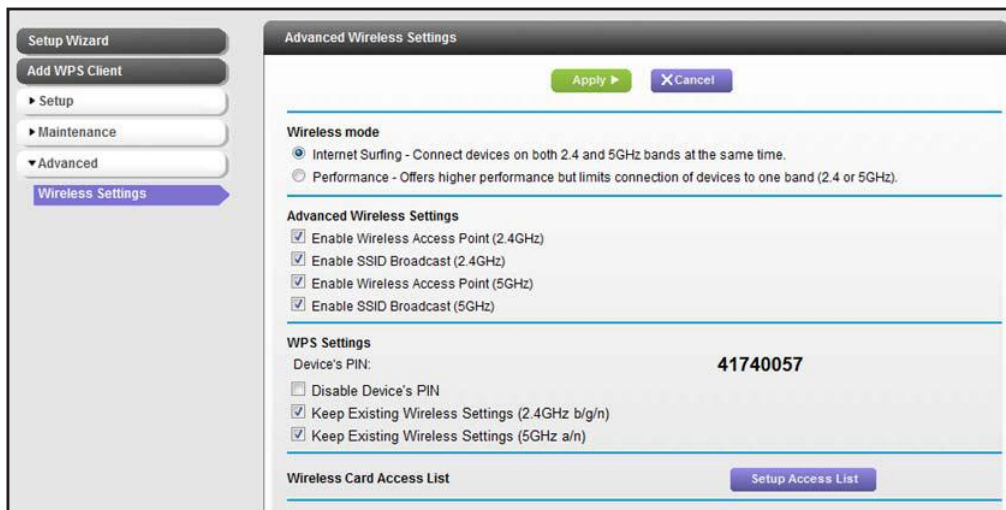


You can view or configure the following settings:

- Wireless Mode
  - Internet Surfing
  - Performance
- Advanced Wireless Settings
  - **Enable Wireless Access Point (2.4 GHz)**. Enable the extender to work as a wireless access point. If this check box is cleared, then computers or wireless devices cannot connect wirelessly to the extender.
  - **Enable SSID Broadcast (2.4 GHz)**. Enable the extender to broadcast its wireless network name (SSID). If this check box is cleared, then the wireless network is hidden. To join a hidden wireless network, you have to type the wireless name.
  - **Enable Wireless Access Point (5 GHz)**. Enable the extender to work as a wireless access point. If this check box is cleared, then computers or wireless devices cannot connect wirelessly to the extender.
  - **Enable SSID Broadcast (5 GHz)**. Enable the extender to broadcast its wireless network name (SSID). If this check box is cleared, then the wireless network is hidden. To join a hidden wireless network, you have to type the wireless name.
- WPS Settings

- **Disable Device's PIN**. Selecting this check box disables the extender's PIN. The PIN can be used for a WPS wireless connection.

- **Keep Existing Wireless Settings**. When this check box is selected, the settings in the Wireless Settings screen stay the same when WPS is used for a wireless connection.

- **Wireless Card Access List**. Specify a list of computers or wireless devices that are allowed to connect to the network. If you use an access list, then computers that are not on the list are not allowed to join the wireless network.

➢ **To set up a wireless card access list:**

1. On the Advanced Wireless Settings screen, click **Setup Access List**.

   The following screen displays:

   

2. Select the **Turn Access Control On** check box.
3. Add the computers and wireless devices that you want to give access to the network.
   - Click the **Add** button for each device.
   - If you are not sure of the MAC address, check the product label.
   - Make sure to add the computer or wireless device that you are currently using to make changes.
4. Click **Apply** so that your changes take effect.

# Troubleshooting 3

This chapter includes the following sections:

- *Smart Wizard FAQs*
- *Connecting to http://www.mywifiext.net*
- *Joining Wireless Networks*

# Smart Wizard FAQs

1. When I connect to the network, Smart Wizard keeps asking me for my passphrase, and I am sure I entered the correct passphrase. What can I do?

   It is very likely that the extender is placed at the borderline of the range covered by the router. See *Positioning Your Extender* on page 8.

2. I got an error message in the Review Settings screen in the Smart Wizard. What should I do?

   Make sure that your computer is connected to the extender by using the SSID and the passphrase that you have just set up, and clicking the **Refresh** button in your browser. This will return you to the Smart Wizard.

3. I connected to NETGEAR_EXT and launched a browser, but I cannot see the Smart Wizard. Why not?

   First, make sure that your computer is set up to use DHCP. Second, make sure the Wireless Device to Extender LED is green. Finally, relaunch the browser and enter **www.mywifiext.net**. Check to make sure that your computer has an IP address in the IP Address screen (see *Extender IP Address Setup* on page 19).

# Connecting to http://www.mywifiext.net

If you have trouble connecting, try to locate the source of the problem:

- For help with passwords, see *Log In to the Extender* on page 10.

- If your browser displays an error page, make sure that you include *http://* when you type this URL in the address field of your Internet browser. If you leave it out, you might not be able to connect.

- The extender LEDs can help you tell if the extender is correctly set up and working as it should.

  - The best performance is delivered when Link Rate LED  or  and the Wireless Device to Extender LED  are green.

  - A workable performance is delivered when the Link Rate LED LED  or  is amber and the Wireless Device to Extender LED  is green.

If you cannot get a wireless connection working, you can use an Ethernet cable to connect your computer to the extender. See *Connect a Computer to the Extender with an Ethernet Cable* on page 9.

# Joining Wireless Networks

To join a wireless network you have to know its network name (also called the SSID) so that you can select it. If the network is secure, you have to know the passphrase or wireless key. If the extender does not connect to the network that you selected, the following message displays:

*Connection was not established to the selected network.*

If this happens, it could be for one of these reasons:

- The network name, passphrase, or key might have been typed incorrectly. Click **Cancel**, use the Smart Wizard to select the network from the list, and retype the passphrase or key. This is case-sensitive. PASSWORD25 is not the same as Password25 or password25. See *Use NETGEAR Genie to Set Up the Extender* on page 11.

- If the Smart Wizard does not find your wireless network (it is not displayed in the Select Existing Network screen), check to see if your wireless network is still up and running. Make sure that the router is turned on. If possible, move the extender closer to the router and click **Try Again**.

- If the extender Link Rate LED is red, this indicates a poor wireless connection. The best connection is established when there is a clear line of sight between the extender and the router you are connecting to. Make sure that there are no physical obstacles between the extender and the router, and try to move the extender closer to the router.

If you use the Smart Wizard, and the extender cannot connect to the router or cannot get an IP address from the router, it displays the following message:

*You are not able to connect to the Internet. Click **Continue** to run through set up again to connect to your network.*

If you click **Continue**, the Smart Wizard starts again (see *Use NETGEAR Genie to Set Up the Extender* on page 11). If you click **Exit**, the Status screen displays with menu selections on the left (see *Log In to the Extender* on page 10).

# Supplementary Information

# A

## Factory Settings

You can press and hold the **Restore Factory Settings** button on the rear panel for 7 seconds. The extender resets, and returns to its factory settings.

| Factory Settings | | |
|---|---|---|
| Smart Wizard | | Enabled |
| Wireless | Wireless communication | Enabled |
| | Wireless network name (SSID) | NETGEAR_EXT |
| | Security | Disabled |
| | Transmission speed | Auto[1] |
| | Country/Region | United States (varies by region) |
| | Operating mode | 802.11n, 802.11g, 802.11b |
| | Data rate | Up to 300 Mbps |

*1. Maximum wireless signal rate (IEEE Standard 802.11). 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.*

# Technical Specifications

| Technical specifications | |
| --- | --- |
| Network protocol and standards compatibility | Data and routing protocols: TCP/IP, DHCP server and client, DNS relay, NAT (many-to-one), TFTP client, VPN pass through (IPSec, PPTP) |
| Power adapter | • North America (input): 120V, 60 Hz, input<br>• All regions (output): 12 V DC @ 1A output 12W maximum |
| Physical specifications | • Dimensions:<br>• Weight: |
| Environmental | • Operating temperature: 32° to 140° F (0° to 40° C)<br>• Operating humidity: 90% maximum relative humidity, noncondensing<br>• Electromagnetic emissions: Meets requirements of: FCC Part 15 Class B. |
| Interface | • Local: 10/100BASE Tx, RJ-45<br>• 802.11n/g/b |

# Notification of Compliance

## NETGEAR Dual Band - Wireless

**B**

### 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

$C \in 0700$ ①

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 and 5 GHz wideband transmission system (transceiver), intended for indoor use only in all EU member states, EFTA states, and Switzerland.

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 Universal Dual Band WiFi Range Extender WN2500RP 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 USA 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 (Universal Dual Band WiFi Range Extender WN2500RP) 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.

High power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices.

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.

Les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

## 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 |