NETGEAR®

EX6200 WiFi Range Extender AC1200 High Power Dual Band Gigabit Ports

User Manual

Note: This document is for certification purposes. Images are for position only and may differ from the actual product.

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USA

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

Table 1. LED descriptions

LEDs	Description
2.4 GHz Link Rate 	• **Solid green**. The wireless connection between the extender and the router is optimum. • **Solid amber**. The wireless connection between the extender and the router is good. • **Solid red**. The wireless connection between the extender and the router is poor.
5 GHz Link Rate 	• **Solid green**. The wireless connection between the extender and the router is optimum. • **Solid amber**. The wireless connection between the extender and the router is good. • **Solid red**. The wireless connection between the extender and the router is poor.

Table 1. LED descriptions

LEDs	Description
Device to Extender	• **Solid green**. The extender and device are connected. • **Off**. No link is detected on this port.
LAN 1 2 3 4	• **Solid green**. The LAN port has detected an Ethernet link with the extender. • **Off**. The LAN port does not detect an Ethernet link with the extender.
USB	• Solid green. A USB device is connected to the extender. • Off. No USB device is connected to the WiFi extender.

Rear Panel

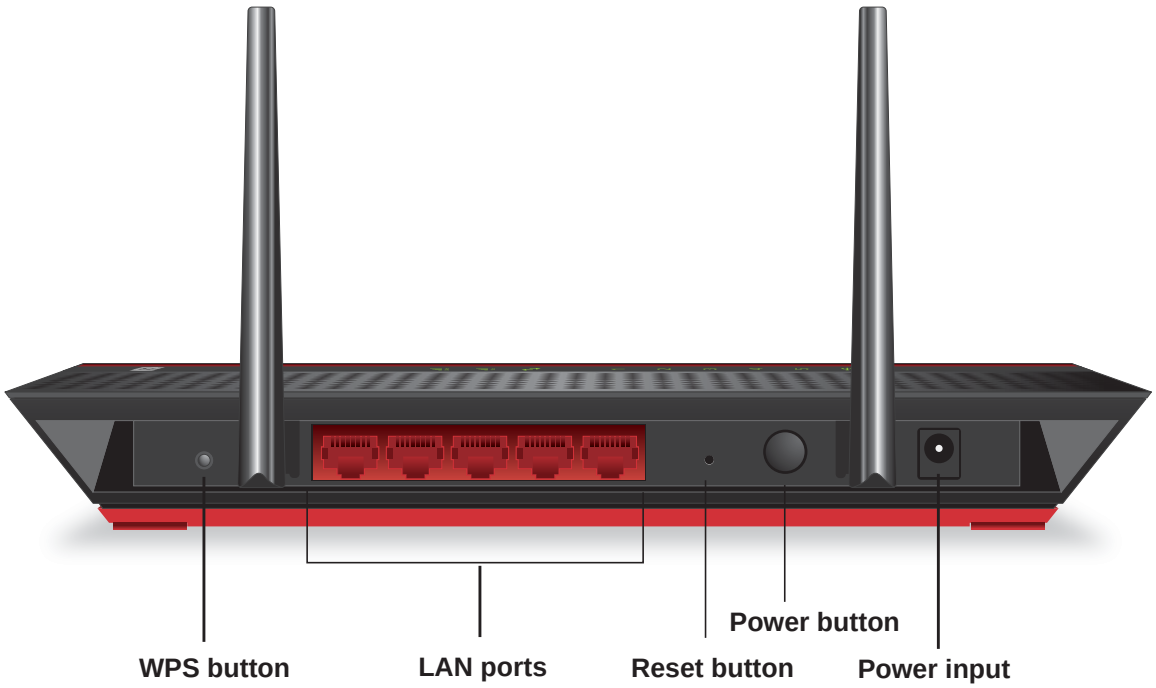


Figure 1. Rear panel

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.

The extender is halfway between the router and the computer.

Figure 2. 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 2.4GHz or 5GHz and the Device to Extender LED are green.
- A workable performance is delivered when the Link Rate LED is amber and the 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 *High Power WiFi Extender EX6200 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 the 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*.

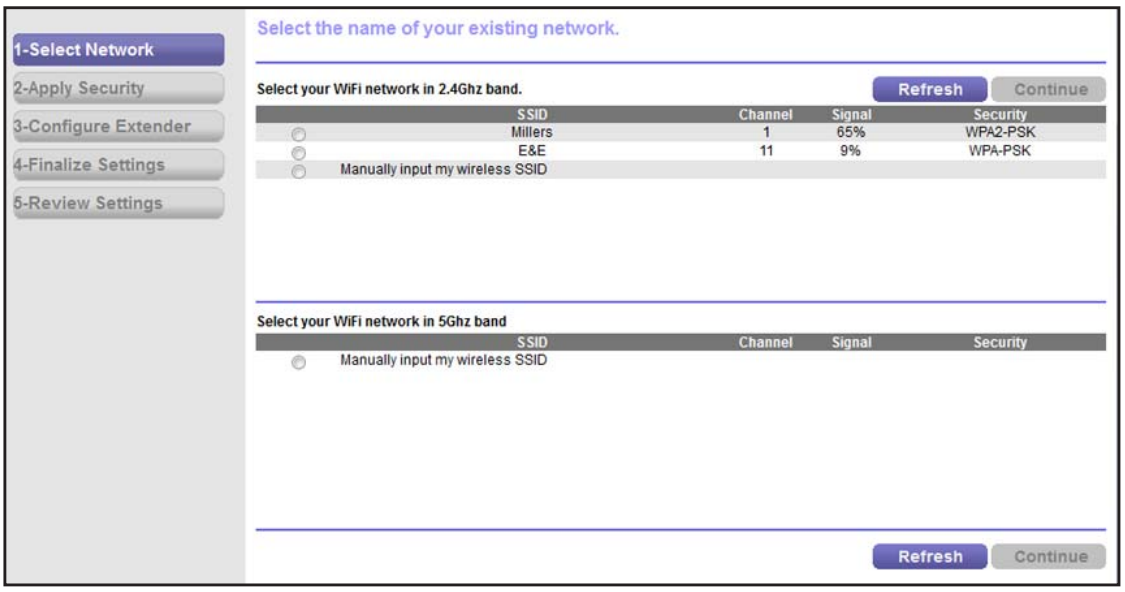
The *High Power WiFi Extender EX6200 Installation Guide* (included in the package) explains how to install your extender. During installation, when you launch your Internet browser, the Smart Wizard automatically displays.

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

1. Log in to the extender.

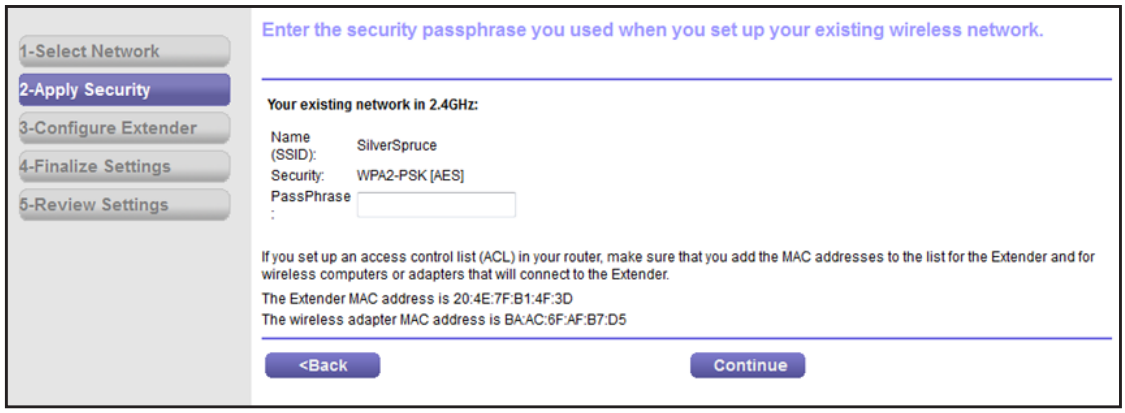
Note: Once you begin using NETGEAR Genie, you have to complete all of its steps before you can exit.

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



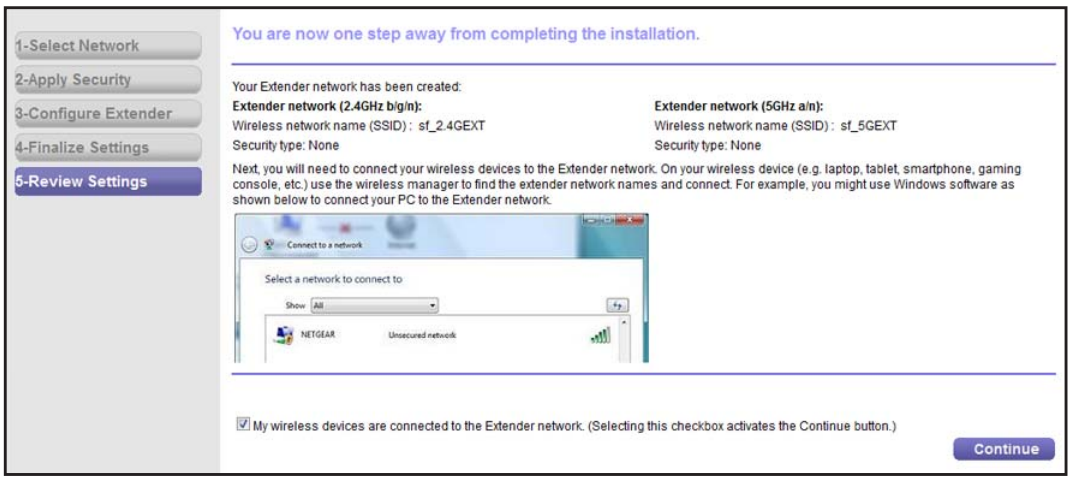
This is the same Smart Wizard that displays during installation, as described in the installation guide.

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

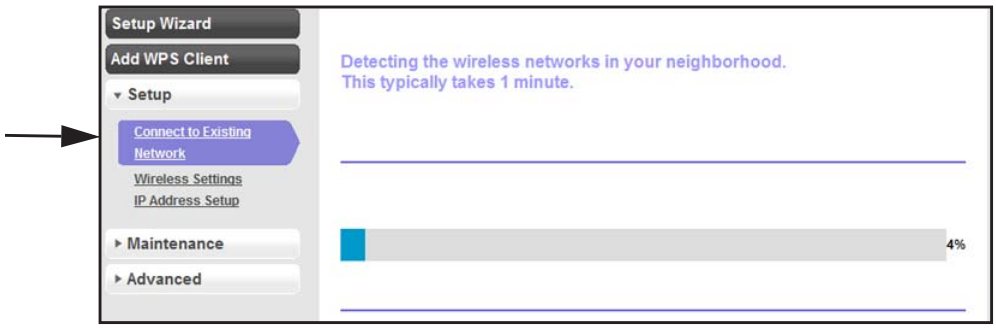
This chapter covers the following topics:

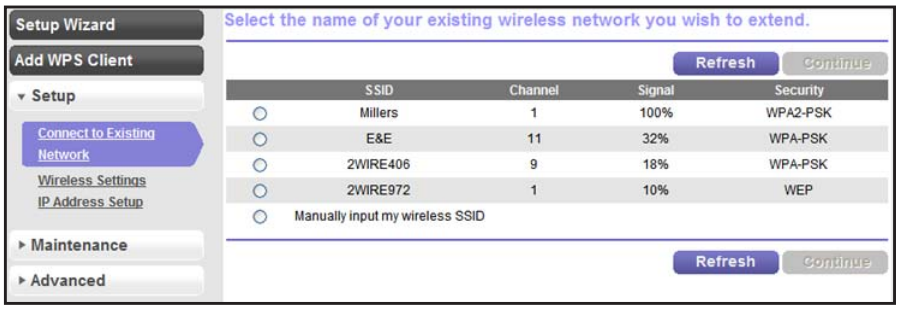
- *Connect the Extender to an Existing Network*
- *Use WPS to Join the Extender's Wireless Network*
- *Extender Wireless Settings*
- *Extender IP Address Setup*
- *Status Screen*
- *Attached Devices*
- *Back Up and Manage Extender Settings*
- *Set the Password*
- *Upgrade the Firmware*
- *Advanced Wireless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

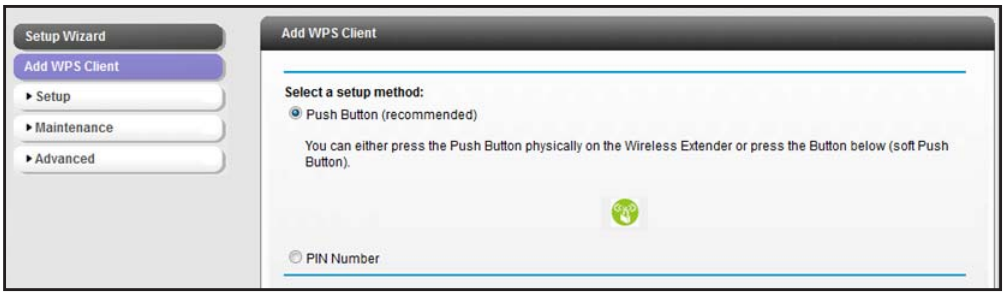
WPS (Wi-Fi Protected Setup) lets you connect a computer or wireless device to the extender’s network without entering the wireless network passphrase or key. Instead, you use a WPS button or enter a PIN to connect. WPS supports WPA and WPA2 wireless security.

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 *High Power WiFi Extender EX6200 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.

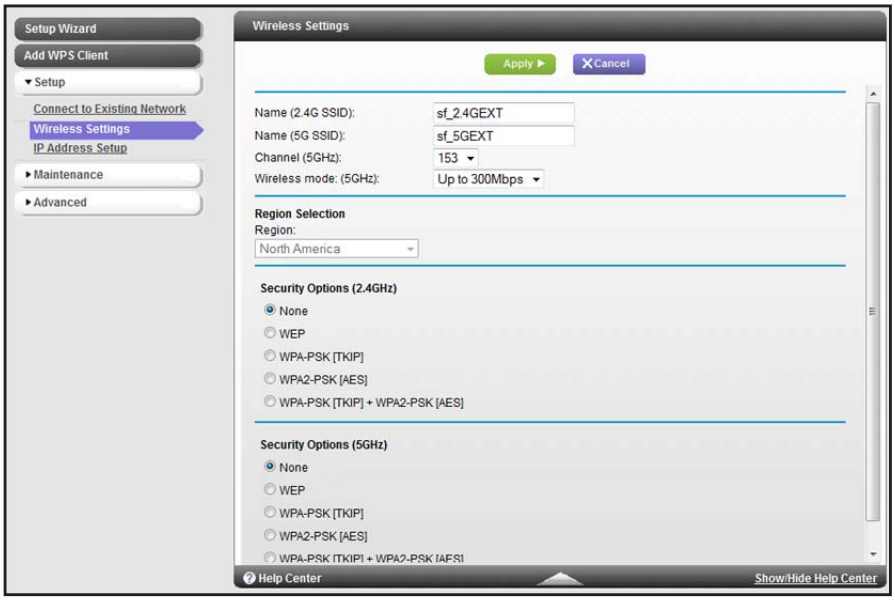
Extender Wireless Settings

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.

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.

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.

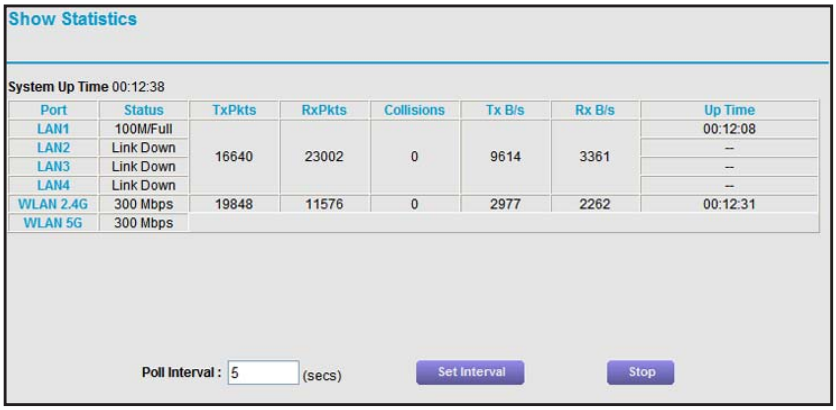
- **IP Subnet Mask**. The IP subnet mask associated with the LAN IP address of the extender. The default is 255.255.255.0.
- **Gateway IP Address**. The IP address of the wireless network gateway.
- **Domain Name Server**. The IP address of the Domain Name Server (DNS) of the wireless network.

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:

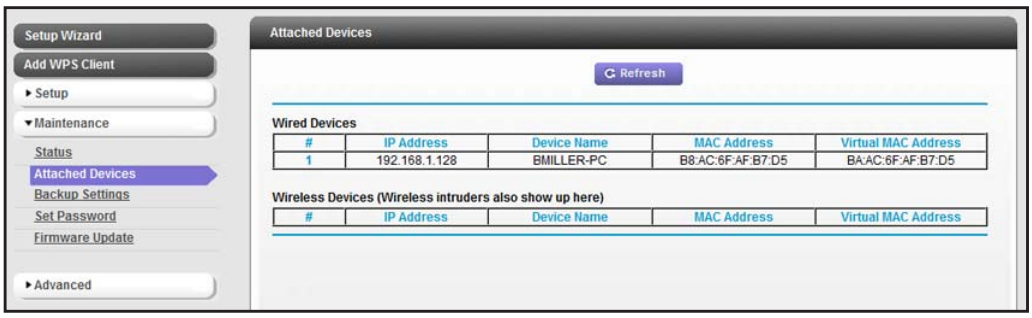


The screen shows statistics for the LAN (local), and wireless LAN (WLAN) ports. For each port, the screen displays the following:

- **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.

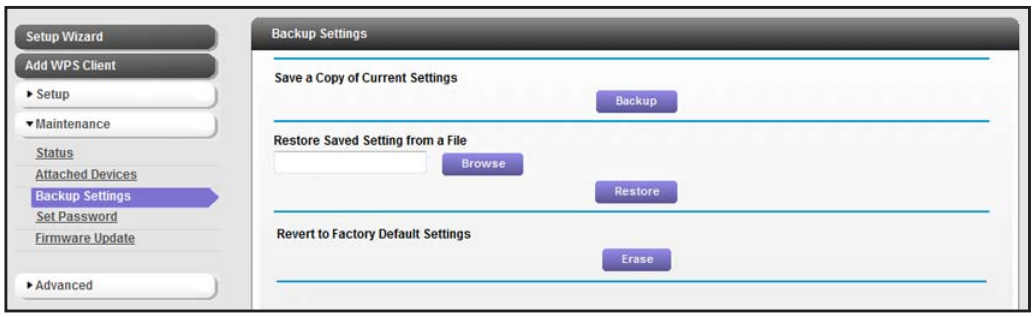
Attached Devices

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 31).

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:

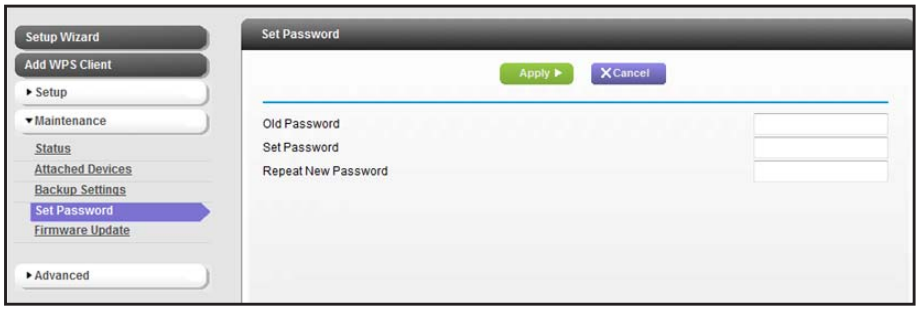
Do not try to go online, turn off the extender, shut down the computer, or do anything else to the extender until it finishes restarting!

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**.

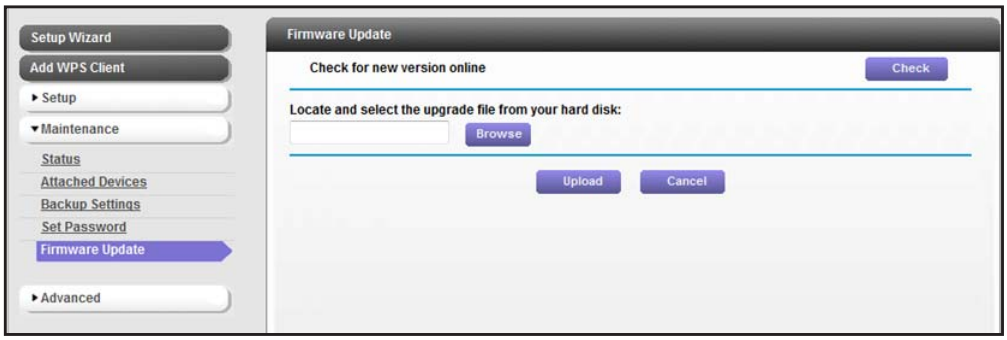
Upgrade the Firmware

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:

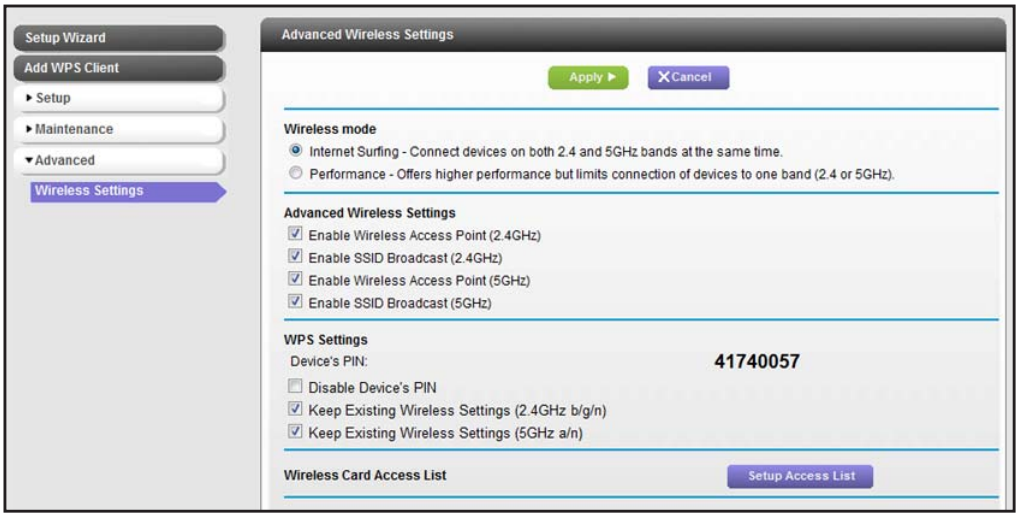
Once you start the firmware upgrade, do not try to go online, turn off the extender, shut down the computer, or do anything else to the extender until it finishes restarting!

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 9.
- 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 2.4GHz or 5GHz and the Device to Extender LED are green.
  - A workable performance is delivered when the Link Rate LED is amber and the 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 10.
- 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 10). If you click **Exit**, the Status screen displays with menu selections on the left (see *Log In to the Extender* on page 9).

Supplementary Information

A

This chapter includes the following sections:

- *Factory Settings* on page 31
- *Technical Specifications* on page 32

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.

Table 2. Factory default 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	5 GHz: 802.11ac, 802.11n, 802.11a 2.4 GHz: 802.11n, 802.11g, 802.11b
	Data rate	5 GHz: Up to 867 Mbps 2.4 Ghz: 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

Table 3. 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 • All regions (output): 12 V DC @ 2.5 A output 30 W maximum
Physical specifications	• Dimensions: 267 mm x 165 mm x 57 mm (dimensions does not include external antennas or stand) • Weight:
Environmental	• Operating temperature: 32° to 140° F (0° to 40° C) • Operating humidity: 90% maximum relative humidity, noncondensing • Electromagnetic emissions: Meets requirements of: FCC Part 15 Class B.
Interface	• Local: - 5-port RJ-45 10/100/1000Base TX - USB 3.0 (backward compatible with USB 2.0 and 1.1) - 802.11 ac/a/n/g/b - WPS button - Reset button - Power On/Off button

NETGEAR®

Notification of Compliance

Regulatory Compliance Information

This document includes user requirements for operating NETGEAR products in accordance with national laws including 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.

The NETGEAR product firmware limits operation to only the channels allowed in a particular region or country. Therefore, all options described in this document may not be available in your version of the product.

This document applies to both Class A and Class B devices:

- Class A devices are intended to be used in a commercial or industrial environment. They are not intended to be used in a residential home or be available for general public use.
- Class B devices are intended to be used in a residential setting, and may also be used in commercial and industrial applications. Examples of Class B devices are telephones, personal computers, and residential data gateways.

Europe – EU Declaration of Conformity

This section applies to products bearing the CE or CE! mark:

CE CE!

Products bearing the CE or CE! mark comply with the following EU directives:

- EMC Directive 2004/108/EC
- Low Voltage Directive 2006/95/EC
- Ecodesign Directive 2009/125/EC
- RoHS Directive 2011/65/EU

If the product has telecommunications functionality, it also complies with the requirement of the following EU directive:

- R&TTE Directive 1999/5/EC

Compliance with these directives implies conformity to harmonized European standards that are noted in the EU Declaration of Conformity. The EU CE Declaration of Conformity may be found at http://support.netgear.com/app/answers/detail/a_id/11621/.

Caution for installing this equipment outdoors: (Valid in all EU member states, EFTA states, and Switzerland.) Be aware that outdoor installations require special attention and will only be handled by trained and qualified installation personnel. No one from the general public is permitted to install NETGEAR wireless products outdoors when external antennas, power and grounding must be installed for use. Particular attention has to be given allowed operational frequencies. Contact NETGEAR for instructions on how to contact an installer for outdoor operations if this product requires the special considerations for outdoor installations. For detailed information concerning installations in France, the user should contact the national spectrum authority in France (http://www.arcep.fr/)

Warning

NETGEAR Class A products that may be utilized in domestic/residential environments may cause radio interference in which case the user may be required to take adequate measures.

FCC Requirements for Operation in the United States

Information in this section applies to products bearing the FCC mark (or statement):

FCC Information to User

This NETGEAR 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.

The following statement applies to these products:

- EX6100
- EX6200
- WN3500RP

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

FCC Guidelines for Human Exposure

This NETGEAR product complies with FCC radiation exposure limits set forth for an uncontrolled environment. The equipment should be installed and operated with minimum distance of 40 cm between the radiator and your body.

FCC Declaration of Conformity

We, NETGEAR, Inc., 350 East Plumeria Drive, San Jose, CA 95134, declare under our sole responsibility that this product complies with Part 15 Subpart B of FCC CFR47 Rules. Operation is subject to the following two conditions:

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

FCC Radio Frequency Interference Warnings & Instructions

The NETGEAR product 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 RF Radiation Exposure and SAR Statements

The information in this section applies to products that transmit data or communicate wirelessly.

SAR Statement

The information in this section applies to NETGEAR wireless products that are intended to be operated close to human body.

NETGEAR products that are intended to be operated close to the human body are tested for body-worn Specific Absorption Rate (SAR) compliance. The SAR limit set by the FCC is 1.6 W/kg.

The FCC has established detailed SAR requirements and NETGEAR products meet these requirements.

NETGEAR USB products were tested while installed in a host notebook computer.

RF Exposure Information

NETGEAR products have been evaluated under FCC Bulletin OET 65C (01-01) and found to be compliant to the requirements as set forth in CFR 47 Sections, 2.1093, and 15.247 (b) (4) addressing RF exposure from radio frequency devices. NETGEAR products meet the applicable government requirements for exposure to radio frequency waves. To see the test results reporting the highest SAR level measured for this device, visit http://www.netgear.com/about/regulatory/declarations-conformity/

Radiation exposure: NETGEAR products comply with radiation exposure limits set forth for an uncontrolled environment and meet radio frequency (RF) exposure guidelines for wireless routers. NETGEAR products should be installed and operated keeping the product 20cm or more away from a person's body. For devices that are battery powered and may be operated closer than 20cm to you, refer to the NETGEAR website for exposure levels.

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.

NETGEAR products comply with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) NETGEAR products may not cause harmful interference, and (2) NETGEAR products must accept any interference received, including interference that may cause undesired operation.

For products available in the USA market, only channel 1~11 can be operated. Selection of other channels is not possible.

The following statement applies to these products:

- EX6100
- EX6200
- WN3500RP

The device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

The following statement applies to these products:

- EX6100
- EX6200

The device operates in 5.15~5/25GHz frequency range. It is restricted in indoor environment only.

Non-DFS Warning
NETGEAR non-DFS products do not support operation in the 5600-5650MHz band. The firmware on the device restricts the operation in this frequency band and does not utilize the channels in this band.

NETGEAR non-DFS products will not permit operations on channels 120–132 for 11a and 11n/a, which overlap the 5600–5650MHz band.

TV Tuner (on Selected Models)

The information in this section applies to NETGEAR products incorporating a TV tuner.

Note to CATV System Installer: This reminder is provided to call the CATV system installer's attention to Section 820-93 of the National Electrical Code, which provides guidelines for proper grounding and, in particular, specifies that the Coaxial cable shield be connected to the grounding system of the building as close to the point of cable entry as possible.

Canadian Department of Communications Radio Interference Regulations

The information in this section applies to products bearing the statements:

The following statement applies to NETGEAR Class A products:

> This Class A digital apparatus complies with Canadian ICES-003.

The following statements apply to NETGEAR Class B products:

> This Class B digital apparatus complies with Canadian ICES-003.
>
> "This digital apparatus 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."

La déclaration suivante s'applique à la classe A des produits NETGEAR:

> Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Les énoncés suivants s'appliquent à NETGEAR produits de classe B:

> Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.
>
> "Cet appareil numérique ne dépasse pas les limites de la classe B pour les émissions radio bruit des appareils numériques, tel qu'énoncé dans le Règlement sur le brouillage radioélectrique du ministère des Communications du Canada."

Industry Canada

NETGEAR products comply with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) NETGEAR products may not cause harmful interference, and (2) NETGEAR products must accept any interference received, including interference that may cause undesired operation.

Ce dispositif est conforme à la norme CNR 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.

IMPORTANT NOTE: Radiation Exposure Statement

NETGEAR products comply with IC radiation exposure limits set forth for an uncontrolled environment. NETGEAR products should be installed and operated with minimum distance 40 cm between the radiator and your body.

For products available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

The following statement applies to these products:

- EX6100
- EX6200

The device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with IC multi-transmitter product procedures.

The following statement applies to these products:

- EX6100
- EX6200

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

NOTE IMPORTANTE: Déclaration d'exposition aux radiations

Pour les appareils qui transmettent des données sans fil: 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 40 cm de distance entre la source de rayonnement et votre corps.

Pour les produits disponibles aux États-Unis / Canada du marché, seul le canal 1 à 11 peuvent être exploités. Sélection d'autres canaux n'est pas possible.

La déclaration suivante s'applique à ces produits:

- EX6100
- EX6200

Cet appareil et son antenne (s) ne doit pas être co-localisés ou fonctionnement en association avec une autre antenne ou transmetteur.

La déclaration suivante s'applique à ces produits:

- EX6100
- EX6200

les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

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 oven	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 device	20 feet / 6 meters
ZigBee	20 feet / 6 meters

Japan Notices VCCI

This information in this section applies to products bearing the VCCI mark:

Class A ITE

この装置は、クラス A 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがありま す。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Class B ITE

　この装置は、クラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

Japan Wireless Notice

この製品には、認証済みの無線機器を搭載しています。

South Korea Notices

The information in this section applies to products bearing the KCC mark:

알림 : 대한민국으로 배송되는 제품인 경우

Class A : A급 기기 (업무용 방송통신기자재)	이 기기는 업무용(A급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.
Class B : B급 기기 (가정용 방송통신기자재)	이 기기는 가정용(B급) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

Taiwan WWAN Wireless Notice

The information in this section applies to products bearing the Taiwan National Communications Commission mark:

This telecom equipment has complied with NCC regulations.

第十二條→經型式認證合格之低功率射頻電機，非經許可，公司，商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條→低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。 低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

在 5.25-5.35 **秭赫頻帶**內操作之無線資訊傳輸設備，限於室內使用。

無線資訊傳輸設備忍受合法通信之干擾且不得干擾合法通信；如造成干擾，應立即停用，俟無干擾之虞，始得繼續使用。

無線資訊傳設備的製造廠商應確保頻率穩定性，如依製造廠商使用手冊上所述正常操作，發射的信號應維持於操作頻帶中。

Thailand Notice

The information in this section applies to products approved by the Thailand National Communications Commission:

เครื่องโทรคมนาคมและอุปกรณ์นี้ มีความสอดคล้องตามข้อกำหนดของ กทช.

China Notices

The information in this section applies to products bearing the Chinese Complusory Certification Mark:

This device complies with the requirements in China for Safety and Quality

此为A级产品，在生活环境该产品可能会造成无线电干扰，在这种情况下可能需

要用户对其干扰采取确实可行的措施。

Australia and New Zealand Notices

The information in this section applies to products bearing the Australia C-Tick and A-Tick Compulsory Marks:

This device equipment complies with the Australian and New Zealand regulatory approvals requirements.

Warning

NETGEAR Class A products that may be utilized in domestic/residential environments may cause radio interference in which case the user may be required to take adequate measures.

Powerline Device Safety Information

Follow these safety guidelines to ensure your own personal safety and to help protect your system from potential damage:

- For national approvals (approval schemes other than CB), relevant national standards for plug, socket-outlet, and direct plug-in units (for example, US) shall also be consulted while testing and approving such products according to the national standards.
- Check the electrical current for any device plugged into the filtered AC socket. Do not exceed home and product outlet ratings and electrical requirements.
- The socket-outlet shall be installed near the equipment and be easily accessible
- Only power cords and allowed to be inserted into the filtered AC socket; no other equipment with a direct plug-in is allowed. Power cords needs to be a maximum of 1m long and a minimum of 0.75mm² of cross-sectional area.
- Do not plug devices into the Powerline Pass Thru Adapter filtered AC outlet that exceed the product ratings. The output voltage of the filtered AC outlet is the same as the power outlet that the Powerline Pass Thru Adapter is plugged into. To help avoid damaging your system, be sure that the attached devices are electrically rated to operate with the power available in your location.
- If the input AC voltage is less than 100 Vac, the device plugged into the filtered AC socket of the Powerline Pass Thru Adapter might not perform as well as expected.
- DO NOT PLUG MAJOR HOME APPLIANCES into the filtered AC socket or into an attached power strip. The device is not intended to be used with home appliances such as air conditioners, power tools, space heaters, fans hair dryers, ovens, or refrigerators.
- 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.
- Do not service any product except as explained in your system documentation.
- Opening or removing covers that are marked with the triangular symbol with a lightning bolt can expose you to electrical shock. Only a trained service technician should service components inside these compartments.
- Use the product only with approved equipment.
- Allow the products to cool before removing covers or touching internal components.
- To help avoid damaging your system, be sure that the voltage selection switch (if provided) on the power supply is set o match the power available at your location:
    - 110 volts (V), 60 hertz (Hz) in most of North and South America and some Far Eastern countries such as south Korea and Taiwan

    - 100, 50 Hz in eastern Japan and 100, 60Hz in western Japan
    - 230v, 50Hz in most of Europe, the Middle East, and the Far East
- The peripheral power cables are equipped with three-prong plugs to help ensure proper grounding. Do not use adapter plugs or remove the grounding prong from a cable.
- Observe extension cable and power strip ratings. Make sure that the total ampere rating of all products plugged into the extension cable or power strip does not exceed 80 percent of the ampere ratings limit for te extension cable or power strip.
- To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).

NETGEAR, Inc., 350 E. Plumeria Avenue, San Jose, CA 95134 USA

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