

**LINKSYS®**

User Guide

**AC3000**

**Wi-Fi Range Extender**

Model # RE9000

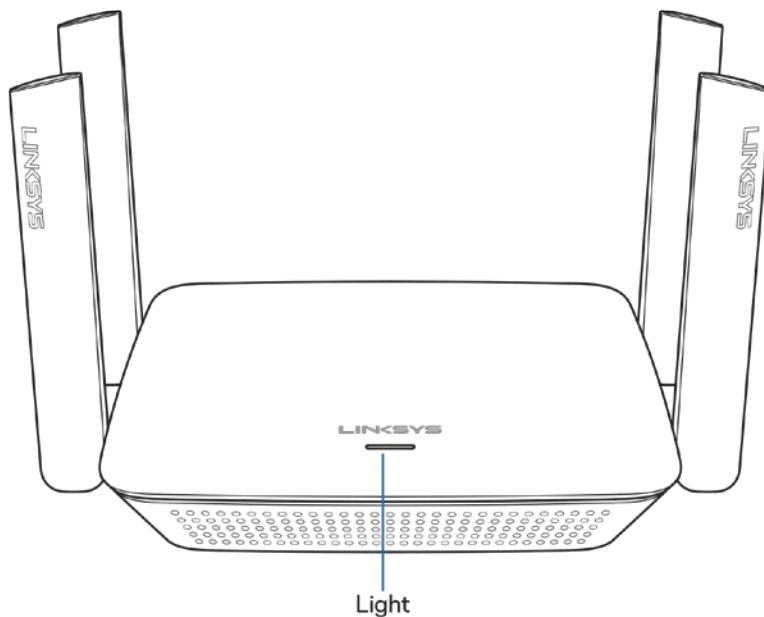
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# Product Overview

Your Linksys RE9000 is a tri-band range extender with band steering. That means it will direct connected devices to the extended Wi-Fi band that will provide the best performance. The range extender will balance connected devices between one 5 GHz band and the 2.4 GHz band. (The second 5 GHz band is dedicated to the connection with your main router.) Band steering is available on all three bands when you set up your RE9000 as an access point.

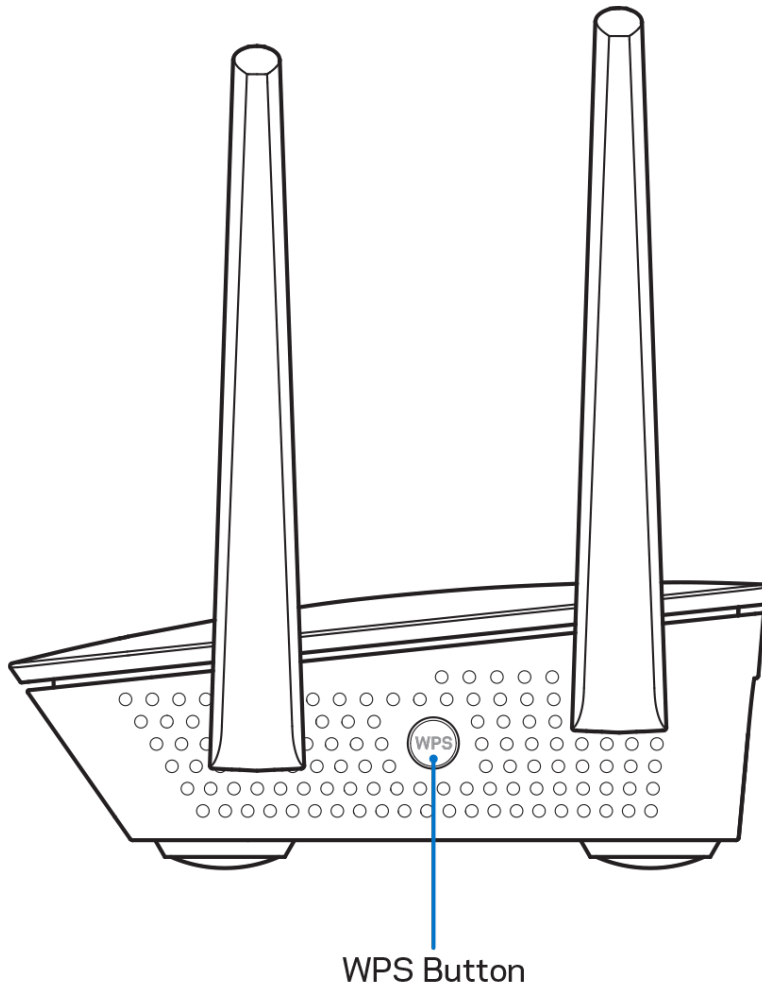
## Front



The light on the front of the range extender gives you information about power, updating and readiness.

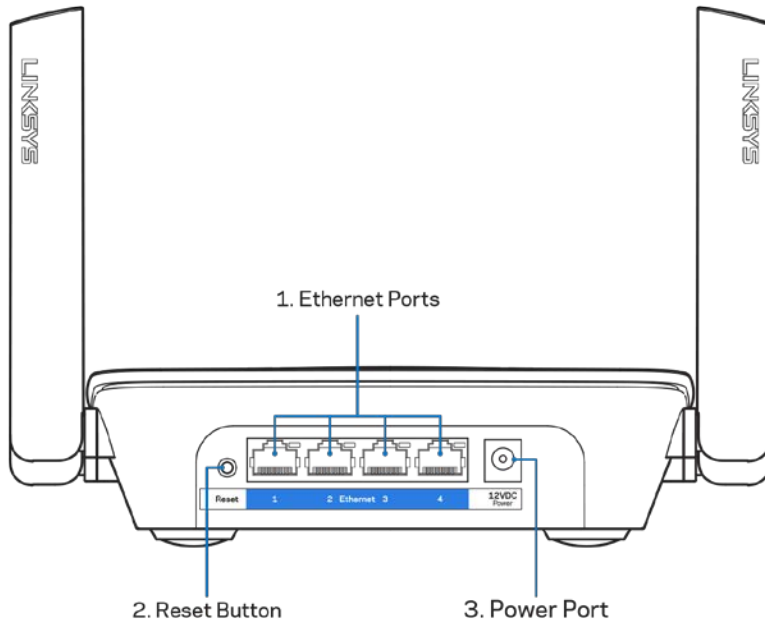
Power Light	Status/ description
Blinking Green	<ul style="list-style-type: none"><li>Starting up.</li><li>Updating firmware.</li></ul>
Solid Green	<ul style="list-style-type: none"><li>Good signal from router.</li></ul>
Solid Orange	<ul style="list-style-type: none"><li>Weak signal from router.</li></ul> <p><i>Fix: Unplug the extender, and move it closer to the router.</i></p>
Blinking Orange	<ul style="list-style-type: none"><li>Ready for setup / Not connected to router / Other error</li></ul> <p><i>Fix:</i></p> <ol style="list-style-type: none"><li>Make sure your router has an Internet connection and Wi-Fi is turned on.</li><li>If the router is in order, unplug the extender, move it closer to the router, plug it back in, wait one minute, reconnect to your network.</li></ol>

## Side



**WPS™ button**—Use Wi-Fi Protected Setup to automatically and securely add compatible wireless devices to your network.

## Back



**Ethernet ports (1)**—Connect wired devices to these ports with ethernet cables.

Power Light	Status/ description
Off	<ul style="list-style-type: none"><li>No link over ethernet cable or no data activity.</li></ul>
Solid Green	<ul style="list-style-type: none"><li>Established link over ethernet cable.</li></ul>
Blinking Green	<ul style="list-style-type: none"><li>Sending/Receiving data.</li></ul>

**Reset button (2)**—Press and hold until the light on the front of the range extender blinks to reset extender to factory default settings.

**Power port (3)**—Connect the included AC power adapter.

# How to Install the Range Extender

There are two ways to use your Linksys range extender: as a wireless range extender or as a wired range extender (access point). Wireless range extenders repeat existing Wi-Fi signals. Wired range extenders (access points) create new Wi-Fi hotspots when connected to a router or access point with an ethernet cable. Both scenarios require a router with a working internet connection.

Before starting setup, decide whether you want to use your RE9000 as a wireless range extender or as a wired range extender (access point). Instructions for both setups are in this user guide.

## Setting up as a wireless range extender

### Wi-Fi Protected Setup (WPS)

#### Does your router have a WPS button?

WPS is a simple way to connect Wi-Fi devices. Routers that support WPS have a button that might look like one of these symbols:



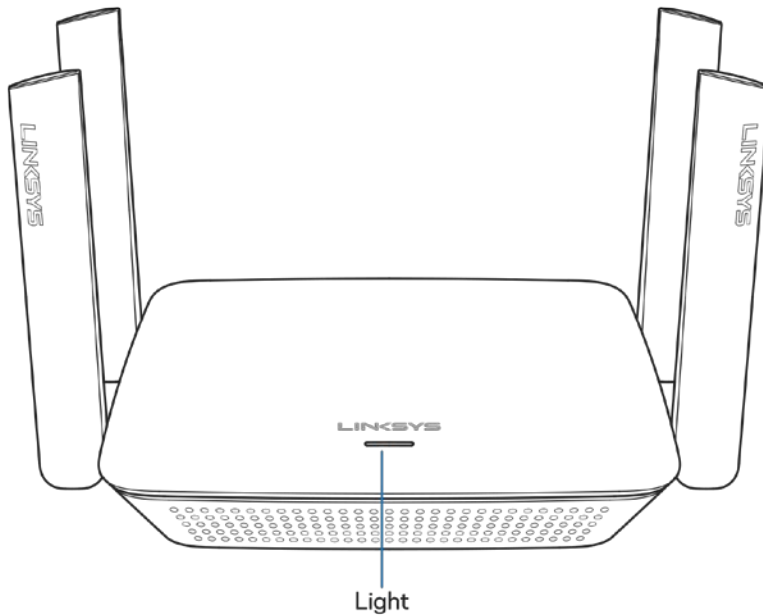
If your router has a WPS button, continue with WPS below.

If not, or if you are not sure, continue with browser-based setup on page [10](#).

**Note**—*The WPS button will not work if you have disabled WPS on your router, or if you have chosen WEP as your network security type. In either case, continue with browser-based setup on page [10](#).*

1. **Plug the range extender into an electrical outlet close to your router.** You can move the range extender to an ideal location later in step 5. After the range extender is plugged in, the light on the top will blink green for up to a minute.

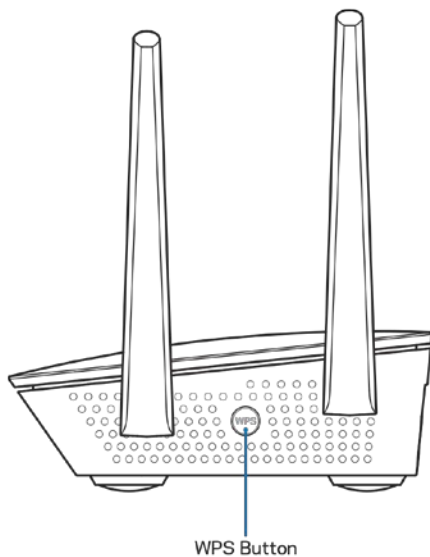
2. Wait for the light on the front of your range extender to blink orange before going to **step 3**. This can take up to a minute.



3. **Extend your network.**

**Press the WPS button on your router. Within the next two minutes press the WPS button on the side of your range extender.**

The WPS button will light up and the light on the top of your range extender will **blink green**.



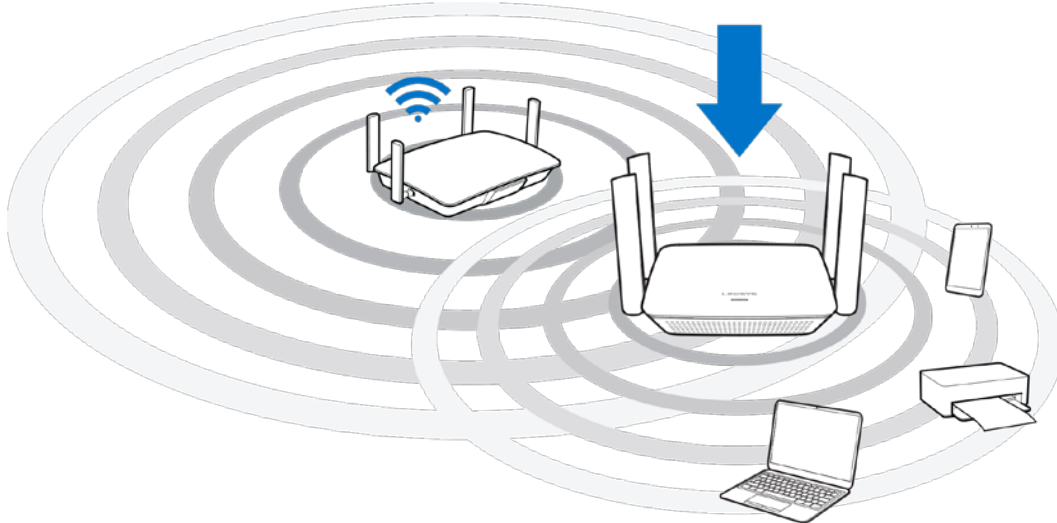
Watch the light on the top of your range extender to verify whether the connection was successful.

If it turns **solid green** , the connection was successful. **Move to step 4.**

If it starts to **blink orange** 🚫, the connection failed. You may try again by repeating step 3 or try browser-based setup.

#### 4. Move your range extender to an ideal spot.

Unplug your range extender and plug it back in midway between your router and the area without Wi-Fi. Using your mobile device or laptop, be sure you have at least two bars (around 50%) of your router's Wi-Fi signal at that location. If you don't have two bars, move the range extender closer to the router.



#### 5. Check the light on the top of the extender for connection quality.

It can take up to a minute for the range extender to boot up after moving it. During this period, you will see the blinking green light once again.

- Solid green █ Ready to use.
- Solid orange █ Weak connection to the router. Find an outlet closer to your router.
- Blinking orange 🚫 Not connected to the router. Find an outlet closer to your router.

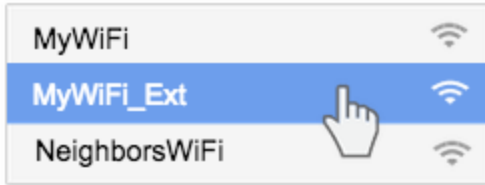
#### 6. Connect your Wi-Fi devices to the extended network you just created.

If you have setup your range extender with a Linksys Max-Stream Router, you don't have to do anything. Max-Stream routers support seamless roaming, and your extended Wi-Fi network shares the same network name and password. Connected devices will select the main or extended network as you move around the coverage area.

**Note**—Your Linksys RE9000 is a tri-band range extender with band steering. That means it will direct connected devices to the extended Wi-Fi band that will provide the best performance. This range extender will balance connected devices between one 5 GHz band and the 2.4 GHz band. (The second 5 GHz band is dedicated to the connection with your main router.) Band Steering is available on all 3 bands when you set up RE9000 as an access point.



If you do not have a router with seamless roaming, select the extended network on your device's Wi-Fi manager. Extended networks are identified by "\_Ext" added to the end of your main network name(s). Password(s) will be the same as those for your main network(s).



**Note**—To learn more about seamless roaming and see a list of supported devices visit [www.linksys.com/seamless-roaming](http://www.linksys.com/seamless-roaming).

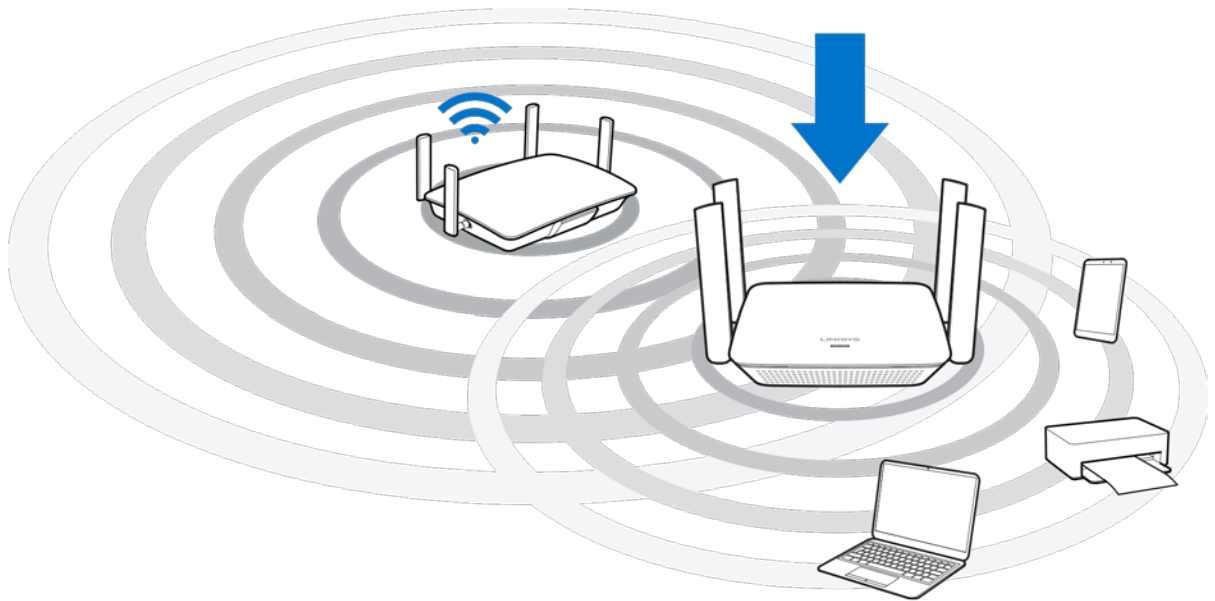
**Your range extender is now set up. Enjoy your extended Wi-Fi coverage.**

## Browser-based setup

Use this setup method if you don't have a WPS button on your router, or if you don't want to use WPS to set up your RE9000.

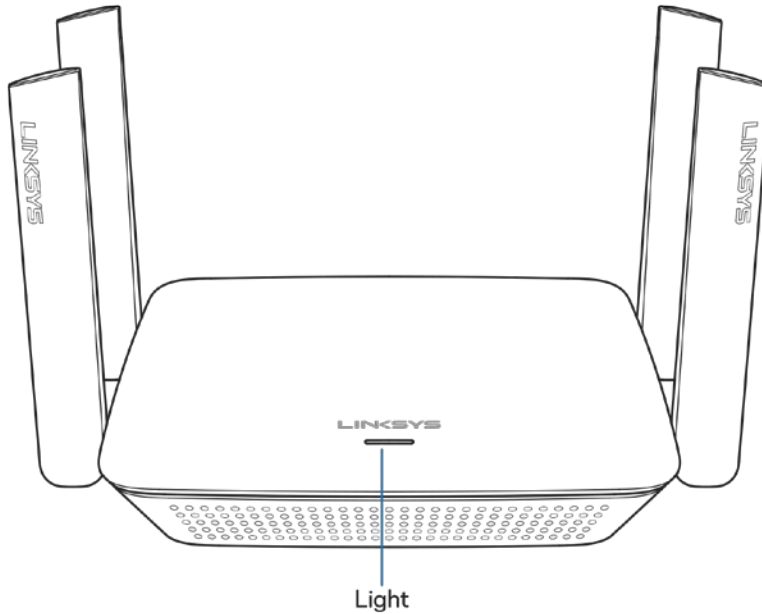
### 1. Plug in the range extender

Plug in the range extender midway between your router and the area without Wi-Fi. Using your mobile device or laptop, be sure you have at least two bars (around 50%) of your router's Wi-Fi signal at that location. If you don't have two bars, move the range extender closer to the router. You can move the range extender to an ideal location later using the setup software.



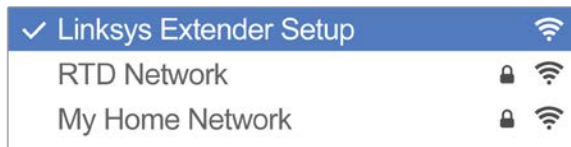
**2. Wait for the light on top of your range extender to blink orange.**

This can take up to a minute



**3. Connect to range extender setup network.**

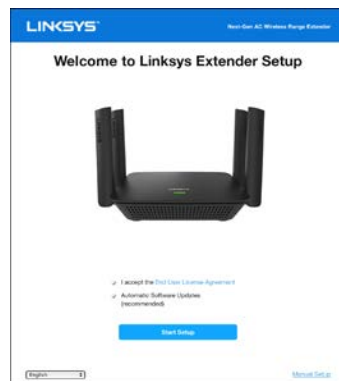
On a computer, phone or tablet, connect to the Wi-Fi network: **Linksys Extender Setup**.



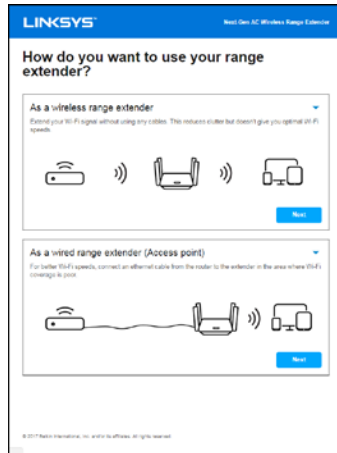
**4. Launch setup.**

Enter <http://extender.linksys.com> (or try <http://192.168.1.1>) in a browser to complete setup. Follow the on-screen instructions:

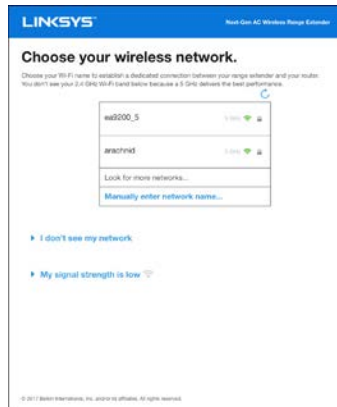
- Welcome to setup.



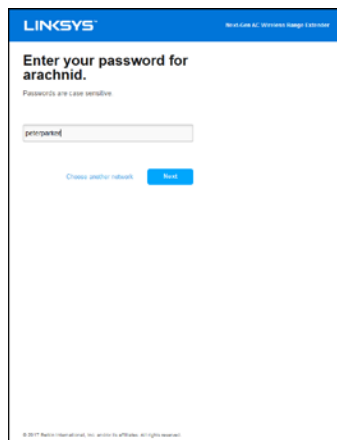
- How do you want to use your range extender?



- Choose your wireless network.



- Enter your password for your wireless network.



- Your extended wireless network.

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### Your extended wireless network.

"EXT" is added to your network name to differentiate your extended network from your main network. It is recommended that your range extender have a unique network name.

**Smart Connect**

Enable Smart Connect can automatically balance your device connections in real time. It selects the best band for each device ensuring optimal device performance.

**2.4 GHz + 5 GHz extended network**

Network name  
extnet\_ext

Password  
peterpeter

Security mode  
WPA2 personal (recommended)

Next

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- Spot finder results

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### Too close to your router.

Router    Too close (Lowest signal)    Just right (Best signal)    Too far (Lowest signal)    Device

Router's WPA2 signal is very strong. You will get better range if you put some space between the router and range extender.

Let's find the right spot between the router and the area to which you want to extend your network.

What would you like to do?

Back    Cancel anyway    Next better location

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- Secure your range extender.

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### Secure your range extender.

This device came with a default admin password. Change it now to make it more secure and memorable. You will use this password to change or view your range extender settings.

Enter a new password  
Enter 8-32 characters

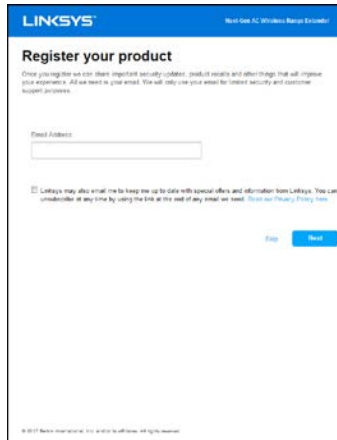
Repeat new password again

Add a password hint (optional)  
e.g., My favorite book = anniversary

Save

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- Register your product.



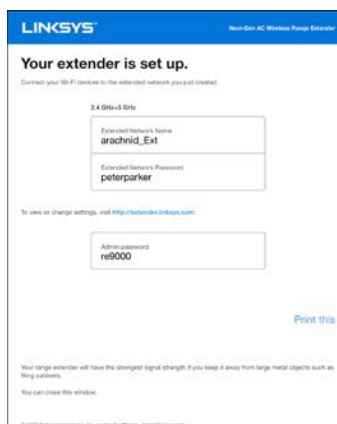
The screenshot shows the 'Register your product' page on the Linksys website. At the top, it says 'LINKSYS' and 'Next-Gen AC Wireless Range Extender'. The main heading is 'Register your product'. Below this, there is a text box for 'Email Address'. A checkbox is present with the text: 'Linksys may also email me to keep me up to date with special offers and information from Linksys. You can unsubscribe at any time by using the link at the end of any email we send.' There are 'Skip' and 'Next' buttons at the bottom right. A small copyright notice is at the bottom left.

- You are almost done.



The screenshot shows the 'You are almost done' page. It includes instructions: '1. Open the wireless menu on this device and choose the Wi-Fi name arachnid\_Ext', '2. Enter your password for the selected network and confirm', and '3. Return to this page and wait for the "Done!" button to turn blue. Then click "Next" to continue.' An inset image shows a device's wireless menu with 'arachnid\_Ext' selected. Below the instructions, it shows the network name '2.4 GHz+ 802.11n', 'Wi-Fi name: arachnid\_Ext', and 'Password: peterparker'. A 'Next' button is at the bottom right.

- Your extender is set up.



The screenshot shows the 'Your extender is set up' page. It says '2.4 GHz+ 802.11n' and 'Connected your Wi-Fi devices to the extended network you just created.' It displays the 'Extended Network Name' as 'arachnid\_Ext' and the 'Extended Network Password' as 'peterparker'. Below this, it says 'To view or change settings, visit http://rextender.linksys.com.' and shows the 'Admin password' as 're9000'. There is a 'Print this' link at the bottom right. A small note at the bottom says 'Your range extender will have the strongest signal strength if you keep it away from large metal objects such as filing cabinets. You can't reuse this website.' A copyright notice is at the bottom left.

**Note**—If you are not connected to your range extender's setup network you will get a page alerting you that you haven't connected to the extender. The page will ask whether you are trying to set up a new range extender or access settings on a range extender you already set up.

Sometimes you will get a "404 Not Found" error page. If that happens, clear your browser cache and try again.

#### **5. Connect your Wi-Fi devices to the extended network you just created.**

If you have set up your range extender with a Linksys Max-Stream router, you don't have to do anything. Max-Stream routers support seamless roaming, and your extended Wi-Fi network shares the same network name and password. Connected devices will select the main or extended network as you move around the coverage area.

If you do not have a router with seamless roaming, select the extended network on your device's Wi-Fi manager. Extended networks are identified by "\_Ext" added to the end of your main network name(s). Passwords will be the same as those for your main network(s).

## Setting up as wired range extender (access point)

### Browser-based setup

#### **1. Prepare for setup**

Be sure your router has a working internet connection and you have an ethernet cable long enough to connect the router to the range extender.

**Note**—Do not connect any devices other than your router to the range extender until setup is complete.

#### **2. Plug the range extender into a wall outlet.**

#### **3. Wait for the blinking light on the top of the range extender to change from green to orange.**

#### **4. Use an ethernet cable to connect the range extender to the LAN port of your router.**

## 5. Connect to the Linksys Extender Setup network.

On a computer, phone, or tablet, connect to the Wi-Fi network Linksys Extender Setup.



## 6. Launch setup.

Enter <http://extender.linksys.com> (or try <http://192.168.1.1>) in a browser to complete setup. Be sure to choose "As a wired range extender (access point)" when asked how you want to use your range extender. Follow the on-screen instructions to create a network name and password for your access point.

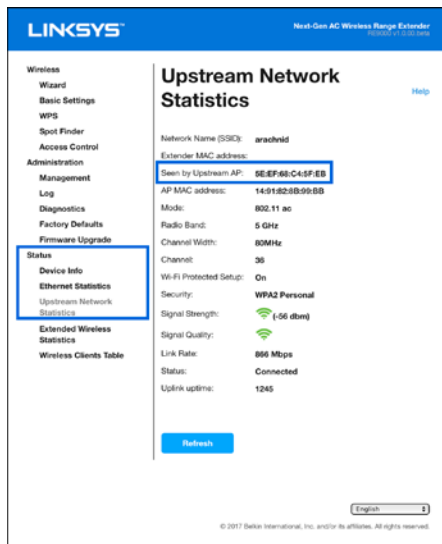
## 7. Connect your Wi-Fi devices to the extended network you just created.

Select the extended network on your device's Wi-Fi manager. Extended networks are identified by "\_Ext" added to the end of your main network name(s).

**Note**—If your router's MAC filtering feature is on you must enter the MAC address of the extender into the list of the router's allowed addresses. That will allow the extender, and devices connected to extended networks, to connect to the main network.

For speed and reliability, the RE9000 uses one of its 5 GHz bands as a dedicated connection to your router. The MAC address of the extender's 5GHz band can be found on the Status > Upstream Network Statistics screen in your extender's settings. Look for "Seen by Upstream AP." The MAC address of the extender's ethernet port is identified as Extender Mac Address on the Status > Device Info screen.

Once the extender can access the router, all devices connected to the extender have access as well.



**LINKSYS** Next-Gen AC Wireless Range Extender

Wireless  
Wizard  
Basic Settings  
WPS  
Spot Finder  
Access Control  
Administration  
Management  
Log  
Diagnostics  
Factory Defaults  
Firmware Upgrade

### Upstream Network Statistics

Network Name (SSID): arachnid  
Extender MAC address: [Redacted]  
Seen by Upstream AP: **08:EF:98:C4:8F:E9**  
AP MAC address: 14:01:82:08:99:8B  
Mode: 802.11 ac  
Radio Band: 5 GHz  
Channel Width: 80MHz  
Channel: 36  
Wi-Fi Protected Setup: On  
Security: WPA2 Personal  
Signal Strength: [Redacted] (56 dbm)  
Signal Quality: [Redacted]  
Link Rate: 866 Mbps  
Status: Connected  
Uplink uptime: 1245

Refresh

English

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Wireless  
Wizard  
Basic Settings  
WPS  
Spot Finder  
Access Control  
Administration  
Management  
Log  
Diagnostics  
Factory Defaults  
Firmware Upgrade

### Device Info

Firmware Version: 1.0.00.beta, build 4, Jun 23, 2017  
Firmware Verification: bba12bffa15a7406cc44182b14ddfd6  
System Time: Thu Aug 3 16:33:51 2017  
Up Time since last reboot: 06:21:53  
Extender Mac Address: **08:EF:98:C4:8F:E9**

### Network Address

Connection Type: Automatic Configuration - DHCP  
IP Address: 10.148.1.99  
Subnet Mask: 255.255.255.0  
Default Gateway: 10.148.1.1

Refresh

English

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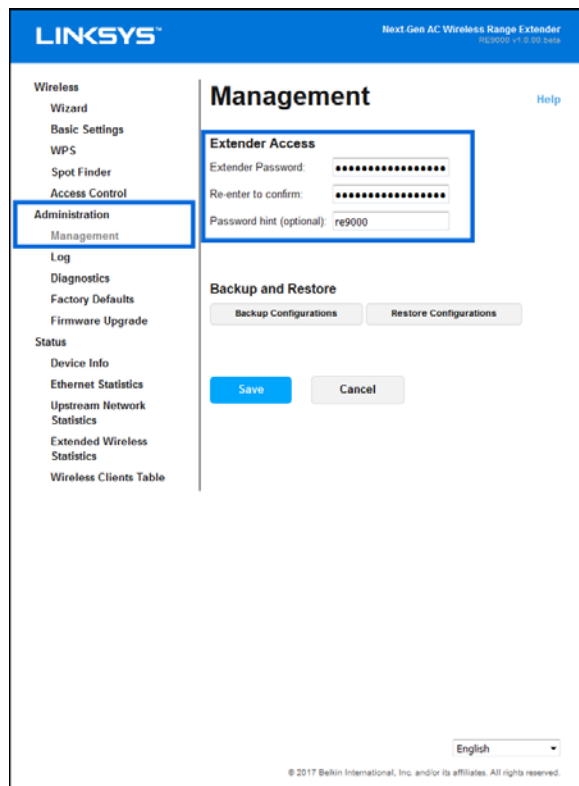


# How to Access the Settings Interface

To change or view range extender settings, first connect to an extended network, e.g., MyWiFi\_Ext. In a browser, go to <http://extender.linksys.com> and enter admin password.

Your range extender's default admin password is "admin". We highly recommend that you change this after WPS setup. You will be asked to change it if you do browser-based setup.

To change your admin password, click the *Management* tab of the settings interface and enter a new password under *Extender Access*.



If you have not changed the range extender's default name, you can also access the settings interface when connected to your main router.

Enter into a browser <http://RE90000> (Windows) or <http://RE9000.local> or (Mac OS X or iOS).

If you changed your range extender's name, you can access the settings interface by entering the new name in a browser. For example: if you named your extender MyExtender, enter <http://MyExtender> (Windows) or <http://MyExtender.local> (Mac OS X or iOS).

You can also enter your range extender's IP address in a browser. Find the IP address on your router's administrative interface.

**Note**—*If you are not connected to your extended network you will get a page alerting you that you haven't connected to the extender. The page will ask whether you are trying to set up a new range extender or access settings on a range extender you already set up.*

*Sometimes you will get a "404 Not Found" error page. If that happens, clear your browser cache and try again.*

# Using Range Extender Settings

Click *Help* on the right side of the screen for additional information on the screen's options.


Changes to settings will not be effective until you click **Save** at the bottom of the screen. You also can click **Cancel** to clear any changes.

**LINKSYS™** Next-Gen AC Wireless Range Extender  
RE9000 v1.0.00.beta

**Wireless**  
Wizard  
Basic Settings  
WPS  
Spot Finder  
Access Control  
Administration  
Management  
Log  
Diagnostics  
Factory Defaults  
Firmware Upgrade  
Status  
Device Info  
Ethernet Statistics  
Upstream Network Statistics  
Extended Wireless Statistics  
Wireless Clients Table

## Basic Settings [Help](#)

**Extender IP address**

**Upstream Network Setting**  
Status: **Connected**  
Signal Strength:   
Network Name (SSID):   
Password:   
[Advanced settings](#)

**Extended Wireless Settings**  
 Smart Connect  
Smart Connect selects the best Wi-Fi band for all connected devices. It balances device connection in real time to deliver the best Wi-Fi performance.

**2.4 GHz + 5 GHz Extended Wireless Settings**  
 Enabled  
 Make same as router settings.  
Network Name (SSID):   
Password:   
[Advanced settings](#)

**Network Setup**  
Extender Name:   
Friendly Name:

**Time Settings**  
Time Zone:   
 Automatically adjust clock for daylight saving changes.

**Reboot**

## WPS

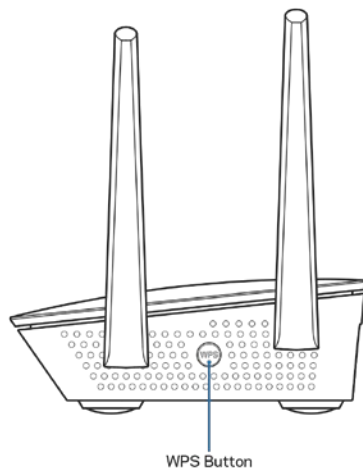
WPS makes it easy to connect your extender to your network, and connect other devices to your network through the extender.

**Connecting the range extender to an existing access point or wireless router (see p. 6)**

**Connecting devices to your network through the range extender**

Repeat the instructions for each client device that supports WPS.

### 1. Connecting with the WPS Button



- a. Press the WPS button on the client device.
- b. Click the WPS button on the extender's WPS screen, OR press and hold the WPS button on the side of the extender for one second. When the connection is complete, the light on the top of the range extender will be solid green for 20 seconds. If the light blinks orange for two minutes, the connection failed. Go back to the previous step and try again.
- c. If using the extender's WPS screen, be sure to click **OK** within two minutes or you will have to start over.

## 2. Connecting with the client device's PIN



- a) Enter the PIN from the client device in the field on the extender's WPS screen.
- b) Click Register on the extender's WPS screen. When the connection is complete, the light on the top of the range extender will be solid green for 20 seconds.
- c) Click **OK** on the extender's WPS screen within two minutes or you will have to start over.

## 3. Connecting with the extender's PIN

- a) On the client device, enter the PIN listed on the extender's WPS screen. (It is also listed on the product label on the back of the extender.)
- b) Click **OK** on the client device's WPS screen within two minutes.

# Access Control

All devices connected to your range extender can access your Wi-Fi network if the extender can access the router. Use the Access Control feature to restrict certain devices. On the *Wireless > Access Control* screen you can specify the MAC addresses of devices to allow or deny.

The screenshot shows the Linksys web interface for the 'Access Control' feature. The top navigation bar includes the Linksys logo and the product name 'Next-Gen AC Wireless Range Extender RE9000 v1.0.00 beta'. A left sidebar lists various settings categories: Wireless (Wizard, Basic Settings, WPS, Spot Finder, Access Control), Administration (Management, Log, Diagnostics, Factory Defaults, Firmware Upgrade), and Status (Device Info, Ethernet Statistics, Upstream Network Statistics, Extended Wireless Statistics, Wireless Clients Table). The main content area is titled 'Access Control' and includes a 'Help' link. It features a radio button to toggle between 'Enabled' and 'Disabled', with 'Enabled' selected. Below this is an 'Access Mode' dropdown menu set to 'Allow'. An 'Add a Device' section contains a 'Wireless Client' dropdown menu set to 'Host name' and a 'MAC Address' text input field, each with a 'Save' button. The 'Access Control List' section shows 'MAC Address: None'. At the bottom of the main area are 'Save' and 'Cancel' buttons. A language dropdown menu is set to 'English' at the bottom right. The footer contains the copyright notice: '© 2017 Belkin International, Inc. and/or its affiliates. All rights reserved.'

# Troubleshooting

Your range extender works on 2.4GHz and 5 GHz networks.

## You cannot get your range extender connected

Check the position of your router and extender.

- For first-time setup, you may need to place the extender closer to the router. After you've set up your extender, you can unplug it and move it to the final location.
- To reduce signal obstructions, try alternate locations for the router and extender.
- Avoid placing the router and extender near metal objects, masonry walls, and reflective surfaces such as glass or mirrors.
- Avoid placing the router and extender near other electronics that may cause signal interference.

If you're using Wi-Fi Protected Setup to connect, wait until the WPS button light changes from solid orange to off before trying to make the connection again.

## You cannot access your range extender

To access your range extender, you must be connected to your extended network. If you currently have wireless internet access, the problem may be that you have accidentally connected to a different wireless network.

To fix the problem on Windows computers\*:

1. On your Windows desktop, click on the wireless icon in the system tray. A list of available networks will appear.
2. Click your extended network name. Click Connect. In the example below, the computer was connected to another wireless network named wraith\_5GHz. Your extended network name, Damaged\_Beez2.4\_Ext in this example, is shown selected.

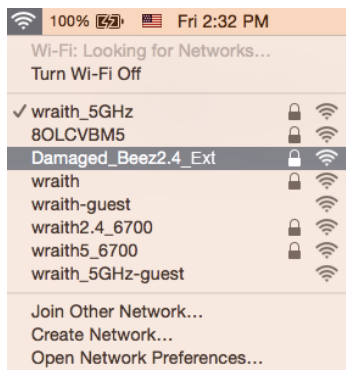


3. If you are prompted to enter a network security key, type your password (security key) into the network security key field. Click **OK**.
4. Your computer will connect to the extended network, and you should be able to access the range extender's settings interface.

*\*Depending on your version of Windows, there could be some differences in wording or icons in these steps.*

To fix the problem on Mac computers, do the following:

1. In the menu bar across the top of the screen, click the Wi-Fi icon. A list of wireless networks will appear.
2. In the example below, the computer was connected to another wireless network named wraith\_5GHz. Your extended network name, Damaged\_Beez2.4\_Ext in this example, is shown selected.



3. Click the extended network name of your range extender (Damaged\_Beez2.4\_Ext in the example).
4. Type your wireless network password (Security Key) into the Password field. Click **OK**.



## You have intermittent connection problems

Plug in the range extender midway between your router and the area without Wi-Fi. Be sure you have at least 50% of your router's Wi-Fi signal at that point on the device you used for setup. If you have two bars or lower, move closer to your router.

To check the signal strength for individual devices connected to the extended network, go to the *Status > Wireless Clients Table*.

The screenshot shows the Linksys web interface for a Next-Gen AC Wireless Range Extender. The main content area is titled "Wireless Clients Table" and contains two tables. The first table is for the "2.4 GHz Extended Network" and is currently empty. The second table is for the "5 GHz Extended Network" and contains one entry for a client named "Christopher".

2.4 GHz Extended Network			
Clients Name	Global MAC	IP Address	Signal
None	None	None	None

5 GHz Extended Network			
Clients Name	Global MAC	IP Address	Signal
Christopher	18.65.90.DA.89.59	10.148.1.193	

At the bottom of the table area, there are "Save" and "Refresh" buttons. The interface also includes a language dropdown menu set to "English" and a copyright notice for 2017 Belkin International, Inc.

# Specifications

## RE9000

Description	Tri-Band Wireless-AC Range Extender
Standards	IEEE 802.11ac/a/b/g/n
Ports	4 x Gigabit Ethernet
Buttons	Reset, Wi-Fi Protected Setup™
Lights	Power/Status, Wi-Fi Protected Setup, Ethernet (link, activity)
Wireless Security	WEP, WPA-Personal and WPA2-Personal

## Environmental

Dimensions	170 mm x 136 mm x 45 mm (6.7 in x 5.35 in x 1.77 in)
Weight	.36 kg (.79 lb)
Power	External AC/DC power supply: 100-240V, 2A, 50/60 Hz
Certification	FCC , ICES 003, Wi-Fi (IEEE 802.11a/b/g/n), WPA2™, WMM®, Wi-Fi Protected Setup™
Operating Temp.	32 to 104°F (0 to 40°C)
Storage Temp.	-4 to 140°F (-20 to 60°C)
Operating Humidity	10 to 80% non-condensing
Storage Humidity	5 to 90% non-condensing

Specifications are subject to change without notice.

Visit [linksys.com/support/RE9000](http://linksys.com/support/RE9000) for award-winning 24/7 technical support.

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