belkin™

N300
Wi-Fi® RANGE EXTENDER

User Manual

F9K1015v1   8820ed01753uk Rev. A00

ENGLISH

TABLE OF CONTENTS

GETTING STARTED

Congratulations on buying an N300 Wi-Fi Range Extender (the Range Extender). This device will enable you to extend the range of your dual-band router to eliminate "dead spots" in your wireless network. The Range Extender extends your 2.4GHz network.

What's in the Box

N300 Wi-Fi Range Extender

Quick Installation Guide

User Manual on CD

Initial Setup

To get started, you will need:

- Your primary wireless router, its network name (SSID), and password.

- A personal computer with a web browser

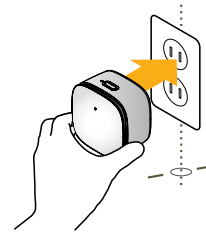## Set Up Your Range Extender Wirelessly

Step 1

Find a spot that receives about half of your router's Wi-Fi signal.

Step 2

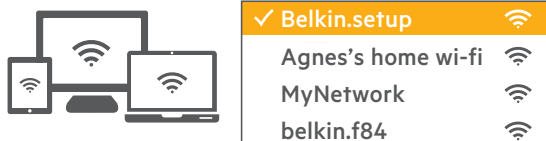Find a power outlet near that spot and plug in your Range Extender.

Step 3

On your device, connect to the Wi-Fi network "belkin.setup"

On Windows Vista or Windows 7, please check the option "Connect Automatically" when you select the network.

Step 4

Complete setup by opening browser to:

✓ Belkin.setup

Agnes's home wi-fi

MyNetwork

belkin.f84

http://Belkin.range

How to reset the Range Extender and get it connected if you change your router's network name or password:

Step 1: Locate the Range Extender's reset button on the base of the unit.

Step 2: With the unit still powered on, press and hold the Range Extender's reset button for 10 seconds.

Step 3: Connect your computer to the "Belkin.setup" wireless network. Make sure nothing is plugged into your Ethernet port.

Step 4: In your Internet browser, open the address "http://Belkin.range" and follow the on-screen instructions.

GETTING TO KNOW YOUR WI-FI RANGE EXTENDER

A) Wi-Fi Protected Setup (WPS) Light and Button (not pictured)

The WPS button on the top of your Range Extender can be used to help establish a secure connection between your Range Extender and other WPS-enabled Wi-Fi devices such as computers. To use the WPS feature on your Range Extender, see "Advanced Settings > Wi-Fi Protected Setup > Using Wi-Fi Protected Setup."

The small LED light near the WPS button shows what is happening while you are using WPS to establish a connection.

Off: Idle

Blinking Blue: The Range Extender is listening for a WPS-enabled computer or other device.

Solid Blue: The Range Extender has made a secure connection with the computer or other device.

Blinking Amber: A connection was not created.

B) Status Light

Your Range Extender's status is shown by the light on the front.

Off: The Range Extender is not plugged into a power source.

Blinking Blue: The Range Extender is starting up.

Solid Blue: The Range Extender is connected to the Wi-Fi® network.

Solid Amber: The Range Extender is connected to the Wi-Fi network but is experiencing a weak signal. A weak signal may lead to performance problems. Consider moving the Range Extender closer to the wireless router.

Blinking Amber: The Range Extender is not connected to the Wi-Fi network. Check to make sure that your wireless router is functioning properly, and/or move the Range Extender closer to the wireless router.

Alternating Blue/Amber: The Range Extender is ready to be set up. (Refer to "Getting Started" for instructions on how to set up your Range Extender.)

C) Reset Button (not pictured)

This button is used to restart your Range Extender in rare cases when it functions incorrectly. Resetting the Range Extender will preserve your settings. This button may also be used to restore the factory default settings. Please see the Troubleshooting section for more information.

TECHNICAL DETAILS

System Requirements

802.11/b/g/n 2.4GHz wireless router with broadband Internet connection

At least one computer with:
- Installed wireless network interface card and TCP/IP protocol
- Windows® XP 32 (SP3 or greater), Windows Vista® 32/64, or Windows 7 32/64; or Mac OS® X v10.5 or above
- Internet Explorer® v7 or above, Firefox®, Google Chrome™, or Safari®
- Minimum 1.8GHz processor
- Minimum 512MB RAM

Specifications

Wireless Standards with Link Rate
- IEEE 802.11n (up to 300Mbps for 2.4GHz)
- IEEE 802.11g (up to 54Mbps*)
- IEEE 802.11b (up to 11Mbps*)

Wireless Operating Spectrum:
- 2.4GHz

Wireless Security:
- Wi-Fi Protected Setup™
- 256-bit WPA®/WPA2® encryption
- 64/128-bit WEP encryption

ADVANCED SETTINGS

Connecting to the Web Interface

When you are connected to your Range Extender, you can
access the Range Extender's Web-Based Advanced User
Interface (UI) using your Internet browser. In your browser,
type "belkin.range." Then press the "Enter" key.

http://Belkin.range
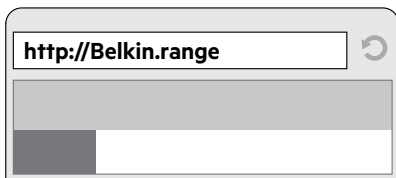
The Status Page

This page shows the detailed status of your Range Extender. The meaning of the various items is detailed below.

1. Quick-Navigation Links

You can go directly to any of the Range Extender's advanced UI pages by clicking directly on these links.

2. Language

Shows the active language for the Advanced User Interface. Select the desired language by clicking one of the available languages.

3. Version Info

The Version Info section gives you information on the hardware part number, version number, firmware version, and serial number. Belkin Technical Support may ask you for this information in certain troubleshooting situations.

4. Features

This section details whether the WPS function is enabled or disabled.

5. 2.4GHz Extender

These sections provide detailed information on the extended network.

Logging into the Firmware

The Range Extender's home page is visible to any user who wants to see it. To make any changes to the Range Extender's settings, you have to log in. Clicking on any one of the links on the home page will take you to the login screen. The Range Extender ships with no password entered. In the login screen, leave the password blank and click the "Submit" button to log in.

Configuring the 2.4GHz Wireless Connection

This option will change the settings for the Range
Extender's connection to your main 2.4GHz network.
You can use this option for the following tasks:
• Connecting to a different wireless network
• Updating the settings after you've changed the wireless settings
(e.g., security type or password) on your Range Extender

Click on the "2.4GHz Wireless Connection"
link on the left side of the screen.

The Range Extender will provide the following options:

Network Name (SSID)
This is the name of the 2.4GHz network you wish to extend.
Security Type
You must specify the type of security for your Range
Extender (WPA2, WPA, WEP, or None).
Password (Key)
This is the password or passkey that you normally
use to connect to your wireless router.

Extended Network Settings

These options enable you to configure your Extended Networks.

SSID Settings

This screen enables you to configure the SSID, security, and other features of your Extended Network.

We recommend accepting the default values here, which will mirror your main network. However, if you wish to change settings for the Extended Network, you can do so here.

For the network, you may configure the following:

Network Name (SSID)
This is the name of your extended Wi-Fi Range Extender as it will show up when you try to connect to it from a laptop, tablet, etc.

Broadcast SSID
Note: This advanced feature should be employed by advanced users only. For security, you can choose not to broadcast your extended network's SSID. Doing so will keep your network name hidden from computers that are scanning for the presence of wireless networks. To turn off the broadcast of the SSID, remove the check mark from the box next to "Broadcast SSID", and then click "Apply Changes." The change is immediate. Each wireless computer or device now needs to be set to connect to your specific SSID. Refer to the documentation of your computer, tablet, or other device.

Protected Mode
Protected mode ensures proper operation of draft 802.11n-compliant devices on your wireless network when 802.11g or 802.11b devices are present or when there is heavy 802.11g or 802.11b traffic in the operating environment. Use protected mode if your network consists of a mix of Belkin Double N+ Wireless Cards and 802.11g or 802.11b cards. If you are in an environment that includes little to no 802.11g or 802.11b wireless network traffic, you will achieve the best wireless performance with protected mode OFF. Conversely, in an environment with HEAVY 802.11g or 802.11b traffic or interference, you will achieve the best wireless performance with protected mode ON. This will ensure wireless performance is not affected.

802.11e/WMM QoS
802.11e/WMM QoS is a feature that prioritizes the traffic on your wireless network based on the type of traffic. We recommend leaving this enabled for optimal performance.

Security

This screen enables you to change the wireless security settings such as WPA or WEP.

We recommend leaving the settings you used when you went through the Setup Wizard. By default, your Range Extender will use the same security settings as your main network. However, if you wish, you may specify different security settings here.

Security Type: You may specify the type of security here. Available options are WPA2/WPA, WEP, and None (no security). We recommend you use the same type of security as your main router.

Password (Key):

For WPA2 security, this can be any set of characters from 8 to 63 characters in length, (only accept printable ASCII characters). For WEP security, this must be a string of "hex characters" (0-9 or A-F). (If you specify "None" for the security, this field will be hidden.) We recommend you use the same password as your main router.

Obscure password:

If this box is checked, the password will be obscured in your browser so that others cannot see it when you type it in.

belkin   Wireless Range Extender

Status
2.4 Ghz Wireless Connection
Extended Network Settings
SSID Settings
Security
Wi-Fi Protected Setup
(WPS)
Utilities
Restart Extender
Restore Factory Defaults
Firmware Update
Administrator Password
Log

Security

2.4 Ghz

Security Type   WPA/WPA2

Password (Key)   YYYYYYY

☐ Obscure Password

[Clear Changes] [Apply Changes]

Wi-Fi Protected Setup

Your Wi-Fi Range Extender supports the Wi-Fi Protected Setup™ (WPS) specification, which simplifies the setup of a wireless network. WPS uses familiar methodologies, such as typing in a Personal Identification Number (PIN) or pushing a button, to enable users to automatically configure network names and strong WPA/WPA2 data encryption and authentication.

Using Wi-Fi Protected Setup™

Belkin recommends that you set up WPA2 as your wireless security. WPS does not provide additional security, but rather simplifies the addition of wireless devices to your wireless network. You may use either the Push Button Configuration (PBC) method or PIN method to allow a device access to your wireless network.
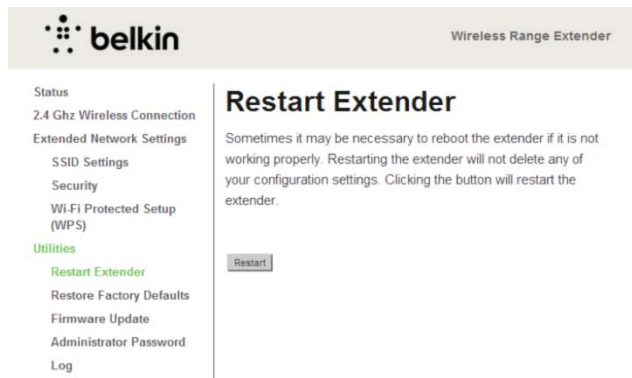
PBC: Push and hold the WPS button located on the front of your Range Extender for two seconds and the security LED will flash, indicating that WPS has been initiated. Then, initiate WPS on the client device within two minutes (refer to your client's documentation on this procedure). The wireless device and Range Extender will automatically exchange a security key and establish a secure connection.

PIN: The client device has a WPS PIN number (eight digits) that will be provided to you when you initiate the connection to the Range Extender. Enable WPS through the screen illustrated to the below. Enter the client's PIN into the Range Extender's internal registrar (accessed through this screen). The client will be securely enrolled into your wireless network within two minutes.

Restart your Wi-Fi Range Extender

Restoring Factory Defaults

In some situations, it may be necessary to restore factory defaults; this will restore the unit to the settings when you pulled it out of the box. If you do this, you'll need to set it up again.

belkin   Wireless Range Extender

Status
2.4 Ghz Wireless Connection
Extended Network Settings
  SSID Settings
  Security
  Wi-Fi Protected Setup
  (WPS)
Utilities
  Restart Extender
  Restore Factory Defaults
  Firmware Update
  Administrator Password
  Log

Restart Extender

Sometimes it may be necessary to reboot the extender if it is not working properly. Restarting the extender will not delete any of your configuration settings. Clicking the button will restart the extender.

Restart

belkin   Wireless Range Extender

Status
2.4 Ghz Wireless Connection
Extended Network Settings
  SSID Settings
  Security
  Wi-Fi Protected Setup
  (WPS)
Utilities
  Restart Extender
  Restore Factory Defaults
  Firmware Update
  Administrator Password
  Log

Restore factory defaults

Using this option will restore the extender to the factory (default) settings. Once in the default condition, the extender will need to be setup again.

Restore factory defaults

To setup after restoring the extender to the factory default state:
1. Restore your extender to the factory defaults using the button on this page.
2. Once the extender has rebooted and is blinking blue/amber, jo belkin.setup.
3. Refresh this page in your browser.
4. Follow the onscreen instructions to complete the setup.

Updating the Range Extender's Firmware via the Web Interface
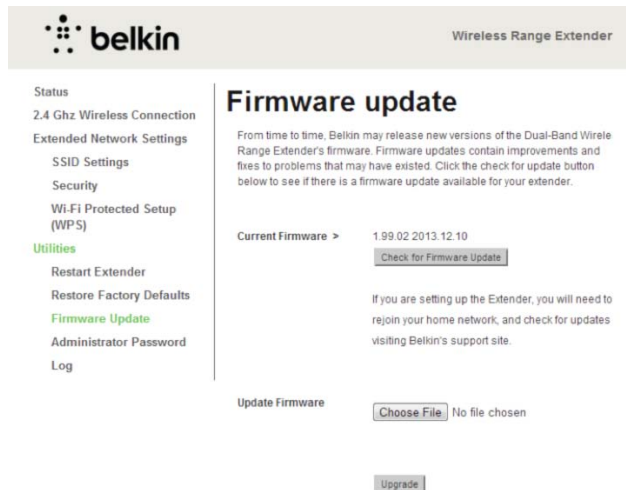
The following steps show you how to update your Wi-Fi Range Extender's firmware using its web interface.

Click the button to "Check for Firmware Updates." This will show you whether there is new firmware available.

Download the firmware file and save it to your PC.

Click "Choose Update File"; a box will open up. Select the firmware file you just downloaded.

Click "Update Firmware."

belkin

Wireless Range Extender

Status
2.4 Ghz Wireless Connection
Extended Network Settings
  SSID Settings
  Security
  Wi-Fi Protected Setup
  (WPS)
Utilities
  Restart Extender
  Restore Factory Defaults
  Firmware Update
  Administrator Password
  Log

Firmware update

From time to time, Belkin may release new versions of the Dual-Band Wirele Range Extender's firmware. Firmware updates contain improvements and fixes to problems that may have existed. Click the check for update button below to see if there is a firmware update available for your extender.

Current Firmware >   1.99.02 2013.12.10

Check for Firmware Update

If you are setting up the Extender, you will need to rejoin your home network, and check for updates visiting Belkin's support site.

Update Firmware   Choose File | No file chosen

Upgrade

Troubleshooting

Belkin Setup cannot find my Wi-Fi Range Extender.

If Belkin Setup is not able to communicate with your Wi-Fi Range Extender during the installation process, please make sure that the Range Extender is powered on.

The Range Extender is having trouble connecting to your wireless network.

Blinking Amber LED

This indicates that the Wi-Fi Range Extender is not connected to your wireless network. Please move the Range Extender closer to your router.

Solid Amber LED

This indicates that the Wi-Fi Range Extender is connected to your wireless network but the signal is weak. You might experience slower performance. Please move the Range Extender closer to your router.

My wireless network performance is slow, inconsistent, suffers from weak signal, or I'm having difficulty maintaining a connection with my wireless network.

Wireless technology is radio-based, which means connectivity and the throughput performance between devices decreases when the distance between devices increases. Other factors that will cause signal degradation (metal is generally the worst culprit) are obstructions such as walls and metal appliances. Note also that connection speed may decrease as you move your computer farther away from the Range Extender. Finally, note that all your wireless devices are sharing the same network. So, if you have another device that is generating a lot of network traffic (for example, transferring large files) that will compromise the performance of other devices on the network. Try moving high-traffic devices closer to the Range Extender, or try wiring them to your router with an Ethernet cable.

Reset Button

The "Reset" button is used in rare cases when the Range Extender may function improperly. Resetting the Range Extender will restore the Range Extender's normal operation while maintaining the programmed settings. You can also restore the factory default settings by using the "Reset" button. Use the restore option in instances where you may have forgotten your custom password.

Resetting the Wi-Fi Range Extender

Push and release the "Reset" button. The light on the Range Extender will momentarily flash and then become solid again, indicating that the reset is complete.

Restoring Your Range Extender to Factory Defaults

Press and hold the "Reset" button for at least 10 seconds, and then release it. The light on the Range Extender will momentarily flash and then will begin to blink. When the light becomes solid again, the restore is complete.

Technical Support

US
http://www.belkin.com/support

UK
http://www.belkin.com/uk/support

Australia
http://www.belkin.com/au/support

New Zealand
http://www.belkin.com/au/support

Singapore
1800 622 1130

Europe
http://www.belkin.com/uk/support

You can find technical-support information on our website, www.belkin.com, by navigating to the tech-support section.

If you want to contact technical support by phone, please call the number you need from this list*:
*Local rates apply.

COUNTRY	NUMBER	INTERNET ADRESS
AUSTRIA	0820 200766	www.belkin.com/de/networking/
BELGIUM	07 07 00 073	www.belkin.com/nl/networking/ www.belkin.com/fr/networking/
CZECH REPUBLIC	239 000 406	www.belkin.com/uk/networking/
DENMARK	701 22 403	www.belkin.com/uk/networking/
FINLAND	0972519123	www.belkin.com/uk/networking/
FRANCE	08 - 25 54 00 26	www.belkin.com/fr/networking/
GERMANY	0180 - 500 57 09	www.belkin.com/de/networking/
GREECE	00800 - 44 14 23 90	www.belkin.com/uk/networking/
HUNGARY	06 - 17 77 49 06	www.belkin.com/uk/networking/
ICELAND	800 8534	www.belkin.com/uk/networking/
IRELAND	0818 55 50 06	www.belkin.com/uk/networking/
ITALY	02 - 69 43 02 51	www.belkin.com/it/networking/
LUXEMBOURG	34 20 80 85 60	www.belkin.com/uk/networking/
NETHERLANDS	0900 - 040 07 90 €0.10 per minute	www.belkin.com/nl/networking/
NORWAY	81 50 0287	www.belkin.com/uk/networking/
POLAND	00800 - 441 17 37	www.belkin.com/uk/networking/
PORTUGAL	707 200 676	www.belkin.com/uk/networking/
RUSSIA	495 580 9541	www.belkin.com/networking/
SLOVAKIA	08000 04614	www.belkin.com/networking/
SLOVENIA	0800 80510	www.belkin.com/networking/
SOUTH AFRICA	0800 - 99 15 21	www.belkin.com/uk/networking/
SPAIN	902 - 02 43 66	www.belkin.com/es/networking/
SWEDEN	07 - 71 40 04 53	www.belkin.com/uk/networking/
SWITZERLAND	08 - 48 00 02 19	www.belkin.com/de/networking/ www.belkin.com/fr/networking/
UNITED KINGDOM	0845 - 607 77 87	www.belkin.com/uk/networking/
OTHER COUNTRIES	+44 - 1933 35 20 00	

Belkin International, Inc., Limited 2-Year Product Warranty

What this warranty covers.

Belkin International, Inc. ("Belkin") warrants to the original purchaser of this Belkin product that the product shall be free of defects in design, assembly, material, or workmanship.

What the period of coverage is.

Belkin warrants the Belkin product for two years.

What will we do to correct problems?

Product Warranty.

Belkin will repair or replace, at its option, any defective product free of charge (except for shipping charges for the product). Belkin reserves the right to discontinue any of its products without notice, and disclaims any limited warranty to repair or replace any such discontinued products. In the event that Belkin is unable to repair or replace the product (for example, because it has been discontinued), Belkin will offer either a refund or a credit toward the purchase of another product from Belkin.com in an amount equal to the purchase price of the product as evidenced on the original purchase receipt as discounted by its natural use.

What is not covered by this warranty?

All above warranties are null and void if the Belkin product is not provided to Belkin for inspection upon Belkin's request at the sole expense of the purchaser, or if Belkin determines that the Belkin product has been improperly installed, altered in any way, or tampered with. The Belkin Product Warranty does not protect against acts of God such as flood, lightning, earthquake, war, vandalism, theft, normal-use wear and tear, erosion, depletion, obsolescence, abuse, damage due to low voltage disturbances (i.e. brownouts or sags), non-authorized program, or system equipment modification or alteration.

How to get service.

To get service for your Belkin product you must take the following steps:

1. Contact Belkin International, Inc., on the phone number listed on the previous page. Be prepared to provide the following information:
   a. The part number of the Belkin product.
   b. Where you purchased the product.
   c. When you purchased the product.
   d. Copy of original receipt.
2. Your Belkin Customer Service Representative will then instruct you on how to forward your receipt and Belkin product and how to proceed with your claim.

Belkin reserves the right to review the damaged Belkin product. All costs of shipping the Belkin product to Belkin for inspection shall be borne solely by the purchaser. If Belkin determines, in its sole discretion, that it is impractical to ship the damaged equipment to Belkin, Belkin may designate, in its sole discretion, an equipment repair facility to inspect and estimate the cost to repair such equipment. The cost, if any, of shipping the equipment to and from such repair facility and of such estimate shall be borne solely by the purchaser. Damaged equipment must remain available for inspection until the claim is finalized. Whenever claims are settled, Belkin reserves the right to be subrogated under any existing insurance policies the purchaser may have.Belkin reserves the right to review the damaged Belkin product. All costs of shipping the Belkin product to Belkin for inspection shall be borne solely by the purchaser. If Belkin determines, in its sole discretion, that it is impractical to ship the damaged equipment to Belkin, Belkin may designate, in its sole discretion, an equipment repair facility to inspect and estimate the cost to repair such equipment. The cost, if any, of shipping the equipment to and from such repair facility and of such estimate shall be borne solely by the purchaser. Damaged equipment must remain available for inspection until the claim is finalized. Whenever claims are settled, Belkin reserves the right to be subrogated under any existing insurance policies the purchaser may have.

Declaration of Conformity with electromagnetic compatibility and electromagnetic interference

We, Belkin International, Inc., of Schiphol-Rijk, Netherlands, declare under our sole responsibility that the device, F9K1015, complies with Directives stated in our EU declaration which can be obtained from our website given below.

Caution: Exposure to Radio Frequency Radiation.

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

CISPR 22 Interference Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to the requirements of EN 55022 and EN 55024. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

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

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 and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC, the EMC Directive 2004/108/EC, and the low-voltage Directive 2006/95/EC. A copy of the European Union CE marking "Declaration of Conformity" may be obtained at the website: www.belkin.com/doc

For information on product disposal please refer to

http://environmental.belkin.com

General Safety Information:

• For indoor installation only

• For installation with supplied power adapter only

• The supplied power adapter is the product's switch-off device. The base socket must be near the product and easily accessible.

belkin.com