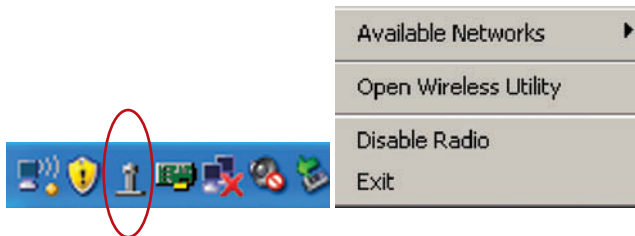## USING THE BELKIN WIRELESS NETWORKING UTILITY

After successfully installing the Belkin Wireless Networking Utility (WNU), configurations for wireless connection and security are just a few easy clicks away.

Accessing the Belkin Wireless Networking Utility from the Windows System Tray

To access the WNU, simply place your mouse pointer and right-click over the WNU icon on the Windows task tray.

If the icon is not present, double-click the Belkin Wireless Networking Utility icon on the desktop screen.

The WNU's default screen is the "Current Status" tab. The "Current Status" tab displays the current Network Status and Available Networks.
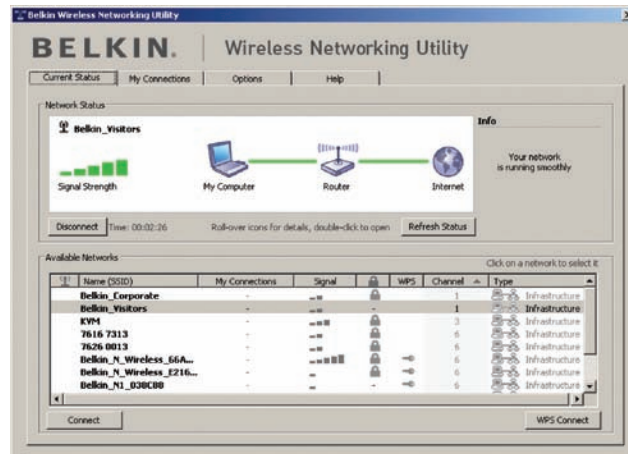
Network Status

This window displays the connectivity status of the current network. It even displays connectivity between the computer and router, and router and Internet. In the event of a connectivity problem, this window can be used to determine the problem's source (e.g. computer, router, or Internet/modem).

Available Networks

This window displays the available networks at the current location as well as their SSID, Signal Strength, Security Type, WPS-enabled connection, Channel, and Network Type.
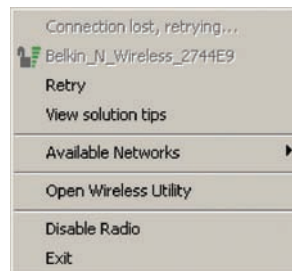
Lost Wireless Connection

If the current wireless connection is lost, a window will pop up and the WNU will attempt to reconnect.
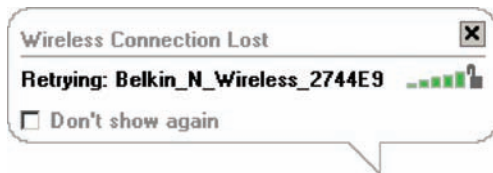
Connection Failure

Right-click on the WNU icon in the Windows task tray and more options will appear. You can retry, view solution tips, or choose another network in the "Available Networks" section.
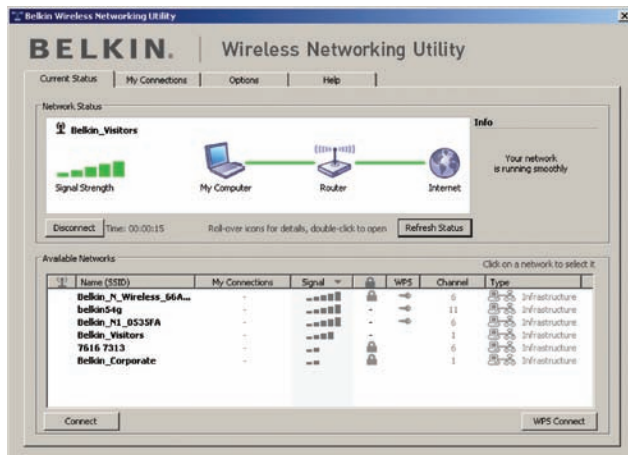
Network Status and Solution Tips

To further understand the current Network Status, click "Open Wireless Utility". The default screen will be the "Current Status" tab and the "Network Status" section determines which connections are good and/or faulty.

The WNU also features an "Info" section that provides troubleshooting tips.

Managing Wireless Network Profiles

The "My Connections" tab on the WNU allows you to add, edit, and delete connection profiles.
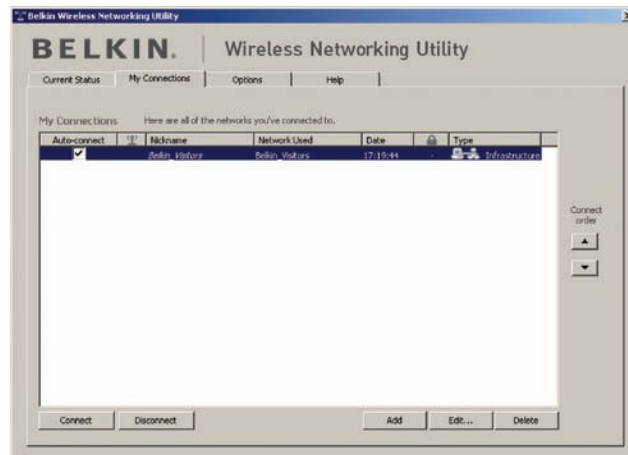
Connecting to a Secure Wi-Fi® Network

If you choose to connect to a secure network, determine the type of security (WPA/WPA2 or WEP) and use the appropriate field in the dialog box.

When you select a network using encryption, you will first see the simple security screen.

Click the "Advanced" button to see other security options, including choosing the security type for this connection.
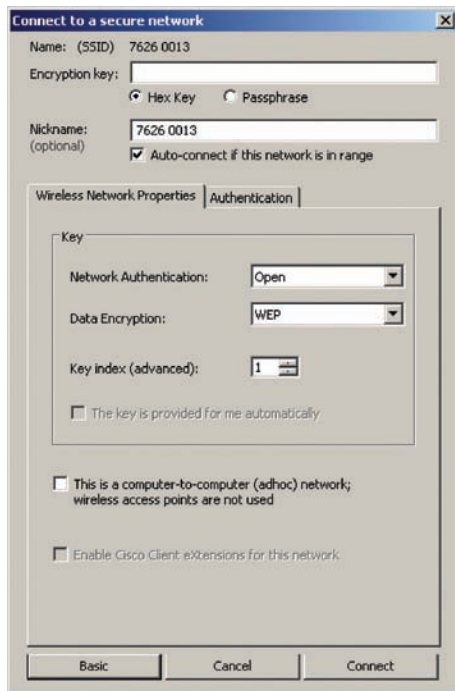
Wireless Equivalent Privacy (WEP) is a less secure, but more widely adopted wireless security protocol. Depending on the security level (64- or 128-bit), the user will be asked to input a 10- or 26-character hex key. A hex key is a combination of letters, a–f, and numbers, 0–9.

Wi-Fi Protected Access (WPA/WPA2) is the new standard in wireless security. Instead of a hex key, WPA/WPA2 uses only passphrases, which are much easier to remember. The passphrase is 8–63 characters and can consist of alphabet letters and numbers.

Using Wi-Fi Protected Setup PBC – Push Button Configuration (Recommended)

1. Click the "WPS Connect" button.
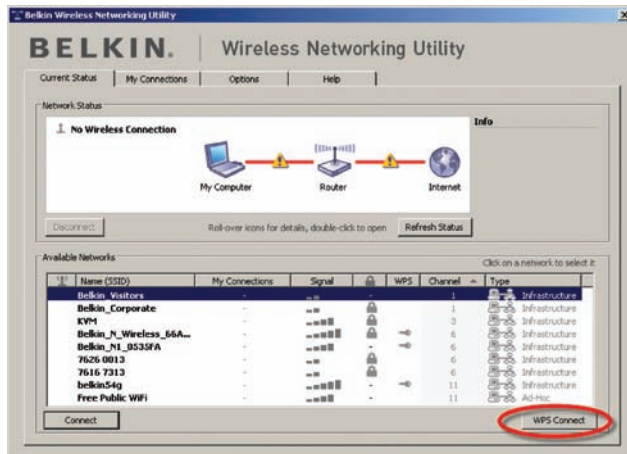
2. For Belkin routers, press the WPS button for two seconds and release. The security icon on the router will flash, indicating that the WPS session has been initiated.
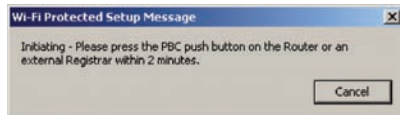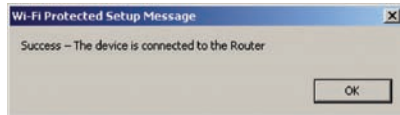
Wi-Fi Protected Setup Message ×

Initiating - Please press the PBC push button on the Router or an external Registrar within 2 minutes.

Cancel

3. You are now connected to the router.

Wi-Fi Protected Setup Message ×

Success – The device is connected to the Router

OK

Using Wi-Fi Protected Setup PIN – Personal Identification Number

To use the WPS PIN method, you must have another computer that is already connected to the network and can access the router interface.

1. Select the network to which to connect and click "Connect". (Please note that there should be a key in the WPS column, indicating that this network is WPS-enabled.)
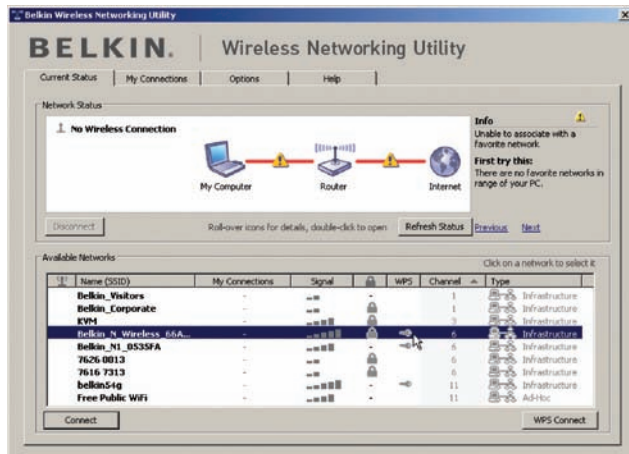
2. Note the PIN number listed and click on "Connect".
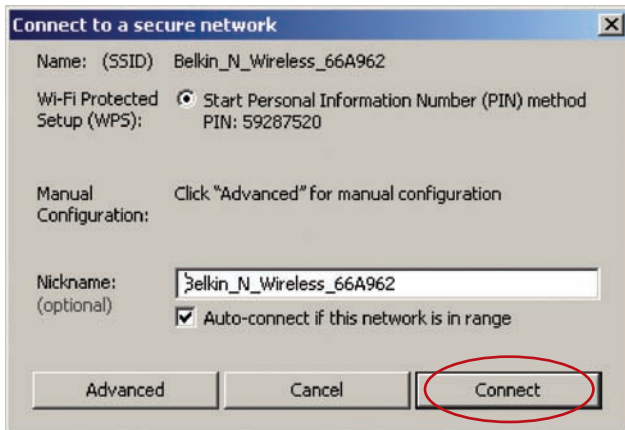
3. On the computer that is already connected to the router, access the router interface, enter the PIN number, and click on "Enroll". Please note that the screenshot below is from a Belkin router; other routers' interfaces will be different.

4. You are now connected to the router.

Wireless Networking Utility Options

The "Options" tab on the WNU provides the user the ability to customize his or her WNU settings.
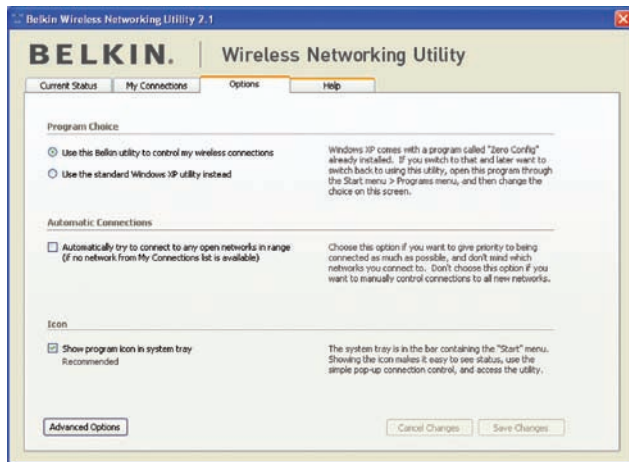
Wireless Networking Utility Help

The WNU "Help" tab provides users with access to online and telephone support, one-click check for upgrades to updated versions of software, and advanced diagnostic tools.
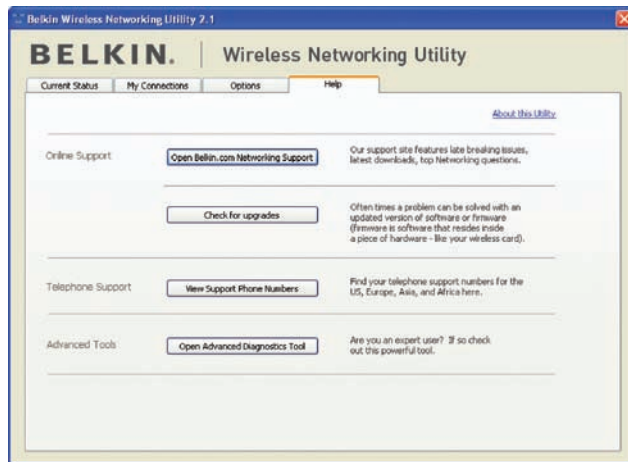
Advanced Diagnostic Tools

The "Advanced Diagnostic Tools" section is the central control panel for all the settings of the hardware and software components of the wireless network. It provides an array of tests and connectivity services to ensure optimal network performance.
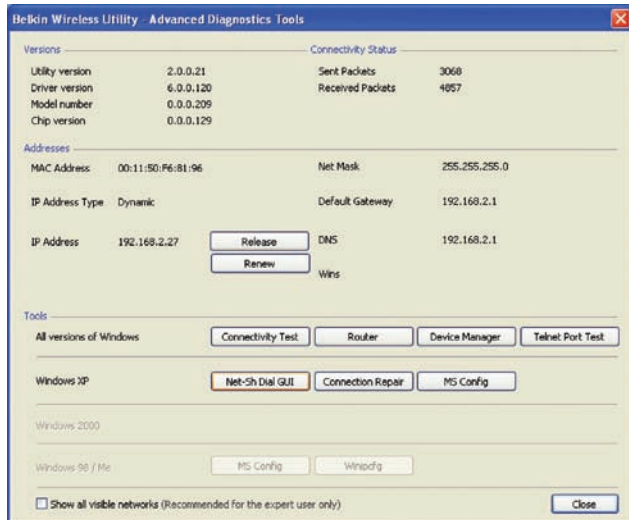
TROUBLESHOOTING

Problem:

I can't connect to the Internet wirelessly.

Solution:

If you are unable to connect to the Internet from a wireless computer, please check the following items:

1. Look at the lights on your wireless router. If you're using a Belkin Wireless Router, the lights should be as follows:

    • The "Power" light should be on.

    • The "Connected" light should be on, and not blinking.

    • The "WAN" light should be either on or blinking.

If your Belkin Wireless Router's lights have the above characteristics, go to number **2** below.

If this is **NOT** the case, make sure:

    • The router's power cord is plugged in.

    • All cables are connected between the router and the modem.

    • All the modem's LEDs are functioning correctly. If not, see your

    modem's user manual.

    • Reboot the router.

    • Reboot the modem.

If you continue to have issues, please contact Belkin Technical Support.

If you are not using a Belkin Wireless Router, consult that router manufacturer's user guide.

2. Open your wireless utility software by clicking on the icon in the system tray at the bottom right-hand corner of the screen. The tray icon should look like this (the icon may be red or green):

3. The window that opens should have a list of "Available Networks".

Available networks are wireless networks to which you can connect.

If you are using a Belkin 802.11g (G Plus) Router, or Belkin 802.11g (54g) Router, "Belkin54g" is the default name.

If you are using a Belkin 802.11b Router, the default name should be "WLAN".

If you are NOT using a Belkin Router, please consult your router manufacturer's user manual for the default name.

Problem:

The name of your wireless network appears in "Available Networks".

Solution:

If the correct network name is listed in the "Available Networks" list, please follow the steps below to connect wirelessly:

1. Click on the correct network name in the "Available Networks" list.

2. If the network has security (encryption) enabled, you must enter the network key. Click "Connect". For more information regarding security, see the page entitled: "Connecting to a Secure Wi-Fi Network" on page 22 of this User Manual.

3. Within a few seconds, the tray icon in the lower right-hand corner of your screen should turn green, indicating a successful connection to the network.

If you are still unable to access the Internet after connecting to the wireless network, please contact Belkin Technical Support.

Problem:

The name of your wireless network DOES NOT appear in the list of "Available Networks".

Solution:

If the correct network name is not listed, check the SSID settings to see if they match. The SSID is case-sensitive and the spelling on each computer must be exactly the same in order for the Adapter to connect to the wireless router (or access point).

Note: To check the SSID settings or look for an available network, double-click the Signal Indicator icon to bring up the "Wireless Networks" screen. Click "Add" if you do not see the network you are trying to connect to and type in the SSID. For more information about setting up an SSID, please reference your router manufacturer's user manual.

If issues persist even at close range, please contact Belkin Technical Support.

Problem:

Installation CD-ROM does not start Belkin Wireless Networking Utility.

Solution:

If the CD-ROM does not start the Belkin Wireless Networking Utility automatically, it could be that the computer is running other applications that are interfering with the CD drive. If the Belkin Wireless Networking Utility screen does not appear within 15-20 seconds, open up your CD-ROM drive by double-clicking on the "My Computer" icon. Next, double-click on the CD-ROM drive in which the Installation CD has been placed to start the installation. If the installation does not start automatically, right-click to select "Explore", then double-click on the icon named "setup.exe".

Problem:

Power LED does not come ON; Adapter is not working.

Solution:

If the LED indicators are not ON, the problem may be that the Adapter is not connected or installed properly. Verify that the Adapter is plugged firmly into the USB port of your computer. Check to see that the drivers for the Adapter have been installed. Right-click on the "My Computer" icon on your desktop. Choose "Properties" and navigate to the "Device Manager" and see if your USB Network Adapter is listed without any errors. If an error is indicated, contact Belkin Technical Support.

Problem:

Link LED is blinking slowly; I cannot connect to a wireless network or the Internet.

Solution:

If your Adapter appears to be functioning properly, but you cannot connect to a network or you have a red wireless icon at the bottom of your screen, the problem may be that there is a mismatch between the network name (SSID) settings in your wireless network properties.

Check the SSID settings to see if they match. The SSID is case-sensitive and the spelling on each computer must be exactly the same in order for the Adapter to connect to the wireless router (or access point).

Note: To check the SSID settings or look for an available network, double-click the Signal Indicator icon to bring up the "Wireless Networks" screen. Click "Add" if you do not see the network you are trying to connect to and type in the SSID.

For more information about setting up an SSID, please reference your router manufacturer's user manual. If issues persist even at close range, please contact Belkin Technical Support.

Problem:

Link LED is solid but I cannot connect to the Internet.

Solution:

If you have a signal but can't get online or obtain an IP address, the problem may be that there is a mismatch between the encryption key settings in your computer and wireless router (or access point). Check the WEP, WPA, or WPA2 key settings to see if they match. The key is case-sensitive and the spelling on each computer and wireless router (or access point) must be exactly the same in order for the Adapter to connect to the router. For more information about encryption, please see "Connecting to a Secure Wi-Fi Network" on page 22 of this User Manual.

If issues persist even at close range, please contact Belkin Technical Support.

Problem:

Data transfer is sometimes slow.

Solution:

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. As a result, the typical indoor range of your wireless devices will be between 100 to 200 feet. Note also that connection speed may decrease as you move farther from the wireless router (or access point).

In order to determine if wireless issues are related to range, we suggest temporarily moving the computer, if possible, to five to 10 feet away from the wireless router (or access point). Please see the section titled "Placement of your Wireless Networking Hardware for Optimal Performance" on page 2 of this User Manual. If issues persist even at close range, please contact Belkin Technical Support.

Problem:

Signal strength is poor.

Solution:

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. As a result, the typical indoor range of your wireless devices will be between 100 to 200 feet. Note also that connection speed may decrease as you move farther from the wireless router (or access point). In order to determine if wireless issues are related to range, we suggest temporarily moving the computer, if possible, to five to 10 feet away from wireless router (or access point).

Changing the wireless channel – Depending on local wireless traffic and interference, switching the wireless channel of your network can improve performance and reliability. The default channel the router is shipped with is channel 6. You may choose from several other channels depending on your region; see your router's (or access point's) user manual for instructions on how to choose other channels.

Limiting the wireless transmit rate – Limiting the wireless transmit rate can help improve the maximum wireless range, and connection stability. Most wireless cards have the ability to limit the transmission rate. To change this property, go to the Windows Control Panel, open "Network Connections" and double-click on your Adapter's connection. In the "Properties" dialog, select the "Configure" button on the "General" tab (Windows 98 users will have to select the USB Network Adapter in the list box and then click "Properties"), then choose the "Advanced" tab and select the rate property. Wireless client cards are usually set to automatically adjust the wireless transmit rate for you, but doing so can cause periodic disconnects when the wireless signal is too weak; as a rule, slower transmission rates are more stable. Experiment with different connection rates until you find the best one for your environment; note that all available transmission rates should be acceptable for browsing the Internet. For more assistance, see your wireless card's literature. If issues persist even at close range, please contact Belkin Technical Support.

Problem:

Why are there two wireless utilities in my system tray?

Which one do I use?

Solution:

There are several features and advantages from using the Belkin Wireless Networking Utility over the Windows XP Wireless Zero Configuration utility. We offer a site survey, detailed link information, and adapter diagnosis, to name a few.

It's essential to know which utility is managing your Adapter. We recommend using the Belkin Wireless Networking Utility. To use the Belkin Wireless Networking Utility, follow the steps below:

Step 1 Right-click on the network status icon in the system tray and select the "Status" tab.

Step 2 From the "Status" tab, uncheck the "Use Windows to configure my wireless network settings" box. Once the box is unchecked, click the "Close" button to close the window.

You are now using the Belkin Wireless Networking Utility to configure the Adapter.

Problem:

The Adapter does not perform or connection is unstable when computer has a second built-in wireless network card (such as a mini PCI or Intel® Centrino™).

Solution:

This condition occurs if your computer has a built-in wireless card while your Belkin Enhanced Wireless USB Adapter is also active. This happens because Windows must now handle two active wireless connections.

You must disable the built-in wireless card from your computer under "Network Adapters" in the Device Manager.

Problem:

The Adapter does not perform or connection is slow when computer has a built-in wired Ethernet card.

Solution:

This condition occurs if your computer has an active Ethernet card while your Adapter is also active. This happens because Windows must now handle two active network connections. You must disable the Ethernet card from your computer under "Network Adapters" in the Device Manager.

What's the difference between 802.11g and draft 802.11n?

Currently there are three commonly used wireless networking standards, which transmit data at very different maximum speeds. Each is based on the designation for certifying network standards. The most common wireless networking standard, 802.11g, can transmit information up to 54Mbps; 802.11a also supports up to 54Mbps, but in the 5GHz frequency; and 802.11n draft specification can connect at up to 300Mbps. See the following chart for more detailed information.

Wireless Technology	G (802.11g)	Enhanced (1x1 draft 802.11n)	N MIMO (draft 802.11n with MIMO)	N1 MIMO (draft 802.11n with MIMO)
Speed/Data Rate*	Up to 54Mbps*	Up to 150Mbps*	Up to 300Mbps*	Up to 300Mbps*
Frequency	Common household devices such as cordless phones and microwave ovens may interfere with the unlicensed band 2.4GHz	Common household devices such as cordless phones and microwave ovens may interfere with the unlicensed band 2.4GHz	Common household devices such as cordless phones and microwave ovens may interfere with the unlicensed band 2.4GHz	Common household devices such as cordless phones and microwave ovens may interfere with the unlicensed band 2.4GHz
Compatibility	Compatible with 802.11b/g	Compatible with 802.11b/g, draft 802.11n, and Belkin G+ MIMO	Compatible with draft 802.11n and 802.11b/g	Compatible with draft 802.11n and 802.11b/g
Coverage*	Up to 400 ft.*	Up to 1,000 ft.*	Up to 1,200 ft.*	Up to 1,400 ft.*
Advantage	Common—widespread use for Internet sharing	Better coverage and consistent speed and range	Enhanced speed and coverage	Leading edge—best coverage and throughput

*Distance and connection speeds will vary depending on your networking environment.

Technical Support

You can find technical support information at http://www.belkin.com/networking or www.belkin.com/support/.

INFORMATION

FCC Statement
DECLARATION OF CONFORMITY WITH FCC RULES FOR ELECTROMAGNETIC COMPATIBILITY

We, Belkin International, Inc., of 501 West Walnut Street, Compton, CA 90220, declare under our sole responsibility that the product, **F6D4050**, to which this declaration relates, complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:
Federal Communication Commission (FCC) Radiation Exposure Statement
This EUT is compliance with SAR for general population/uncontrolled exposure limits in ANSI/IEEE C95.1-1999 and had been tested in accordance with the measurement methods and procedures specified in OET Bulletin 65 Supplement C. This equipment should be installed and operated with minimum distance 0.5 cm between the radiator & your body.

Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

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

off and on, the user is encouraged to try 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.

Modifications

The FCC requires the user to be notified that any changes or modifications to this device that are not expressly approved by Belkin International, Inc., may void the user's authority to operate the equipment.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible. This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

Industry Canada Statement
This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B conforme á la norme NMB-003 du Canada. Operation is subject to the following two conditions:

1) this device may not cause interference, and
2) this device must accept any interference, including interference that may cause undesired operation of the device.

IMPORTANT NOTE:
IC Radiation Exposure Statement

EUT is compliance with SAR for general population/uncontrolled exposure limits in IC RSS-102 and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528. This equipment should be installed and operated with minimum distance 0.5 cm between the radiator & your body.

Belkin International, Inc., Limited Lifetime 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 the lifetime of the product.

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, earthquake, lightning, 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., at 501 W. Walnut St., Compton CA 90220, Attn: Customer Service, or call (800)-223-5546, within 15 days of the Occurrence. 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.

How state law relates to the warranty.

THIS WARRANTY CONTAINS THE SOLE WARRANTY OF BELKIN. THERE ARE NO OTHER WARRANTIES, EXPRESSED OR, EXCEPT AS REQUIRED BY LAW, IMPLIED, INCLUDING THE IMPLIED WARRANTY OR CONDITION OF QUALITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND SUCH IMPLIED WARRANTIES, IF ANY, ARE LIMITED IN DURATION TO THE TERM OF THIS WARRANTY.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

IN NO EVENT SHALL BELKIN BE LIABLE FOR INCIDENTAL, SPECIAL, DIRECT, INDIRECT, CONSEQUENTIAL OR MULTIPLE DAMAGES SUCH AS, BUT NOT LIMITED TO, LOST BUSINESS OR PROFITS ARISING OUT OF THE SALE OR USE OF ANY BELKIN PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

This warranty gives you specific legal rights, and you may also have other rights, which may vary from state to state. Some states do not allow the exclusion or limitation of incidental, consequential, or other damages, so the above limitations may not apply to you.

BELKIN®

Belkin Tech Support
US: 877-736-5771
800-223-5546 ext. 2263
310-898-1100 ext. 2263
UK: 0845 607 77 87
Australia: 1800 235 546
New Zealand: 0800 235 546
Singapore: 65 64857620
Europe: www.belkin.com/support

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