

**IMPORTANT!**

This document has been written in order to provide users with suggestions on improving their existing wireless network. Some of these suggestions are to be used in extreme situations, when little, or no wireless range is experienced. Once the cause is determined, the offending device can be turned back on and troubleshooting can start. The suggestions are not all to be considered fixes, but as troubleshooting steps to help Belkin's technician's understand your problem in more detail.

## Wireless Range/Signal Trouble-shooter

Check your Belkin unit's hardware version and update to the latest firmware

- Step 1** Click on the address below to open Belkin's support product search:  
<http://www.belkin.com/au/support/search/?lid=ena>
- Step 2** In the Product Support Search field, type the model number of your unit. The model number is located underneath the device and usually begins with the letter "F".
- Step 3** Once your search query has found a matching product, click on the model number of your unit.
- Step 4** Under Software & Updates, click on Firmware link.
- Step 5** Click on the down arrow to the download the firmware for your unit. Make sure that you check the version number if applicable.
- Step 6** Save the file to your desktop.
- Step 7** Ensure you have your computer connected directly into the router via an Ethernet cable.
- Step 8** Click on the link to open the router web utility page:  
<http://192.168.2.1>
- Step 9** Click on Firmware Upgrade on the left hand side.
- Step 10** Click on Submit to login, as there is no password by default.
- Step 11** Click on Browse and navigate to the desktop where you saved the file above and click on open.
- Step 12** Click on Apply Changes.
- Step 13** The upgrade process will take approx 60 seconds. DO NOT power off or unplug the router during this time.

### Restore the router to factory defaults

Please note that this procedure will remove all settings from your unit. Make sure that you know your ISP username and password before proceeding. If wireless encryption was previously enabled, you will need to reconfigure wireless encryption again.

**Step 1** Click on Restore Defaults underneath the “Utilities” menu.

**Step 2** Click on Submit to login, as there is no password by default.

**Step 3** Click on Restore Defaults and press OK on any warning messages.

**Step 4** The restore process will take approx 60 seconds.

**Step 5** You will need to set up your Belkin unit again once this procedure is complete. Please follow the instructions in the Belkin user manual, or insert the Easy Install CD to reinstall your unit.

### Update the drivers for your wireless card

**Step 1** Refer to your wireless card or notebook manufacturer for driver support.

**Step 2** If you have a Belkin card, please visit <http://www.belkin.com/au/support/search/?lid=ena> and download the latest drivers for your card. Uninstall any existing drivers before updating to the latest revision

### Try using all available wireless channels (1-11)

Wireless routers can broadcast on several different channels, similar to the way radio stations use different channels. Just like you'll sometimes hear interference on one radio station while another is perfectly clear, sometimes one wireless channel is clearer than others. Try changing your wireless router's channel through your router's configuration page to see if your signal strength improves.

Channel 1 2399.5 MHz - 2424.5 MHz

Channel 2 2404.5 MHz - 2429.5 MHz

Channel 3 2409.5 MHz - 2434.5 MHz

Channel 4 2414.5 MHz - 2439.5 MHz

Channel 5 2419.5 MHz - 2444.5 MHz

Channel 6 2424.5 MHz - 2449.5 MHz

Channel 7 2429.5 MHz - 2454.5 MHz

Channel 8 2434.5 MHz - 2459.5 MHz

Channel 9 2439.5 MHz - 2464.5 MHz

Channel 10 2444.5 MHz - 2469.5 MHz

Channel 11 2449.5 MHz - 2474.5 MHz

**Note:** The available channels supported by the wireless products in various countries are different. For example, Channels 1 to 11 are supported in the U.S. and Canada, and Channels 1 to 13 are supported in Europe and Australia.

**Note:** You don't need to change your computer's configuration, as it will automatically detect the new channel.

**Step 1** Click on the link to open the router web utility page  
<http://192.168.2.1>

**Step 2** Click on Channel and SSID underneath wireless.

**Step 3** Click on Submit to login, as there is no password by default.

**Step 4** Change the wireless channel until you find one that best suits your wireless connection.

**Step 5** Click on Apply Changes.

**Change to channel 12 or 13 (if supported)**

Channel 12 2454.5 MHz - 2479.5 MHz

Channel 13 2459.5 MHz - 2484.5 MHz

- Step 1** Click on the link to open the router web utility page:  
<http://192.168.2.1>
- Step 2** Click on Channel and SSID under the “Wireless” menu.
- Step 3** Click on Submit to login, as there is no password by default.
- Step 4** Change the wireless channel to 13.
- Step 5** Change the wireless network name (SSID). This can be any word.
- Step 6** Click on Apply Changes.
- Step 7** You will need to setup your wireless devices to connect to the SSID once the changes have been applied.

**Change Wireless Mode (40/20 MHz) (Only applicable to N1 units F5D8231au4 and F5D8631au4A)**

- Step 1** Click on the link to open the router web utility page:  
<http://192.168.2.1>
- Step 2** Click on Channel and SSID underneath wireless.
- Step 3** Click on Submit to login, as there is no password by default.
- Step 4** Change the wireless mode from 40mhz to 20mhz.
- Step 5** Click on Apply Changes.

### Turn on protected mode (if applicable)

**Step 1** Click on the link to open the router web utility page:  
<http://192.168.2.1>

**Step 2** Click on Channel and SSID underneath wireless.

**Step 3** Click on Submit to login, as there is no password by default.

**Step 4** Click on the check box next to Protected Mode to remove the tick.

**Step 5** Click on Apply Changes.

### Turn off all cordless phones

- Some cordless phones operate on the same wireless frequency as wireless computing devices – this can cause interference resulting in poor range, and wireless dropouts. When doing this, be sure to remove the battery from the phone as it will still emit a wireless signal otherwise.

### Turn off all mobile phones and PDA units

- As above, some mobile phones and PDA's have built in wireless – they can cause interference resulting in poor range, and wireless dropouts.

### Turn off other electrical devices

- Turn off any wireless receivers or other cordless/wireless devices in house that we have not listed
- Turn off any electrical devices that may interfere with wireless – microwave, radio, stereo units, AV repeaters and any other devices that run on the 2.4Ghz frequencies.

### Change the direction of the wireless antenna on the router

- Make sure that the router's antenna are not obstructed by objects, and are pointing freely into an open area of the house.
- Ensure no interference from metal fixtures, metal frame works etc.
- Ensure you have no glass windows, glass cabinets, fish tanks or solid concrete walls and floors in the wireless line of site between the router and your wireless PC's.
- Change the angle of the wireless antenna from 90 deg ( | ) to 45 deg ( / ) or 0 deg ( \_ ).
- For multi story houses, try setting the antenna at 45 degrees or 0 degrees (parallel with floor) for better wireless coverage.
- Do not connect to the router via a wireless connection at approx 30cm (1 foot). Wireless may not function properly or at all being this close to the unit.

### Relocate router to another location

- Change the location of the router onto a hutch, shelf or cupboard. Make sure that the router is at least 1M (3 feet) from any printers, monitors, surge boards or other electrical equipment etc.
- Locate the router in a different room of the premises.

### If you are achieving maximum range from the unit, but wish to go further

- Purchase a Belkin Wireless Universal Range Extender F5D7231au to increase the wireless range and speed over a greater distance. Wireless repeaters extend your wireless network range without requiring you to add any wiring. Just place the wireless repeater halfway between your wireless access point and your computer, and you'll get an instant boost to your wireless signal strength.