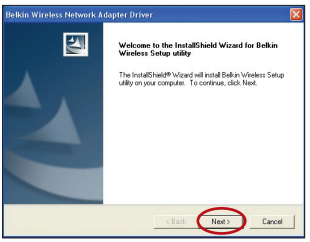
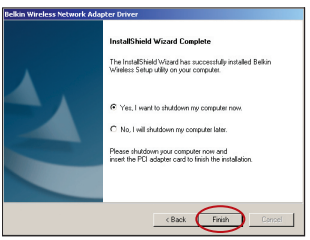


1.4 The installer will now start. Click "Next" and follow the on-screen instructions.



1.5 After the installation is complete, click "Finish" to shut down your computer.

Step 2 | Insert the Card into the Computer

WARNING: Be sure to power off your computer and disconnect your power cord before opening up your computer.

2.1 Remove the screws behind your computer case that secure the computer cover and remove cover.

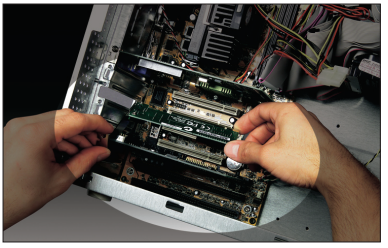
2.2 Touch any metal part of the case to discharge static electricity, to avoid damage your product or your computer.

2.3 Locate an empty PCI expansion slot. It is usually white in color.

2.4 Confirm that the Card will fit into the slot you have chosen. Keep in mind that the included antenna needs to be oriented with the top pointing up. If there are cables and other connectors in the way, try to pick the PCI slot that has the fewest obstructions to the correct positioning of the antenna.

2.5 Remove the metal port cover from the back of the computer that corresponds to the PCI slot you selected. If there is a screw, place it in a safe place, as you will be using it to attach the Card to the computer later.

2.6 Push the Card firmly into the PCI slot that you have chosen. Apply pressure as needed until the connector is fully seated.

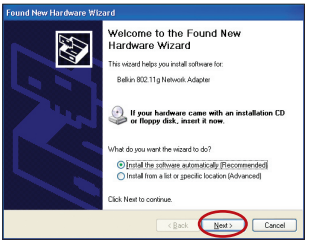


2.7 Now secure the Card with the screw that you previously placed in a safe place.

2.8 Carefully screw the antenna onto the threaded connector on the Card. Turn the antenna until it is vertical and pointing up.

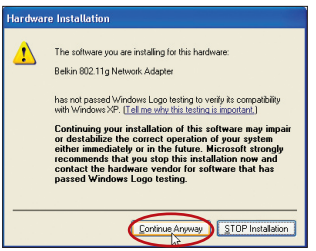
2.9 Replace the computer's cover. Now that the Card is installed, you can reconnect the power cord, and turn it back on.

Step 3 | Let Windows Finish the Installation

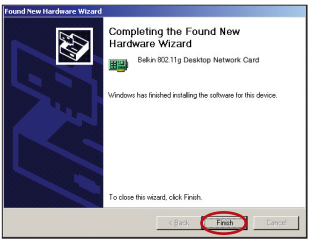


3.1 After powering on your computer, you will see a “Found New Hardware Wizard” screen. Select “Install the software automatically (Recommended)” and click “Next”.

Note: Specific screens differ depending upon which version of the Windows OS you are using.



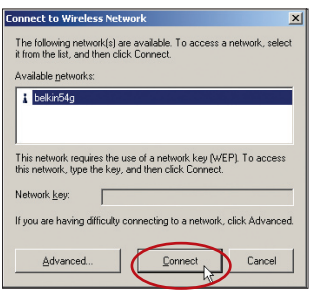
3.2 Depending on the version of Windows you are using, you might also see a screen similar to this one. This **DOES NOT** mean there is a problem as the drivers have been fully tested and are compatible with this Windows operating system. Select “Continue Anyway” and follow the on-screen instructions.



3.3 Windows will ask you where the drivers are located. Make no changes and click “Next” until you see the screen that asks you to click “Finish” to complete the installation.

Note: Specific screens differ depending upon which version of the Windows OS you are using.

3.4 When the installation is complete, a small Signal Indicator icon (red) in your system tray (bottom right corner of most screens) will appear. Double-click the Signal Indicator icon to bring up the “Wireless Network” screen.



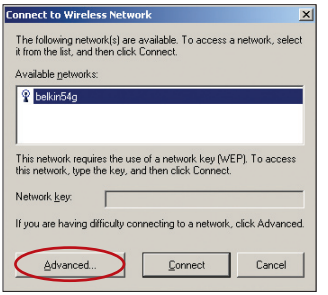
3.5 Select the network you want to connect to under “Available networks” and click “Connect”.

3.6 The Signal Indicator icon in your system tray should now turn green (yellow if the signal is weak.)

Installation is now complete!

Double-click the Signal Indicator icon to bring up the “Wireless Network” screen.

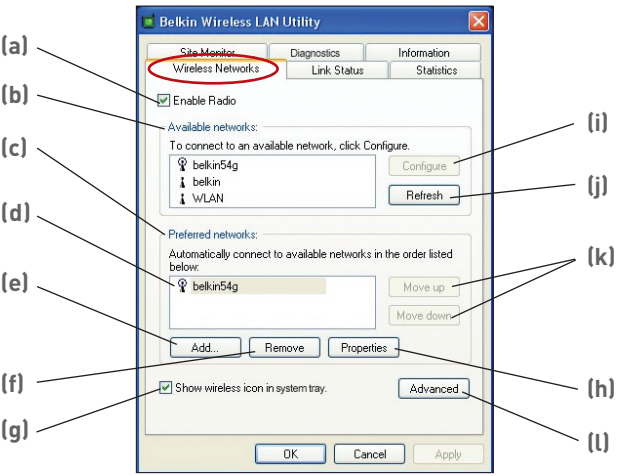
The following screen will appear:



Next, clicking on the “Advanced” button will allow you to view and configure more options of your Card. The “Advanced” button will take you to the Belkin Wireless LAN Utility.

Setting Wireless Network Preferences

Click on the "Wireless Networks" tab.



(a) Enable Radio
Use this option to turn your wireless network radio ON or OFF. You may want to turn the radio off while in airplanes or to conserve the battery life of your mobile computer. When the radio is disabled, the power LED on your Card will turn off and the Windows 2000 or XP system tray wireless network icon will be depicted with an "X".

(b) Available Networks
This displays a list of wireless networks in your area. If you don't see a name in the box, click on the "Refresh" **(j)** button to rescan for any available networks. To connect to a network, select a network name in the Available Networks list box and click the "Configure" **(i)** button. Click "OK" **(m)** in the "Wireless Network Properties" box to add the network name to the "Preferred Networks" **(c)** list.
Wait up to one minute for the network connection to be made. Your computer is connected to the selected network when you see a blue bubble **(d)** on top of the icon for that network.

(c) Preferred Networks
Displays a list of the networks that you have previously configured. The one with the blue bubble **(d)** is the network you are currently connected to.

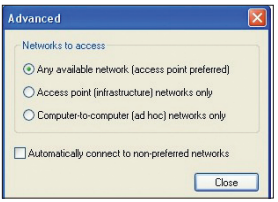
You may rank the networks by selecting the network name in the "Preferred Networks" list then clicking on the "Move Up" and "Move Down" **(k)** buttons. Networks appearing higher on the list will be preferred over networks listed lower on the list. If a preferred network is unavailable, the Card will attempt to connect to the next available network on the list.

(e, f) Add, Remove
You may "Add" **(e)** and "Remove" **(f)** networks from the Preferred Networks list by using these buttons.

(g) System Tray Icon
Check this box so that the wireless icon appears on your system tray.

(h) Properties
To change the properties and WEP (security) settings of a network, select a network from the Preferred Networks **(c)** then click on the "Properties" **(h)** button.

(l) Advanced
Allows you to select the type of network you want to connect to. When the "Advanced" **(l)** button is checked, the screen on the next page will appear.



Any Available Network (Access Point Preferred)

When this option is selected, the Card will attempt to connect to any available network in the area. Wireless router or access point networks will be preferred networks over Ad-Hoc networks.

Access Point (Infrastructure) Networks Only

When this option is selected, the Card will attempt to connect to any available wireless router or access point in the area. Ad-Hoc networks (computer-to-computer) will be excluded from the list of available networks when this option is selected.

Computer-to-Computer (Ad-Hoc) Networks Only

When this option is selected, the Card will attempt to connect to any available computer in the area that's also configured to be used in Ad-Hoc mode. The wireless router or access point will be excluded from the list of available networks when this option is selected.

Securing your Wi-Fi® Network

Here are a few different ways to maximize the security of your wireless network and protect your data from unwanted intrusions. This section is intended for the home, home office, and small office user. At the time of publication, three encryption methods are available.

Encryption Methods:

Name	64-bit Wired Equivalent Privacy	128-bit Encryption	Wi-Fi Protected Access	Wi-Fi Protected Access
Acronym	64-bit WEP	128-bit WEP	WPA-TKIP	WPA-AES
Security	Good	Better	Best	Best
Features	Static keys	Static keys	Dynamic key encryption and mutual authentication	Dynamic key encryption and mutual authentication
	Encryption keys based on RC4 algorithm (typically 40-bit keys)	Added security over 64-bit WEP using a key length of 104 bits, plus 24 additional bits of system-generated data	TKIP (temporal key integrity protocol) added so that keys are rotated and encryption is strengthened	AES (Advanced Encryption Standard) does not cause any throughput loss.

WEP (Wired Equivalent Privacy)

WEP (Wired **E**quivalent **P**rivacy) is a common protocol that adds security to all Wi-Fi-compliant wireless products. WEP gives wireless networks the equivalent level of privacy protection as a comparable wired network.

64-Bit WEP

64-bit WEP was first introduced with 64-bit encryption, which includes a key length of 40 bits plus 24 additional bits of system-generated data (64 bits total). Some hardware manufacturers refer to 64-bit as 40-bit encryption. Shortly after the technology was introduced, researchers found that 64-bit encryption was too easy to decode.

128-Bit WEP

As a result of 64-bit WEP's potential security weaknesses, a more secure method of 128-bit encryption was developed. 128-bit encryption includes a key length of 104 bits plus 24 additional bits of system-generated data (128 bits total). Some hardware manufacturers refer to 128-bit as 104-bit encryption.

Most of the new wireless equipment in the market today supports both 64-bit and 128-bit WEP encryption, but you might have older equipment that only supports 64-bit WEP. All Belkin wireless products will support both 64-bit and 128-bit WEP.

Encryption Keys

After selecting either the 64-bit or 128-bit WEP encryption mode, it is critical that you generate an encryption key. If the encryption key is not consistent throughout the entire wireless network, your wireless networking devices will be unable to communicate with one another.

You can enter your key by typing in the hex key manually. A hex (hexadecimal) key is a mixture of numbers and letters from A–F and 0–9. For 64-bit WEP, you need to enter 10 hex keys. For 128-bit WEP, you need to enter 26 hex keys.

For instance:

AF0F4BC3D4 = 64-bit WEP key

C3030FAF0F4BB2C3D44BC3D4E7 = 128-bit WEP key

If you have multiple vendors' equipment in your network, the easiest thing to do is to write down the hex WEP key from your wireless router or access point and enter it manually into the hex WEP key table in your Card's configuration screen.

WPA (Wi-Fi Protected Access)

WPA (Wi-Fi Protected Access) is a new Wi-Fi standard that improves upon the security features of WEP. To use WPA security, the drivers and software of your wireless equipment must be upgraded to support it. These updates will be found on your wireless vendor's website. There are two types of WPA security: WPA-PSK (no server), and WPA (with radius server).

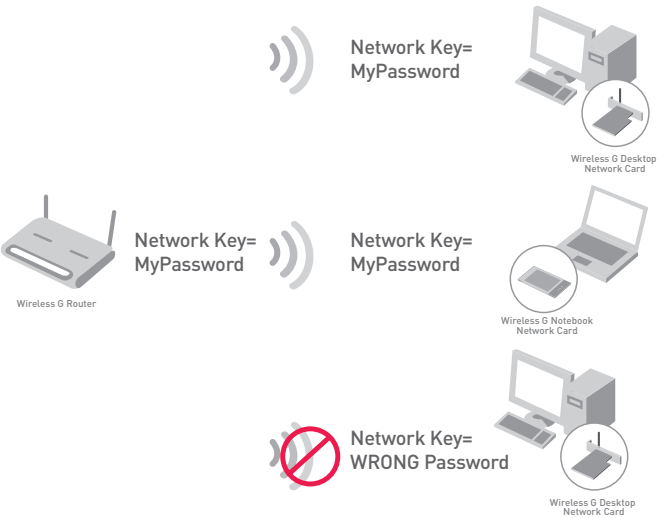
WPA-PSK (no server) uses what is known as a pre-shared key as the network key. A network key is a password that is between 8 and 63 characters long. It can be a combination of letters, numbers, or characters. Each client uses the same network key to access the network. Typically, this is the mode that will be used in a home environment.

WPA (with radius server) is a system where a radius server distributes the network key to the clients automatically. This is typically found in a business environment.

For a list of Belkin wireless products that support WPA, please visit our website at **www.belkin.com/networking.**

Most Wi-Fi products ship with security turned off. So once you have your network working, you need to activate WEP or WPA and make sure all your wireless devices are sharing the same network key.

The following diagram shows the effect of not having the correct network key throughout your network.



The Card cannot access the network because it uses a different network key than the one configured on the wireless router.

Using a Hexadecimal Key

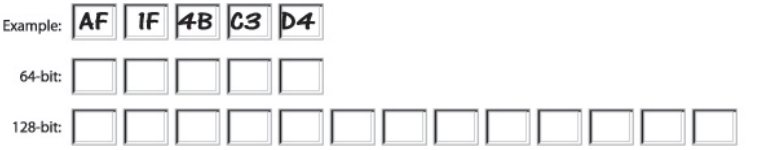
A hexadecimal key is a mixture of numbers and letters from A–F and 0–9. 64-bit keys are five two-digit numbers. 128-bit keys are 13 two-digit numbers.

For instance:

AF 0F 4B C3 D4 = 64-bit key

C3 03 0F AF 0F 4B B2 C3 D4 4B C3 D4 E7 = 128-bit key

In the boxes below, make up your key by writing in two characters between A–F and 0–9 in each box. You will use this key to program the encryption settings on your Wirelesss Router (or Access Point) and your wireless computers.



Setting Up your Belkin Wireless Router or Access Point to Use Security

To start using security, you need to first enable WEP or WPA for your wireless router or access point. For Belkin Wireless Routers or Access Points, these security features can be configured by using the web-based interface. (See your wireless router or access point manual for directions on how to access the management interface.)

Changing the Wireless Security Settings

The Belkin Wireless G Router and Range Extender/Access Point are equipped with the latest WPA security feature. They also support the legacy WEP security standard. By default, wireless security is disabled.

To enable security, you will need to determine which standard you want to use (see page 19). To access the security settings, click “Security” on the wireless section using the web-based interface. (See your wireless router or access point manual for directions on how to access the security settings.)

WEP Setup

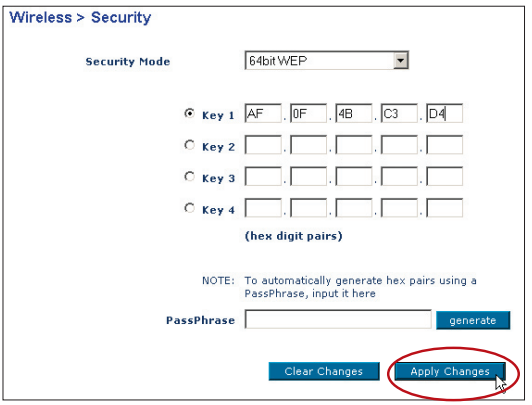
64-Bit WEP Encryption

1. Select “64-bit WEP” from the drop-down menu.
2. After selecting your WEP encryption mode, you can enter your key by typing in the hex key manually, or you can type in a passphrase in the “Passphrase” field and click “Generate” to create a key.

   A hex (hexadecimal) key is a mixture of numbers and letters from A–F and 0–9. For 64-bit WEP, you need to enter 10 hex keys.

   For instance:

   AF0F4BC3D4 = 64-bit WEP Key



3. Click “Apply Changes” to finish. Encryption in the wireless router or access point is now set. Each of your computers on your wireless network will now need to be configured with the same security settings.

WARNING: If you are using a wireless client to turn on the security settings in your Wireless Router or Access Point, you will temporarily lose your wireless connection until you activate security on your wireless client. Please record the key prior to applying changes in the wireless router or access point. If you don’t remember the hex key, your client will be locked out of the wireless router or access point.

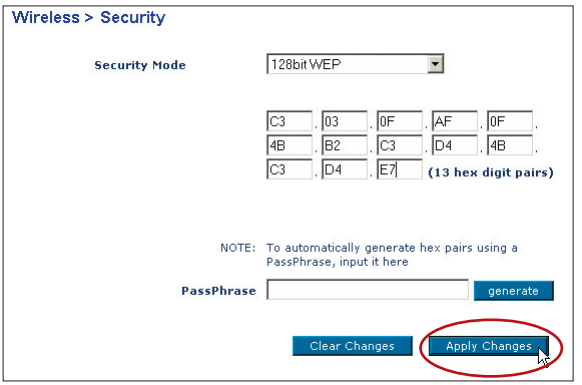
128-Bit WEP Encryption

1. Select “128-bit WEP” from the drop-down menu.
2. After selecting your WEP encryption mode, you can enter your key manually by typing in the hex key manually, or you can type in a passphrase in the “Passphrase” field and click “Generate” to create a key.

   A hex (hexadecimal) key is a mixture of numbers and letters from A–F and 0–9. For 128-bit WEP, you need to enter 26 hex keys.

   For instance:

   C3030FAF0F4BB2C3D44BC3D4E7 = 128-bit WEP key



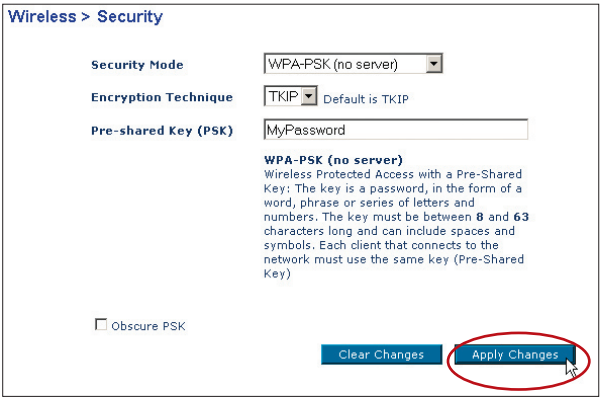
3. Click “Apply Changes” to finish. Encryption in the wireless router or access point is now set. Each of the computers on your wireless network will now need to be configured with the same security settings.

WARNING: If you are using a wireless client to turn on the security settings in your Wireless Router or Access Point, you will temporarily lose your wireless connection until you activate security on your wireless client. Please record the key prior to applying changes in the wireless router or access point. If you don’t remember the hex key, your client will be locked out of the wireless router or access point.

WPA-PSK (no server)

Choose this setting if your network does not use a radius server. WPA-PSK (no server) is typically used in home and small office networking.

1. From the Security Mode drop-down menu, select “WPA-PSK (no server)”.
2. Enter your network key. This can be from 8 to 63 characters and can be letters, numbers, or symbols. This same key must be used on all of the clients (network cards) that you want to include in your network.

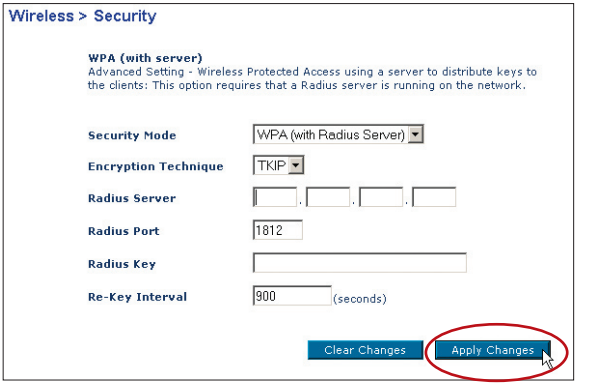


3. Click “Apply Changes” to finish. You must now set all clients (network cards) to match these settings.

WPA (with server) Settings

Choose this setting if your network uses a radius server to distribute keys to the clients (network cards). This is typically used for a business network.

1. From the Security Mode drop-down menu, select “WPA (with server)”.
2. Enter the IP address of the radius server into the “Radius Server” fields.
3. Enter the radius key into the “Radius Key” field.
4. Enter the key interval. The key interval is how often the keys are distributed (in packets).



5. Click “Apply Changes” to finish.

IMPORTANT: You must now set all wireless network cards/adapters to match these settings.

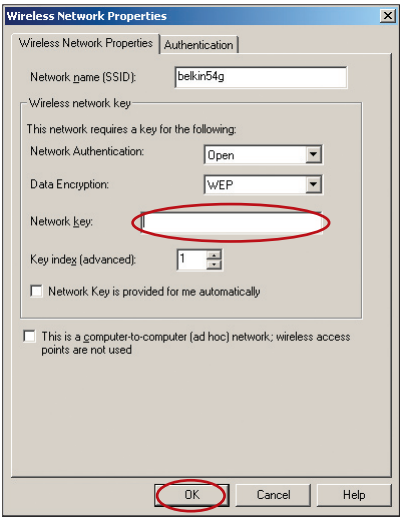
Configuring your Belkin Wireless G Notebook and Wireless G Desktop Network Cards to Use Security

At this point, you should already have your wireless router or access point set to use WPA or WEP. In order for you to gain wireless connection, you will need to set your Wireless G Notebook and Wireless G Desktop Network Cards to use the same security settings.

Connecting your Computer to a Wireless Router or Access Point that Requires a 64-Bit or 128-Bit WEP Key

1. Double-click the Signal Indicator icon  to bring up the "Wireless Network" screen. The "Advanced" button will allow you to view and configure more options of your Card.
2. Under the "Wireless Network" tab, select a network name from the "Available networks" list and click "Configure".
3. Under "Data Encryption" select "WEP".
4. Ensure that the check box "Network key is provided for me automatically" at the bottom is unchecked. If you are using this computer to connect to a corporate network, please consult your network administrator if this box needs to be checked.

5. Type your WEP key in the “Network key” box.

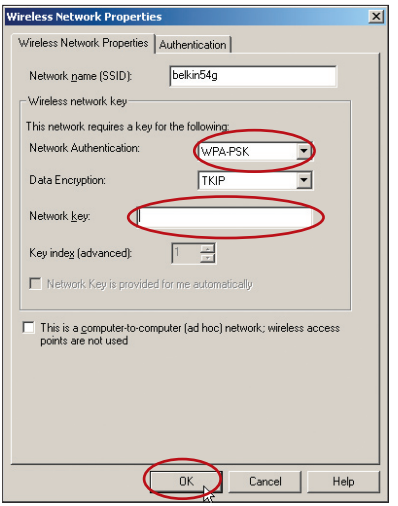


Important: A WEP key is a mixture of numbers and letters from A–F and 0–9. For 128-bit WEP, you need to enter 26 keys. For 64-bit WEP, you need to enter 10 keys. This network key needs to match the key you assign to your wireless router or access point.

6. Click “OK”, to save the settings.

Connecting your computer to a Wireless Router or Access Point that uses WPA-PSK (no server)

1. Double-click the “Signal Indicator” icon to bring up the “Wireless Network Properties” screen. The “Advanced” button will allow you to view and configure more options of your Card.
2. Under the “Wireless Networks” tab, select a network name from the “Available networks” list and click “Configure”. The following screen will appear.



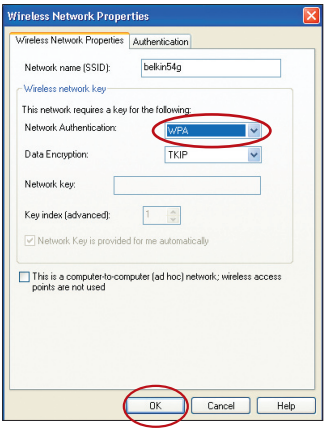
3. Under “Network Authentication” select “WPA-PSK”.
4. Type your WPA key in the “Network key” box.

Important: WPA-PSK is a combination of numbers and letters from A–Z and 0–9. For WPA-PSK, you can enter 8 to 63 keys. This network key needs to match the key you assign to your wireless router or access point.

5. Click “OK”, to save the settings.

Connecting your Computer to a Wireless Router or Access Point that uses WPA (with Radius Server)

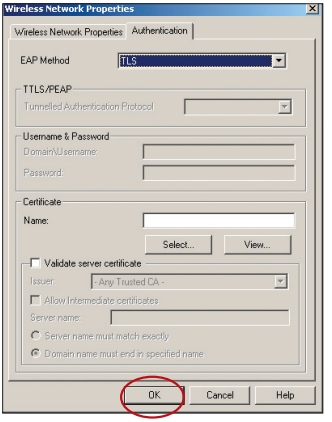
1. Double-click the “Signal Indicator” icon to bring up the “Wireless Network Properties” screen. The “Advanced” button will allow you to view and configure more options of your Card.



2. Under the “Wireless Networks” tab, select a network name from the “Available networks” list and click “Configure”. The screen to the left will appear.

3. Under “Network Authentication” select “WPA”.

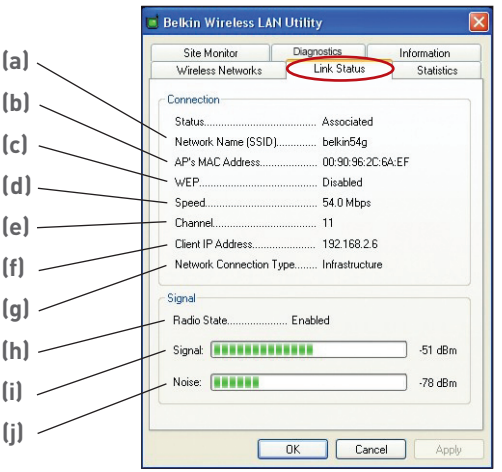
4. Under the “Authentication” tab, select the settings that are indicated by your network administrator.



5. Click “OK”, to save the settings.

Monitoring the Status of your Network Connection

Click on the "Link Status" tab.



(a) Network Name (SSID)
The SSID is the wireless network name. This field shows the current network name that you are connected to.

(b) AP's MAC Address
Shows the MAC address of the wireless router or access point that you are connected to.

(c) WEP
Shows whether the network you are associated with has WEP encryption enabled or disabled.

(d) Speed
Displays the data rate of the current connection.

(e) Channel
Shows the current channel (1-11) you are using. When connected to a wireless router or access point, the channel is set automatically. When connected to another computer using Ad-Hoc mode, the channel can be set manually. All computers using Ad-Hoc mode (computer-to-computer) need to operate under the same channel.