802.11g Wireless Cardbus Adapter

Model # AWLC3028

User's Manual

Rev. 1.1

Table of Contents

1. Introduction

Thank you for purchasing the 802.11g Wireless Cardbus Adapter. This Cardbus Adapter is designed to comply with IEEE 802.11g Wireless LAN standard and is suitable for notebook computers or desktop computers with a 32-bit Cardbus slot.

This Adapter supports WiFi Protected Access (WPA2-PSK and WPA-PSK) data encryption for higher wireless security that protects your wireless network from eavesdropping. Client users are required to authorize before accessing the APs or AP Routers, and the data transmitted through the network is encrypted/decrypted by a dynamically changing secret key.

1.1 Package Contents

Before you begin the installation, please check the items of your package. The package should include the following items:

- Wireless Cardbus Adapter
- Quick Installation Guide
- Installation CD (Driver/Utility/Manual)

1.2 Features

- Compatible with IEEE 802.11g high rate standard to provide wireless transmission speeds of up to 54Mbps data rate
- Maximum reliability, throughput and connectivity with automatic data rate switching
- Supports wireless security WPA2, WPA, WPA2-PSK, WPA-PSK, and 64/128-bit WEP
- Integrated microstrip dual diversity antenna for the multi-path environment
- Drivers support Windows 2000, XP and Vista
- Simple user setup & diagnostics utilities

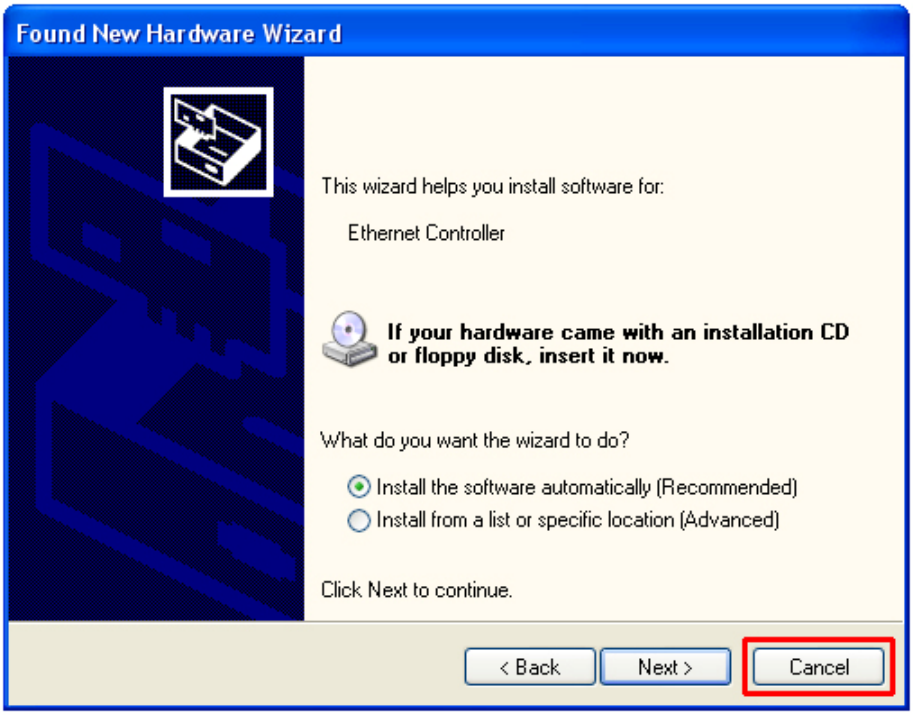
2. Installation

2.1 Install Driver & Utility

This section provides instructions on how to install the **Wireless Cardbus Adapter**. The driver is installed along with the utility.

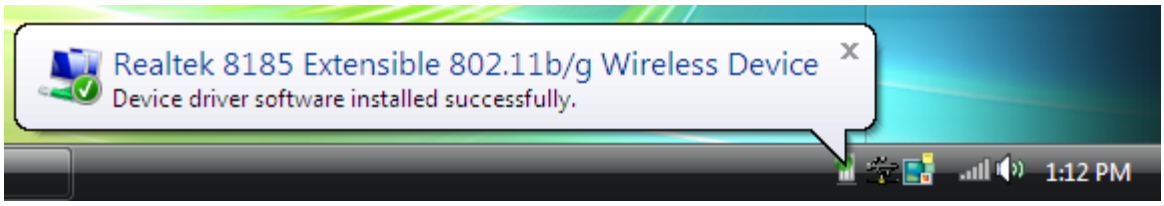
Insert the Cardbus adapter into an available Cardbus slot and turn on your computer.

Windows 2000/XP Users: After turning on the computer, Windows will launch the **Found New Hardware Wizard**. The Found New Hardware Wizard appears differently depending on your operating system.



Click **Cancel** to quit the wizard and insert the Installation CD into your CD drive. Skip ahead to **Step 1**

Windows Vista Users: After turning on the computer, Windows will install its built in drivers for this card. A popup window will appear telling you that the driver was installed correctly.

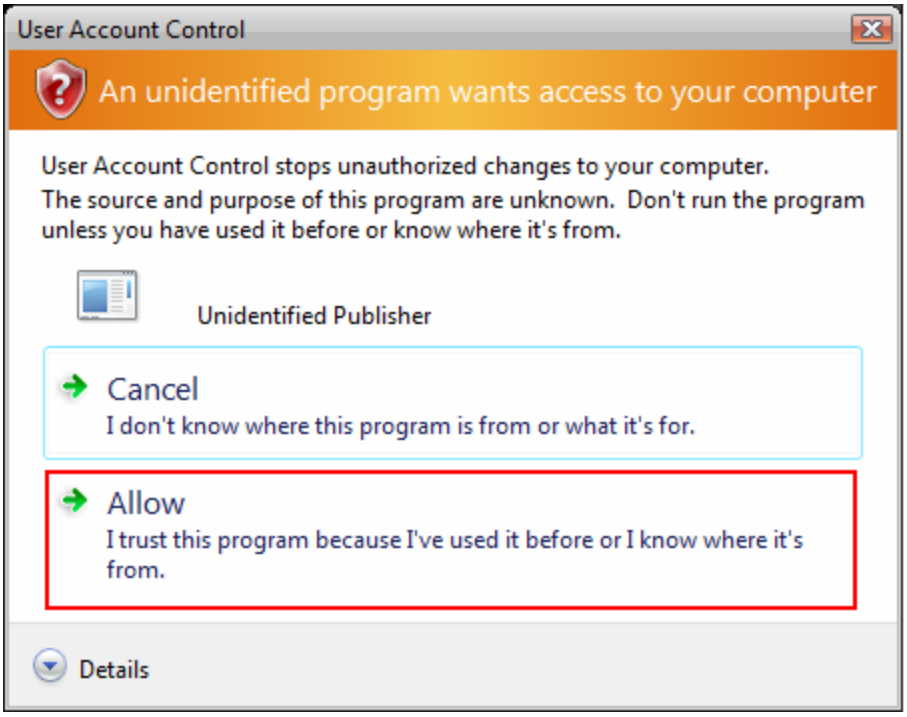


Once you see this message, continue to **Step 1.**

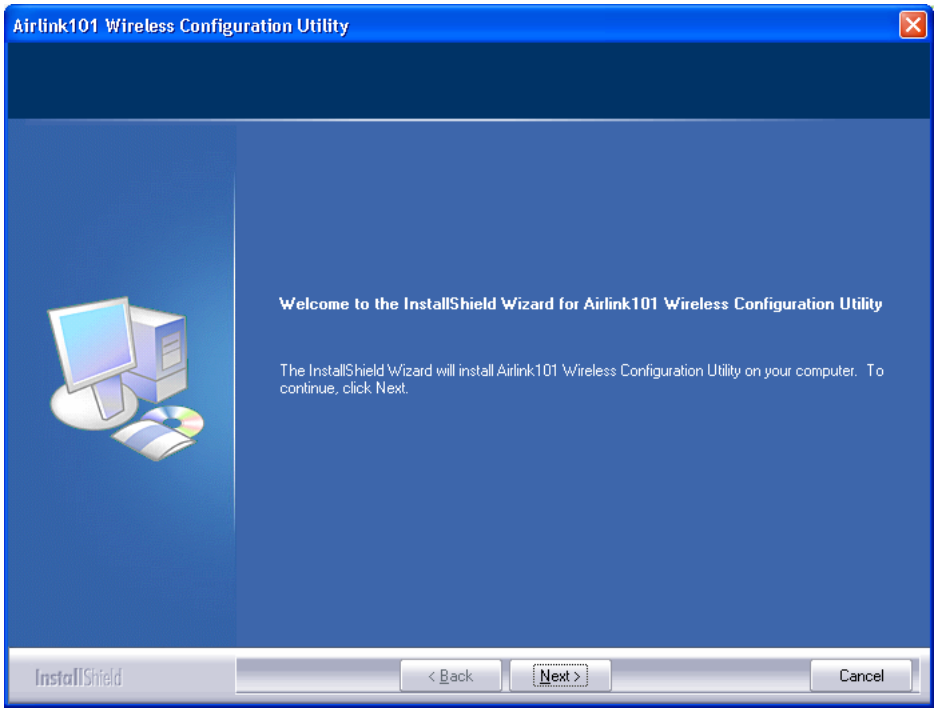
Step 1 The Autorun screen will pop up. Select **Install Utility and Driver** from the menu.

Note: *If the Autorun screen doesn't appear automatically, or if you get a blank white screen, go to* ***Start****,* ***Run****, and type* ***D:\Utility\Setup.exe*** *(where* ***D*** *is the letter of your CD drive) and click* ***OK****.*

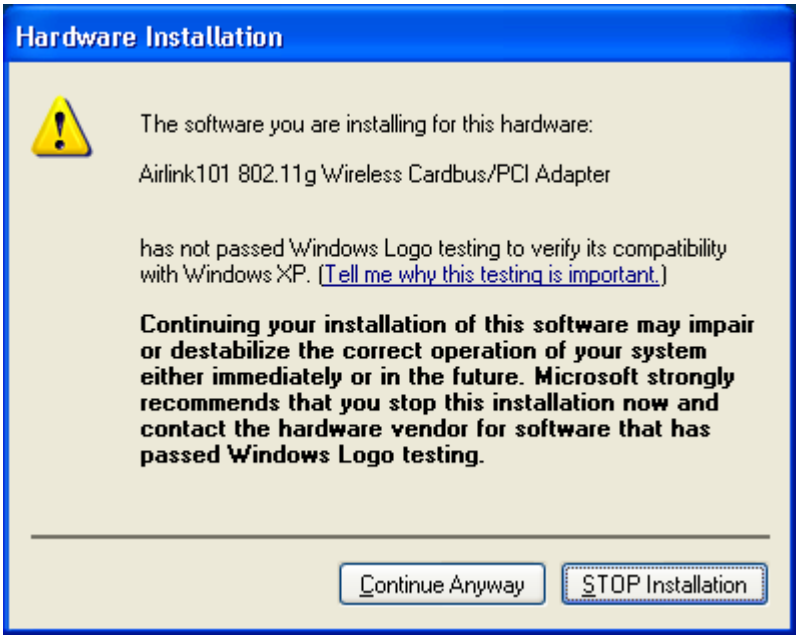
Windows Vista Users: At this point, you may get a warning message like the one below. Make sure that you click **Allow** to continue with the installation.



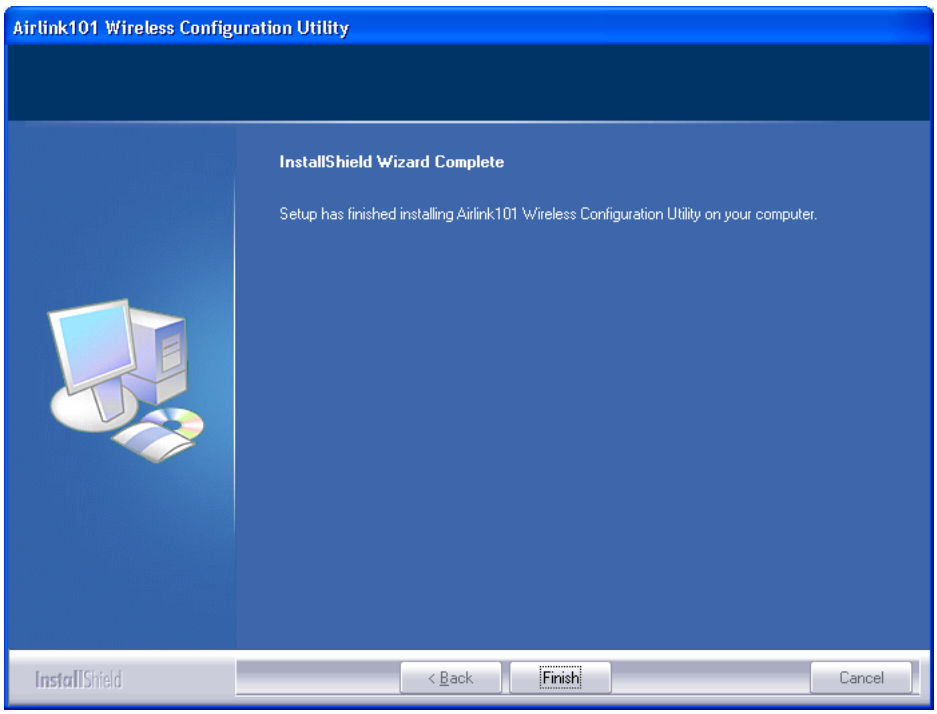
Step 2 Click **Next** at the welcome screen.



Windows 2000/XP Users: Click **Continue Anyway** at the Windows Logo Screen. (For Windows 2000, click **Yes** at the Digital Signature Not Found prompt).



Step 3 Click **Finish** to complete the installation.

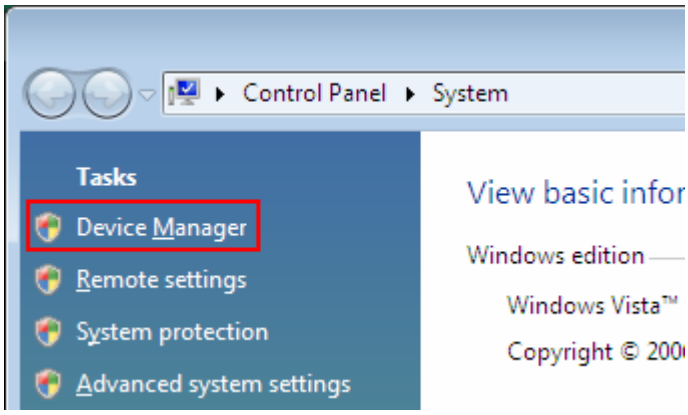


Windows 2000/XP Users, skip ahead to section 2.2.

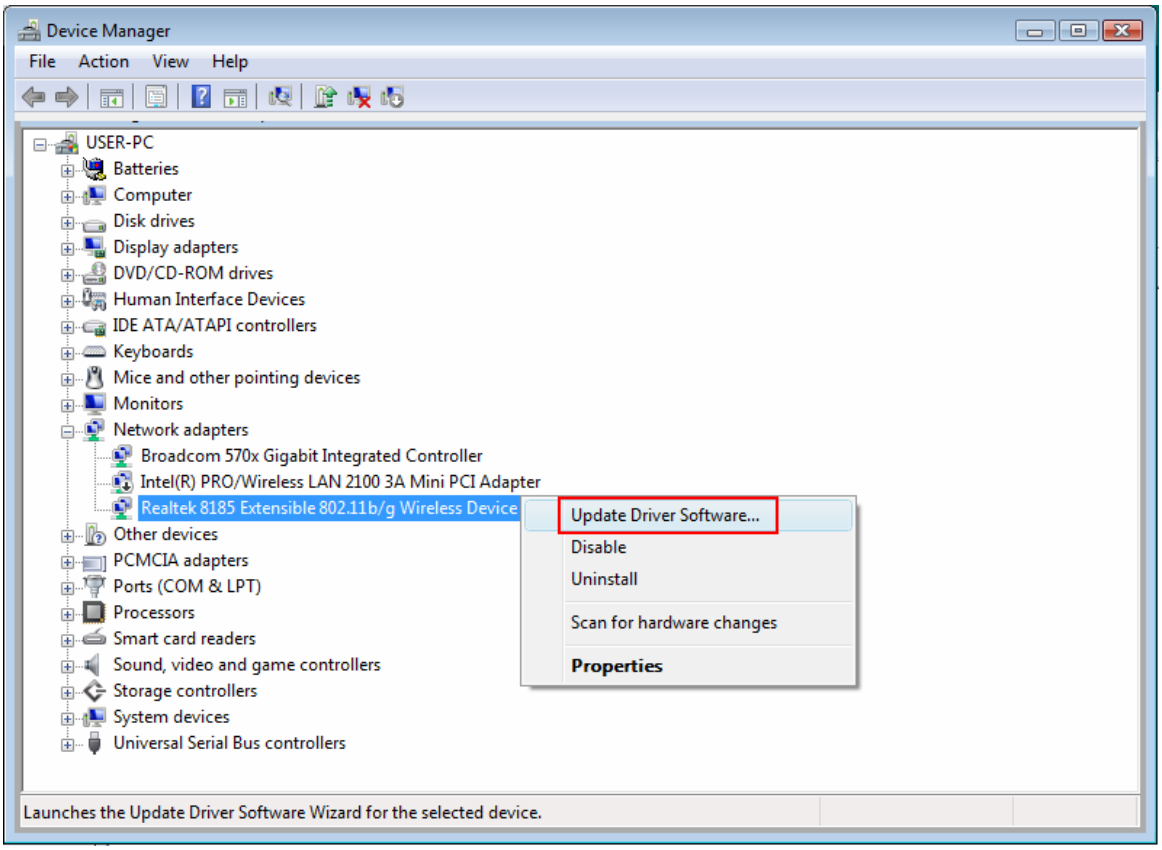
Windows Vista Users: Follow the instructions below to install the correct driver for your card.

Right click on **My Computer** on the desktop and select **Properties**.

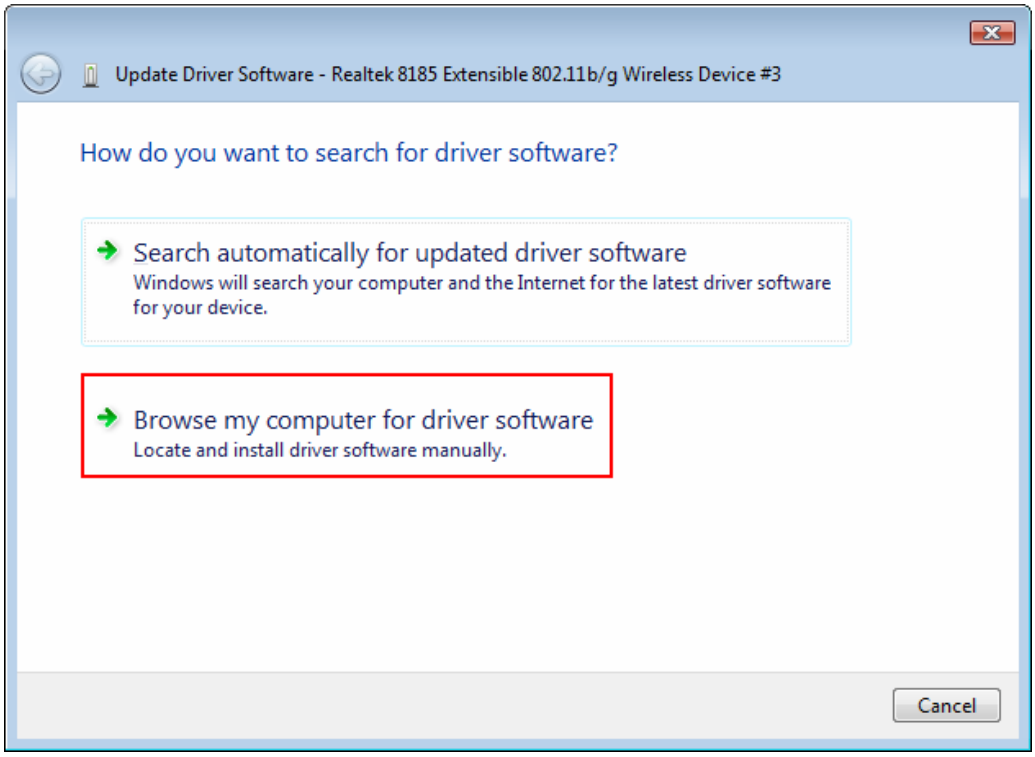
Click on the Device Manager link on the left side of the screen.



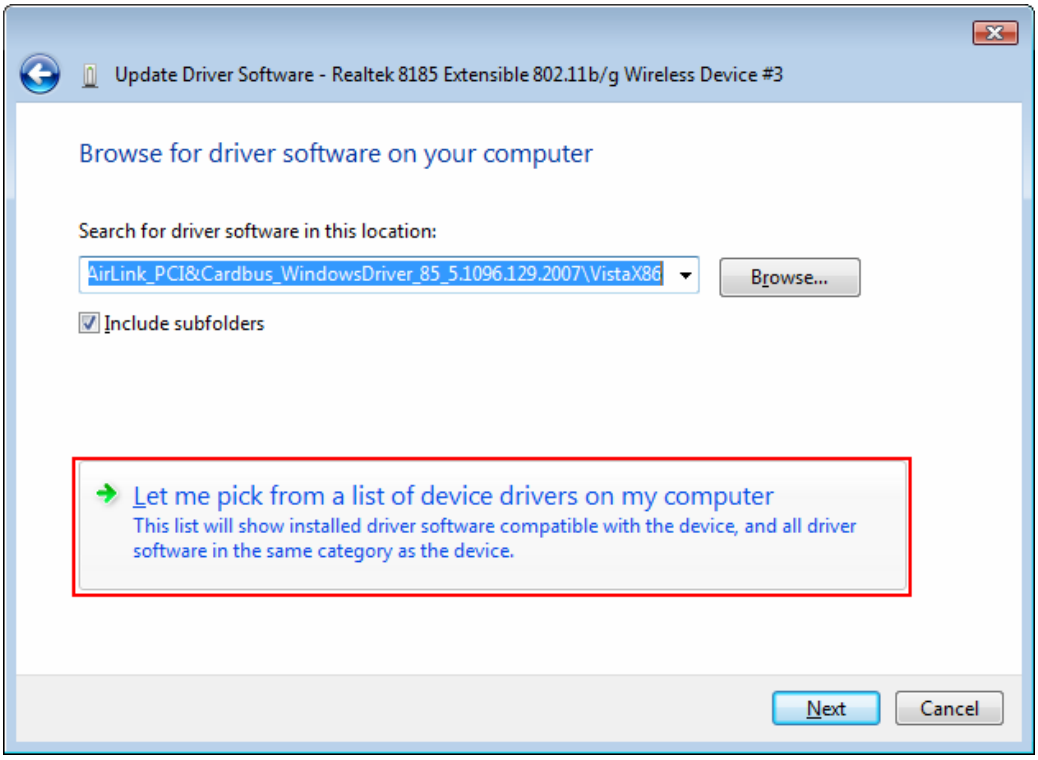
Expand the **Network adapters** category. Right click on the **Realtek 8158 Extensible 802.11b/g Wireless Device** and click on **Update Driver Software**.



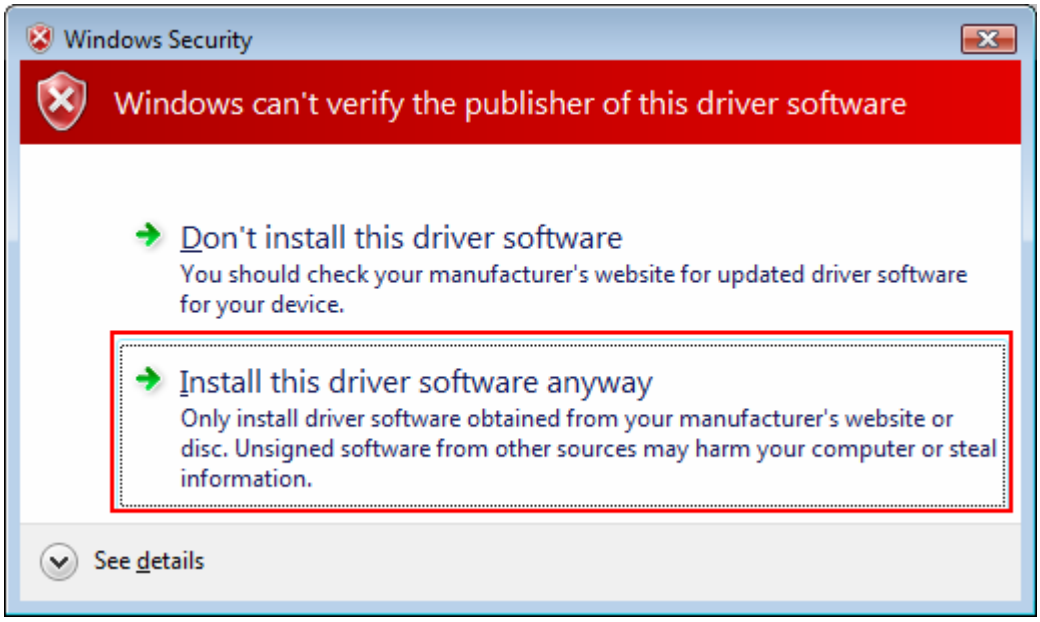
Click on **Browse my computer for driver software**



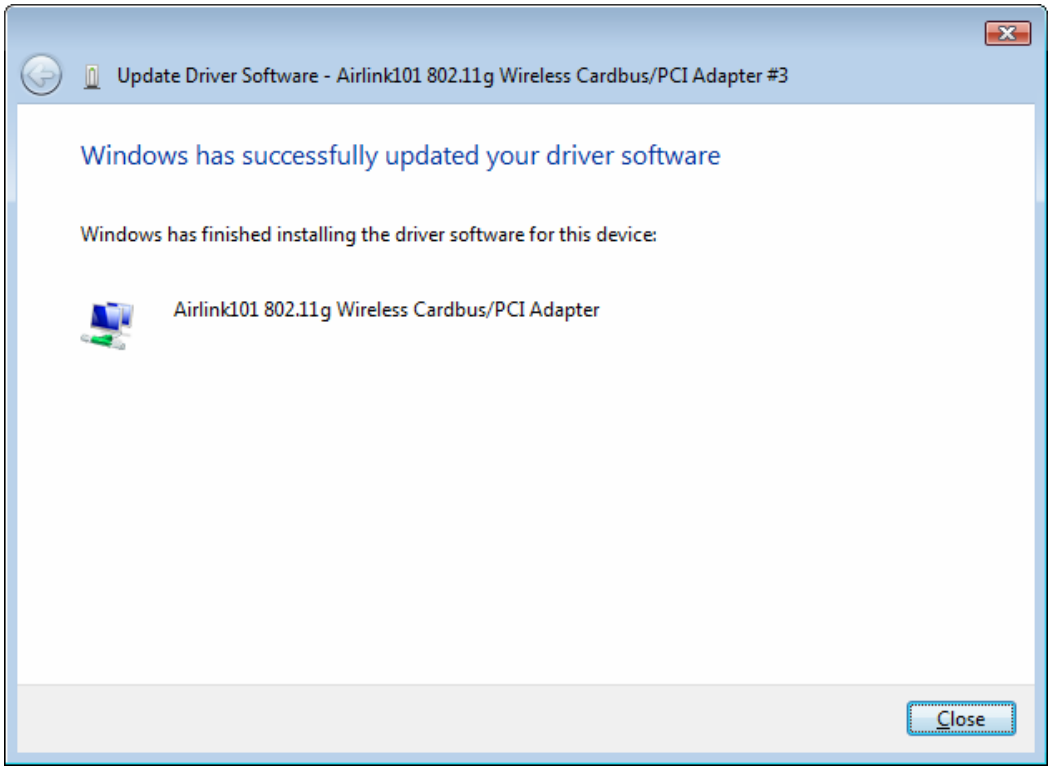
Click on **Let me pick from a list of device drivers on my computer**



Click **Install this driver software anyway**



When you see the following screen, the adapter is successfully installed.

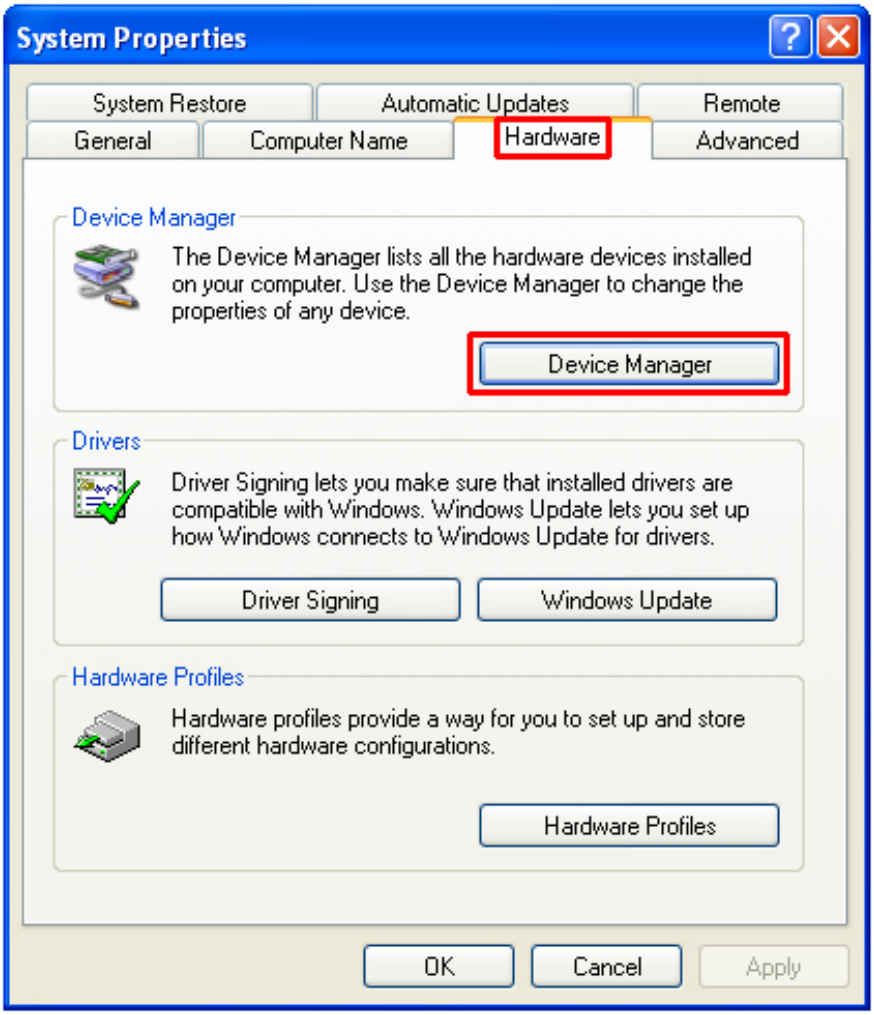


2.2 Verify Driver Installation

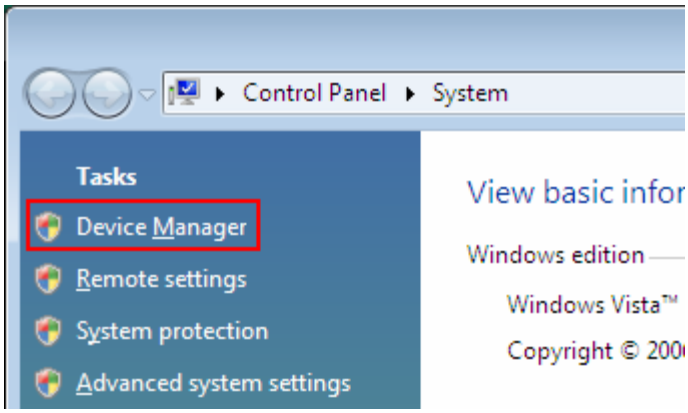
To verify if the driver has been installed successfully, please perform the following steps.

Step 1 Right-click on **My Computer** from your desktop and select **Properties**.

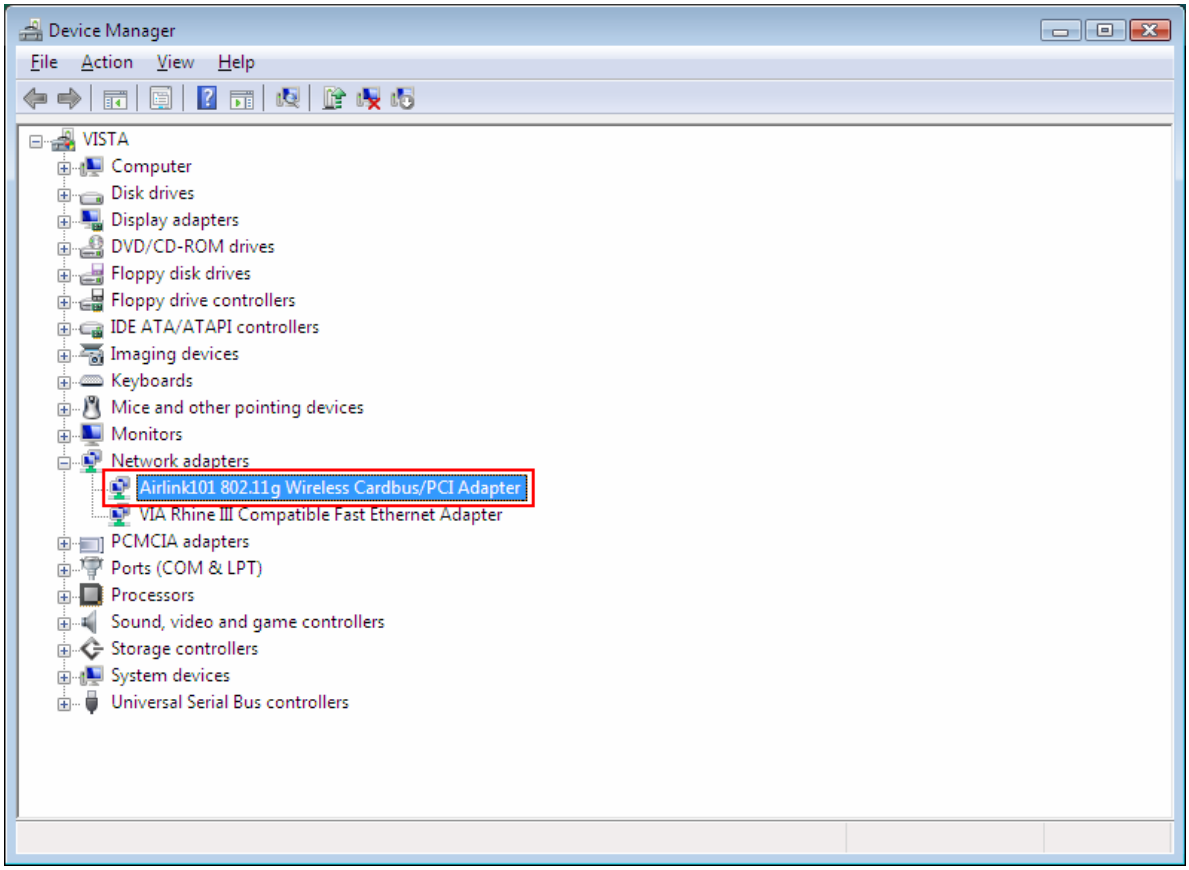
Step 2 If you are using Windows XP/2000 select the **Hardware tab**, then click on **Device Manager**.



If you are using **Windows Vista**, click on the device manager link on the left side of the screen.



Step 3 Click the "**+**" next to **Network adapters** from the list and verify that **AirLink101 802.11g Wireless Cardbus Adapter** is listed and no yellow question mark is beside it.



If **AirLink101 802.11g Wireless Cardbus Adapter** is not listed, or you see a yellow question mark beside it, you will need to reinstall the driver.

3. Configuring the Adapter

3.1 Windows 2000/XP Configuration

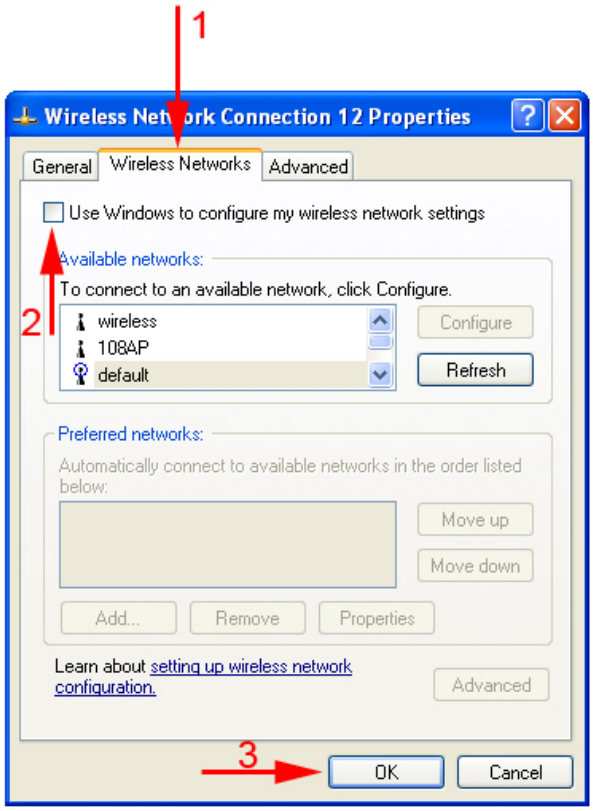
This section describes how to connect your wireless adapter to a wireless network.

Note to Windows XP Users:

You must disable the Wireless Zero Configuration Utility in order to use the bundled Wireless Utility. Please follow the steps below to disable XP's wireless utility.

Double-click on the **Wireless Network Connection Icon** in the system tray and then click on **Properties** or **Advanced**.

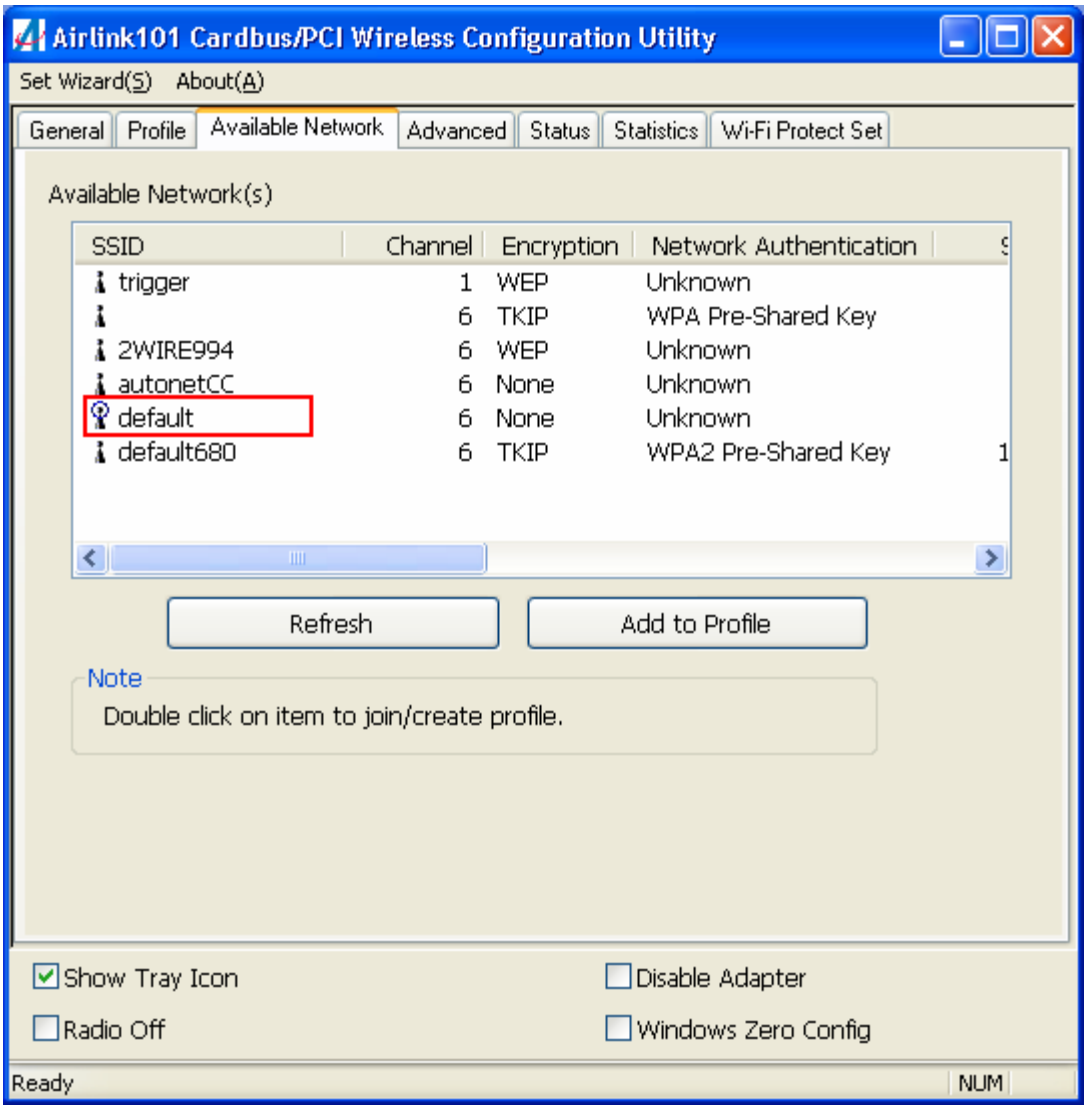
When the new wireless network connection properties window appears, go to the **Wireless Networks** tab, uncheck the **"Use Windows to configure my wireless network settings"** check box and click **OK**.



If there is no **Wireless Networks** tab, skip ahead to **Step 1**

Step 1 To open the utility, double click on the Wireless Configuration Utility icon in the system tray at the bottom right-hand corner of your screen.

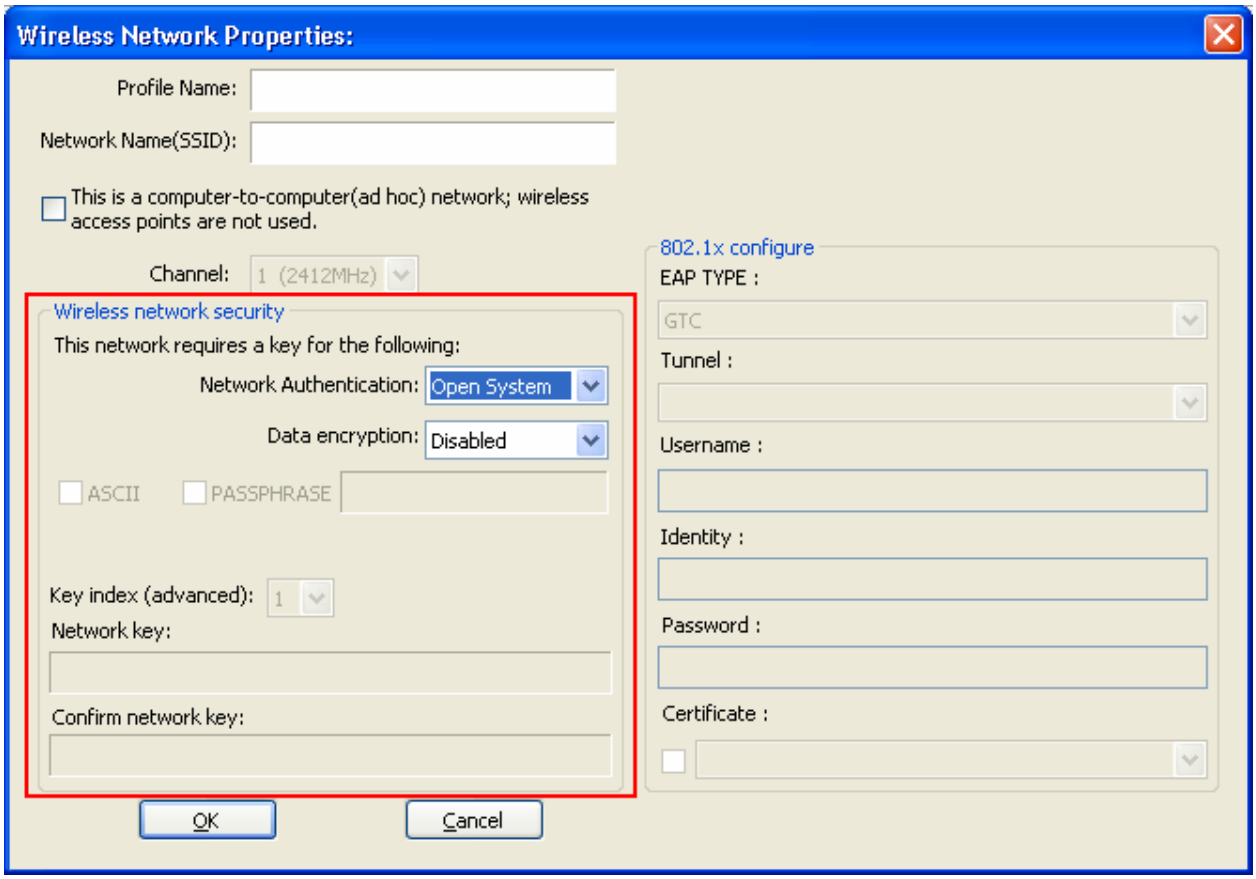
Step 2 Go to the **Available Network** tab, select the **SSID** (Network Name) of the wireless network you wish to connect to, and click **Add to Profile**.



If the network you are attempting to connect to does not have encryption enabled, you will see the following box pop up on your screen:

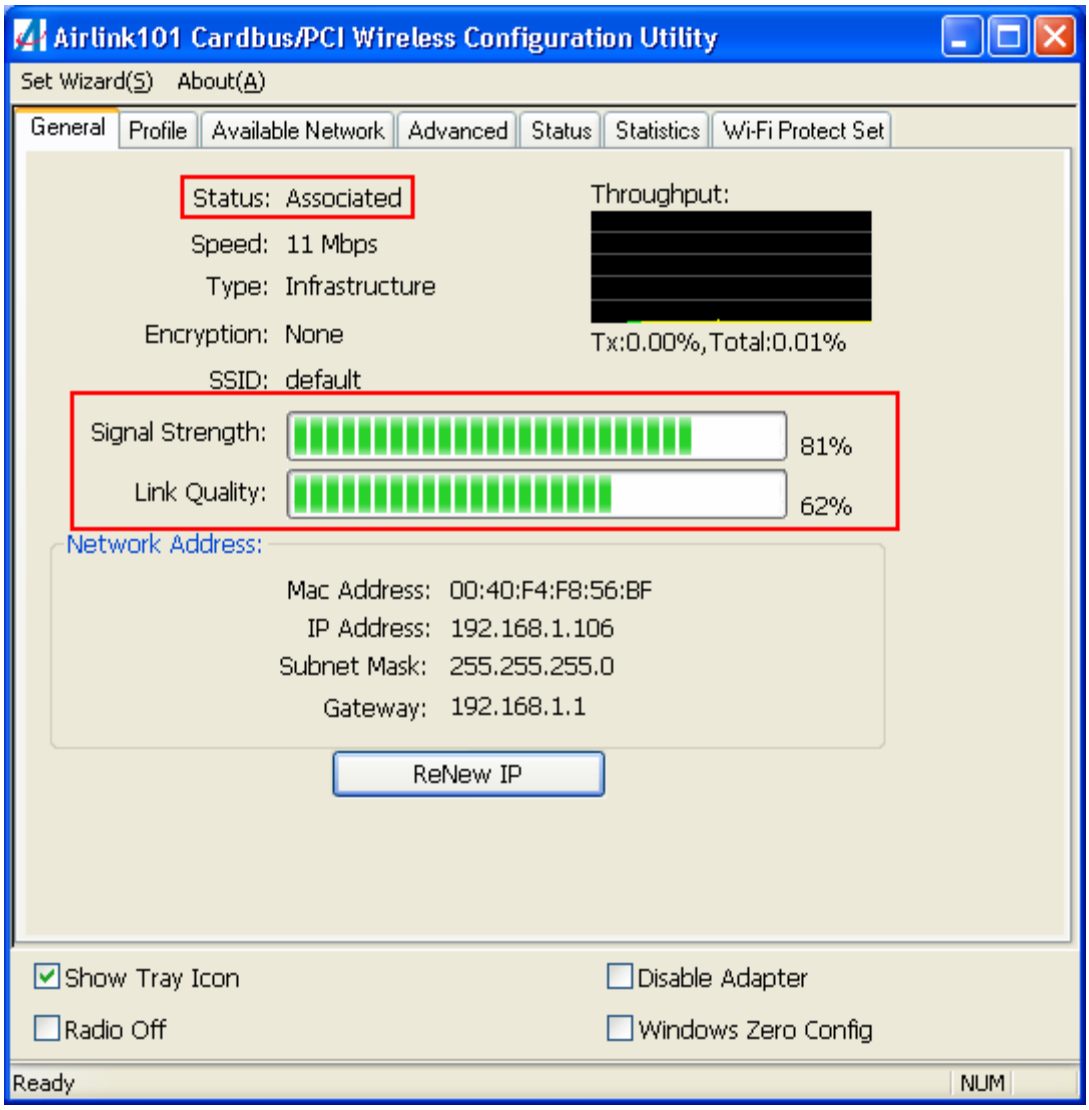
Click **OK** to connect.

If the network you are attempting to connect to is configured for encryption, the following window will appear:



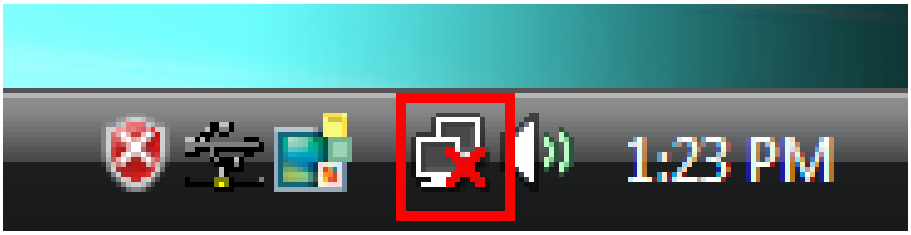
Enter the encryption settings for your router in the appropriate boxes and click **OK** to connect.

Step 3 You should now be connected. Click on the general tab to check the status of your connection. It should say **Associated** next to status, and there should be green bars next to **Signal Strength** and **Link Quality.**

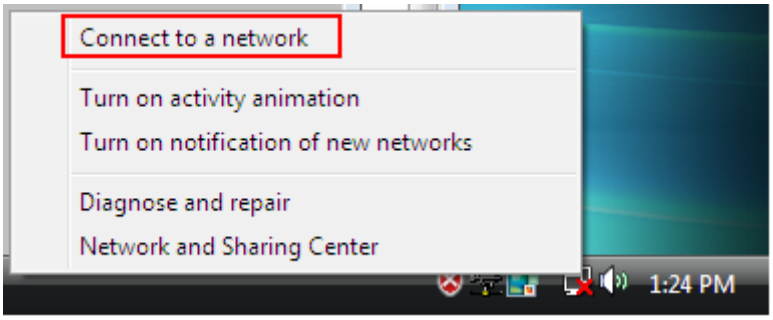

Airlink101 Cardbus/PCI Wireless Configuration Utility
Set Wizard(S)
About(A)
General
Profile
Available Network
Advanced
Status
Statistics
Wi-Fi Protect Set
Status: Associated
Speed: 11 Mbps
Type: Infrastructure
Encryption: None
SSID: default
Throughput:
Tx:0.00%,Total:0.01%
Signal Strength:
81%
Link Quality:
62%
Network Address:
Mac Address: 00:40:F4:F8:56:BF
IP Address: 192.168.1.106
Subnet Mask: 255.255.255.0
Gateway: 192.168.1.1
ReNew IP
Show Tray Icon
Disable Adapter
Radio Off
Windows Zero Config
Ready
NUM

3.2 Windows Vista Configuration

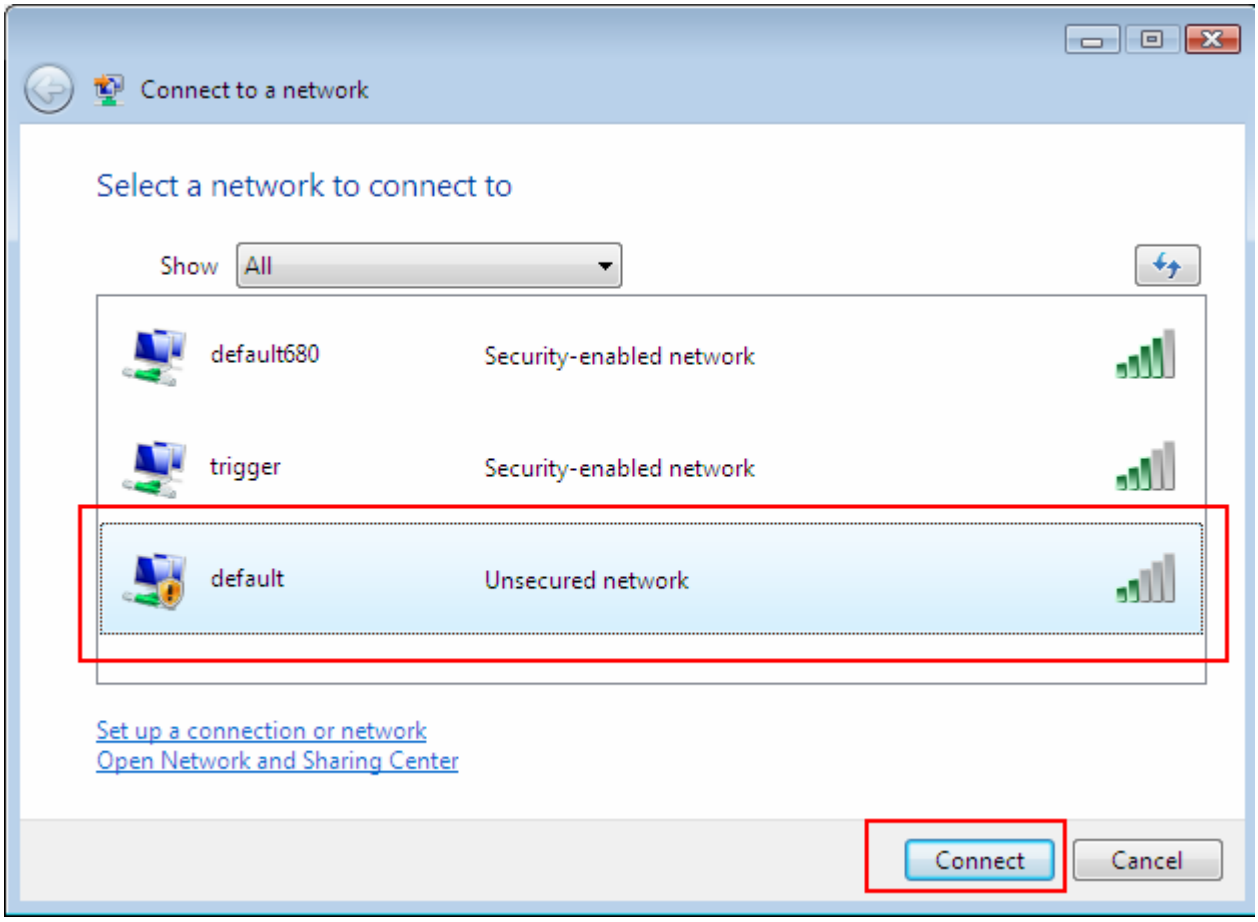
Windows Vista has its own built in utility, so the AirLink101 Wireless Configuration Utility is not used.



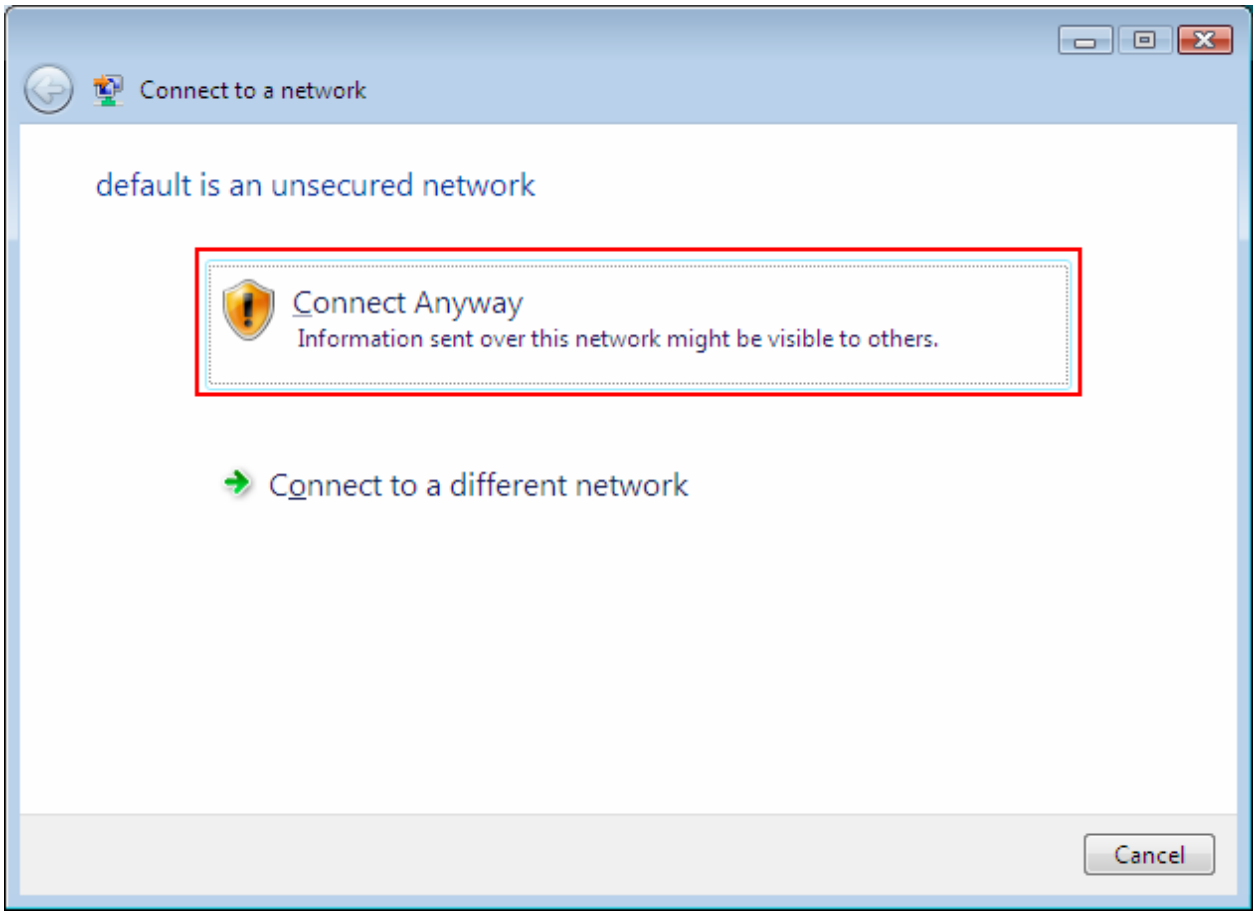
To connect to a network using the Windows Vista utility, right click on the networking icon down in the bottom right hand corner. Then click on **Connect to a network**.



Select your network from the list and click **Connect**.

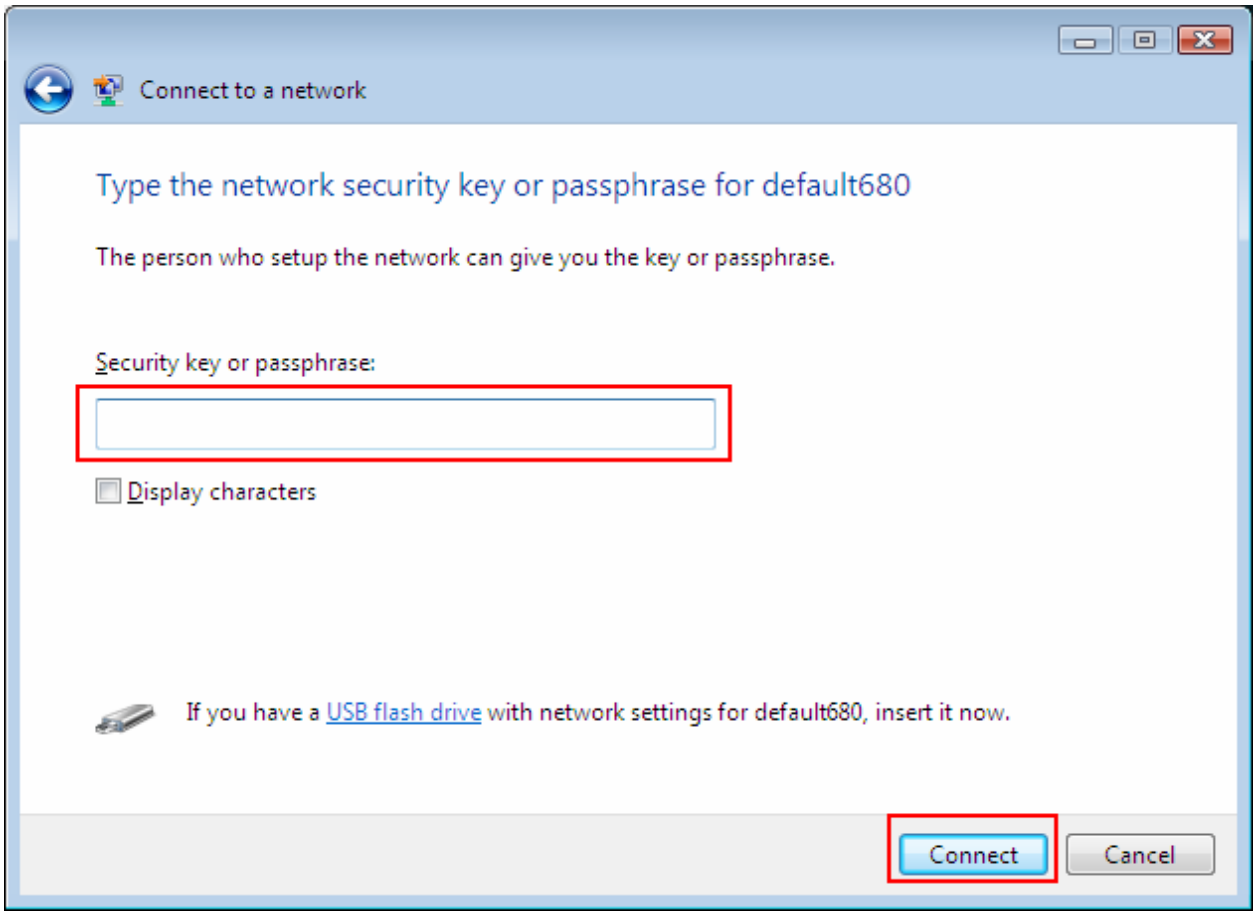


If the network you are connecting to does not have encryption enabled, you will see the following warning:



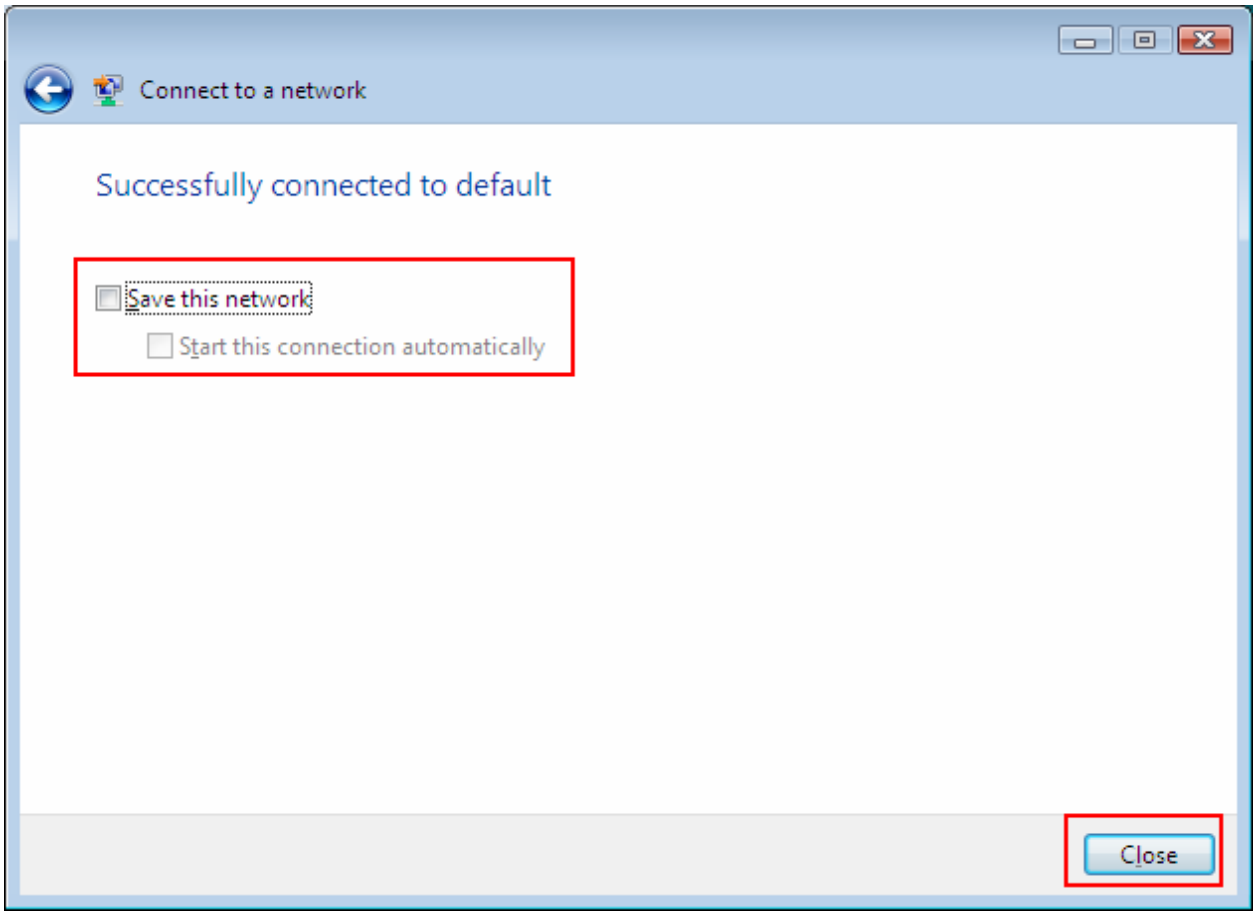
Click **Connect Anyway** to connect to the network.

If the network you are attempting to connect to has encryption enabled, a box will appear asking you to enter your encryption key.



Enter your encryption key into the box and click **Connect** to establish a connection. If you do not know what your encryption key is, contact your router manufacturer for assistance.

You should now be connected to your network.



To save the connection settings so that you don't have to go through the connection setup process each time you start your computer, check the boxes for **Save this network** and **Start this connection automatically**, then click **Close** to complete the setup.

3.3 Troubleshooting

If you are experiencing problems with the connection (unable to connect, low signal strength, slow connection speed, not working, unstable wireless connection) you will want to tune your router's signal by changing channels on the router.

You do not need to change the channel on the card, it will automatically pick up the new channel after you reboot. The only channel that you need to change is the router's channel.

Your router has 11 different channels to choose from. Start with channel 1 and work your way up. Each time you change the channel on the router, make sure that you restart the wireless computer before trying to connect again. Keep going through the channels until you find one that gives you a stable connection.

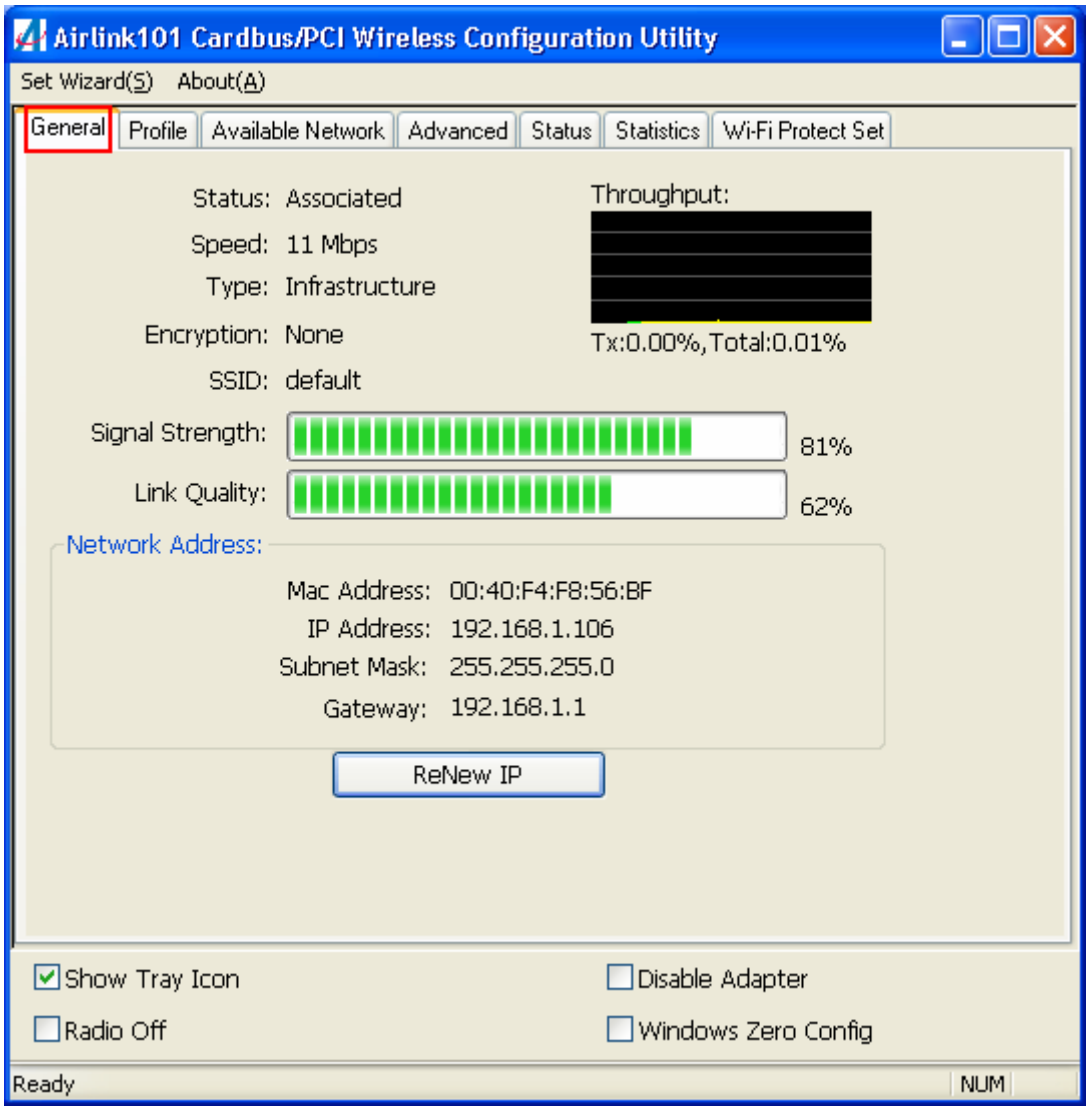
For instructions on changing channels, refer to the documentation that came with your router.

4. Wireless Configuration Utility

This section describes the various functions of the Wireless Configuration Utility that you can configure, including the settings of wireless encryption.

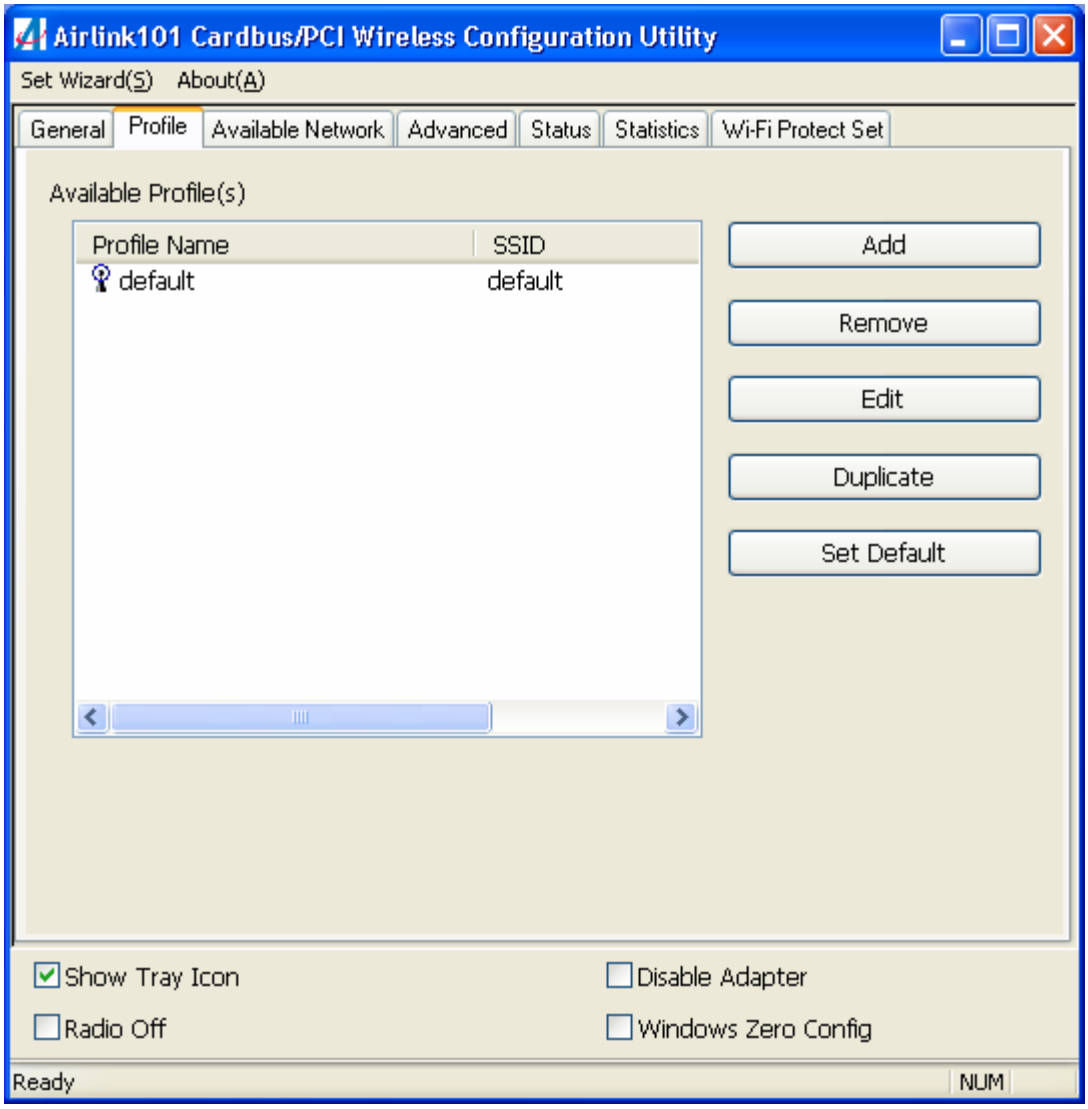
4.1 General

The **General** tab provides you with the status of the current connection, including signal, network name (SSID), IP Address and router channel.



4.2 Profile

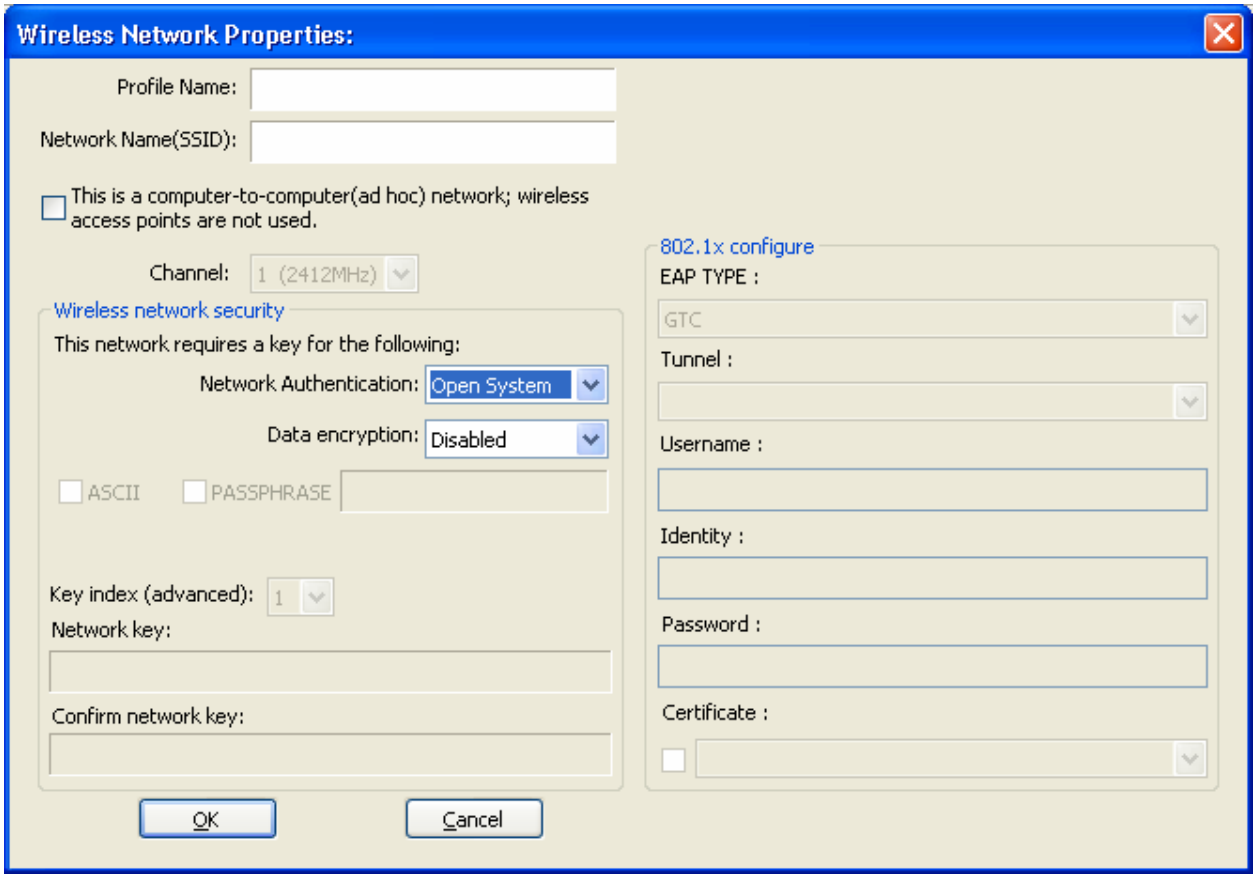
The **Profile** tab lists current profiles and allows you to create new profiles.



Click **Add** to create a new profile.

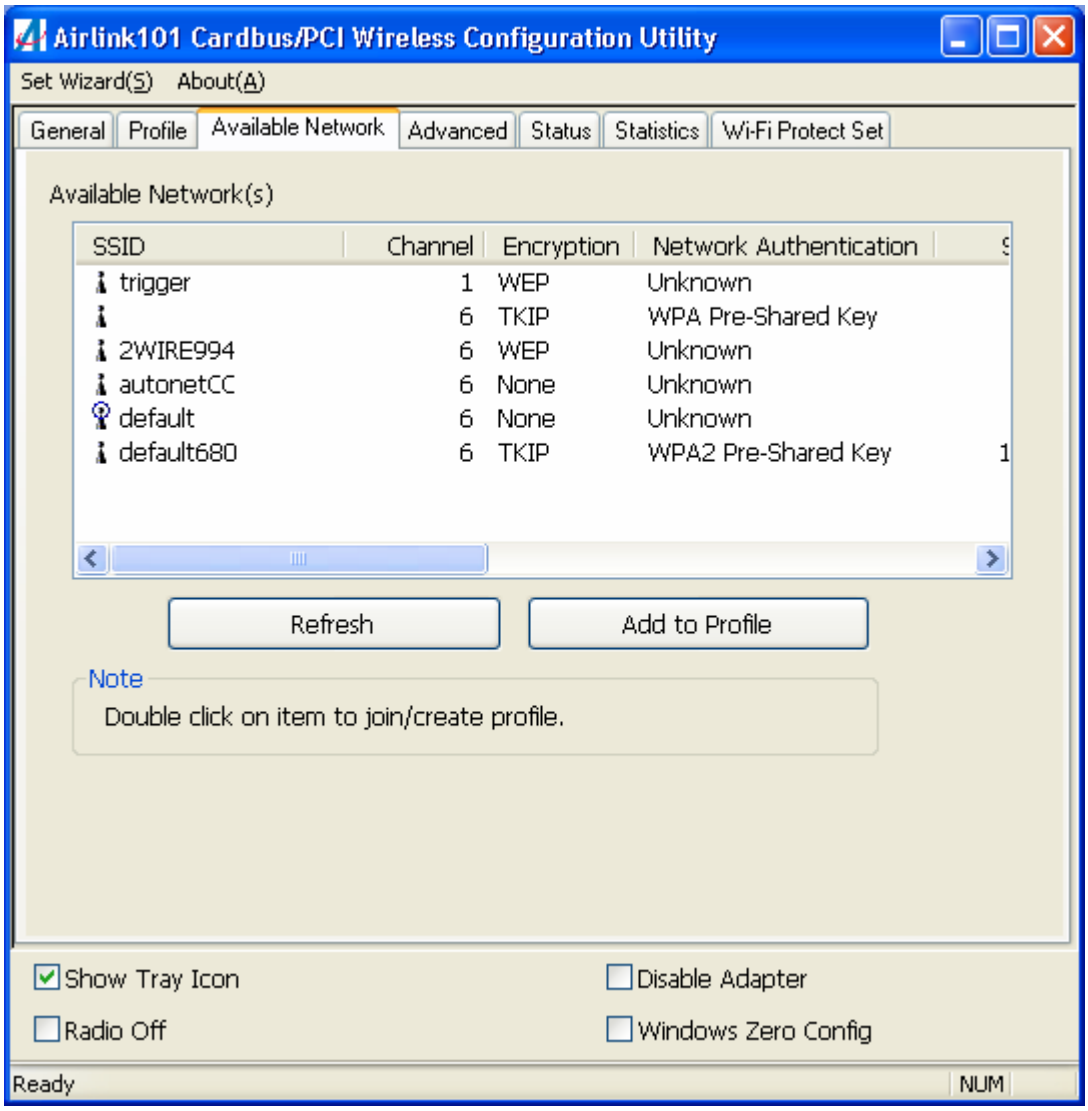
Select a profile and click **Edit** to edit an existing profile.

Select a profile and click **Set Default** to activate a profile.



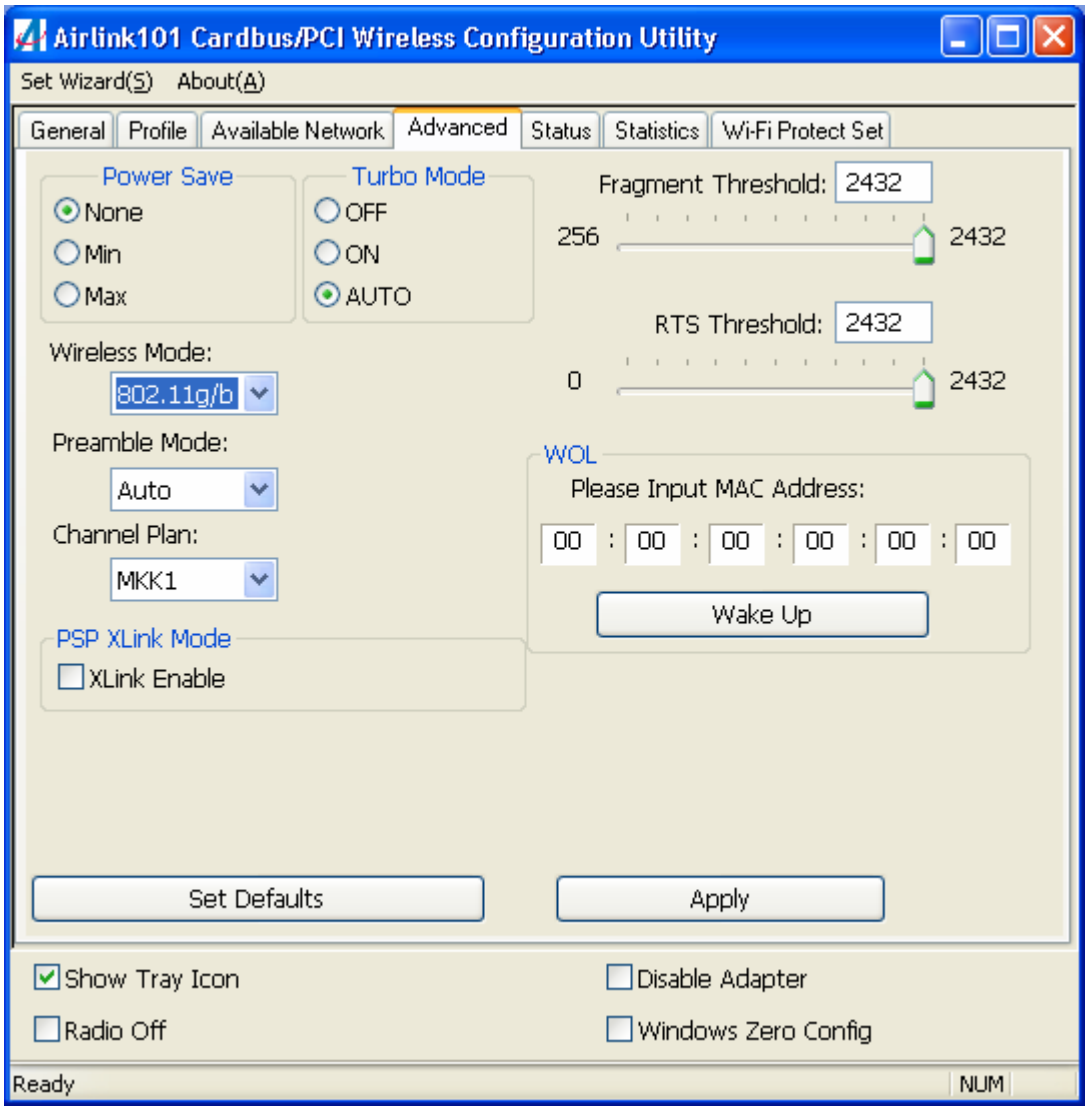
Enter a **Profile Name** and **SSID**. You can also configure your encryption settings for the profile. Click **OK** to save the profile.

4.3 Available Network



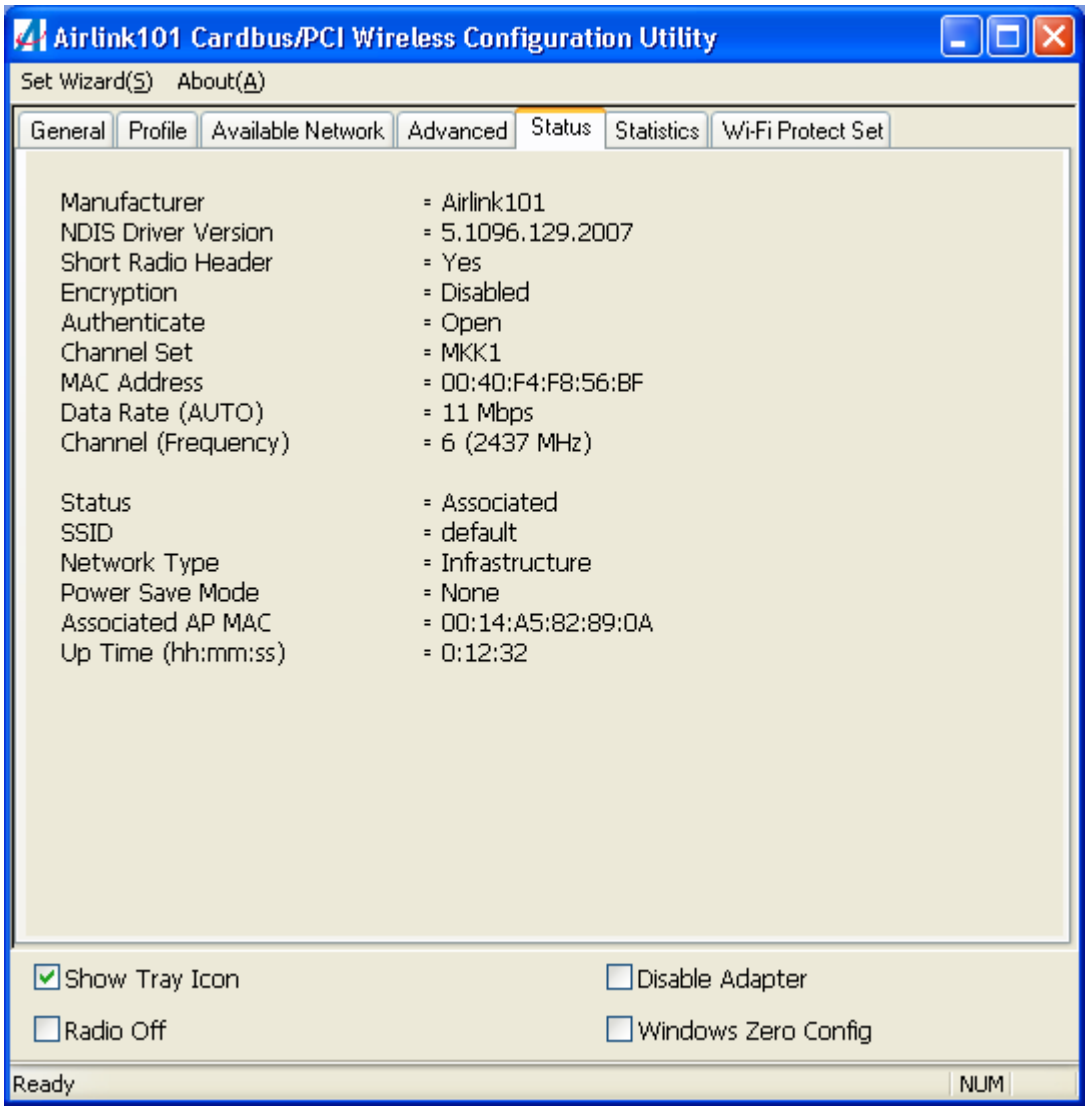
Available network lists all of the networks that the adapter sees in your area. Clicking **Refresh** will refresh the list. To connect to a network, select a network from the list and click **Add to Profile**.

4.4 Advanced



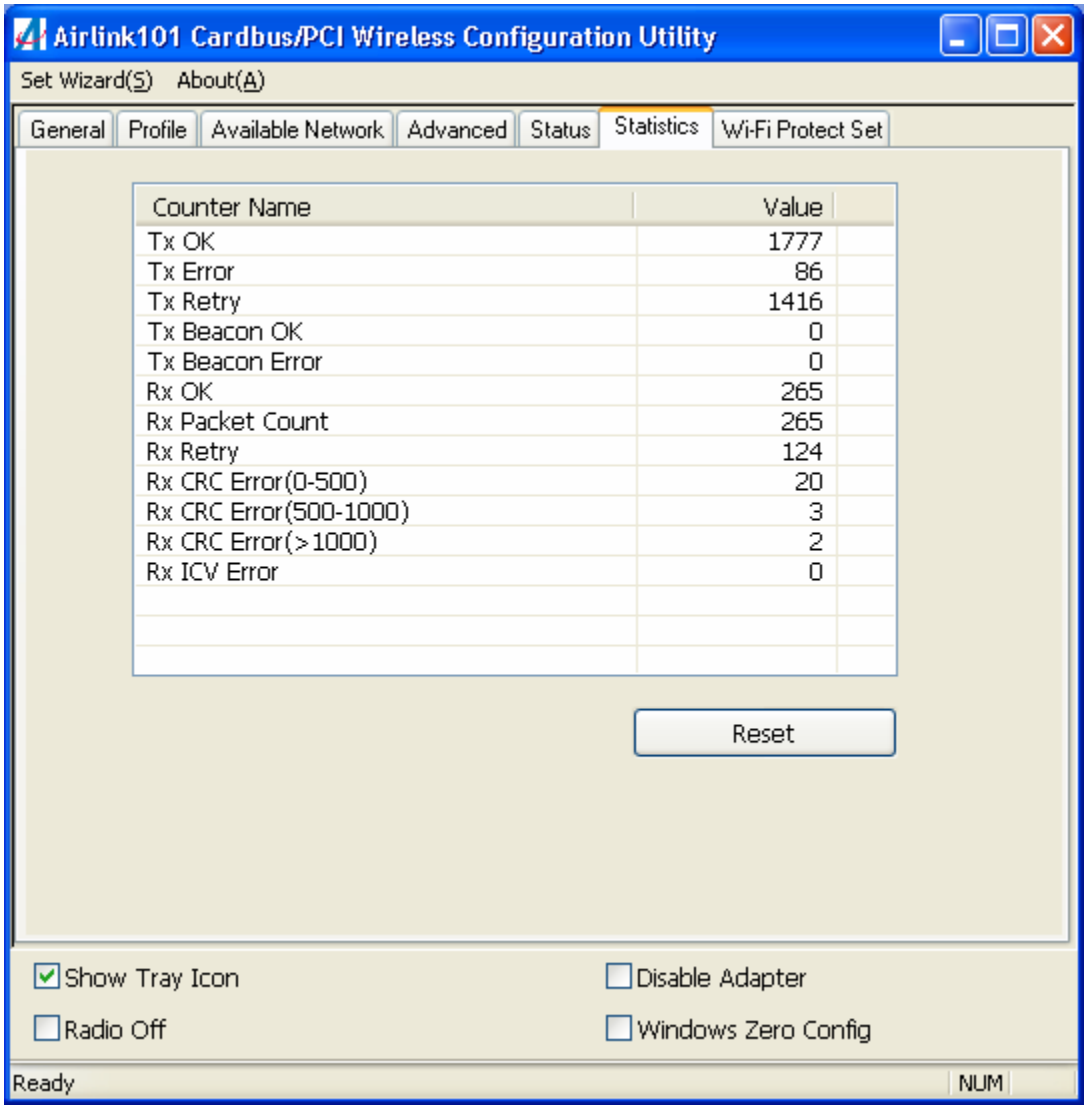
This section contains various advanced wireless settings. These settings are for advanced configuration ONLY. If you do not know what these settings are for, do not change them. Selecting the wrong settings will prevent your adapter from operating properly. If you accidentally change settings, you can click **Set Defaults** to undo your changes.

4.5 Status



The status section provides you with a list of information about the current status of the adapter.

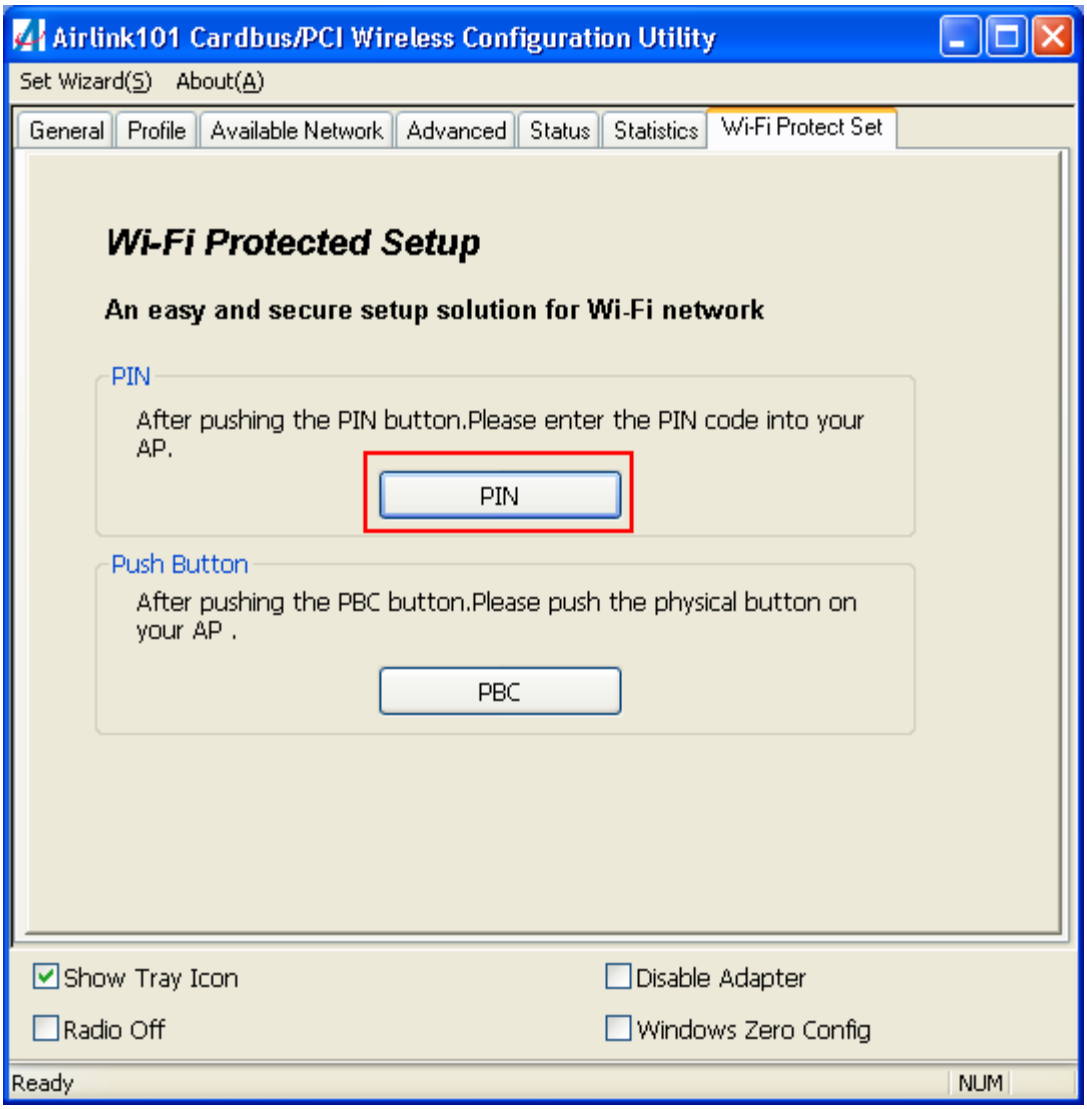
4.6 Statistics



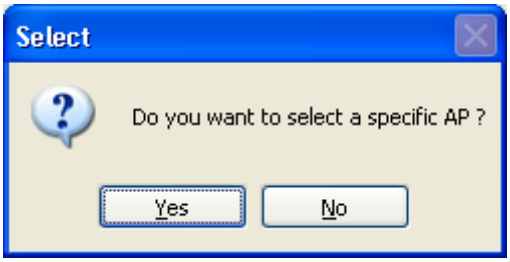
This section provides transmit and receive statistics.

4.7 Wi-Fi Protect Setup

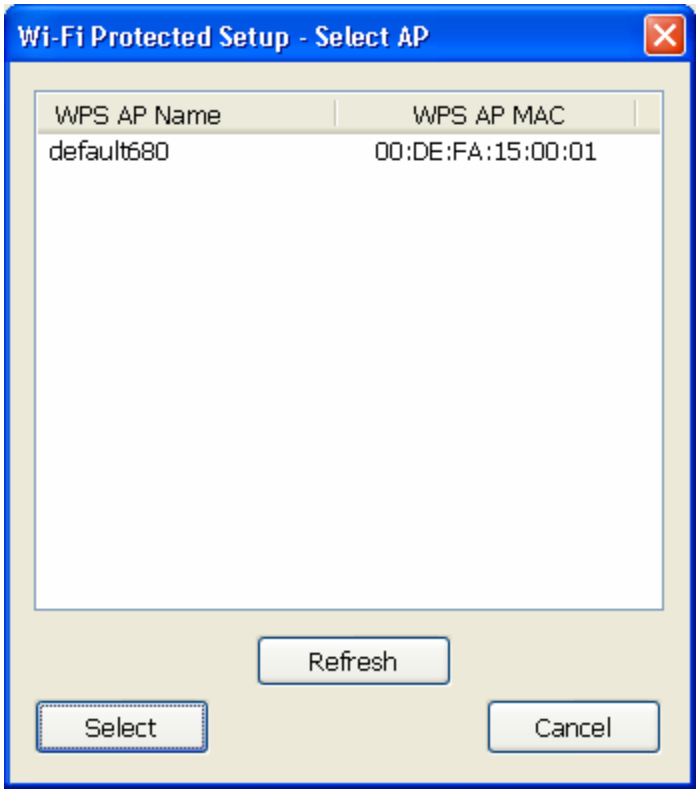
Wi-Fi Protect Set or **WPS** is a new and convenient way to secure your wireless connection. In order to use it, your wireless router must also support **WPS**. There are two ways to configure **WPS**: **PIN** and **PBC** (Push button method).



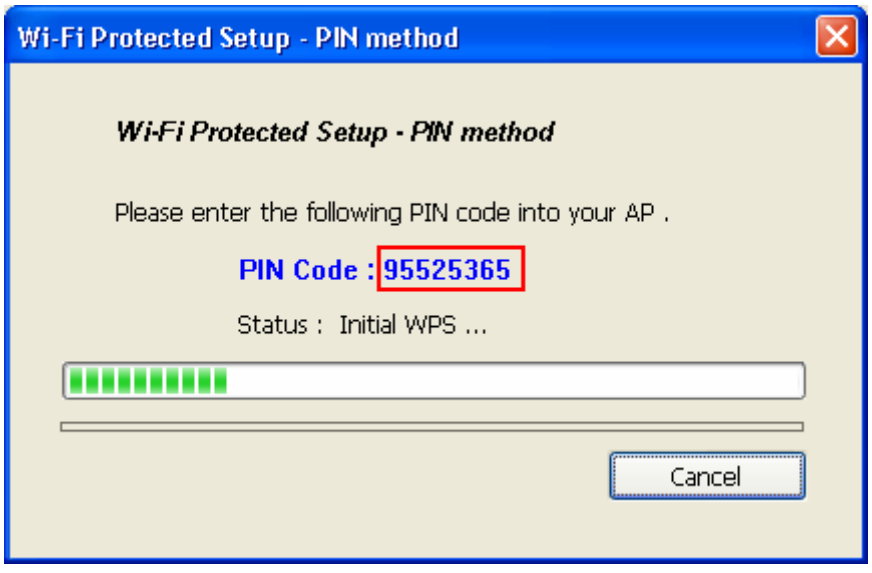
For the PIN Method, click on **PIN**



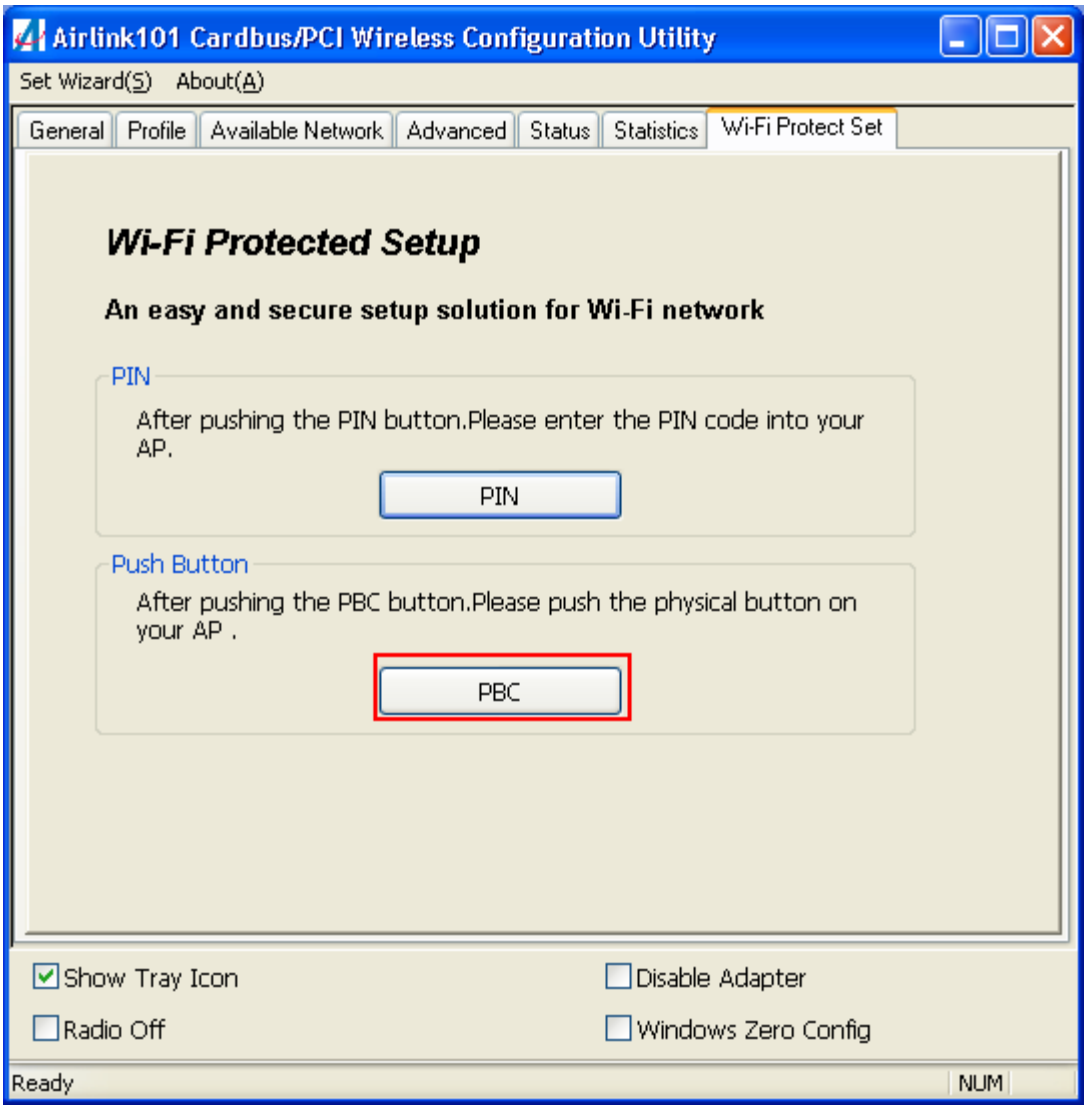
Click **Yes** to select your router from the list.



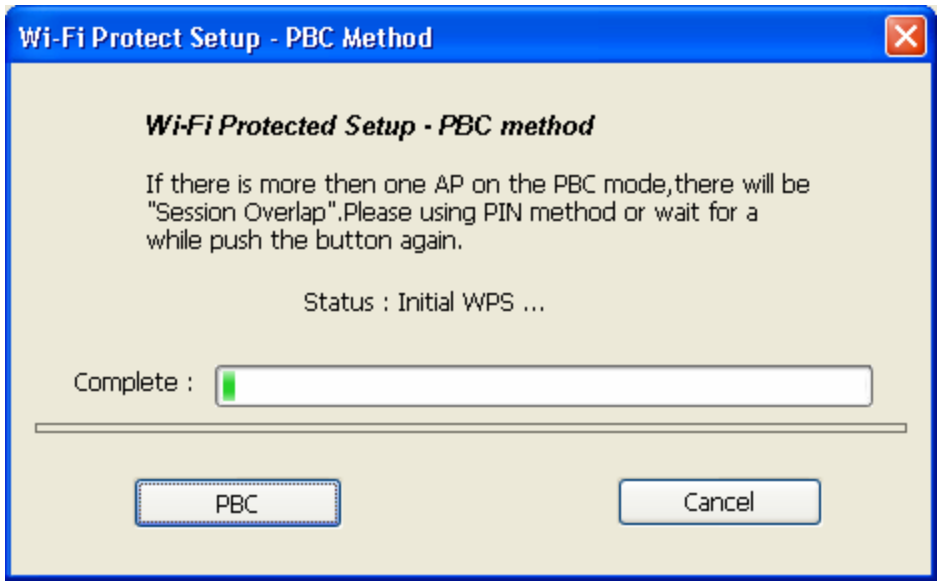
Then click **Select**



Write down the PIN Code and enter it into your router.



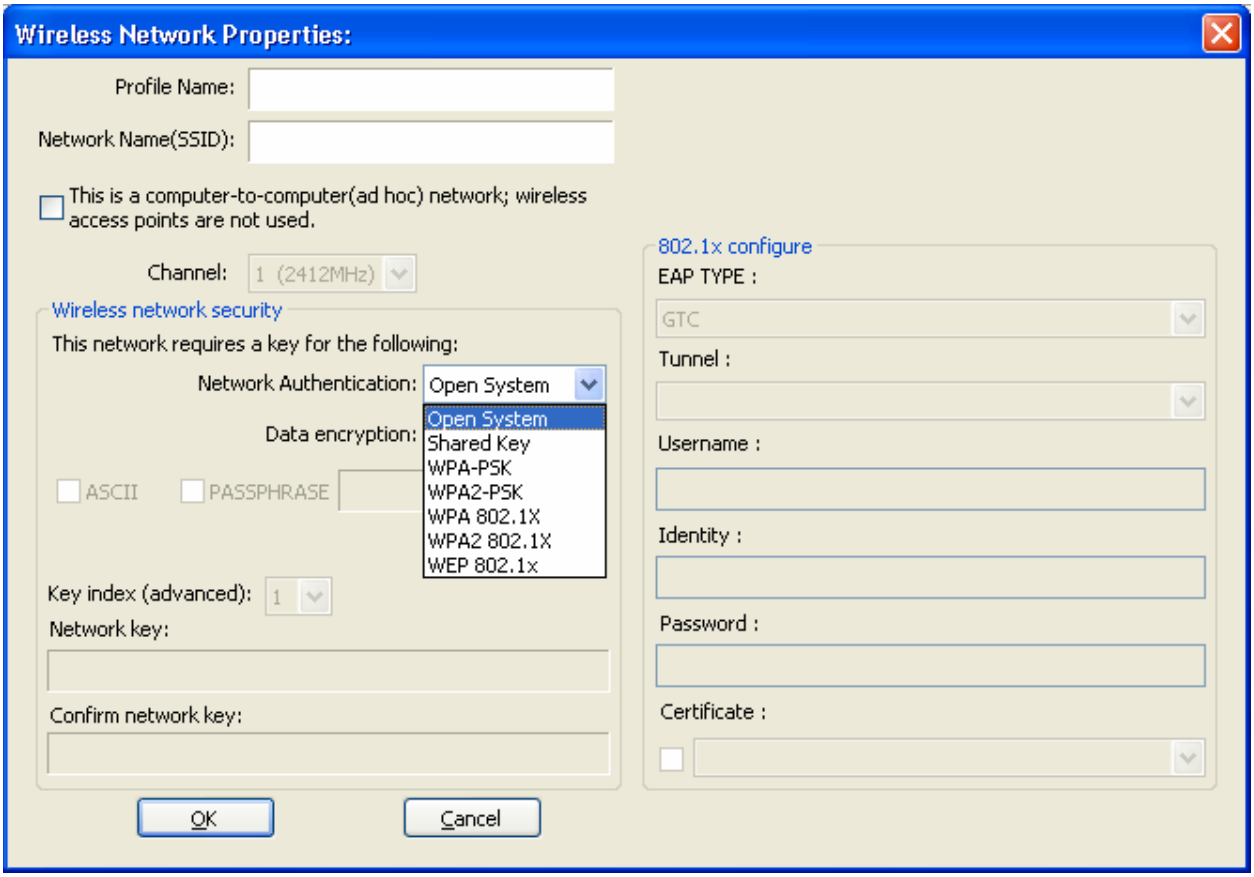
For the push button method, click on **PBC**.



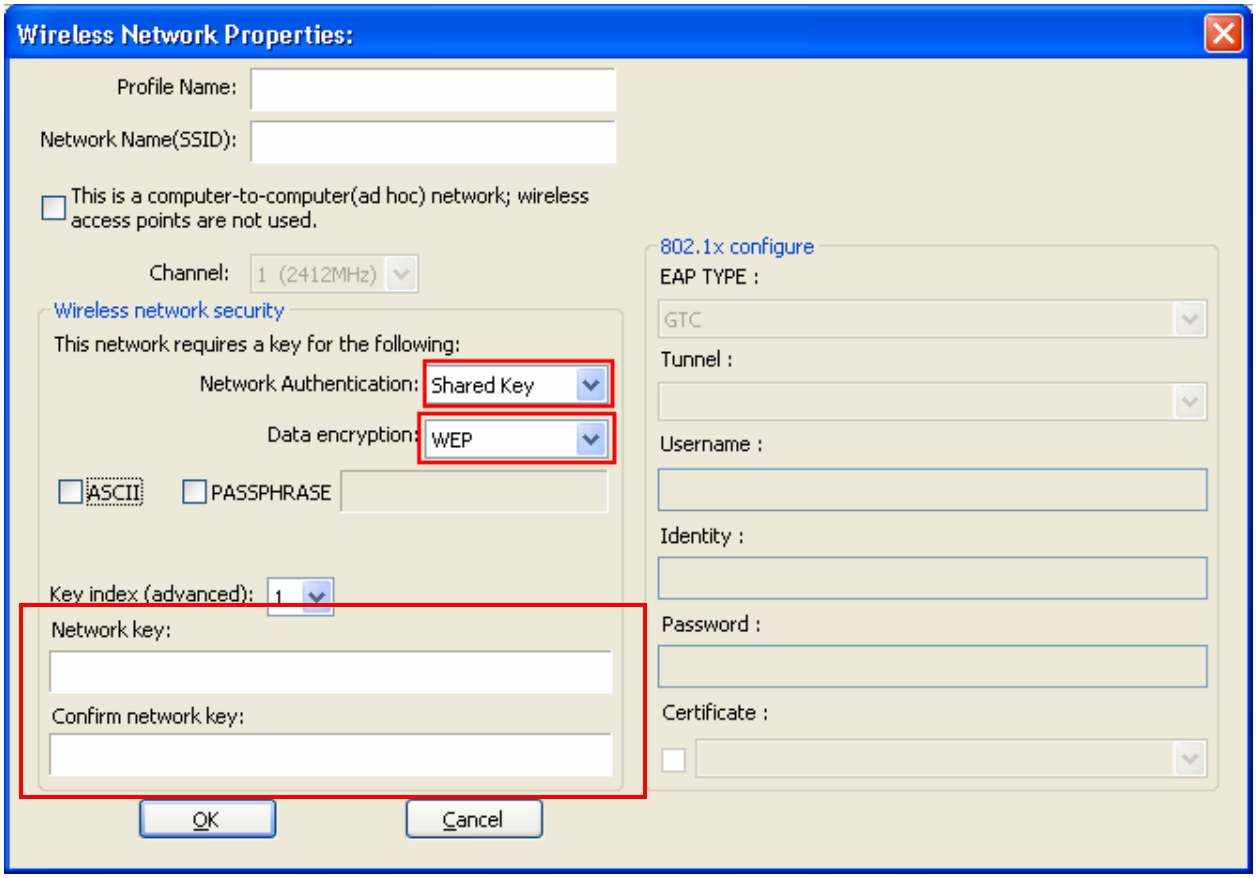
Go to your router and press the **WPS** button to complete the configuration.

4.8 Configuring Encryption

If a network requires encryption settings to be entered manually, you will see the following box when you attempt to connect:



For **WEP encryption** select **Shared Key** from the Network Authentication box.

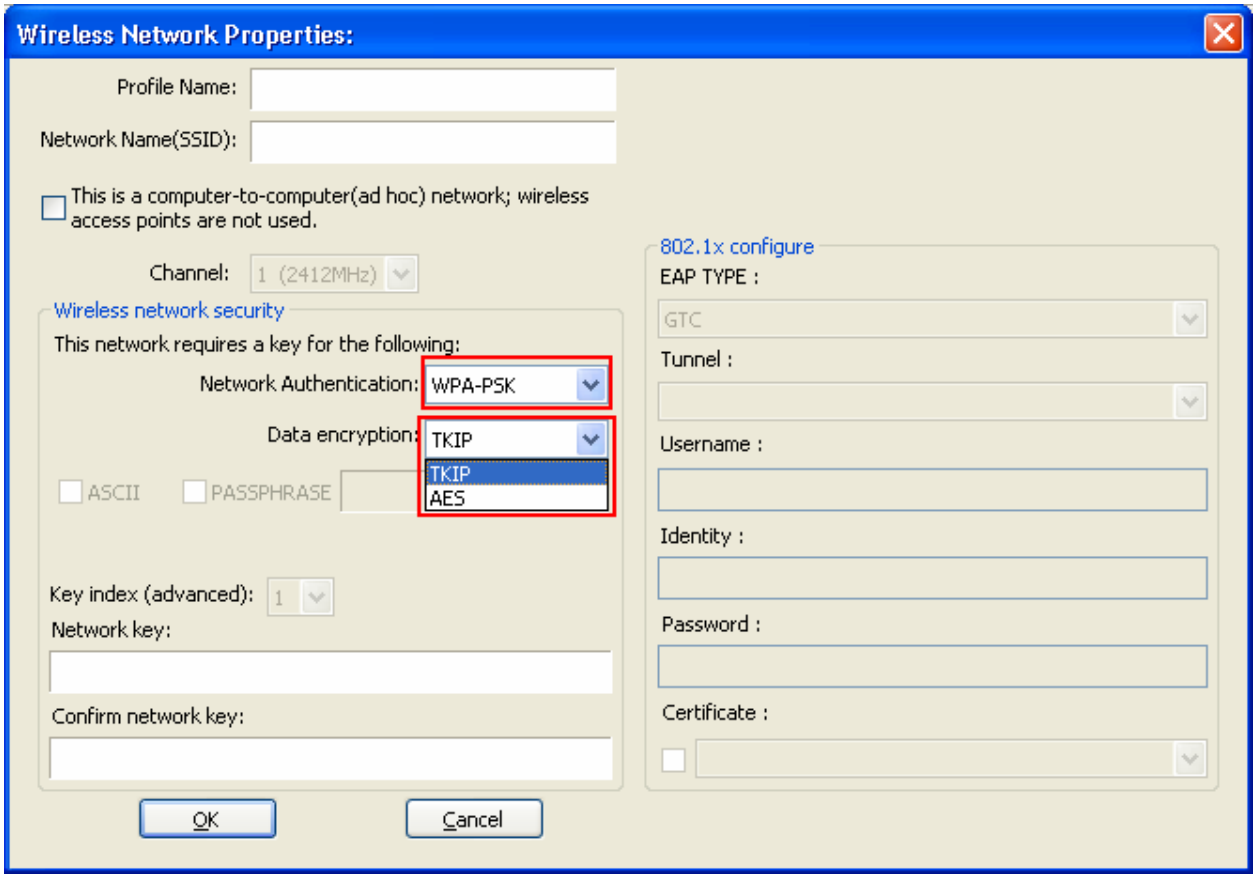


For data encryption select **WEP**

Enter the encryption key in the **Network Key** box and enter it again into the **Confirm network key** box.

Click **OK** to save your settings.

For **WPA encryption** Select **WPA-PSK** from the **Network Authentication** box.

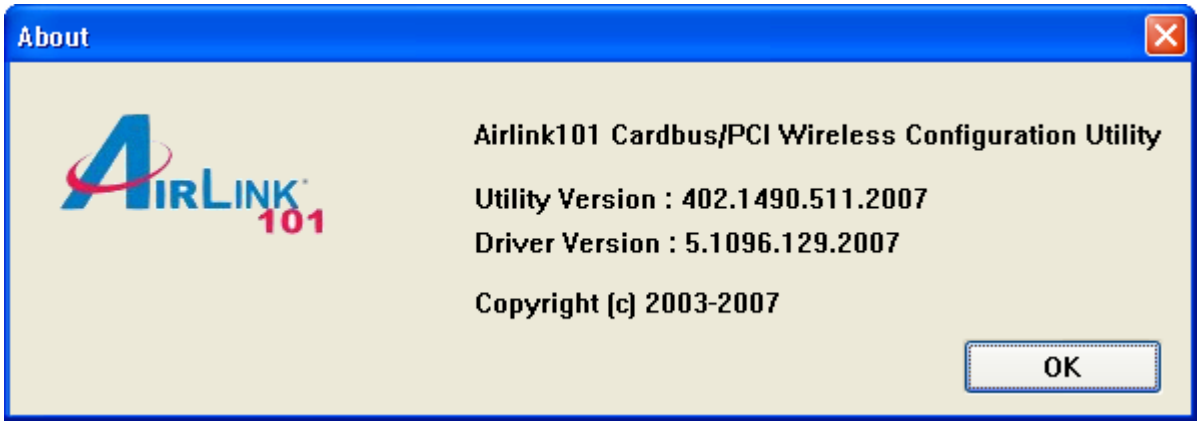


For data encryption select **TKIP** or **AES**

Enter the encryption key in the **Network Key** box and enter it again into the **Confirm network key** box.

Click **OK** to save your settings.

4.9 About



The **About** window provides information about the Wireless Configuration Utility version and the current driver version.

Appendix A – Specifications

Frequency Band
- 2.412 - 2.484 GHz ISM bandwidth

Standards
- IEEE 802.11g
- IEEE 802.11b

Channel
- USA: 11
- Europe: 13
- Japan: 14

Interface
- Cardbus Type II specification 32bit data bus

Antenna type
- Internal dual diversity printed antennas

Security
- 64 / 128-bit WEP encryption
- WPA-PSK, WPA2-PSK, WPA, WPA2

Diagnostic LEDs
- Link
- ACT

Transmission Rate
- 1, 2, 5.5, 6, 11, 12, 18, 24, 36, 48, 54Mbps (auto sense)

Transmitted Power
- Minimum 15dBm@ 802.11b
- Minimum 13dBm@ 802.11g

System requirement
- Windows 2000/XP/Vista
- Available Cardbus slot

Dimensions
- 115 x 54 mm (L x W)

Weight
- 1.6oz

Environment
- Operating Temp: 0ºC to 40ºC
- Storage Temp: -10ºC to 70ºC

Warranty
- Limited 1-year warranty

Safety Approvals
- FCC and CE

Appendix B – Information

Federal Communication Commission Interference Statement

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 to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into 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.

FCC 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 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:
FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

European Union Notice:

Radio products with the CE marking comply with the R&TTE Directive (1999/5/EC), the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:

- EN 60950 Product Safety
- EN 300 328 Technical requirement for radio equipment
- EN 301 489-1/-17 General EMC requirements for radio equipment

Technical Support

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*Theoretical maximum wireless signal rate based on IEEE standard 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, mix of wireless products used, radio frequency interference (e.g., cordless telephones and microwaves) as well as network overhead lower actual data throughput rate. Specifications are subject to change without notice.