802.11g Wireless PCI Adapter

Model # AWLH3028v2

User's Manual

Rev. 1.0

Table of Contents

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1. Introduction

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

This Adapter supports WiFi Protected Access (WPA2-PSK and WPA-PSK) data encryption for higher 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, which is much safer than WEP encryption.

1.1 Package Contents

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

- Wireless PCI Adapter
- Antenna
- 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, Vista and 7
- Simple user setup & diagnostics utilities

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2. Installation

2.1 Install Driver & Utility

This section provides instructions on how to install the **Wireless PCI Adapter**. The driver is installed along with the utility.
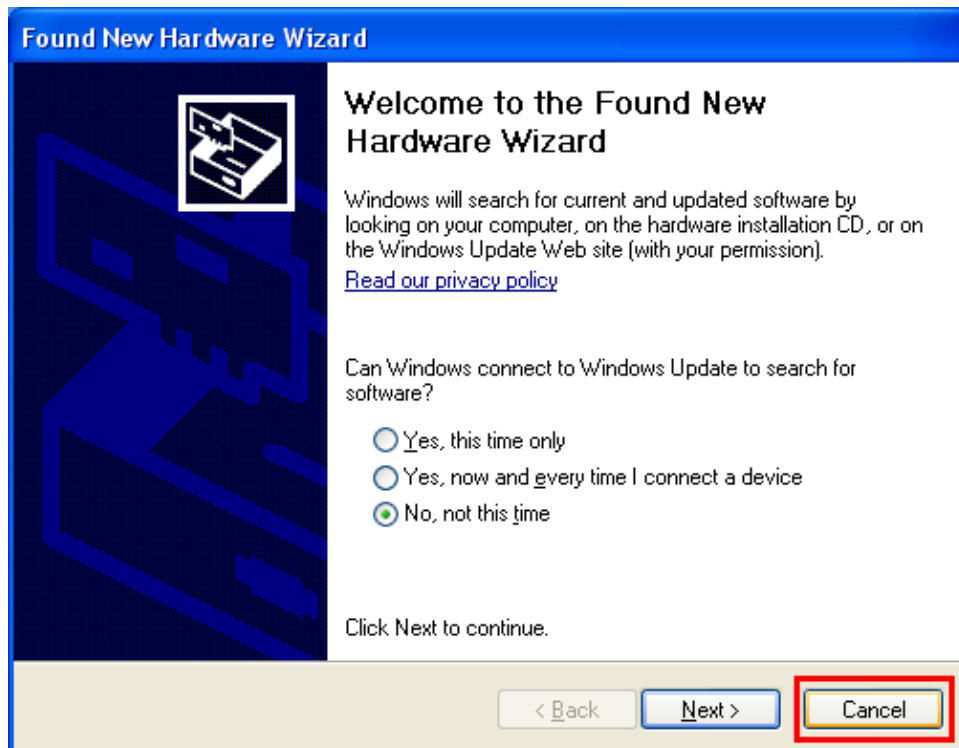
Step 2.1 SWITCH THE COMPUTER OFF, remove the cover and insert the wireless PCI adapter into an available PCI slot of your computer.

Step 2.2 Fasten the antenna to the antenna connector on the wireless PCI adapter. Replace the cover of your computer.

Step 2.3 Switch on the computer.

Step 2.4 Click **Cancel** when you see the **Found New Hardware Wizard**.

**Windows XP/2000 Users:**

Windows 7/Vista Users: After turning on the computer, Windows will install its built in drivers for this card. A window will pop up telling you that the driver was installed successfully. Once you see this message, continue to **Step 1.5**.

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Step 2.5 Insert the CD into the CD drive. The Autorun screen will pop up.
**Windows 7 Users:** Select **Install Driver (Windows 7)** from the menu.
Windows Vista/XP/2000 Users: Select **Install Utility and Driver (Windows Vista/XP/2K)** from the menu.
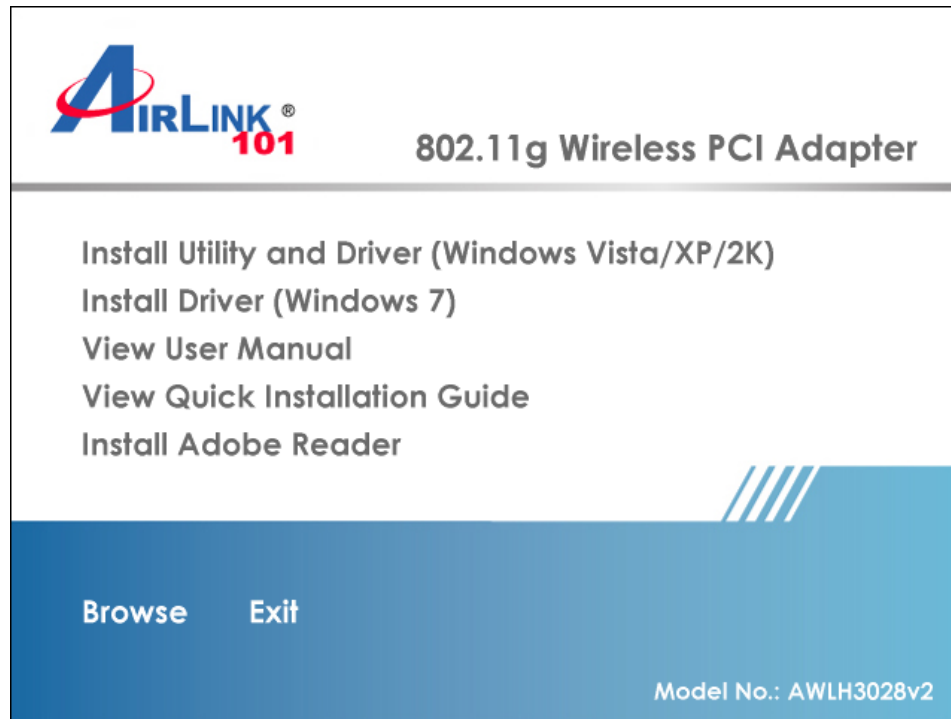
Note: *If the Autorun screen doesn't appear automatically, go to* ***Start****,* ***Run****, and type* ***D:\Utility\Setup.exe*** *(where* ***D*** *is the letter of your CD drive) and click* ***OK****.*

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

Step 2.6 Click **Next** at the welcome screen.

5
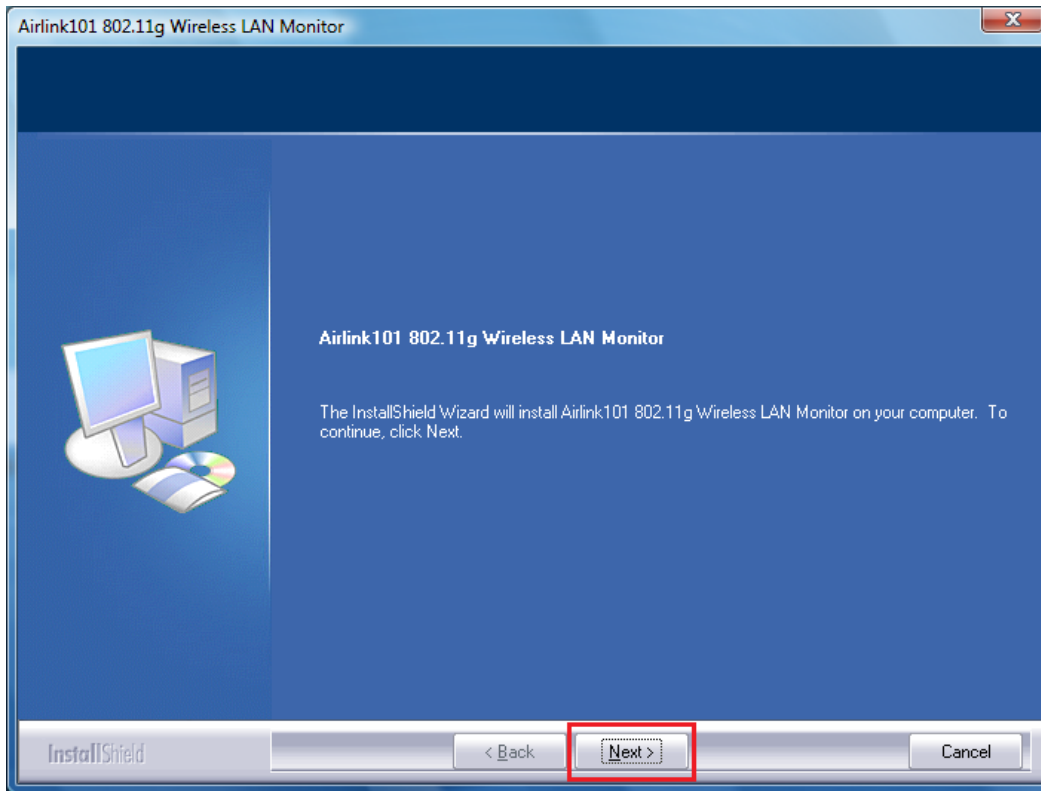
Step 2.7 Click **Install** to start installing the driver/utility.

6
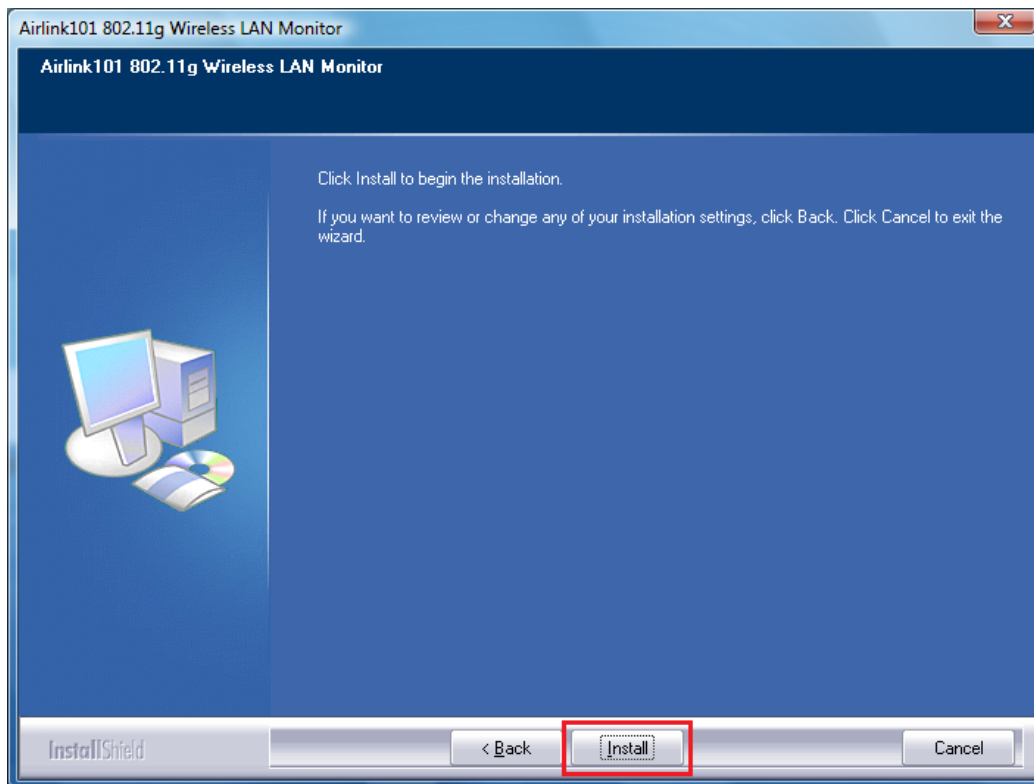
**Step 2.8 Windows 2000/XP Users:** Click **Continue Anyway** at the Windows Logo Screen. (For Windows 2000, click **Yes** at the Digital Signature Not Found prompt).

Hardware Installation

⚠ The software you are installing for this hardware:

Airlink101 802.11g Wireless Cardbus/PCI Adapter

has not passed Windows Logo testing to verify its compatibility with Windows XP. [Tell me why this testing is important.]

Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.

[Continue Anyway]   [STOP Installation]

Please wait when Windows is installing the driver for Airlink101 802.11g Wireless Adapter and the utility, Airlink101 Wireless LAN Monitor.

Now installing Airlink101 802.11g Wireless LAN Driver

Step 2.9 Click **Finish** to complete the installation.

7
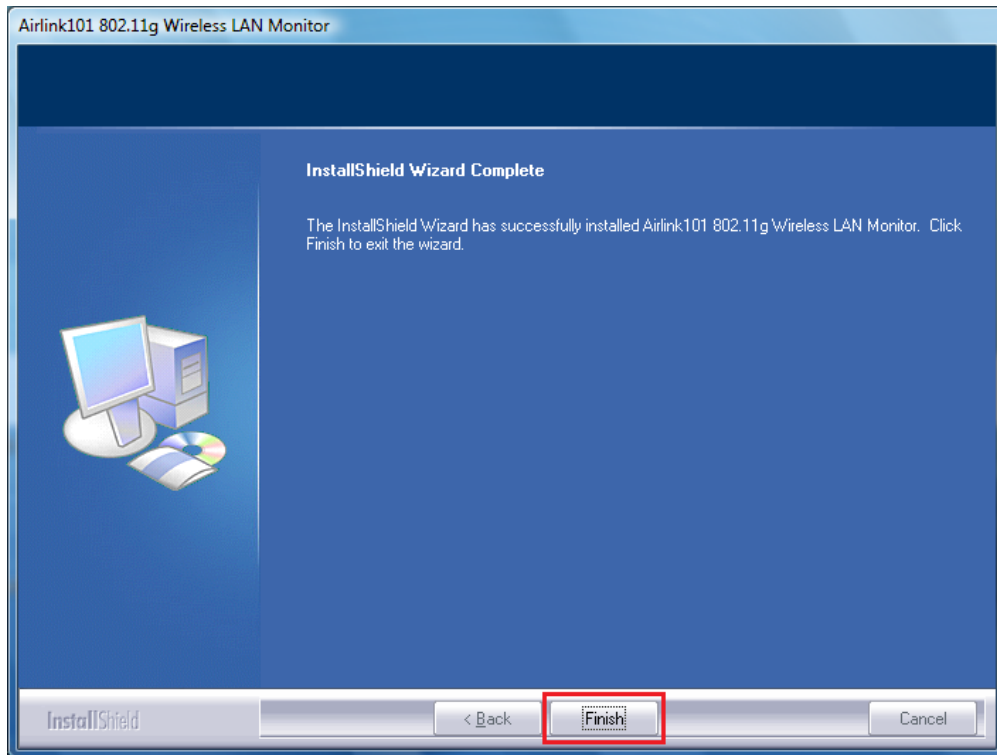
Step 2.10 Select **Yes, I will restart my computer now**. Click **Finish** to reboot the computer.
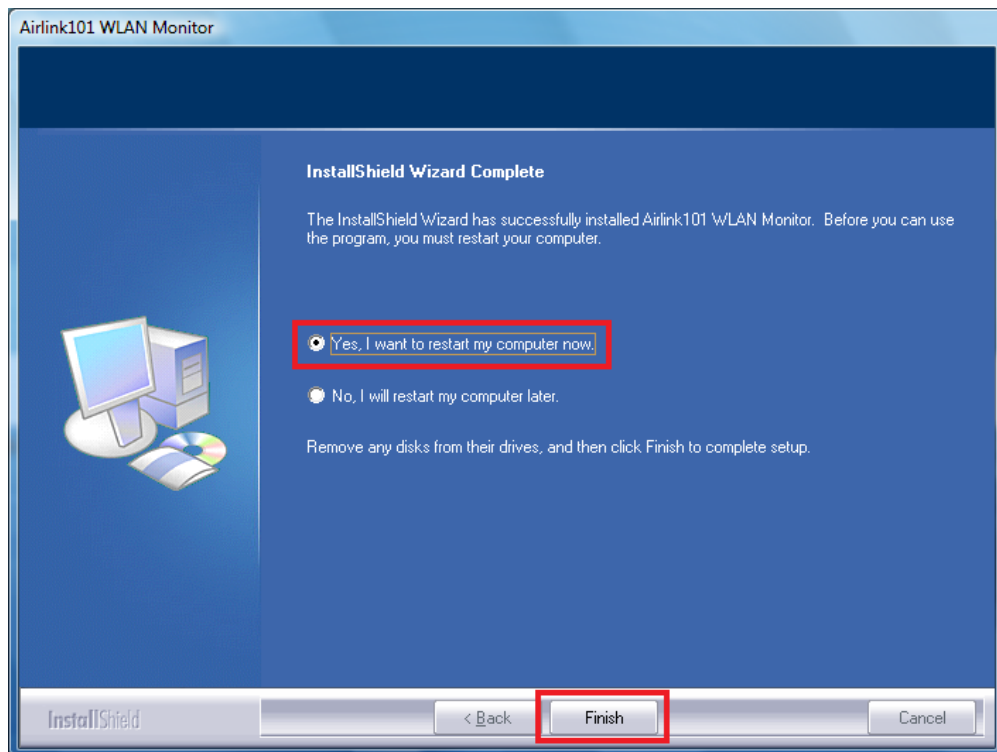
The driver and utility have been installed. Please continue to next chapter.

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3. Connect to Wireless Network

For Windows 7 Users:

You will need to use the utility built in Windows 7 to manage this wireless PCI adapter. Currently, Airlink101 Wireless LAN Monitor does not support Windows 7.

Step 3.1 Click on the wireless icon in the system tray at the bottom right-hand corner of your screen. A list of available network will pop up. Select the one you want to connect to and click **Connect**.
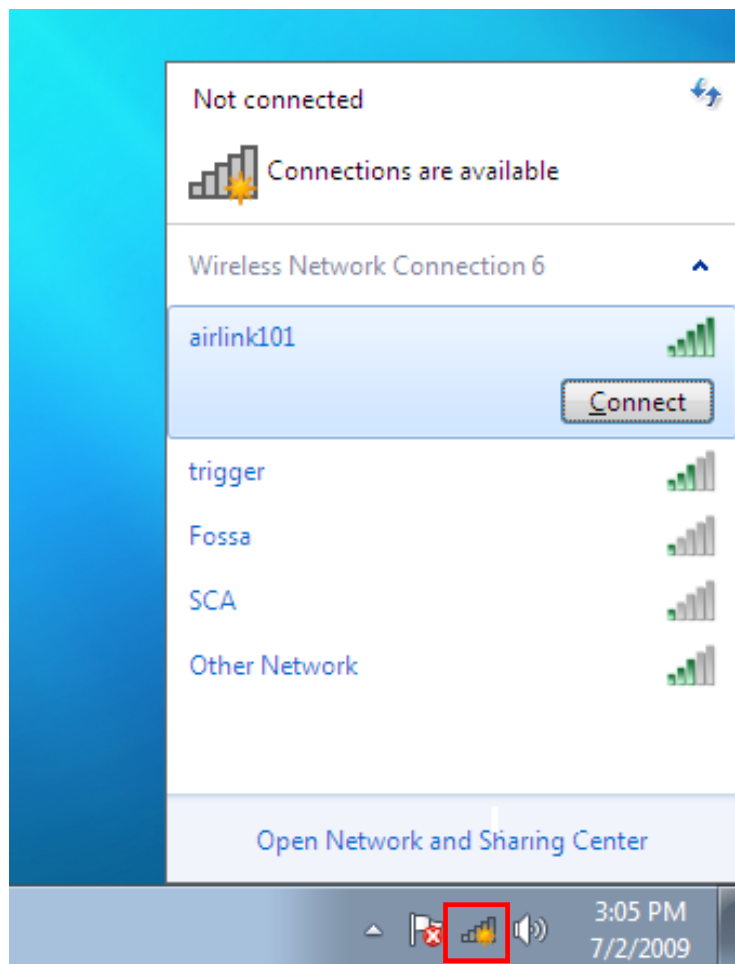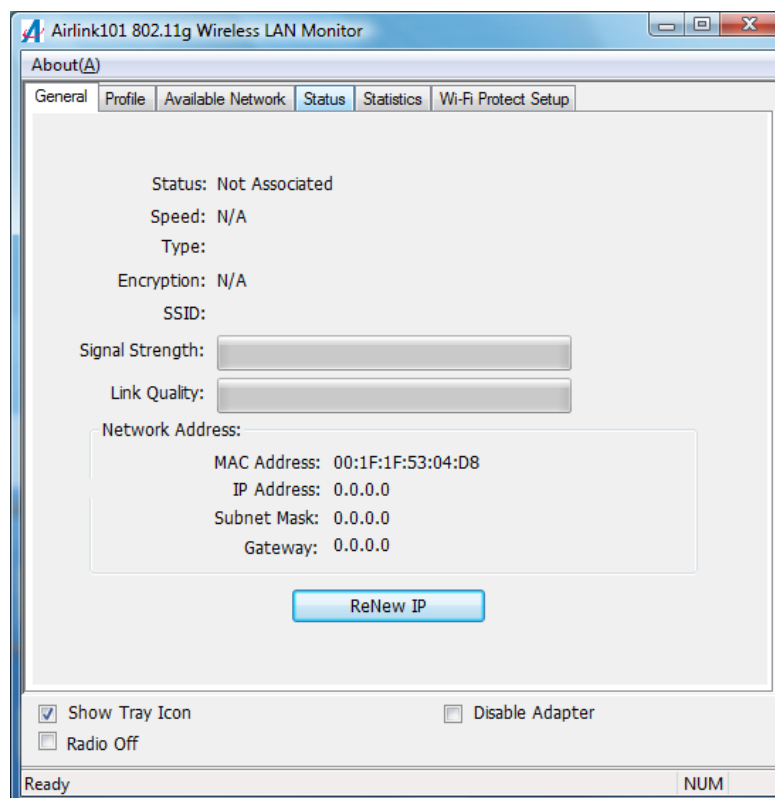

Step 3.2 Enter the network security key if the wireless network you are attempting to connect to has wireless encryption enabled. Click **OK**. The connection will be established then.
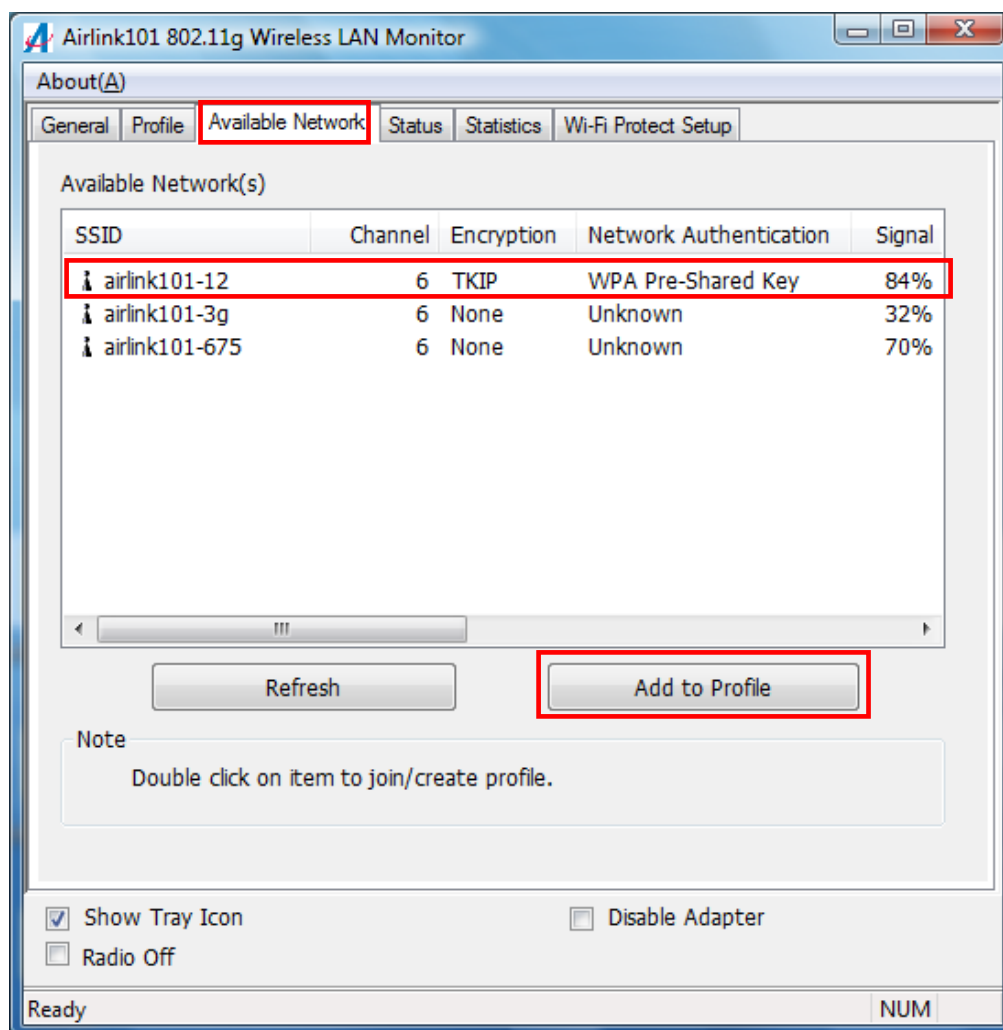
9

For Windows Vista/XP/2000 Users:

Step 3.1 Open the Airlink101 802.11g Wireless LAN Monitor utility by double clicking on the icon in the system tray at the bottom right-hand corner of your screen.


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Step 3.2 Click the **Available Network** tab of the Wireless LAN Monitor, select the wireless network that you wish to connect to, and click **Add to Profile**.


If the network that you are attempting to connect does not have encryption enabled, you will receive a warning about connecting to an unsecured network. Click OK to complete the connection.

Step 3.3 Enter the wireless security key into the **Network Key** and **Confirm Network Key** box if the network you are attempting to connect has wireless security enabled. Click **OK**.

The wireless adapter will automatically detect the type of Network Authentication and the Data encryption, so you can keep these settings unchanged.

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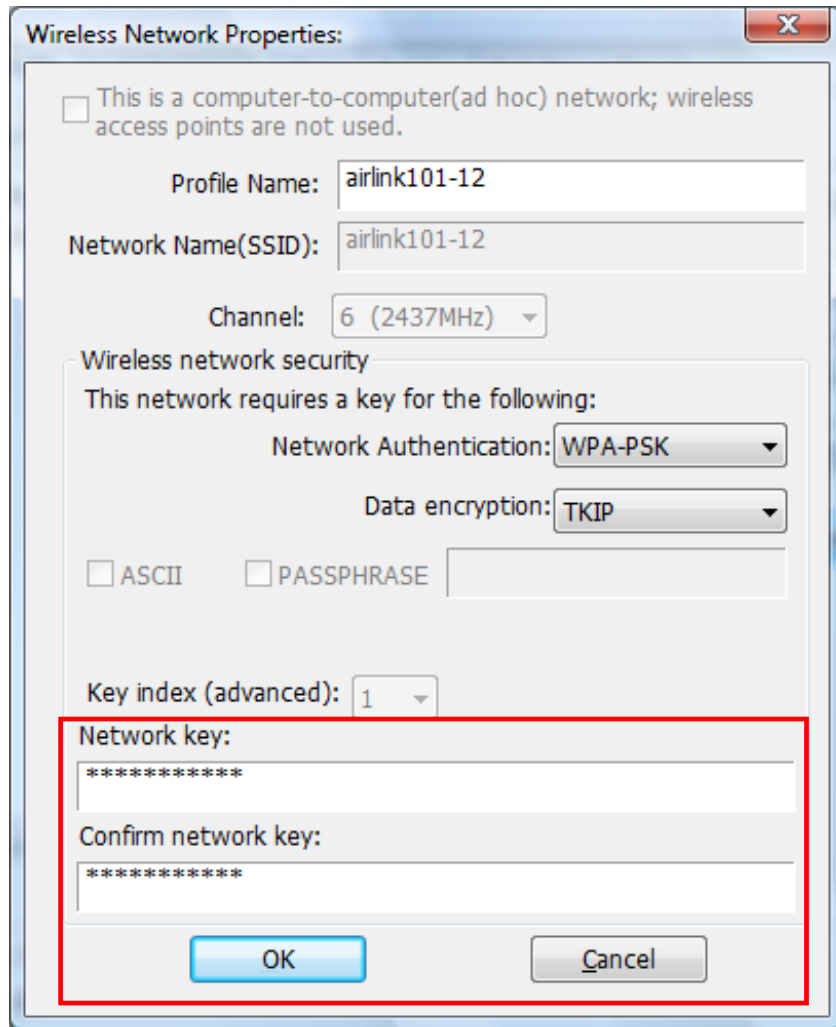
Step 3.4 The connection should be now established. Under **General** tab, you can check the status of wireless connectivity. Verify that **IP Address**, **Subnet Mask** and **Gateway** have valid numbers assigned to them (instead of all 0's). The Status should be Associated, and there should be green bars next to Signal Strength and Link Quality.

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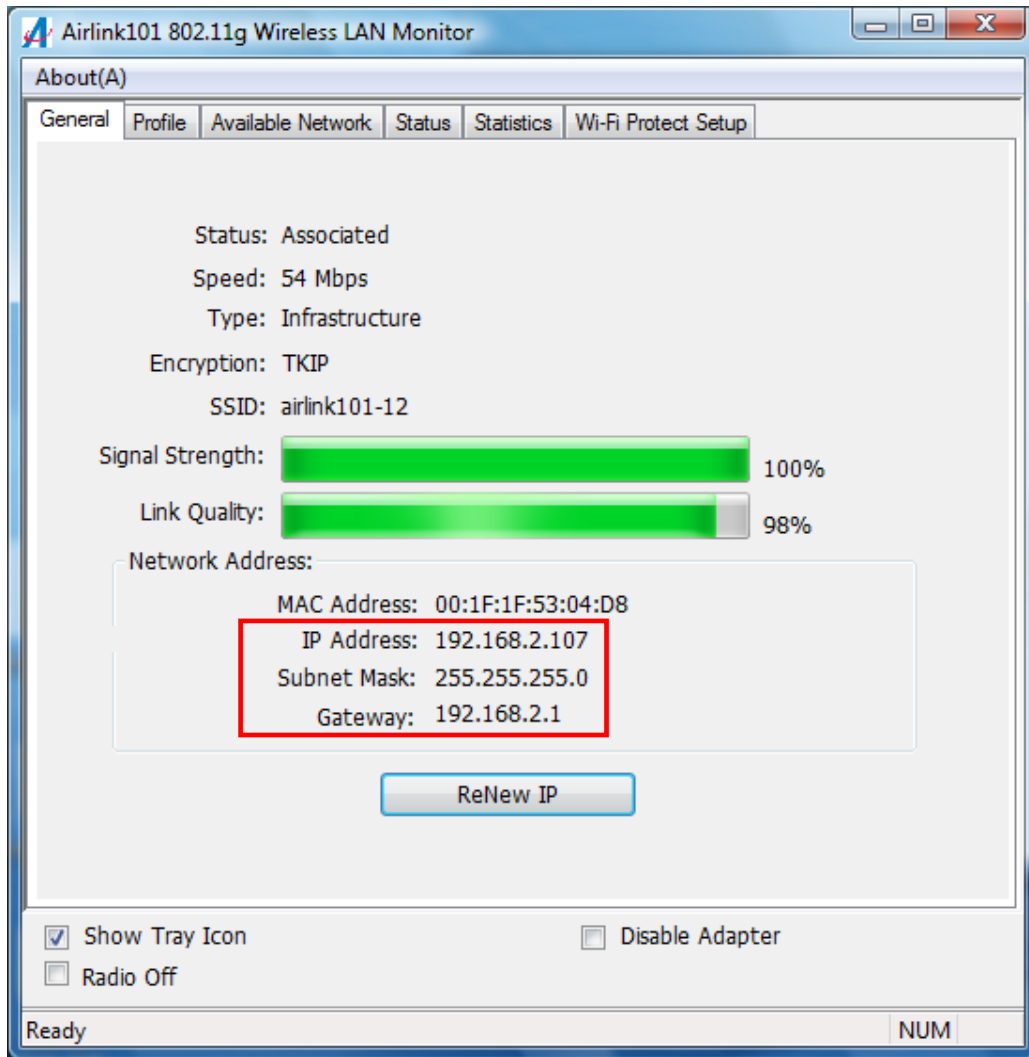
Congratulations! You have now connected to the wireless network successfully.

4. Configure Wireless LAN Monitor

This section describes the various functions of the 802.11g Wireless LAN Monitor 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) and IP Address.
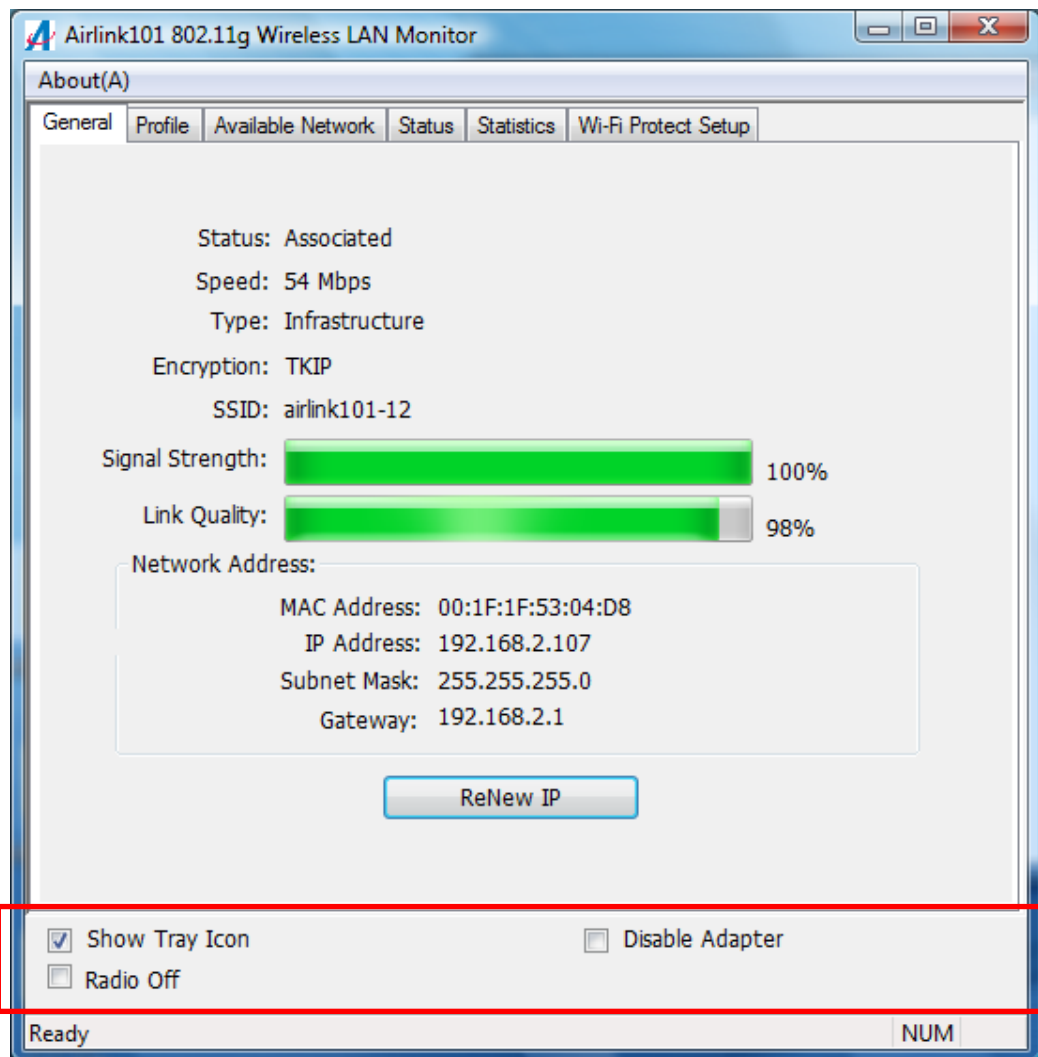
At the bottom, you have options for controlling the utility and adapter:

Show Tray Icon: Check this box to show or hide the utility icon on the task bar.

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Radio Off: Check/uncheck this box to turn off/on the wireless function of the adapter.

Disable Adapter: Check/uncheck this box to disable/enable the wireless adapter.

For Windows XP users, you will see a checkbox "Windows Zero Config" which can be used to enable or disable the Windows XP's built-in wireless utility, Windows Zero Configuration. It is suggested NOT to check this box and use Airlink101 Wireless Monitor that provides more advanced features to manage your wireless connection.

Windows Zero Config: Check/uncheck this box to disable/enable Airlink101 Wireless Monitor.
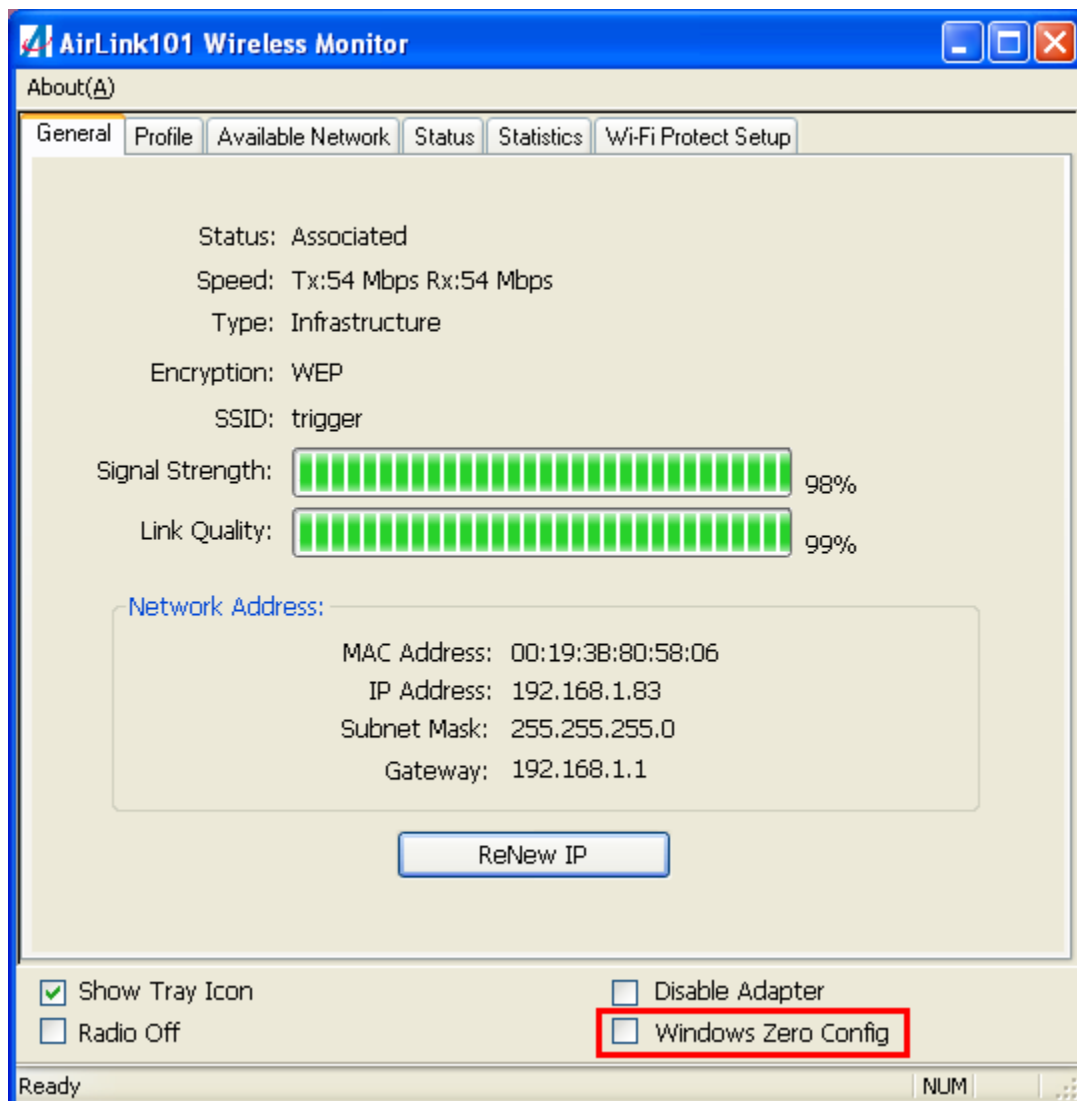
4.2 Profile Settings

The **Profile** tab lists the current profiles and allows you to add/remove/edit profiles.
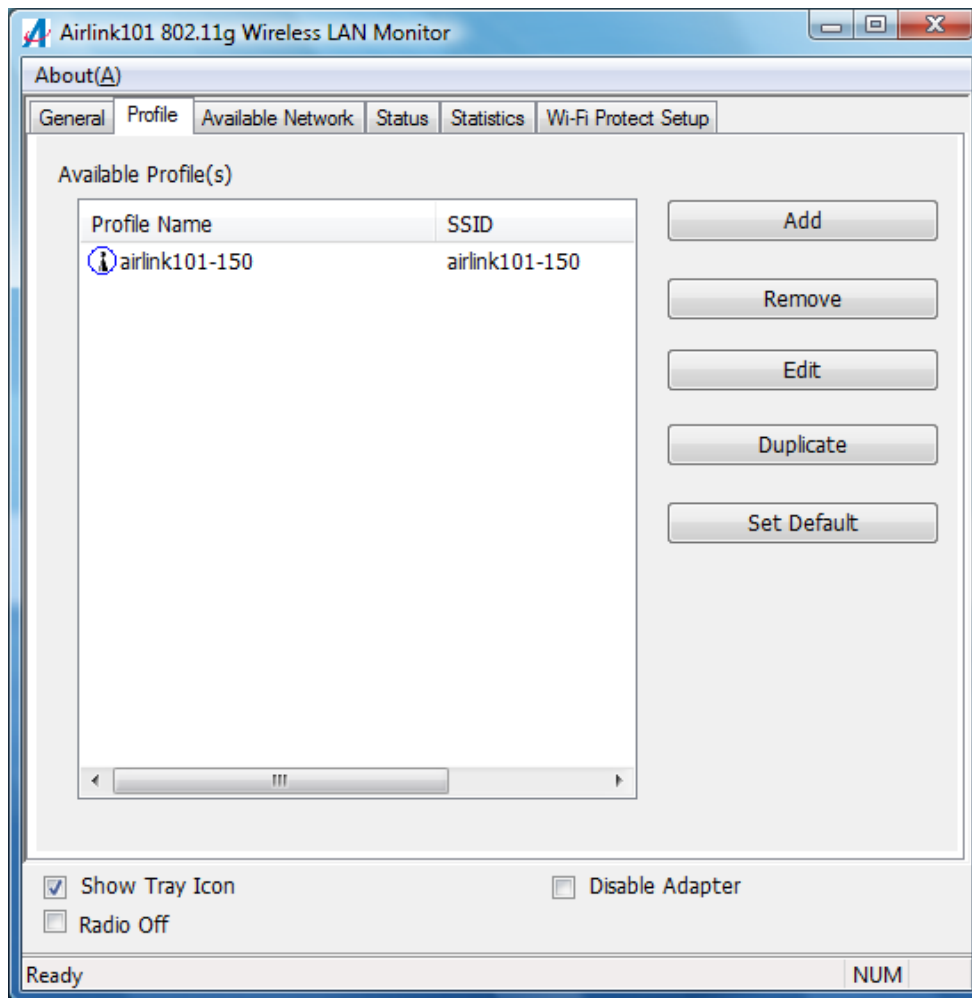

The **Available Profile(s)** box lists all the profiles that you've created for your network. A profile is automatically created and added to this list when you connect to a new network. You can also manually add a profile.

→ To modify an existing profile, select the profile from the **Available Profile(s)** box and click on **Edit**. The **Profile** box will appear allowing you to modify the settings for this profile

→ To create a new profile, click on **Add**. The **Profile** box will appear allowing you to specify the settings for your new profile.

Enter the profile settings here, including Profile Name, SSID, Network Authentication, Data Encryption and Network Key. Click **OK** to save the changes.
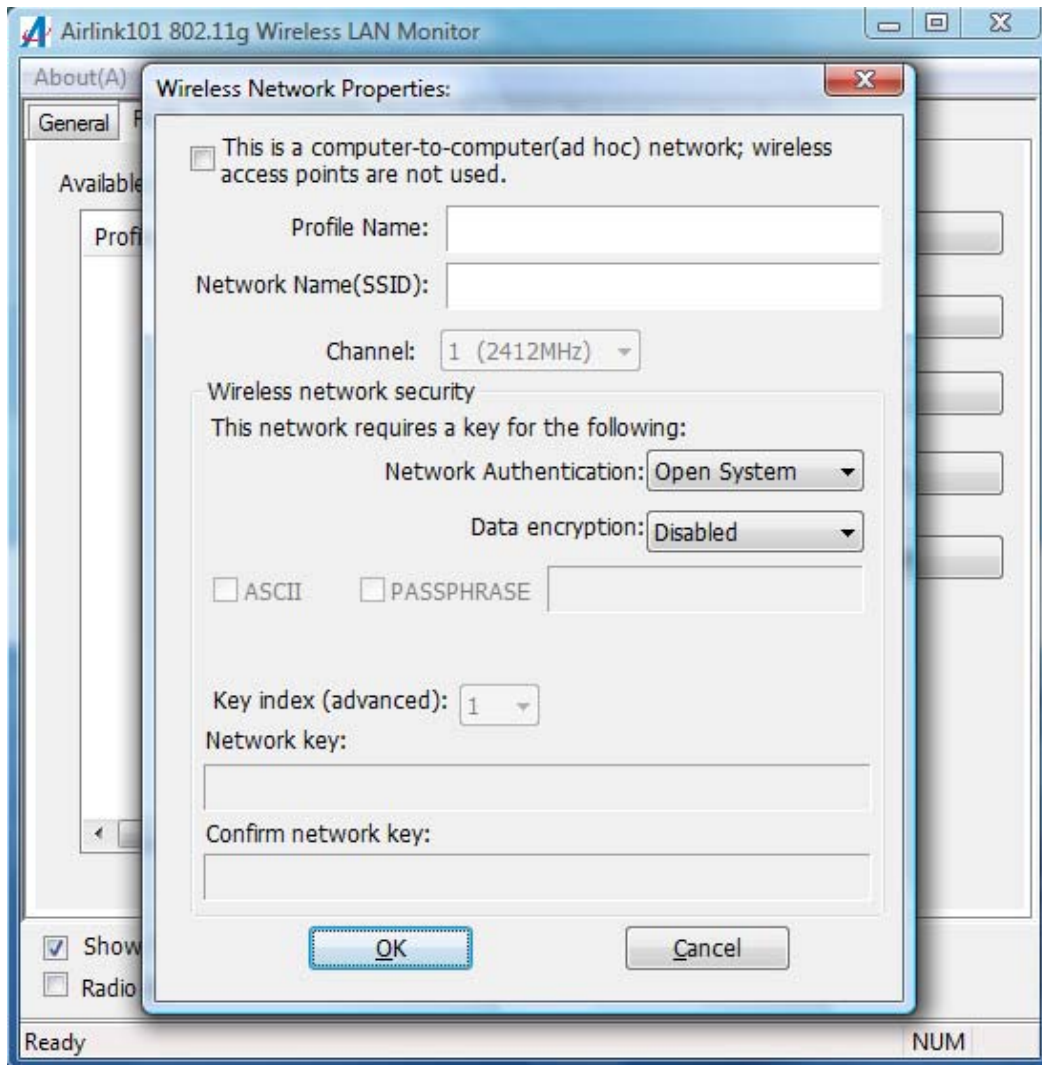
The section 4.7, Configuring Encryption will give you the information of how to set the different options of the wireless network encryption settings.
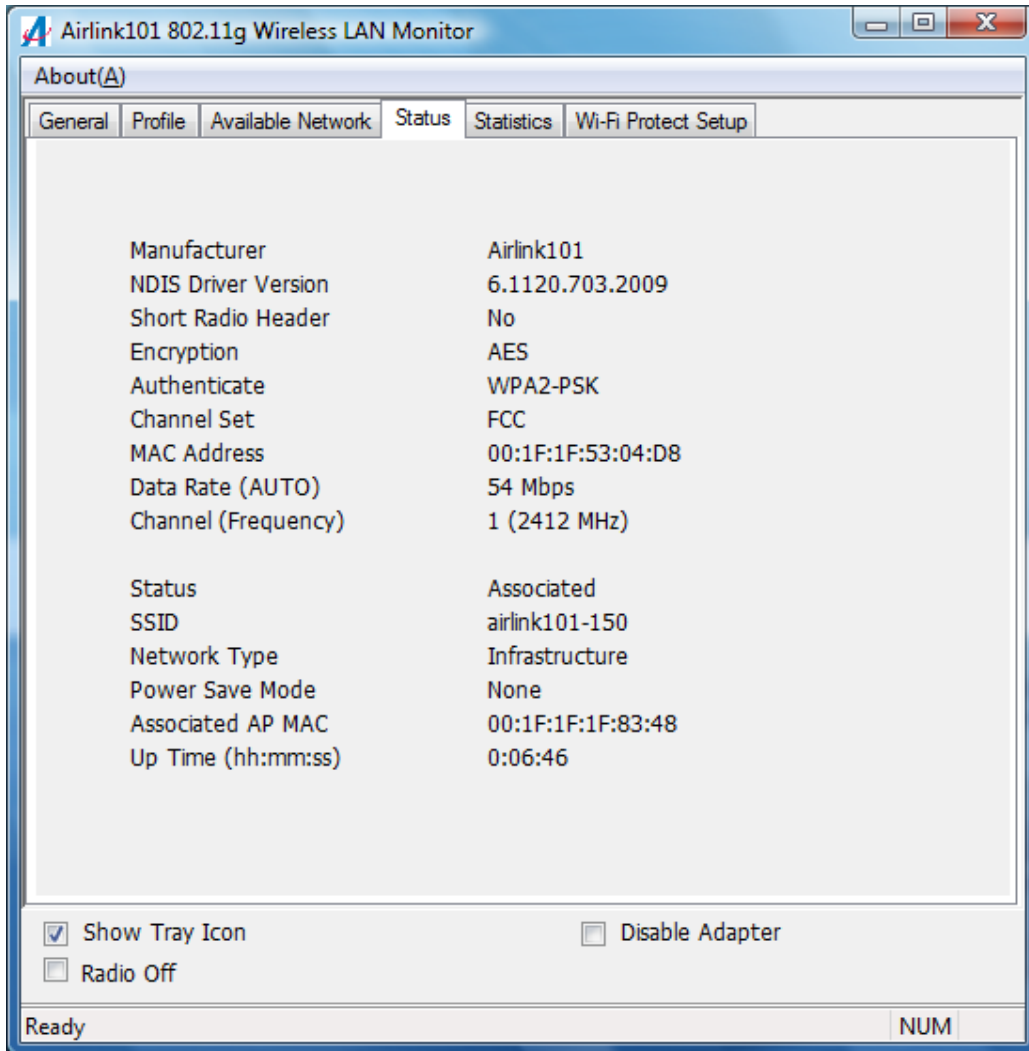
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4.3 Available Network

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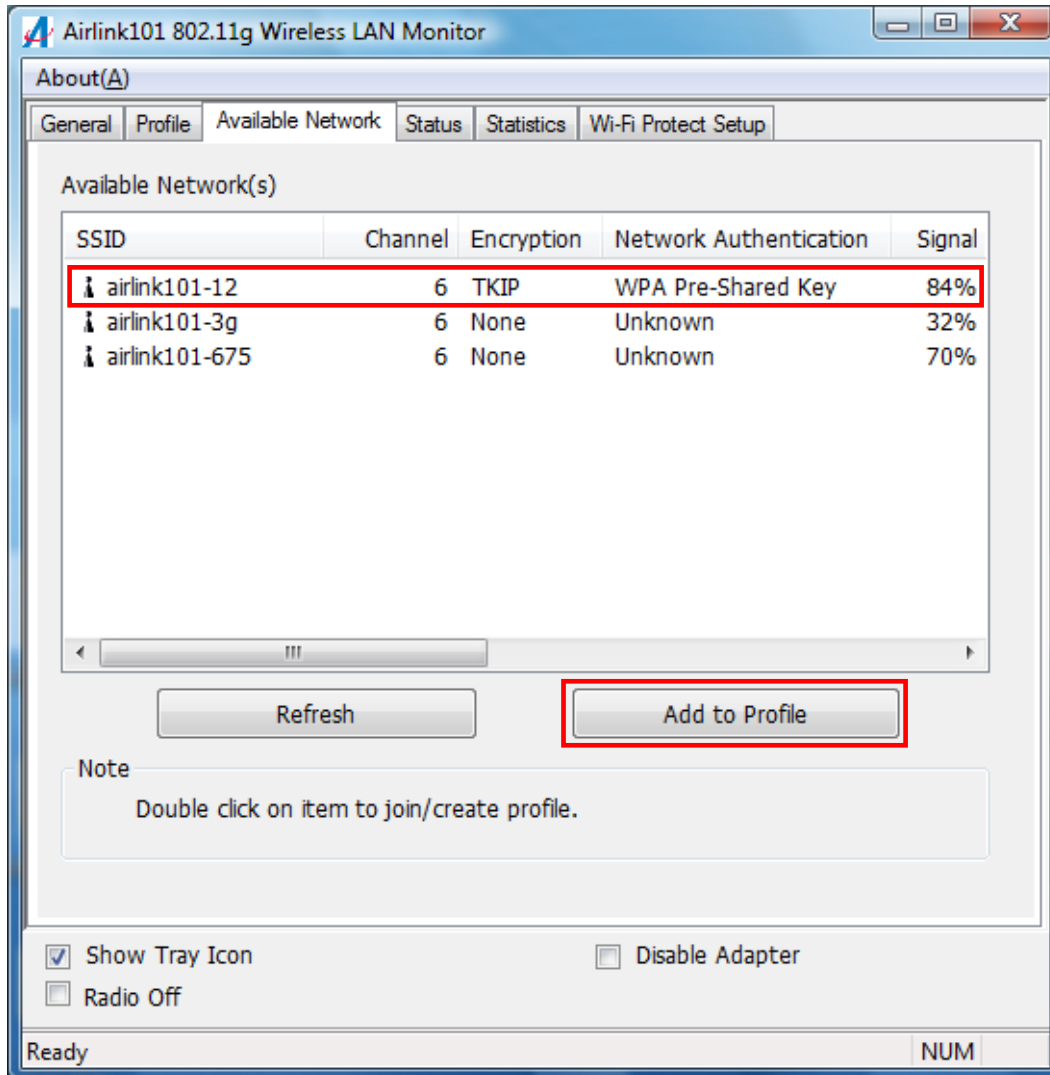
Clicking **Refresh** will refresh the list. To connect to a network, select a network from the list and click **Add to Profile**.
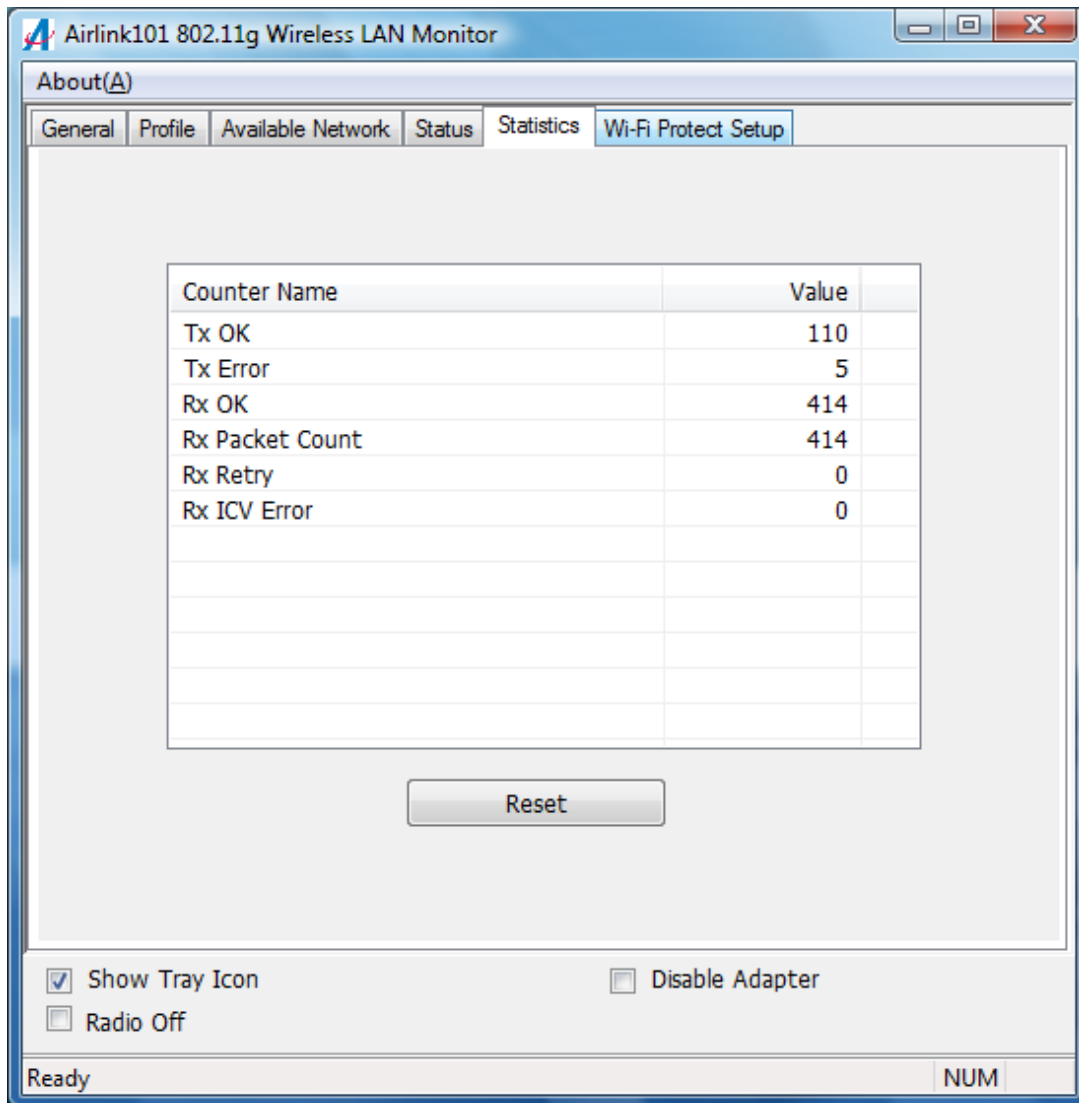
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4.4 Status

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

4.5 Statistics

The Statistics section gives you information about transmit and receive packet count.

4.6 Wi-Fi Protected Setup (Easy Setup Button)

The Wi-Fi Protected Setup™ (**Easy Setup Button**) is a new and easy way to configure the encryption for your wireless network clients. In order to use it, you need to have a router that supports this feature, like the AR570W Airlink101 Wireless 150 Router. You also need to configure the wireless encryption on the router; you should find the instructions of how to configure it in the router's user manual. If your wireless router does not support this feature, you will need to set up the wireless security manually and you can skip this section.

We are using the AWLH3028v2 and the AR570W Airlink101 Wireless 150 Router to illustrate the following setup instructions.
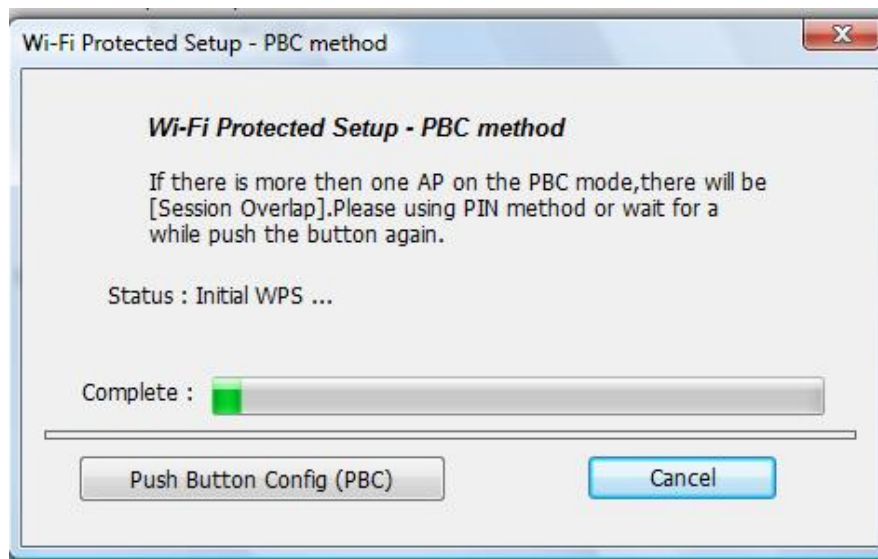
Step 4.6.1 Open the Airlink101 802.11g Wireless LAN Monitor. Click the **Wi-Fi Protect Setup** tab.
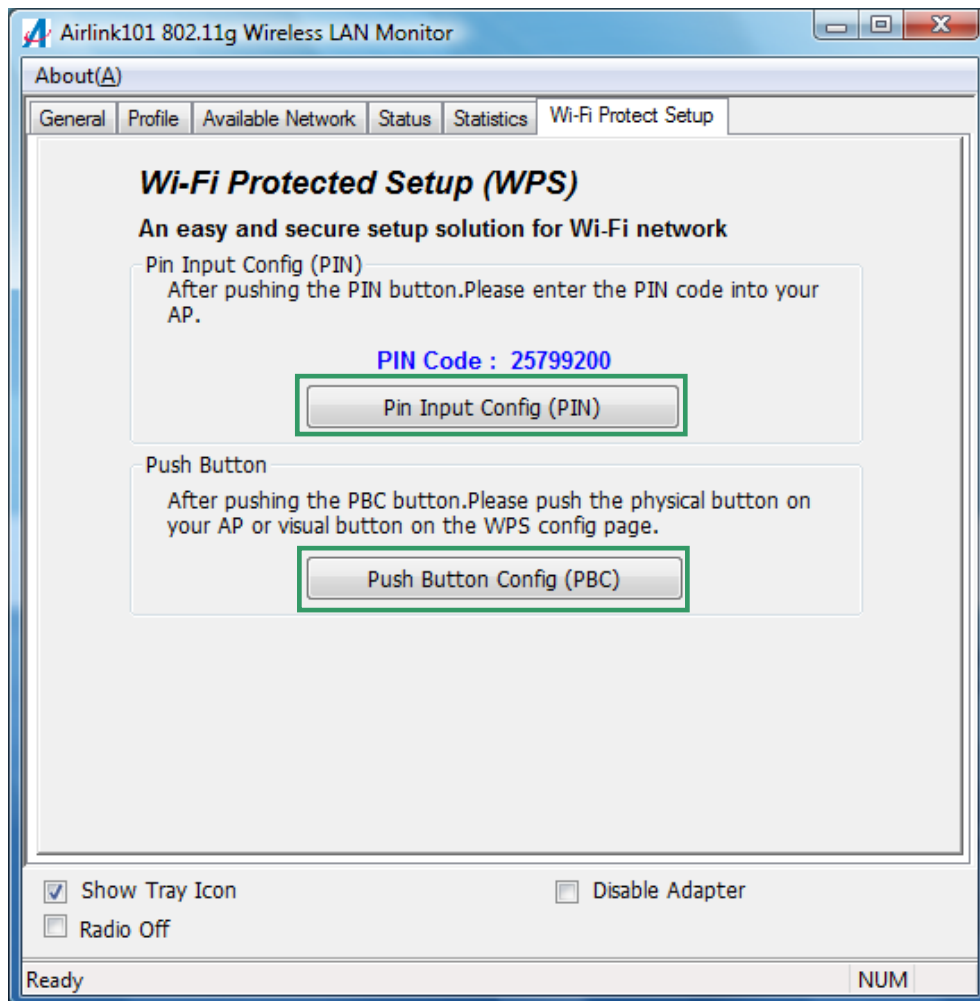
Choose your configuration method:

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- For **Push Button method,** click Push Button Config (PBC) button, continue to Step 4.6.2
- For **Pin Input Config** method, click Pin Input Config (PIN) button, continue to Step 4.6.3a

Step 4.6.2 When you see this window pops up,

Wi-Fi Protected Setup - PBC method

Wi-Fi Protected Setup - PBC method

If there is more then one AP on the PBC mode,there will be [Session Overlap].Please using PIN method or wait for a while push the button again.

Status : Initial WPS ...

Complete :

Push Button Config (PBC)   Cancel

within the following 2 minutes, push the Easy Setup Button (i.e. WPS button) on the back of the router and release it right away.
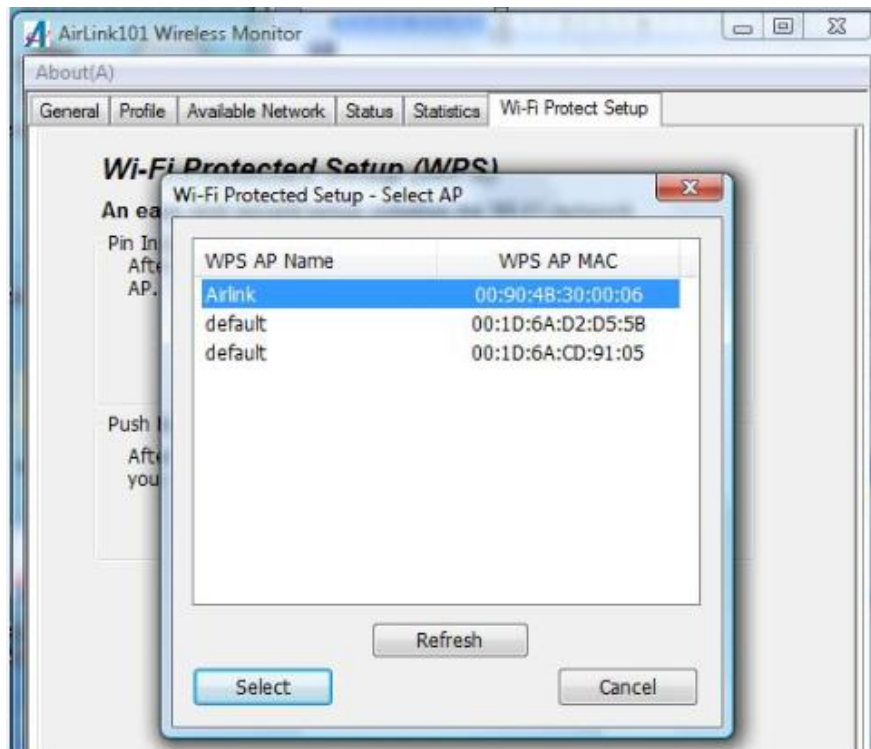

The router will now start to synchronize the security settings with the wireless PCI adapter. The connection will be built in few seconds.

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Step 4.6.3a If you choose the Pin Code method, click **Yes** when prompted with the question "Do you want to select a specific AP?".

Select the Access Point that you want to connect, and then click **Select**.

Write down the **PIN Code** on a piece of paper.

(The following steps are different for each router. Please refer to the user's manual of your router for detailed instructions.)

Step 4.6.3b Log on to the router AR570W's web configuration page from the browser (i.e. Internet Explore or Mozilla Firefox) and click on **Wireless**. Then click **WPS**.

Step 4.6.3c Make sure that the **Enable WPS** is NOT checked. Enter the Pin Code in the **Configure by Client PinCode** box and click **Start PIN**.

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After a few moments both the router configuration screen and the adapter configuration screen should show a message telling you that a connection is established.

Note: If you cannot connect successfully with WPS, you need to log in to your router's configuration and make sure the WPS feature is enabled.

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4.7 Configuring Encryption

This section describes the available encryption types and how to configure them. In most cases, encryption type will be automatically detected by the wireless adapter; all you need to do is to enter the Network key, as described in **Section 3**, **Step 3.3**.

If you are creating a custom profile, you need to manually configure the encryption settings. The encryption settings you configure must match the settings on the AP or wireless router you wish to connect to. Please follow the instructions below.

Open the **Wireless LAN Monitor** utility, click **Profile** tab and then click **Add.**
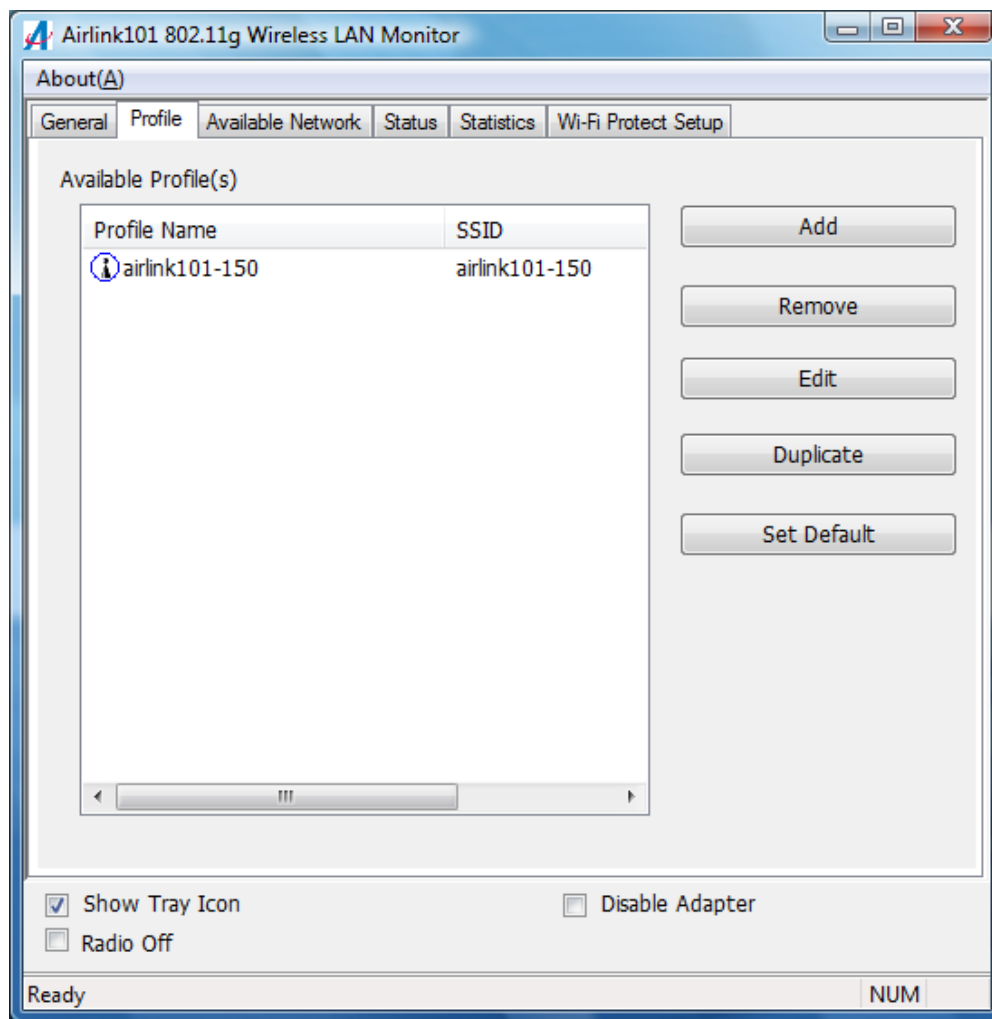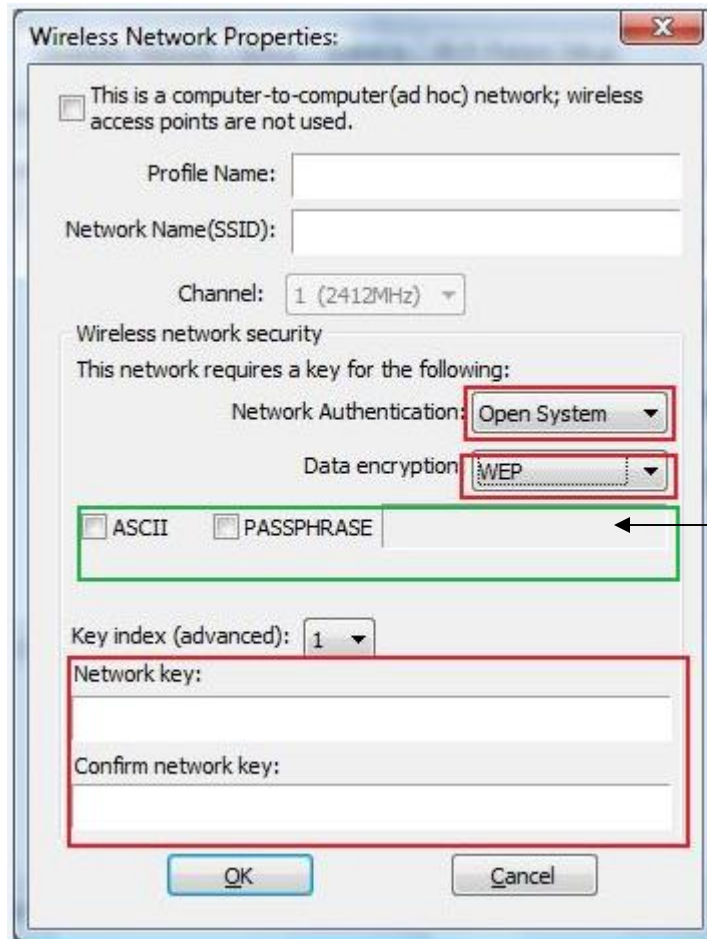

The available options of wireless network encryption settings are:

Disable: No encryption in use
WEP: The most popular but least secure form of encryption (Open System/Shared Key)
WPA/WPA2-PSK: The most secure and recommended level of encryption

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4.7.1 Configuring WEP encryption

Select **WEP** from the **Data encryption** box.

Under **Network Authentication**, select either **Shared key** or **Open System**, depending on the router settings.

If your WEP key is 5 or 13-digit, alphanumeric :
- Check **ASCII** and enter your WEP key into the box next to Passphrase

If you use Passphrase to setup the WEP encryption for your router :
- Check **PASSPHRASE** and enter your key into box next to Passphrase.

If your WEP key is 10 or 26-digit, hexadecimal (0~9, A~F) :
- **Key Index** is the key of the router that is currently in use. Enter the network security key that matches the one on the router to **Network key** and **Confirm network key** boxes.

Click **OK** to save your settings.

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### *4.7.2 Configuring WPA/WPA2-PSK Encryption (for home users)*
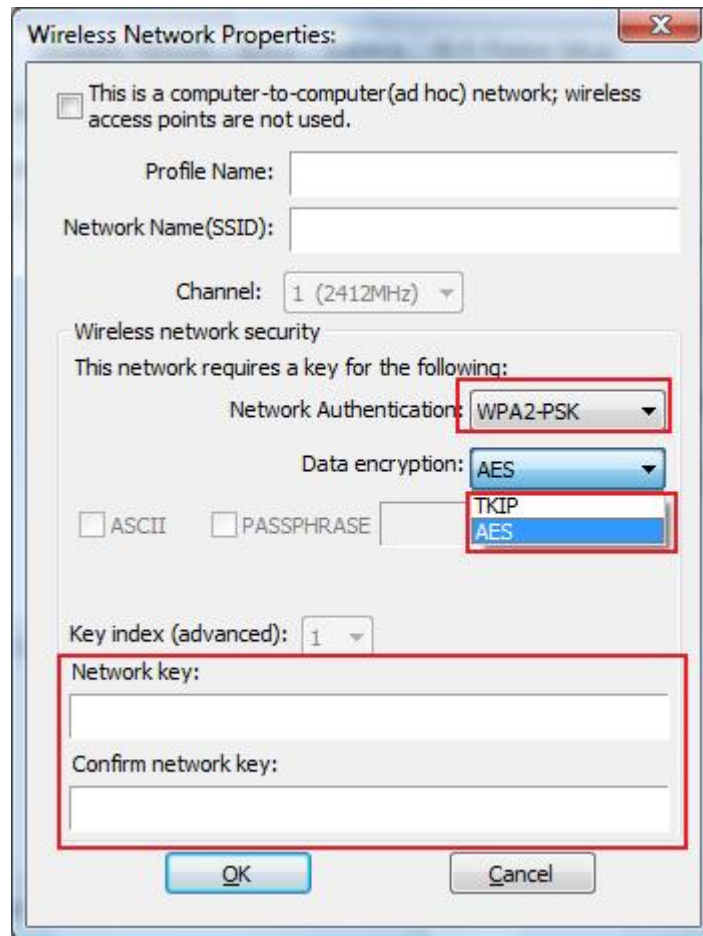
Select **WPA-PSK/WPA2-PSK** from the **Network Authentication** box.

Under **Data encryption** select either **AES** or **TKIP** depending on the settings for your router.

Enter the encryption key that the router is using into the **Network Key, Confirm network key** boxes.
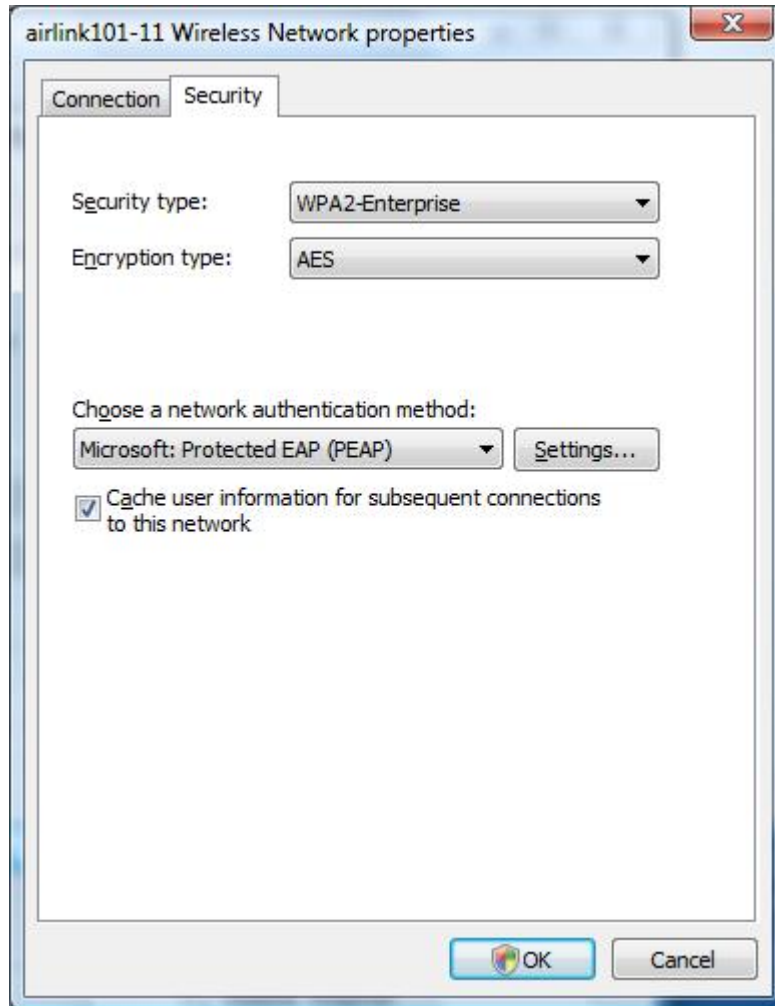
Click **OK** to save your settings.

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4.7.3 Configuring WPA/WPA2 Encryption (for corporate networks)
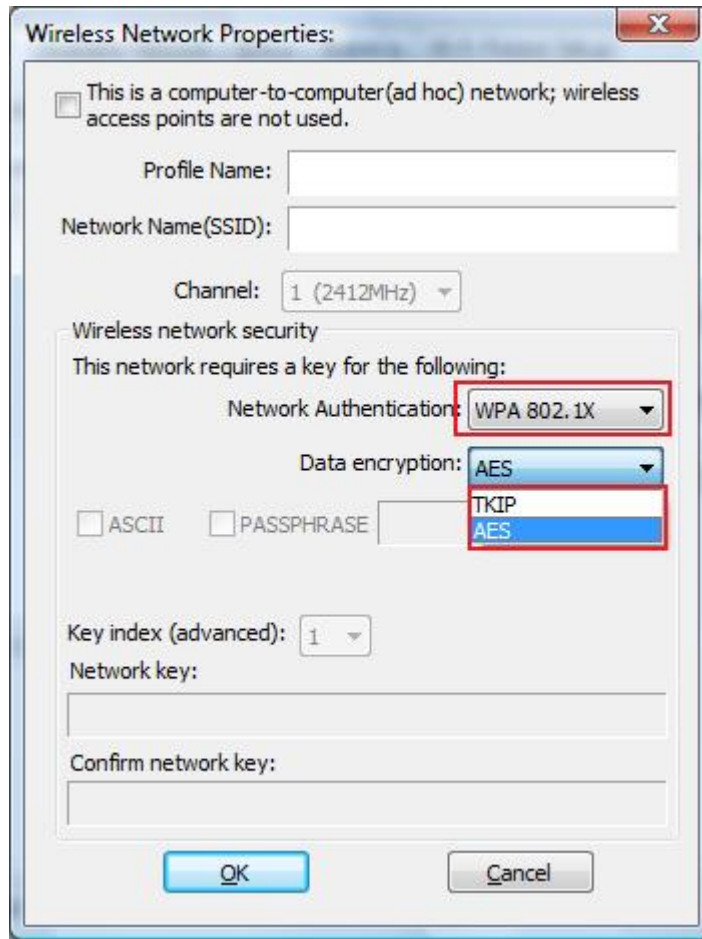
Select **WPA 802.1x / WPA2 802.1x** from the **Network Authentication** box and click **OK**.

The following window will pop up after few seconds.

You can choose a network authentication method: **Protected EAP** or **Smart Card or other Certificate** then click **Settings** to configure the advanced settings.

1) Choose **Protected EAP** then click on **Settings** to configure the advanced security settings.

Configure the advanced security settings for PEAP then click **OK**. Refer to your system administrator for information about what settings you should enter here.
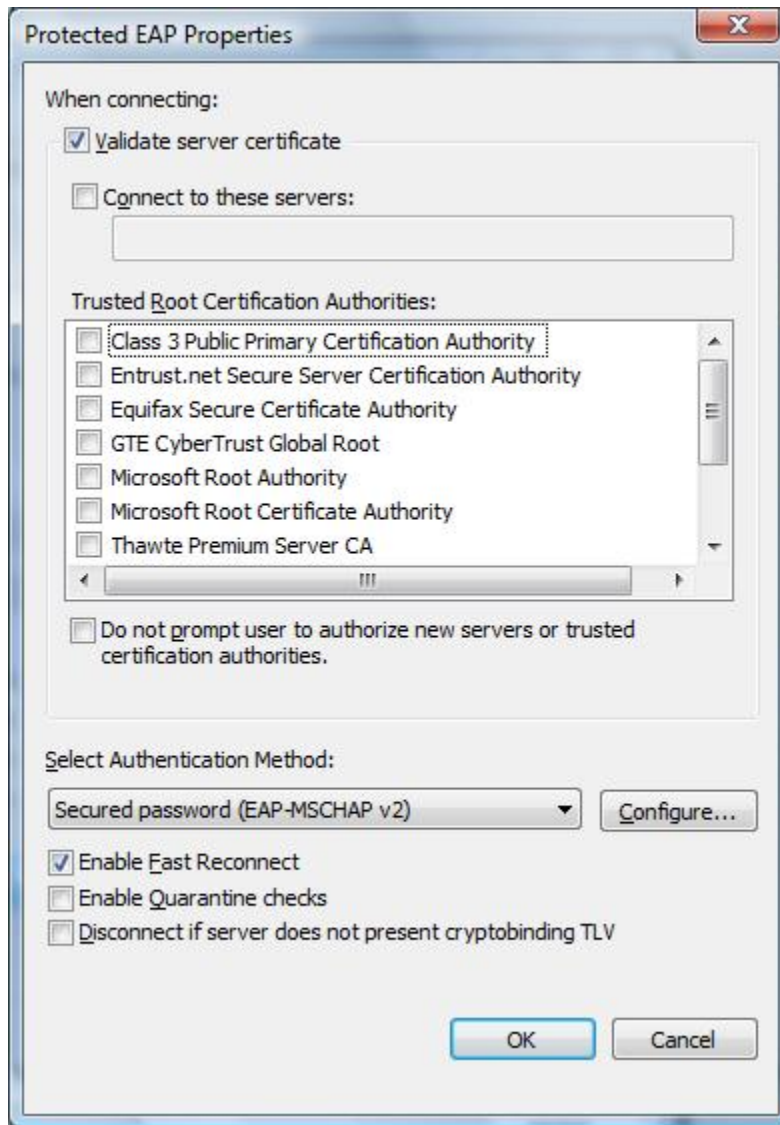
2) Choose **Smart Card or other Certificate** then click on **Settings** to configure the advanced security settings. Refer to your system administrator for information about what settings you should enter here.

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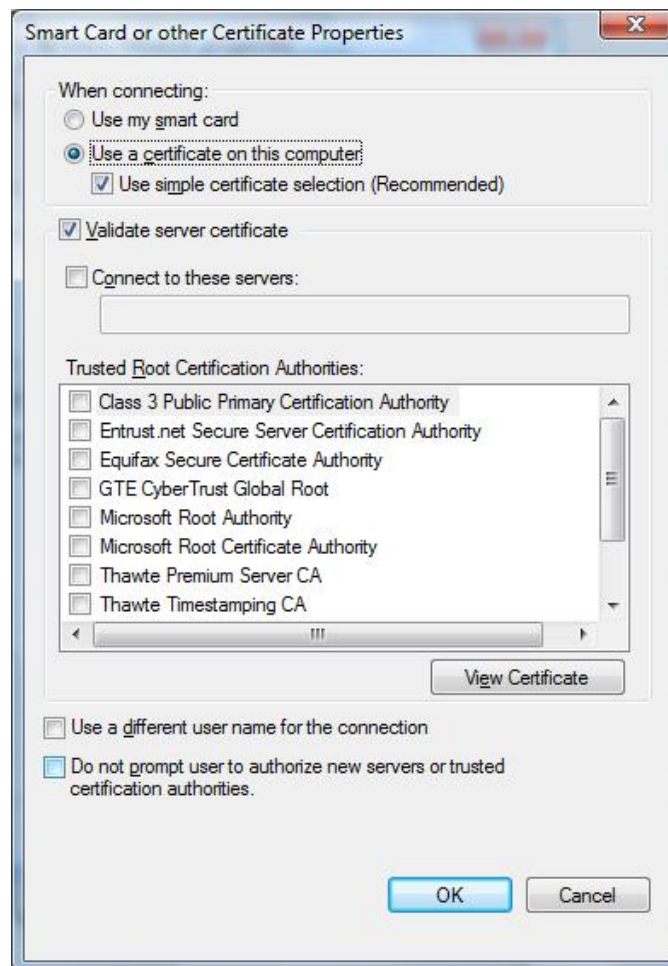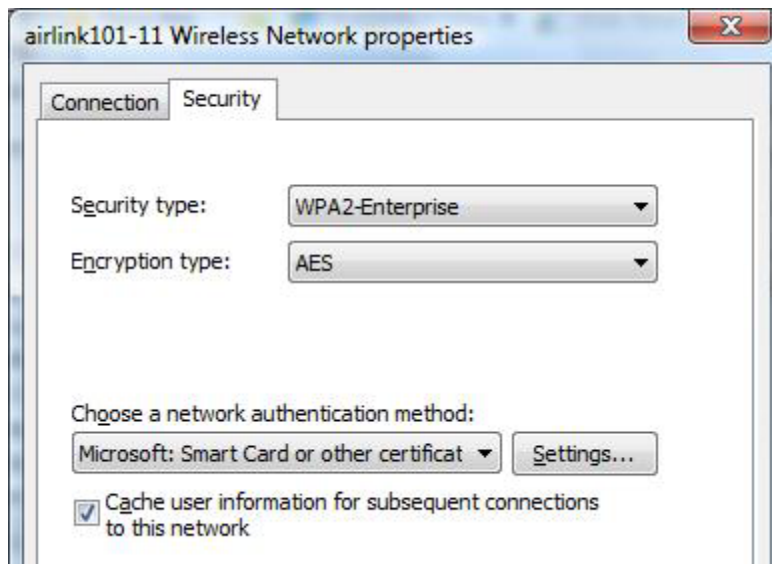
4.8 Ad-hoc and Peer-to-Peer Wireless Networks

Ad-hoc networking is used when you want to connect two or more computers together without going through a router.

In ad-hoc mode, you lose a lot of the features that come with a router. The maximum connection speed drops to 11Mbps. In addition, WEP encryption is the only security available in ad-hoc mode.

To set up ad-hoc mode, you will need to create a new profile.

Open the **Wireless LAN Monitor**.
Click on **Profile** and click on **Add**. The profile settings box will appear.
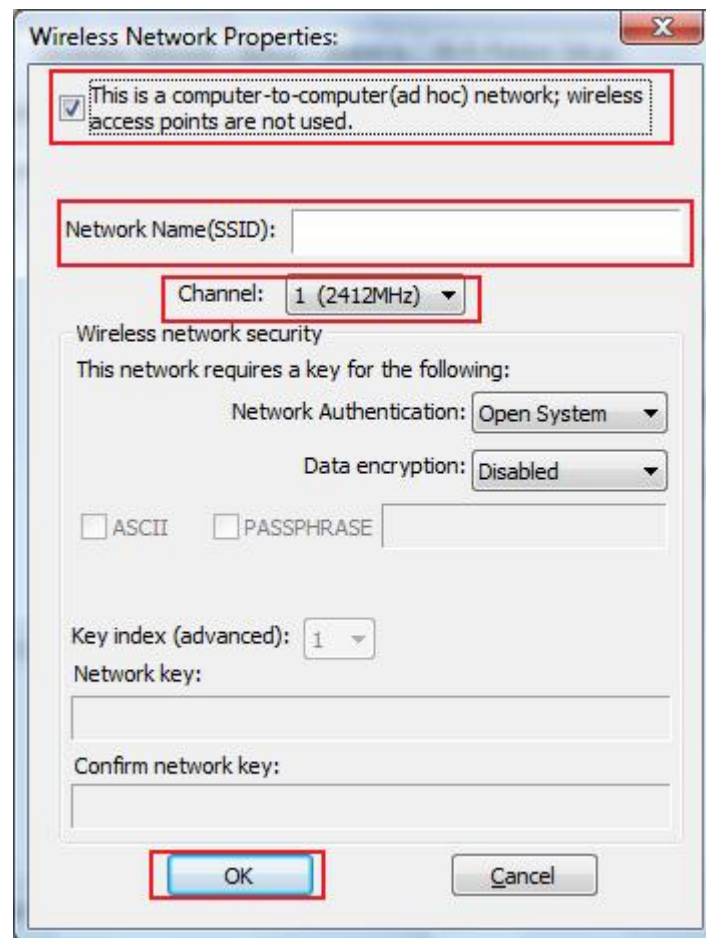
First change the network type to **Adhoc**, by checking the computer-to-computer (ad-hoc) network.
Enter a network name (SSID) into the **SSID** box. Select your desired Channel.

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You can also choose between no security or WEP security. If you choose WEP security, you can follow the instructions in the **Configuring Encryption** section of the manual.
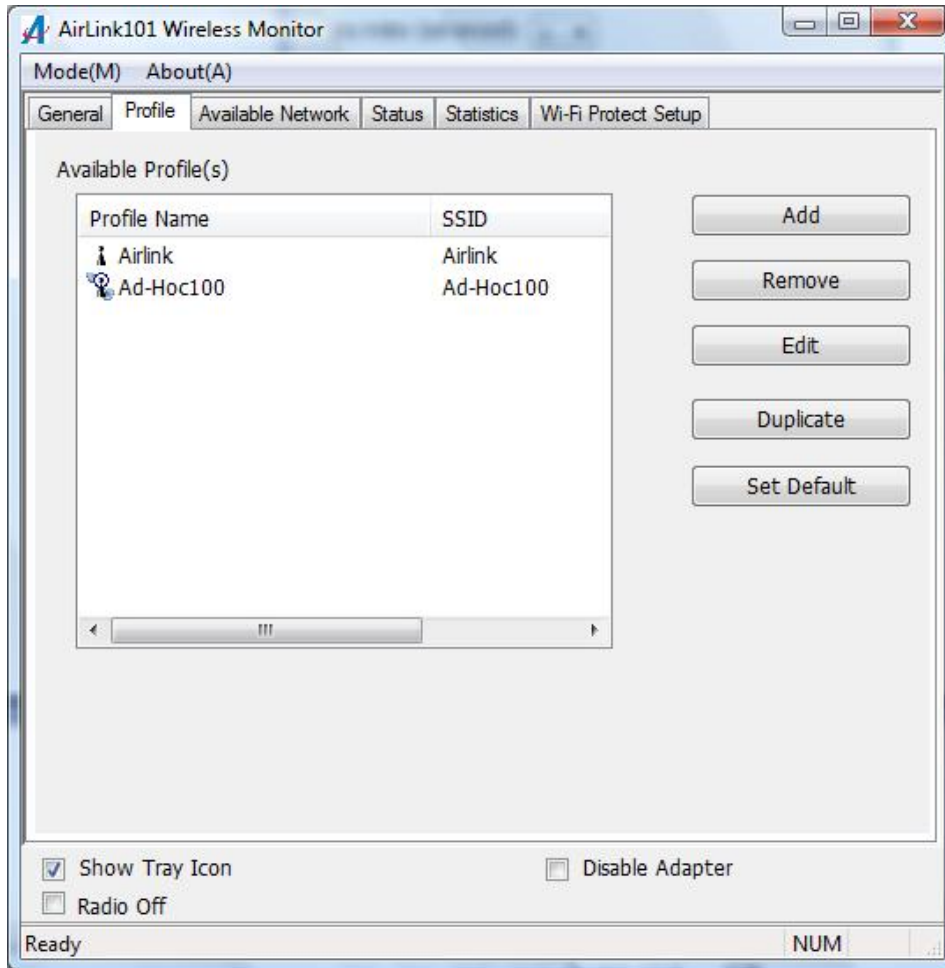
Click **OK** to save the profile.

Select your new profile from the Available Profile(s) box, and double click to enable it.

You need to configure all other computers that you are planning on connecting to your ad-hoc network with the same settings that you input on this screen. Every computer has to be set up exactly the same. If any of the settings are different, the network will not function.

Note: If you are having trouble connecting, slow connection, or connection is unstable, you will want to try changing channels. Start with channel 1 and work your way up until you find a channel that gives you the best connection. Each time you change the channel, save the settings then reboot the computer. Also, make sure that you do this on every ad-hoc machine so that they will all be set to the same channel.

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4.9 About

The **About** window provides the information about the Airlink101 802.11g Wireless LAN Monitor Utility version and the current driver version.
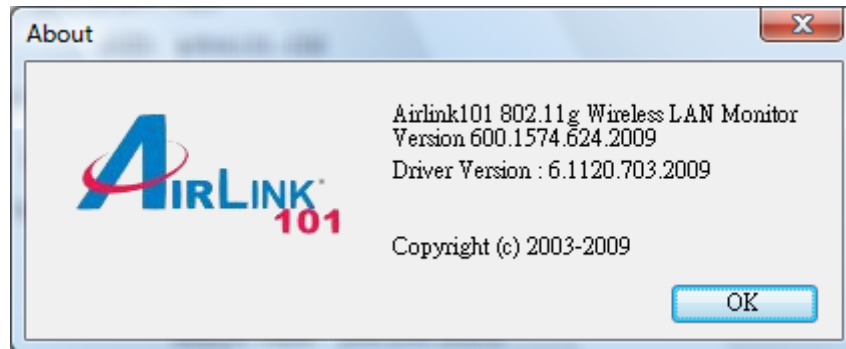
5 Troubleshooting

1. If you cannot open the Wireless LAN Monitor utility, make sure that the PCI adapter is inserted firmly into the PCI slot.

2. If you cannot connect to the wireless router, you may want to double check the wireless security settings on the router. The network key you entered in Step 3.3 must match with the settings on the wireless router.

3. If you are experiencing problems with the connection such as low signal strength, slow connection speed, or unstable wireless connection, you can try to tune your router's signal by changing the channels on the router and/or by adjusting the direction of the antenna(s). You do not need to change the channel on the Adapter; it will automatically pick up the new channel after you reboot the router. Your router has 11 different channels to choose from. 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 comes with the router.

Appendix A – Specifications

Frequency Band
- 2.4GHz ISM bandwidth

Standards
- IEEE 802.11g
- IEEE 802.11b

Channel
- 11 Channels

Interface
- 32-bit PCI

Antenna type
- 2dBi dipole antenna

Security
- 64 / 128-bit WEP encryption
- WPA-PSK, WPA2-PSK
- 802.1x

Diagnostic LEDs
- Link
- Activity (TX/RX)

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

Transmitted Power
- 16 ~ 18dBm

System requirement
- Windows 2000/XP/Vista/7
- Available PCI slot

Dimensions
- 122 x 120 mm (L x W)

Operating Environment
- Temperature: 0ºC to 55ºC
- Humidity: Max. 95% non-condensing

Warranty
- Limited 1-year warranty

Safety Approvals
- FCC and CE

Technical Support

E-mail: support@airlink101.com

Toll Free: 1-888-746-3238

Web Site: www.airlink101.com

*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. All products and trademarks are the property of their respective owners. Copyright ©2009 Airlink101®

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