Wireless N 150 USB Adapter with 10dBi High Gain Antenna

Model # AWLL5055

User's Manual

Rev. 1.0

Table of Contents

1. Introduction

Congratulations on your purchase of the Wireless N 150 USB Adapter with 10dBi High Gain Antenna! Its high bandwidth combined with great wireless coverage delivers fast and reliable connection for all of your networking applications. The built-in 10dBi high gain antenna greatly increases the reliability and stability of the wireless signal which provides you better wireless connectivity. The adapter will yield a higher throughput especially when it is used with AR570W Airlink101® Wireless N 150 Router.

A full range of security features WEP, WPA-PSK, and WPA2-PSK provide you the highest level of wireless network security. The bundled wireless utility Airlink101 Wireless Monitor allows you to set up the adapter with an easy-to-use user interface. The Wireless N 150 USB Adapter works with 802.11 b/g/n network devices to ensure compatibility with your existing wireless products.

1.1 Package Contents

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

- Wireless N 150 USB Adapter with 10dBi High Gain Antenna
- Quick Installation Guide
- Installation CD (Driver/Utility/Manual)

1.2 Features

- High data rate of up to 150Mbps* with IEEE 802.11n standard, 3 times faster than 802.11g*
- 10dBi High Gain Antenna strongly increases the wireless signal strength and ensures best reception
- WPA2-PSK, WPA-PSK enhanced security to provide a full protection for your wireless connection
- Reliable and stable wireless connection with great coverage
- Great for environments that need high wireless data traffic
- Driver and Utility support Windows 7/Vista/XP/2000, MAC 10.4 or above
- Fully compatible with 802.11b/g/n
- RoHS compliant

2. Install Wireless USB Adapter

This section provides instructions on how to install the **Wireless N 150 USB Adapter with 10dBi High Gain Antenna**. The driver is installed along with the utility.

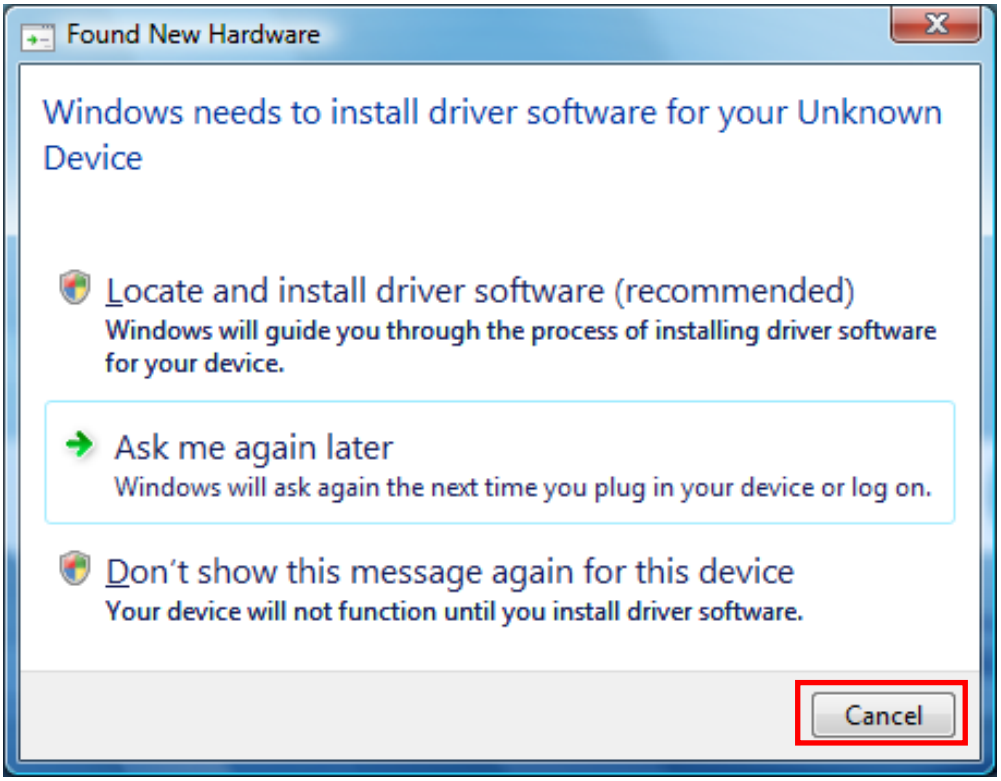
For Macintosh users, please go to Chapter 6, Install Wireless USB Adapter for MAC OS.

Step 2.1 Insert the USB adapter into an available USB port of your computer.

Step 2.2 Click **Cancel** when you see the **Found New Hardware Wizard**.

Windows XP/2000 Users:

Windows 7/Vista Users:

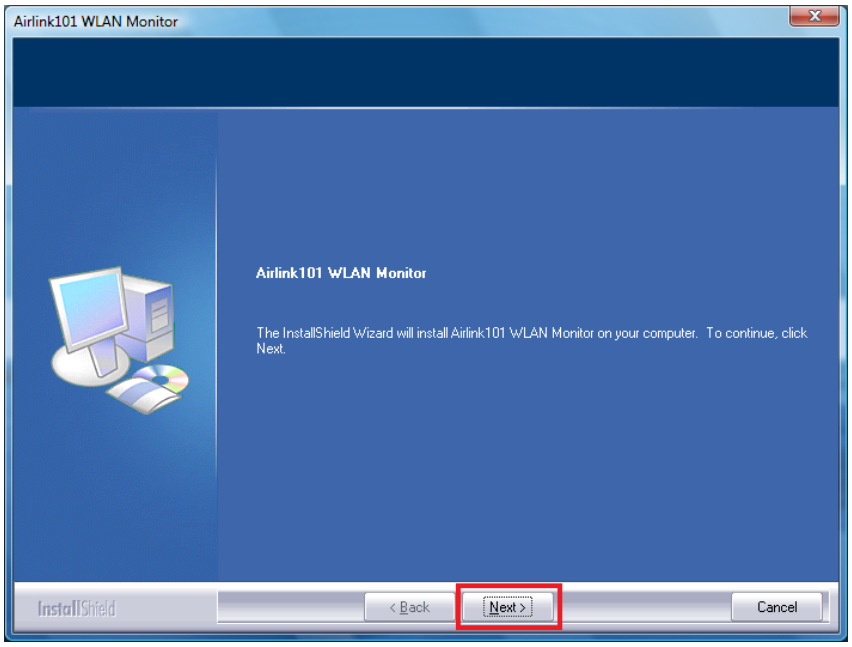


Step 2.3 Insert the Installation CD in the CD drive. The Autorun screen will pop up. Select **Install Utility and Driver** from the menu.

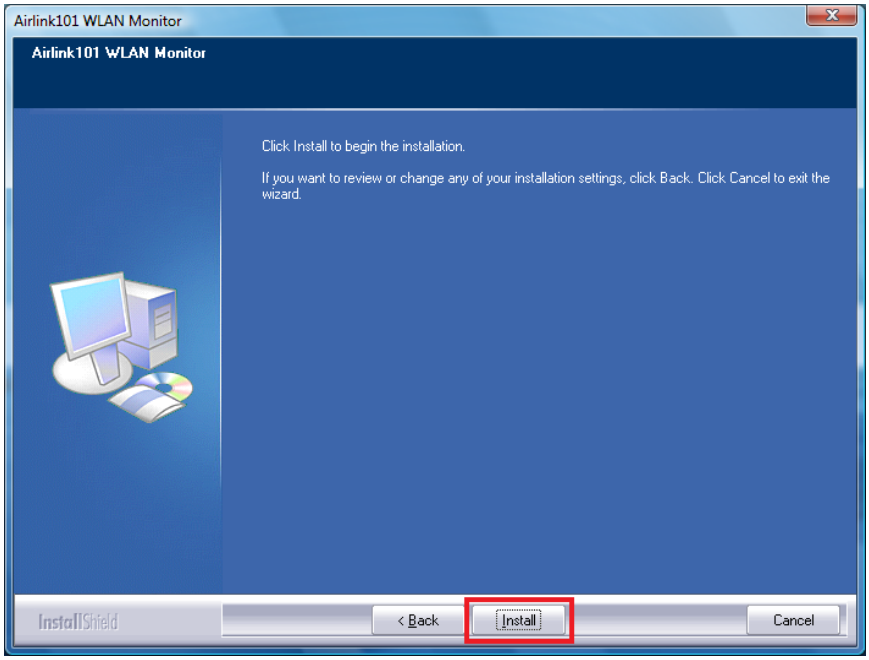
Note: *If the Autorun screen doesn't appear automatically go to* ***Start***, ***Run***, *and type* ***D:\Utility\Setup.exe*** *(where* ***D*** *is the letter of your CD drive) and click* ***OK***.

Windows 7/ Vista Users: When you get warning message(s), make sure that you **give permission** to continue with the installation of the driver software.

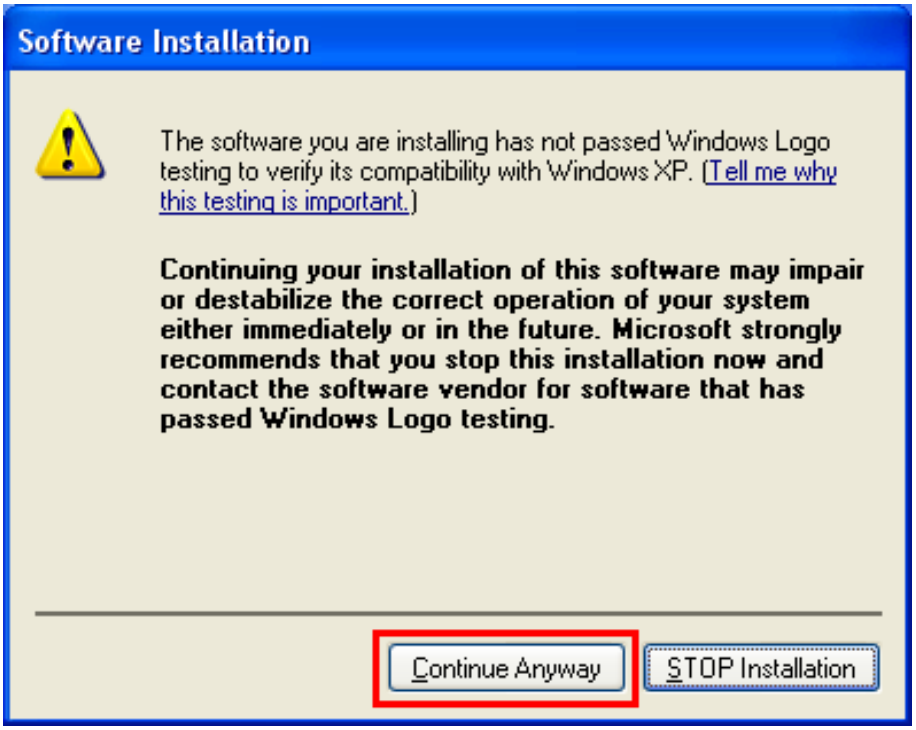
Step 2.4 The Airlink101 WLAN Monitor screen will popup. Click **Next**.

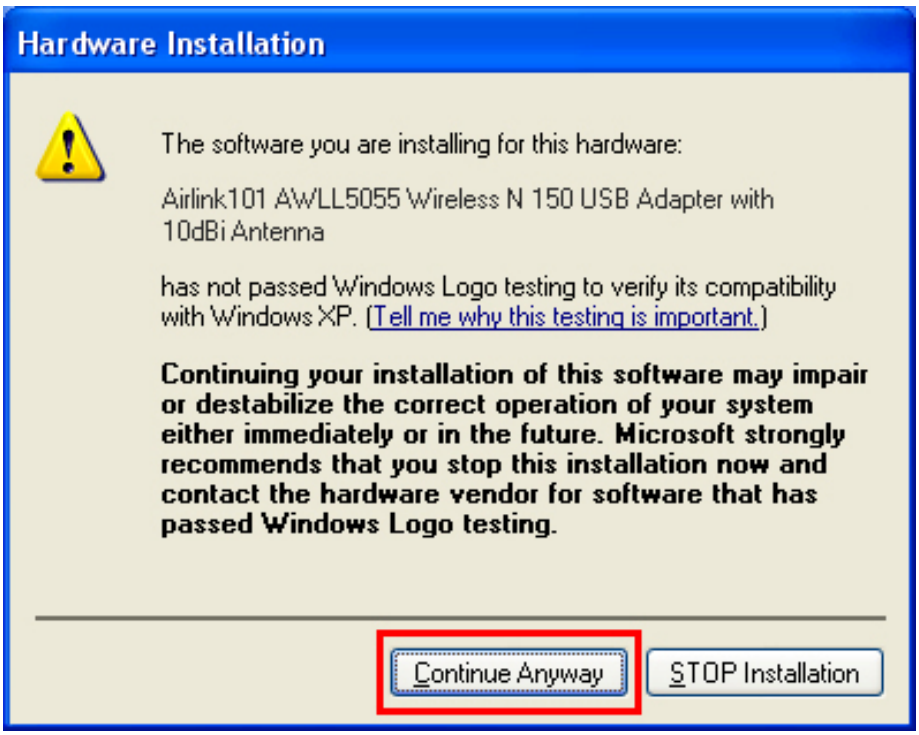


Step 2.5 Click **Install** to begin the installation.



Step 2.6 For Windows XP, click on **Continue Anyway**.

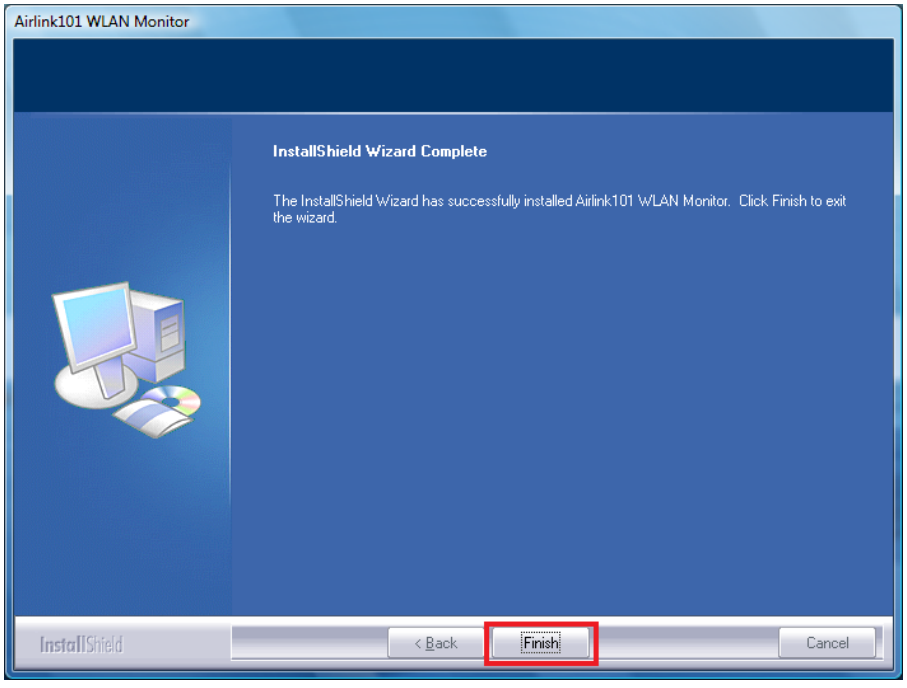




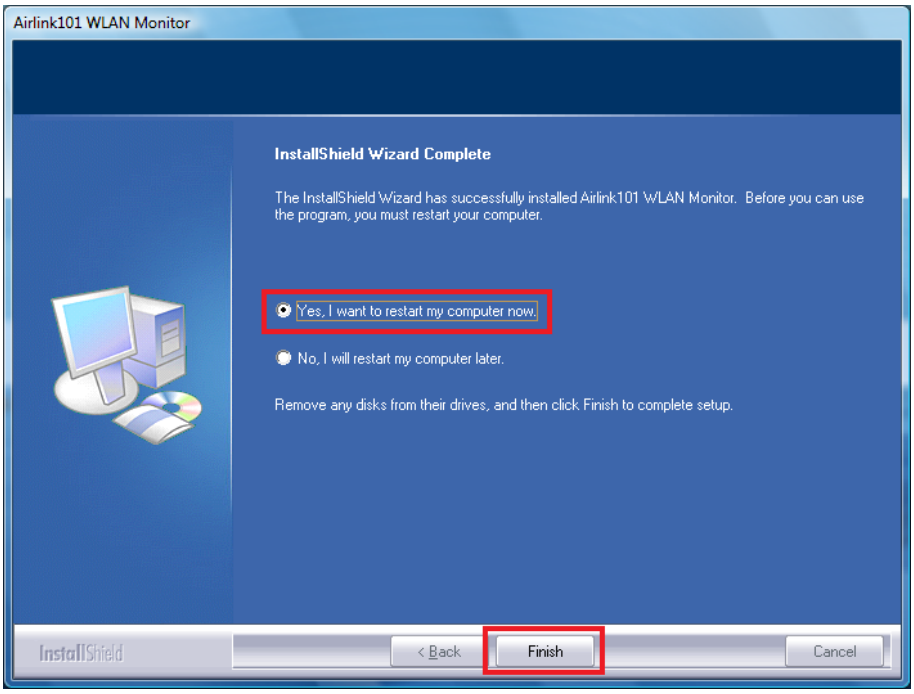
For Windows Vista: click on **Install this driver software anyway**.

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

Step 2.7 Click **Finish** to complete the installation.



Step 2.8 Select **Yes, I want to restart my computer now**. Click **Finish** to complete the installation.

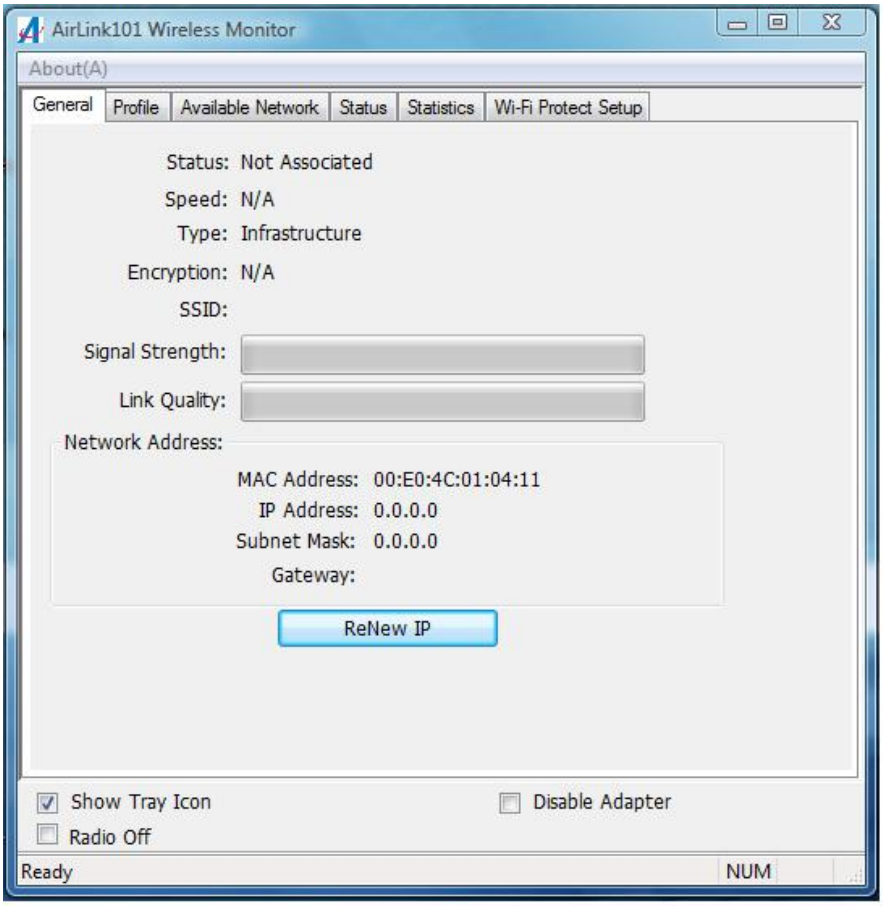


The driver and utility have been installed. Please continue to the next section.

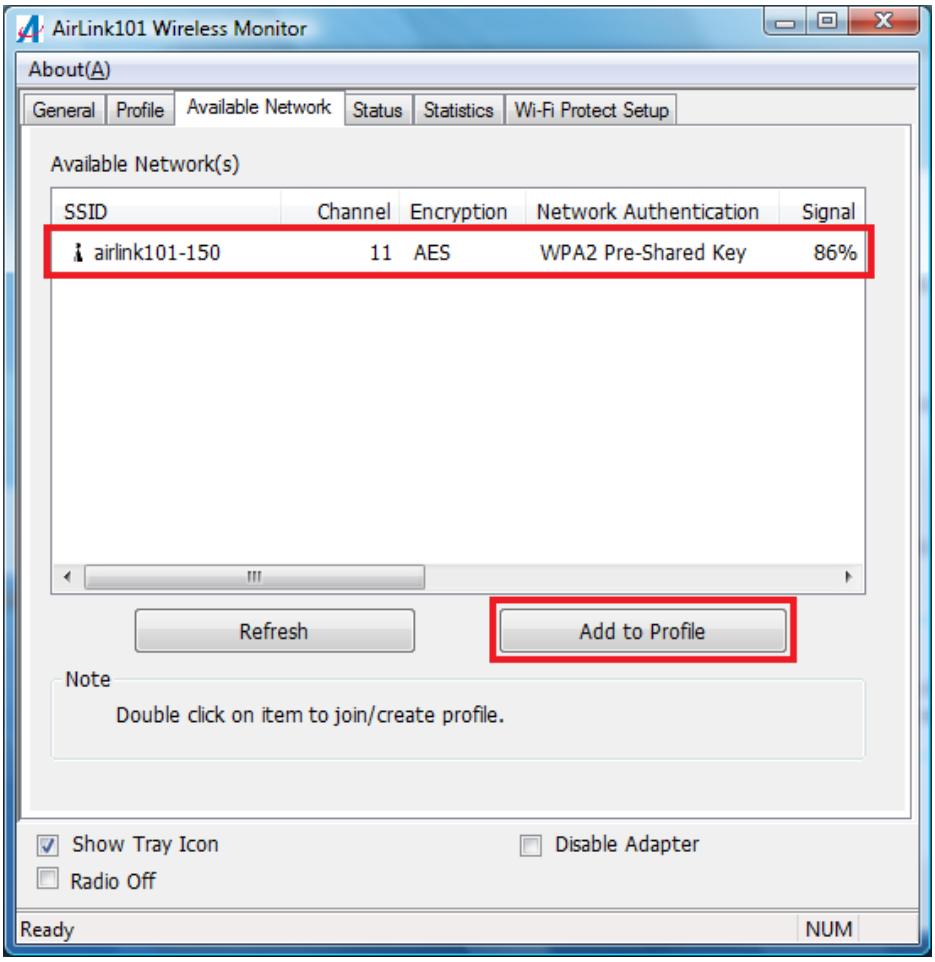
3. Connect to Wireless Network

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

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



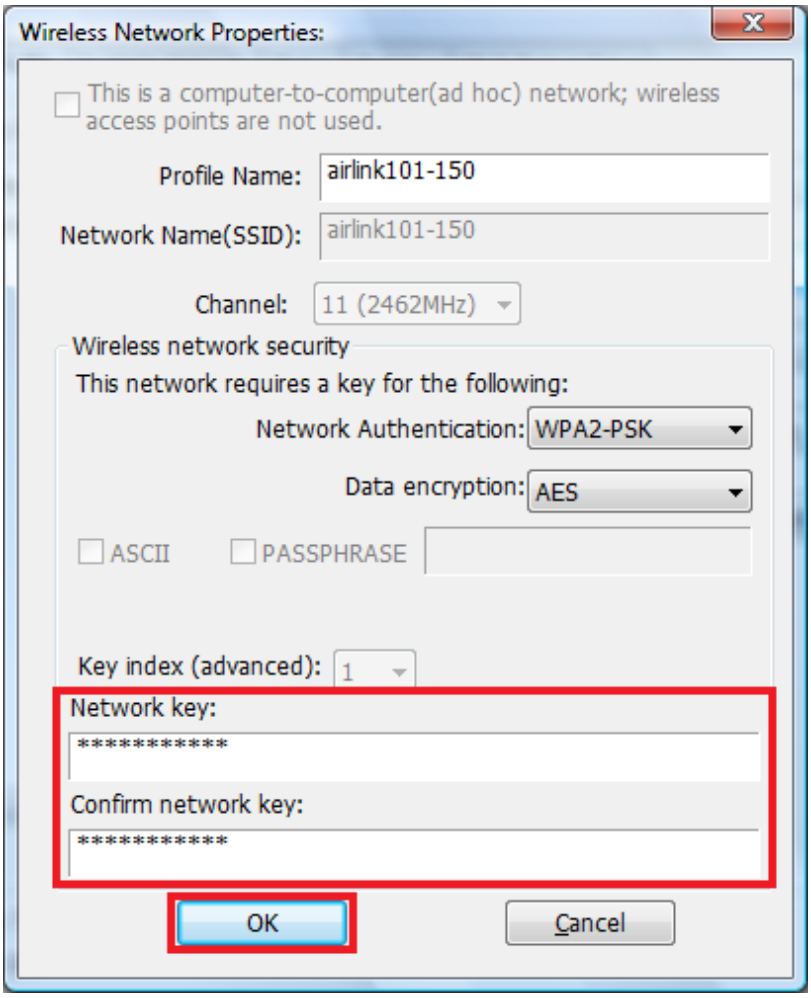
Step 3.2 Click the **Available Network** tab of the Wireless Monitor, select the wireless network that you wish to connect to, and click **Add to Profile**.



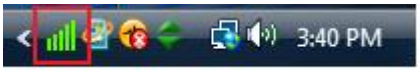
If the network that you are attempting to connect does not have encryption enabled, you will receive a warning about connecting to an unsecured network. Click OK to complete the connection. Go to **Step 3.4**.

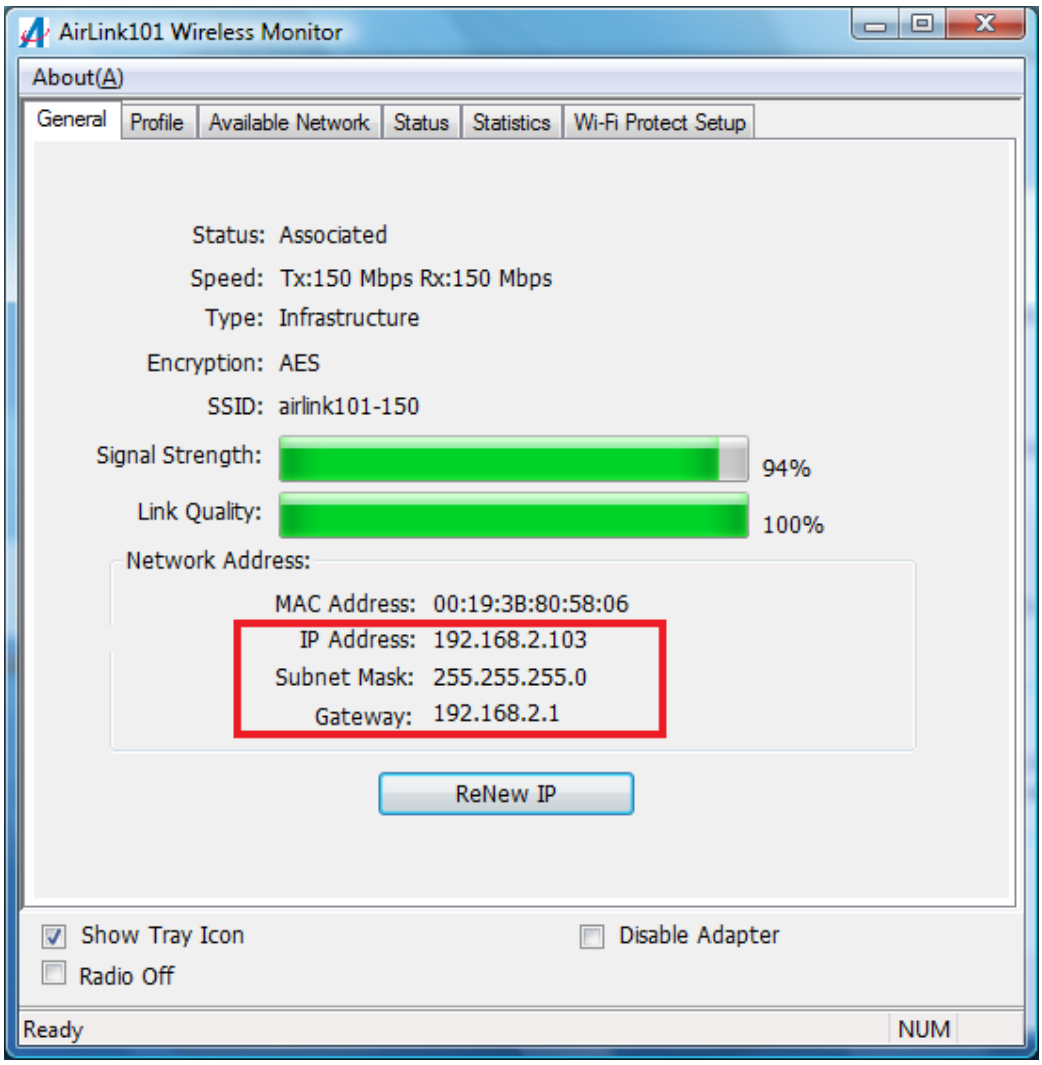
Step 3.3 Enter the wireless security key into the **Network Key, Confirm Network Key** boxes and click **OK**.

The Adapter will automatically detect the type of Network Authentication and the Data encryption. It is suggested that you leave these settings unchanged.



Step 3.4 The connection should be now established. Under General tab, you can check the status of the connection. 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 will be green bars next to Signal Strength and Link Quality.



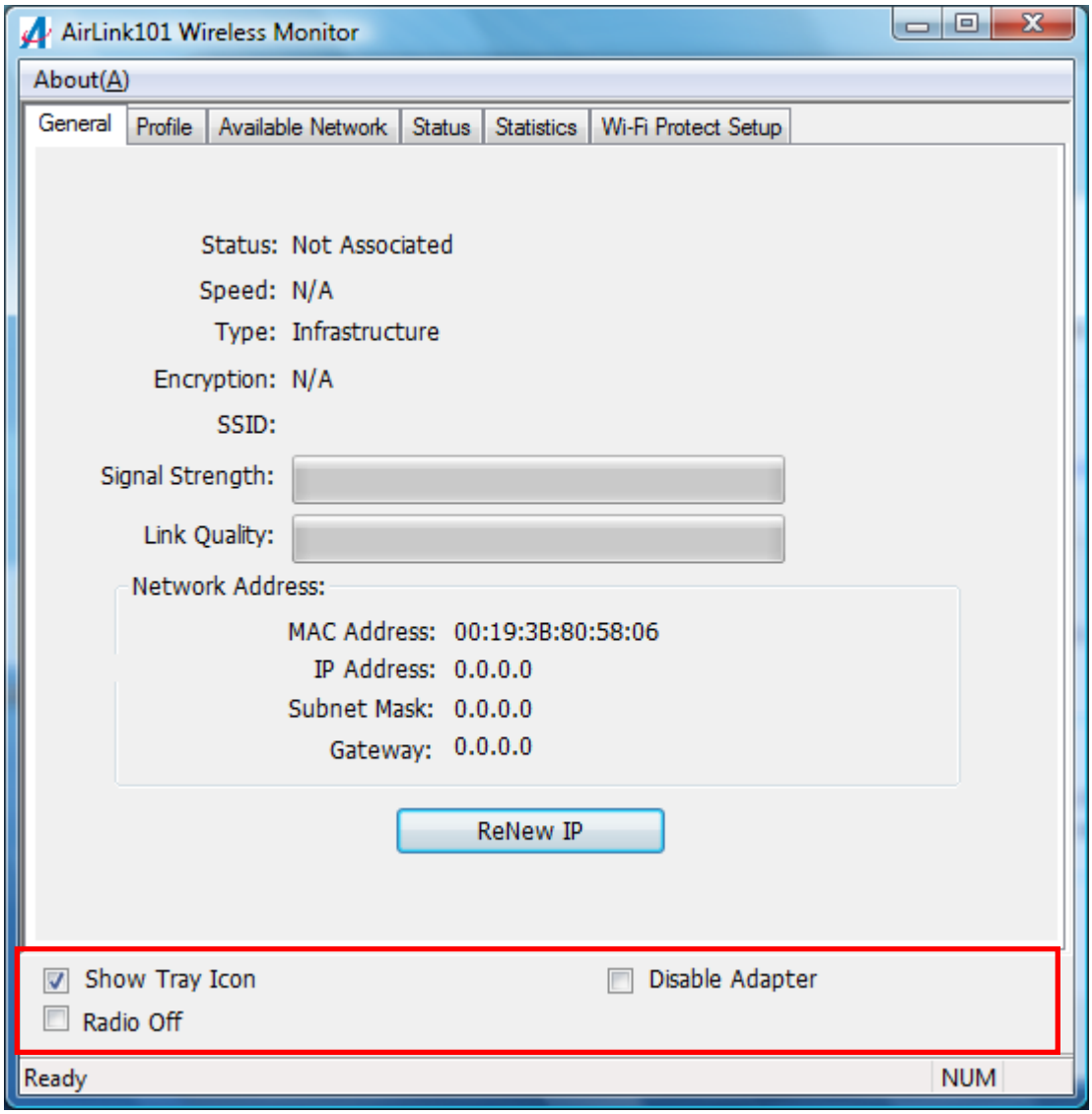

AirLink101 Wireless Monitor
About(A)
General
Profile
Available Network
Status
Statistics
Wi-Fi Protect Setup
Status: Associated
Speed: Tx:150 Mbps Rx:150 Mbps
Type: Infrastructure
Encryption: AES
SSID: airlink101-150
Signal Strength:
94%
Link Quality:
100%
Network Address:
MAC Address: 00:19:3B:80:58:06
IP Address: 192.168.2.103
Subnet Mask: 255.255.255.0
Gateway: 192.168.2.1
ReNew IP
Show Tray Icon
Disable Adapter
Radio Off
Ready
NUM

4. Wireless Monitor

This section describes the various functions of the Wireless 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:

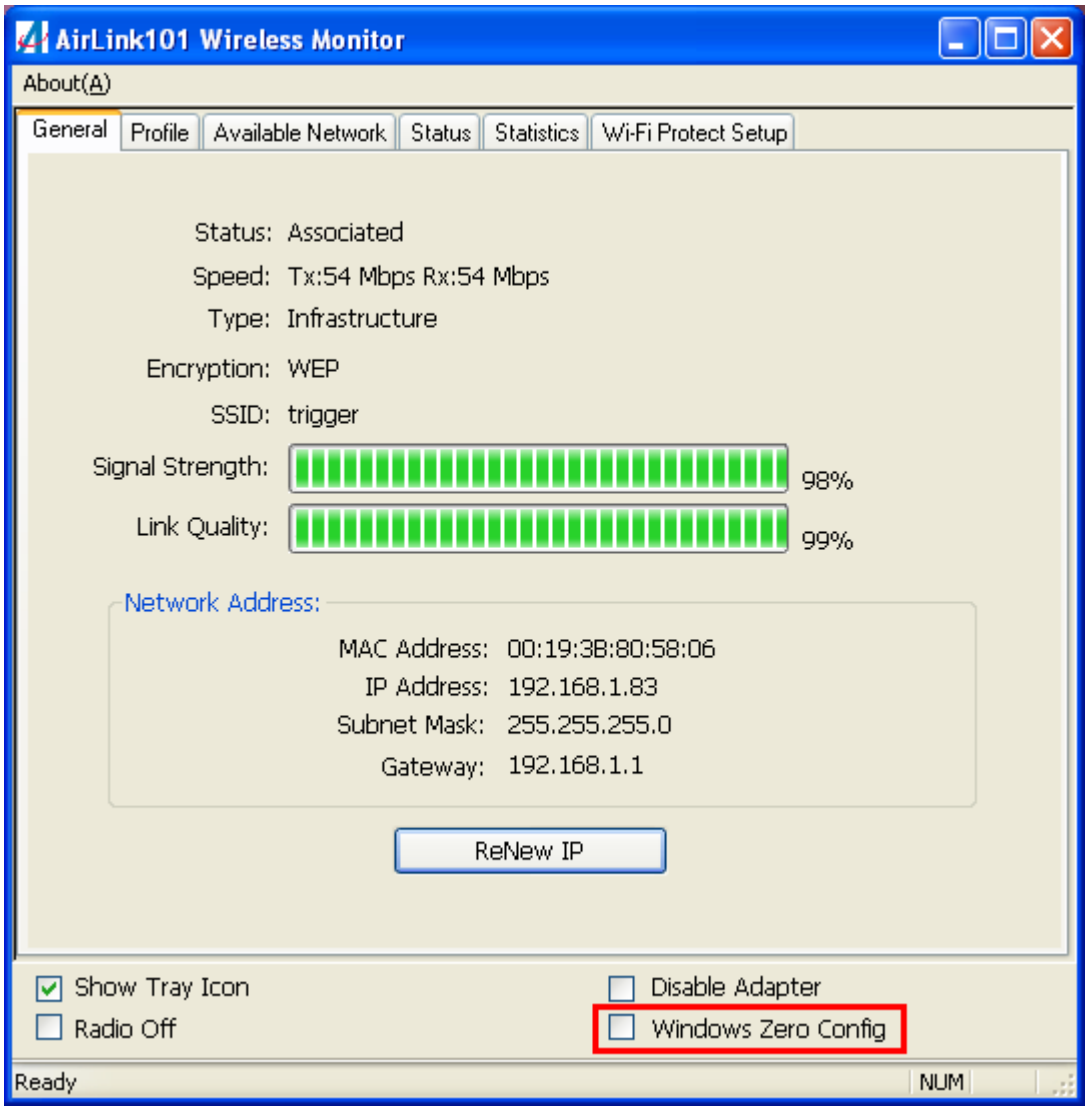
Show Tray Icon: Check this box to show or hide the utility icon on the task bar.

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.

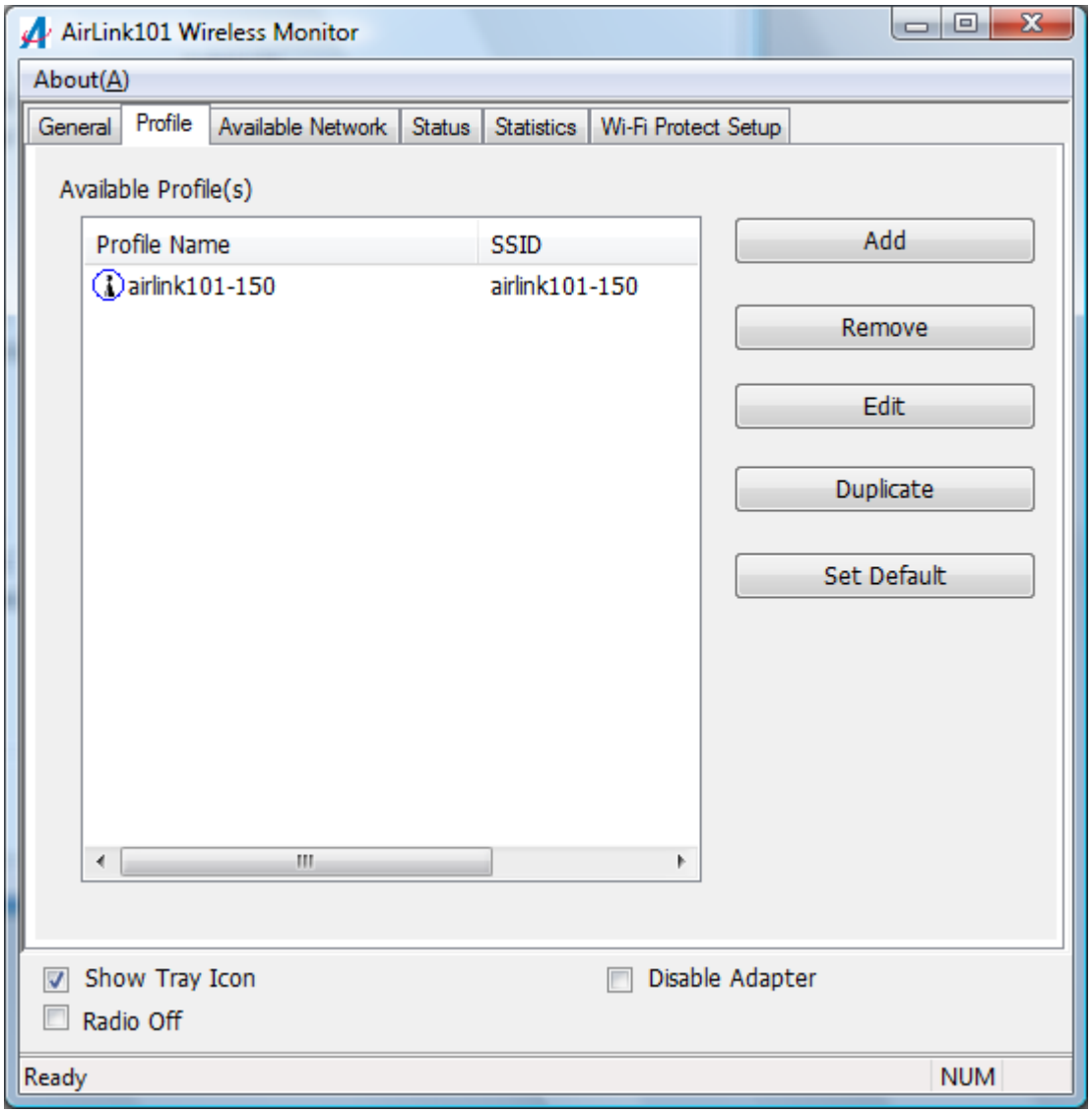
For Windows XP users, you will see a checkbox “Windows Zero Config” which can be used to enable or disable the Windows XP’s built-in wireless utility, Windows Zero Configuration. It is suggested NOT to check this box and use Airlink101 Wireless Monitor that provides more advanced features to manage your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

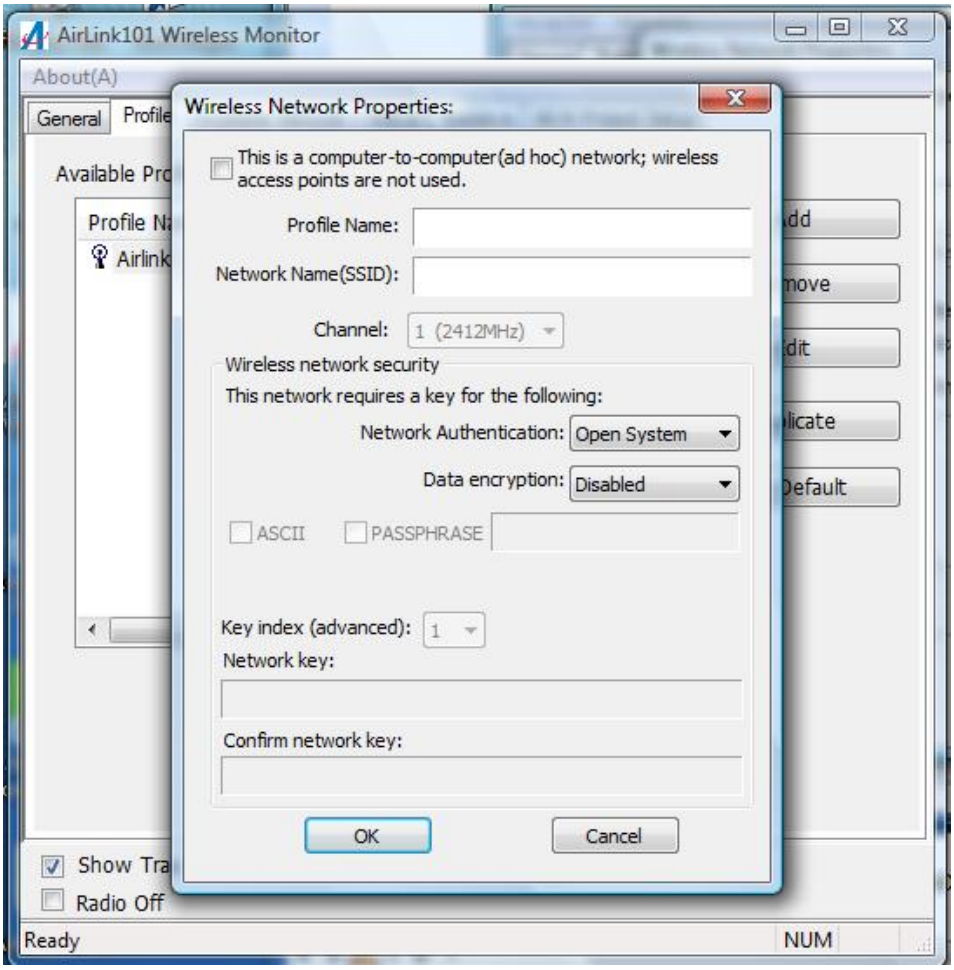


The **Available Profile(s)** box lists all the profiles that you've created for your network. A profile is automatically created and added to this list when you connect to a new network. You can also manually add a profile.

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.

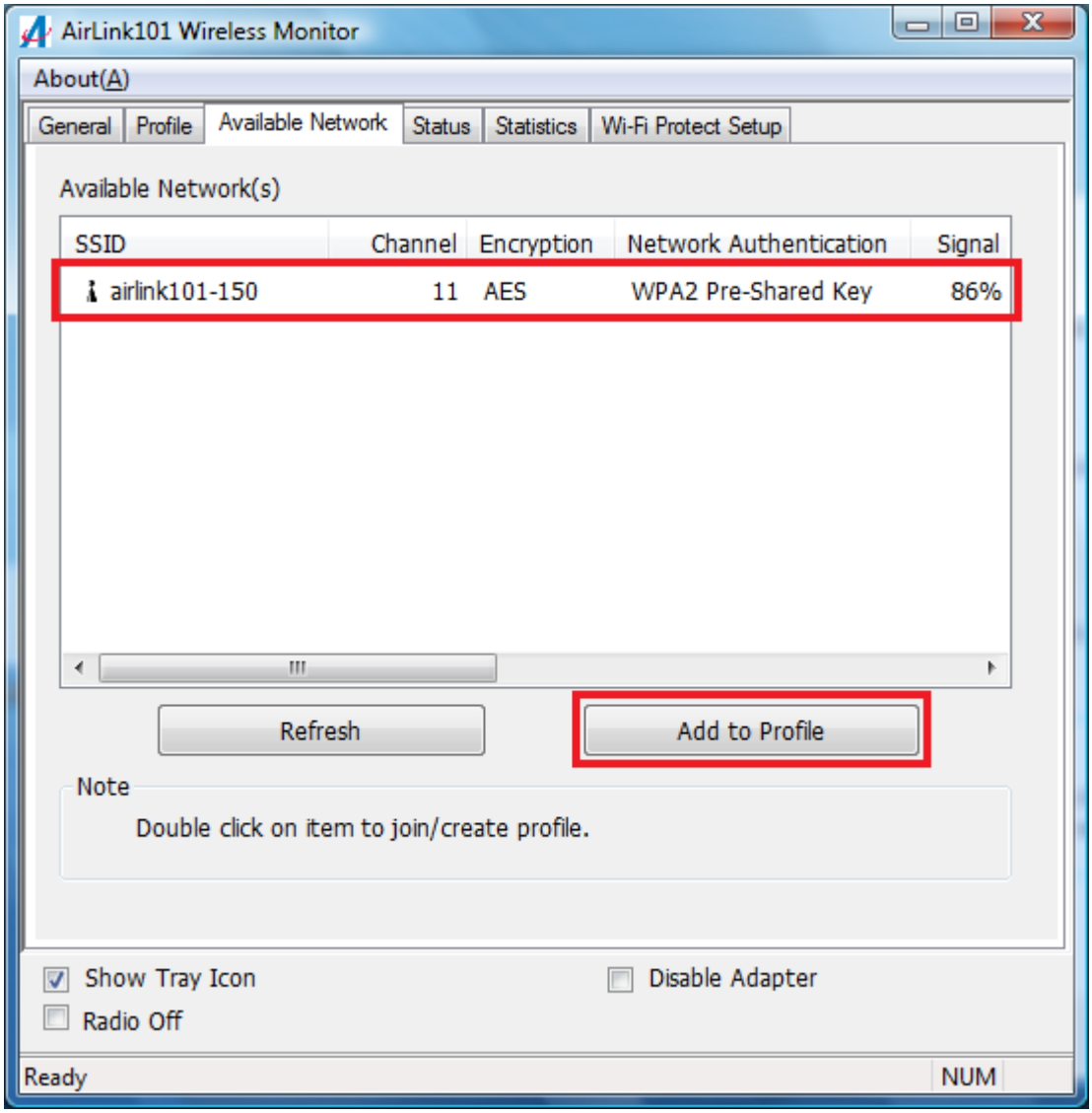


The section 4.7, Configuring Encryption will give you the information of how to set the different options of the wireless network encryption settings.

4.3 Available Network

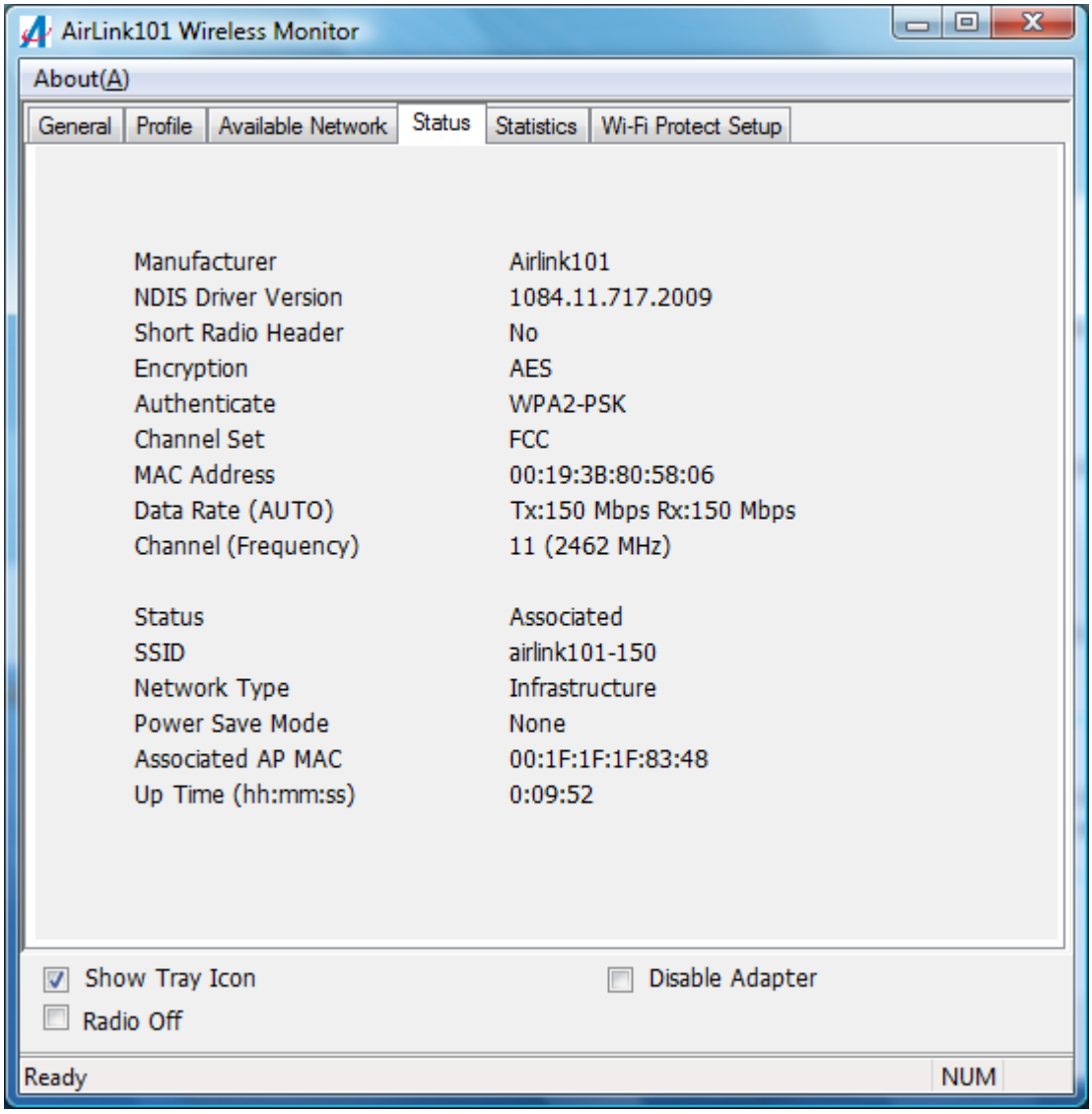
The Available network tab lists all of the networks that the adapter detects in your area.

Clicking **Refresh** will refresh the list. To connect to a network, select a network from the list and click **Add to Profile**.



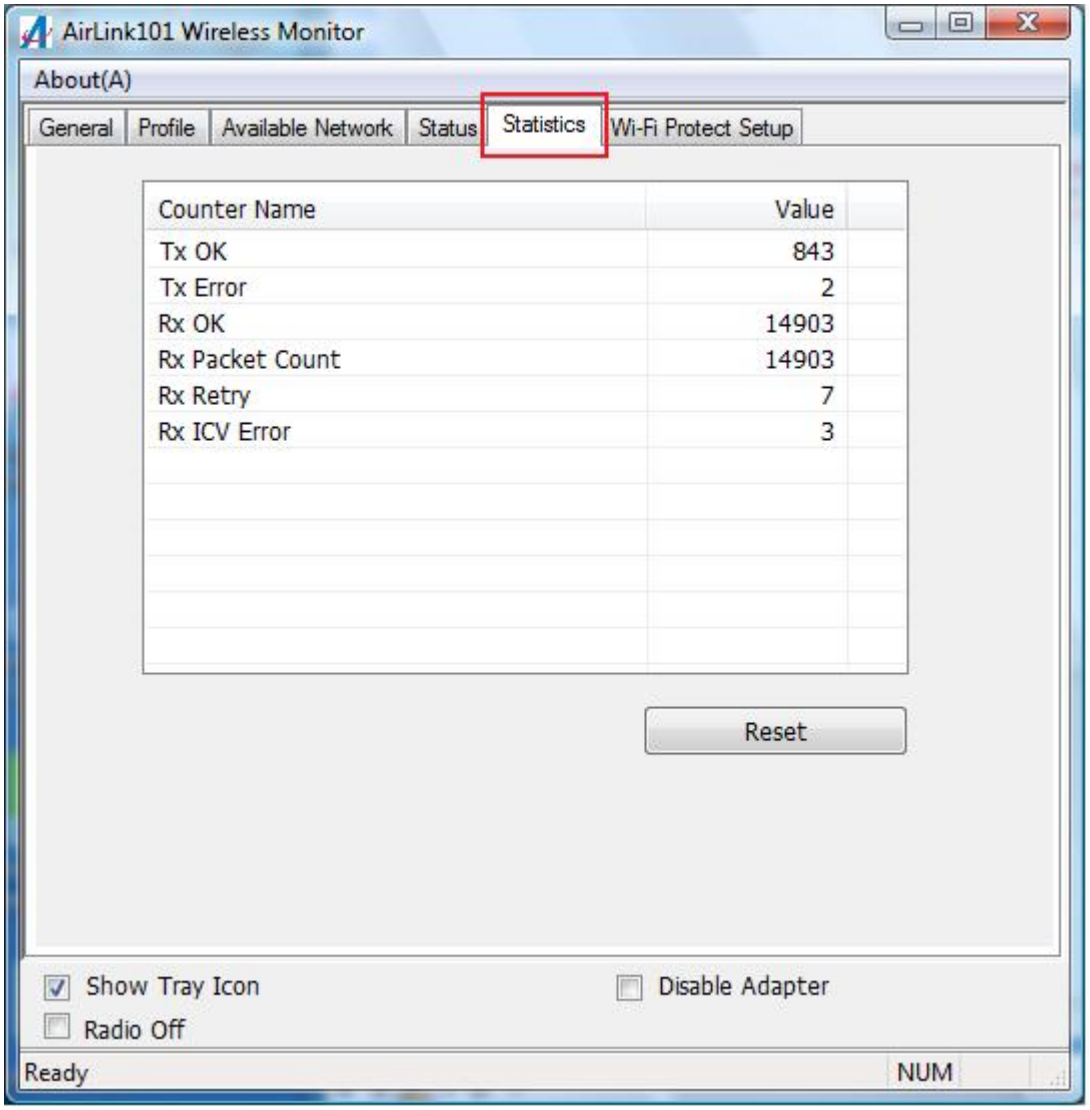
4.4 Status

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.

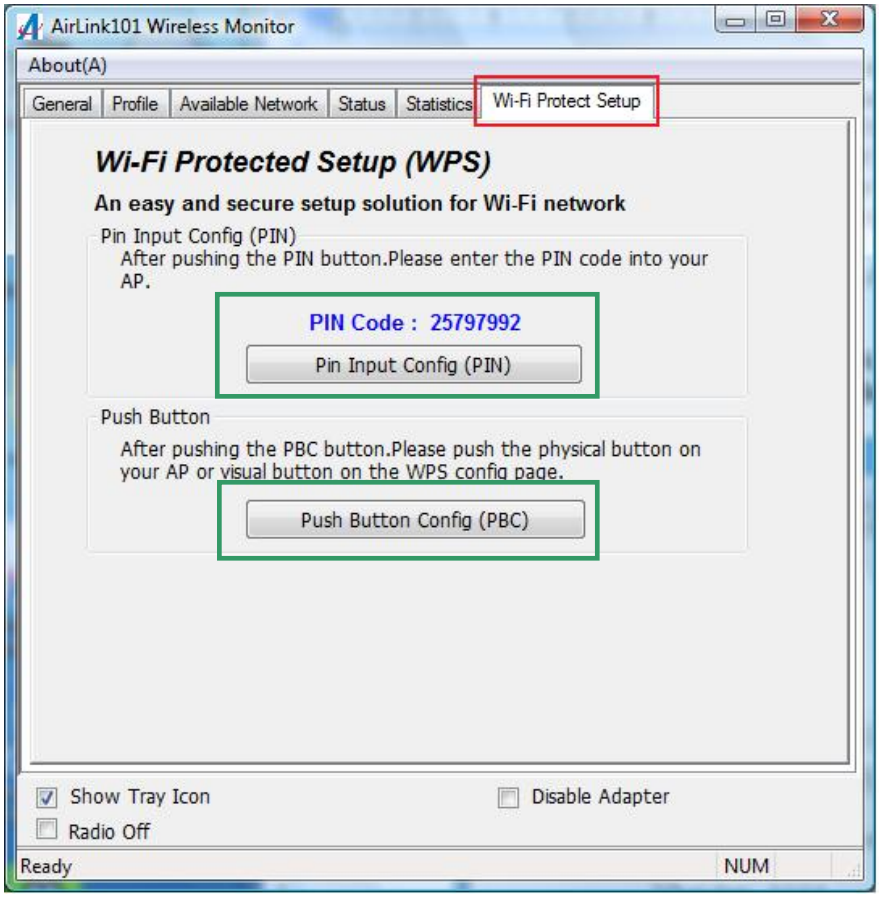


4.6 Wi-Fi Protected Setup (Easy Setup Button)

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 Wireless N 150 USB Adapter and the AR570W Airlink101 Wireless 150 Router to illustrate the following setup instructions.

Step 4.6.1 Open the Airlink101 Wireless Monitor. Click the **Wi-Fi Protect Setup** tab.

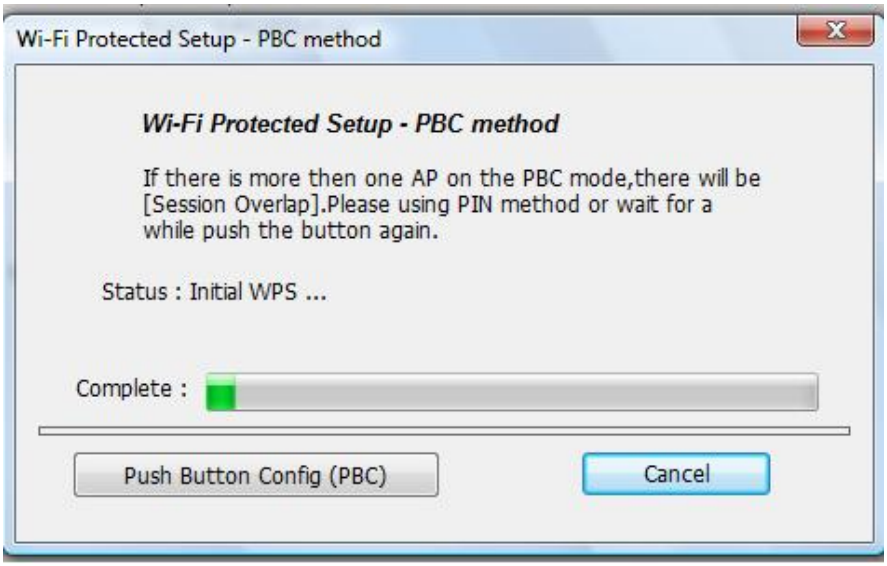


Choose your configuration method:

- 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,

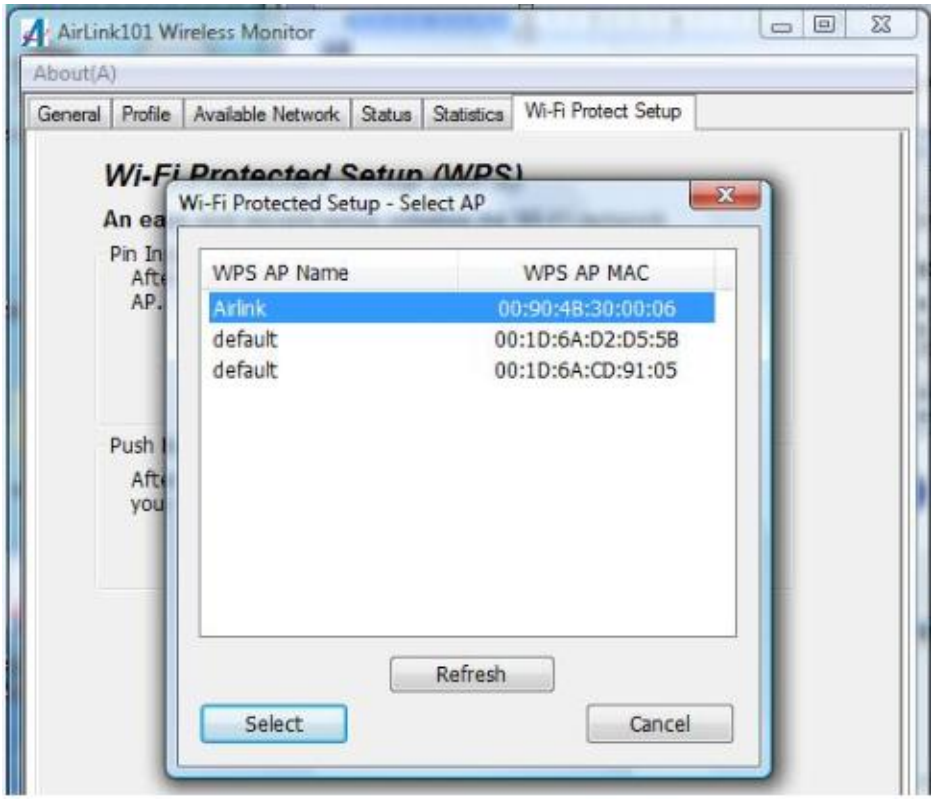


within the following 2 minutes, push the Easy Setup Button (i.e. WPS button) on the back of the router and release it right away.

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

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**.

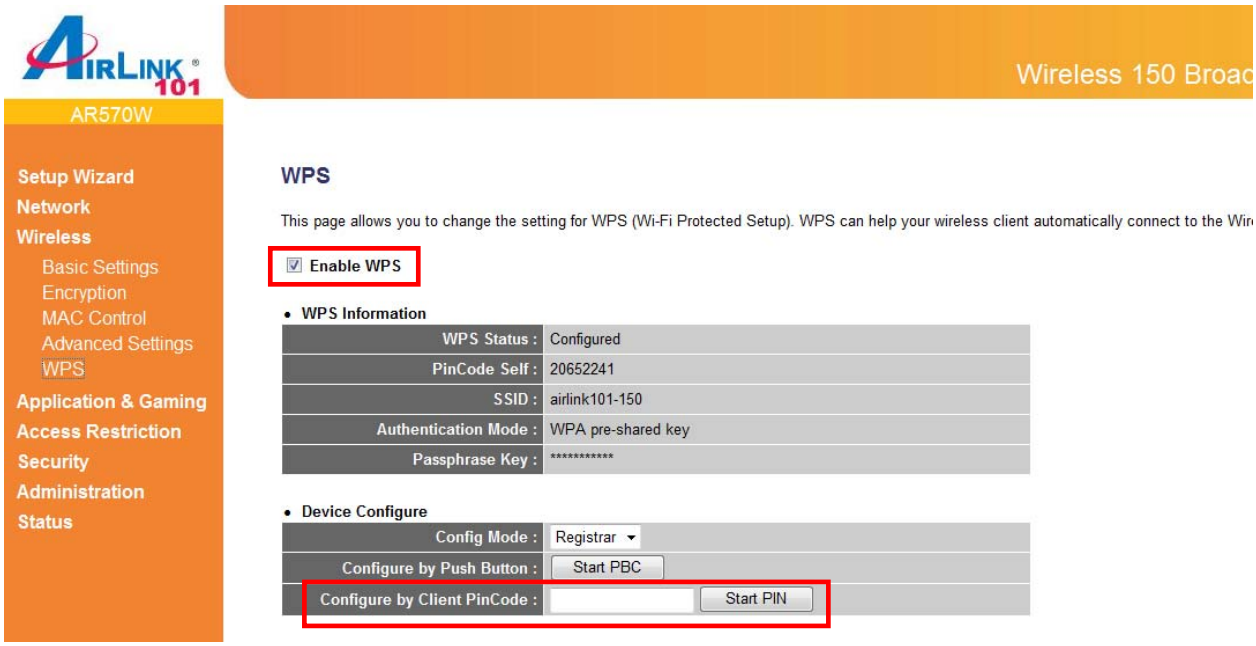


Write down the **PIN Code** on a piece of paper.

(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**.



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.

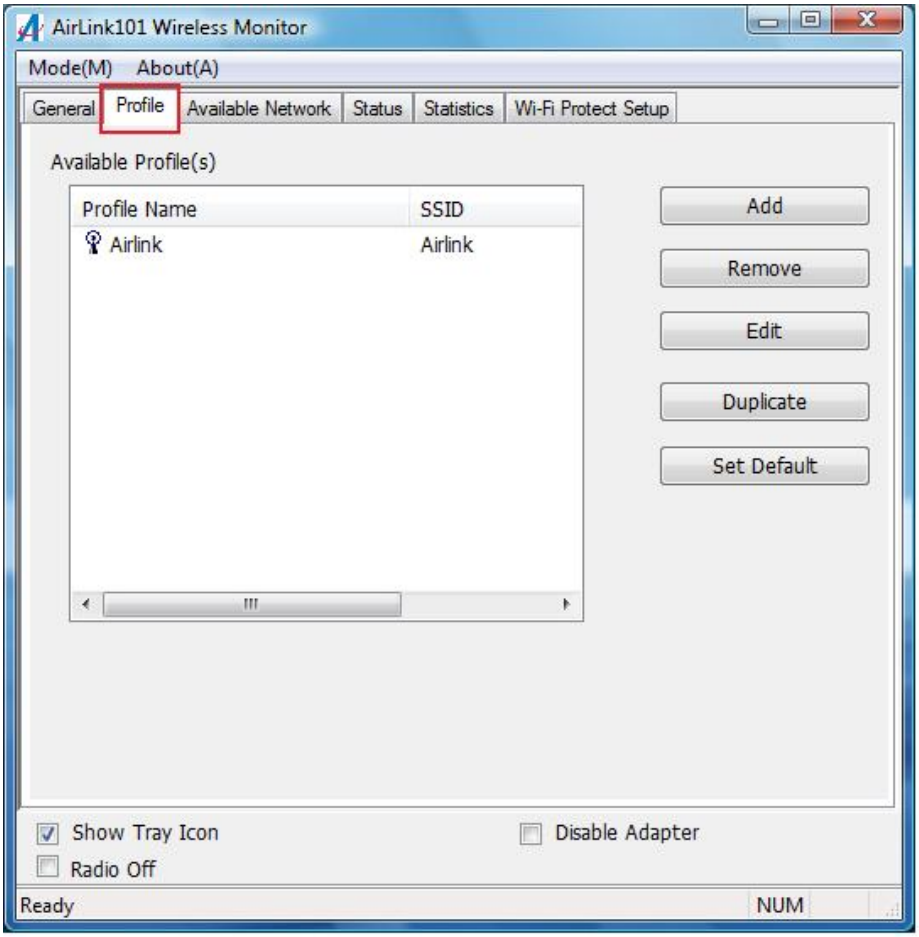
Note: If you cannot connect successfully with WPS, you need to log in to your router's configuration and make sure the WPS feature is enabled.

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 USB adapter; all you need to do is to enter the Network key, as described in **Section 3**, **Step 3.4**.

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.

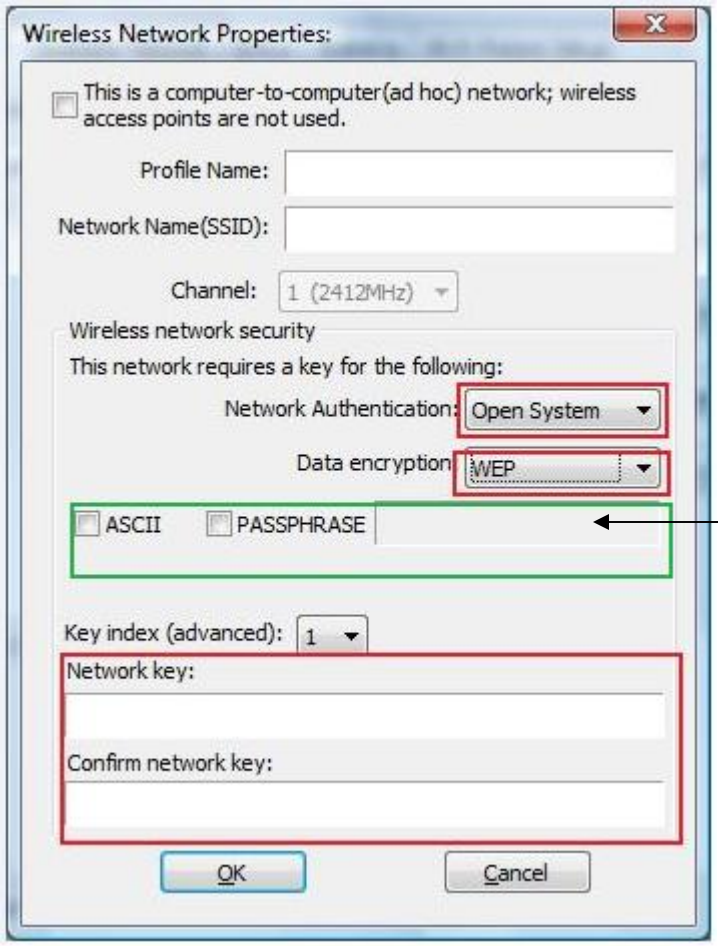
Open the **Wireless Monitor** utility, click **Profile** tab and then click **Add.**



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

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 :

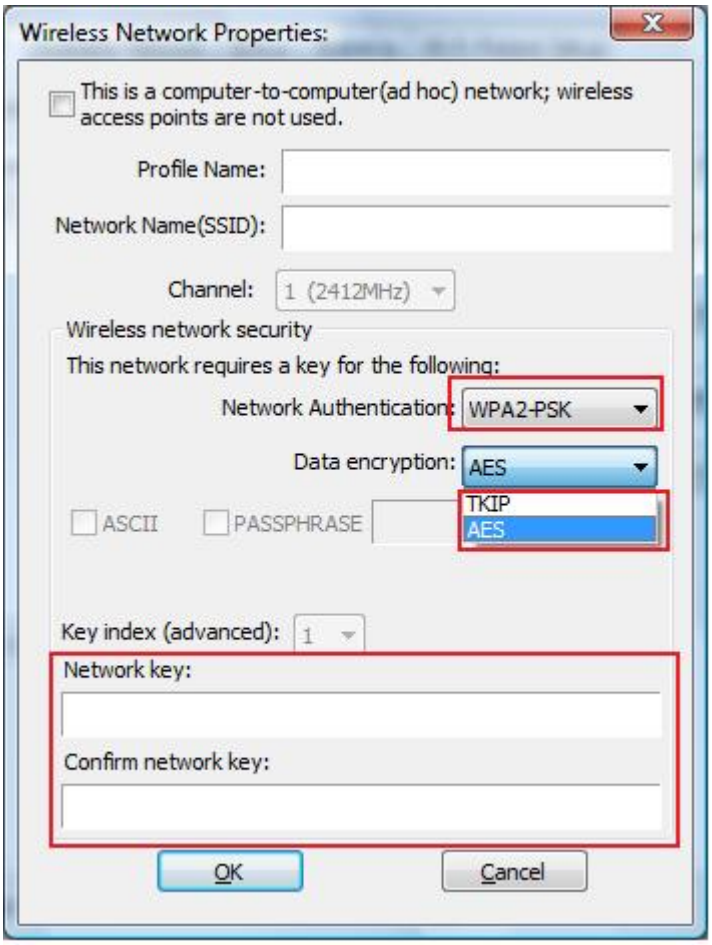
- Check **PASSPHRASE** and enter your key into box next to Passphrase.

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.

4.7.2 Configuring WPA/WPA2-PSK Encryption (for home users)



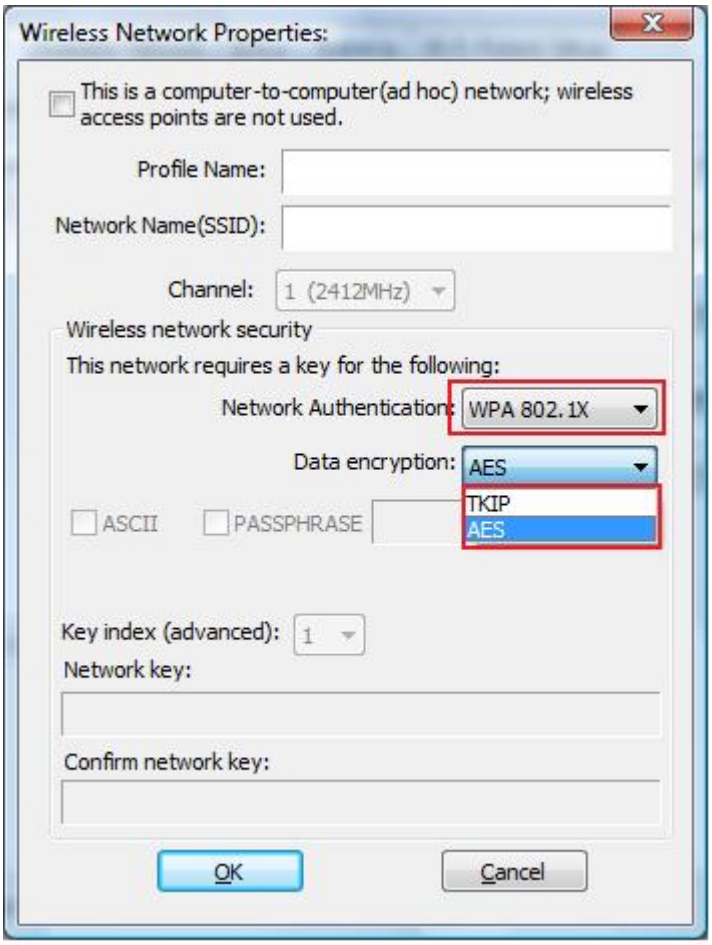
Select **WPA-PSK/WPA2-PSK** from the **Network Authentication** box.

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.

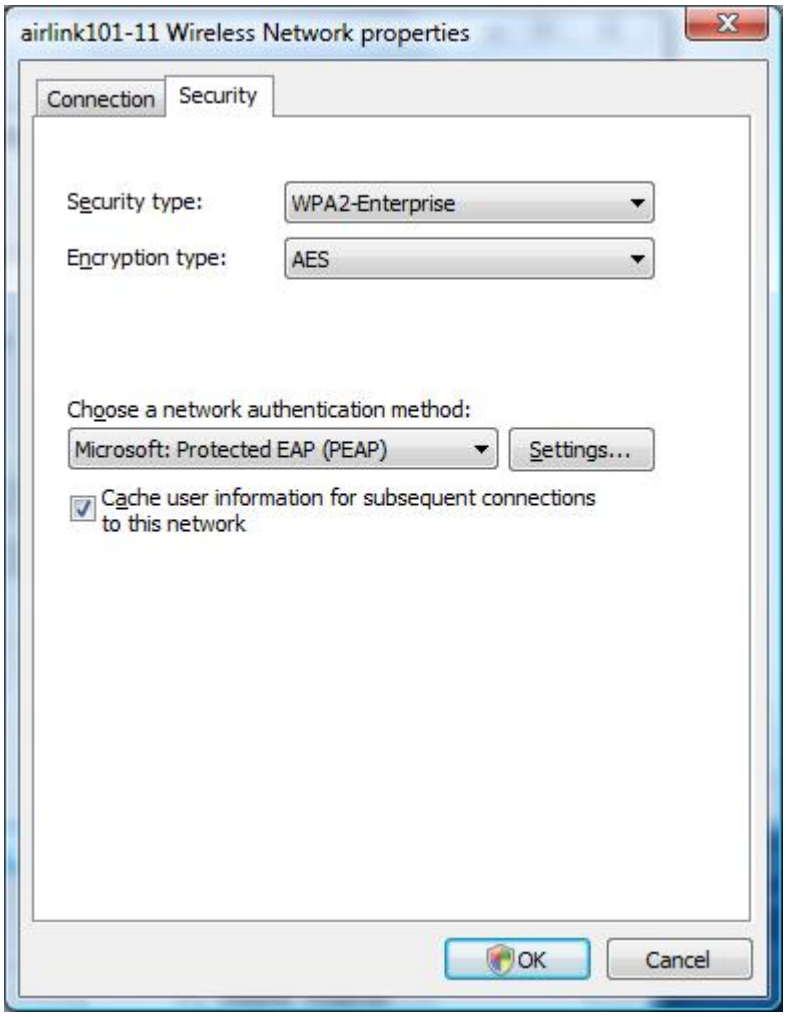
Click **OK** to save your settings.

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**.

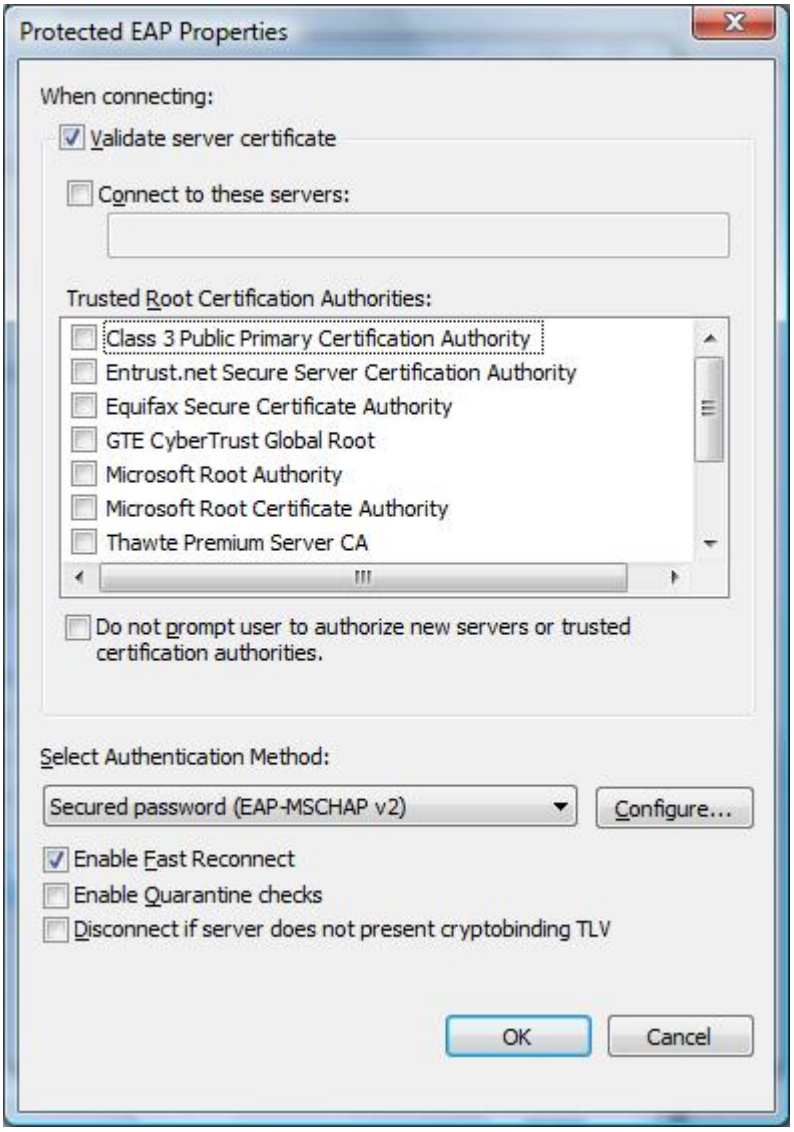
The following window will pop up after few seconds.



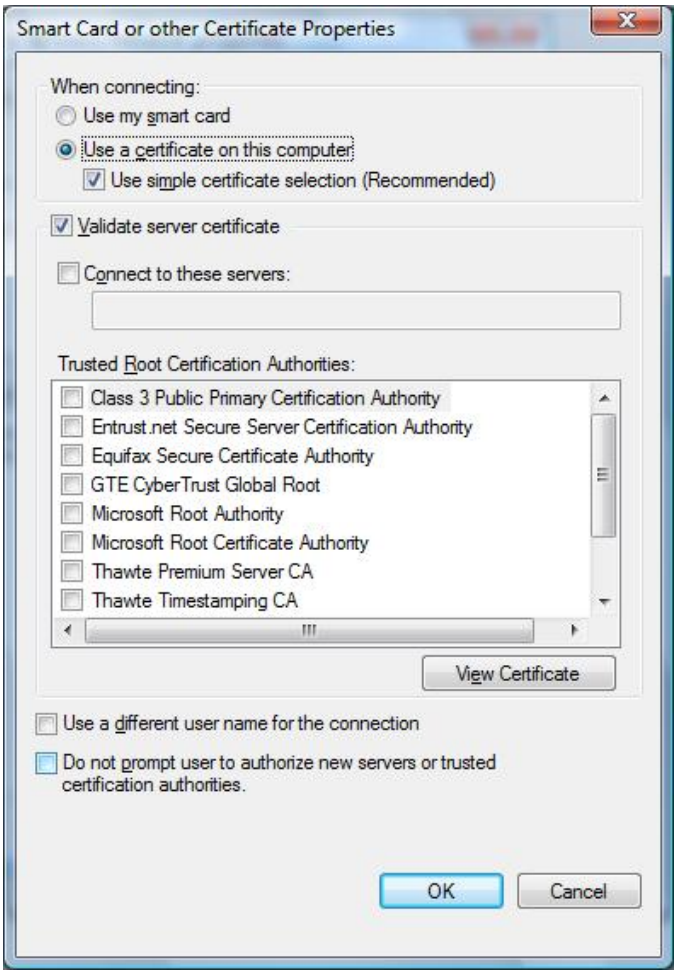
You can choose a network authentication method: **Protected EAP** or **Smart Card or other Certificate** then click **Settings** to configure the advanced settings.

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.



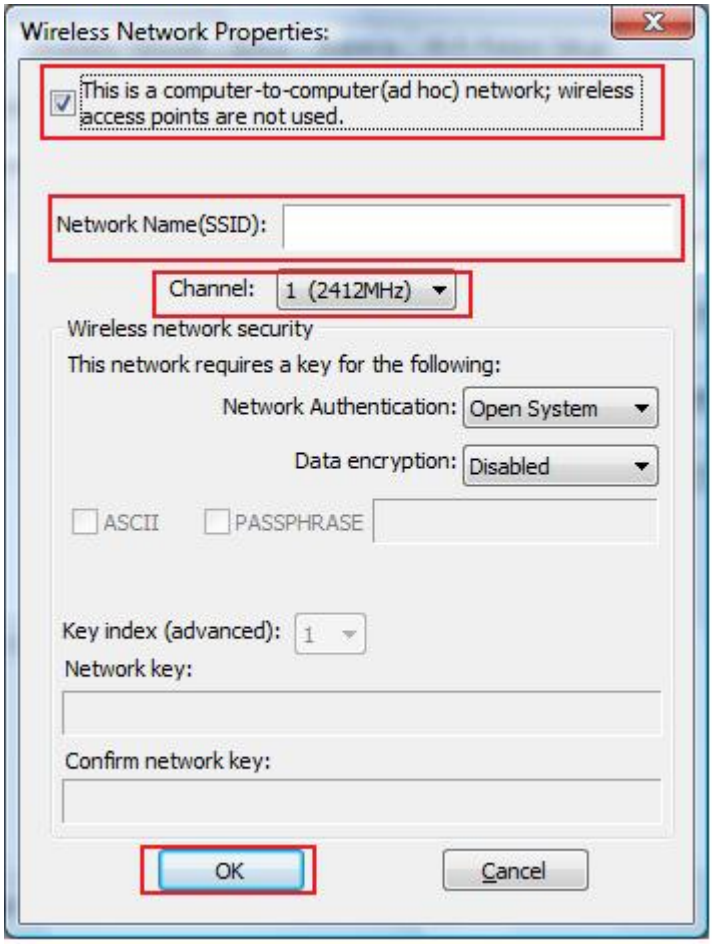
4.8 Ad-hoc and Peer-to-Peer Wireless Networks

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.

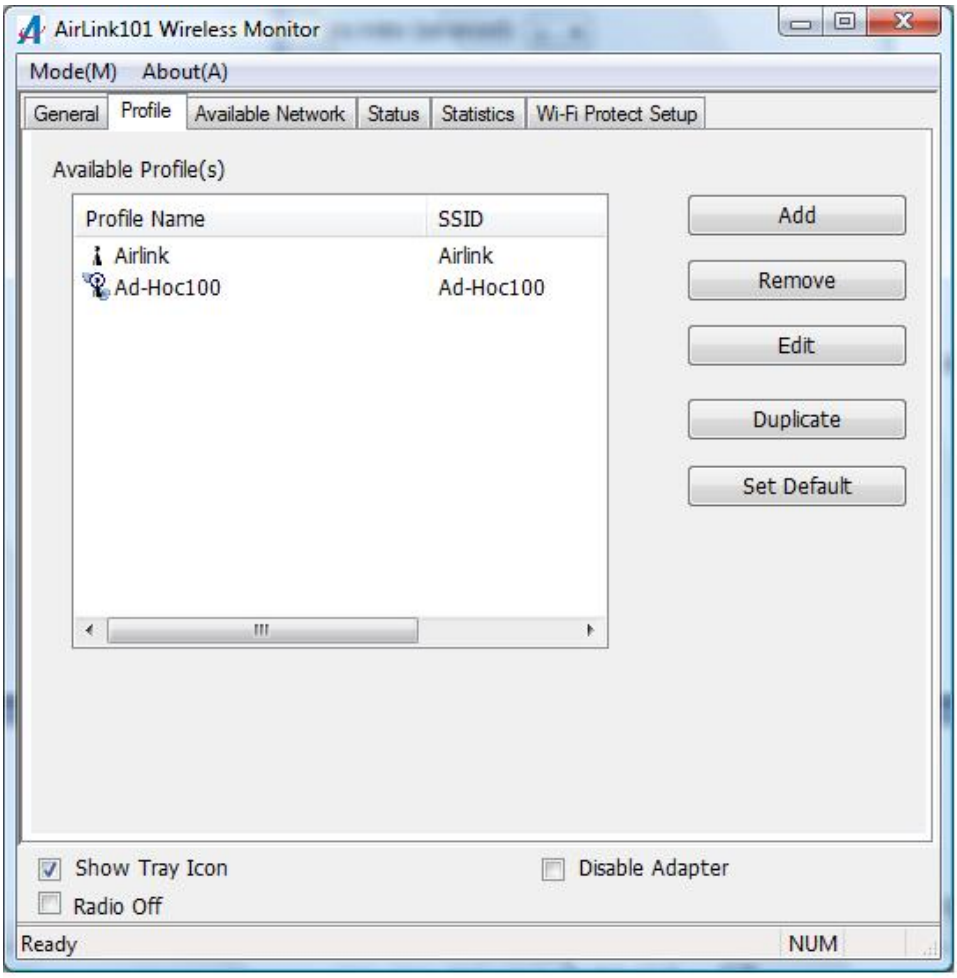
Open the **Wireless Monitor**.
Click on **Profile** and click on **Add**. The profile settings box will appear.



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.

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.



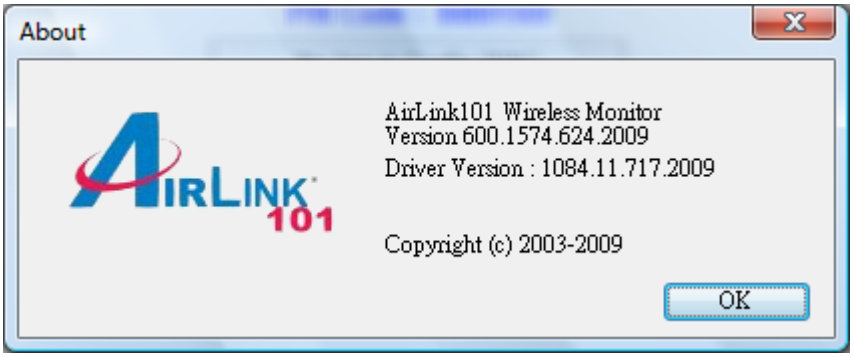
Select your new profile from the Available Profile(s) box, and double click to enable it.

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.

4.9 About

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



5. Troubleshooting

1. If you cannot open the wireless monitor utility, make sure that the USB adapter is inserted firmly into the USB port.

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.

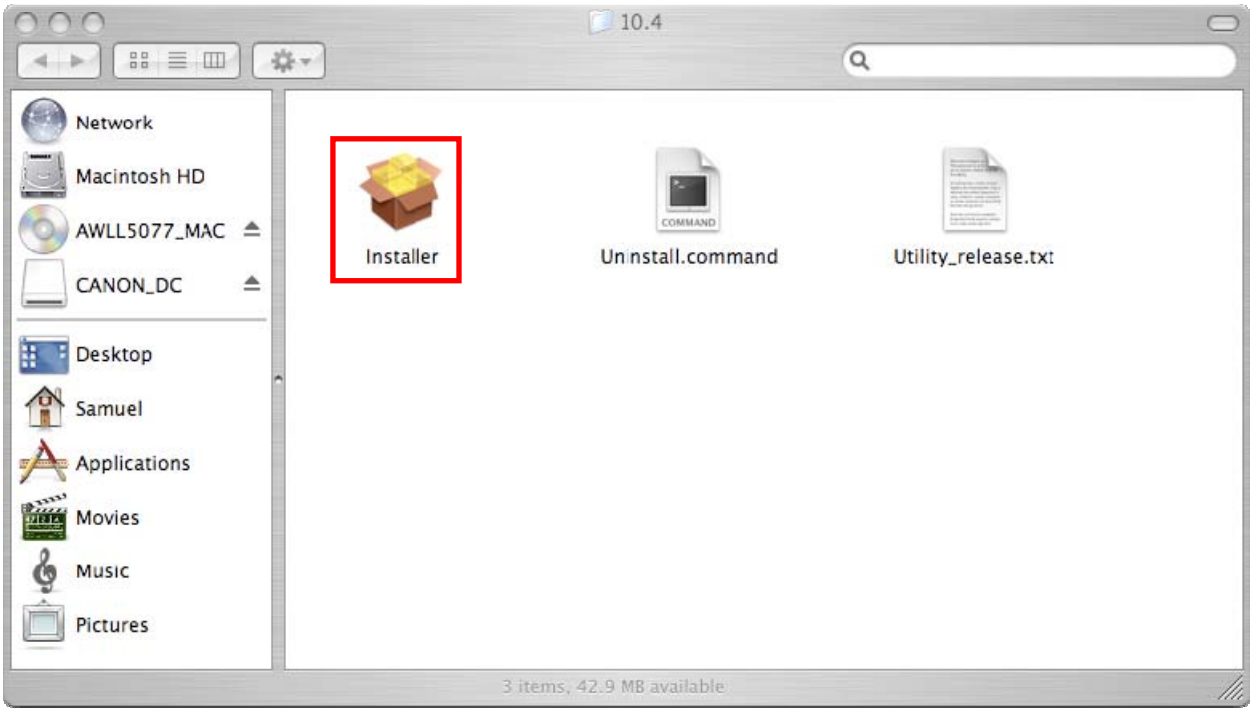
6. Install Wireless USB Adapter for MAC OS

This section provides instructions on how to install the **Wireless N 150 USB Adapter with 10dBi High Gain Antenna**. The driver is installed along with the utility.

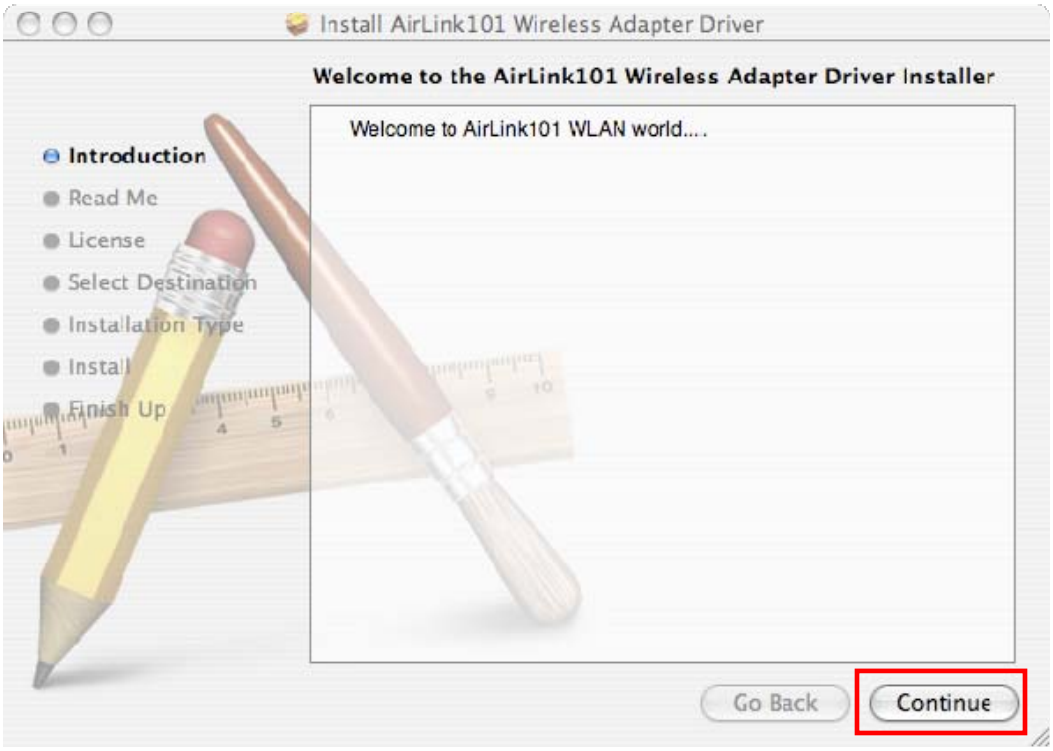
6.1 Install Driver and Utility

Step 1 Insert the USB adapter into an available USB port of the computer. Insert the provided CD into the CD drive.

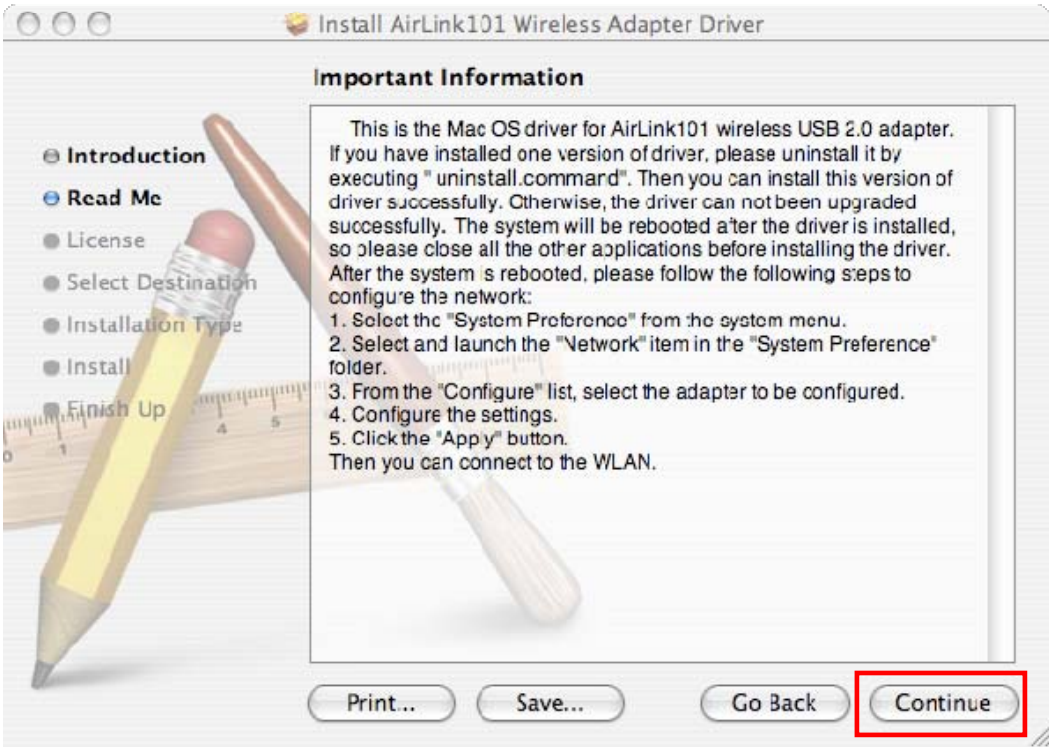
Step 2 Explore the CD content, go to **MAC** > **10.4** or **10.5** or **10.6** (depends on your MAC OS version). Double click on **Installer.pkg** to start installing the driver & utility.



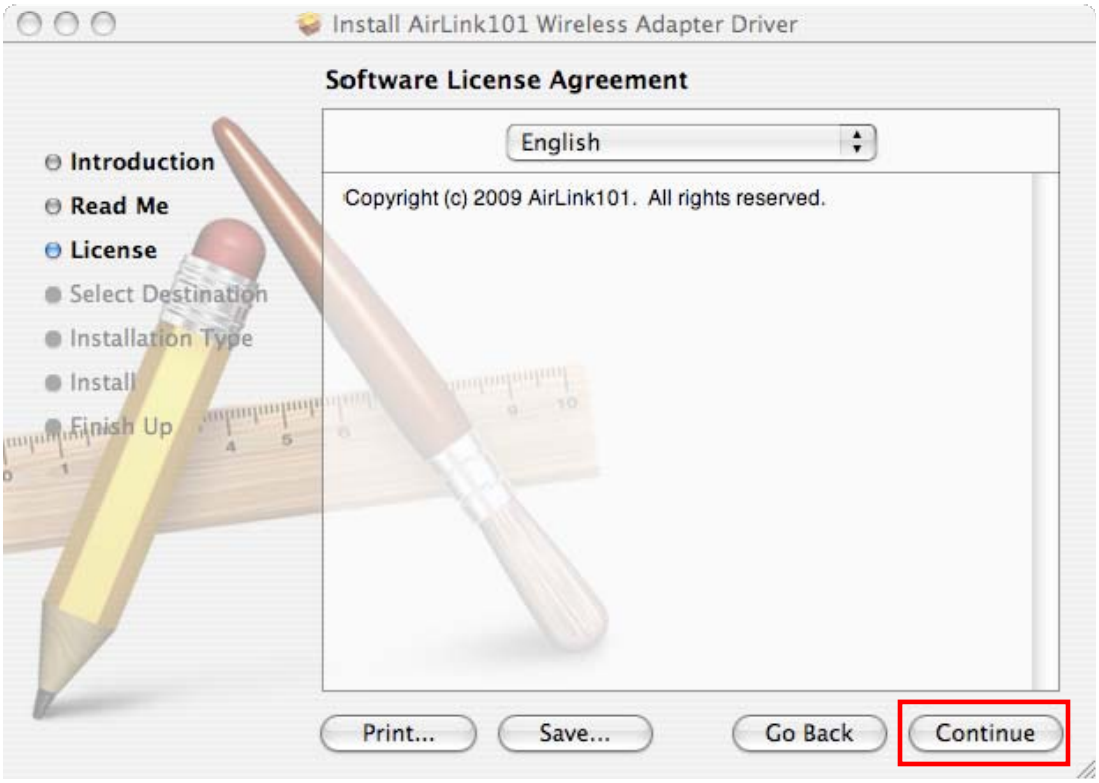
Step 3 Introduction: The “Install Airlink101 Wireless N USB Adapter” window will pop up. Click **Continue**.



Step 4 Read Me: Click **Continue** to begin the installation.

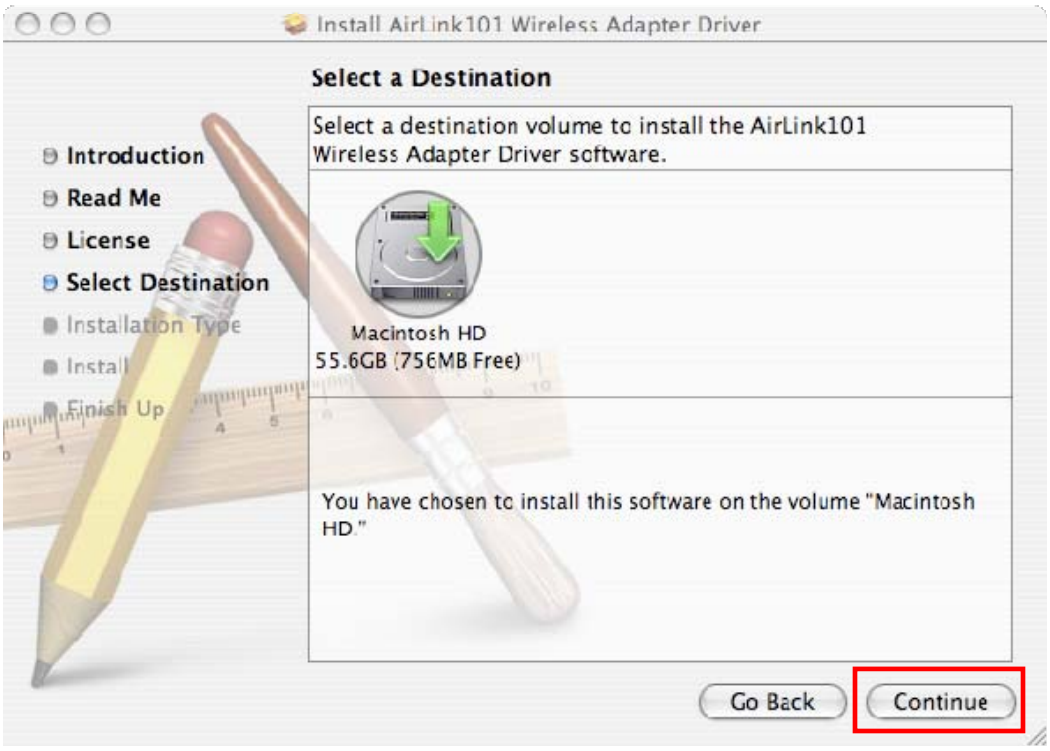


Step 5 License: Click **Continue.**

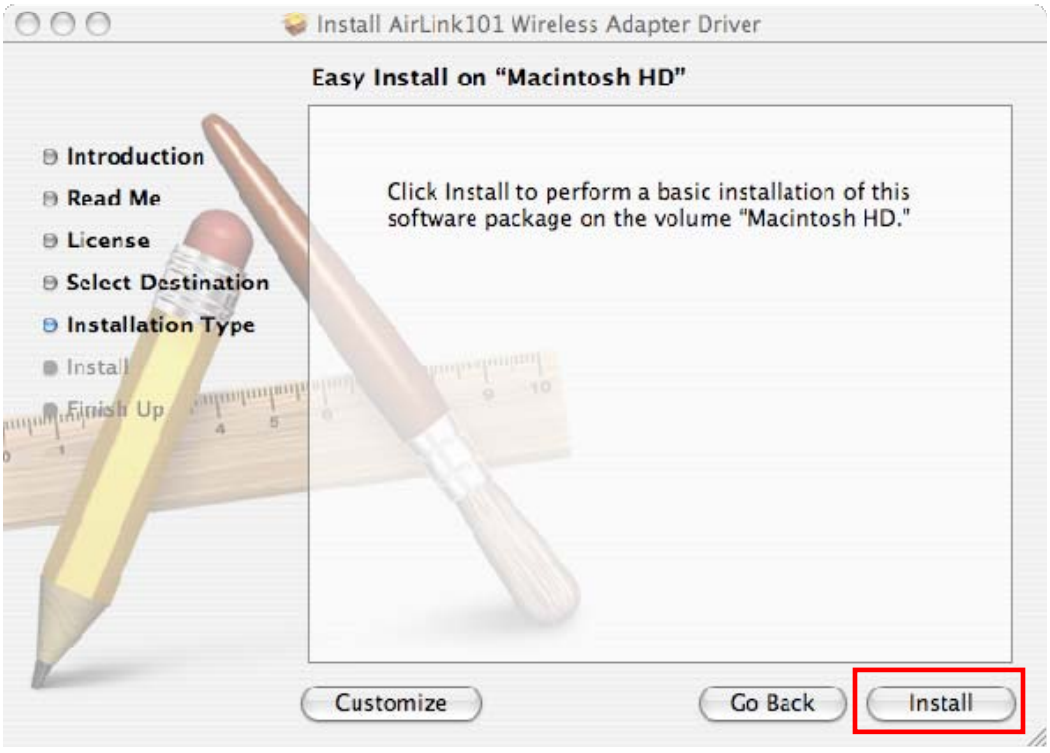


Click **Agree** to install.

Step 6 Select a Destination: select a destination volume to install the software, and click **Continue**.



Step 7 Installation Type: click **Install** to perform a standard installation.

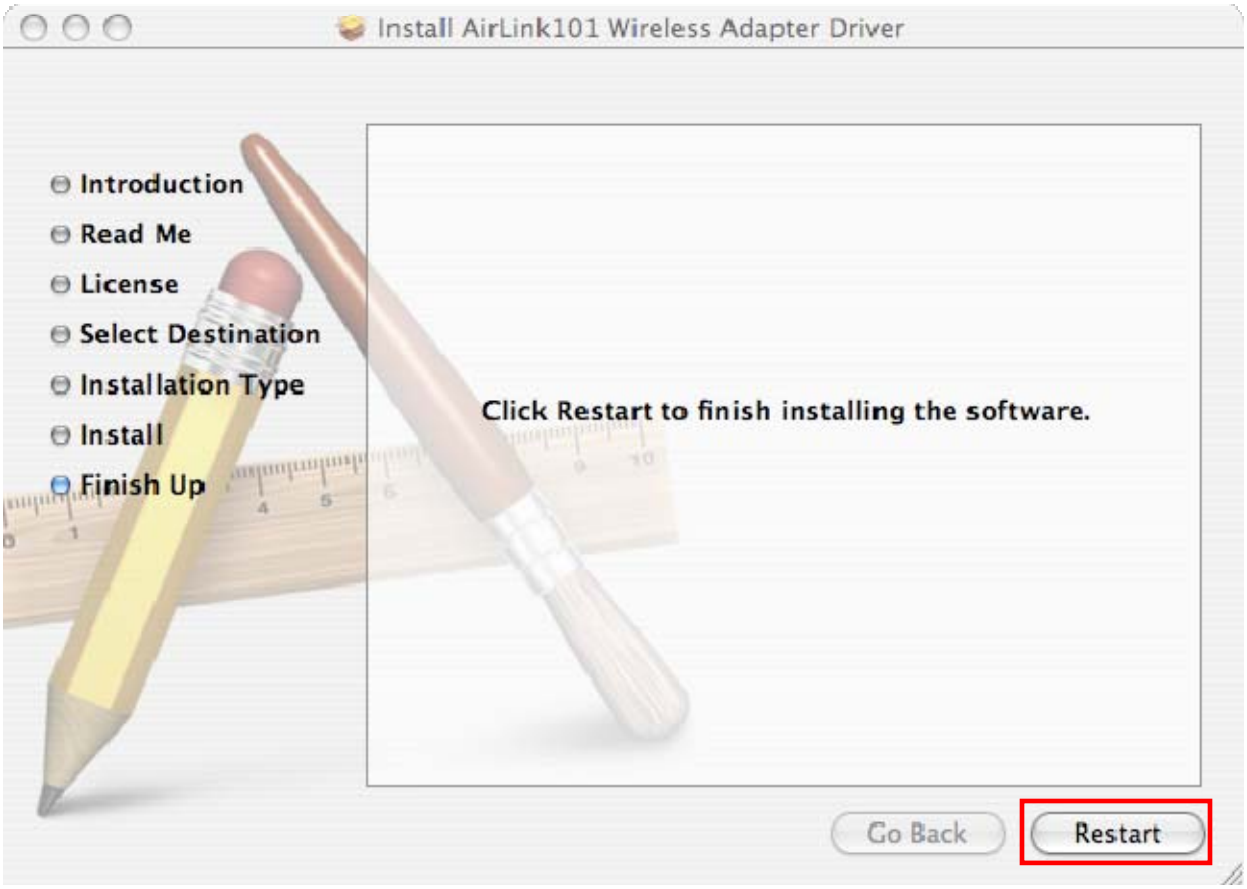


Enter your password and click **OK.**

Click **Continue Installation**.

Step 8 Install: Wait while the software is being installed.

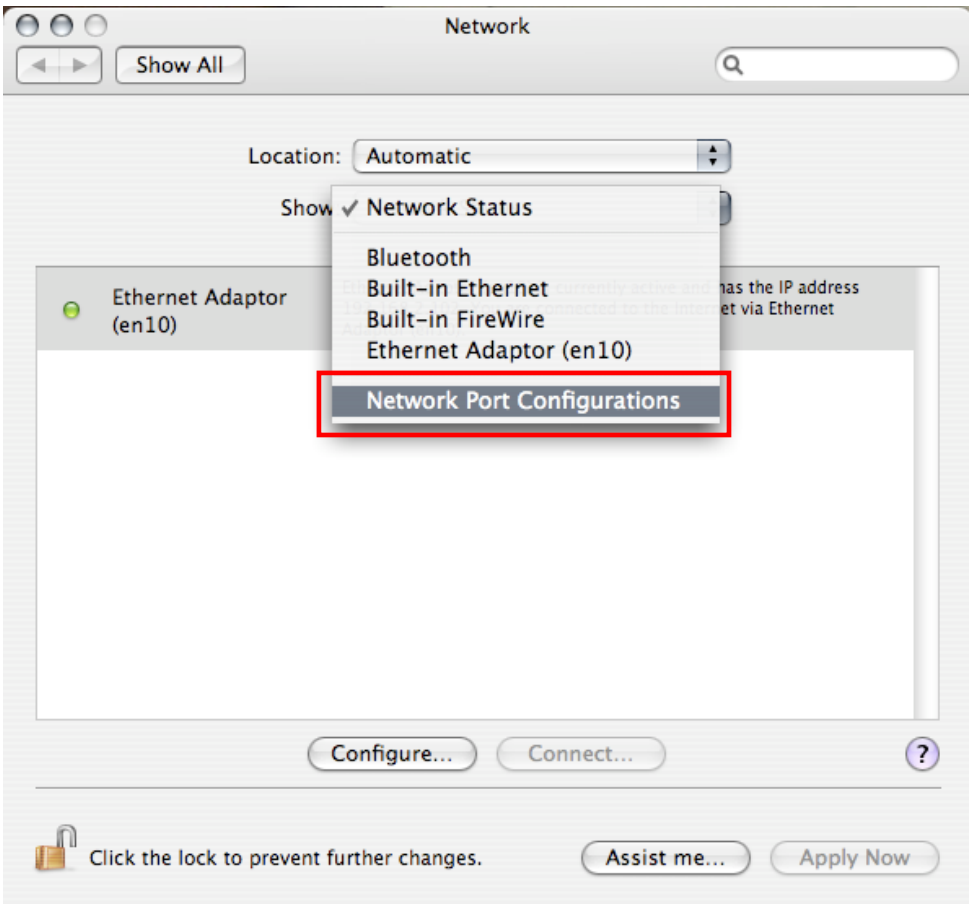
Step 9 Finish Up: Click **Restart** to restart your computer.


Install AirLink101 Wireless Adapter Driver
Introduction
Read Me
License
Select Destination
Installation Type
Install
Finish Up
Click Restart to finish installing the software.
Go Back
Restart

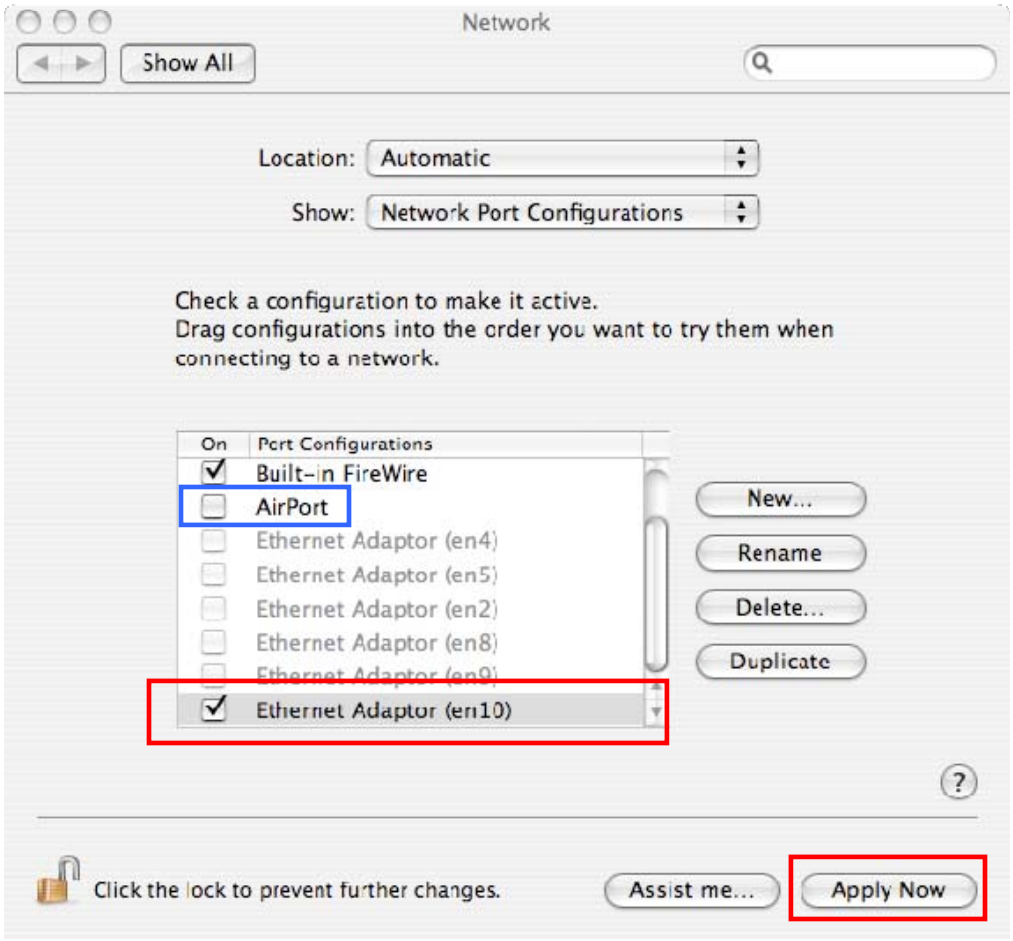
6.2 Connect to Wireless Network

This section describes how to connect the wireless USB adapter to a wireless network.

Step 1 Go to **System Preferences** > **Network**, select **Network Port Configurations** from Show.

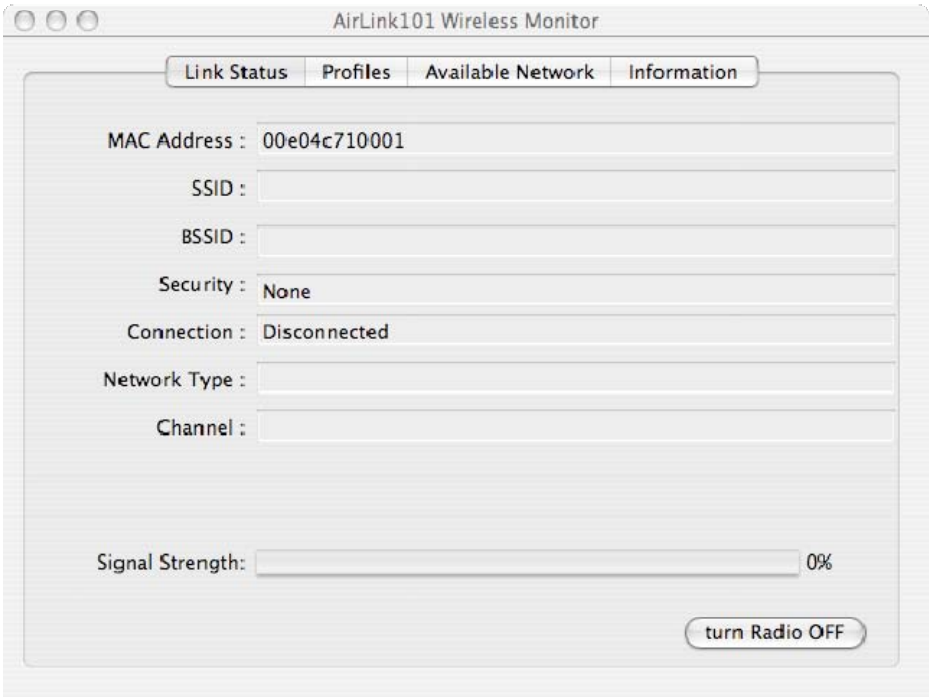


Step 2 Check the Ethernet Adaptor (Airlink101 Wireless USB Adapter) and uncheck AirPort. Click **Apply Now**.

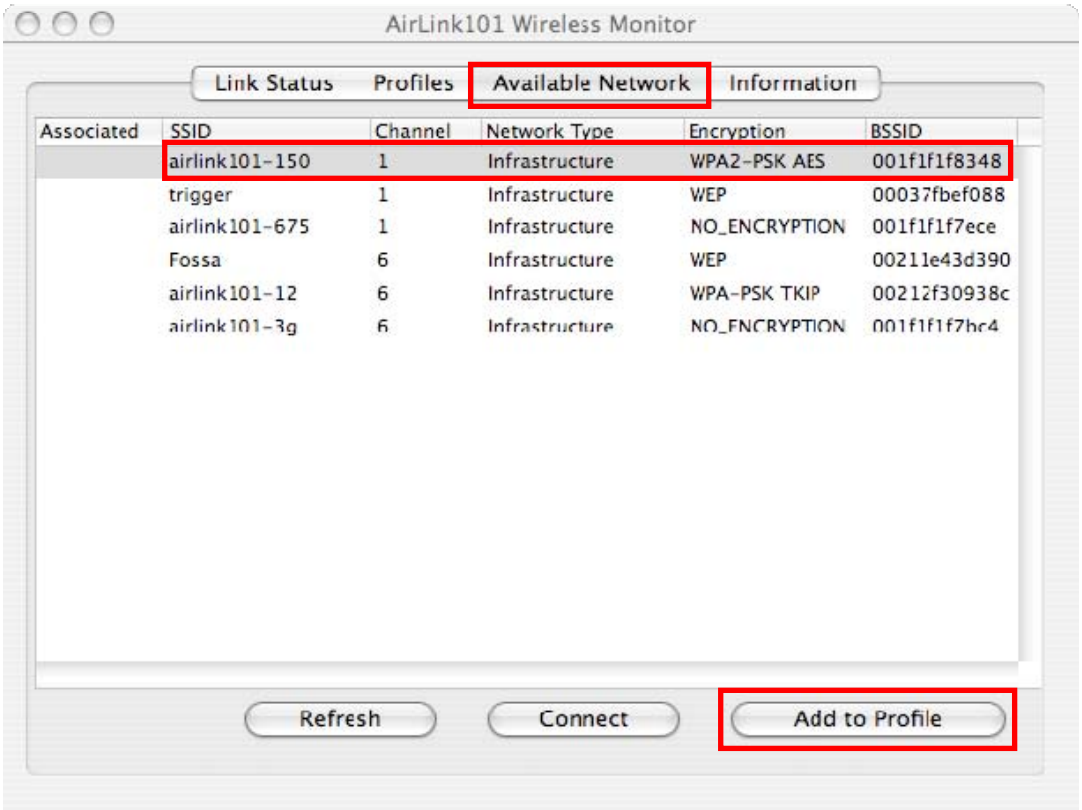


Step 3 Open the Airlink101 Wireless Monitor utility by double clicking on its icon in the system tray at the bottom of your screen.

Airlink101 Wireless Monitor will display on your monitor.

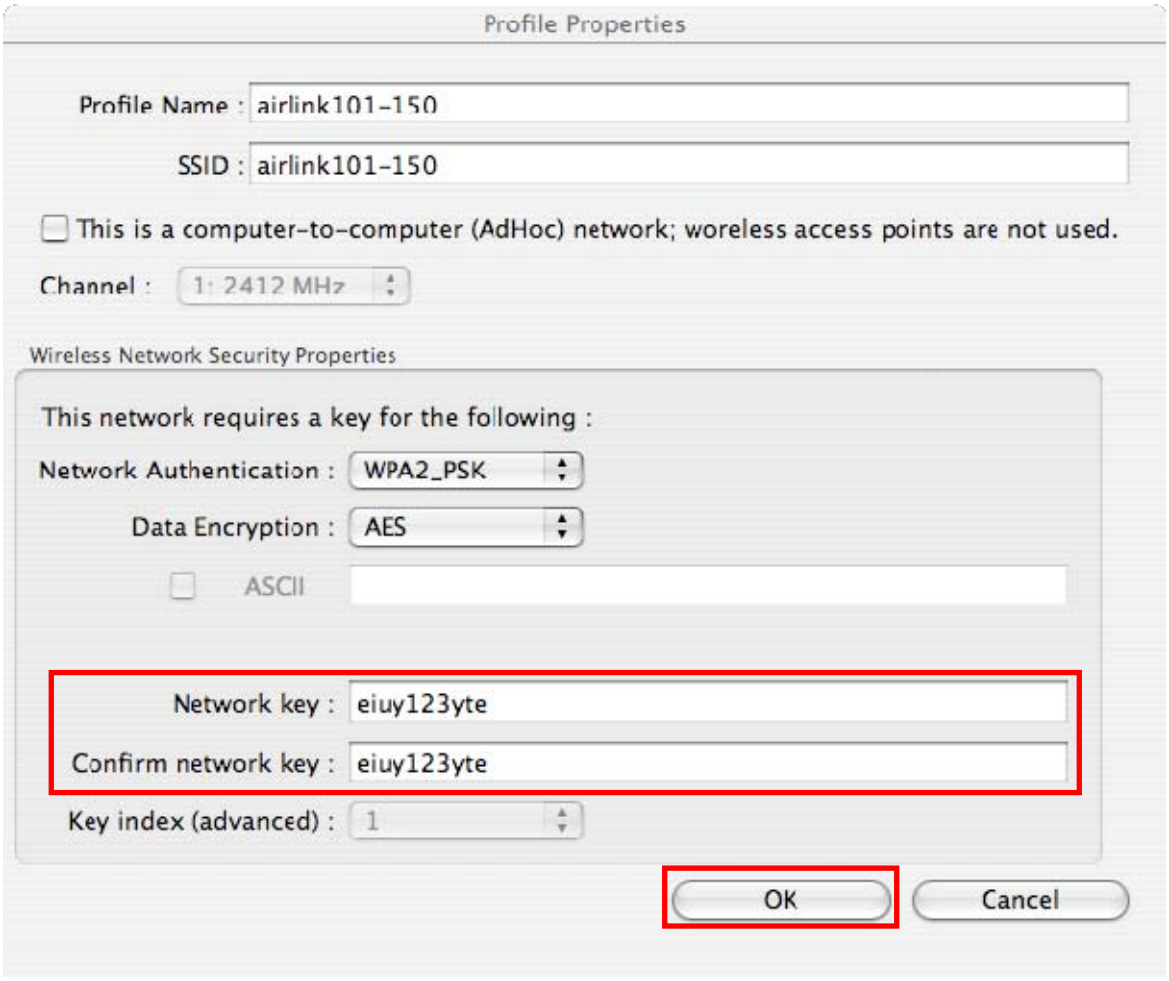


Step 4 Click the **Available Network** tab, select the **SSID** (Network Name) of the wireless network you wish to connect to, and click **Add to Profile**.



If the network 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. Go to Step 6.

Step 5 Enter the network security key of your wireless router or AP into **Network key** and **Confirm network key** boxes.



The Adapter may automatically detect the type of Network Authentication and Data Encryption. You need to enter the security settings in the **Network key, Confirm network key** boxes according to the settings of the wireless router or AP then click **OK** to connect.

Step 6 The connection is now established. You can check the status of your connection under “Link Status” tab. The Connection should be **Connected**, and there should be a blue bar displaying the **Signal Strength.**

You can refer to Chapter 4, Wireless Monitor for the instructions of configuring Airlink101 Wireless Monitor.

Appendix A - Specification

Standard
- IEEE 802.11g/b

Interface
- USB2.0, USB1.1 Compliant

Access Method
- Infrastructure Mode, Ad-Hoc Mode (802.11b Ad-Hoc), Roaming

Data Rate
- Up to 150Mbps*

Transmit Power Settings
- 16dBm(OFDM)/18dBm(CCK)

Security
- WPA2/WPA-PSK
- WEP64/128-bit

Antenna Type
- 2.4GHz 10dBi Indoor Patch Directional Antenna

Frequency Range
- 2.4 ~ 2.4835GHz

Gain
- 10dBi

VSWR
- <1.5 max (0-6 GHz)

Beam Width-H Plane
- 110° (Vertical)

Beam Width-E Plane
- 60°

Polarization
- Vertical (Linear)

Impendence
- 50 Ohm

LED
- Power/Link

Operation Temperature
- 0°C to 55°C

Operating Humidity
- 10% ~ 80% (non-condensing)

Dimensions
- 109 x 66 x 35 mm (L x W x H)

Mounting
- 270˚ Degree Adjustable Stand, Wall Mount or Table Mount

Operating system
- Windows 7/Vista/XP/2000
- MAC 10.4/10.5/10.6

Warranty
- Year Limited Warranty

UPC Code
- 6 58729 08 168 0

Technical Support

E-mail: support@airlink101.com

Toll Free: 1-888-746-3238

Web Site: www.airlink101.com

*Theoretical maximum wireless signal rate derived from IEEE standard 802.11 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. This product is based on IEEE draft 802.11n technology and is not guaranteed to be compatible with future versions of IEEE 802.11n specification. Compatibility with draft 802.11n devices from other manufacturers is not guaranteed. Specifications are subject to change without notice. Photo of product may not reflect actual content.