300N Draft 802.11n Wireless PCI Adapter

Model # AWLH6045

User's Manual

Rev. 1.1

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1. Introduction

Congratulations on your purchase of the 300N Draft 802.11n Wireless PCI Adapter. The 300N PCI Adapter provides wireless data rate of up to 300 Mbps* when used with other AirLink101™ 300N wireless products. The high bandwidth combined with extended wireless coverage delivers fast and reliable connection for all of your networking applications.

A full range of security features such as WEP, WPA-PSK, and WPA2-PSK provide the highest level of wireless network security. The bundled Wireless Utility allows you to set up the adapter with an easy-to-use user interface. Best of all the 300N PCI Adapter works with 802.11g and 802.11b network devices ensuring 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 PCI Adapter
- Quick Installation Guide
- Installation CD (Driver/Utility/Manual)

1.2 Features

- Industry's highest wireless data rate of up to 300 Mbps* with IEEE 802.11n draft specification version 1.0.
- 3 antennas for wider coverage and continuous connectivity eliminates dead spots
- 64-bit/128-bit WEP encryption, Pre-shared Key (PSK), and Wi-Fi Protected Access (WPA2) and WPA support provide full protection for your wireless connection
- Higher data rate increases the reliability and stability of wireless connections
- Great for environments with higher wireless data traffic requirements
- Fully backward-compatible with 802.11b/g devices
- Works best with other AirLink101™ 300N wireless products

2. Installation

2.1 Install Driver & Utility

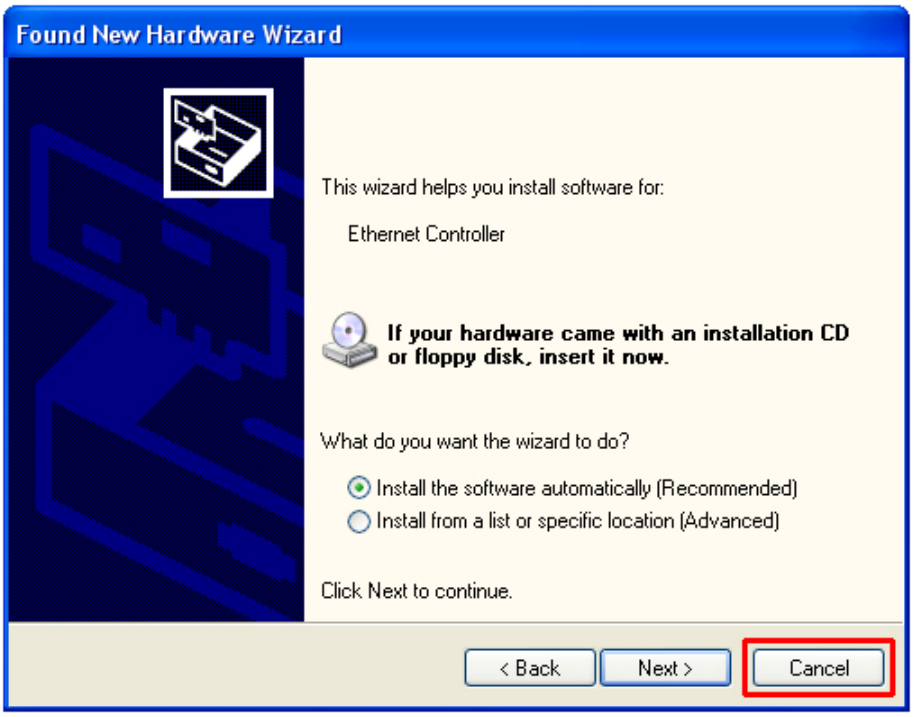
This section provides instructions on how to install the **300N Draft 802.11n Wireless PCI Adapter**. The driver is installed along with the utility.

Note: *Be sure to turn off your computer before inserting the Adapter.*

For Windows 98SE and ME users, you may be prompted to insert the Windows 98SE or ME CD during the driver installation. Be sure to have your Windows 98SE or ME CD ready.

Step 1 Insert the PCI adapter into an available PCI slot and turn on your computer.

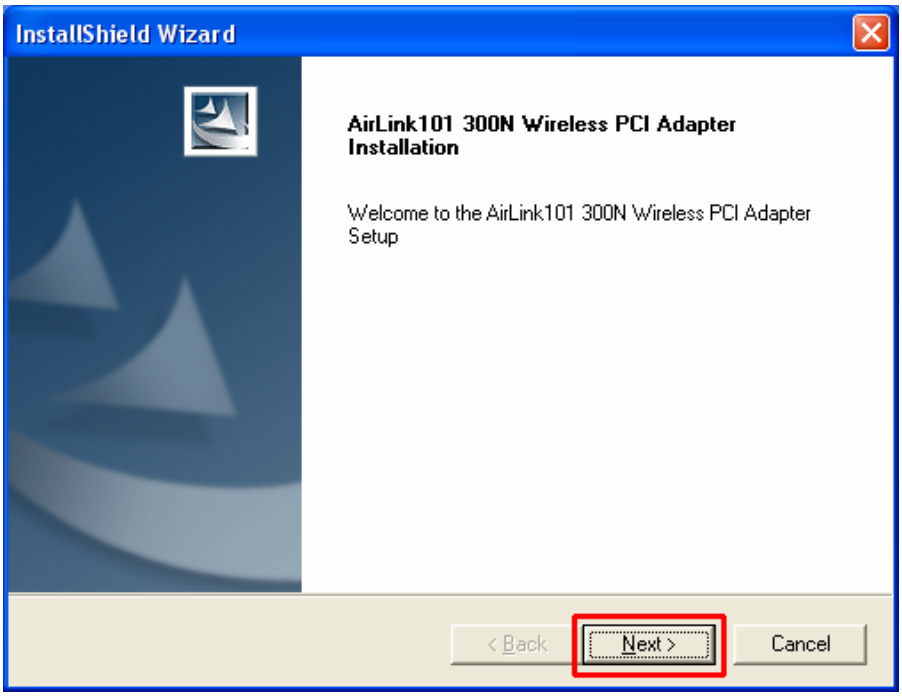
Step 2 After turning on the computer, Windows will launch the **Found New Hardware Wizard**. The Found New Hardware Wizard appears differently depending on your operating system. Click **Cancel** to quit the wizard and insert the Installation CD into your CD drive.



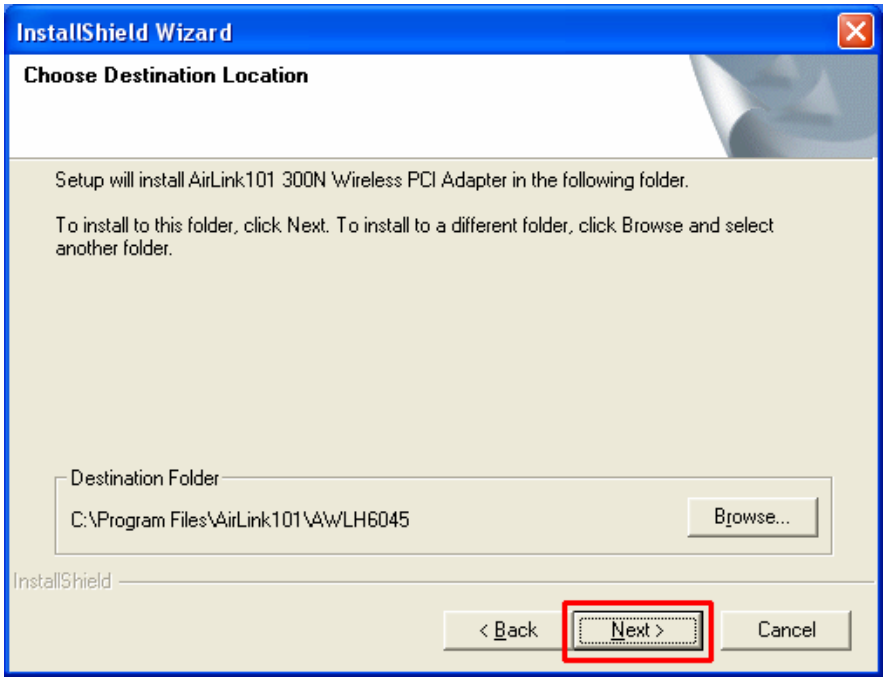
Step 3 The Autorun screen will pop up. Select **Install Driver and Utility** from the menu.

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****.*

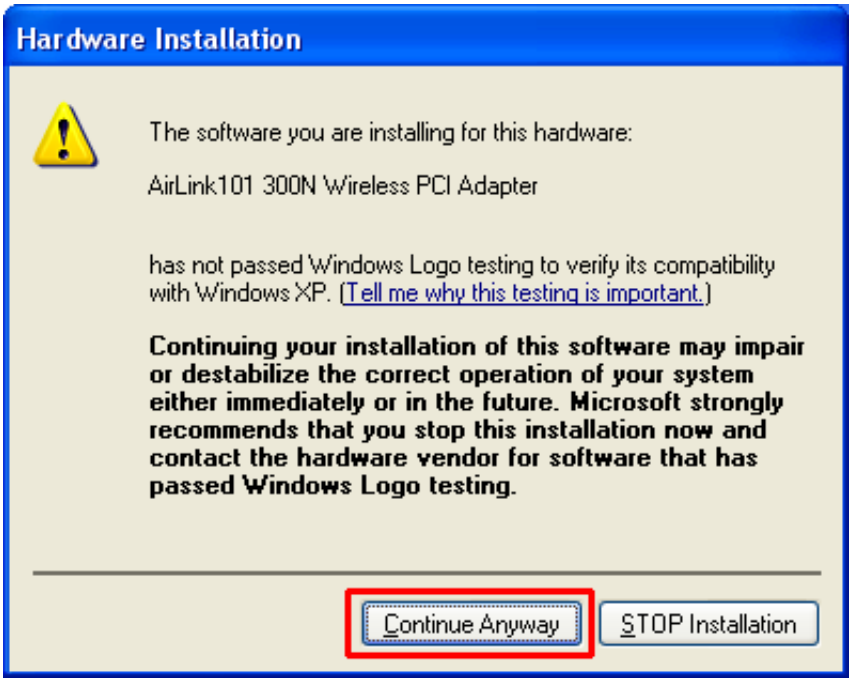
Step 4 Click **Next** at the welcome screen.



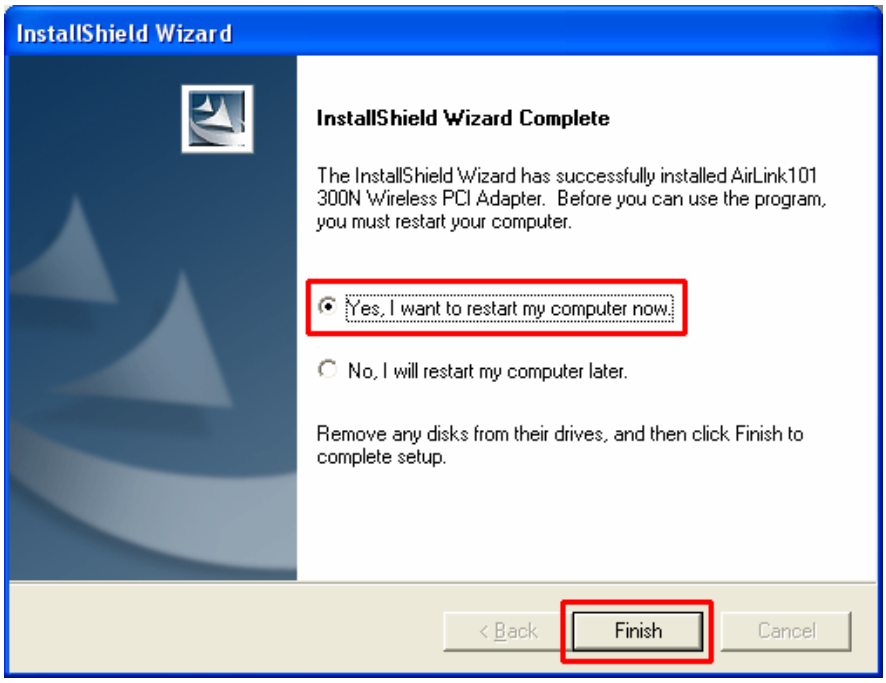
Step 5 Click **Next** to accept the default destination folder.



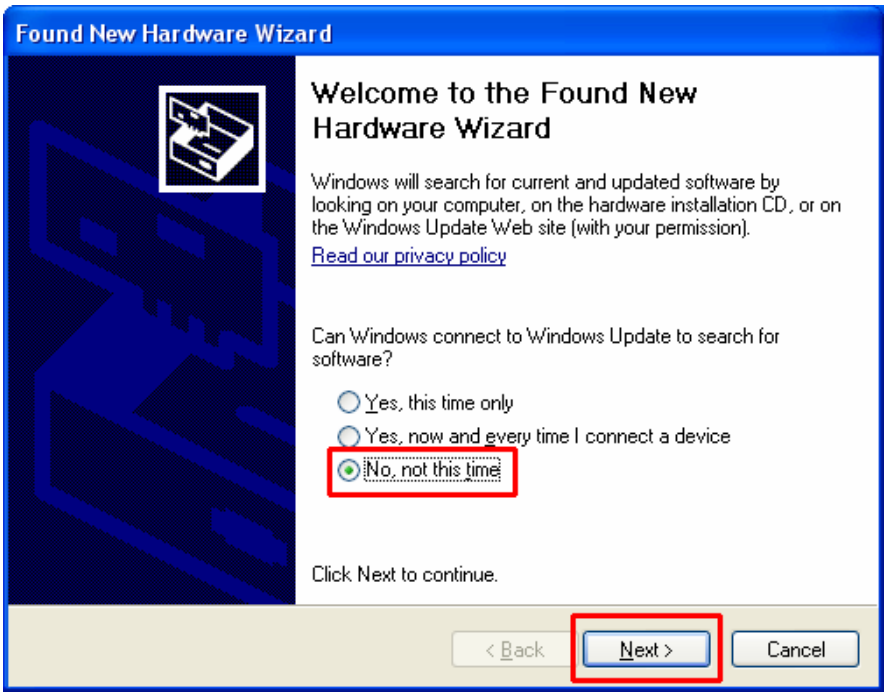
Step 6 Click **Continue Anyway** at the Windows Logo Screen.
(For Windows 2000, click **Yes** at the Digital Signature Not Found prompt).



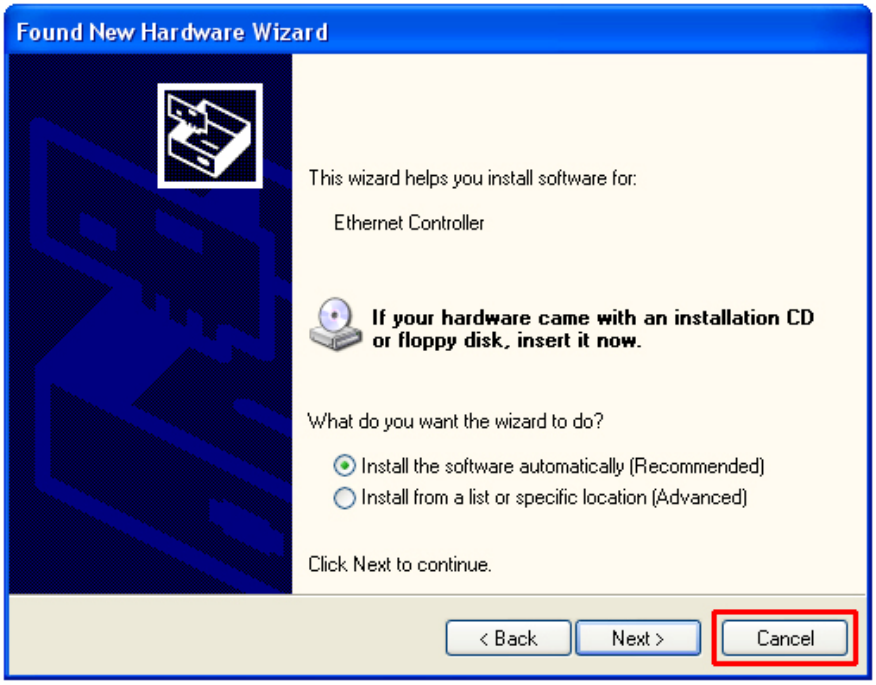
Step 7 Verify **Yes, I want to restart my computer now** is selected and click **Finish** to restart your computer.



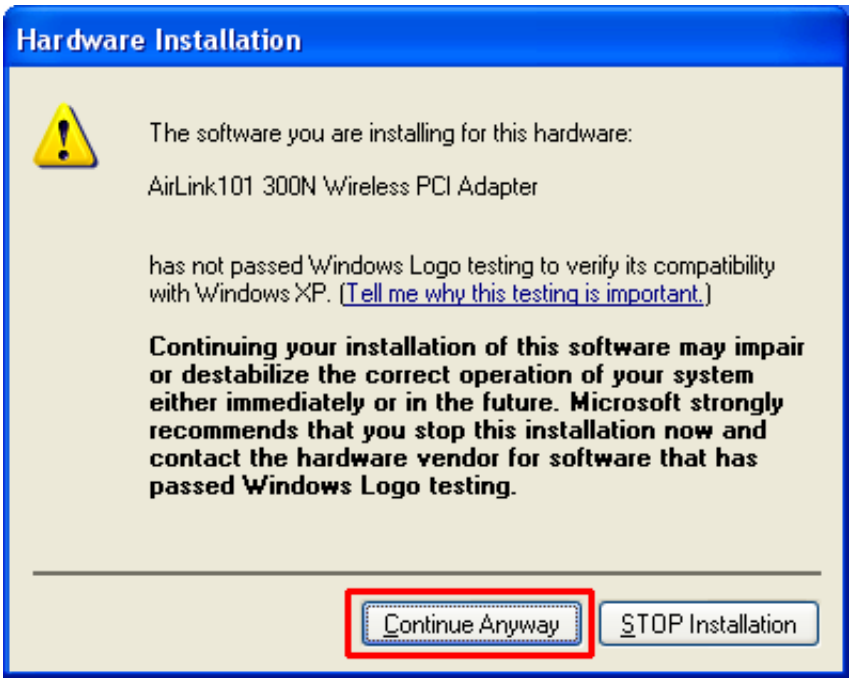
Step 8 After the computer is restarted, Windows will ask to connect to Windows Update, select **No, not this time** and click **Next**.



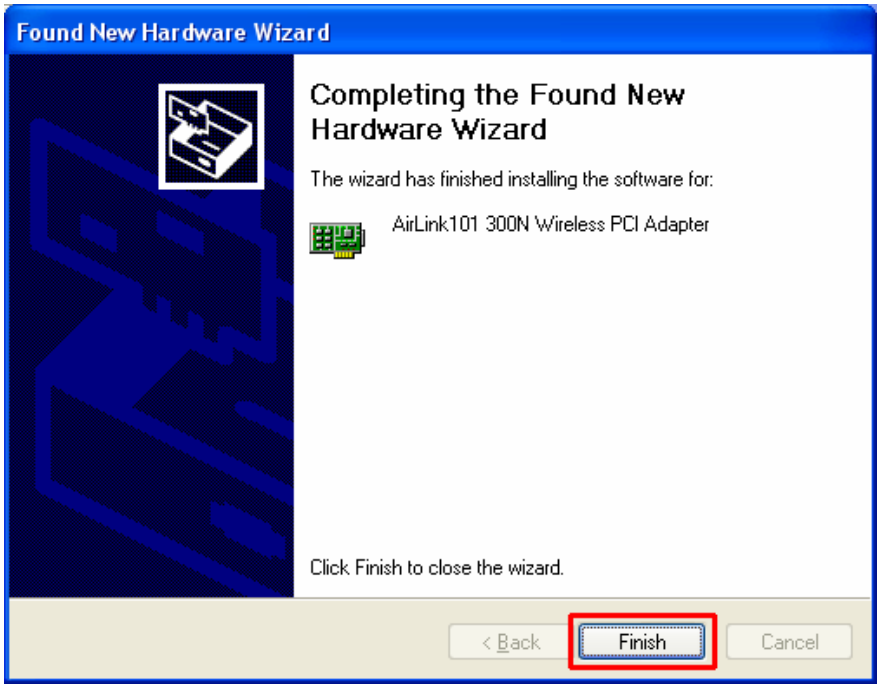
Step 9 Select **Install the software automatically** and click **Next**.



Step 10 Click **Continue Anyway** at the Windows Logo Screen.
(For Windows 2000, click **Yes** at the Digital Signature Not Found prompt).
For Windows 98SE and ME, select **Search for the best driver for your device** and click **Next**. Verify all the check boxes are checked and click **Next**.



Step 11 Click **Finish**. (Restart the computer for Windows 98SE and ME).

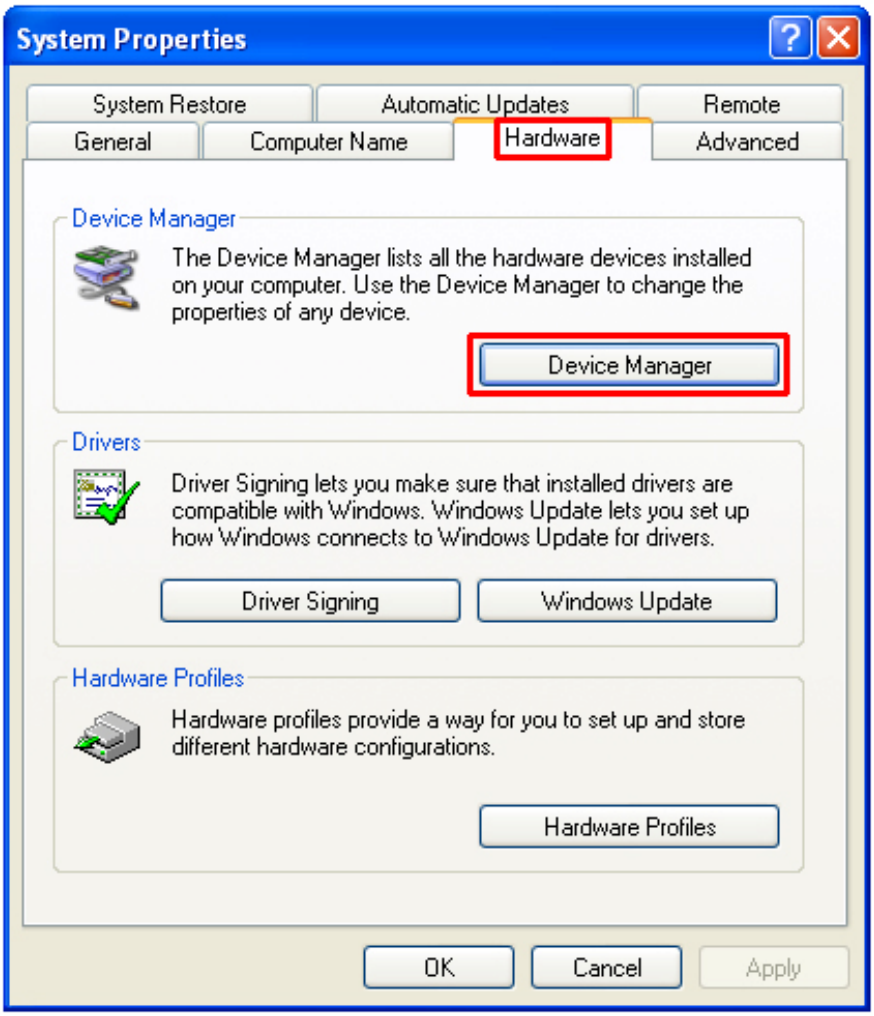


2.2 Verify Driver Installation

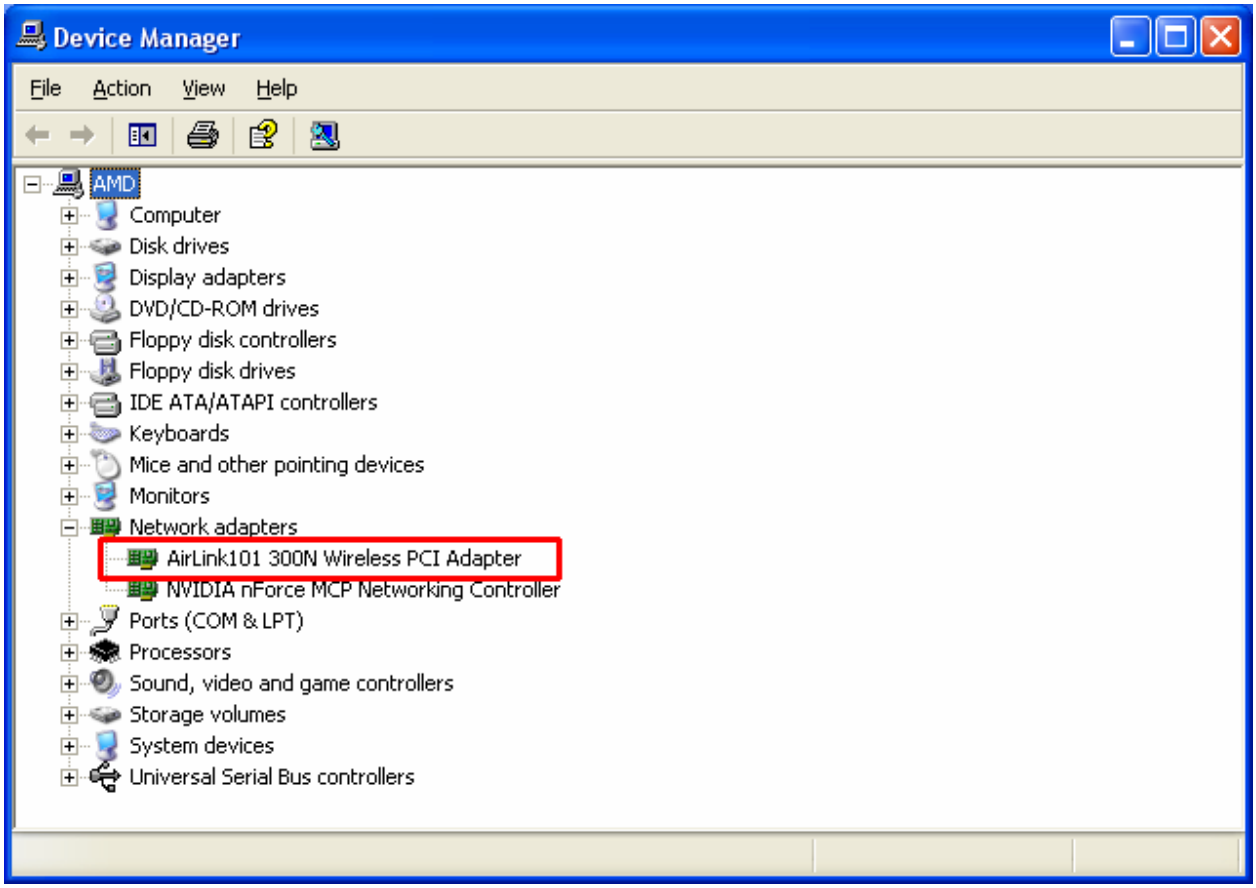
To verify if the driver has been installed successfully, please perform the following steps.

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

Step 2 Select the **Device Manager** tab. (For Windows 2000/XP, select the **Hardware tab** first then click on **Device Manager**).



Step 3 Expand **Network adapters** from the list and verify that **AirLink101 300N Wireless PCI Adapter** is listed and no yellow question mark is beside it.



If **AirLink101 300N Wireless PCI Adapter** is not listed, or you see a yellow question mark beside it, please re-install the driver again.

3. Configure the PCI Adapter

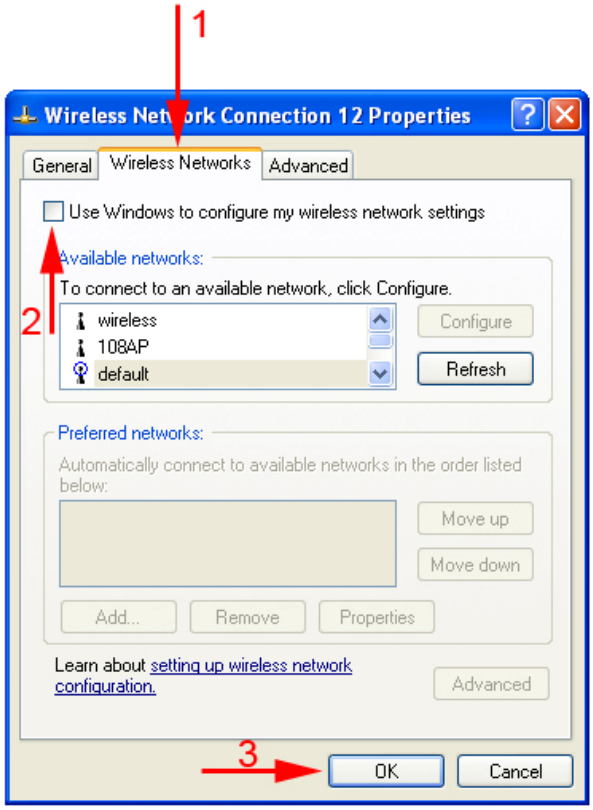
This section describes how to connect your **300N Wireless PCI Adapter** to a wireless network.

Note to Windows XP Users:

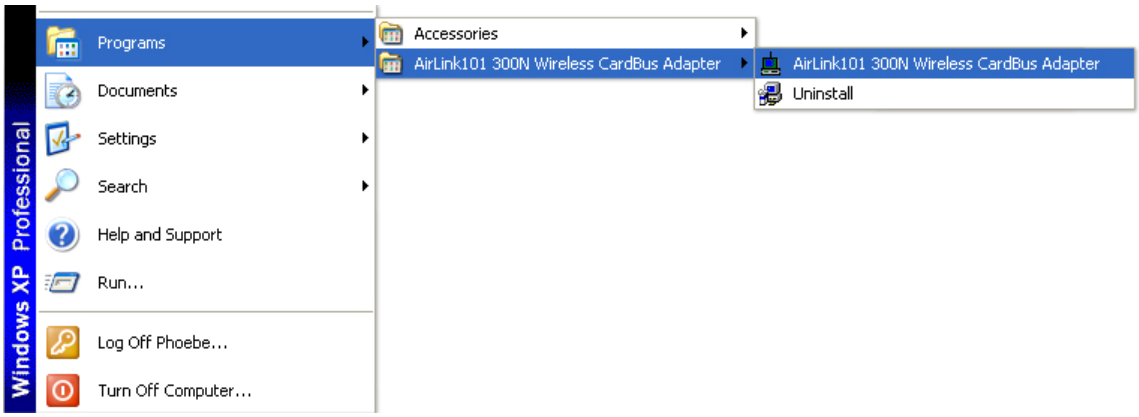
You must disable the Wireless Zero Configuration Utility in order to use the bundled Wireless Utility. Please follow the steps below to disable XP's wireless utility.

Step 1 Double-click on the **Wireless Network Connection Icon** in the system tray and then click on **Properties** or **Advanced**.

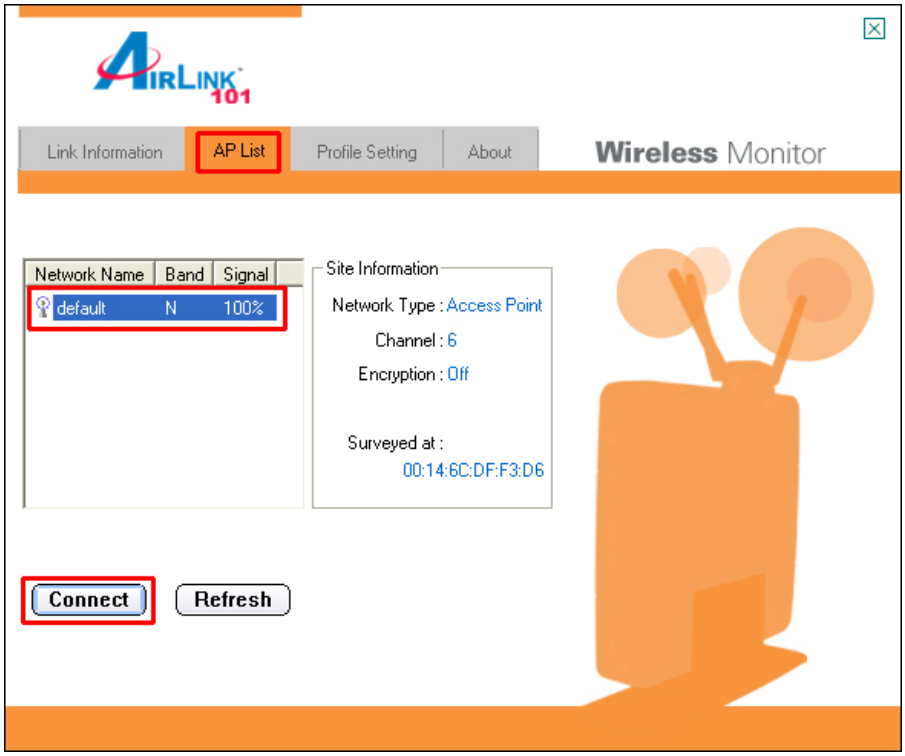
Step 2 Go to the **Wireless Networks** tab, uncheck the **"Use Windows to configure my wireless network settings"** check box and click **OK**.



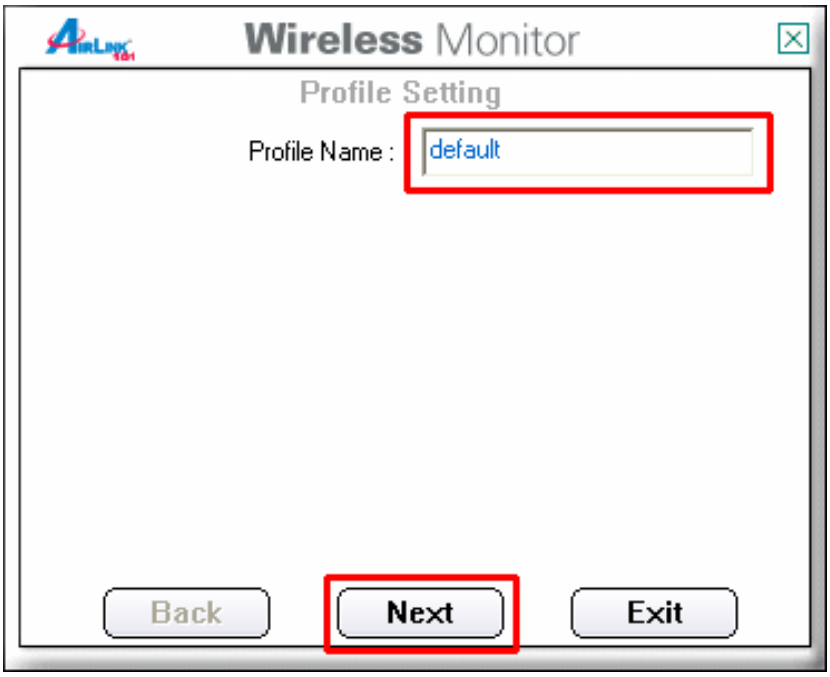
To open the PCI Adapter's utility go to **Start > (All) Programs > AirLink101 300N Wireless PCI Adapter > AirLink101 300N Wireless PCI Adapter**



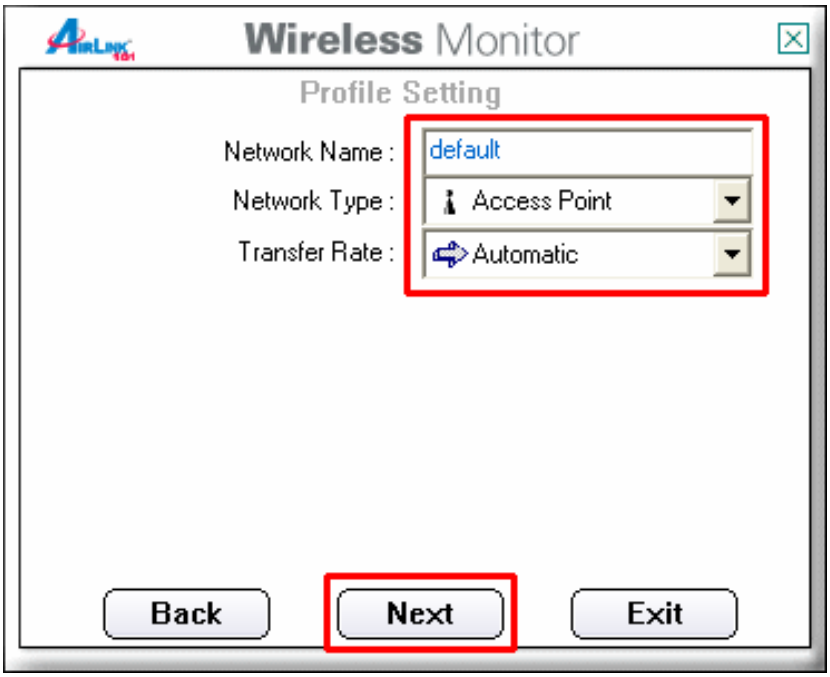
Step 1 Go to the **AP List** tab, select the **SSID** (Network Name) of the wireless network you wish to connect to, and click **Connect**.



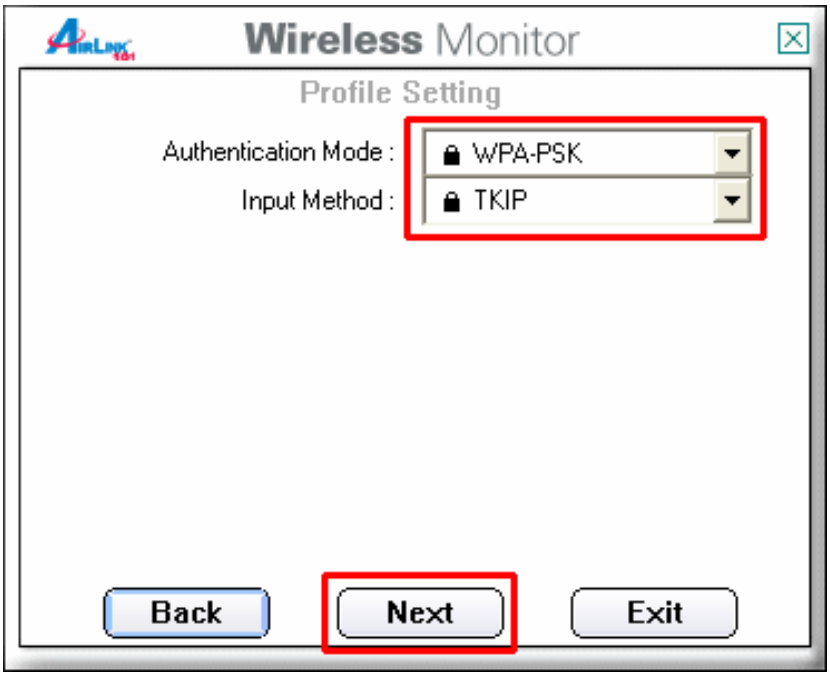
Step 2 If encryption is not enabled for the selected access point / router, skip to step 6. Otherwise, enter a **Profile Name** for your wireless setting and click **Next**.



Step 3 Verify that the **Network Name** matches the **SSID** of your wireless network and click **Next**.



Step 4 Select the proper encryption setting for your wireless router or access point from the drop-down menu and click **Next**.

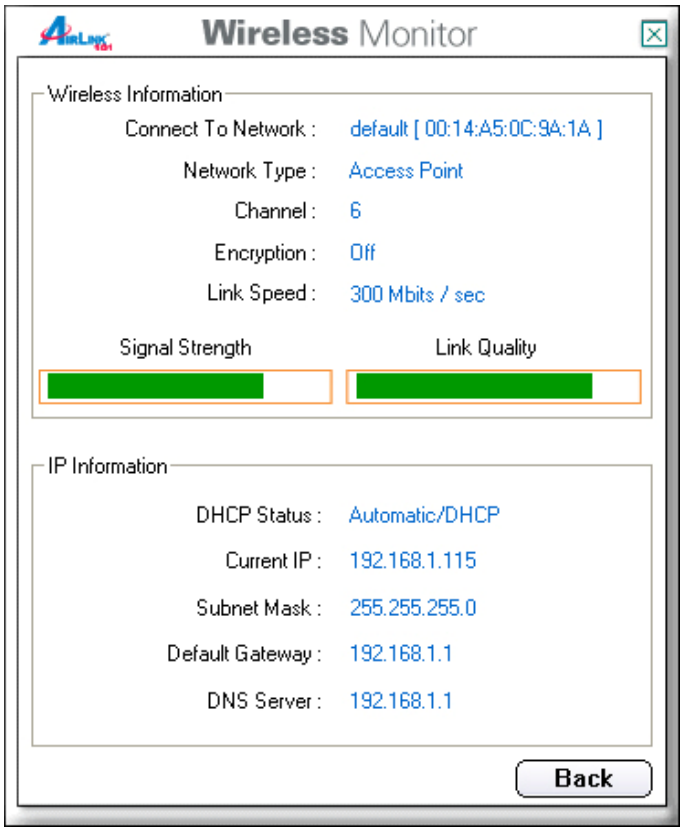


Step 5 Follow the on-screen instructions to complete the encryption settings. Click **Complete** when finished.

Step 6 You should see a blue circle around the antenna icon indicating a valid connection.

Step 7 Go to the **Link Information** tab and click on the **More** button.

Step 8 Verify that you are receiving adequate Signal Strength and Link Quality and that you have been assigned a valid IP address (instead of all 0's).



If you do not have adequate Signal Strength, try re-orienting the Access Point and/or the antennas of PCI Adapter to get a better reception.

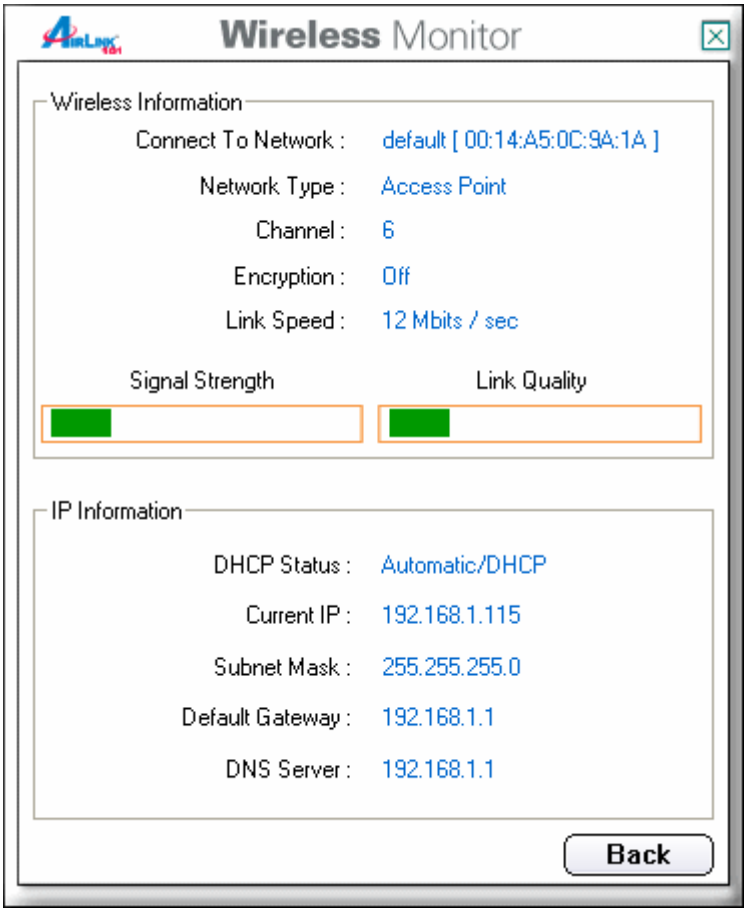
4. Configure the Wireless Utility

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

4.1 Link Information

The **Link Information** tab shows the current profile in use as well as details of the current network connection.

Click on the **More** button to see the details of the current network connection.



The Wireless Information displays the current wireless network you are connected to as well as various other statuses such as the Signal Strength and your assigned IP address.

4.2 AP List

The **AP List** tab displays all the available Access Points detected by the PCI Adapter. Simply select the desired Access Point you wish to connect to and click **Connect**.

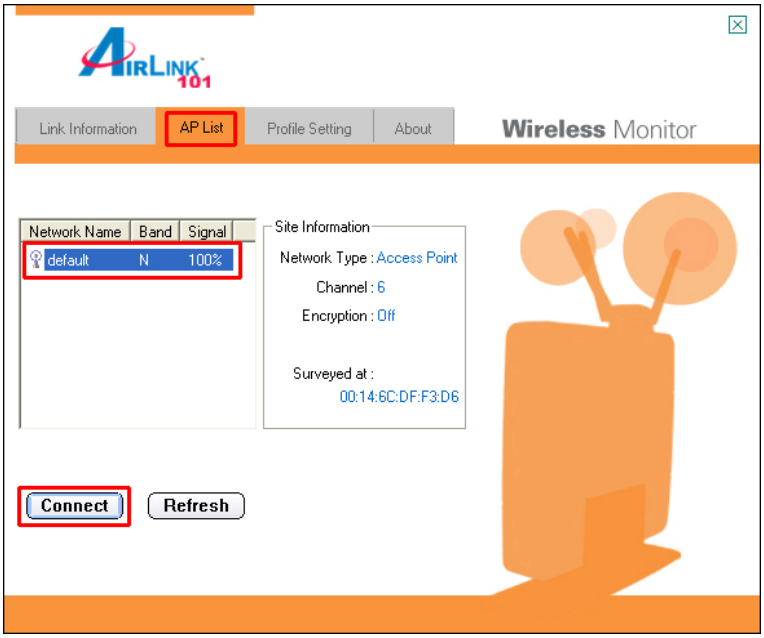
The **Site Information** displays a list of status for the selected AP, including the Channel number and the Encryption status.

4.3 Configure Encryption Settings

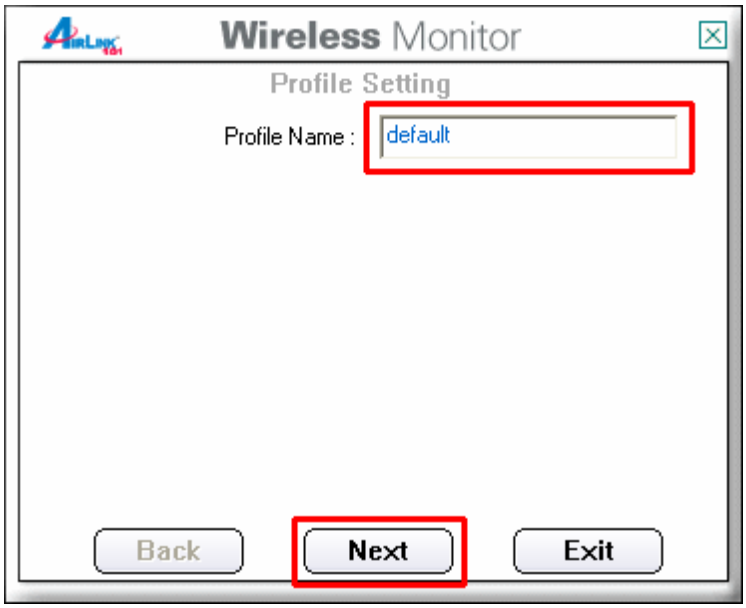
This section describes how to configure encryption settings for the **PCI Adapter**.

Note: The encryption settings you set for the Adapter must match the same settings of the Access Point/Wireless Router; otherwise, the encryption will not work properly.

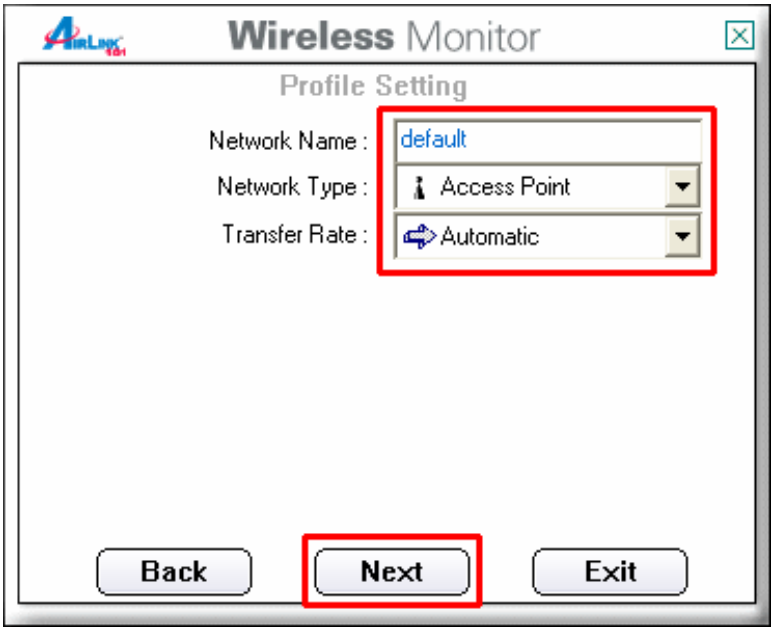
Step 1 From the **AP List** tab, select the Access Point/Wireless Router you want to connect to and click **Connect**.



Step 2 Verify the **Profile Name** is correct and click **Next**.

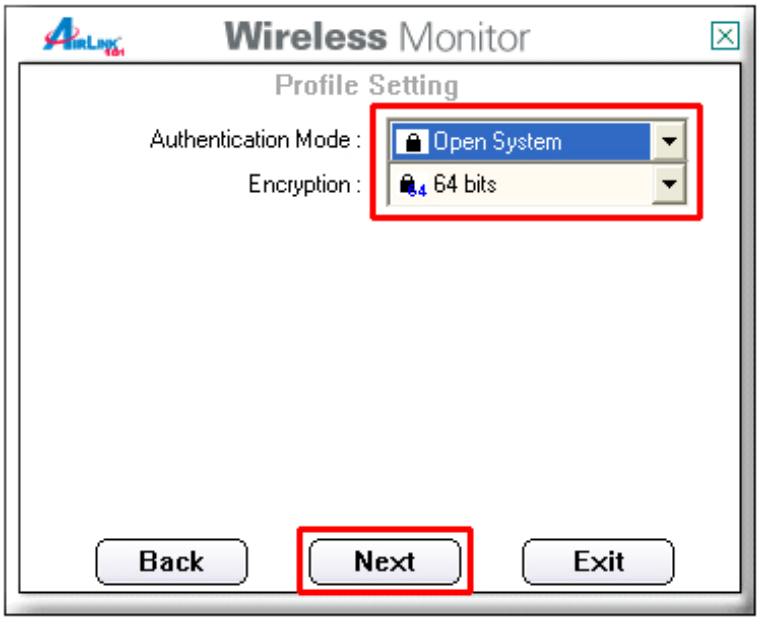


Step 3 Verify the **Network Name (SSID)** is correct and click **Next**.

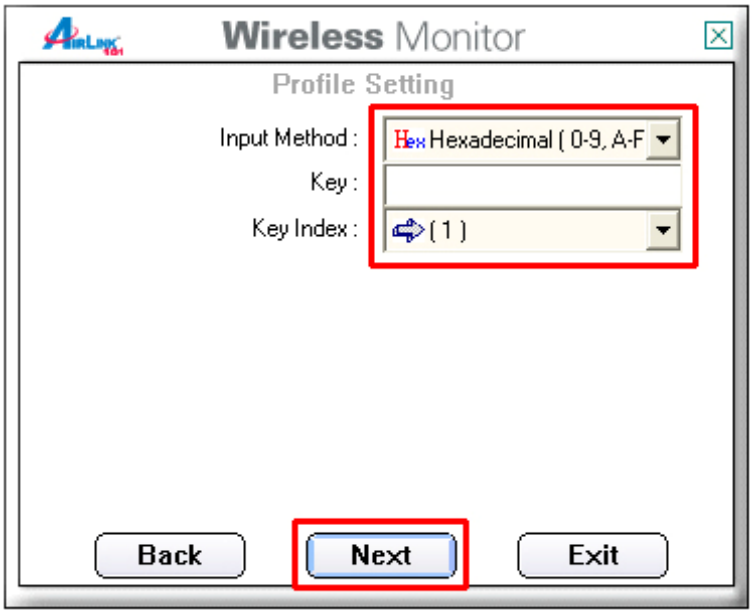


For WEP Settings:

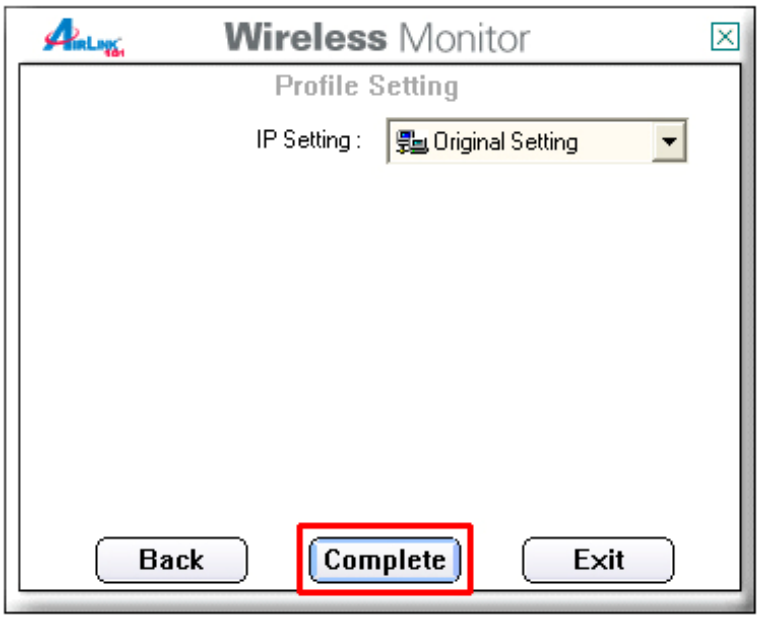
WEP Step 4 Select the appropriate **Authentication Mode** and **Encryption** settings and click **Next**.



WEP Step 5 Select the appropriate **Input Method**, **Key** (password), **Key Index**, and click **Next**.

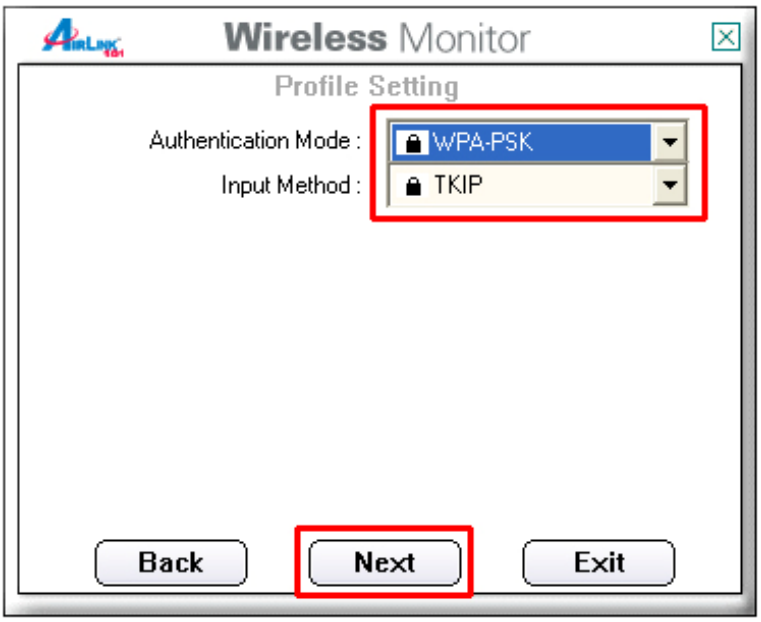


WEP Step 6 Click **Complete** to finish the settings.

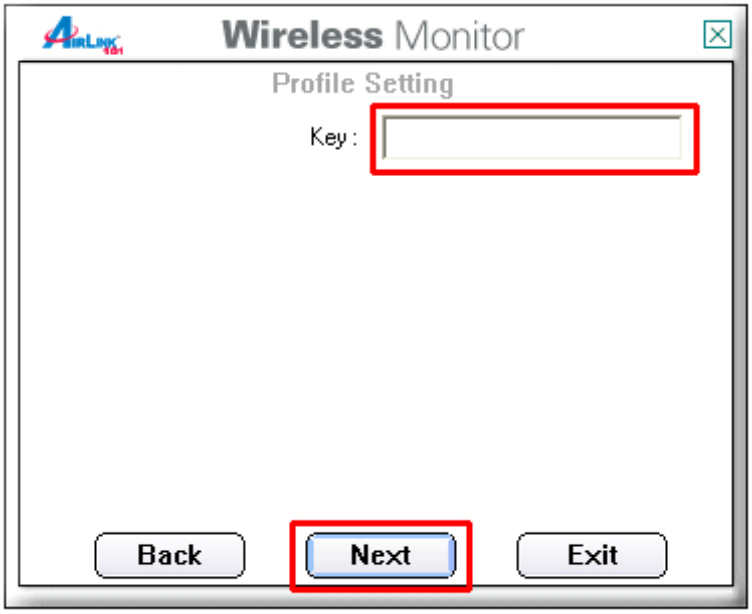


For WPA-PSK and WPA2-PSK Settings:

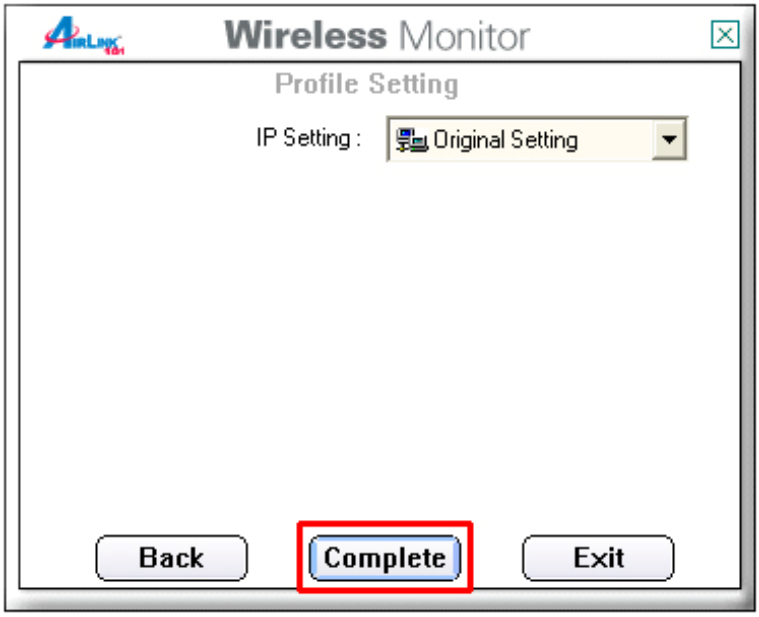
WPA Step 4 Select **WPA-PSK** or **WPA2-PSK** and the appropriate **Input Method** and click **Next**.



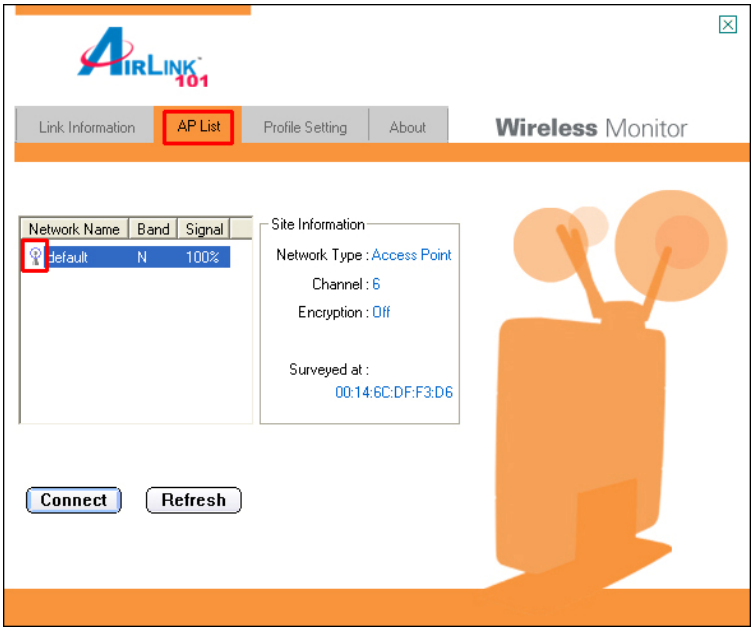
WPA Step 5 Enter the Passphrase and click **Next**.



WPA Step 6 Click **Complete** to finish the settings.

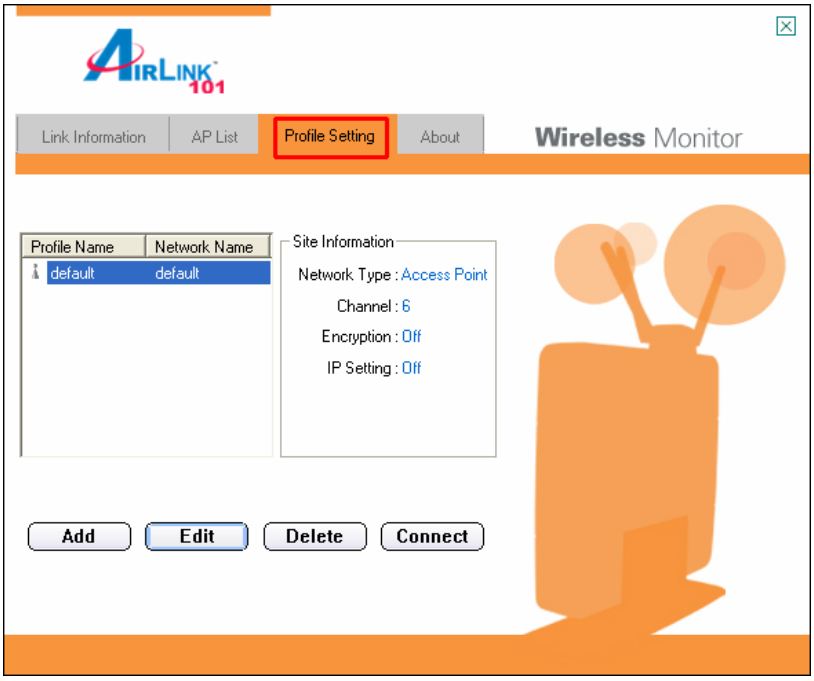


Step 7 You should see a blue circle around the antenna icon indicating a valid connection. A lock icon beside the antenna indicates the connection is encrypted.



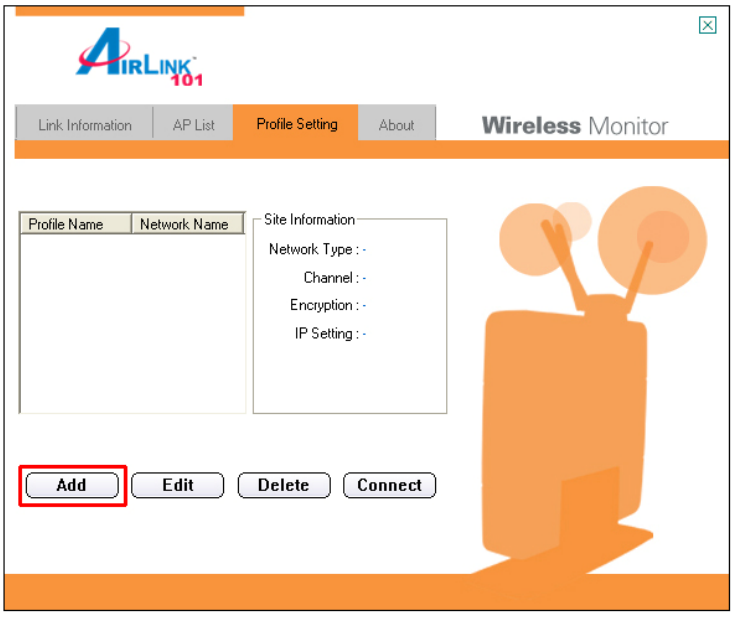
4.4 Profile Setting

The **Profile Setting** tab lists all the profiles you have created. You can create new profiles for different network environments.

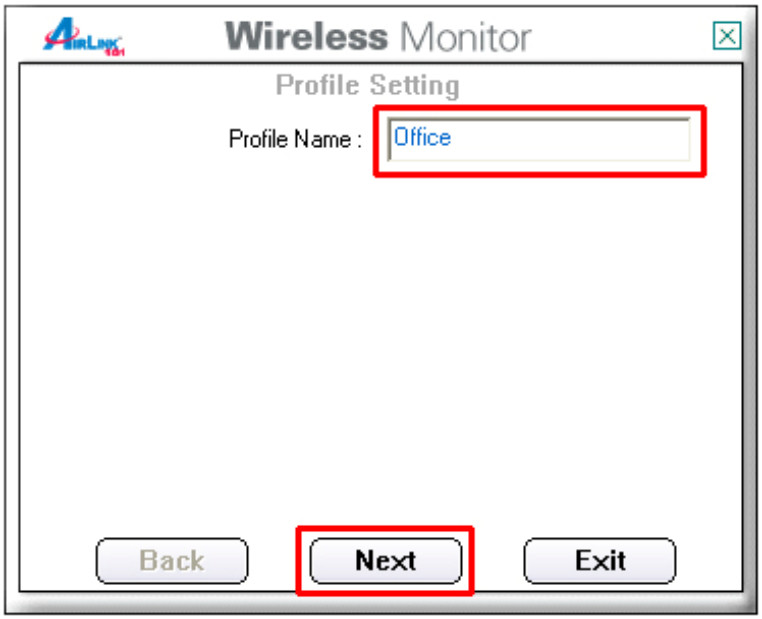


To add a new profile, follow the steps below:

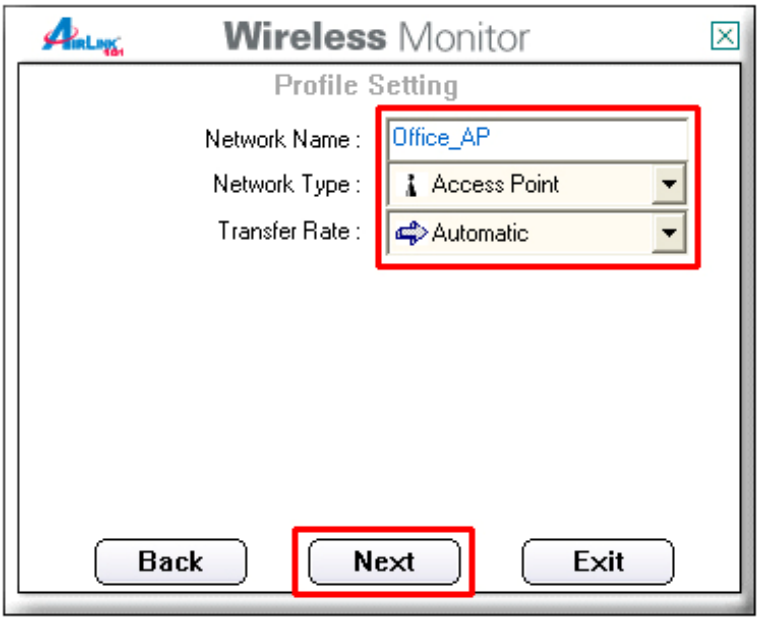
Step 1 Click on the **Add** button.



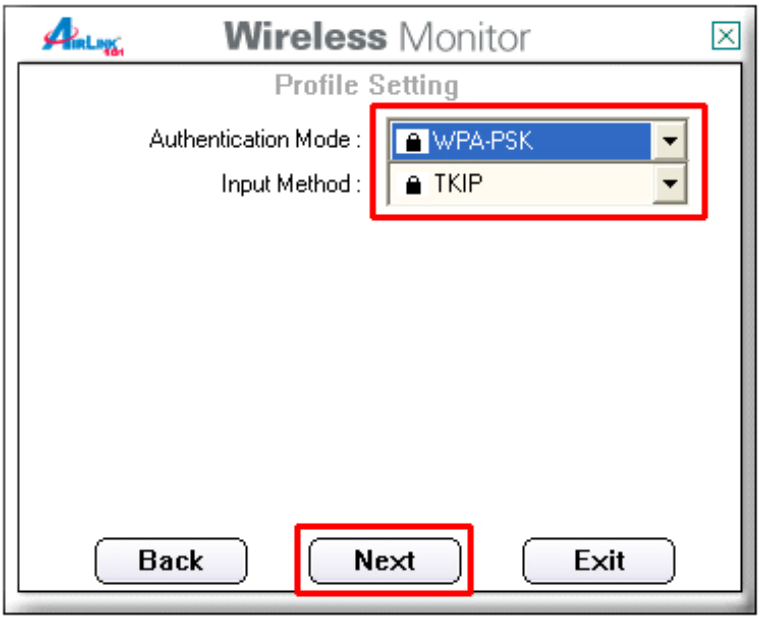
Step 2 Enter a name for your new profile and click **Next**.



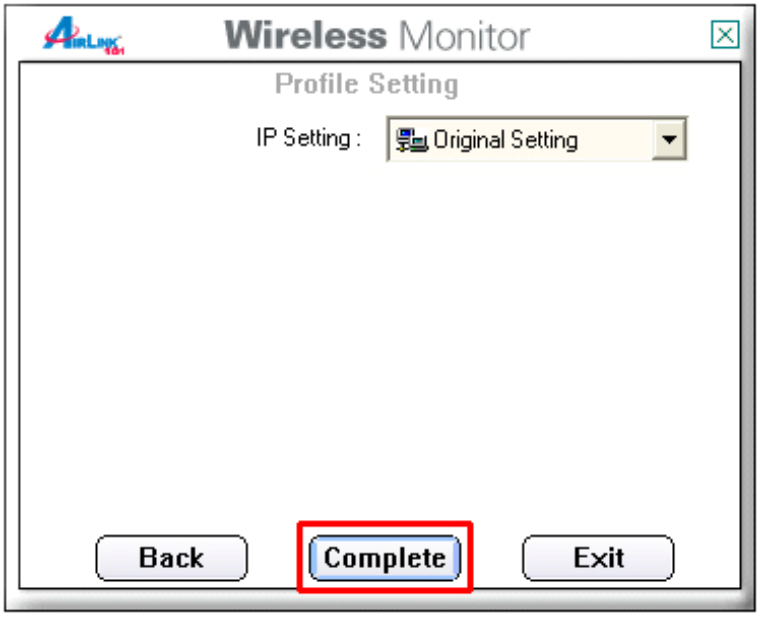
Step 3 Enter the SSID (Network Name) of the wireless network you want to connect to and click **Next**.



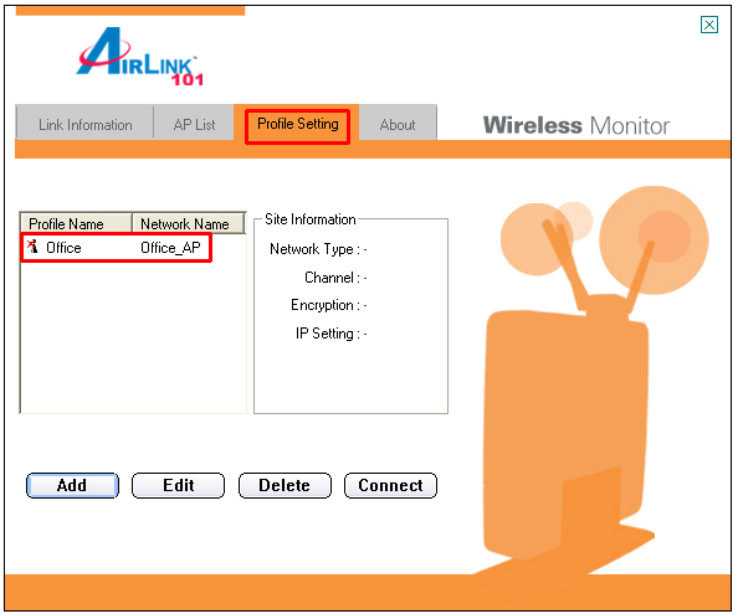
Step 4 Configure any encryption setting if required and click **Next**.



Step 5 Click **Complete** to finish the profile setting.



Step 6 Your new profile will be listed in the Profile List.

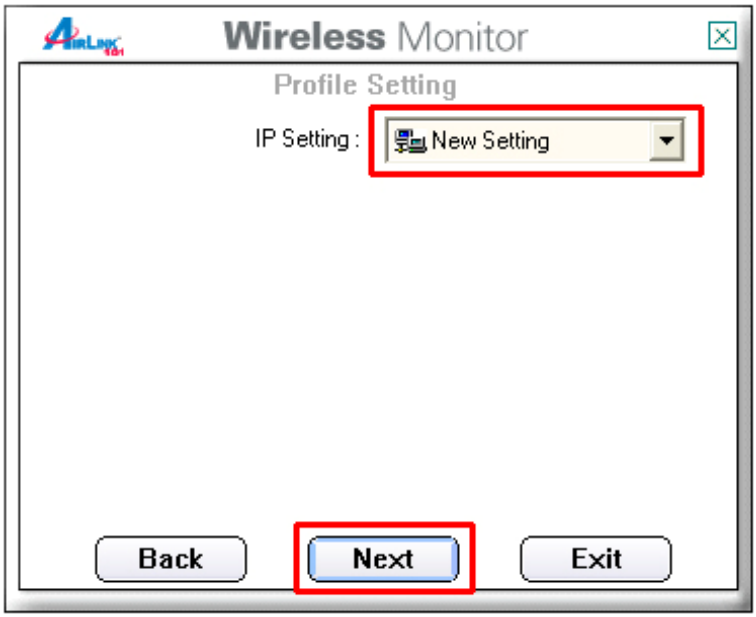


Step 7 You can quickly select which profile you want to use from the **Link Information** tab depending on your network environments without having to reconfigure the settings each time.

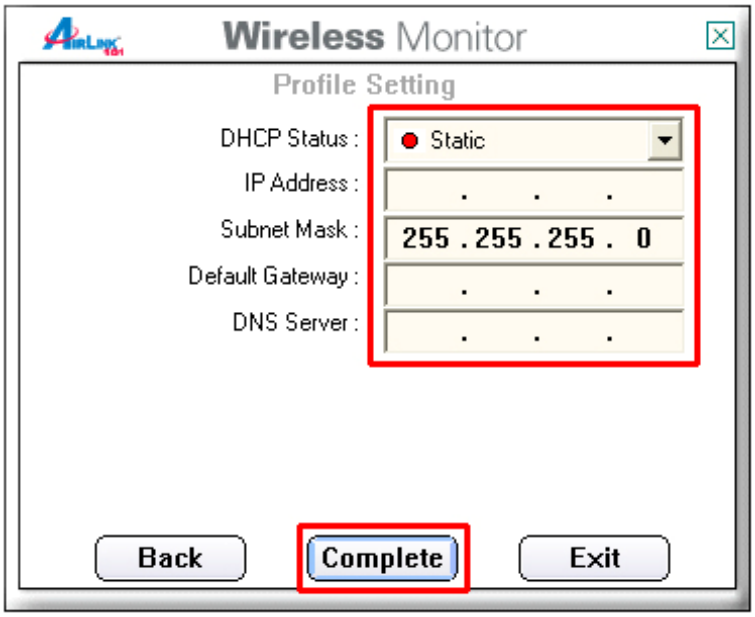
4.5 Static IP Setting

To change the IP address of the wireless adapter to Static IP, follow the steps below:

Step 1 On the last step of *4.4 Profile Setting*, under IP setting, select **New Setting** and click **Next**.



Step 2 Select **Static**.



Step 3 Enter in the information and click **Complete** to finish the setting.

4.6 About

The About tab shows the Utility, Driver, and Firmware version as well as the MAC address of the **300N Wireless PCI Adapter**.

Appendix A – Features

Frequency Band
- 2.4~2.5 GHz

Standards
- IEEE 802.11b / 802.11g
- Draft 802.11n

Interface
- PCI

Antenna type
- 1 external antennas with 1.79dBi Gain

Security
- WPA-PSK (TKIP)
- WPA2-PSK (AES)

Transmitted Power
- 802.11b: 21 dBm@2TX
- 802.11g: 23 dBm@2TX;
- Draft 11n: 21 dBm@2TX;

Data Rate
- 300*Mbps
- 54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1Mbps auto fallback

System Requirements
- 300 MHz processor or better
- 64 MB RAM
- Available PCI slot

OS Compatibility
- Windows 98SE/ME/2000/XP

Weight
- 181g

Dimensions
- 120 x 65 x 6mm (L x W x H)

Temperature
- Operating: 0ºC to 60ºC
- Storage: -20ºC to 80ºC

Humidity
- Operating: 10% to 80% Non-Condensing
- Storage: 5% to 90% Non-Condensing

Warranty
- Limited 1-year warranty

Safety Approvals
- FCC, CE

UPC Code
- 6 58729 08 143 7

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

E-mail: support@airlink101.com

Toll Free: 1-888-746-3238

Web Site: www.airlink101.com

*Theoretical maximum wireless signal rate derived from IEEE 802.11g standard and IEEE 802.11n draft specification version 1.0. 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 ©2006 AirLink101™