



300N Draft 802.11n Wireless Cardbus Adapter

Model # AWLC6045

User's Manual

Rev. 1.0

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1. Introduction

Congratulations on your purchase of the 300N Draft 802.11n Wireless Cardbus Adapter. The 300N Cardbus 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 Cardbus 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:

- Cardbus 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.
- 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 Cardbus Adapter**. The driver is installed along with the utility.

Note: Do not insert the Cardbus Adapter until you have reached the appointed step.

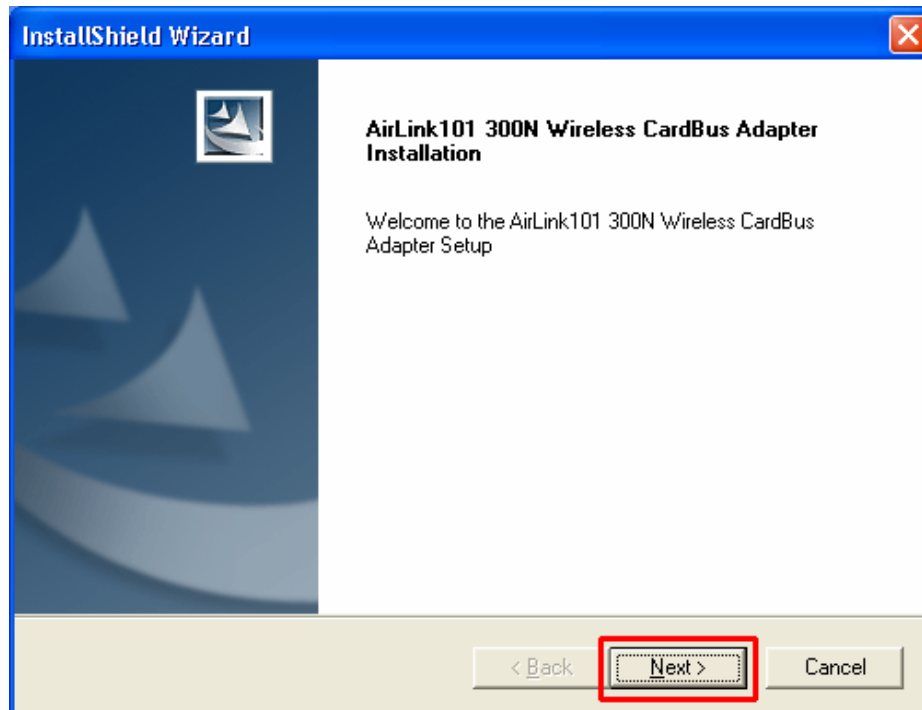
For Windows 98SE and ME users, you may be prompted to insert the Windows 98SE or ME CD during the driver installation. Be sure to have your Windows 98SE or ME CD ready.

Step 1 Insert the Installation CD into your CD drive and select **Install Driver and Utility** from the menu.

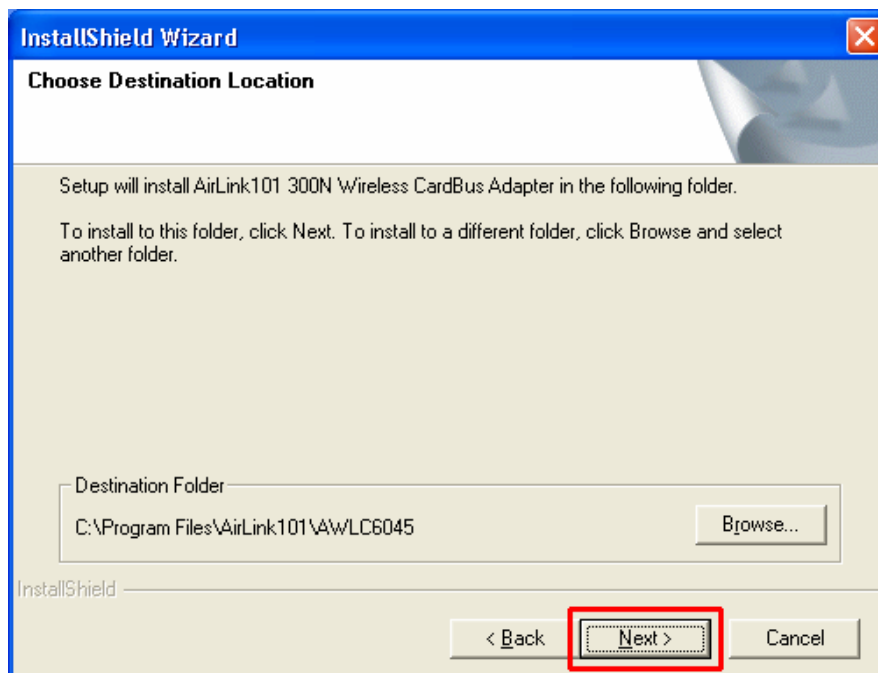


Note: If the Autorun screen doesn't appear automatically go to **Start, Run**, and type **D:\Utility\Setup.exe** (where **D** is the letter of your CD drive) and click **OK**.

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

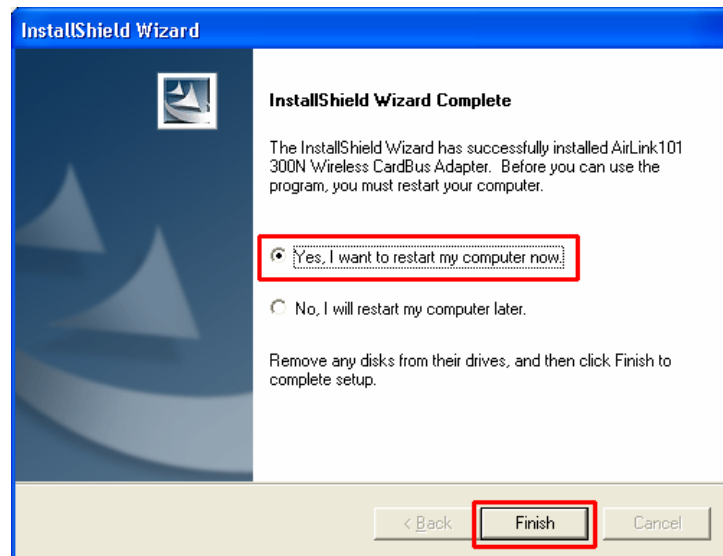


Step 3 Click **Next** to accept the default destination folder.



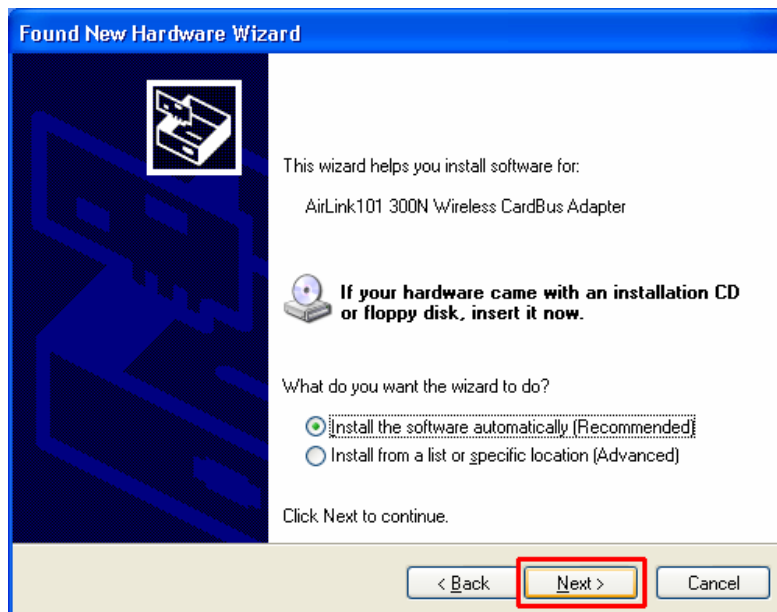
Step 4 Click **Continue Anyway** at the Windows Logo Screen.
(For Windows 2000, click **Yes** at the Digital Signature Not Found prompt).

Step 5 Verify **Yes, I want to restart my computer now** is selected and click **Finish** to restart your computer.



Step 6 After your computer is restarted, insert the Cardbus Adapter.

Step 7 Select **Install the software automatically** and click **Next**.

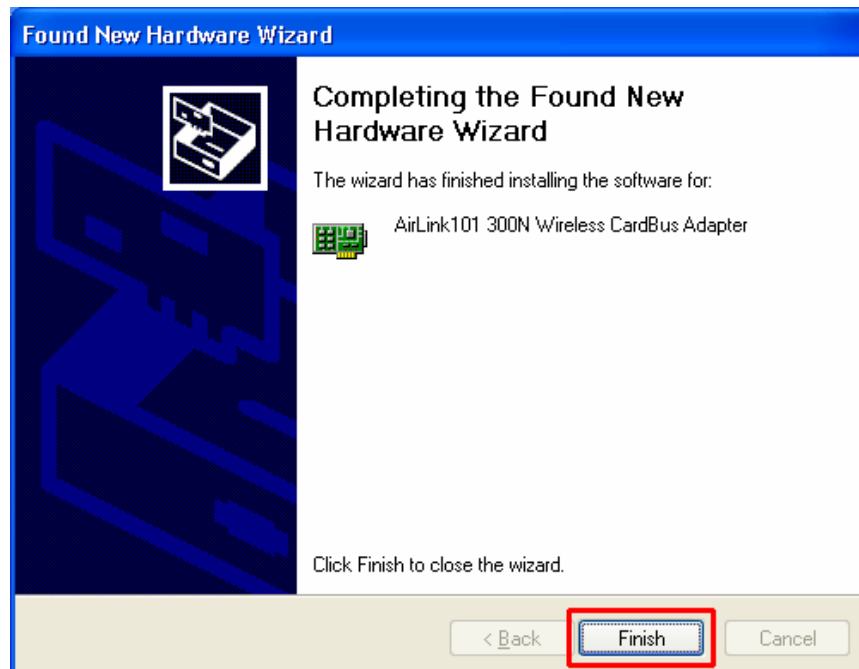


For Windows 98SE and ME, select **Search for the best driver for your device** and click **Next**. Verify all the check boxes are checked and click **Next**.

Step 8 Click **Continue Anyway** at the Windows Logo Screen.
(For Windows 2000, click **Yes** at the Digital Signature Not Found prompt).



Step 9 Click **Finish**. (Restart the computer for Windows 98SE and ME).

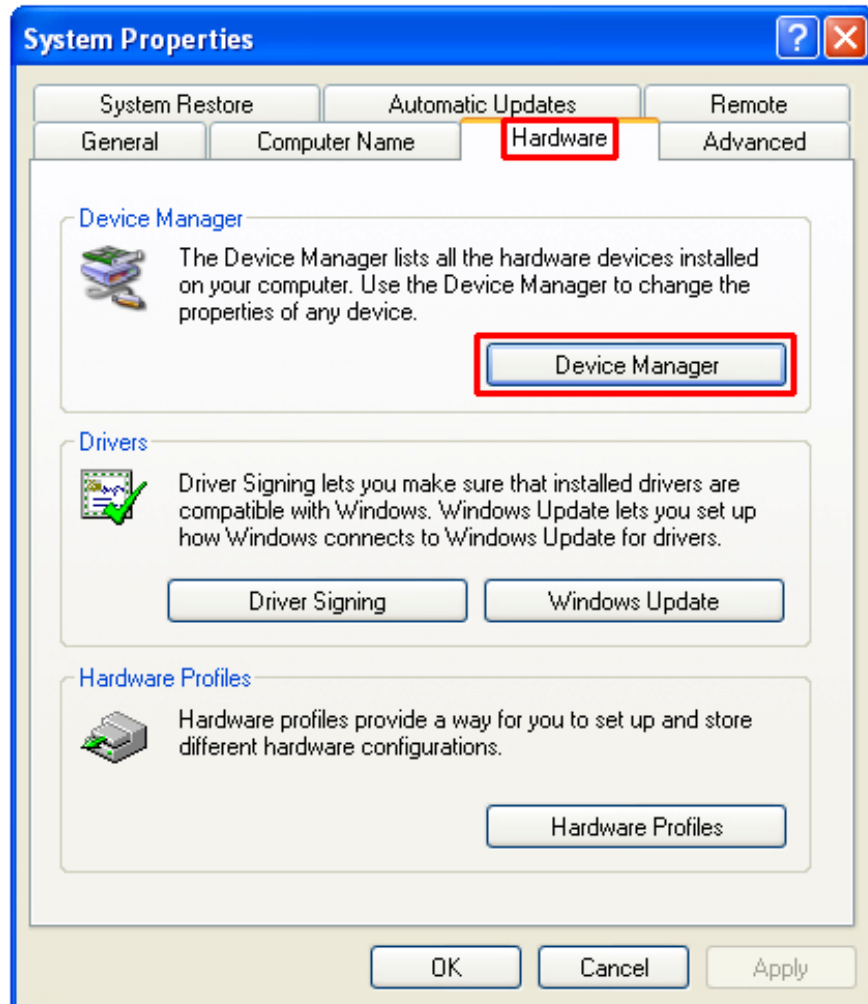


2.2 Verify Driver Installation

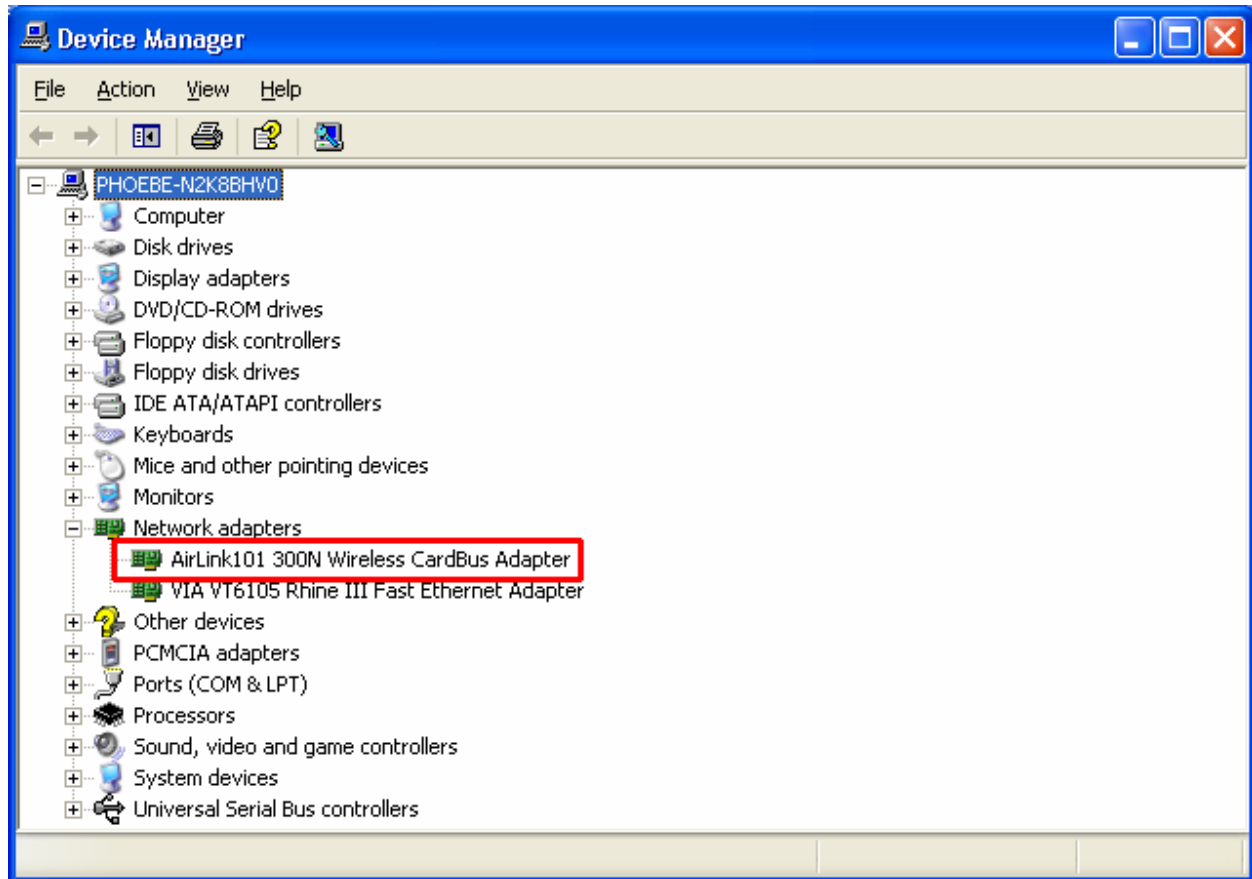
To verify if the driver has been installed successfully, please perform the following steps.

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 Cardbus Adapter** is listed and no yellow question mark is beside it.



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

3. Configure the Cardbus Adapter

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

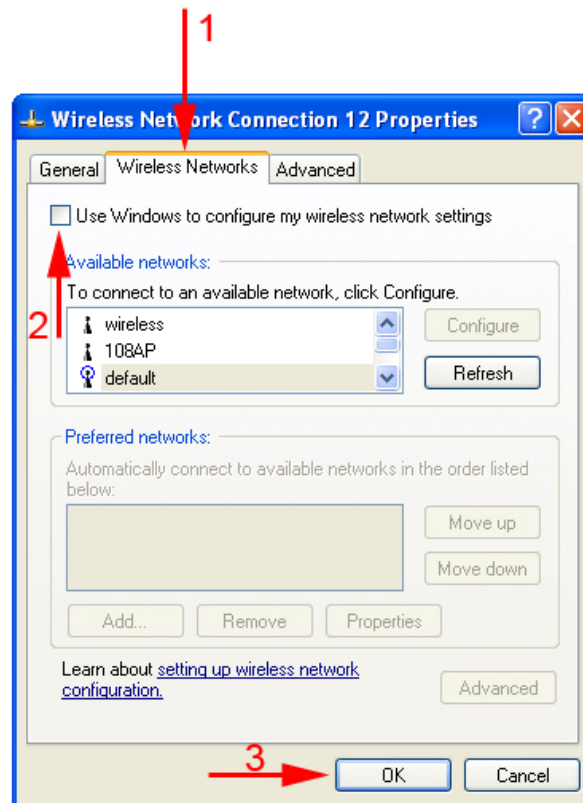
Note to Windows XP Users:

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.

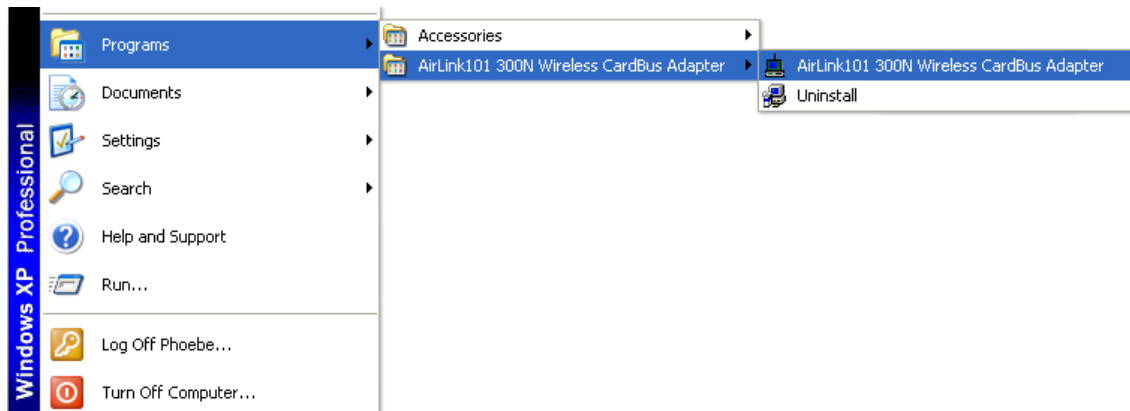
Step 1 Double-click on the **Wireless Network Connection Icon** in the system tray and then click on **Properties** or **Advanced**.



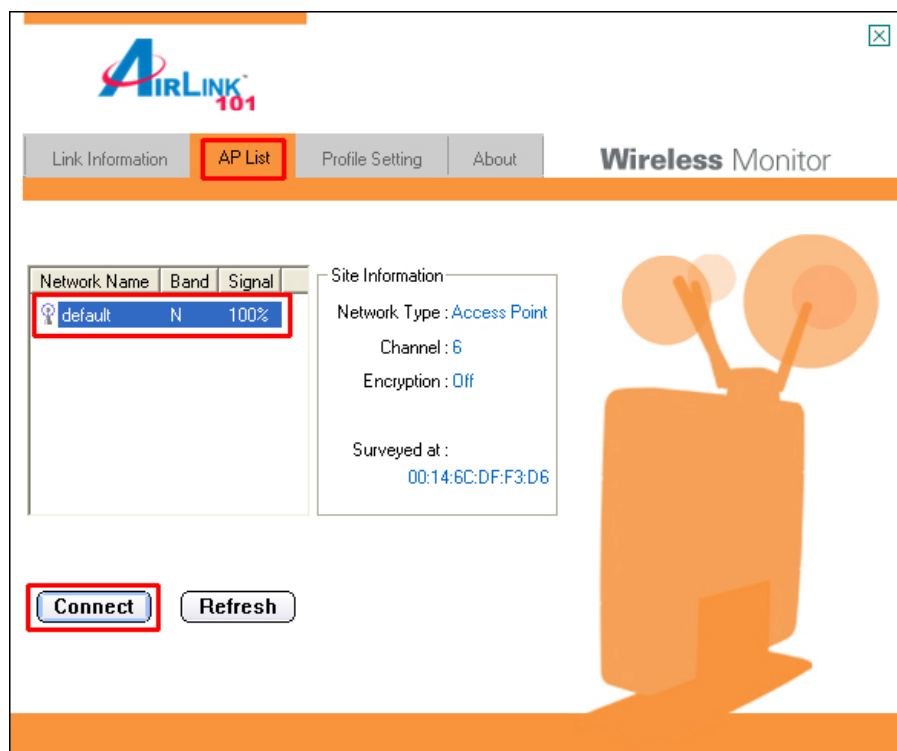
Step 2 Go to the **Wireless Networks** tab, uncheck the “**Use Windows to configure my wireless network settings**” check box and click **OK**.



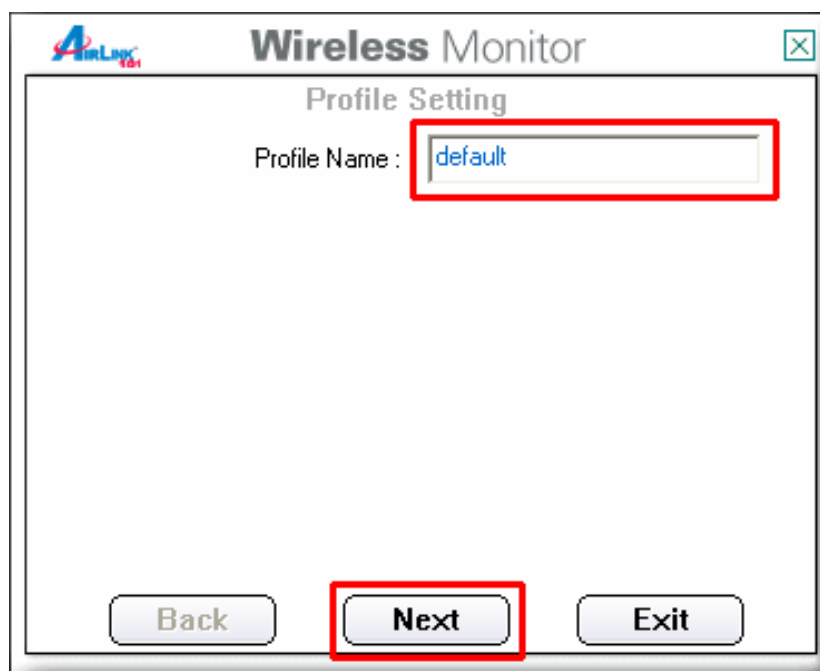
To open the Cardbus Adapter's utility go to **Start > (All) Programs > AirLink101 300N Wireless Cardbus Adapter > AirLink101 300N Wireless Cardbus Adapter**



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**.

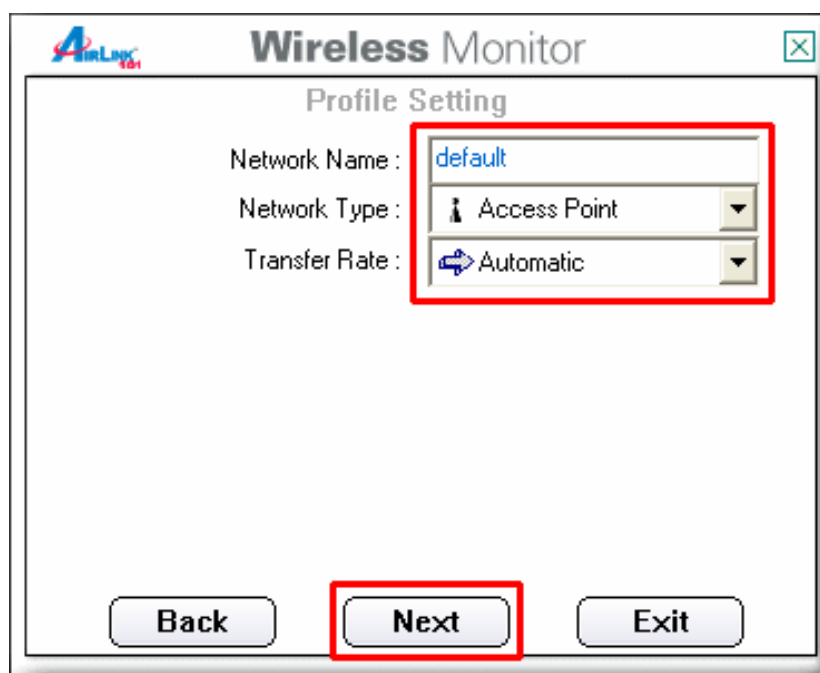


Step 2 If encryption is not enabled for the selected access point / router, skip to step 6. Otherwise, enter a **Profile Name** for your wireless setting and click **Next**.



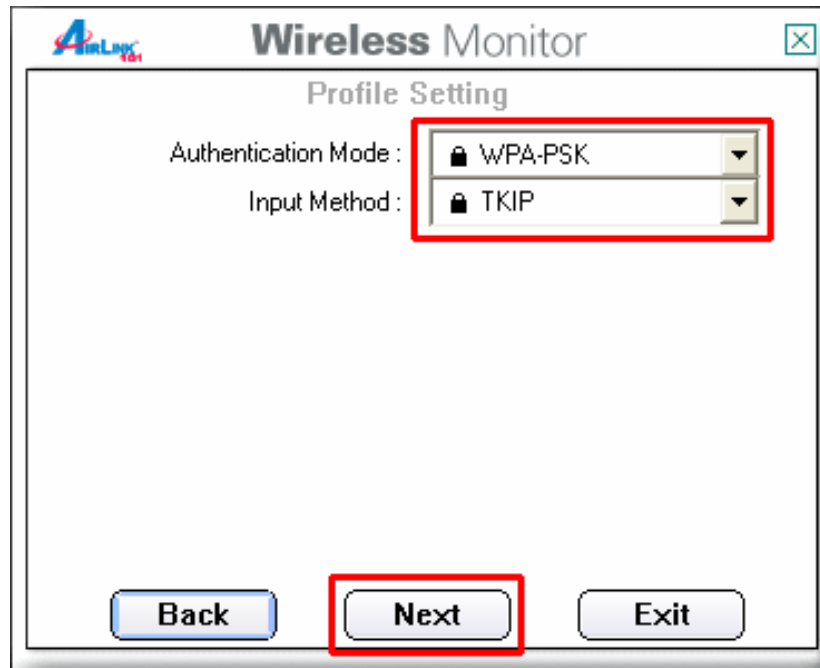
The image shows a software window titled "Wireless Monitor" with a sub-header "Profile Setting". Inside the window, there is a label "Profile Name :" followed by a text input field containing the word "default". A red rectangular box highlights this input field. At the bottom of the window, there are three buttons: "Back", "Next", and "Exit". The "Next" button is highlighted with a red rectangular box.

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



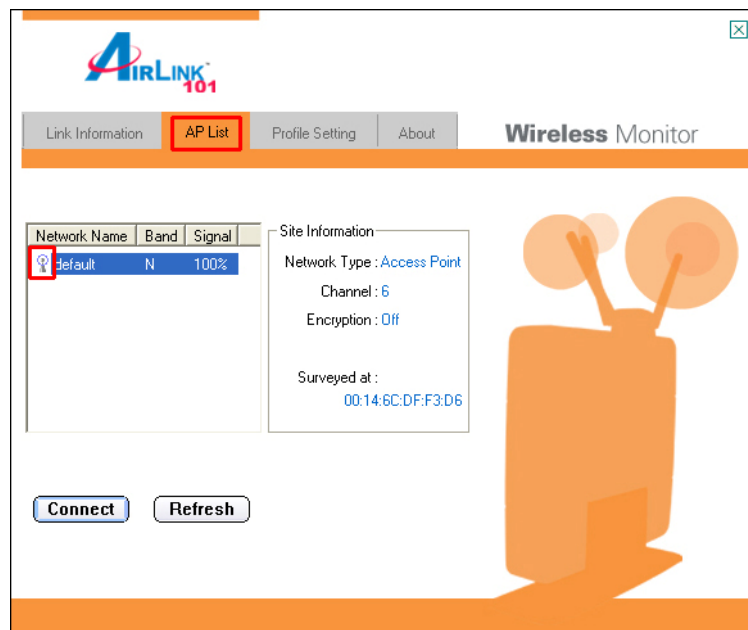
The image shows the same "Wireless Monitor" window, but now with additional settings. The "Profile Setting" sub-header is still present. Below the "Profile Name" field, there are two more fields: "Network Name :" with a text input field containing "default", and "Network Type :" with a dropdown menu showing "Access Point". Below these, there is a "Transfer Rate :" field with a dropdown menu showing "Automatic". A red rectangular box highlights the "Network Name" input field, the "Network Type" dropdown, and the "Transfer Rate" dropdown. At the bottom, the "Back", "Next", and "Exit" buttons are visible, with the "Next" button highlighted by a red rectangular box.

Step 4 The utility will detect the encryption settings of your wireless router or access point and show it in the boxes below automatically. If you do not have any encryption settings, you will not see this window. After selecting the proper encryption settings from the drop-down menu, click **Next**.



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

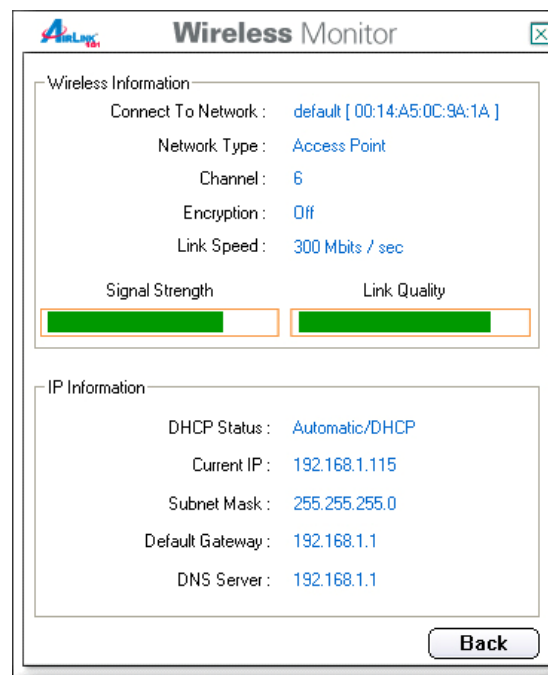
Step 6 You should see a blue circle around the antenna icon indicating a valid connection.



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).



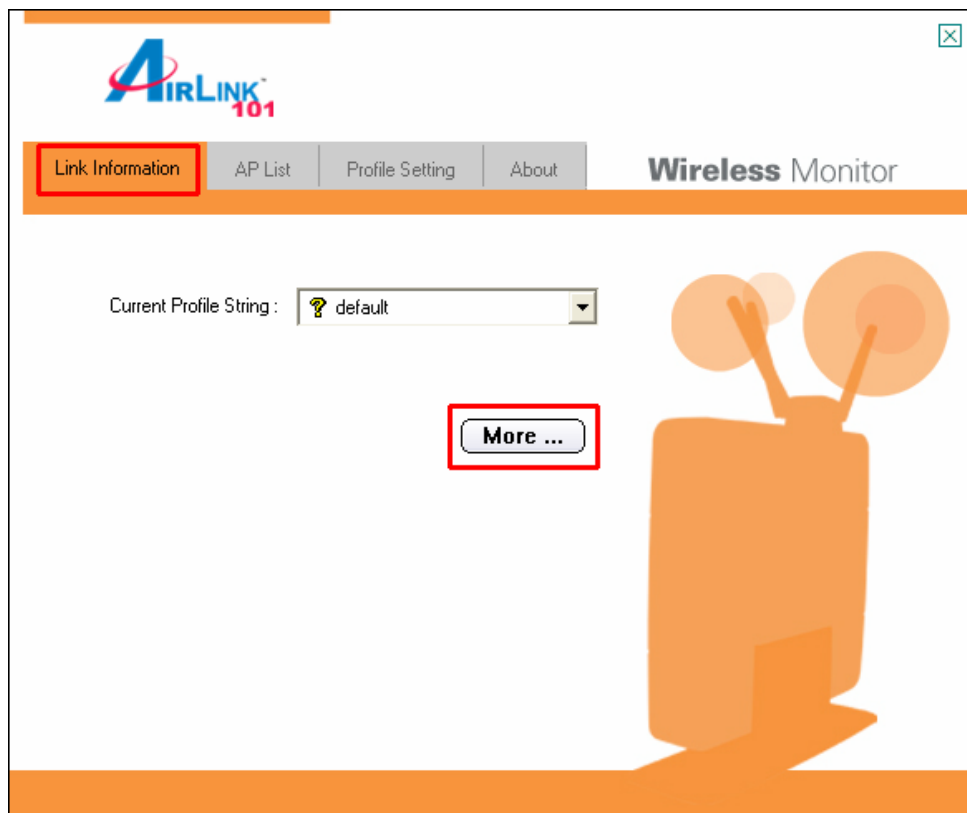
If you do not have adequate Signal Strength, try re-orienting the Access Point and/or the Cardbus Adapter to get a better reception.

4. Configure the Wireless Utility

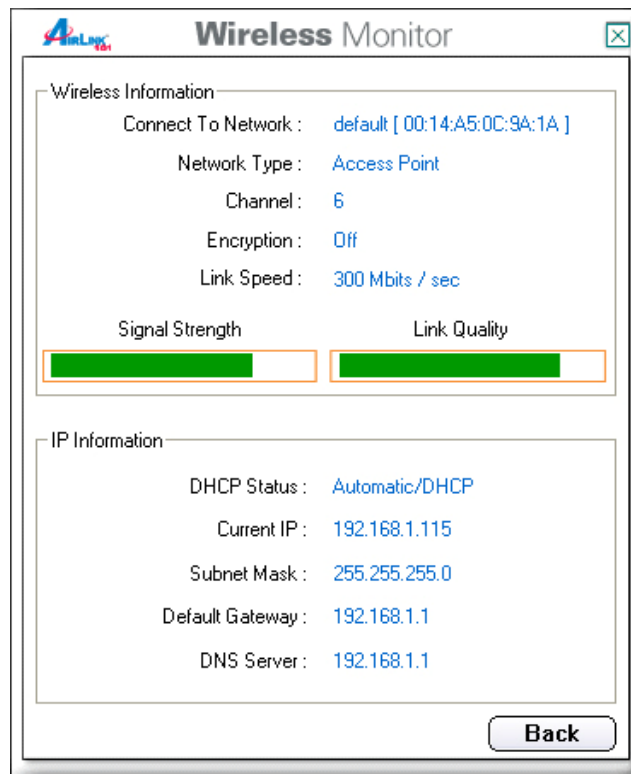
This section describes the various functions of the Wireless Utility that you can configure, including the settings of wireless encryption.

4.1 Link Information

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



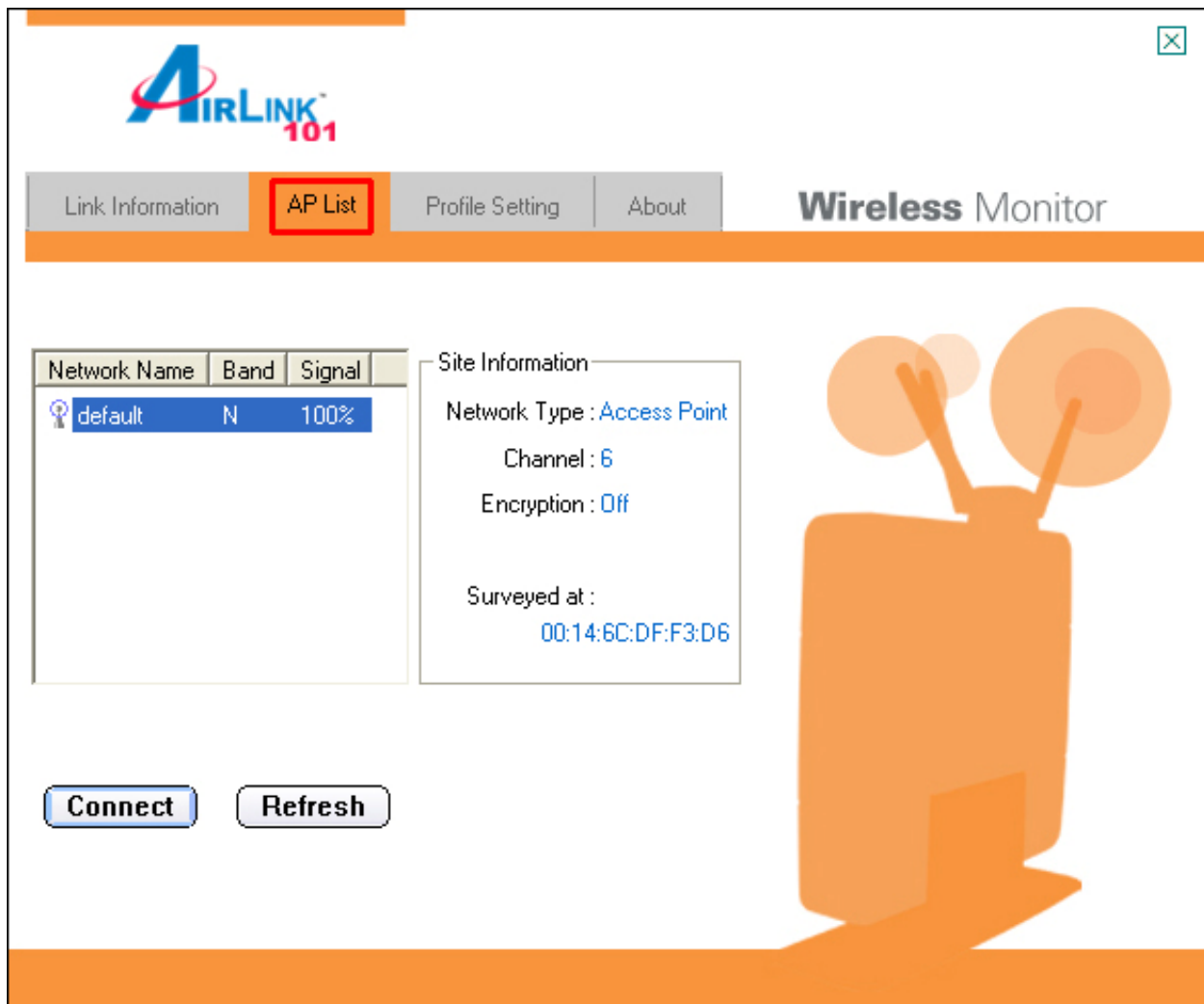
Click on the **More** button to see the details of the current network connection.



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 Cardbus Adapter. Simply select the desired Access Point you wish to connect to and click **Connect**.



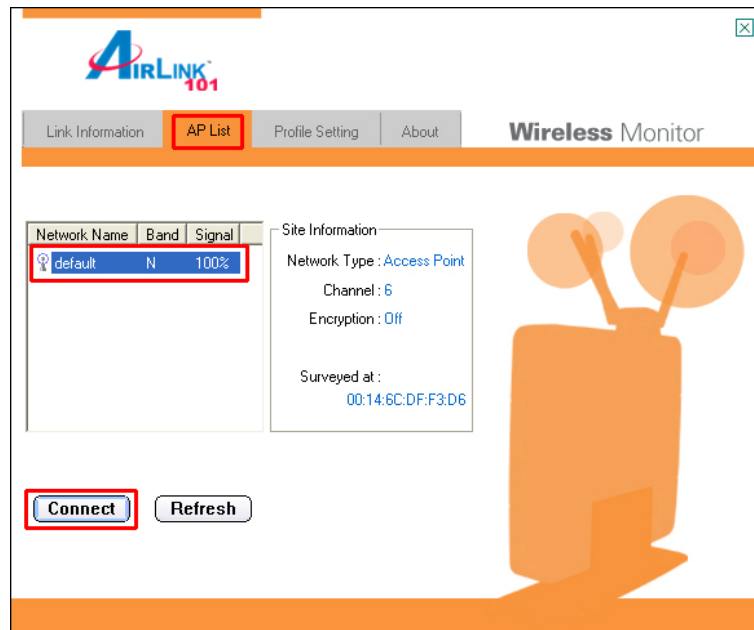
The **Site Information** displays a list of status for the selected AP, including the Channel number and the Encryption status.

4.3 Configure Encryption Settings

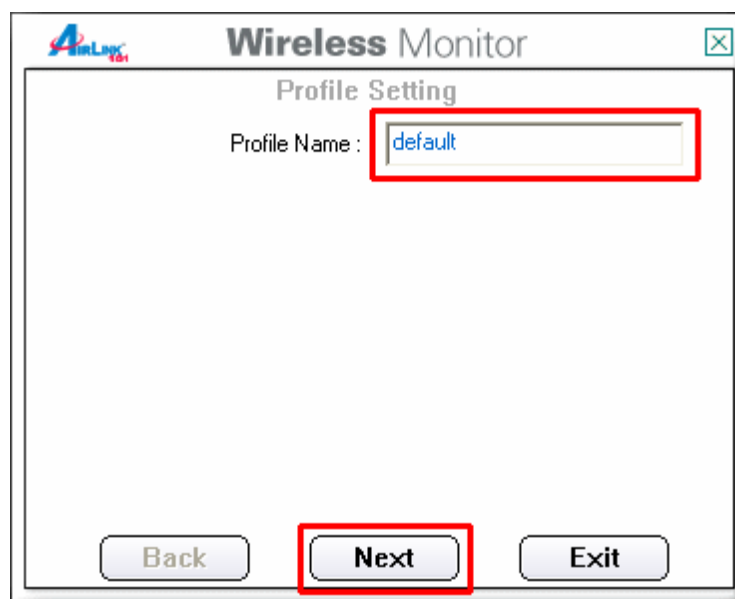
This section describes how to configure encryption settings for the **Cardbus Adapter**.

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.

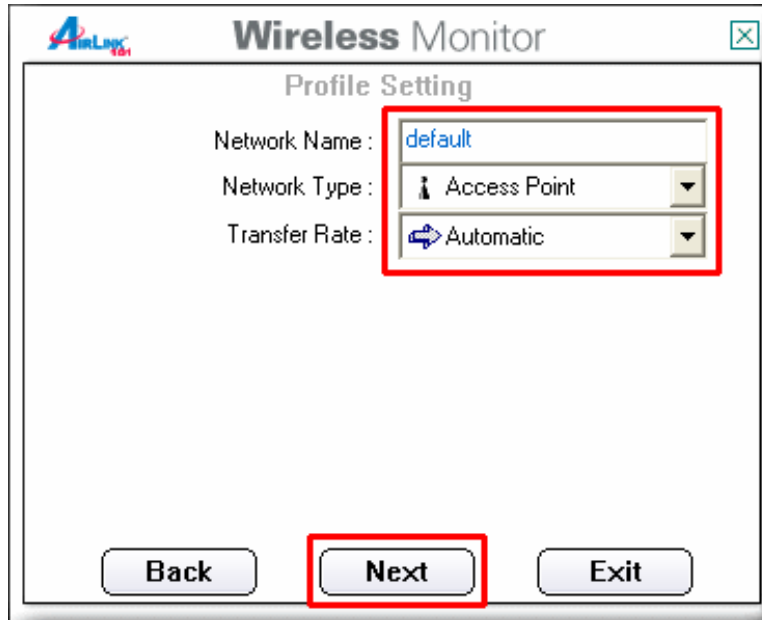
Step 1 From the **AP List** tab, select the Access Point/Wireless Router you want to connect to and click **Connect**.



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



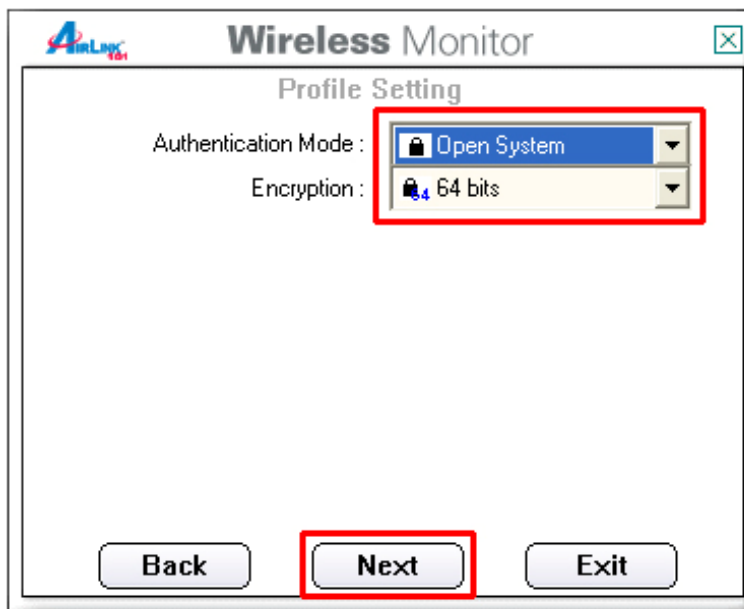
Step 3 Verify the **Network Name (SSID)** is correct and click **Next**.



The image shows a window titled "Wireless Monitor" with a sub-header "Profile Setting". It contains three settings: "Network Name" with a text box containing "default", "Network Type" with a dropdown menu showing "Access Point", and "Transfer Rate" with a dropdown menu showing "Automatic". A red rectangle highlights these three settings. At the bottom, there are three buttons: "Back", "Next", and "Exit". The "Next" button is highlighted with a red rectangle.

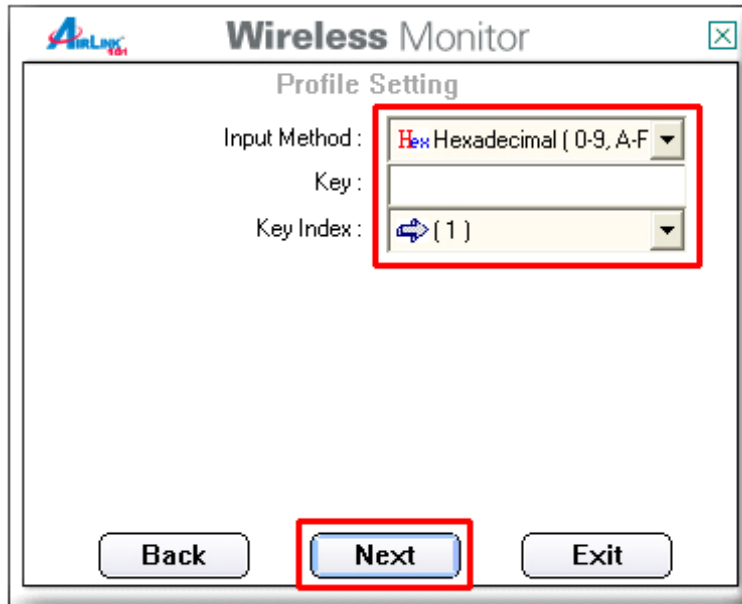
For WEP Settings:

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



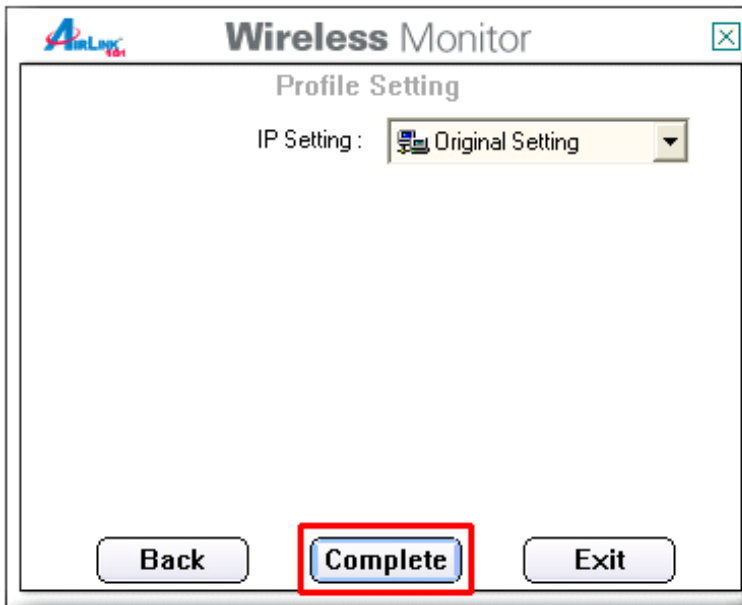
The image shows a window titled "Wireless Monitor" with a sub-header "Profile Setting". It contains two settings: "Authentication Mode" with a dropdown menu showing "Open System" and "Encryption" with a dropdown menu showing "64 bits". A red rectangle highlights these two settings. At the bottom, there are three buttons: "Back", "Next", and "Exit". The "Next" button is highlighted with a red rectangle.

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



The image shows a Windows-style dialog box titled "Wireless Monitor" with a close button in the top right corner. Below the title bar is a section labeled "Profile Setting". Inside this section, there are three labels: "Input Method:", "Key:", and "Key Index:". The "Input Method:" dropdown menu is set to "Hex Hexadecimal (0-9, A-F)". The "Key:" field is an empty text box. The "Key Index:" dropdown menu is set to "[1]". At the bottom of the dialog box, there are three buttons: "Back", "Next", and "Exit". The "Next" button is highlighted with a red rectangular box.

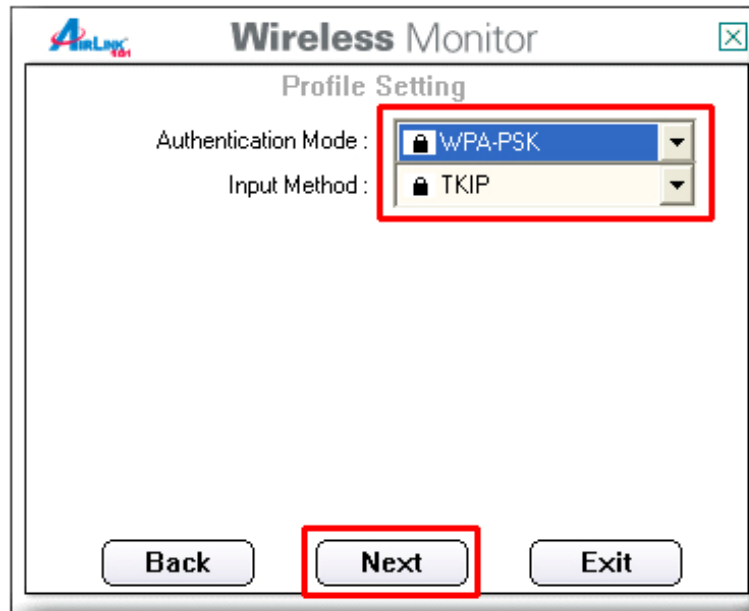
WEP Step 6 Click **Complete** to finish the settings.



The image shows the same "Wireless Monitor" dialog box, but now the "IP Setting:" dropdown menu is set to "Original Setting". The "Next" button from the previous step is no longer visible. Instead, the "Complete" button at the bottom is highlighted with a red rectangular box. The "Back" and "Exit" buttons remain in their original positions.

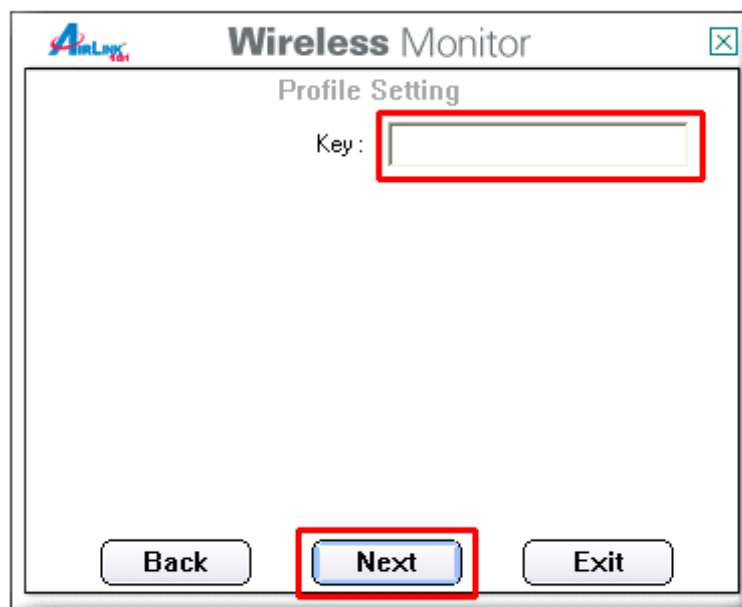
For WPA-PSK and WPA2-PSK Settings:

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



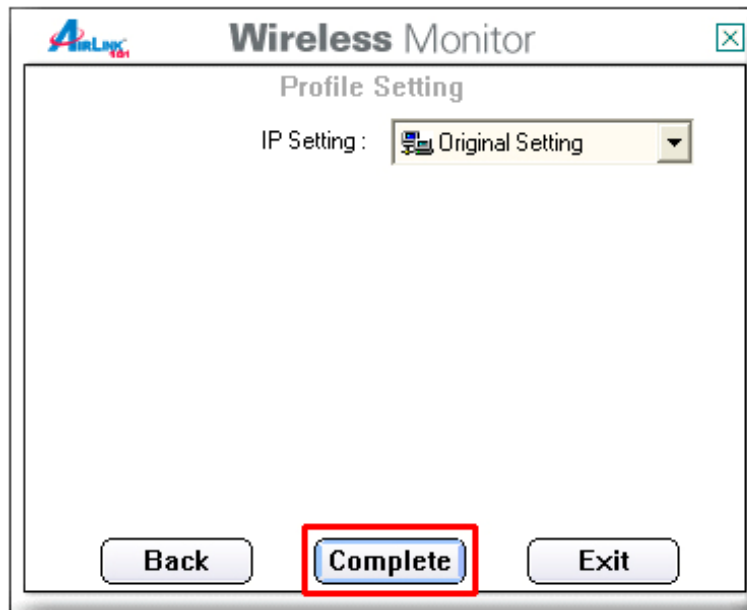
The image shows a window titled "Wireless Monitor" with a sub-header "Profile Setting". Inside the window, there are two dropdown menus. The first is labeled "Authentication Mode:" and has "WPA-PSK" selected. The second is labeled "Input Method:" and has "TKIP" selected. Both dropdown menus are highlighted with a red rectangle. At the bottom of the window, there are three buttons: "Back", "Next", and "Exit". The "Next" button is highlighted with a red rectangle.

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

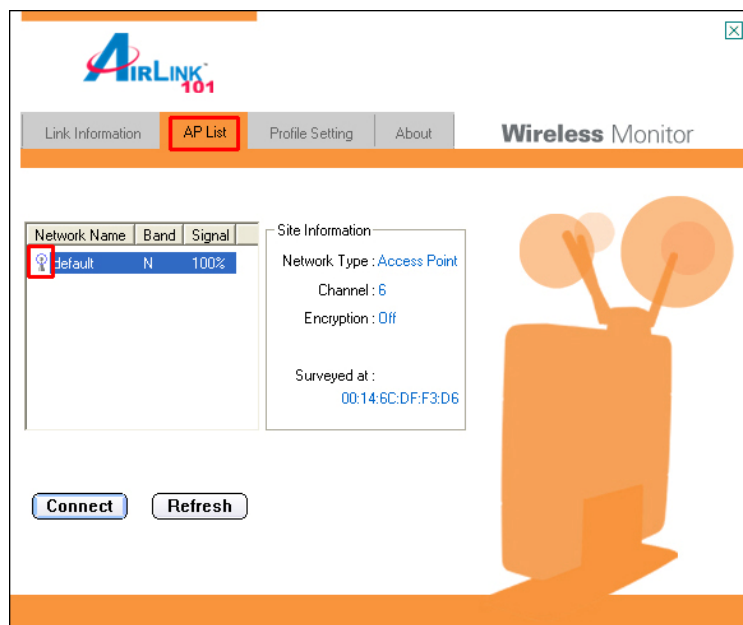


The image shows the same "Wireless Monitor" window, but now the "Authentication Mode:" and "Input Method:" dropdown menus are gone. Instead, there is a text input field labeled "Key:". The input field is highlighted with a red rectangle. At the bottom of the window, the "Back", "Next", and "Exit" buttons are still present. The "Next" button is highlighted with a red rectangle.

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.

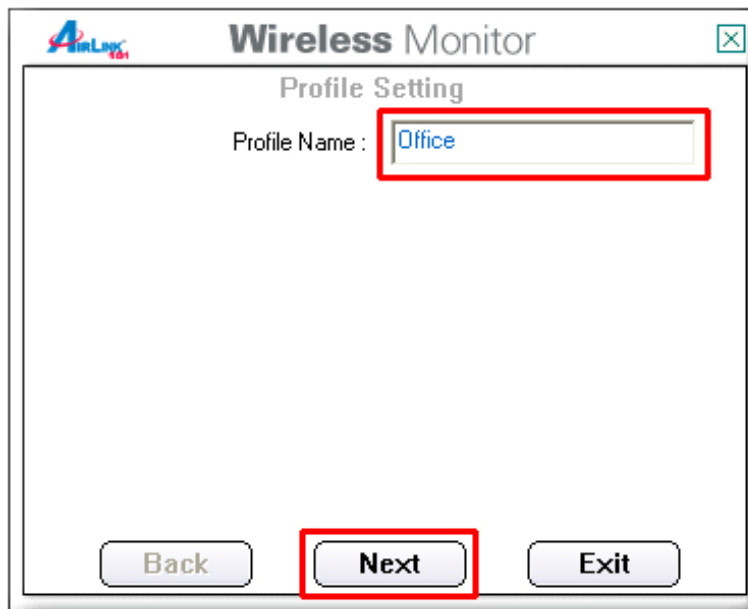


To add a new profile, follow the steps below:

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

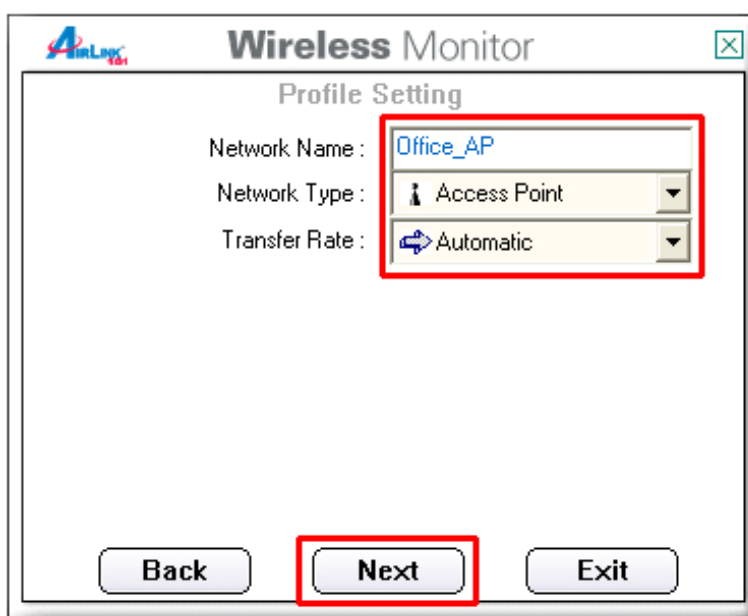


Step 2 Enter a name for your new profile and click **Next**.



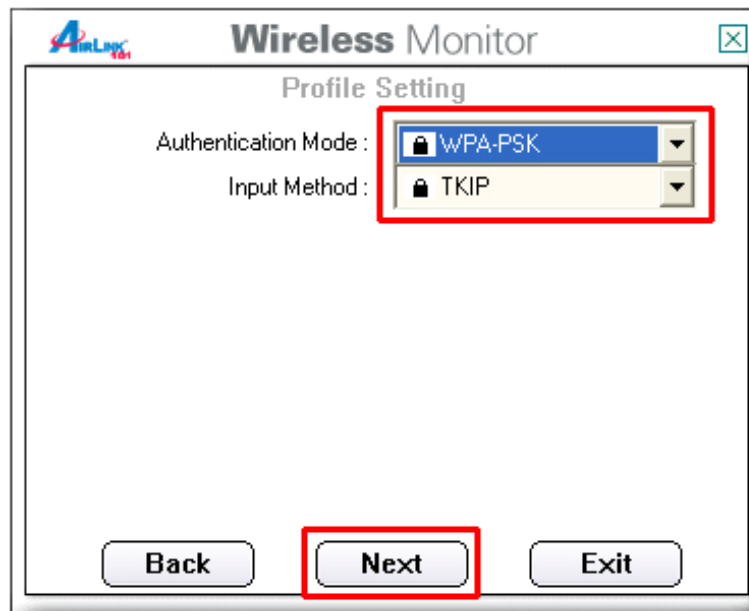
The image shows a window titled "Wireless Monitor" with a sub-header "Profile Setting". Inside the window, there is a text input field labeled "Profile Name :" containing the text "Office". This field is highlighted with a red rectangle. At the bottom of the window, there are three buttons: "Back", "Next", and "Exit". The "Next" button is highlighted with a red rectangle.

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

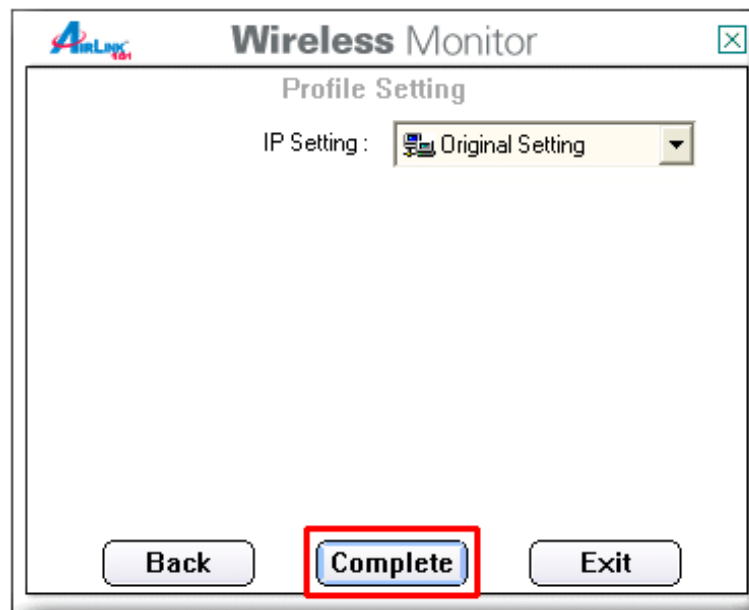


The image shows the same "Wireless Monitor" window, but now it has three input fields: "Network Name :", "Network Type :", and "Transfer Rate :". The "Network Name :" field contains "Office_AP", the "Network Type :" dropdown is set to "Access Point", and the "Transfer Rate :" dropdown is set to "Automatic". These three fields are grouped together and highlighted with a red rectangle. At the bottom, the "Next" button is also highlighted with a red rectangle.

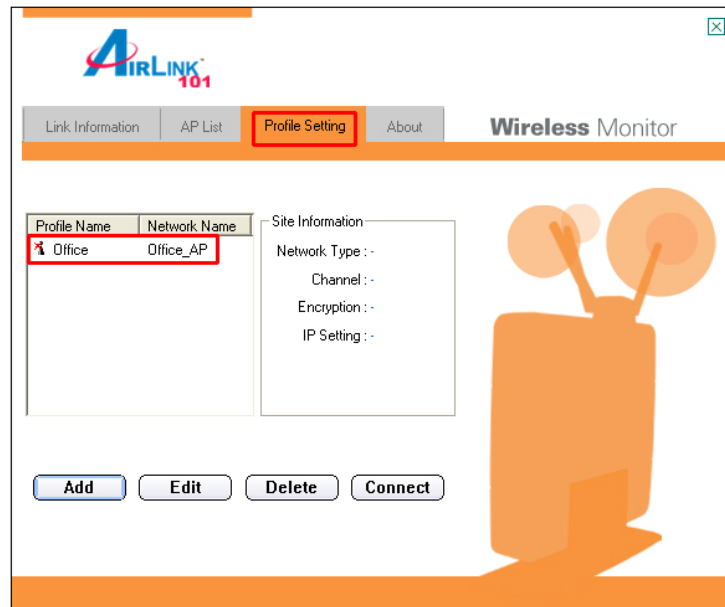
Step 4 Configure any encryption setting if required and click **Next**.



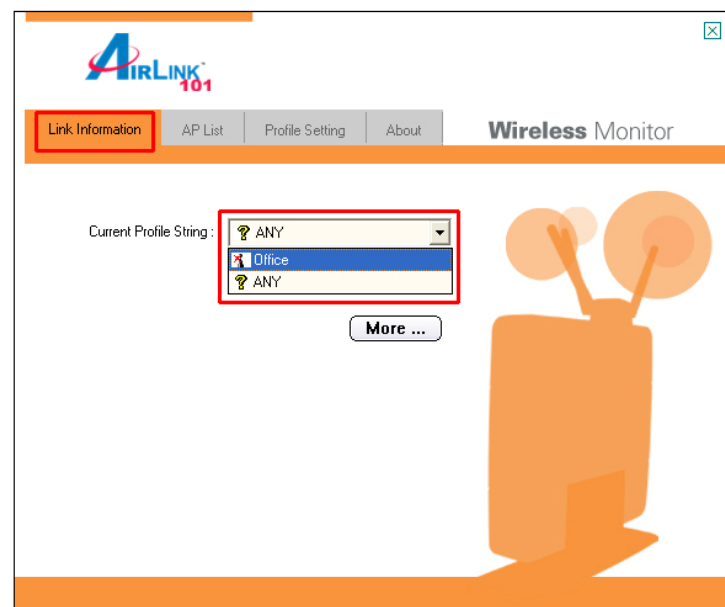
Step 5 Click **Complete** to finish the profile setting.



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



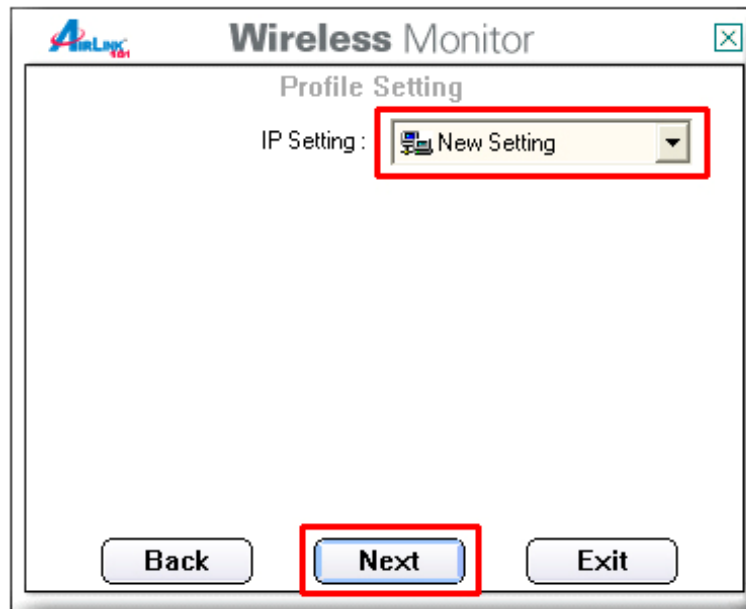
Step 7 You can quickly select which profile you want to use from the **Link Information** tab depending on your network environments without having to reconfigure the settings each time.



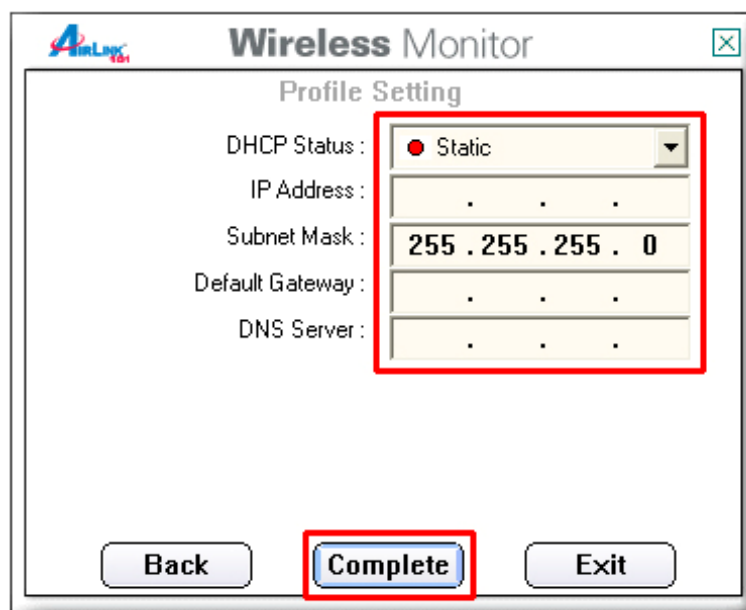
4.5 Static IP Setting

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 Cardbus Adapter**.



Appendix A – Features

Frequency Band

- 2.4~2.5 GHz

Standards

- IEEE 802.11b / 802.11g
- Draft 802.11n

Interface

- 32-bit cardbus

Antenna Type

- Printed antennas with 2.6 dBi(A), 3.6 dBi (B), 0.9dBi (C) Gain

Security

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

Transmitted Power

- 802.11b: 17 dBm@1TX;
20 dBm@2TX
- 802.11g: 13 dBm@1TX;
16 dBm@2TX
- Draft 11n: 13 dBm@1TX;
16 dBm@2TX

Data Rate

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

System Requirement

- 300 MHz processor or better
- 64 MB RAM
- Available cardbus slot

OS Compatibility

- Windows 98SE/ME/2000/XP

Weight

- 45g

Dimensions

- 118 x 54 x 9mm (L x W x H)

Temperature

- Operating: 0°C to 60°C
- Storage: -20°C to 80°C

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 08 142 0

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:

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. To maintain compliance with FCC RF exposure compliance requirements, please follow operation instruction as documented in this manual.

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

SAR compliance has been established in typical laptop computer(s) with CardBus slot, and product could be used in typical laptop computer with CardBus slot. Other application like handheld PC or similar device has not been verified and may not compliance with related RF exposure rule and such use shall be prohibited.

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™