802.11b/g WLAN Adapter (Mini-PCI/CardBus)

User Manual

This product is sold to OEM integrators only. The manual for the OEM integrators must include some instructions to be followed by the end users in the user manual. For example:

- The OEM integrators must be instructed to ensure that the end user has no manual instructions to remove or install the device.
- The OEM integrators must be instructed about the end product labeling ("Contains TX FCC ID: QDWWN360G") etc.

Please add the following statements to the manuals for the OEM integrators:

This device is intended only for OEM integrators under the following conditions:
1) The antenna must be installed such that 20 cm is maintained between the antenna and users.
2) The transmitter module may not be co-located with any other transmitter or antenna.

As long as the 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.)

IMPORTANT NOTE: In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid, and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling
This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users (for example, access points, routers, wireless ADSL modems, and similar equipment). The final end product must be labeled in a visible area with the following: "Contains TX FCC ID: QDWWN360G".

Manual Information for End Users
The end user must not have manual instructions to remove or install the device.
The user manual for end users must include the following information in a prominent location.

"IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter."

M121603V11

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Statement of Conditions

We may make improvements or changes in the product described in this documentation at any time. The information regarding to the product in this manual are subject to change without notice.
We assume no responsibility for errors contained herein or for direct, indirect, special, incidental, or consequential damages with the furnishing, performance, or use of this manual or equipment supplied with it, even if the suppliers have been advised of the possibility of such damages.

Electronic Emission Notices

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.
(2)This device must accept any interference received, including interference that may cause undesired operation.

FCC INFORMATION

The Federal Communication Commission Radio Frequency Interference Statement includes the following paragraph:
The 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 instruction, may cause harmful interference to radio communication. 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 overcome the interference by one or more 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.
The equipment is for home or office use.

R&TTE Compliance Statement

This equipment complies with all the requirements of the Directive 1999/5/EC of the European parliament and the council of 9 March 1999 on radio equipment and telecommunication terminal Equipment and the mutual recognition of their conformity(R&TTE).

The R&TTE Directive repeals and replaces in the directive 98/13/EEC. As of April 8, 2000.

IMPORTANT NOTE

FCC RF Radiation Exposure Statement: This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the antenna and your body and must not be co-located or operating in conjunction with any other antenna or transmitter.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Table of Contents

Table of Figures

INTRODUCTION

Being five times faster (up to 54Mbps) than the speed of 802.11b network standard devices, the innovative 802.11g standard lets the wireless network become incredibly easier than ever. Your 802.11b/g WLAN Adapter Card surely will bring you into such a high-speed network sphere. This document describes how to install your 802.11b/g WLAN Adapter Card, which aims to let your computer quickly and seamlessly communicate with 802.11 networks. WLAN is local area networking without wires, which uses radio frequencies to transmit and receive data between computers or other networked devices. Additionally, wireless LAN is able to configure either independent networks, which is also known as peer-to-peer or ad-hoc network, or infrastructure network. The former is suitable for small or temporary peer-to-peer configurations, and the later is offering fully distributed data connectivity via micro cells and roaming.

To obtain most benefits your 802.11b/g WLAN Adapter Card brings, please read this manual carefully before using it.

1.1 Features

With 802.11b/g WLAN Adapter Card, you can:
- □ establish a wireless connection without the hassles and cost of cabling
- □ operate in Ad-Hoc or Infrastructure mode
- □ utilize up to 128-bit WEP encryption
- □ enjoy high-speed data transfer rate of up to 54 Mbps
- □ employ automatic data rate switching which offers maximum reliability, throughput and connectivity
- □ possess the network's range up to 100 meters indoor and 400 meters outdoor
- □ monitor and configure the network via the supplied friendly-interfaced application – **WLAN-G Configuration Tool**

1.2 Product Package

Before starting the installation, please make sure the package you purchased includes the following items:
- □ One 802.11b/g WLAN Adapter
- □ One Quick Start Guide
- □ One User Manual

If any of the items above is missing or damaged, please contact your distributor.

1.3 System Requirements

To properly operate your Card, your computer should meet the following minimum requirements:
- □ Microsoft Windows 98/98 Second Edition/Me/2000 or Windows XP

- ☐ Minimum 5 Mbytes free disk space for installing the driver and the utility program
- ☐ 32 MB RAM or above
- ☐ A CD-ROM drive
- ☐ 300 MHz processor or higher
- ☐ Mini-PCI interface

INSTALLATION

It's free and easy for you to install your 802.11b/g WLAN Adapter and the attached software - **WLAN-G Configuration Tool**. Simply with a few clicks of the mouse, you will succeed the completion of installation.

To have the 802.11b/g WLAN Adapter operated appropriately, please read and go along with the instructions below carefully. Here, we will illustrate the installation instructions based on Windows XP operation system.

2.1 Installation Procedures

    a) Insert your 802.11b/g Wireless LAN Adapter to you computer.

    b) When the **Found New Hardware Wizard** popped up on your screen, click **Cancel** to install it with the supplied CD-ROM.
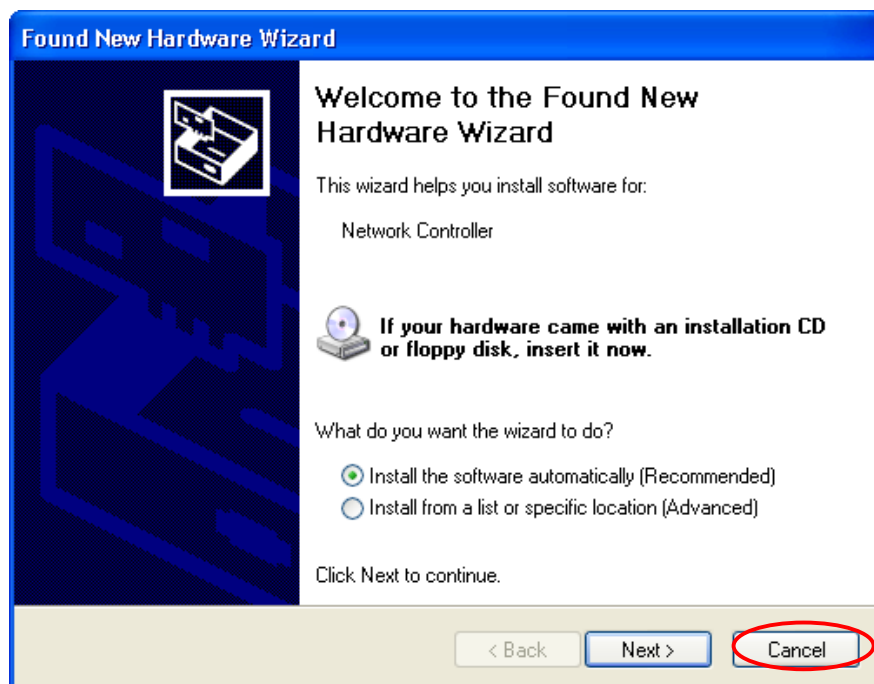
Figure 2-1: The **WLAN-G IEEE802.11b/g Setup** Window

    c) Insert the supplied CD into your CD-ROM drive and the InstallShield Wizard will process the driver installation automatically. If it does not, double-click **setup.exe** under the CD's directory to execute it manually.

    d) In the prompted **WLAN-G IEEE802.11b/g Setup** window, choose **Next** to continue.
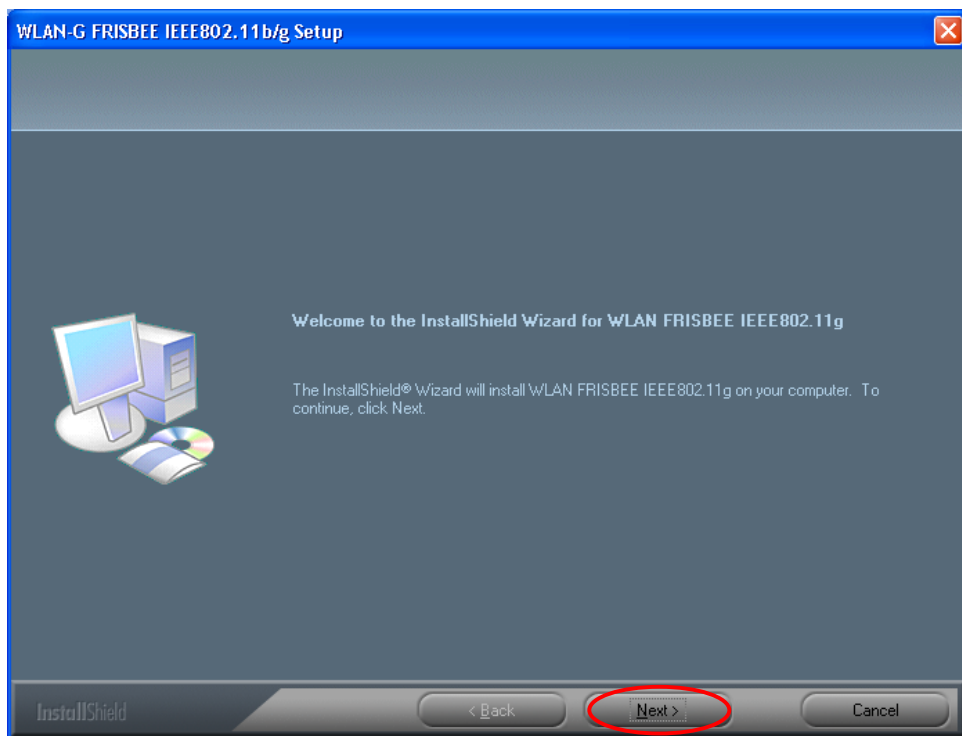
Figure 2-2: The **WLAN-G IEEE802.11b/g Setup** Window

e) The system will start to copy the drivers found. It may take a couple of minutes.

f) Windows will notify you that the driver has not passed the Windows Logo testing. Because the Card has been tested to work with Windows XP, please choose **Continue Anyway**.

Figure 2-3: The **Hardware Installation** Dialog Box

g) From the **Install Finished** screen, if you are operating Windows 98 or ME, choose **Yes,**

I want to restart my computer now; on the other hand, if your current system is running Windows 2000 or XP, choose **No, I will restart my computer later** instead. Then click **Finish** to finish the installation.
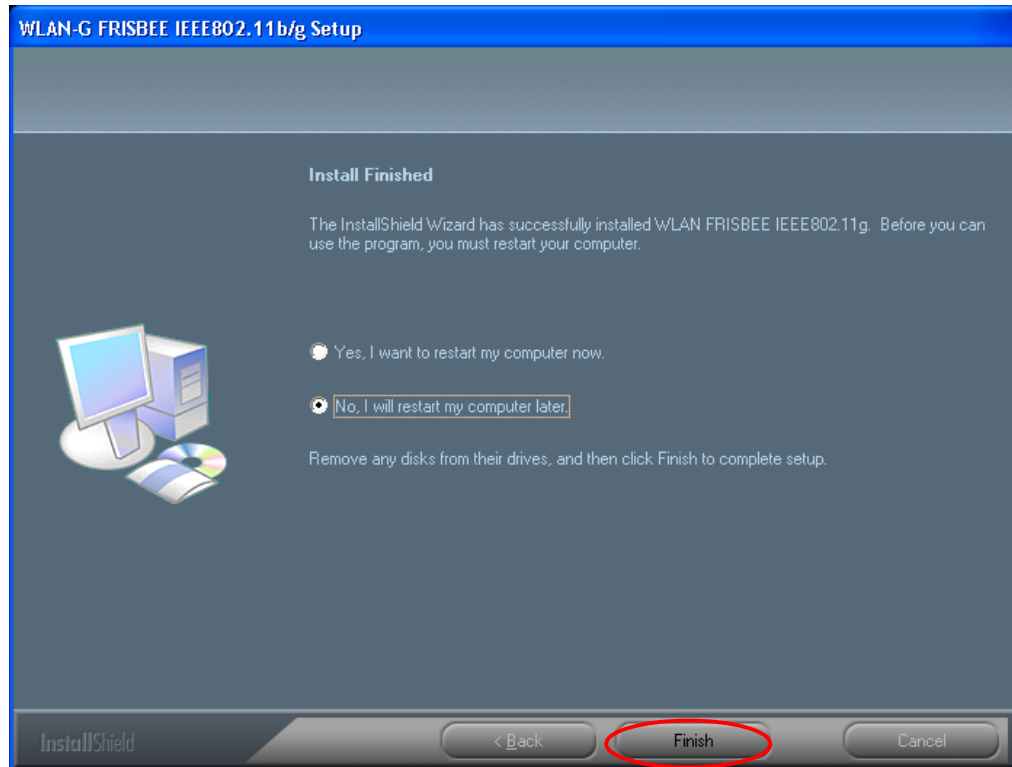
Figure 2-4: The **Install Finished** Screen

h) Then, you will find the **WLAN-G Configuration Tool** icon appeared in the system tray.

Figure 2-5: The **WLAN-G Configuration Tool** Tray Icon.

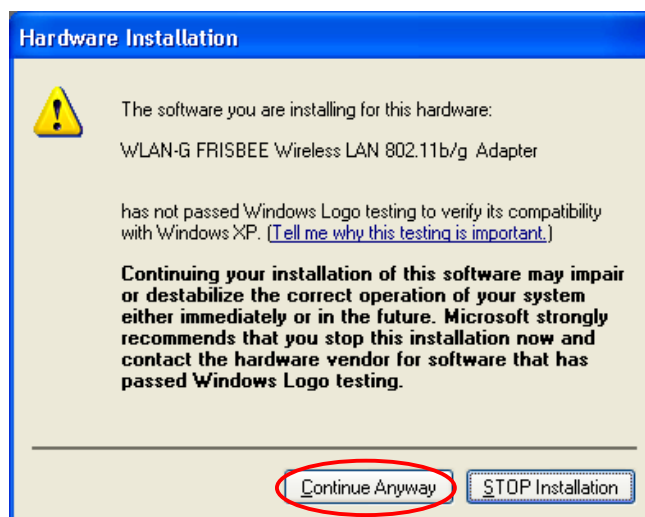As soon as the **Install Finished** window is closed, dialog box of **Wireless Settings** will appear on your screen automatically. If it does not, you may double-click the icon to launch the application and open the dialog box. For more details about the program, please refer to the chapter -- **WLAN-G Configuration Tool Basics**.

Note: For users running Windows XP system, there will be only four tabs in the **Wireless Settings** dialog box. To wake up all seven tabs, please refer to the section of *Installation Notes - Windows XP*. (*Figure 2-6*)

2.2 Installation Notes – Windows XP

When successfully installed the driver and **WLAN-G Configuration Tool** on Windows XP system, you shall find that only four tabs are contained in the **Wireless Settings** dialog box. However, it should be consisted of seven tabs. This is because Windows XP has its built-in configuration tools –

Windows XP Zero Configuration to assist you in networking activities. It is recommended to utilize the attached **WLAN-G Configuration Tool** to enjoy more benefits it will bring.

Thus, to employ your **WLAN-G Configuration Tool** under Windows XP, please proceed to the next step to change the default settings of **Windows Zero Configuration** to **WLAN-G Configuration Tool**.
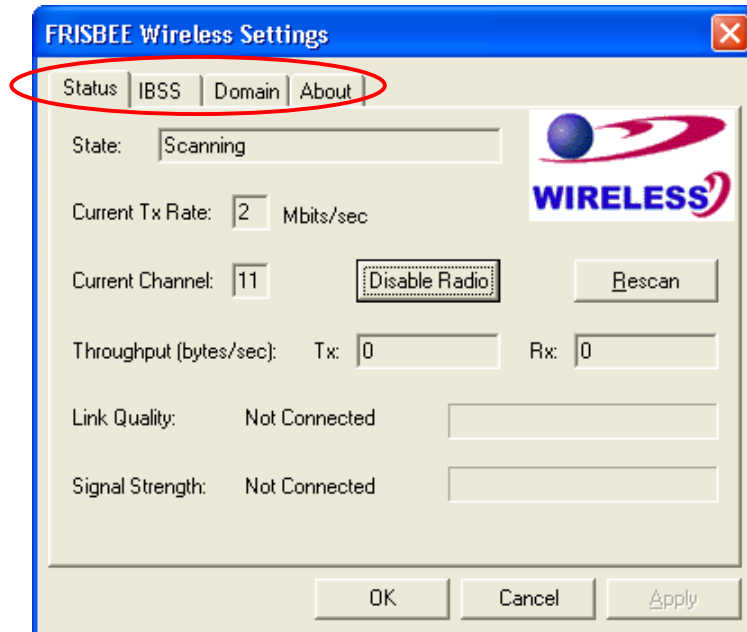
Figure 2-6: The **Wireless Settings** Dialog Box First Pup in Windows XP

a) Please click **OK** to close the **Wireless Settings** dialog box. Then right-click the **Network Connections** icon at the task bar to open the **Wireless Network Connection Status** dialog box, and then select **Properties**.

Figure 2-7: The **WLAN-G Configuration Tool** Tray Icon
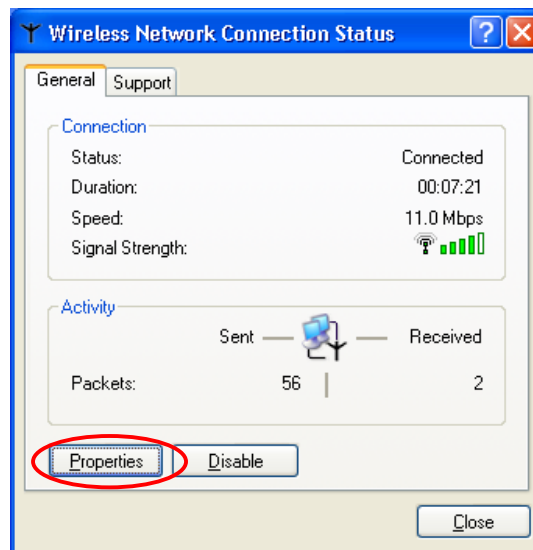
Figure 2-8: The **Wireless Network Connection Status** Dialog Box

b) Choose the **Wireless Networks** tab in the **Wireless Network Connection Properties** dialog box, and remove the tick from the **Use Windows to configure my wireless network settings** checkbox.
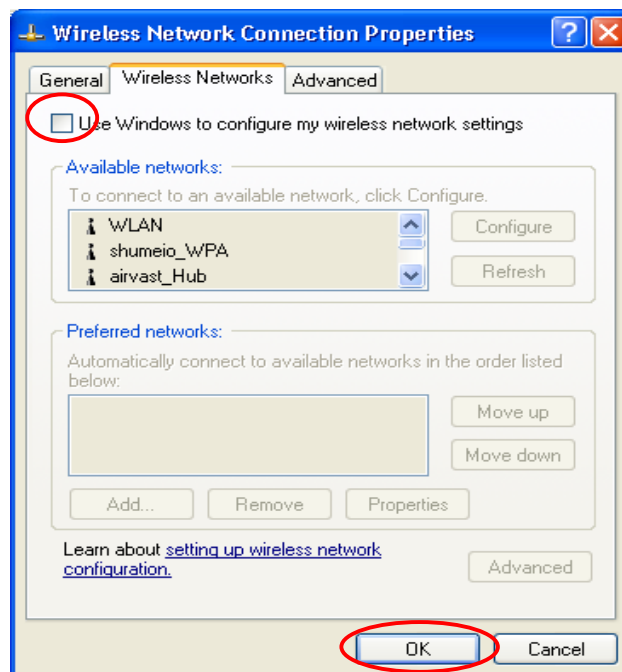
Figure 2-9: The **Wireless Network Connection Properties** Dialog Box

c) Click **OK**. Now, you have successfully switched the **Windows Zero Configuration** into **WLAN-G Configuration Tool**.

To monitor and configure the network via **WLAN-G Configuration Tool**, double-click its tray icon,

and you shall find seven tabs contained in the popped up **Wireless Settings** dialog box this time. For more information on **WLAN-G Configuration Tool**, please refer to the chapter: *WLAN-G Configuration Tool Basics*.

Note: If you wish to use Windows XP's built-in configuration tools – **Windows XP Zero Configuration** to configure your 802.11b/g WLAN Adapter, please refer to the Windows XP Online-Help.

2.3 Verifying a Successful Installation

To confirm that your 802.11b/g WLAN Adapter is properly installed, please go along with the procedures below.

1. Right-click the **My Computer** desktop icon and choose **Properties** from the opened menu.

2. In the **System Properties** dialog box, choose **Device Manager** if you are under Windows 98 or Me. If you are operating Windows 2000 or XP, click the **Hardware** tab, and then choose the **Device Manager** button.

3. In the opened window, expand **Network adapters** to find the input device – **WLAN-G Wireless LAN 802.11b/g Adapter**. Right-click over the item and choose **Properties**.

4. From the opened dialog box, on the **General** tab, find the descriptions under the **Device Status** pane to learn if the card is working properly. However, if there's an error message shown, please choose **Uninstall** from the opened menu (Detailed instructions of **Uninstall**, please refer to Appendix A of the manual) while right-clicking the Adapter item, to which a red or yellow mark is attached beside, in the **Device Manager** browse screen. Then go through the installation procedures again.

The following picture indicates a successful installation of the 802.11g WLAN Adapter.
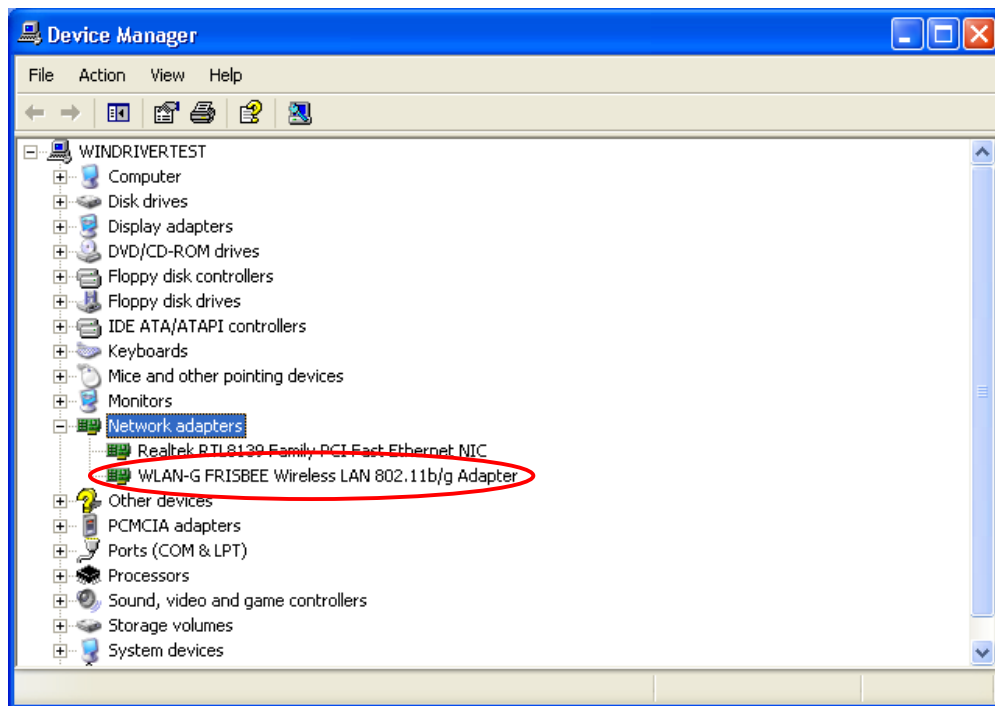
Figure 2-10: The **Device Manager** Dialog Box

Note: For the first-time installation, the network connections may not be obtained automatically and you may need to set up a profile first through **Wireless Settings** dialog box of **WLAN-G Configuration Tool**. Detailed instructions please refer to *The Site Survey Tab* in the *Program Controls* section below in this manual.

WLAN-G CONFIGURATION TOOL BASICS

For the first-time installation, you'll need to setup at least one profile in advance for connecting to the networks. You can configure the desired settings by double-clicking the **Wireless Settings** icon on the system tray. In the prompted **Wireless Settings** dialog box, there are seven tabs, including **Status**, **Configuration**, **Encryption**, **Site Survey**, **IBSS**, **Domain**, and **About**. Each proffers various functions to assist you in configuring the connection to the networks.

This chapter is divided into the three sections: Tray Icon, Right-Click Menu of the Tray Icon, and Program Controls. Please refer to the preferred topic for more detailed information and enjoy vast advantages **WLAN-G Configuration Tool** brings.

3.1 Tray Icon

As long as you finish installing **WLAN-G Configuration Tool**, you will see its icon, ⊕, shown at the system tray. When you move the mouse cursor over it, the information on the current link quality is provided in the tips.

Furthermore, the color of the icon varies with the current status of your network connection. Check the list below to learn the definition of each color.

Icon	Quality
⊕	Excellent Link Quality
⊕	Data Frame Errors – Check WEP Settings
⊕	Fair Link Quality
⊕	Poor Link Quality or Not Linked
⊕	Radio Off

Note: The blue icon indicates that you might have entered incorrect WEP keys. To solve the problems, choose the **Configuration** tab in the **Wireless Settings** dialog box to correct the keys for encryption.

3.2 Right-Click Menu of the Tray Icon

Right-clicking the **WLAN-G Configuration Tool** icon in the system tray will open a menu as the following picture:
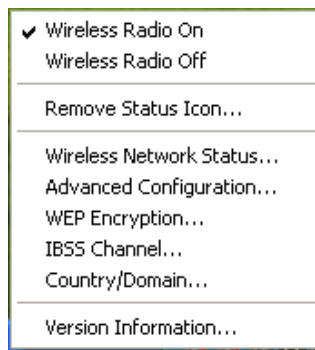
Figure 3-1: Right-Click Menu of the Tray Icon

Check the descriptions below to obtain detailed information about each command in the menu.

Wireless Radio On

Choose the **Wireless Radio On** command to receive the radio frequency signal.

Wireless Radio Off

Choosing the **Wireless Radio Off** command will stop receiving the radio frequency signal.

Remove Status Icon

If you do not wish to have the **WLAN-G Configuration Tool** icon displayed in the system tray, choose this command to open the **Remove Wireless Status Icon** dialog box, and then choose **Yes** to have the icon disappeared. The icon will reappear next time when you restart the computer. If you intend to remove it permanently, put a tick in the checkbox next to the **Remove Status Icon Permanently** option. To launch the utility hereafter, click **Start** on the taskbar, choose **Program** from the menu, and then point to **WLAN-G Configuration Tool** of the submenu of **WLAN-G TOOLS**. Clicking **No** will undo the removal.

Figure 3-2: The **Remove Wireless Status Icon** Dialog Box

Wireless Network Status

Choose this command to launch the **Status** tab of the **Wireless Settings** dialog box. For more details about the tab, please refer to **The Status Tab** in the **Program Controls** section below.

Advanced Configuration

Choose this command to launch the **Configuration** tab of the **Wireless Settings** dialog box. Please refer to **The Configuration Tab** in the **Program Controls** section below to gain more information about the tab.
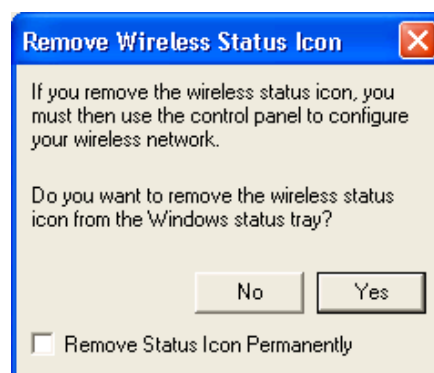
WEP Encryption

Choose this command to launch the **Encryption** tab of the **Wireless Settings** dialog box. This tab offers you a number of options to maintain the secure management in a wireless LAN environment. See the explanations in **The Encryption Tab** under the **Program Controls** section below for more details.

IBSS Channel

Choosing this command will launch the **IBSS** tab of the **Wireless Settings** dialog box. To obtain more information about the tab, please refer to **The IBSS Tab** in the **Program Controls** section below.

Country/Domain

Choosing this command will launch the **Domain** tab of the **Wireless Settings** dialog box. Detailed information about this tab is presented in **The Domain Tab** of the **Program Controls** section.

Version Information

Choosing this command will launch the **About** tab of the **Wireless Settings** dialog box. The **About** tab reveals general information on your 802.11b/g WLAN Adapter, including the release version of driver and the **WLAN-G Configuration Tool** and the card's MAC Address.

3.3 Program Controls

When you double-click the **WLAN-G Configuration Tool** tray icon, the **Wireless Settings** dialog box will be prompted as the picture shown below. The application is a window-based program, which is consisted of seven tabs, including **Status**, **Configuration**, **Encryption**, **Site Survey**, **IBSS**, **Domain**, and **About**.
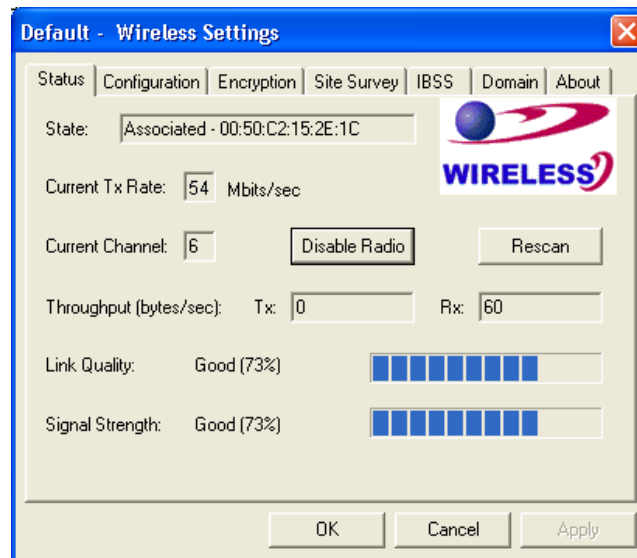
Figure 3-3: The **Wireless Settings** Dialog Box

Check the desired items below to obtain more information about these tabs.

The Status Tab

In the **Wireless Settings** dialog box, click the **Status** tab, and you will see the following display. Here presents the status of your current connection. To close the window, click **OK**.

Note: Choosing the **Wireless Network Status** command from the right-click menu of **WLAN-G Configuration Tool** tray icon will launch this tab too.
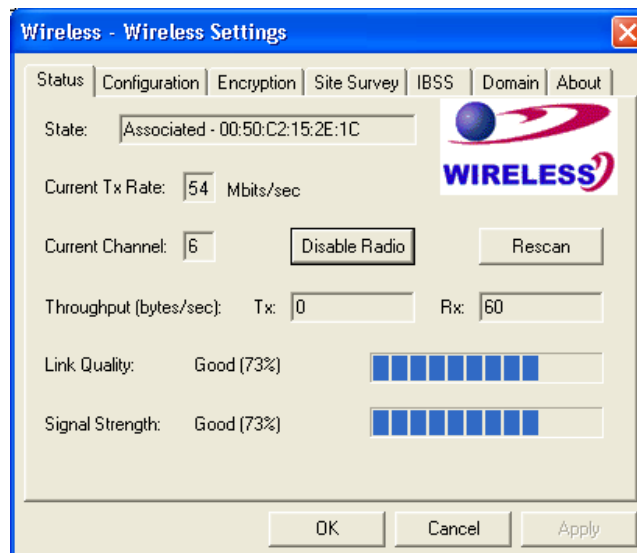
Figure 3-4: The **Status** Tab

Note: The texts before "Wireless Settings" in the caption bar of the dialog box is the profile name of the current connection. Thus, the caption contexts vary according to the connectivity at the given time. From the above picture, the associated profile is named *"Wireless"*.

From the window, the general information on the status of currently connected entry is presented. You may want to click the **Rescan** button to reinitiate the scanning process and update the status. Later the result of scanning will be renewed and displayed in the window. If you wish to stop the networking connection, click the **Disable Radio** button to stop scanning. However, if you are already in the disabled radio mode, you will find the **Enable Radio** button here instead. Click **Enable Radio** to regain the link then.

State

Here displays either the MAC Address of the current associated access point in the Infrastructure mode or a BSSID from any computer joining in the Ad-Hoc network.

Current Tx Rate

This feature indicates the transmission rate of the current connection.

Current Channel

Here reveals the current channel operated in the wireless network. Note that the channel number differs as the radio scans any available channels in the Infrastructure mode.

Throughout (bytes/sec)

This feature indicates the rates of transmitting (**Tx**) and receiving (**Rx**) data package of your 802.11b/g WLAN Adapter within a short period of time; thus, the values vary on a time basis.

Link Quality

Link Quality is based on the percentage of successfully transmitted or received signal of the associated access point beacon within a limited period. The higher the percentage, the better the link quality. The bar graph beside also provides a visual interpretation of the current link quality. It is noted that the **Link Quality** and **Signal Strength** features only apply to the Infrastructure mode. They are inapplicable in the Ad-Hoc mode since data will be transferred from many different computers.

Signal Strength

You may learn the received signal strength of the baseband processor of the beacon signal from the **Signal Strength** bar beside, and it's also presented in terms of percentage. As the signal gets stronger, the signal percentage rate gets higher. It is noted that the **Signal Strength** and **Link Quality** features only apply to the Infrastructure mode. They are inapplicable in the Ad-Hoc mode since data will be transferred from many different computers.

The Configuration Tab

Click this tab to edit different profiles for different network configurations. When finish changing the settings, please click **Apply** to perform the new configuration at last.
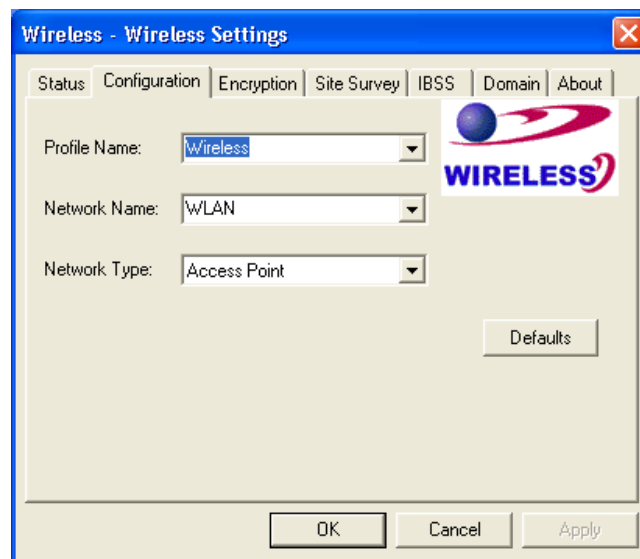
Figure 3-5: The **Configuration** Tab

Profile Name

Enter texts in the **Profile Name** field to identify a new profile. After defining the configurations below, click the **Apply** button to establish the profile. To switch between any existing profiles, simply click the arrow button at the right of the **Profile Name** field to open the pull-down menu and then select the intended one from it.

Network Name

Network Name, also known as SSID (**S**ervice **S**et **Id**entifier), must be unique to distinguish itself as a particular wireless network, while all wireless points in this network area share the same SSID. Type the identical SSID in the **Network Name** field to associate with access points or stations within the specified wireless LAN. To change the **Network Name**, highlight the name in the box, edit a new SSID, and then click **Apply** to save the changes.

Network Type

Two network types are offered here: **Access Point** and **Peer-to-Peer**. Choose the intended type from the two options. The **Access Point** mode, which is also known as the Infrastructure mode, allows you to communicate with a wired network via an access point. If you attempt to operate this mode, you must indicate the identical **Network Name** to make a communication with the intended access point. On the other hand, the **Peer-to-Peer** mode provides you with the so-called Ad-Hoc communication, which means each wireless-equipped computers within a group is able to

15

connect with each other as an independent wireless LAN without the use of an access point. Each station within this Ad-Hoc network has to define the same **Network Name**.

The Encryption Tab

Click the **Encryption** tab to define the encryption settings for a specific profile. It offers you various options concerning the so-called WEP (**W**ired **E**quivalent **P**rivacy) to maintain the secure management in a wireless LAN environment. See the explanations below for more details, and before making an activation of any new settings, click **Apply**. To leave the window, click **OK**. To undo the new settings, select the **Cancel** button.

Note: Choosing the **WEP Encryption** command from the right-click menu of **WLAN-G Configuration Tool** tray icon will launch this tab too.
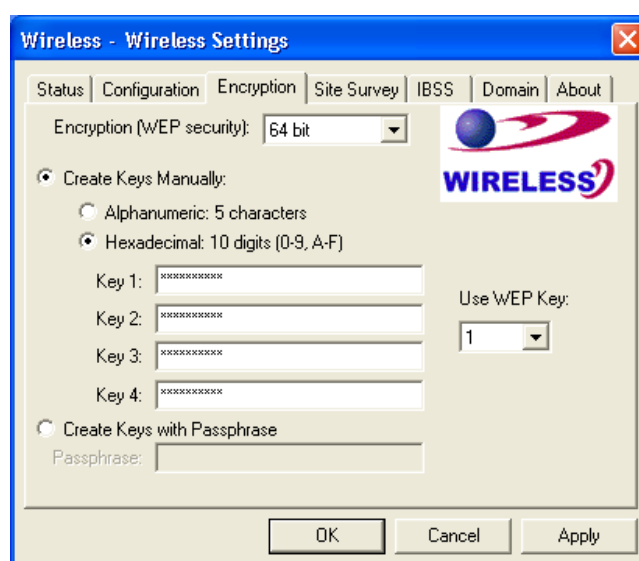
Figure 3-6: The **Encryption** Tab

Encryption (WEP security)

If you choose **Disabled** from the pull-down list, you will have the 802.11g WLAN Adapter communicated with all stations within the same networking community without any data encryption. Otherwise, two key lengths are offered: **64 bit** and **128 bit**. Specify a preferred one from the two, so that you may use the identical WEP key to make a communication with the chosen access point.

Create Keys Manually

Once you set the **Encryption** type as **64 bit** or **128 bit**, you may choose to edit WEP keys manually or create them via the passphrase of your wireless network. If you choose the **Create Key Manually** option, you may directly enter up to 4 WEP keys for use in WEP encryption. To generate the WEP keys, please define the key entry method as **Alphanumeric** or **Hexadecimal** (for hexadecimal characters, only digits 0-9 and letters A-F are valid). Then edit the texts in the

blank fields below, from **Key 1** to **Key 4**, as the encryption codes. Note that these codes/keys shall be identical between the wireless nodes within the range and the access point only. Check the table below to find valid key length of each encryption type:

	64 bit	**128 bit**
Alphanumeric	5 characters	13 characters
Hexadecimal	10 digits	26 digits

Use WEP Key

Indicate which WEP key you intend to apply to activate the WEP encryption from the pull-down menu. Make sure that the intended access point on the wireless network shares the same keys. By default, **Key 1** will be used.

Create Keys with Passphrase

Choose this command when the associated wireless network uses a passphrase to create WEP keys. Enter the passphrase string in the **Passphrase** filed to generate four encryption keys in the **Key** fields above. Note that only letters A-F are valid for the **Passphrase** feature.

After finish configuring the **Encryption** features, remember to click the **Apply** button to initiate the new settings.

The Site Survey Tab

As soon as you finished the installation, please enter this tab, choose the **Rescan** button to initiate the scanning process for updating the list, and obtain the available networking connections. Later the result of scanning will be renewed and displayed afterwards. From the offered information, you may learn the general information on the status of current scan lines, including BSSID, SSID, signal strength, the channel number, WEP type, and network type.

In addition, to directly make an association with any site on the list, double-click the intended entry, and you will be led to the **Status** tab then.

Figure 3-7: The **Site Survey** Tab

The IBSS Tab

If you, as a creator of the wireless network, are communicating with other stations via the IBSS (802.11 Ad-hoc) mode to form peer-to-peer networks, click the **IBSS** (**I**ndependent **B**asic **S**ervice **S**et) tab to specify an operating radio frequency channel from the pull-down list under the **IBSS Channel Selection** section.

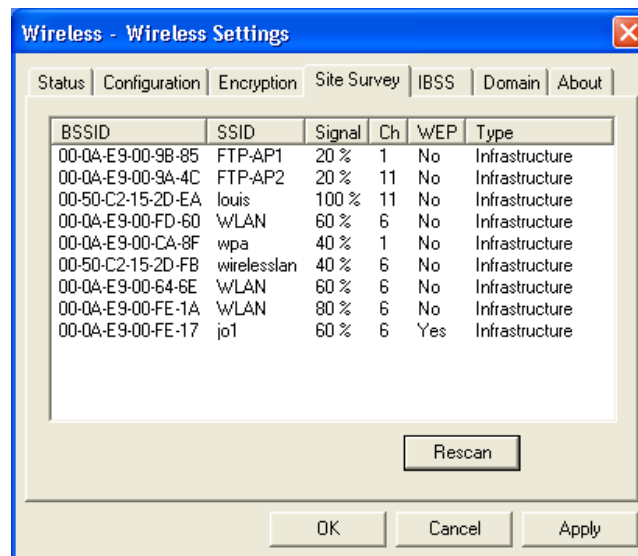**Note:** Choosing the **IBSS Channel** command from the right-click menu of **WLAN-G Configuration Tool** tray icon will launch this tab too.

Note that the available channels differ from country to country, and the channel number must be the same between the entries/stations within the range, so that each can communicate with each other. Or you may simply click **Defaults** to automatically determine the channel number for you. When done, click **Apply** to activate the new configuration.

On the other hand, while in the **Access Point** mode, you will find the channel number is the same as the associated access point. Thus, there's no need to manually set the value.
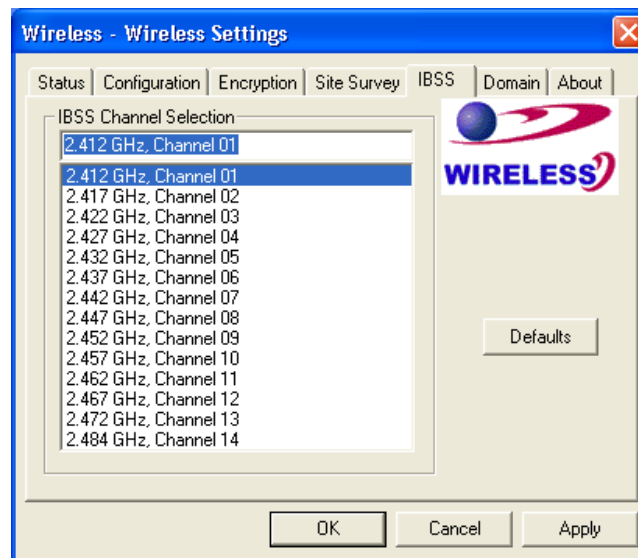
Figure 3-8: The **IBSS** Tab

The Domain Tab

While in the 2.4GHz range, the network operation may differ from country to country, or domain to domain. This is because the 802.11d protocol was established. To have the operation normally processed, choose the **Domain** tab to change relevant settings.

Note: Choosing the **Country/Domain** command from the right-click menu of **WLAN-G Configuration Tool** tray icon will launch this tab too.

Figure 3-9: The **Domain** Tab

802.11d Support

802.11d Support lets you operate multi-country roaming. To automatically adjust regulatory domain while operating network in different countries, choose either **Strict** or **Flexible** according

to your need. If you choose **None**, the task will be terminated.
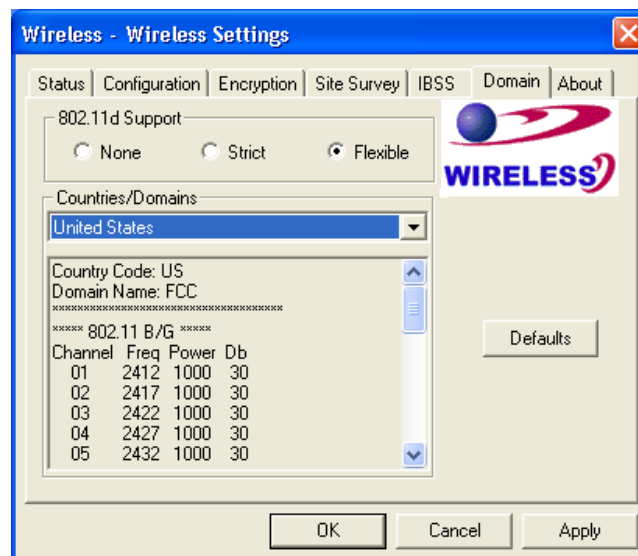
Countries/Domains

Define the regulatory domain from the drop-down menu of this command according to the country you are located in. More detailed information about the defined country/domain will be listed below afterwards.

When you are done, remember to click **Apply** to let the new settings take effect.

The About Tab

This tab reveals general information on your 802.11b/g Adapter, including the following items:

Note: Choosing the **Version Information** command from the right-click menu of **WLAN-G Configuration Tool** tray icon will launch this tab too.
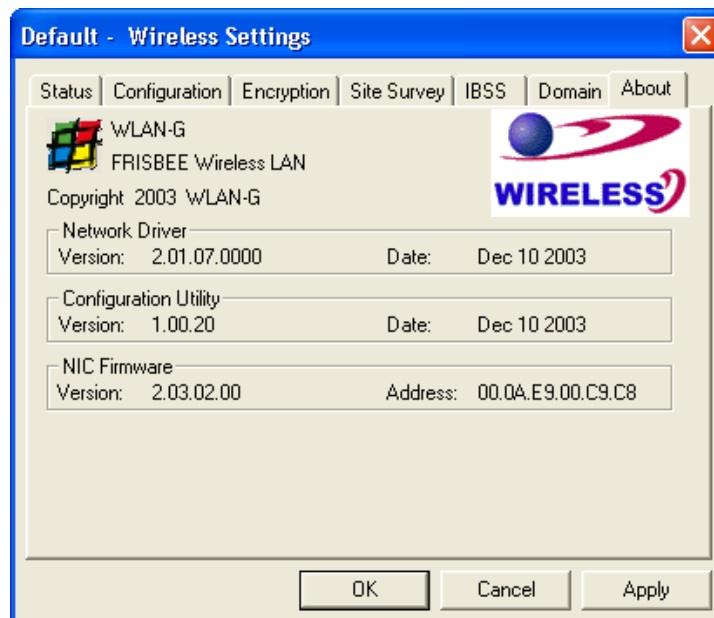
Figure 3-10: The **About** Tab

Network Driver

Displays the current version and released date of the 802.11b/g WLAN Adapter's driver.

Configuration Utility

Displays the current version and released date of the **WLAN-G Configuration Tool** application.

NIC Firmware

Displays the current NIC card firmware version and the MAC (Media Access Control) address of your wireless adapter. It is consisted of 12-digit hexadecimal numbers (48 bits in length) to identify your computer's physical address on the local area network.

3.4 The Advanced Properties

The **Advanced** properties setting tab provides the access to operating parameters for the network adapter, which are not controlled by the configuration utility, therefore, will be deeply effective to the performance of transmission quality and the functions applied from the configuration in the utility. Following steps describe how to access these properties under Windows XP. For Windows 2000, the details may differ slightly; consult your operating system documentation or your system administrator.

To display these properties, complete the following steps:

1. Right-click the **My Computer** desktop icon and choose **Properties** from the opened menu.

2. Choose the **Hardware** tab in the **System Properties** dialog box, and click **Device Manager**.

3. In the opened window, expand **Network adapters** to find the **WLAN-G Wireless LAN 802.11b/g Adapter**. Right-click over the item and choose **Properties** from the opened menu.
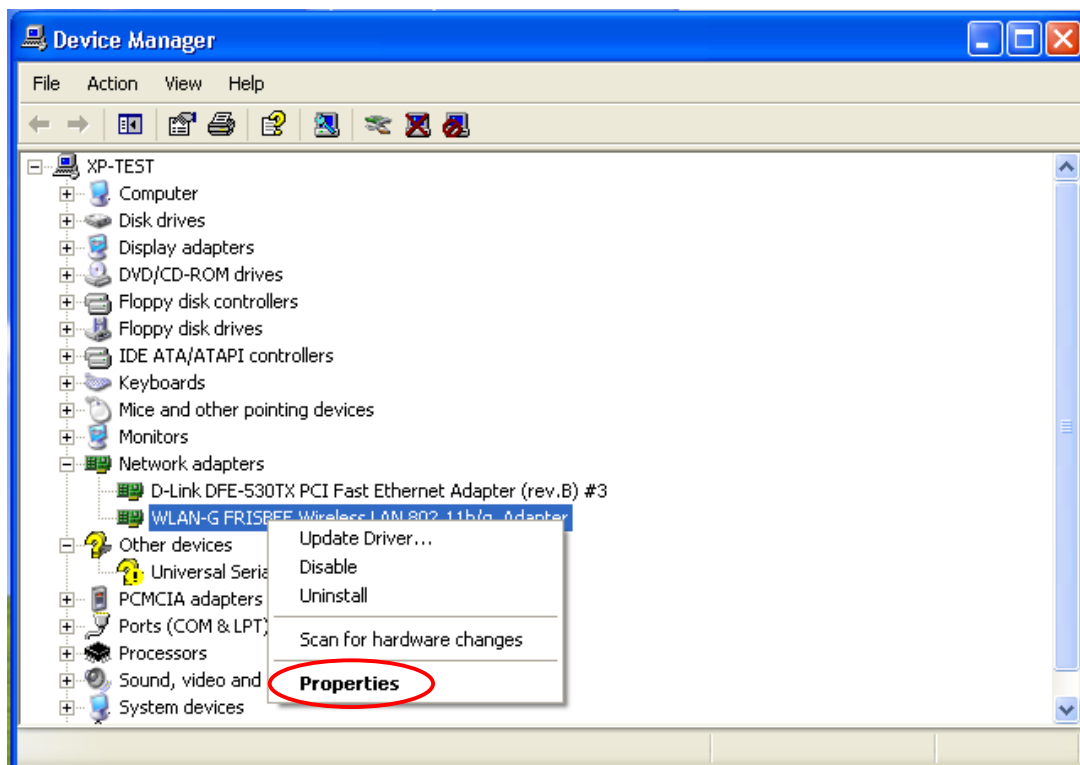

Figure 3-11: The **Device Manager** Dialog Box

4. When you click on the **Advanced** tab in the opened dialog box, a display similar to the following appears.
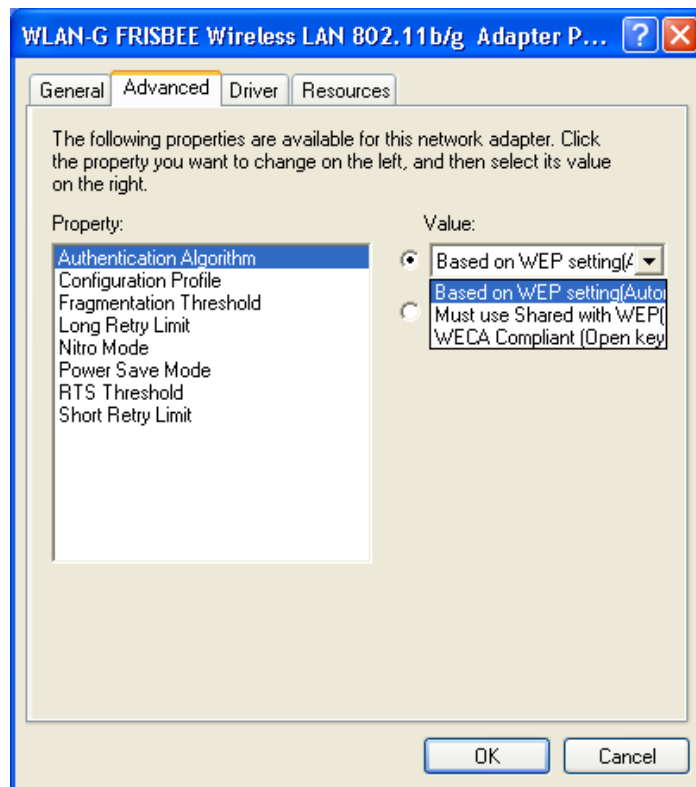
Figure 3-12: The **Advanced** Tab

You shall see the value for any of these properties by clicking on an item displayed in the **Property** field. If a value has been set for the property, it appears in the **Value** field to the right of the list. You may click to specify the **Value** settings from the offered drop-down list. To change a numeric value, simply move the mouse pointer to the **Value** field and click once with the left mouse button to highlight and type the value for the property according to your needs. Choosing **Not Present** under the **Value** field will disable a value.

The following section explains the items in the **Property** list displayed by this tab.

Authentication Algorithm

Specify a pre-defined profile with standard parameters from here. The provided profiles include:

□ **Based on WEP setting (Auto switching)** – switch automatically between **Must use Shared with WEP (Share key)** and **WECA Compliant (Open key)** for better security without missing any possibility of networking connections.

□ **Must use Shared with WEP (Share key)** – limit the connection permission only when the devices communicate with same WEP keys. This provides a higher security.

□ **WECA Compliant (Open key)** – open for all connective networks to access. This is an option of less security.

22

Configuration Profile

Specify a pre-defined profile with standard parameters from here. The provided profiles include:

- **B only** – for operation in 802.11b environments only
- **B WIFI** – for operation in 802.11b environments conforming to WiFi standards
- **G only** – for operation in 802.11g environments only
- **Mixed** – for operation in either 802.11b or 802.11g environments
- **Mixed Long** – for long-range operation in either 802.11b or 802.11g environments
- **Test** – for operation under the widest variety of 802.11 conditions

Fragmentation Threshold

The fragmentation threshold defines the size (in bytes) at which a packet is split into smaller packets for transmission. You can enter a value from 256 to 2432 in increments of 128. Normally, you should disable this property unless directed otherwise by your Network Administrator.

Niro Mode

This feature may increase data throughput over the WLAN and is particularly effective in mixed 802.11b/g environments. This property determines whether Nitro mode is enabled in your wireless adapter. A value of 0 (zero) disables this mode; a value of 1 (one) enables it.

Power Save Mode

This property turns the Station Power Save feature on or off, or sets it to Auto. When in **Auto** mode, the station enters Power Save based on the battery condition (XP only) on the host. **Power Save Mode** decreases the amount of power consumed by the adapter by powering off the radio for short periods. Enabling **Power Save Mode** trades off performance for battery life.

- **Auto Dynamic** – specifies Disable mode when on AC power and Dynamic mode when on battery
- **Auto Maximum** – specifies Disable mode when on AC power and Maximum mode when on battery

Note: **Auto Dynamic** and **Auto Maximum** require NDIS 5.1 or later, typically available only on Windows XP.

- **Disabled** – specifies continuous access mode and is the default
- **Dynamic** – specifies a fast power saving mode that provides the best combination of performance and power usage
- **Maximum** – specifies the greatest power saving mode

RTS Threshold

The RTS threshold is the packet size (in bytes) at which packet transmission is governed by the RTS/CTS transaction.

You can enter a value from 0 to 2432 in increments of 64 for this property. Normally you should leave this property disabled unless directed otherwise by your Network Administrator.

The Long/Short Retry Limit

The **Long Retry Limit** or **Short Retry Limit** is the maximum number of retransmission of a data packet because of the failure of receiving CTS or ACK.

APPENDIX A: TROUBLESHOOTING

This section provides solutions to problems that you might encounter during the installation and operation of your 802.11b/g WLAN Adapter. Please refer to the desired topics below and read the description to solve your problems.

Disable 802.11b/g WLAN Adapter

Supposed you do not need the 802.11b/g WLAN Adapter to establish the wireless connectivity for any reason, click **Disable Radio** on the **Status** tab of the **Wireless Settings** dialog box. Thus, be sure that you have closed all the network applications before disable the device.

Upgrade the Configuration Tool and the Card's Driver

If you have installed the configuration tool with the previous version, please refer to the next section for uninstalling the WLAN-G Configuration Tool and the card's driver, then reinstall by following the instructions of this manual or the Quick Start Guide.

Or you may simply ignore the previous version and go through the installation procedures as a new user.

Uninstall WLAN-G Configuration Tool and the Card's Driver

Prior to starting uninstalling, please make sure that the utility is closed. There are two ways to remove the **WLAN-G Configuration Tool** and the card's driver. Please check the following introductions for detailed steps of the two methods.

Method I

1. Right-click the **My Computer** desktop icon and choose **Properties** from its menu.
2. In the **System Properties** dialog box, choose **Device Manager** if you are under Windows 98 or ME. If you are operating Windows 2000 or XP, click the **Hardware** tab, and then choose the **Device Manager** button.
3. In the opened window, expand **Network adapters** to find the input device – **WLAN-G Wireless LAN 802.11b/g Adapter**. Right-click over the item and choose **Uninstall**.
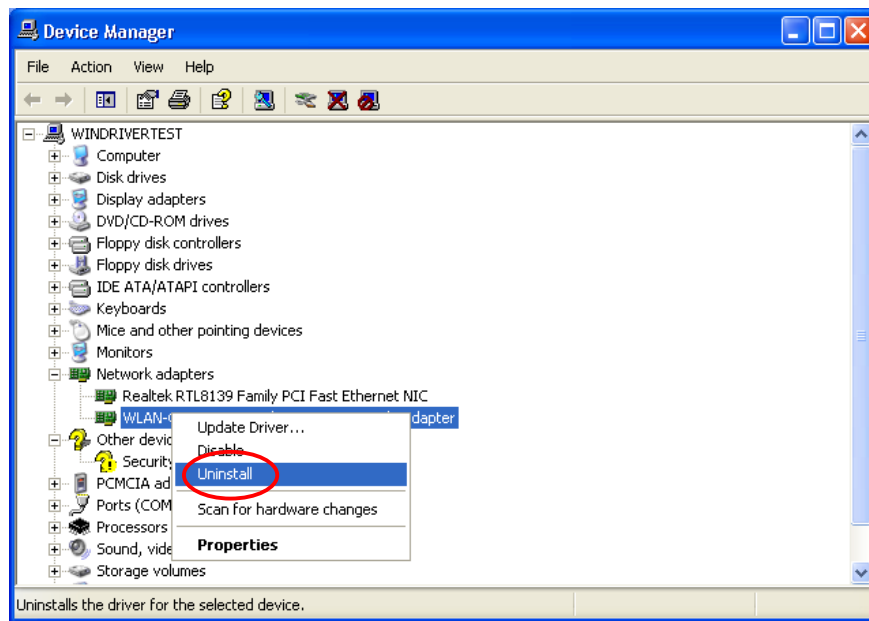
Figure 4-1: The **Device Manager** Dialog Box

4. In the **Confirm Device Removal** message box, click **OK** to proceed.

Figure 4-2: The **Confirm Device Removal** Message Box

5. Click **Start** on the taskbar and choose **Control Panel** from the **Settings** menu.

6. Select **Add or Remove Programs** to open the dialog box shown as below.
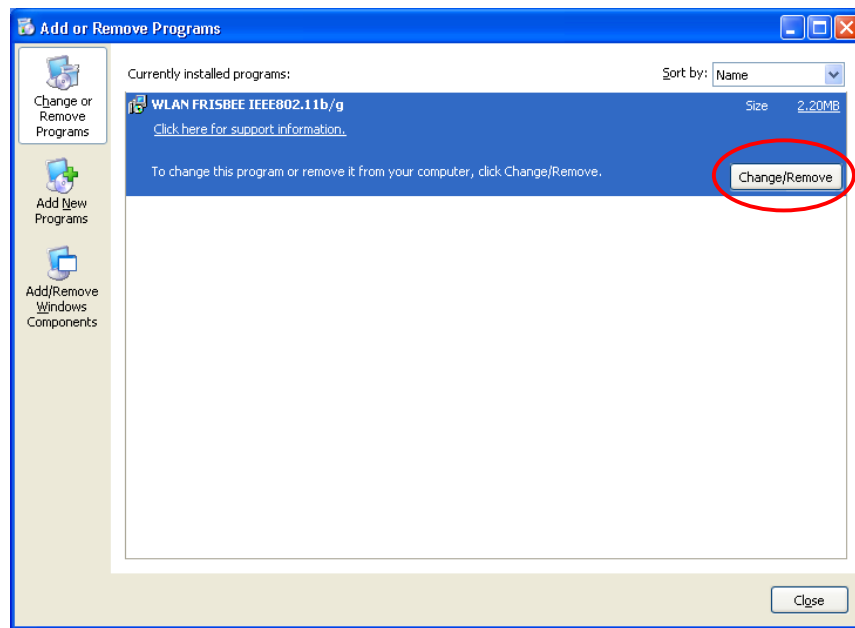
Figure 4-3: The **Add or Remove Programs** Dialog Box

7. Click the **Change/Remove** button under **WLAN-G IEEE802.11b/g**. Then the card will be entirely removed.

Method II

1. Put the new attached CD-ROM in the CD-ROM drive on your computer. It will detect the existence of the old version of the programs and start to uninstall it automatically.

2. In the prompted **WLAN-G IEEE802.11b/g Setup** window, choose **Remove** and then click the **Next** button to completely remove the card.
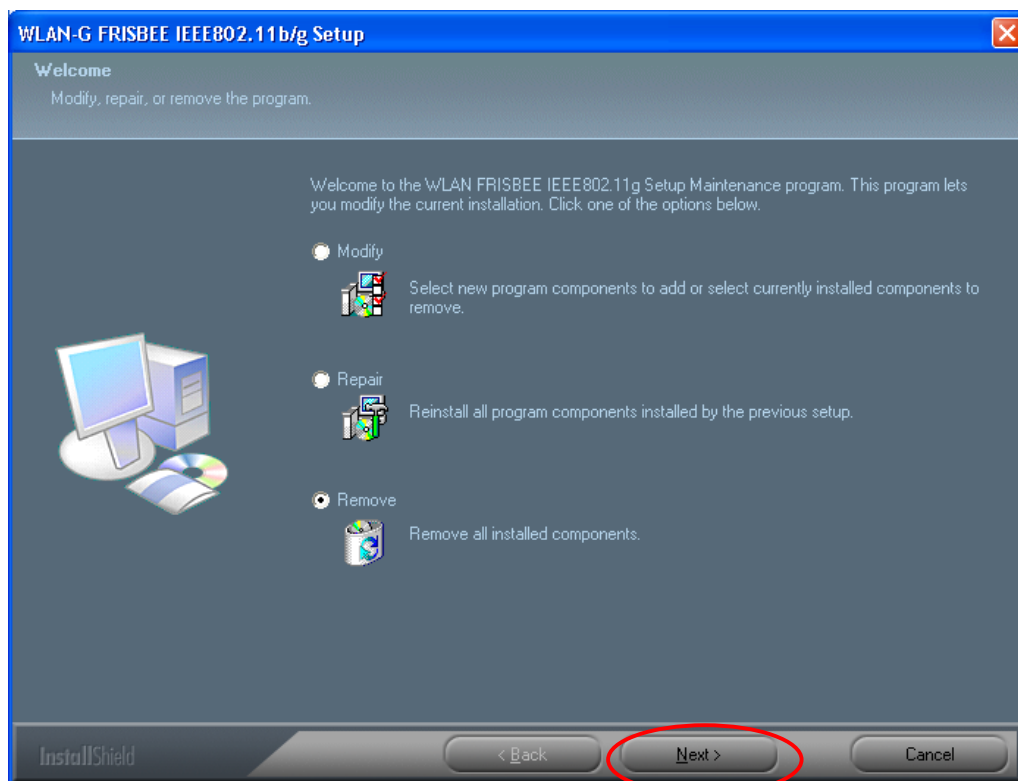
Figure 4-4: The **WLAN-G IEEE802.11b/g Setup** Window

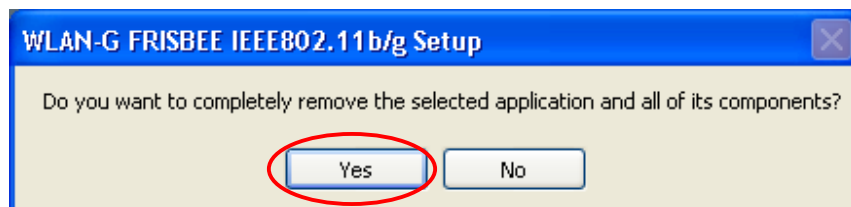3. Choose **Yes** when the following message box appears.

Figure 4-5: The **WLAN-G IEEE802.11b/g Setup** Message Box

4. From the **Maintenance Complete** screen, choose **Yes, I want to restart my computer now** if you are running Windows 98 or ME; on the other hand, if your current system is Windows 2000 or XP, choose **No, I will restart my computer later**. Then choose **Finish** to entirely complete the removal.
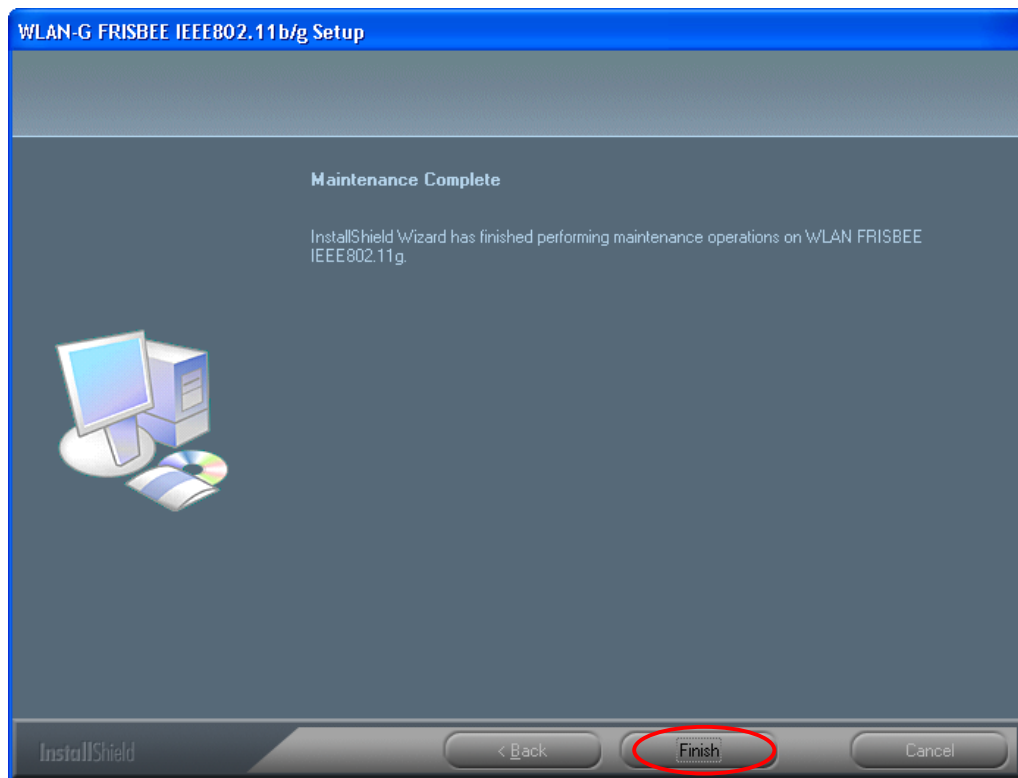
Figure 4-6: The **Maintenance Complete** Screen

802.11b/g WLAN Adapter Does Not Work Properly

If this happens, follow the guidelines below.

Right-click the **My Computer** desktop icon and choose **Properties** to open the **System Properties** dialog box. If you are under Windows 98 or Me, choose the **Device Manager** tab, or if your system is Windows 2000 or XP, click the **Hardware** tab, and then choose the **Device Manager** button. In the opened window, find your Adapter to see if the installation is successful. If you see a yellow exclamation mark beside the item, please go along with the steps below to reinstall the drivers:

1. Uninstall the software and hardware drivers from your PC. (Please refer to the previous topic for details)
2. Restart your computer and repeat the installation procedures as indicated in Chapter 2: Installation.
3. When finished, open the **Device Manager** window again to verify if the installation is approved. The yellow exclamation mark shall be removed for this time.

APPENDIX B: SPECIFICATIONS

Product Name	802.11b/g WLAN Adapter
Host Interface	Mini-PCI/Cardbus
Standards	IEEE 802.11, IEEE 802.11b, IEEE 802.11g
Frequency Band	2.400 ~ 2.4835GHz (subject to local regulations)
Current Drain	Power save mode=22mA, Standby mode=7mA, Transmit mode=460mA, Receive mode=410mA
Spreading	DSSS (11b), OFDM (11g)
Data Rate	1Mpbs, 2Mbps, 5.5Mbps, 6Mbps, 9Mbps, 11Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Transmit Power	802.11b$\geqq$17dBm 802.11g 6/9Mbps$\geqq$17dBm 12/18Mbps$\geqq$15dBm 24Mbps$\geqq$14dBm 36Mbps$\geqq$14dBm 48Mbps$\geqq$12dBm 54Mbps$\geqq$12dBm
Receive Sensitivity	802.11b 8% FER@1Mbps$\leqq$-91dBm 8% FER@2Mbps$\leqq$-88dBm 8% FER@5.5Mbps$\leqq$-85dBm 8% FER@11Mbps$\leqq$-83dBm 802.11g 10% PER@6Mbps$\leqq$-88dBm 10% PER@9Mbps$\leqq$-87dBm 10% PER@12Mbps$\leqq$-84dBm 10% PER@18Mbps$\leqq$-82dBm 10% PER@24Mbps$\leqq$-79dBm 10% PER@36Mbps$\leqq$-75dBm 10% PER@48Mbps$\leqq$-69dBm 10% PER@54Mbps$\leqq$-68dBm
Modulation	CCK (11b), BPSK, QPSK, 16-QAM, 64-QAM (11g)
Security	64/128 bit WEP Encryption 802.1x, WPA (Windows XP SP1 and Windows 2000 SP4 only)
Internal Antenna Type	Dual Antenna Diversity Switching

Media Access Control	RF activity
Supplied Driver	CSMA/CA with ACK
Warranty	1 year
Temperature Range	0~65°C (Operating)
Humidity	Max. 95% Non-condensing
Operating Range	Open Space: up to 400meters; Indoor: up to 100meters The transmission speed varies in the surrounding environment.
CIS	Customer Defined