

802.11b WLAN USB Stick



User Manual

Version 1.5

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

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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:

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- 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 device and its antenna 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.

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1. INTRODUCTION

The 802.11b Wireless LAN USB Stick aims to let your desktop computer quickly and seamlessly communicate with 802.11b (at up to 11 Mbps) networks. Wireless LAN is local area networking without wires, which uses radio frequencies to transmit and receive data between PCs or other network devices. With this wireless LAN USB Stick, surfing on the Internet couldn't be any easier. Simply insert the USB Stick to the USB port of your computer, launch the attached friendly-interfaced utility – **Wireless Configuration Tool** to configure the USB stick, and then you will have been ready to experience how the LAN (local area network) can be carried in your palm or pocket. You can operate the network in either an independent mode or an infrastructure mode. The former, which is also known as peer-to-peer or ad-hoc network, lets you make connection directly with other wireless-equipped computers, and the later, the so-called infrastructure network, allows you to communicate with wired LAN via an access point.

To obtain most benefits your 802.11b Wireless LAN USB Stick provides, please read this manual carefully before using it.

1.1 Features

With the 802.11b Wireless LAN USB Stick, you can

- * exchange data over the air, which minimizes the need for wired connections
- * possess the portability and mobility of wireless networking connectivity wherever you are
- * operate Ad-Hoc or Infrastructure mode
- * utilize up to 128-bit WEP encryption
- * enjoy high-speed data transfer rate up to 11 Mbps
- * employ automatic data rate switching which offers maximum reliability, throughput and connectivity
- * monitor and configure the network via the supplied friendly-interfaced application software–**Wireless Configuration Tool**

1.2 Package Contents

Before starting the installation, please make sure the package you purchased includes following items:

- * One 802.11b Wireless LAN USB Stick
- * One Setup Wizard CD-ROM with User Manual
- * One Quick Installation Guide

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

1.3 System Requirements

To properly operate your 802.11b Wireless LAN USB Stick, your computer must meet the following minimum requirements:

- * 32 MB RAM or above
- * A CD-ROM drive
- * 300 MHz processor or higher
- * Microsoft Windows 98 Second Edition/Me/2000 or Windows XP
- * USB Port version 1.1

1.4 The 802.11b Wireless LAN USB Stick

Your 802.11b Wireless LAN USB Stick should be located in the USB port of your computer.



Figure 1.4-1: 802.11b Wireless LAN USB Stick

Concerning to the issues of space-saving and direction-controlling, you may also use the supplied USB gender changer to change USB A type Male connector to B type Female connector according to your needs.



Figure 1.4-2: USB Gender Changer

2. INSTALLATION OF THE 802.11b WIRELESS LAN USB STICK

It's free and easy for you to install your 802.11b Wireless LAN USB Stick and the attached software – **Wireless Configuration Tool**. Simply with a few clicks of the mouse, you will succeed the completion of installation.

2.1 Installation Procedures

To have the 802.11b Wireless LAN USB Stick operated appropriately, please read and go along with the instructions below carefully. Here we take Windows XP as an example.

- a) Plug your 802.11b WLAN USB Stick into your PC's USB port.
- b) Your system will detect the device, and the **Found New Hardware Wizard** dialog box will appear. Choose **Cancel** to proceed.

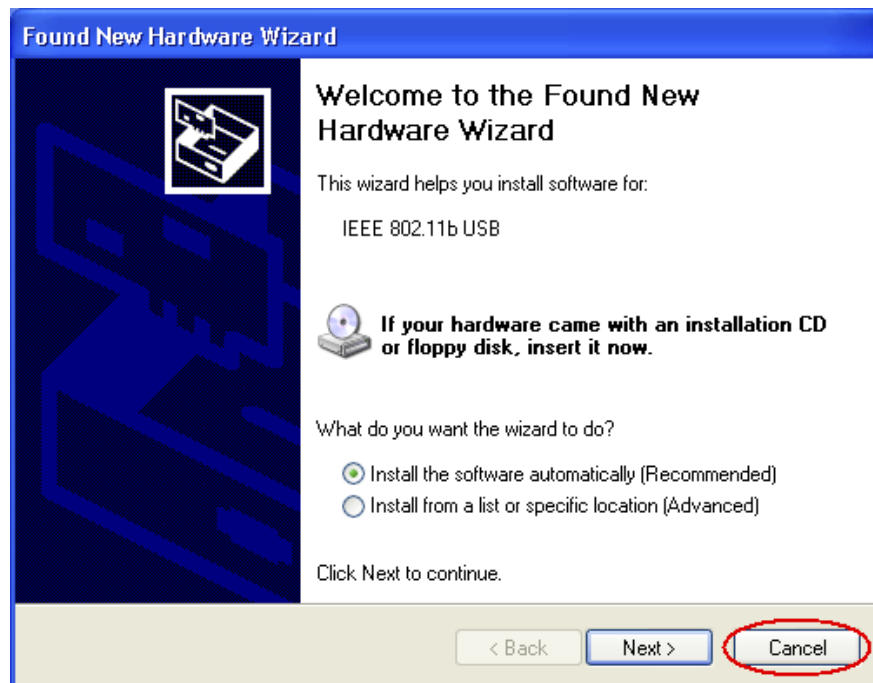


Figure 2.1-1: The **Found New Hardware Wizard** Dialog Box

- c) Insert the supplied Setup CD into your CD-ROM drive, and the Setup Wizard will run automatically. If it does not, please manually execute **autorun.exe** under the CD's directory.
- d) From the prompted start-up screen, choose **Install Driver** to begin the installation.



Figure 2.1-2: The Start-up Screen

- e) Click **Next** in the **Welcome to the InstallShield Wizard** window to proceed. The system will start to copy the drivers found.

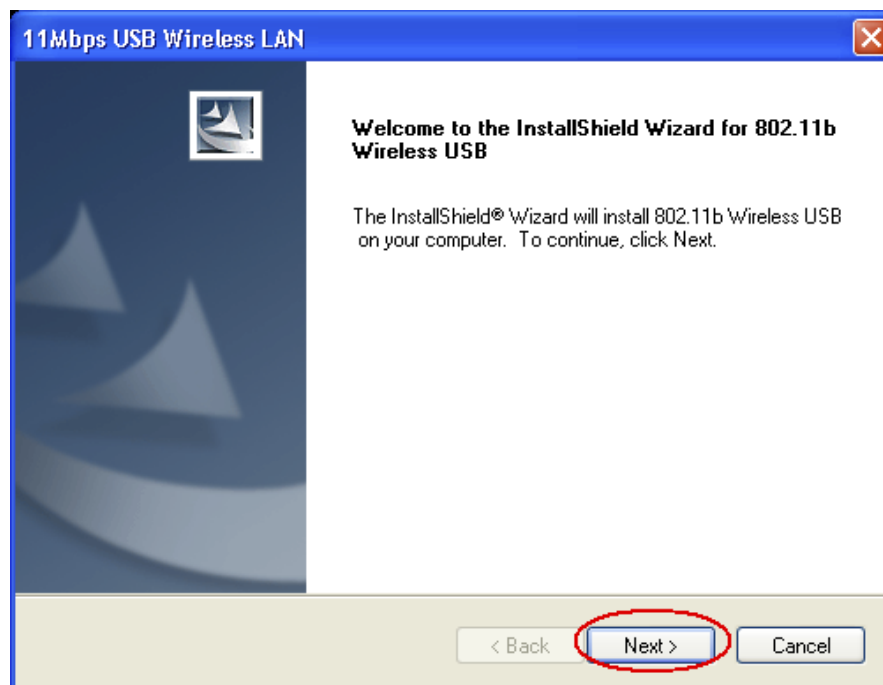


Figure 2.1-3: The **Welcome to the InstallShield Wizard** Window

- f) Windows will notify you that the driver **has not passed the Windows Logo testing**. Because the USB Stick has been tested to work with Windows XP, please choose **Continue Anyway** in the **Hardware Installation** dialog box.

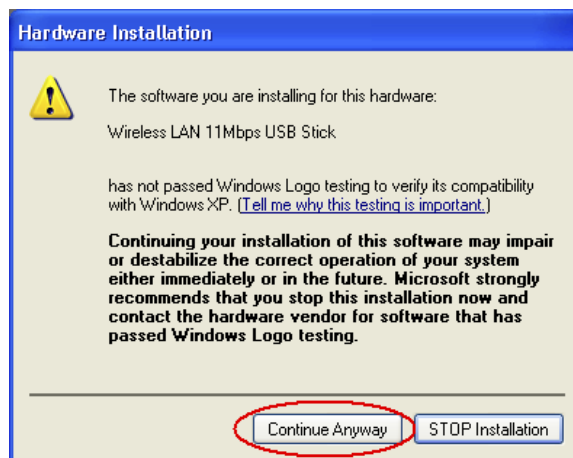


Figure 2.1-4: The **Hardware Installation** Dialog Box

- g) In the **Install Finished** screen, click **Finish** to complete the installation. Note that if you are running Win98/98SE/ME system, the computer will restart so that the installation could be completed.

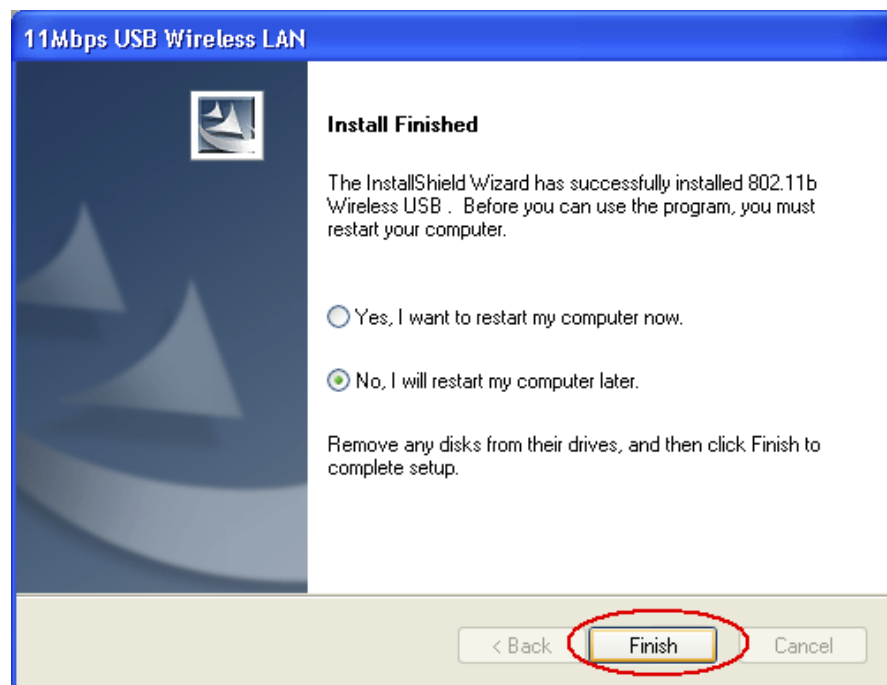



Figure 2.1-5: The **Install Finished** Screen

Now you shall find the **Wireless Configuration Tool** tray icon, , appeared in the system tray. The installation is entirely finished at the moment. Double-click the icon to launch the application and open the **Wireless Settings** dialog box, in which you may freely arrange your network connection afterwards.

Note: If your system is running Windows 98, please refer to the next topic: **Installation Notes – Windows 98 to complete the installation.**

For more details about **Wireless Configuration Tool**, please refer to [Wireless Configuration Tool](#)

[Basics](#) in this manual.

When using the 802.11b WLAN USB Stick under Windows 98 for the first time, you will be interrupted and asked to insert the Windows 98 CD-ROM disk after rebooting the system (After step **g** in the previous topic).

While the **Insert Disk** message box prompts, please do as it directs and then click **OK** to proceed.

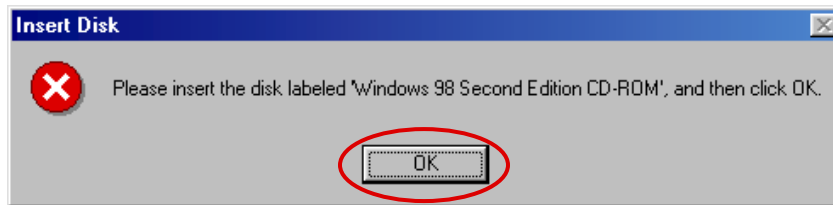


Figure 2.2-1: The **Insert Disk** Message Box

Then follow the on-screen instructions to complete the installation.

2.3 Installation Notes - Windows XP

If your system is running Windows XP, you shall find that two tabs are contained in the **Wireless Settings** dialog box after you've followed the instructions above and successfully installed the drivers. However, normally, the dialog box should be consisted of five tabs. This is because Windows XP has its built-in configuration tools – **Windows XP Wireless Zero Configuration** to assist you in networking activities. It is recommended to utilize the attached **Wireless Configuration Tool** to enjoy more benefits it will bring. Thus, to employ your **Configuration Tool** under Windows XP, please proceed to the next step to change the default settings of **Wireless Zero Configuration** to **Wireless Configuration Tool**.

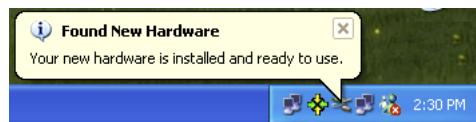


Figure 2.3-1: The **Wireless Configuration Tool** Tray Icon

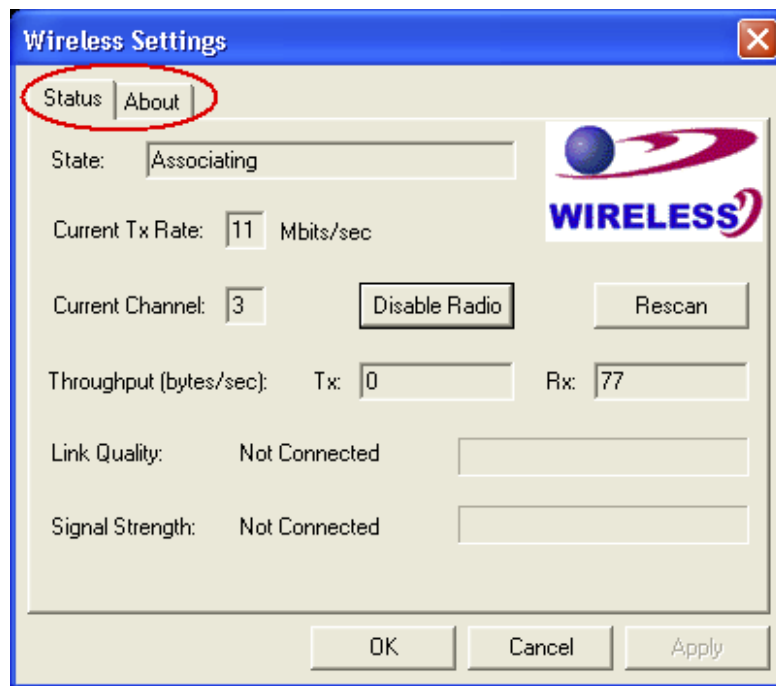


Figure 2.3-2: The **Wireless Settings** Dialog Box

- a) Right-click the **Network Connections** icon at the task bar to open the **Wireless Network Connection Status** dialog box, and then select **Properties**.

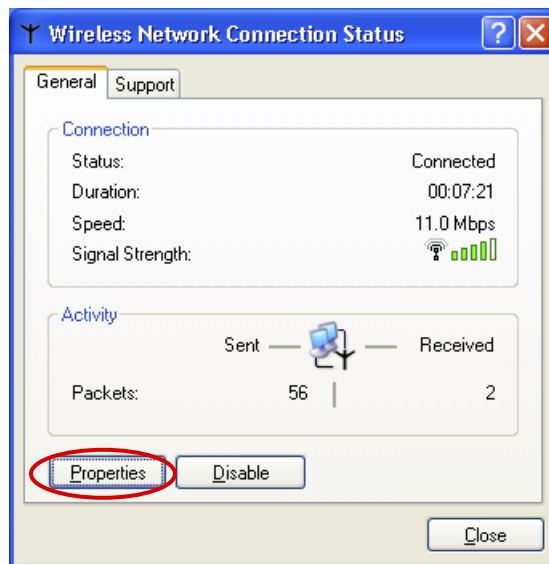


Figure 2.3-3: The **Wireless Network Connection Status** Dialog Box

- 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.

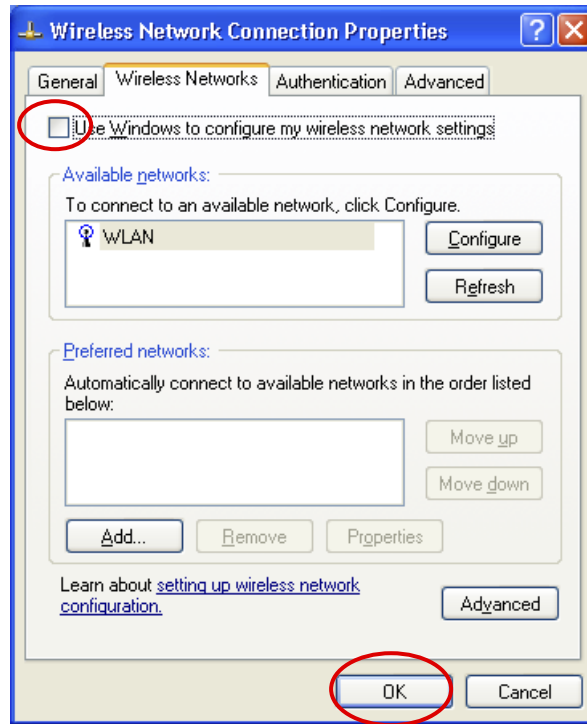


Figure 2.3-4: The **Wireless Network Connection Properties** Dialog Box

- c) Click **OK**. Now, you have successfully disabled the **Wireless Zero Configuration**.

To monitor and configure the network via **Wireless Configuration Tool**, double-click its tray icon, and you shall find five tabs contained in the popped up **Wireless Settings** dialog box this time. For more information on **Wireless Configuration Tool**, please refer to [Wireless Configuration Tool Basics](#) below.

*please refer to the chapter: **Configuration through Wireless Zero Configuration** to configure the WLAN USB Stick.*

To confirm that your 802.11b Wireless LAN USB Stick 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 98/98SE/ME. If you are operating Windows 2000/XP, click the **Hardware** tab, and then choose the **Device Manager** button.
3. In the opened window, expand **Network adapters** to find the USB Stick – **Wireless LAN 11Mbps USB Stick**. 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 USB Stick is working properly. However, if there's an error

message shown, please uninstall it and go through the installation procedures again. To uninstall the device, please refer to Appendix A for detailed information.

The following picture indicates a successful installation of the 802.11b Wireless LAN USB Stick.

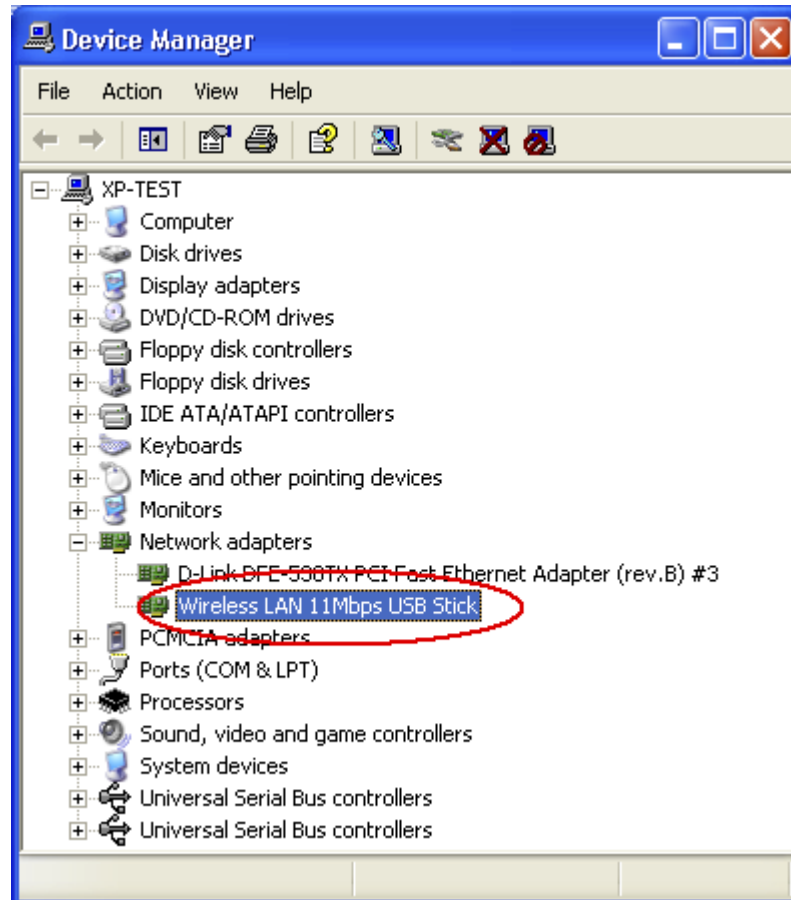


Figure 2.4-1: The **Device Manager** Dialog Box

3. CONFIGURATION THROUGH WIRELESS ZERO CONFIGURATION

As you have already known, Windows XP has its built-in configuration tools – **Windows XP Wireless Zero Configuration**, to assist you in some basic configurations of wireless network connection. The service starts automatically at the completion of the installation of 802.11b WLAN USB Stick, and you will find the icon appears in the system tray as the picture below.



Figure 3-1: The **Wireless Network Connection** Icon

Please refer to the desired topics below to look for more details about utilizing your 802.11b WLAN USB Stick via **Wireless Zero Configuration**.

3.1 To Connect an Available Network via Wireless Zero Configuration

1. Double-click the **Wireless Network Connection** icon.
2. In the opened **Connect to Wireless Network** dialog box, the currently available networks are listed in the **Available networks** field. From the list, choose an item that you intend to associate with.
3. If the chosen entry requires a WEP encryption key and also automatically provides it, leave the **Network Key** field blank and then choose the **Connect** button to build the connection. Otherwise, you will need to manually enter the identical key in the **Network Key** field before clicking **Connect**.

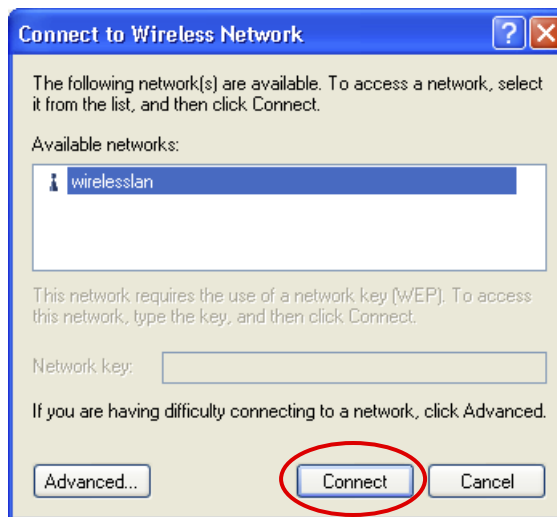


Figure 3.1-1: The **Connect to Wireless Network** Dialog Box

4. If the connection is established, there will be a pop-up message shown beside the **Wireless Network Connection** icon on the system tray. You could obtain the information on the status of connection from the message.

3.2 To Configure the Wireless Networks Properties

If you cannot establish a connection with the chosen entry or you wish to configure further wireless network connection settings, choose the **Advanced** button in the **Connect to Wireless Network** dialogue box.



Figure 3.2-1: The **Connect to Wireless Network** Dialog Box

After clicking **Advanced**, you will enter into the **Wireless Networks** tab of the **Wireless Network Connection Properties** dialog box, in which three other tabs are found, including **General**, **Authentication**, and **Advanced**. The **Wireless Networks** tab includes almost all main settings for the networking connection. Please check the descriptions below to learn more about the tab.

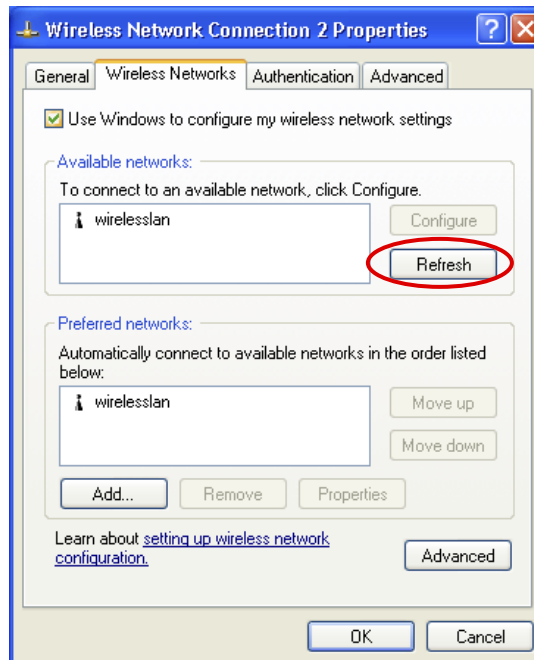


Figure 3.2-2: The **Wireless Network Connection Properties** Dialog Box

Note: For more detailed information about each tab, please refer to the Windows XP Online-Help.

The **Wireless Networks** tab is chiefly consisted of two sections: **Available networks** and **Preferred networks**.

- Under the **Available networks** area, all the available access points or Wireless LAN PC Card equipped computers are displayed. You may wish to click **Refresh** to update the list. If you choose any listed item in the field and then click **Configure**, the **Wireless Network Properties** dialog box will appear as Figure 3-5 shows. Check the descriptions below the figure to obtain more information about the dialog box.
- In the **Preferred networks** area, you could add any displayed networks to the list by clicking over the intended item from **Available networks** and then selecting the **Add** button. After clicking **Add**, the **Wireless Network Properties** dialog box will appear as Figure 3-5 displays. Note that to delete any item under the **Preferred networks** area, simply remark it with your mouse and click **Remove** button. Additionally, you may adjust the items in the list by clicking the desired item and then choosing the **Move up** or **Move down** button. It is, however, important to realize that Windows XP will always choose the first one in the list to establish the networking connection.

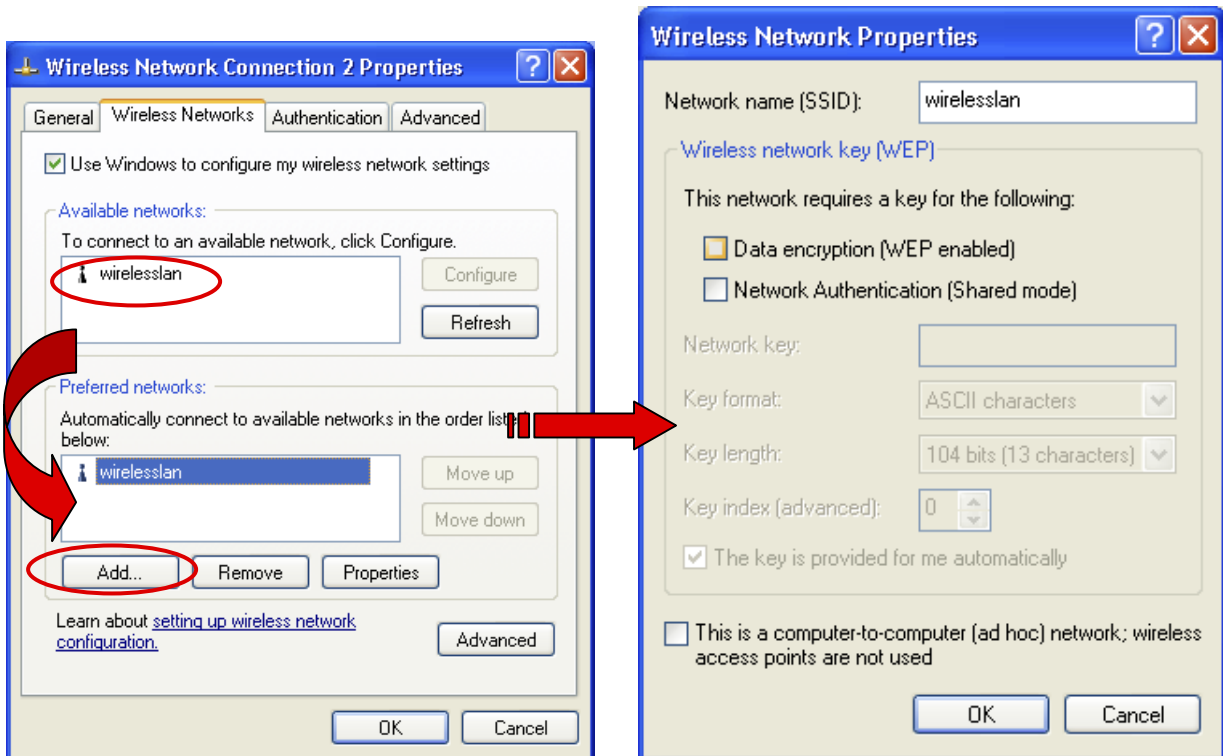


Figure 3.2-3: The **Wireless Network Properties** Dialog Box

Note: Once you choose an item from the **Preferred networks** list and then click **Properties**, the **Wireless Network Properties** will also be provoked.

- In the opened **Wireless Network Properties** dialog box, edit texts in the **Network Name (SSID)** field to identify the chosen network entry in the wireless LAN.
- If there's a need, go to the **Wireless network key (WEP)** area to set the keys as the associated access point or Wireless LAN PC Card equipped computer requests. To set WEP, select **Data encryption (WEP enabled)** and **Network Authentication**. Then enter the encryption key for the

network you intend to connect in the **Network key** filed. Prior to typing texts as the network key, you may wish to define the **Key format** and **Key length**. Click **OK** when you are finished, and you will return to the **Wireless Network Connection Properties** dialog box.

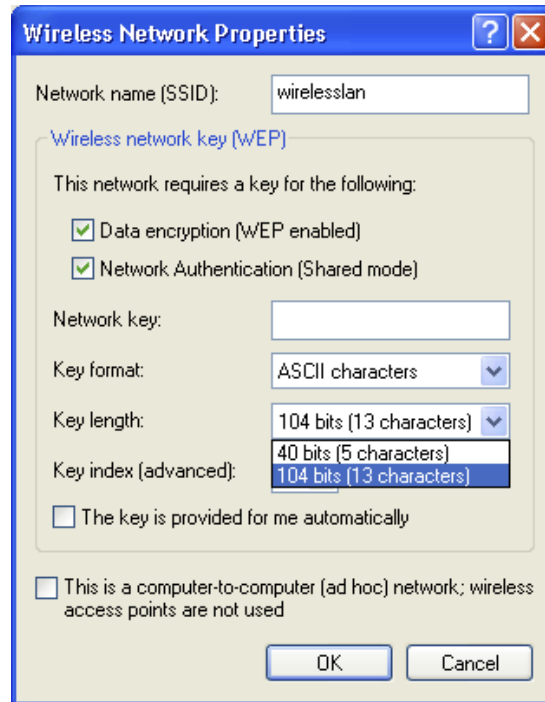


Figure 3.2-4: Enter WEP

Note: For more details of this tab, you may click the link: [setting up wireless network configuration](#) at the bottom of the **Wireless networks** tab to launch the Windows XP Online-Help.

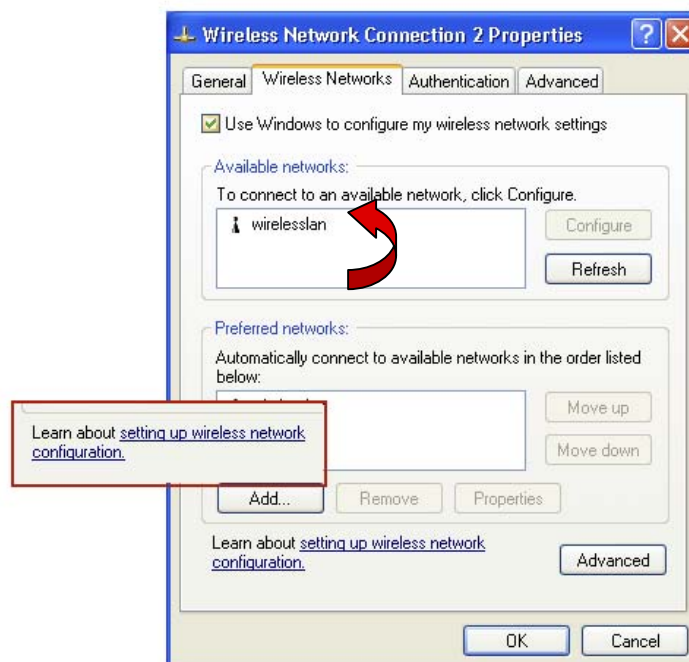


Figure 3.2-5: Setting up wireless network configuration

3.3 To Access to Certain Wireless Network Type

The default network type of **Windows XP Wireless Zero Configuration** is any available access points (Infrastructure mode) or WLAN Card equipped computers (Ad-Hoc mode) within the range at the given time. However, you may wish to connect to a certain network type sometimes. To change the default settings, click the **Advanced** button in the **Wireless Network Connection Properties** dialog box.

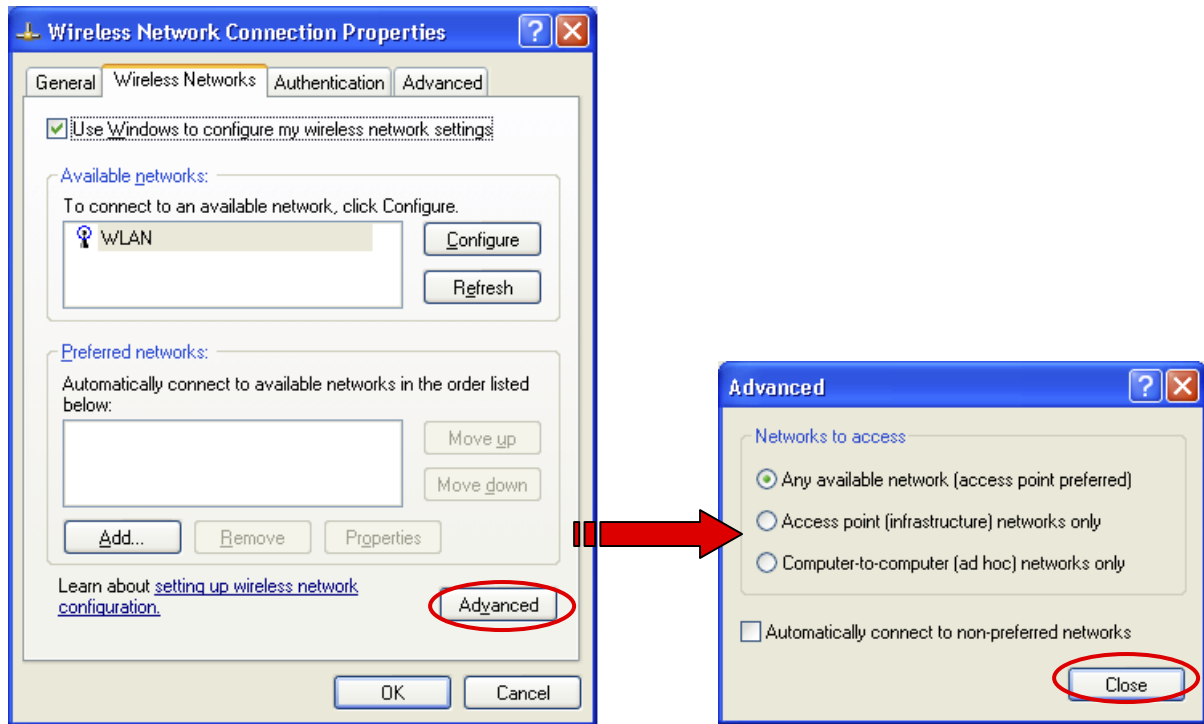



Figure 3.3-1 The **Advanced** Dialog Box:

The **Advanced** dialog box provides three options, **Any available network**, **Access point networks only**, and **Computer-to-computer networks only**. Choose one of them according to your need and click **Close** to finish. Then you will find under the **Available networks** area in the **Wireless Network Connection Properties** dialog box, only the specified networks are displayed.


Note: If you wish to use the attached application –**Wireless Configuration Tool** of the 802.11b WLAN USB Stick instead of Windows XP's **Wireless Zero Configuration**, please refer to **2.2 Installation Notes –Windows XP** in this manual to change the settings.

4. WIRELESS CONFIGURATION TOOL BASICS






After successfully installing the driver for your 802.11b Wireless LAN USB Stick on your computer, you may see the **Wireless Configuration Tool** icon, , displayed in the system tray. To set configurations for your USB Stick, double-click the icon to open the **Wireless Settings** dialog box, in which five tabs are contained, including **Status**, **Configuration**, **Encryption**, **Site Survey**, and **About**. Each of them proffers different functions to assist you in configuring the connection to the networks.

In this chapter, four topics are offered: **Tray Icon**, **Country Selection**, **Right-Click Menu of the Tray Icon**, and **Program Controls**. Please refer to the preferred topic to obtain more information and enjoy vast advantages **Wireless Configuration Tool** brings.

4.1 Tray Icon

As long as you finish installing **Wireless Configuration Tool** on your computer system, you will see its icon, , shown at the right bottom corner of your screen. 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 state 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.

4.2 Wireless Country Selector

For your convenience while roaming around the world, **Wireless Country Selector** is designed to allow you to catch the local available channel range, which differs in different countries.

1. Select the **Wireless Country Selector** command in the **11Mbps Wireless USB** of the **Programs** from the **Start** menu.

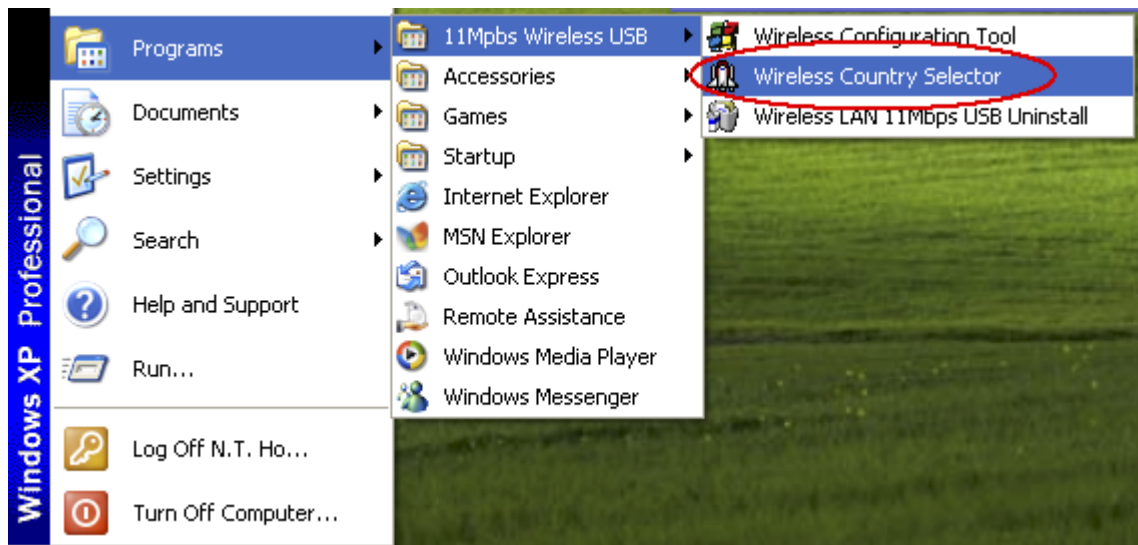


Figure 4.2-1 The Path to **Wireless Country Selector**

2. The **Country Selector** dialog box will appear. Click the down arrow, and choose the country from drop-down list. Click **APPLY** to process the command.



Figure 4.2-2 The **Country Selector** Dialog Box:

3. Then click **OK** to confirm the country code update.

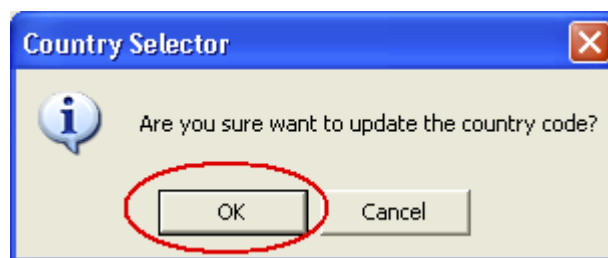


Figure 4.2-3 The Double Confirm Request Dialog Box:

4. In the **Update Complete** message box, click **OK** to finish.

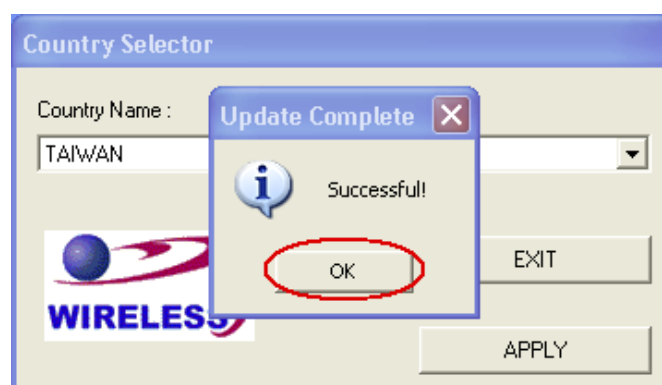


Figure 4.2-4 The **Update Complete** Dialog Box

Then, you can check the result in the **Peer-to-Peer Channel** field in the **Configuration** tab of the **Wireless Settings** dialog box to see if the range of available channels had been renewed according to the country you set in the **Country Selector** dialog box.

4.3 Right-Click Menu of the Tray Icon


Right-clicking the **Wireless Configuration Tool** icon, , in the system tray will open a menu as the following picture:



Figure 4.3-1: 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 don't wish to have the **Wireless 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 **Wireless Configuration Tool** hereafter, click **Start** on the taskbar, choose **Program** from the menu, and then point to **Wireless Configuration Tool** from the submenu of **11Mbps**

Wireless USB. Clicking **No** will undo the removal.



Figure 4.3-2: 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 various options to maintain the secure management in a wireless LAN environment. See the explanations in **The Encryption Tab** of the **Program Controls** section below for more details.

Version Information

Choosing this command will launch the **About** tab of the **Wireless Settings** dialog box. The **About** tab reveals general information on your USB Stick, including the release version of driver and the **Wireless Configuration Tool** and the USB stick's MAC Address.

4.4 Program Controls

When you double-click the **Wireless Configuration Tool** tray icon, the **Wireless Settings** dialog box will be prompted as the picture shows below. You may also launch this dialog box via clicking **Start** on the taskbar, choosing **Program** from the menu, and then pointing to **Wireless Configuration Tool** from the submenu of **11Mbps Wireless USB**.

The application is a window-based program, which is consisted of five tabs, including **Status**, **Configuration**, **Encryption**, **Site Survey**, and **About**.

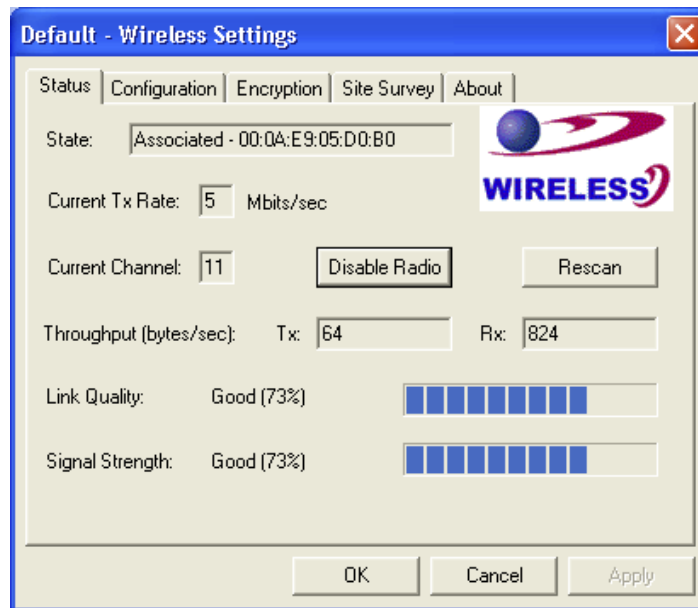


Figure 4.4-1: The **Wireless Settings** Dialog Box

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

The Status Tab

In the **Wireless Settings** dialog box, click the **Status** tab to appear 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 **Wireless Configuration Tool** tray icon will launch this tab too.*

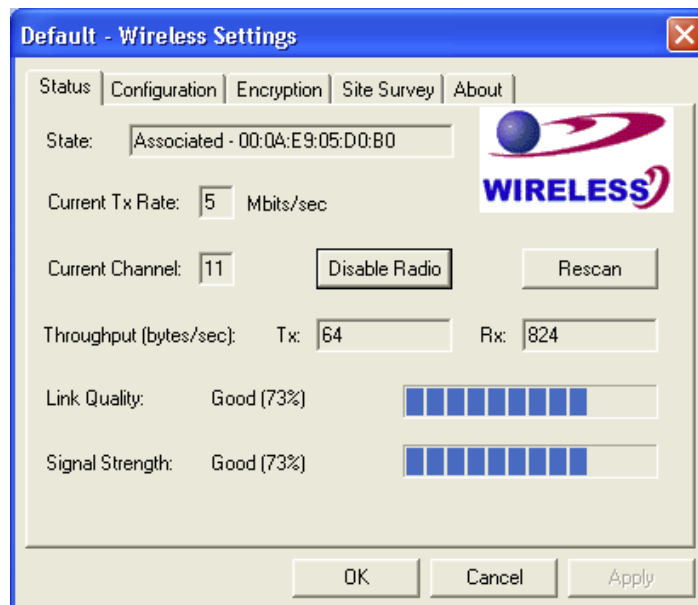


Figure 4.4-2: The **Status** Tab

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

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 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 the MAC Address of the current associated entry, which could be a connected access point in the Infrastructure mode or computers 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.

Throughput (bytes/sec)

This feature indicates the rates of transmitting (**Tx**) and receiving (**Rx**) data of your WLAN USB Stick 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.

Note: Choosing the **Advanced Configuration** command from the right-click menu of **Wireless Configuration**

Tool tray icon will launch this tab too.

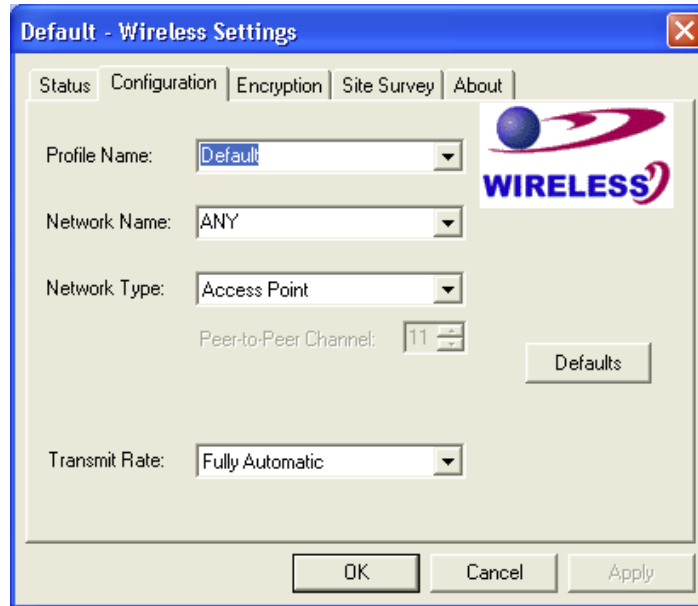


Figure 4.4-3: The **Configuration** Tab

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, click the arrow button at the right of the **Profile Name** field to open the pull-down menu and then select an intended one from it.

***Note:** You will have at least one profile named **Default**. When selecting any link from the list under the **Site Survey** tab, you have already automatically established a new profile for it under the **Configuration** tab.*

Network Name

Network Name, also known as SSID (Service Set Identifier), 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 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**.

Peer-to-Peer Channel

This command is only available while you are operating the **Peer-to-Peer** mode, the so-called Ad-Hoc mode. Specify the operating radio frequency channel from the pull-down menu if you are the creator of the wireless network. If you are the joiner, just configure the SSID and click **Apply**. 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. While in the **Access Point** mode, the channel number would be the same as the associated access point. Thus, there's no need to manually set up the value.

***Note:** To obtain the correct channel range in different countries, renew your location information in the **Country Selector** dialog box. Please refer to section [4.2 Wireless Country Selector](#) for more details.*

Transmit Rate

This command allows you to indicate the rate of transferring the data packet from the associated access point or any nodes within the range. There are four options for you: **Auto 1 or 2 Mb**, **5.5 Mb**, **11 Mb**, and **Fully Automatic**. Specify the rate from the provided options according to the speed of your wireless network, or you may simply choose **Fully Automatic** to set the best available rate according to the received signal quality and the capabilities of the associated access point or station.

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 (Wired Equivalent Privacy) 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 **Wireless Configuration Tool** tray icon will launch this tab too.*

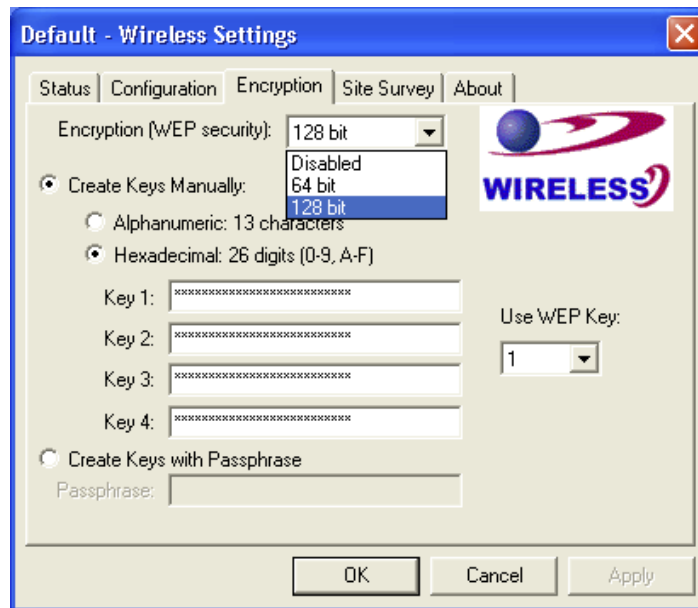


Figure 4.4-4: The **Encryption** Tab

Encryption (WEP security)

If you choose **Disabled** from the pull-down list, you will have the wireless LAN USB stick 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 Keys 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** field to generate four encryption keys in the **Key** fields above. Note that only letters A-F are valid for the **Passphrase** feature.

*Note: When entering the passphrase here, ensure that you have specified an accurate type of the **Encryption (WEP security)** above according to the associated agent's configuration. Otherwise, the inaccuracy will cause any failure of performance.*

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

The Site Survey Tab

First of all, while entering this tab, please do choose the **Rescan** button to reinitiate the scanning process and update the list. 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 **BSSID** field of the intended entry, and you will be led to the **Status** tab then.

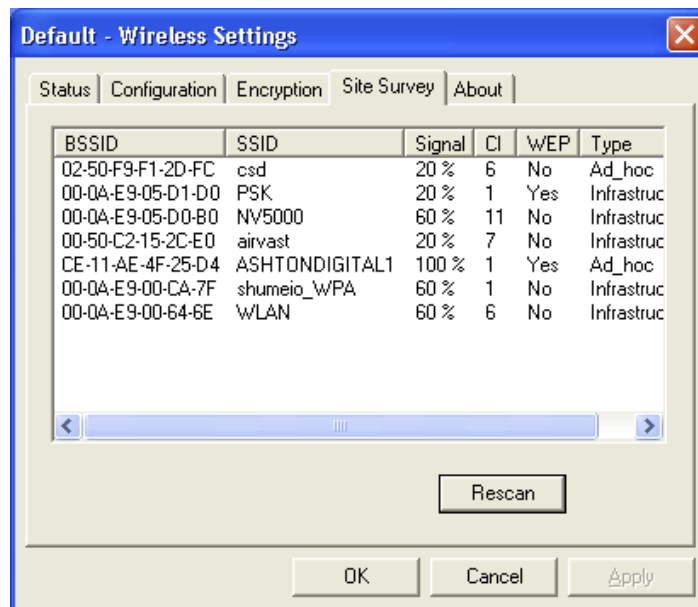


Figure 4.4-5: The **Site Survey** Tab

The About Tab

This tab reveals general information on your wireless LAN USB Stick, including following items.

*Note: Choosing the **Version Information** command from the right-click menu of **Wireless Configuration Tool** tray icon will launch this tab too.*

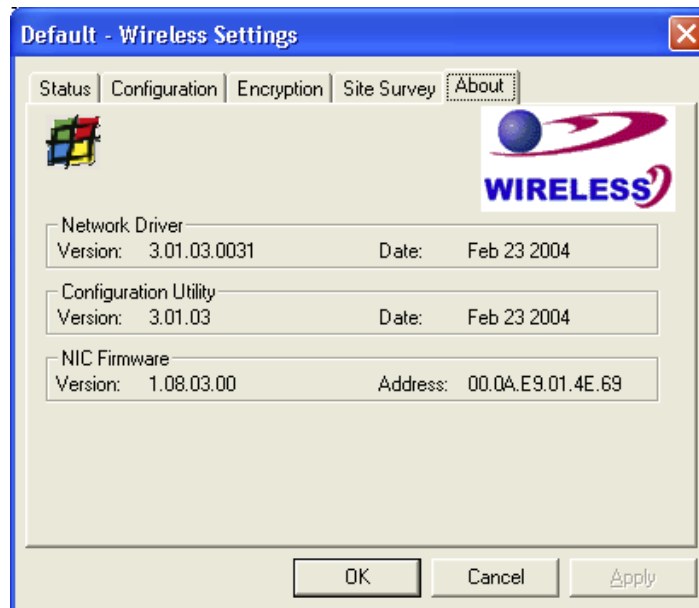


Figure 4.4-6: The **About** Tab

Network Driver

Displays the current version and released date of the 802.11b Wireless LAN USB Stick's driver.

Configuration Utility

Displays the current version and released date of **Wireless Configuration Tool**.

NIC Firmware

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

APPENDIX A: TROUBLESHOOTING

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

The 802.11b WLAN USB Stick Does Not Work Properly

If this happens, follow the guidelines below.

1. Right-click the **My Computer** desktop icon and choose **Properties** to open the **System Properties** dialog box.
2. If you are under Windows 98/98SE/ME, choose the **Device Manager** tab, or if your system is Windows 2000/XP, click the **Hardware** tab and then choose the **Device Manager** button.
3. In the opened window, find your USB Stick 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 device.
4. Uninstall the software and hardware drivers from your PC. (Please refer to the next section for details)
5. Restart your computer and repeat the installation procedures as indicated in the **Installation of the 802.11b Wireless LAN USB Stick** chapter in this manual.
6. 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.

If the solution mentioned here has been failed, please contact your distributor to make further check on hardware and software.

Uninstall Wireless Configuration Tool and the Stick's Driver

Prior to starting the uninstalling, please make sure that **Configuration Tool** is closed, and then go along with the procedures below to entirely uninstall **Configuration Tool** and the Stick driver.

1. Choose the **Wireless LAN 11Mbps USB Uninstall** command in the submenu of **11Mbps Wireless USB**, which is opened from the **Program** of the **Start** menu.

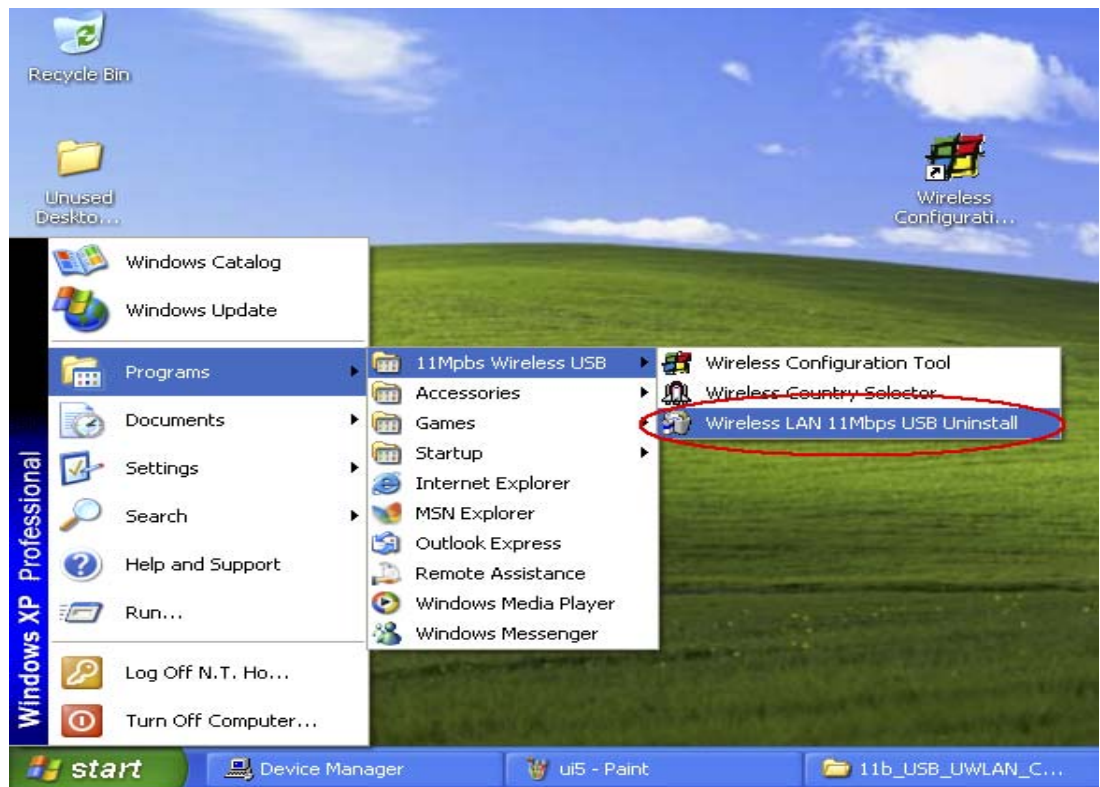


Figure 5-1: The Path to the **Wireless LAN 11Mbps USB Uninstall**

2. In the **Welcome** window, choose **Remove**, and then click **Next** button to proceed.

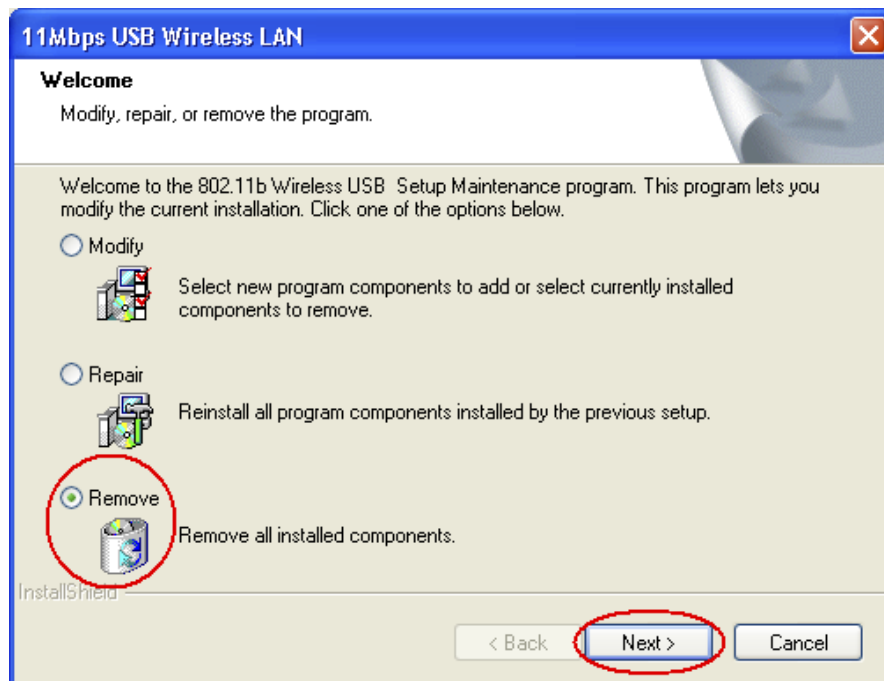


Figure 5-2: The **Welcome** Window

3. In the appeared double confirm request message box, click **Yes** to process the removal.

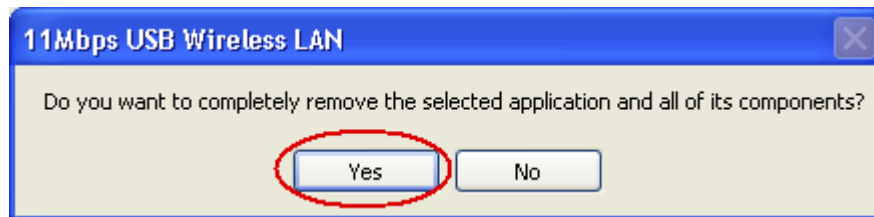


Figure 5-3: The Double Confirm Request Message Box

4. In the **Maintenance Complete** message box, click **Finish** to complete the removal of the device and the utility.

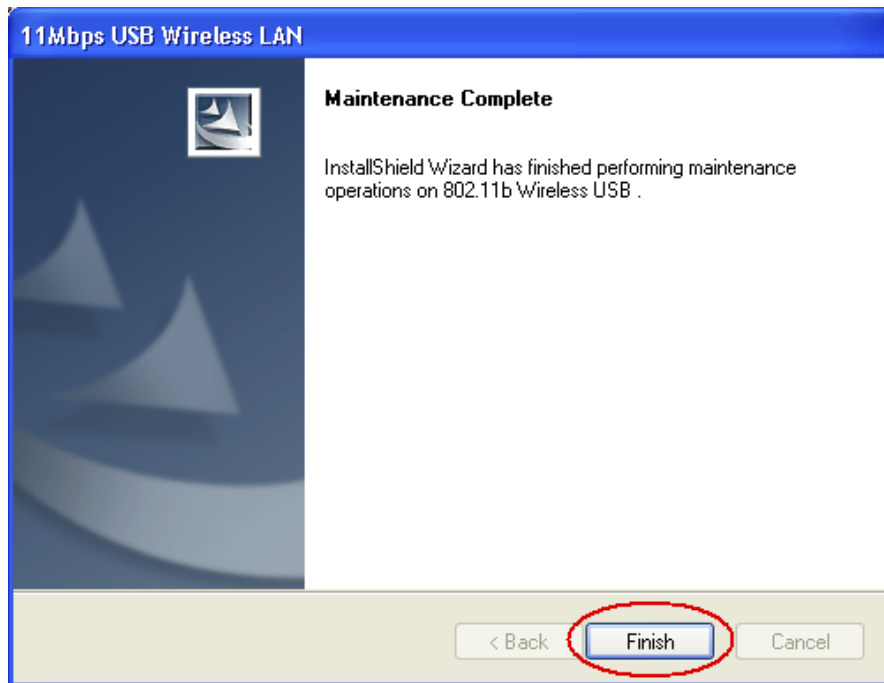


Figure 5-4: The **Maintenance Complete** Dialog Box

APPENDIX B: SPECIFICATIONS

Product Name	802.11b 11 Mbps WLAN USB Stick
Model Name	802.11b WLAN USB Stick
Host Interface	Std. USB 1. 1 I/F (Mech. Conn. Defined by Customer)
Dimensions	102 (L) x 30 (W) x 19 (H) mm
Weight	16.5g
Frequency Band	2.400 ~ 2.4835GHz (subject to local regulations)
Number of Channel	11 channels (US, Canada); 13 channels (ETSI); 14 channels (Japan)
Operating Voltage	5V \pm 5%
Current Consumption	Tx: 300mA / Rx: 285mA / Standby: 38mA / Sleep: < 1mA
Spreading	DSSS (Direct Sequence Spread Spectrum)
Data Rate	11Mbps, 5.5Mbps, 2Mbps, 1Mbps
Transmit Power	Typ. 15 dBm @ Nominal Temperature Range
Receive Sensitivity	11 Mbps @ -82 dBm, Typical
Modulation	11Mbps and 5.5Mbps CCK; 2Mbps: DQPSK; 1Mbps: DBPSK;
Security	64/128 bit WEP Encryption
Antenna	Chip antenna
LED Indicator	Defined by I/F Pin No. 5
Supplied Driver	Windows 98SE/2K/Me/XP
Standards	IEEE 802.11b Wi-Fi compliant
Media Access Protocol	CSMA/CA with ACK
Warranty	1 year
Temperature Range	0 ~ 65°C (Operating), -20~70°C (Storage)
Humidity	Max. 95% Non-condensing
Operating Range	Open Space: 100 – 300m; Indoor: 40m – 100m The transmission speed varies in the surrounding environment.
Roaming	Full mobility and seamless roaming from cell to cell and across access points
Network Protocol	TCP/IP, IPX, NetBEUI
Management Utility	Link Configuration for network join and diagnostics
Software Certification	WHQL
EMC certification	FCC, CE
Packaging	Customer Defined
CIS	Customer Defined

APPENDIX C: GLOSSARY

802.11b – 802.11b is one of the IEEE standards for wireless LANs and specifies a data transfer rate of 5.5 and up to 11 megabit per second in the 2.4 gigahertz radio band. 802.11b is recently given other widespread names as Wi-Fi or Wireless Fidelity.

Ad-hoc Network – Ad-hoc network, also known as peer-to-peer network, means a wireless network which is composed only of stations. This type of network is created with a group of wireless-equipped computers. With the wireless devices, each computer, functioning as a server and a client at the same time, can establish a LAN to directly communicate with other computers without any access points involved. It is easy to set up a peer-to-peer network; however, because all stations must be within a specific distance in order to be capable of communicating with each other, it is also limited. Thus, such a type of network is widely used at small networking requirements, like between a few computers or devices at departmental scales.

IEEE – IEEE, the Institute of Electrical and Electronics Engineers, is the world's largest technical professional society and is consisted of more than 366,000 members in approximately 150 countries. As a leading authority on areas ranging from for computer engineering, biomedical technology and telecommunications, IEEE endeavours to set more than 800 active consensus standards till now and publish 30 percent of the world's literature in electrical engineering, computers and control technology.

Infrastructure Network – Infrastructure network allows you to communicate with wired LAN via an access point. Unlike Ad-hoc network that all wireless-equipped stations within the range may directly communicate with each other, clients of Infrastructure network can only transmit and receive data through the use of a central access point. The associated access point also provides communication with the wired network.

MAC Address – The MAC (Media Access Control) address is the serial number of your Network Interface card. It has been burnt into the chip and could not be changed. MAC address is thus unique. While a computer on the network is transferring data, its MAC address is also conveyed and attached to be part of the header of the data packets.

Roaming – Roaming is an ability to allow users from one cell (or BSS) to another without losing connection via a wireless device.

SSID – SSID, Service Set Identifier, is a 32-character unique identifier for a workgroup of the wireless network. An SSID of one WLAN should be different from that of others, so all access points and other devices intending to communicate with a specific WLAN cannot achieve successful network

connectivity unless presenting the identical SSID. From some perspective, an SSID performs as a kind of password to supply a measure of security on the WLAN. However, if an access point is configured to “broadcast” its SSID, this essential security is no longer remained. An SSID is also known as a Network Name.

USB – USB, standing for Universal Serial Bus, was designed to make a connection between the computer and its peripherals, such as keyboards, scanners, webcams, printers, etc., via an easy operation of plug-and-play. USB has proved to be a good solution that allows users to quickly and easily connect and add peripherals to computers. Through the USB interface, there’s even no need to turn the computer off while adding new peripherals mentioned above to a computer. Due to its convenience and simplicity, USB has won worldwide popularity, and most peripherals for computers these days are designed for the USB standard.

WEP – Wired Equivalent Privacy (WEP) is a security mechanism for wireless local area networks. It is designed for 802.11 standard to offer an equal level of security as that of a wired LAN. Through the configurations of encryption, WEP aims to provide security while the nodes with wireless devices are transferring or receiving data packets over radio waves.

WLAN – Wireless local area network (WLAN) receive and transmit data over the air by using radio frequency (RF) technology. The vital significance of WLAN is it minimizes the requirements for wired connections and provides not only data connectivity but also user mobility. Without the constraint of physical location, wireless LAN allows clients to transmit and receive data via high-frequency radio waves rather than wires.