

# **802.11g Wireless LAN**

## **USB Adapter**

### **User Manual**

## **REGULATORY STATEMENTS**

### **FCC Certification**

The United States Federal Communication Commission (FCC) and the Canadian Department of Communications have established certain rules governing the use of electronic equipment.

#### **Part15, Class B**

This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interface, and
- 2) This device must accept any interface received, including interface that may cause undesired operation. 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 off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - ▶ Reorient or relocate the receiving antenna.
  - ▶ Increase the distance between the equipment and receiver.
  - ▶ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

#### **CAUTION:**

- 1) To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.
- 2) This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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## INTRODUCTION

A wireless LAN links network users to LAN services without the hassle of cabling or wiring, which significantly brings mobile workers the freedom of staying connected to the network while roaming around a building or multiple buildings maintaining access to the Internet, e-mail, networked applications, and print services.

This device is the perfect solution for your wireless network applications based on the **IEEE 802.11g** standard that offers a data rate up to **54Mbps** in a wireless LAN environment. It is a high-speed wireless network card that plugs into your notebook or desktop PC and accesses to the LAN or peer-to-peer networking easily without wires or cables. Whether you're at your desk or in the boardroom, it allows you to share printers, files, and other network resources.

The **802.11g Wireless LAN USB Adapter** is designed for a USB type A port of a laptop or desktop computer for creating a wireless workstation.

### Features

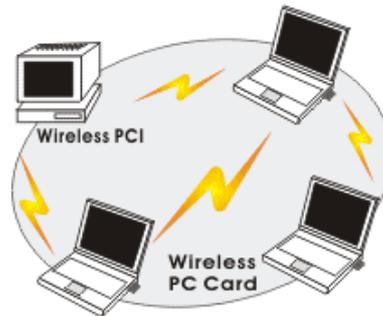
- Complies with IEEE 802.11g standard for 2.4GHz Wireless LAN
- USB 2.0 compliant
- USB Plug & Play
- Interoperable with existing network infrastructure
- Secure information transmission

- Freedom to roam while staying connected
- Compatible with specialty wireless products and services
- Up to 54 Mbps data rate
- Antenna is built in the card with LEDs indication
- Low power consumption
- Easy to install and configure

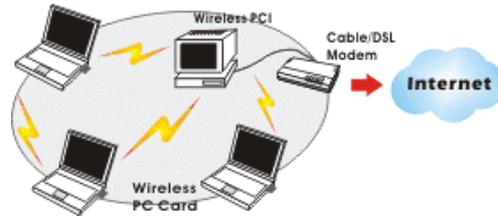
## Wireless Network Options

### The Peer-to-Peer Network

This network installation lets you set a small wireless workgroup easily and quickly. Equipped with wireless PC Cards or wireless PCI, you can share files and printers between each PC and laptop.

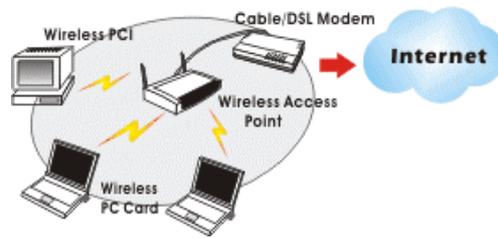


Or you can use one computer as an Internet Server to connect to a wired global network and share files and information with other PCs via a wireless LAN.



### The Access Point Network

The network installation allows you to share files, printers, and Internet access much more conveniently. With wireless PC Cards, you can connect wireless LAN to a wired global network via an **Access Point**.



## LED Indicators

### **Power: Green (On/Off)**

*Glow* – linking to an Access Point or Peer-to-Peer mode.

### **Act/Link: Green (Blink)**

*Blink* – Transmitting/receiving wireless data.

Notice:

To comply with FCC RF exposure compliance requirements, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. No change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.

# INSTALLATION

## Install the Device

1. Plug the Wireless USB Adapter into the PC's USB port.
2. Once the device has been connected to your computer, Windows will detect the new hardware and then automatically copy all of the files needed for networking.

## Install the Driver

### In Windows 98SE

**For Windows 98SE users:** As you perform the installation, have your system operating CD-ROM at hand. You may be asked to insert the OS CD-ROM for the system to download a specific driver.

1. In **Add New Hardware Wizard**, click **Next**.



2. Select **Search for the best driver for your device (Recommended)**. Click **Next**.



3. Insert the supplied CD-ROM into the CD-ROM drive. Select **Specify a location:** and click **Browse** to provide the appropriate path (e.g. **D:\Driver**). Click **Next**.



4. Click **Next**, Windows will copy all the necessary files to your system.



5. Insert **Windows 98SE** CD-ROM, and then click **OK**.



6. Click **Finish** to complete the installation.



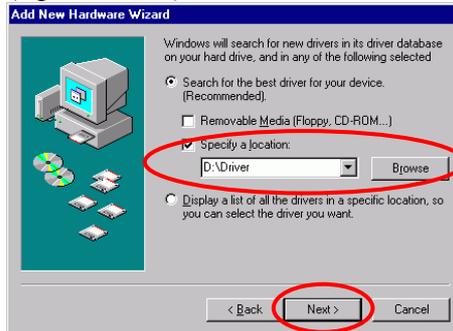
7. When Windows prompts you to restart your computer, click **Yes**.

## In Windows ME

1. Select **Specify the location of the driver (Advanced)**, click **Next**.



2. Insert the supplied CD-ROM into the CD-ROM drive. Select **Search for the best driver for your device (Recommended)** and click **Browse** to provide the appropriate path (e.g. **D:\Driver**). Click **Next**.



3. Click **Next**, Windows will copy all the necessary files to your system.



4. Click **Finish** to complete the installation.



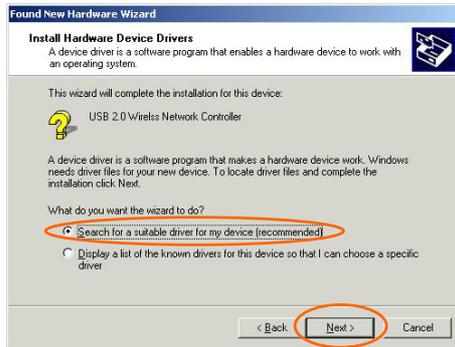
5. When Windows prompts you to restart your computer, click **Yes**.

## In Windows 2000

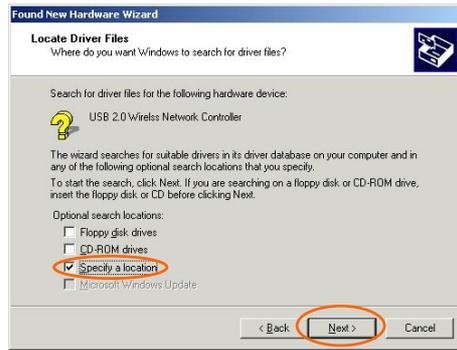
1. In **Found New Hardware Wizard**, click **Next**.



2. Select **Search for a suitable driver for my device (recommended)** and click **Next**.



3. Insert the device driver CD-ROM into your CD-ROM drive. Select **CD-ROM drives** and click **Next**.



4. Click **Browse** to provide the appropriate path (e.g. **D:\Driver**). Click **OK**.



5. Click **Next** to continue.



6. In “**Digital Signature Not Found**” window, click **Yes** to continue.



7. Click **Finish** to complete the installation.

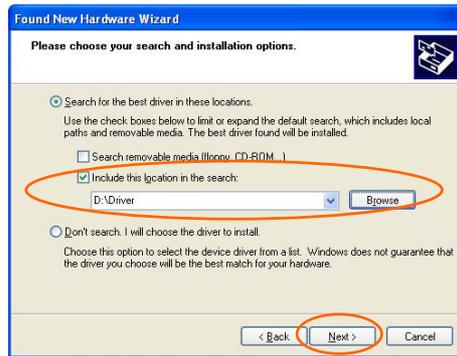


### In Windows XP

1. Select **Install from a list or specific location (Advanced)** and click Next.



2. Insert the supplied **CD-ROM** into the CD-ROM drive. Select **Include this location in the search:** and click **Browse** to provide the appropriate path (e.g. **D:\Driver**). Click **Next**.



3. Click **Continue Anyway** to proceed. Windows will copy all the necessary files to your system.

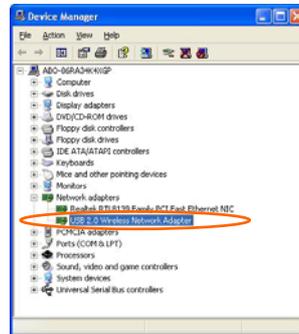


4. Click **Finish** to complete the installation.



### Verify

To verify if the device exists in your computer and is enabled, go to **Start → Settings → Control Panel → System (→ Hardware) → Device Manager**. Expand the **Network Adapters** category. If the **USB 2.0 Wireless Network Adapter** is listed here, it means that your device is properly installed and enabled.



## Install the Utility

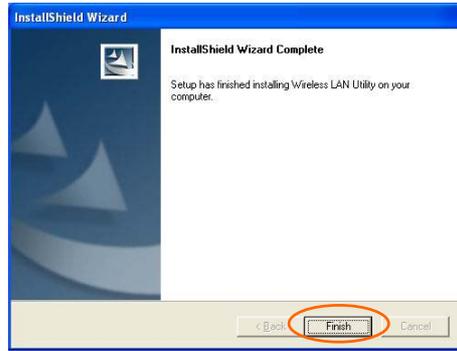
1. Insert the supplied **CD-ROM** into the CD-ROM drive. Double click on **Setup.exe** to install the **Wireless LAN Utility**.
2. When the **Welcome** screen appears, click **Next** to continue.



3. In **License Agreement**, click **Yes** to accept the terms.



4. Click **Finish** to complete the installation.

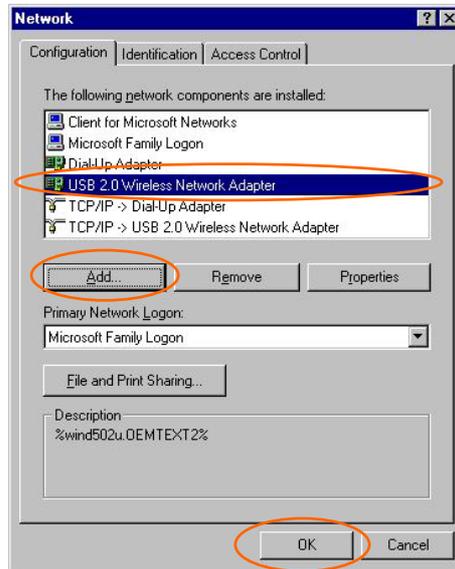


## NETWORK CONNECTION

Once the driver has been installed, you must make some changes to your network settings.

### In Windows 98/ME

1. Go to **Start → Settings → Control Panel → Network**.
2. Make sure that the following components are installed.



- 802.11b Wireless LAN CardBus (Mini-) PCI NIC
- IPX/SPX-compatible Protocol
- NetBEUI

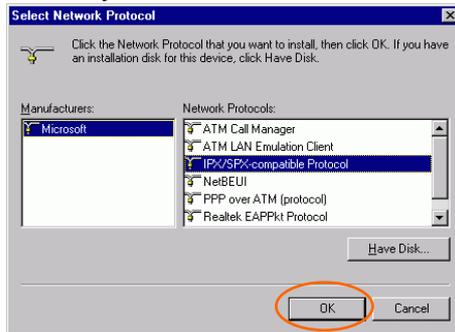
▪ TCP/IP

If any components are missing, click on the **Add** button to add them in. All the protocols and clients required and listed above are provided by Microsoft.

3. After clicking **Add**, highlight the component you need, click **Add**.

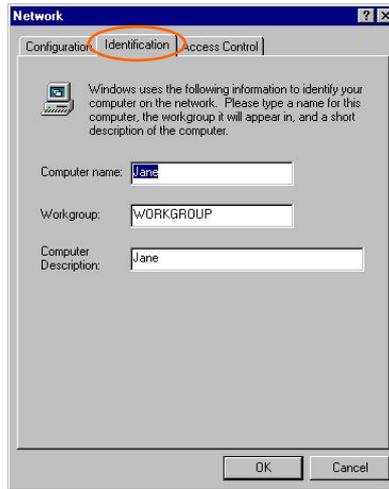


4. Highlight **Microsoft**, and then double click on the item you want to add. Click **OK**.

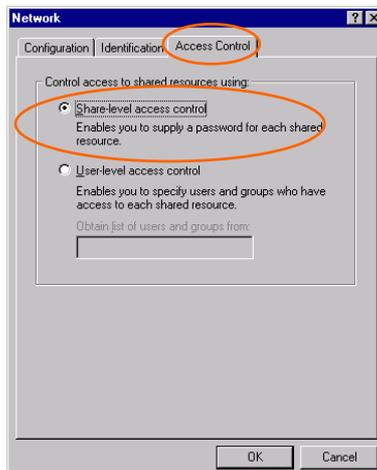


5. For making your computer visible on the network, enable the **File and Print Sharing**.

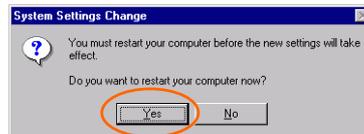
6. Click the **Identification** tab. Make up a name that is unique from the other computers' names on the network. Type the name of your workgroup, which should be the same used by all of the other PCs on the network.



7. Click the **Access Control** tab. Make sure that "**Share-level access control**" is selected. If connecting to a Netware server, share level can be set to "**User-level access control.**"



8. When finished, restart your computer to activate the new device.



9. Once the computer has restarted and Windows has booted up, a **Logon** window will appear and require you to enter a username and password. Make up a username and password and click **OK**. Do not click the **Cancel** button, or you won't be able to log onto the network.
10. Double-click the **Network Neighborhood** icon on the windows desktop, and you should see the names of the other PCs on the network.

## In Windows 2000/XP

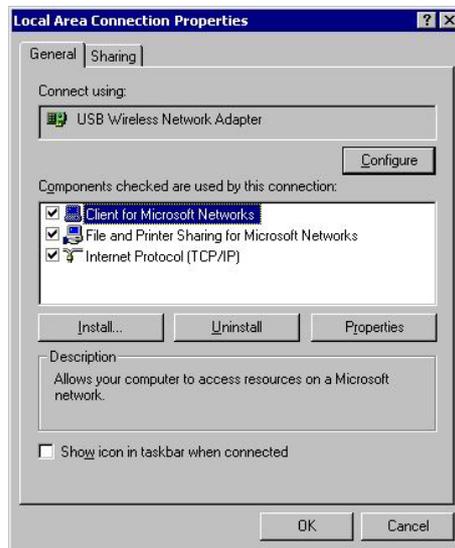
### 1. (In **Windows 2000**)

Go to **Start** → **Settings** → **Control Panel** → **Network and Dial-up Connections** → **Local Area Connection** → **Properties**.

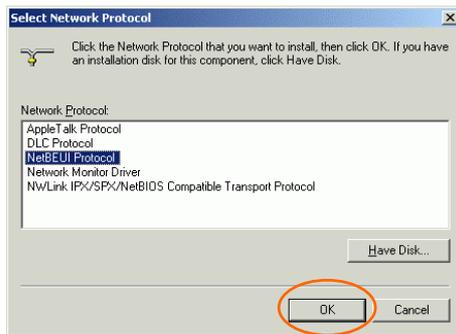
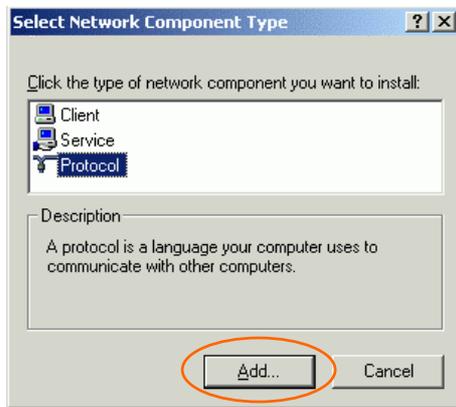
(In **Windows XP**)

Go to **Start** → **Control Panel** → **Network Connections** → **Wireless Network Connection Enabled** → **USB Wireless Network Adapter** → **Properties**.





2. Make sure that you have all the following components installed.
  - **Client for Microsoft Networks**
  - **File and Printer Sharing for Microsoft Networks**
  - **Internet Protocol (TCP/IP)**
3. If any components are missing, click on the **Install...** button to select the **Client/Service/Protocol** required. After selecting the component you need, click **Add...** to add it in.



4. For making your computer visible on the network, make sure you have installed **File and Printer Sharing for Microsoft Networks**.
5. When finished, you must restart your computer to complete the installation.

## CONFIGURATION

**Note:** For Windows XP users, you have an option of using one of two Configuration Utilities.

### 1) Use Windows XP Configuration Utility. (the default setting)

Please refer to [Use Windows XP Configuration Utility](#) section to use the configuration.

### 2) Use Manufacturer's Configuration Utility

If you want to use the Configuration Utility that came with the supplied CD-ROM, you need to disable the Windows XP's wireless configuration.

1. Double-click the network status icon. (see Fig. 1)



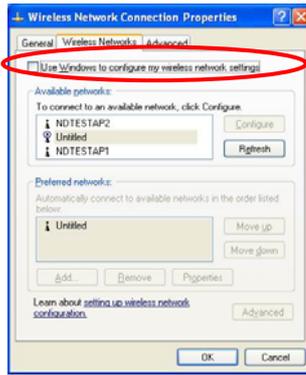
Fig. 1

2. Click **Advanced**. (see Fig. 2)



Fig. 2

3. Uncheck **Use Windows to configure my wireless network settings** then click **OK**. (see Fig. 3)



## Use Manufacturer's Configuration Utility

Fig. 3

After successful installation of the Wireless PC Card's driver and utility, the Configuration Utility icon will appear in the taskbar. You will be able to access the Configuration Utility through the Configuration icon.



After successful installation of the Wireless PC Card's Driver and Utility, a **Network Status** icon  will display in the system tray. Meanwhile, a

**Utility Shortcut** icon  will appear on the desktop.

## Accessing the Configuration Utility



Double-click on  to open the Configuration Utility.

Click **Advanced** to enter the Configuration Window.



All settings are categorized into 3 Tabs:

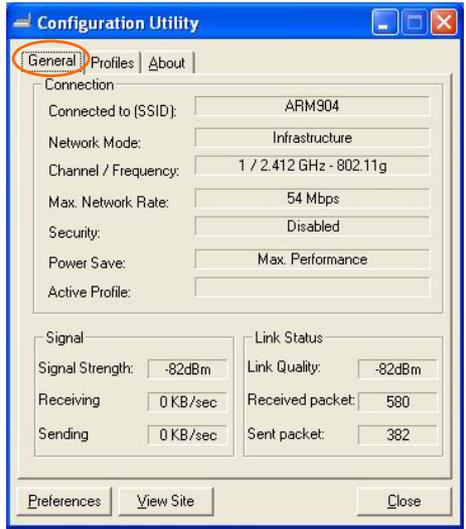
**General Tab**

**Profiles Tab**

**About Tab**

## General Tab

The **General** tab allows you to know about the general information of **Connection**, **Signal** and **Link Status**.



### 1. Connection

Item	Description
Connected to (SSID)	
Network Mode	
Channel/ Frequency	
Max. Network Rate	
Security	
Power Save	
Active Profile	

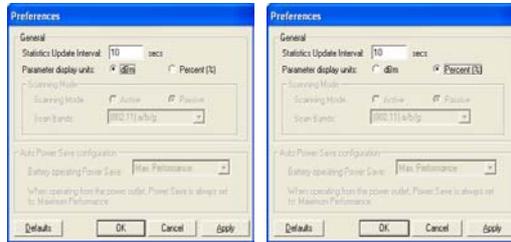
## 2. Signal

Item	Description
Signal Strength	It represents the wireless signal between the access point and the wireless PC Card.
Receiving	
Sending	

## 3. Link Status

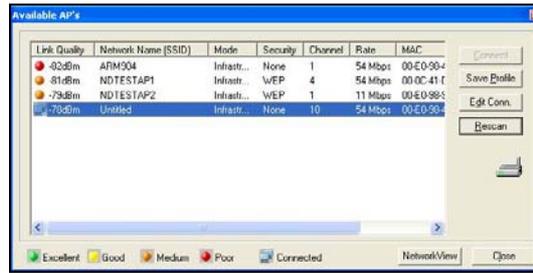
Item	Description
Link Quality	It displays the link quality for the wireless connection to the access point.
Received Packet	
Sent Packet	

## 4. Preferences



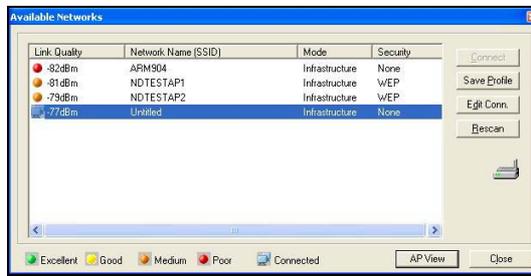
## 5. View Site

(1) Available AP's: 詳細顯示 AP 的狀態



Item	Description
Link Quality	It displays the link quality for the wireless connection to the access point.
Network Name (SSID)	
Mode	
Security	
Channel	
Rate	
MAC	

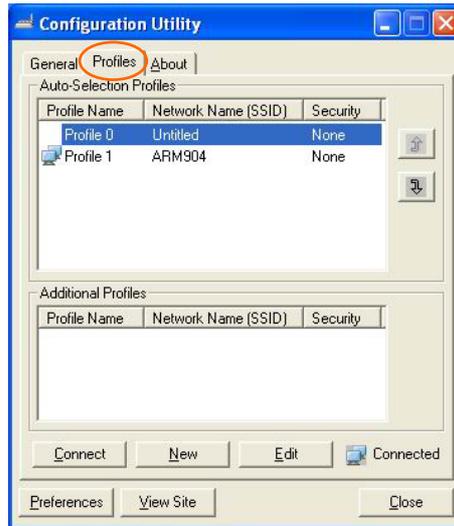
(2) Available Networks: The following figure displays the Available Networks, which highlights the network to which you wish to connect.



Item	Description
Link Quality	It displays the link quality for the wireless connection to the access point.
Network Name (SSID)	
Mode	
Security	

## Profiles Tab

The **Profiles** Tab allows you to choose the settings, such as the **Auto-Selection Profiles** and **Additional Profiles**.



### 1. Auto-Selection Profiles

記錄 AP 的狀態/自動連接 AP

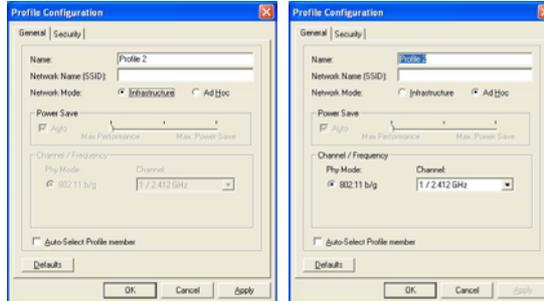
Item	Description
Profile Name	
Network Name (SSID)	
Security	

## 2. Additional Profiles

記錄 AP 的狀態

Item	Description
Profile Name	
Network Name (SSID)	
Security	

(1) **New**



Item	Description
Name	
Network Name (SSID)	
Network Mode	

(2) **Edit**

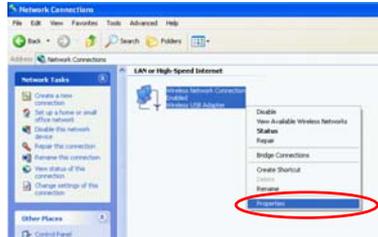
## About Tab

The **About** Tab displays basic link information of **Device** and **Configuration Utility**, including **Device Name**, **Regulatory Domain**, **Driver Version**, **Firmware Version**, **NVM Version**, **MAC Address** and **Version of Configuration Utility**.

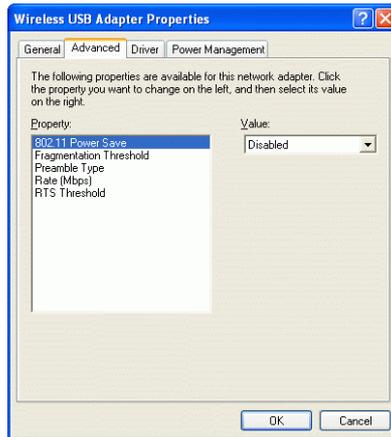
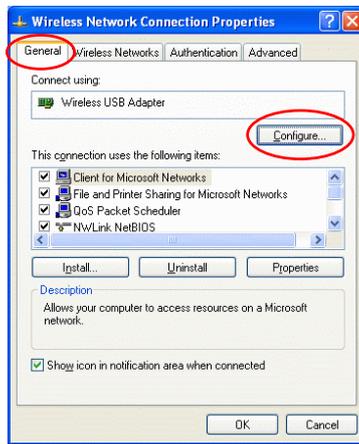


## Use Windows XP Configuration Utility

1. Go to **Start** → **Control Panel** → **Network and Internet Connections** → **Network Connections**.
2. In **Network Connections** window, right-click the **Wireless Network Connection Enabled Wireless USB Adapter** icon, and select **Properties**.



3. In **Wireless Network Connection Properties** window, select the **General** tab. Click **Configure** to enable Windows configuration.

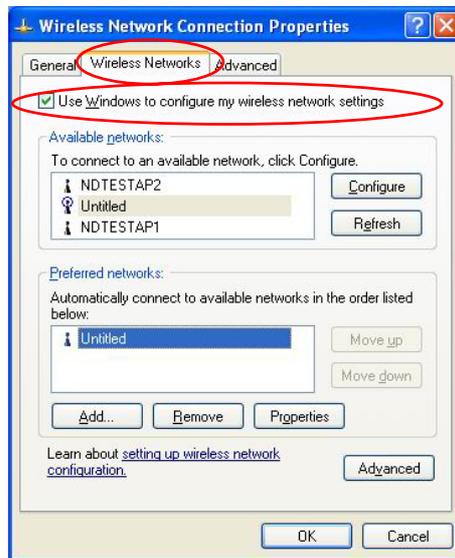


Property	Description
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<b>802.11 Power Save</b>	Enable the function to allow the Adapter to go to sleep mode, during which data communication could be interrupted. ( <b>Disabled</b> or <b>Enabled</b> )
<b>Fragmentation Threshold</b>	To fragment MSDU or MMPDU into small sizes of frames for increasing the reliability of frame (The maximum value of 2346 means no fragmentation is needed) transmission. The performance will be decreased as well, thus a noisy environment is recommended.
<b>Preamble Type</b>	A preamble is a signal used in wireless environment to synchronize the transmitting timing including Synchronization and Start frame delimiter. (Note: Please check the setting of AP first.)
<input checked="" type="radio"/> <b>Long</b>	In a "noisy" network environment, the Preamble Type should be set to <b>Long Preamble</b> .
<input checked="" type="radio"/> <b>Short</b>	The <b>Short Preamble</b> is intended for applications where minimum overhead and maximum performance is desired. In a "noisy" network environment, the performance would be decreased.
<input checked="" type="radio"/> <b>Auto</b>	Select <b>Auto</b> for the USB adapter to select the Preamble type automatically depending on the Access Point Preamble type.
<b>Rate (Mbps)</b>	It shows the current transfer rate. ( <b>1, 2, 5.5, or 11Mbps or Auto</b> )

<b>RTS Threshold</b>	This value should remain at its default setting of <b>2347</b> . Should you encounter inconsistent data flow, only minor modifications of this value are recommended.
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4. In **Wireless Network Connection Properties** window, select the **Wireless Networks** tab.



**Use Windows to configure...**

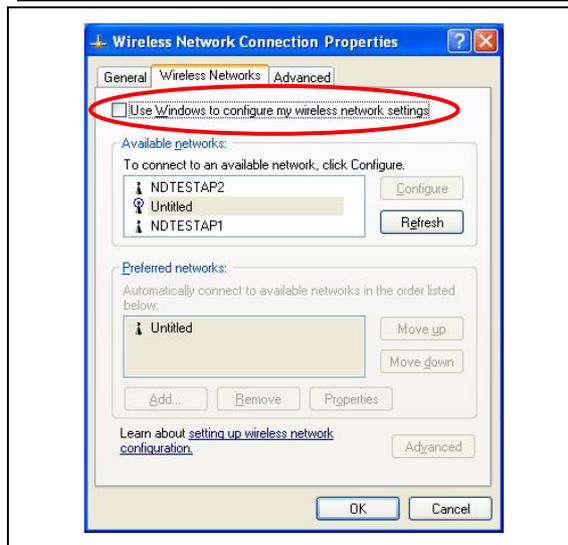
Check the box to enable Windows configuration.

**\* Use Windows to configure**

**Note:** Once you enable windows configuration, you can use Windows XP's Wireless Configuration Utility to configure the wireless settings.

### \* Use Manufacturer's Configuration Utility

**Note:** If you want to use Manufacturer's Configuration Utility to configure the wireless settings, make sure the check box is **not** checked then click the Network Status icon in the taskbar. (Please refer to below figure)

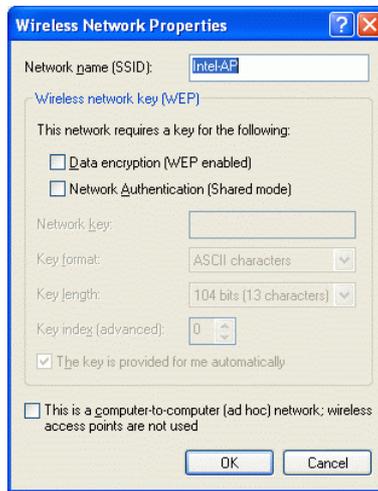


### Available networks

Displays all available networks.

### Configure

Click the button to set up a new network or WEP configuration as illustrated as below.



### **Refresh**

Click the button to refresh and search for all available networks.

### **Preferred networks**

From available network(s) listed above, you can select preferred one(s) in an order that you can arrange.

The marked one is the currently used network.

### **Move up**

Move the selected network forward one position.

### **Move down**

Move the selected network back one position

**Add...**

Click the button and the **Wireless Network Properties** window will appear. In the **Network name** field, enter your desired network name listed in the above **Available networks** box, and click **OK**.

*Note:* The new settings will be active only after you click on **OK** in the **Wireless Network Connection Properties** window.

**Remove**

Highlight the unwanted network listed in the **Preferred networks** box, and click the button to remove it.

**Properties**

Highlight the network listed in the above **Preferred networks** box, and click the button to display its properties.

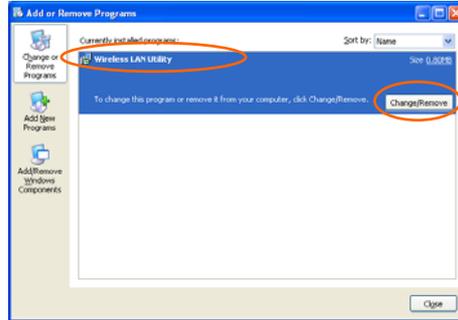
Once network configuration is done, make sure to click **OK**. The new parameters will be saved and active only after doing so.

## UNINSTALLATION

In case you need to uninstall the Utility or Driver, please refer to below sections.

### Uninstall the Utility

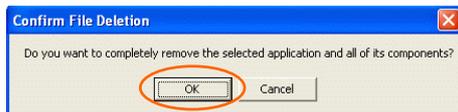
1. Go to **Start → (Settings →) Control Panel → Add or Remove Programs.**
2. Highlight **Wireless LAN Utility**, Click **Change/Remove.**



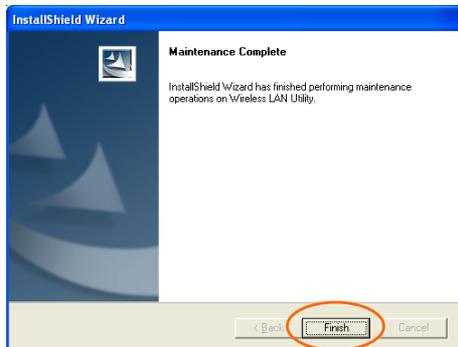
3. Select **Remove** and the click **Next** to continue.



4. Click **OK** to continue.

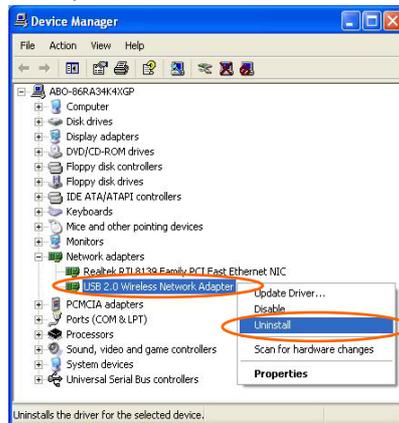


5. Click **Finish** to complete the uninstalled procedure.



## Uninstall the Driver

1. Right-click **My Computer** → **Properties** → **Hardware** → **Device Manager**.
2. Right-click **USB 2.0 Wireless Network Adapter** and then click **Uninstall** (or **Remove**).



3. Click **OK**.



4. The system may prompt you to restart your computer. Click **Yes**.

## SPECIFICATIONS

<b>Standards</b>	IEEE 802.11g
<b>Host Interface</b>	USB 2.0
<b>Antenna</b>	External Antenna, rotating angle 0° to 90°
<b>Frequency Range</b>	2.412GHz-2.4835GHz
<b>Number of Selectable Channels</b>	USA, Canada: 11 channels Japan: 14 channels Europe: 13 channels
<b>Modulation Technique</b>	Direct Sequence Spread Spectrum (CCK, DQPSK, DBPSK) Orthogonal frequency division multiplexing (OFDM)
<b>Security</b>	0/64/128 bit WEP
<b>Media Access Protocol</b>	CSMA/CA (Collision Avoidance) with ACK
<b>Out Power</b>	11g: 14 dBm 11b: 18 dBm
<b>Data Rate</b>	802.11g(54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, 6 Mbps) 802.11b(11 Mbps, 5.5 Mbps, 2 Mbps, 1 Mbps)
<b>Physical Specifications</b>	Weight: 50 g Dimension: 107 (L) x 64 (W) x 21(H) mm
<b>LED Indicators</b>	Power: Green ACT: Green LINK: Green
<b>Power Requirement</b>	Operating Voltage: 5V DC TX consumption: 480mA (Max) RX consumption: 460mA (Max)
<b>Supported OS</b>	Windows 2000 (SP3,4)

	Windows XP (SP1) Windows ME Windows XP
<b>Environment Specifications</b>	Operating Temperature: -5~60°C ambient temperature Storage Temperature: -20~70°C ambient temperature Operating humidity: 90% maximum (non-condensing) Storage humidity: 90% maximum (non-condensing)
<b>EMC Certification</b>	FCC Part 15 in US EN300328 and EN300826 (EN301489-17) in Europe DGT and BSMI in Taiwan