# WL630PCI Wireless B/G PCI Card


# User Manual

## Version 1.1

## CONTENTS

# Declaration of Conformity

## 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.

# 1 Introduction to WL630PCI Wireless B/G PCI Card

The WL630PCI Wireless B/G PCI Card is designed for creating a wireless workstation for desktop computer. The WL630PCI Wireless B/G PCI Card is compliant with both Wireless-G (802.11g) and Wireless-B (802.11b).

WL630PCI is based on Texas Instruments' (TI) G++ Turbo mode (125Mbps equivalent) performance enhancing technology. The PCI card connects to wireless network at incredible speeds and delivers blazing fast data rates up to 125 Mbps*. An example of 125Mbps* Wireless LAN set up will be Aztech WL630PCI (TI chipset) + DSL600EW (TI chipset).

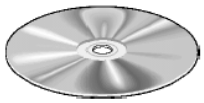
## 1.1 Package Contents

Make sure that you have the following items. If any of the items is damaged or missing, please contact your dealer immediately.

WL630PCI Wireless B/G PCI Card (Qty:1)

Antenna (Qty:1)

Easy Start (Qty:1)



Installation CD (Qty:1)

## 1.2 Features

- Complies with IEEE 802.11b standard and draft standard 802.11g for 2.4GHz Wireless LAN
- Works with all existing network infrastructure
- Complies with specific wireless products and services
- Capable of up to 256-Bit WEP Encryption
- Freedom to roam while staying connected
- 22-Mbps Packet Binary Convolution Coding (PBCC) (according to the IEEE Standard 802.11b high-rate specification)
- Up to 125Mbps* data rate
- Complies with Windows 98SE/2000/ME/XP
- Lower power consumption
- Easy to install and configure

( * *Applicable to Texas Instruments end-to-end chipsets Wireless LAN solution on Windows® 2000/XP platform. Maximum wireless signal rate derived from IEEE Standard 802.11g specifications and does not represent actual data throughput. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate)*

## 1.3 LED Indicators

**Power Indicator (Green LED):**
The LED will light up when the device is connected to a network (an AP or Peer-to-Peer).
The LED will blink when the device is scanning for all available networks.

**Act Indicator (Green LED):**
The LED will flicker when there is transmitting/receiving of wireless data.

# 2 Installation

## 2.1 System Requirements

- Desktop PC
- Pentium® 233 processor or higher
- 128MB RAM
- A free PCI-Bus slot
- 20MB hard disk space (system files and modem driver only)
- CD-ROM drive
- Windows® 98 SE / Windows® Me / Windows® XP / Windows® 2000

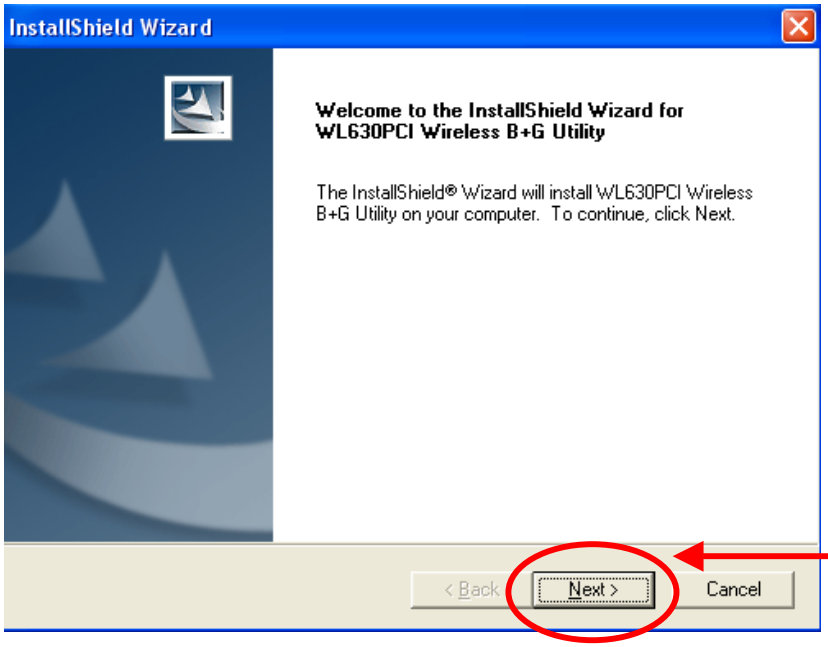
## 2.2 Step 1: Install the Driver & Utility

Make sure you run the setup utility first before plugging in the PCI Card into your PC. If your PCI Card is plugged into your PC first, the network controller will be prompted. Click **Cancel**.

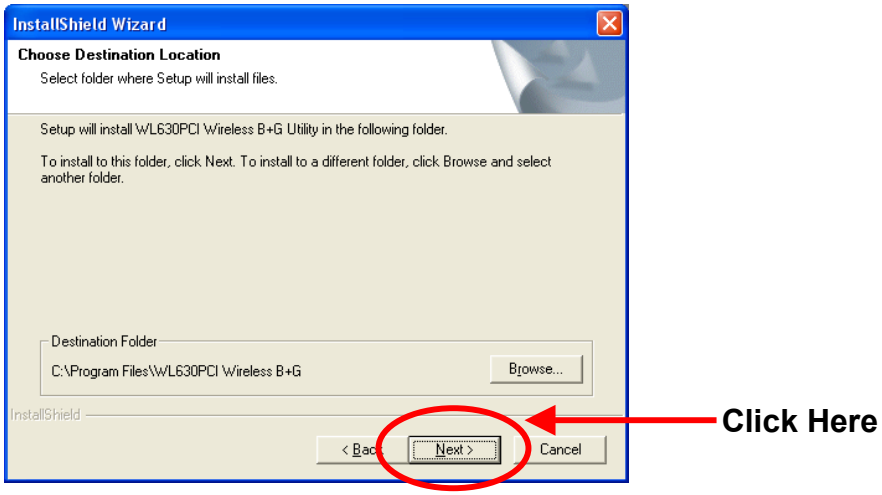
Exit all Windows programs. Insert the Installation CD into your CD-ROM. The CD will run automatically. If the Installation CD auto run fails, please run the "**Setup.exe**" file in the CD.

**For Windows 98SE/ME/2000/XP**

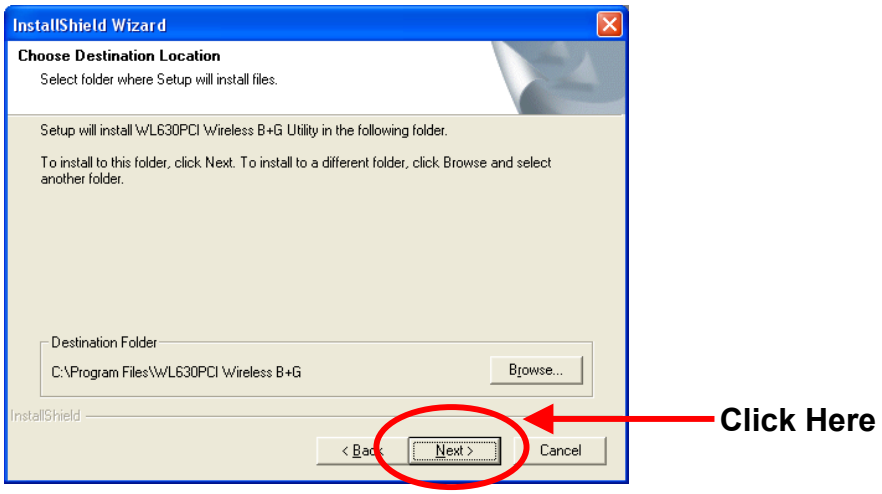
1. When the Welcome screen appears, click "**Next**" to continue.



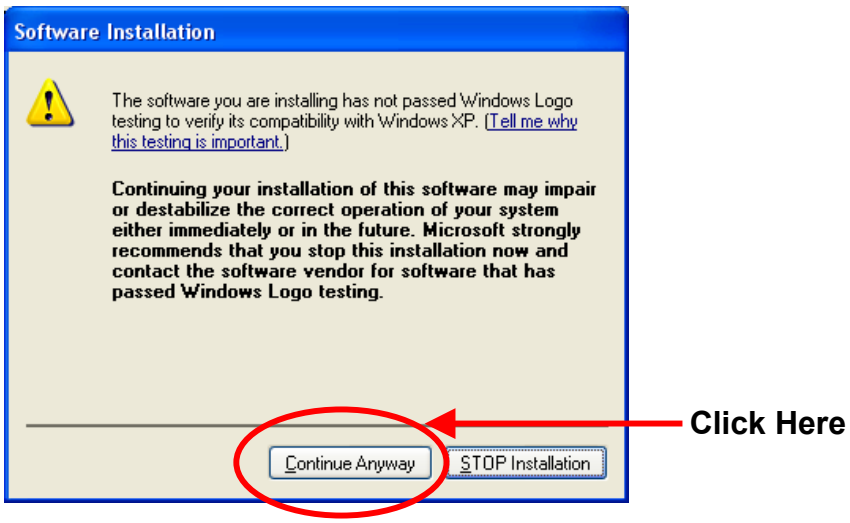
2. The below screen will be shown. Click "**Next**" to continue.



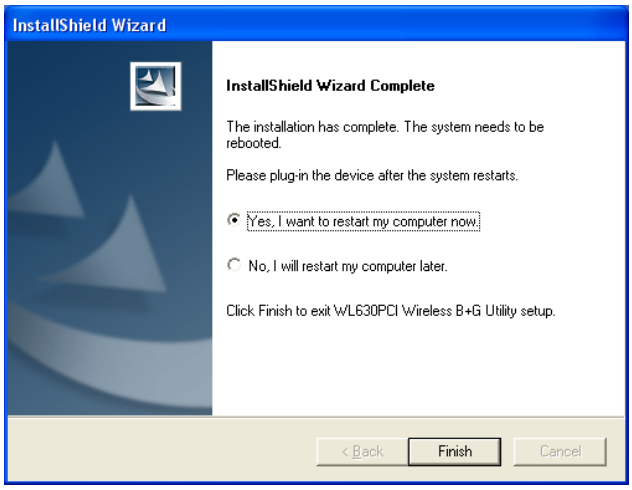

3. The below screen will be shown. Click "**Next**" to continue and the installation program will start running automatically.



4. For **Windows 2000** and **Windows XP**, you may be prompted for Digital Signature not found. Just click "**Yes**" or "**Continue Anyway**" to continue with the installation.




5. When the below screen is shown, click "**Finish**" to restart the system.



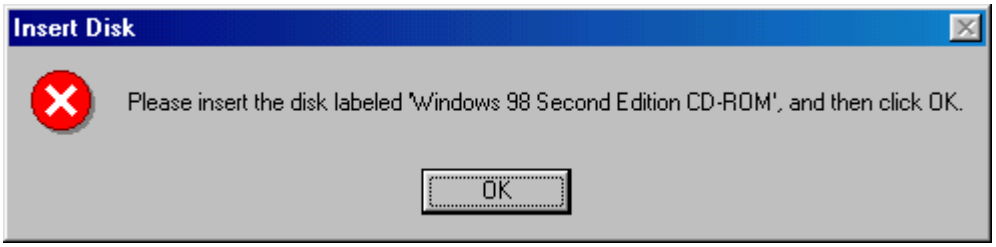
## 2.3 Step 2: Install the Device

**Note: Before you install the device to your computer, make sure you have installed the driver and utility as described in the previous section.**

Shut down the PC and remove the power cord from the PC. Locate your PCI slot and then insert the Wireless B/G PCI Card into the slot

**For Windows 98SE/ME**

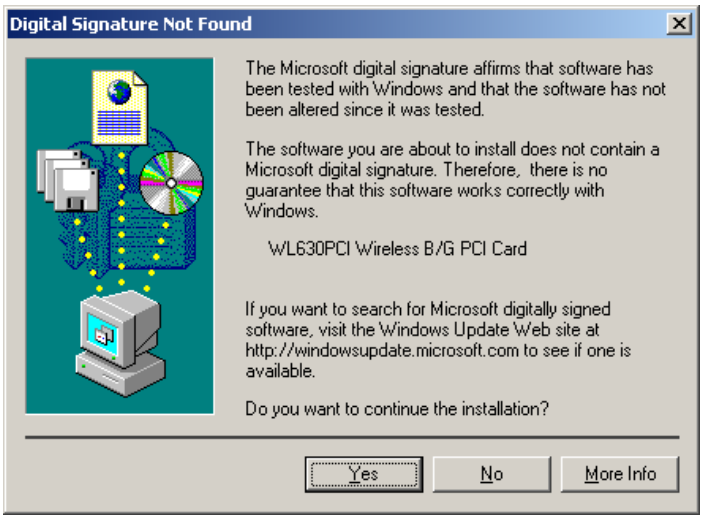
4. Before installing the device, make sure you have your original Windows 98 CD-ROM on hand (not required for Windows ME). When the prompt for "**Windows 98 Second Edition CD-ROM**" window appears, insert the CD-ROM as requested. Click "**OK**" to continue the installation.




5. The installation will continue and the system may prompt for a "**Version Conflict**". Click "**Yes**" to keep the existing file. This completes the installation of the device.

**For Windows 2000**

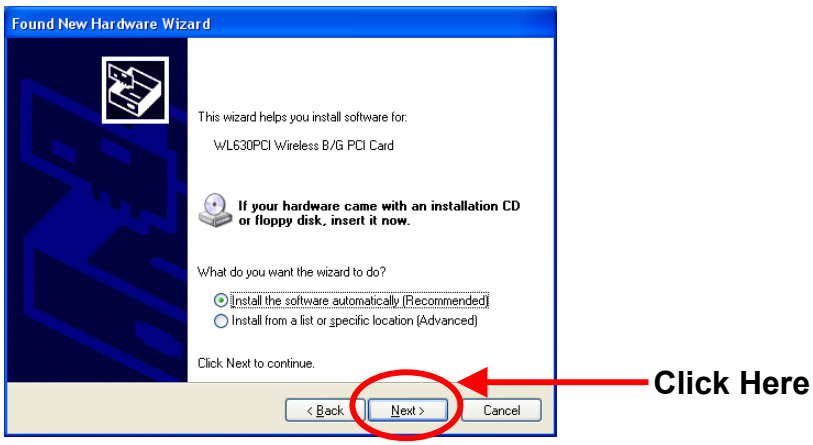
4. When the "**Digital Signature Not Found**" screen appears, click "**Yes**" to continue the installation.



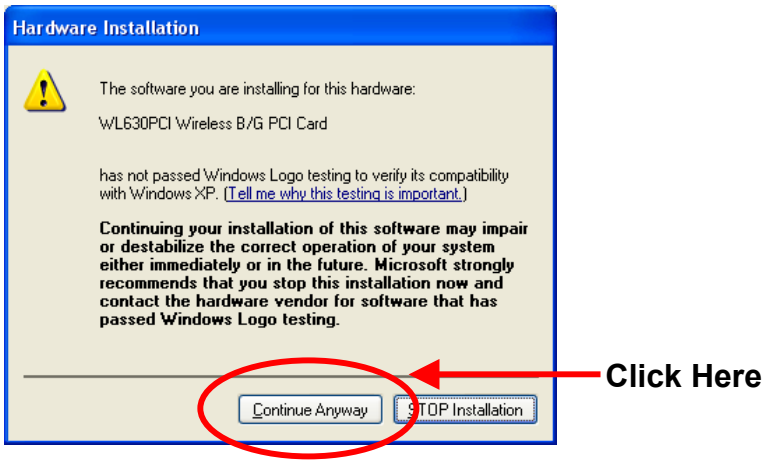

5. This completes the installation of the device.

**For Windows XP**

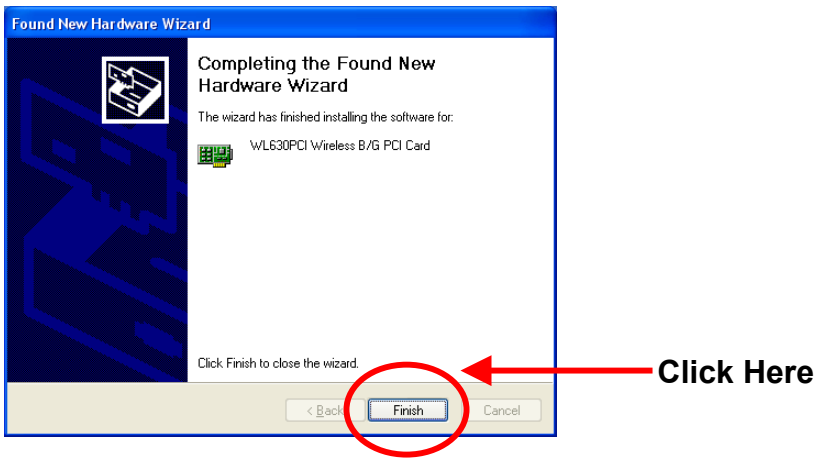
4. Windows may ask to connect to Windows Update to search for software. Select "**No**". When below is prompted, click "**Next**" to continue the installation.




5. When the "**Hardware Installation**" screen appears, click "**Continue Anyway**" to continue the installation.

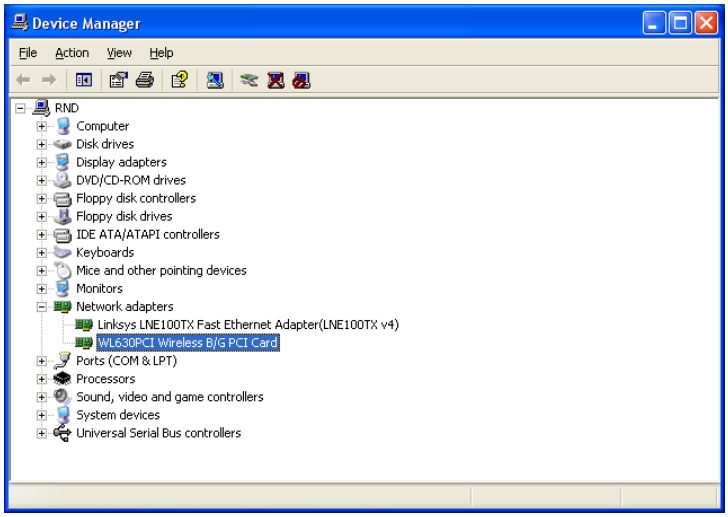



6. When the following screen appears, click "**Finish**" to complete the installation of the device.



## 2.4 Verify Installation

To verify if the device exists in your computer and works, go to **Start** → **Settings** → **Control Panel** → **System** → **Hardware** → **Device Manager**. Expand the **Network Adapters** category. If the **WL630PCI Wireless B/G PCI Card** is listed here, it means that your device is properly installed and enabled.




## 2.5 Uninstallation

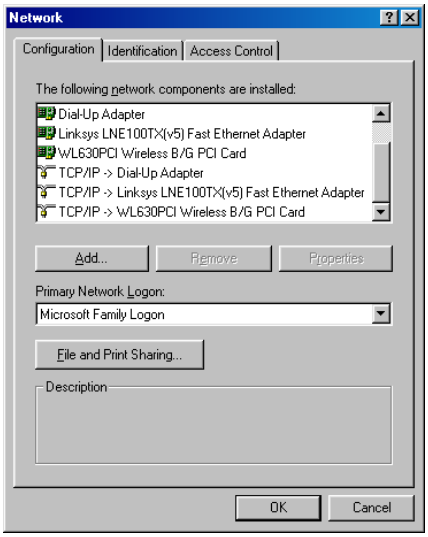
1. To uninstall the driver and utility, go to the **Control Panel** of your system.
2. Open the **Add/Remove Programs**.
3. Select the **WL630PCI Wireless B/G Utility** in the **Add/Remove Programs** and then click on the **Remove**.
4. Follow the on screen instructions to uninstall the driver and utility. After the uninstallation, shut down and plug out the wireless PCI card.

# 3 NETWORK CONNECTION

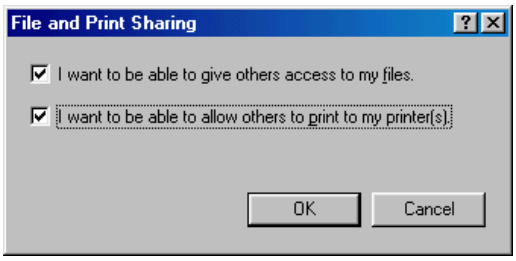
Once the device driver is well installed, a network setting described in the following should be also established.

## 3.1 In Windows 98SE/ME

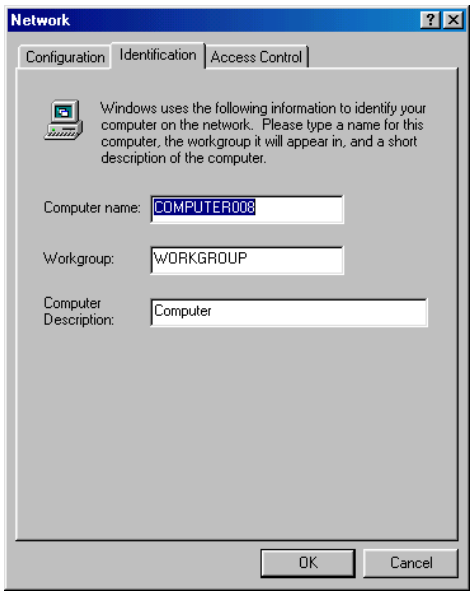
1. Go to **Start** → **Settings** → **Control Panel** → **Network**.
   Make sure that all the required components are installed. If any components are missing, click on the "**Add**" button to add them in.



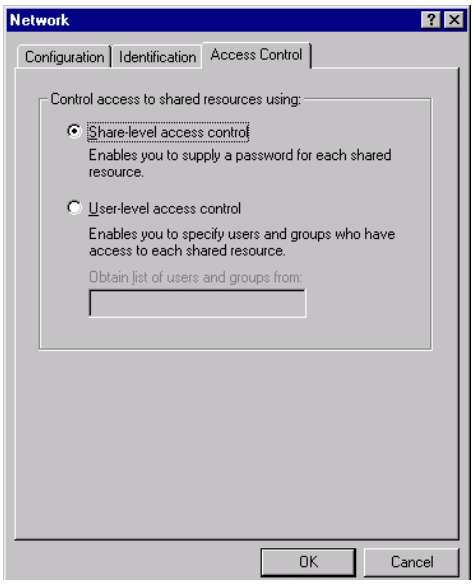

2. For making your computer visible on the network, enable the "**File and Print Sharing…**" and check on the boxes as shown.



3. 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.




4. 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**".

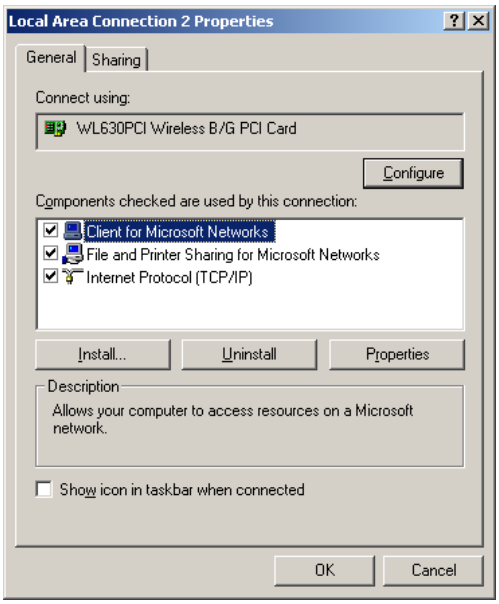



5. When finished, restart your computer to activate the new device.

## 3.2 In Windows 2000/XP

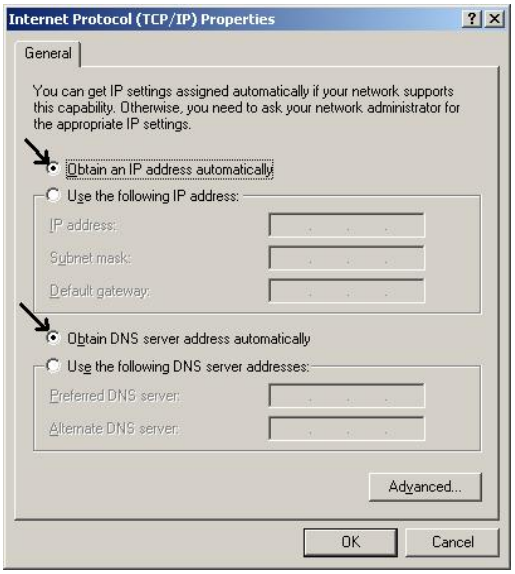
1. For **Windows 2000**, go to **Start** → **Settings** → **Control Panel** → **Network and Dial-up Connections** → **Local Area Connection** → **Properties**.
   For **Windows XP**, go to **Start** → **Control Panel** → **Network and Internet Connections** → **Network Connection** → **Wireless Network Connection Enabled WL630PCI Wireless B/G PCI Card**.

2. Make sure that all the required components are installed. If any components are missing, click on the "**Install…**" button to add them in.

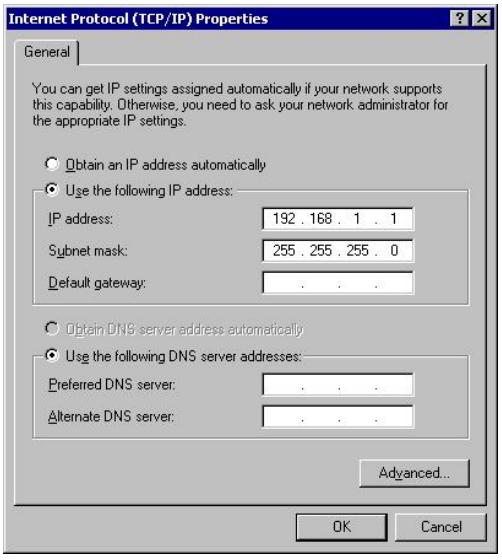


# 4 IP Address

1. To configure a dynamic IP address check the "**Obtain an IP Address Automatically**" option.




2. To configure a fixed IP, check the "**Use the following IP address**" option. Then enter an IP address into the empty field. For example, enter 192.168.1.1 in the IP address field and 255.255.255.0 for the Subnet Mask.




**Note: When assigning IP Addresses to the computers on the network, remember to have the IP address for each computer set on the same subnet mask.**

# 5 Configuration Utility

After the Wireless PCI Card has been successfully installed, users can use the included **Configuration Utility** to set their preference.

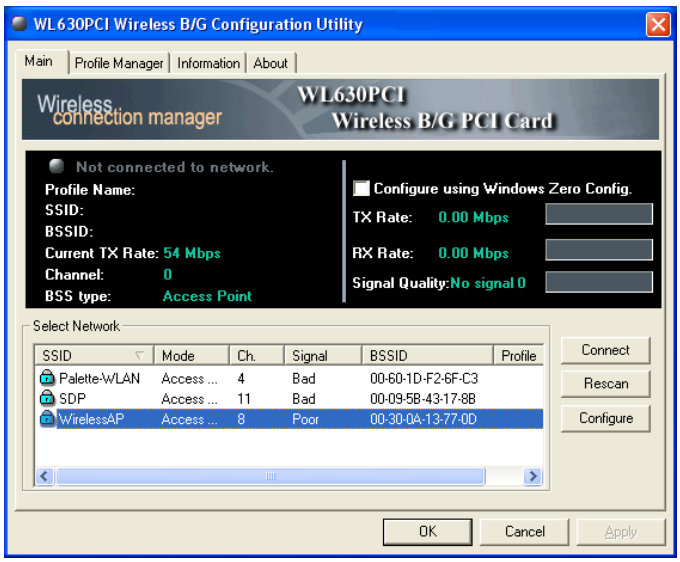
To activate the Configuration Utility, you may go to **Start** → **Program** → **WL630PCI Wireless B+G** → **WL630PCI Wireless B+G Utility**.

There is also a Configuration Utility icon created on the desktop. You can also open the Configuration Utility by clicking the icon.

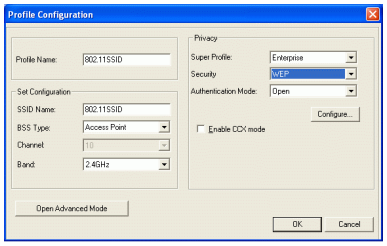
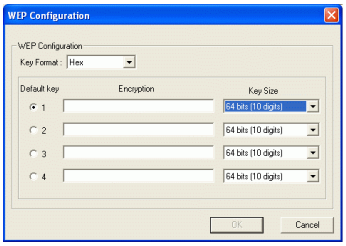

After you have activated the Configuration Utility icon on the desktop, there will be also a Configuration Utility icon appeared in the taskbar (as in the red circle). You can open the Configuration Utility by clicking on the icon.

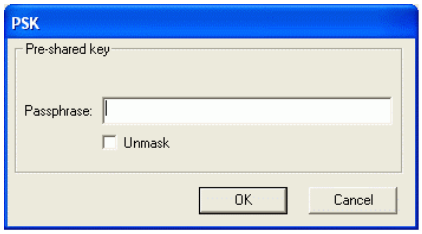
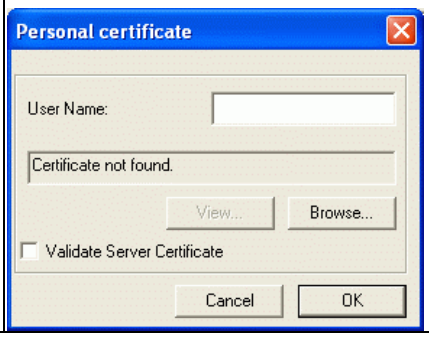
## 5.1 Main Tab

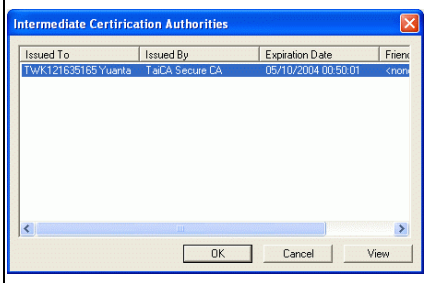
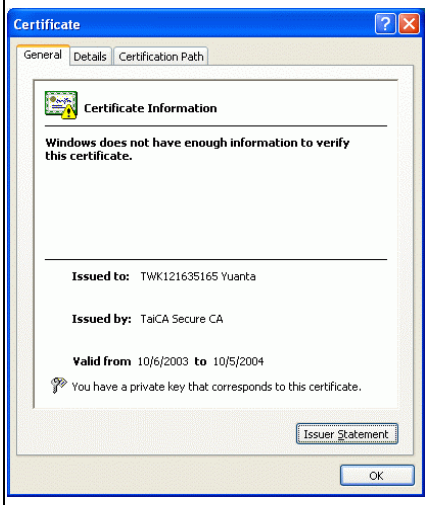
Open up the **Configuration Utility** and the below screen will display the current status of the **WL630PCI Wireless PCI Card**.

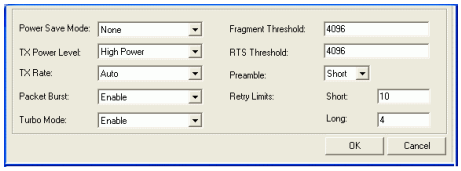



| Item | Description |
|---|---|
| **Configure using Windows Zero Config.** | **External Configuration Checkbox** (Windows XP only): A checkbox that enables you to disable the WLAN Station **Configuration Utility** and indicates that the station driver is to be configured with Windows XP's built-in **Windows Zero Configuration Utility** (WZC).<br>On Windows XP systems, the WZC service is automatically stopped when the **WLAN Configuration Utility** is installed. The WZC is started when you check the **Configure using Windows Zero Configuration** checkbox.<br>The checkbox is only displayed on Windows XP systems.<br>To disable the WZC and access using the **Configuration Utility**, right-click on the **WLAN Utility** and then uncheck the **Configure using WZC**. |
| **Profile name** | The profile name that is currently connected. |
| **SSID** | The **SSID** is the unique name shared among all points in your wireless network.<br>The name must be identical for all devices and points attempting to connect to the same network.<br>Indicates that the network does not require special security settings and access rights in order to connect to it (that is, you can connect to the network by setting the station's privacy mode to None and authentication mode to None).<br>Indicates that the network requires special security settings and access rights in order to connect to it.<br>Indicates a hidden network that is not broadcasting its SSID. The SSID for such networks are listed as <Hidden Network>. In order to connect to such a network, you must know the network's SSID. |
| **BBS ID** | The **MAC address** for the Access Point or station. |
| **Current Tx Rate** | It displays the currently connected rate. |
| **Channel** | The channel that is currently connected. |
| **BSS type** | The type of connection, either **Access Point** or **Peer-to-Peer**. |

| Item | Description |
|---|---|
| **Tx Rate /Rx Rate** | The actual instantaneous transmit and receive rates, in Mbps. |
| **Signal quality** | The signal strength from the network Access Point or station. The strength is displayed in three formats: a signal quality level (one of five levels, from Bad to Best), a numerical value in dBm, and a signal quality bar graph with a scale of –82 to –10. |
| **Connect** | Highlight one of the devices from the list area and then press the **Connect** button to access it.<br>  <br><br>**Profile Name:** Enter the profile name you wish to have.<br>**Set Configuration:** The Set Configuration area contains the following fields<br>**SSID Name:** The SSID for the current profile<br>**BSS Type:** The BSS type, either peer-to-peer or Access Point<br>**Channel:** The preferred channel on which to make a connection (available for peer-to-peer connections only)<br>**Band:** The band on which to make a connection.<br>Super Profile：Determines the security settings available to you, and can be one of the following:<br>**Personal:** Enables only the basic security settings that you are likely to need at home.<br>**Enterprise:** Enables all security settings, including more complex certificate-based settings that you may need in an office.<br>**Security:** Determines the type of security to use for this connection, and can be one of the following:<br><br>**None**<br>**WEP**<br>**WPA2**<br>**Any WPA**<br><br>**WEP: Wired Equivalent Privacy** (WEP) is a data security mechanism based on a **64 Bit/128 Bit/256 Bit** shared key algorithm.<br>Press the **Configure** button to change WEP configuration.<br>  <br><br>***Note: You must use the same Default Key #, Key Size, and Encryption Key on both the host and destination devices in order to establish a connection.***<br><br>**KEY1 ~ KEY 4:** You can specify up to 4 different keys, but only one can be used at a time.<br>**Encryption:** Enter the key value in this field. |

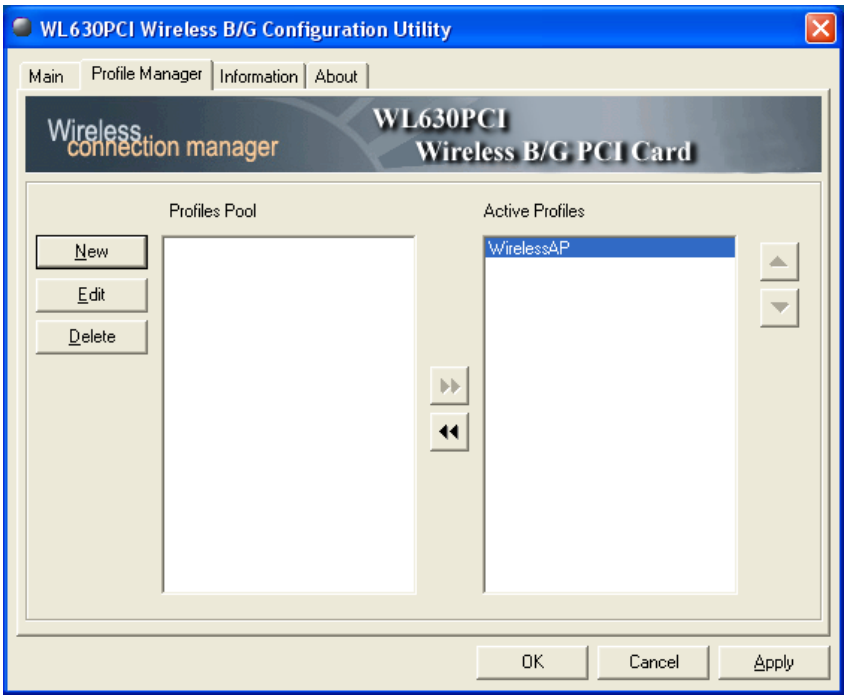
| Item | Description |
|---|---|
| | Select **Hexadecimal (Hex)** if you are using hexadecimal numbers (0-9, or A-F).<br>Select **ASCII** if you are using ASCII characters (case-sensitive). ASCII characters are: 0,1,2,...8,9 and a,b,c,d,...x,y,z.<br>**10 Hexadecimal** digits or **5 ASCII** characters are needed if **64-bit WEP** is used;<br>**26 Hexadecimal** digits or **13 ASCII** characters are needed if **128-bit WEP** is used;<br>**58 Hexadecimal** digits or **29 ASCII** characters are needed if **256-bit WEP** is used.<br>For example, the characters "**1122aabbcc**" are in **10 Hexadecimal** digits.<br>For example, the characters "**test1**" are **5 ASCII** keys.<br>**WPA2 & Any WPA:** (**WiFi Protected Access**) is more secure than WEP, and should be used if possible.<br>**Authentication Mode:** Determines the type of authentication to use for this connection.<br>With **Super Profile** set to **Personal**, this field can be one of the following:<br>**Open:** If your access point/wireless router is using "Open" authentication, then the wireless adapter will need to be set to the same authentication type.<br>**Shared Key:** Shared Key is when both the sender and the recipient share a secret key.<br>**Auto Switch:** Select Auto Switch for the adapter to automatically select the appropriate<br>**PSK:** In the Passphrase field, enter the key that you are sharing with the network for the WLAN connection. By default, the key that you type is masked with asterisks (*). To view the key that you entered, check Unmask.<br>  <br><br>With **Super Profile** set to **Enterprise**, this field can also be one of the following:<br>**TLS**<br>**PEAP – MS-CHAP-V2** (only with CCX mode enabled)<br>**PEAP – GTC** (only with CCX mode enabled)<br>**LEAP** (only with CCX mode enabled)<br>The **Personal Certificate** window enables you to supply a personal certificate for use with TLS and PEAP – MS-CHAP-V2 authentication.<br>This window is only applicable with Enterprise security.<br>**Personal Certificate:**<br>  <br> |

| Item | Description |
|---|---|
| | To supply a **Personal Certificate**:<br>In the **User Name** field, type in the user name assigned to the certificate.<br>Select a certificate by clicking **Browse**. The standard Windows **Select Certificate** window is displayed:<br>  <br><br>Select a certificate from the list, and click OK. The name of the certificate is displayed in the textbox in the middle of the **Personal Certificate** window.<br>To view the certificate, click View. The certificate is displayed:<br>  <br><br>The **Password** window enables you to supply a login name and password for use when selecting **LEAP** or **PEAP – GTC** authentication.<br>  <br><br>To specify a user name and password:<br><br>1.Select the appropriate radio button to indicate whether: |

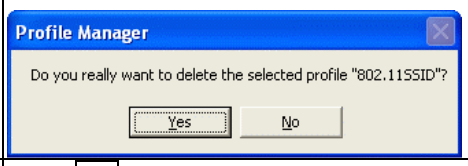
| Item | Description |
|---|---|
| | You are supplying a user name and password now.<br>The utility prompts you for them each time you try to connect to a network.<br>2. To provide a user name and password now, enter them in the fields provided.<br>Not all values for **Authentication Mode** are available for all **Security** settings.<br>**Enable CCX mode:** Enables connections in **CCX** mode. When checked, additional authentication modes are available.<br>This checkbox is only enabled when **Super Profile** is set to **Enterprise**.<br>**Configure:** Click **Configure** to open the configuration window.<br>**Open Advanced Mode:** Click **Open Advanced Mode** to configure the following screen：<br>  <br><br><br>**Power Save Mode:** Indicates whether to use power saving. This field can be one of the following:<br>**None:** No power save mode.<br>**Max:** Max power save mode.<br>**TX Power Level:** The transmit power level, which can be one of the following:<br><br>**Low Power** (6% of full power)<br>**Medium-Low Power** (12%)<br>**Medium-Power** (25%)<br>**Medium-High Power** (50%)<br>**High Power** (100%)<br><br>**TX Rate:** The preferred rate of transmission, in Mbps. The options for this field are based on the selected band and channel,<br>**Packet Burst:** Indicates whether the Packet Bursting feature is enabled.<br>**Turbo Mode:** Indicates whether the 4X feature is enabled.<br>**Fragment Threshold:** The maximum fragment length, in bytes. The value is an even number from 256 to 4096 (default is 4096).<br>**RTS Threshold:** The minimum packet length for sending an RTS frame, in bytes. The value must be greater than 0 (default is 4096).<br>**Preamble:** Either short or long<br>**Retry limits:** The number of retries to attempt, if necessary, when sending a frame. There are two Retry limits fields:<br>**Short:** For frames without an RTS frame<br>**Long:** For frames with an RTS frame<br>To hide the advanced fields, click **Close Advanced Mode**.<br>**OK:** When the configuration is done, click **OK** to save.<br>**Cancel:** Click **Cancel** to discard changes. |
| **Rescan** | Searches for all available networks. Clicking on the button, the device will start to rescan and list all available sites. |
| **Configure** | Click **Configure** to modify the settings for the profiles with the SSID of the selected network.<br>If no profile exists, the **Profile Configuration** window is displayed so that you can create a profile. The Profile Name field is blank.<br>If profile exists, the **Profile Configuration** window is displayed so that you can modify its settings. |

## 5.2 Profile Manager Tab

The **Profile Manager** enables you to create, modify and delete the profiles that the station uses to connect to WLAN networks, to activate and de-activate profiles, and to raise and lower a profile's priority.

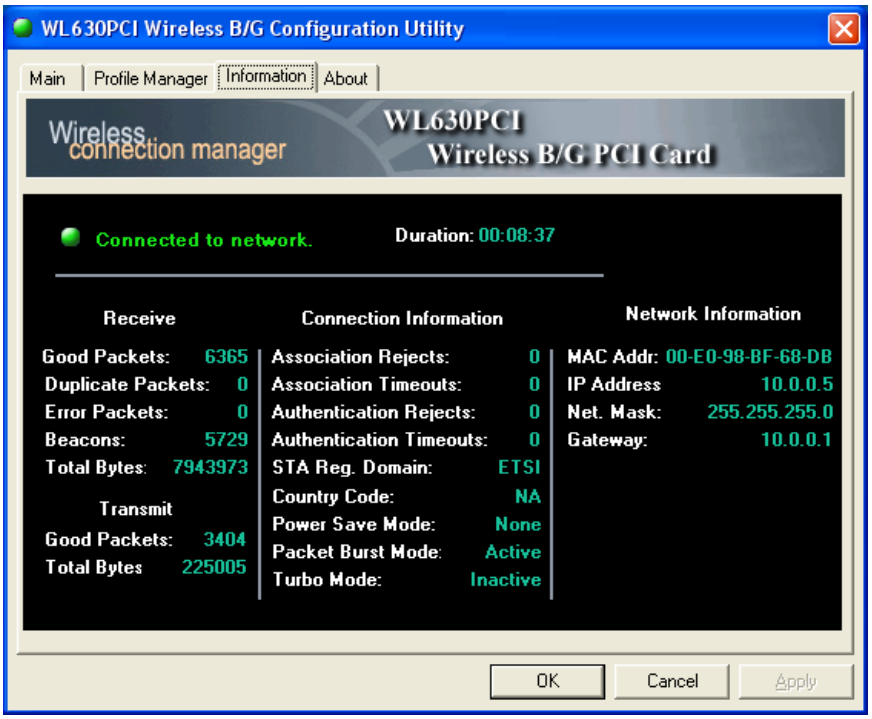



All profiles are displayed in one of the following lists:
**Profiles Pool:** A list of inactive profiles, that is, profiles that cannot currently be used for making a connection.
**Active Profiles:** A list of active profiles, that is, profiles that can be used for making a connection.

| Item | Description |
|---|---|
| **New** | Click **New** to create a new profile.<br>The new profile is inactive and is added to the Profiles Pool list. |
| **Edit** | Click **Edit** to edit an exiting profile. |
| **Delete** | Click **Delete** to delete the profile that is currently selected in the Profile Manager tab. The following confirmation dialog box is displayed：<br>  |
| **OK** | Click **OK** to save any changes to profiles and connection settings, and then minimizes the utility to the Windows system tray. |
| **Cancel** | Click **Cancel** to discard any changes to profiles and connection settings, and then minimizes the utility to the Windows system tray. |
| **Apply** | Click **Apply** to save any changes to profiles and connection settings. |

## 5.3 Information Tab

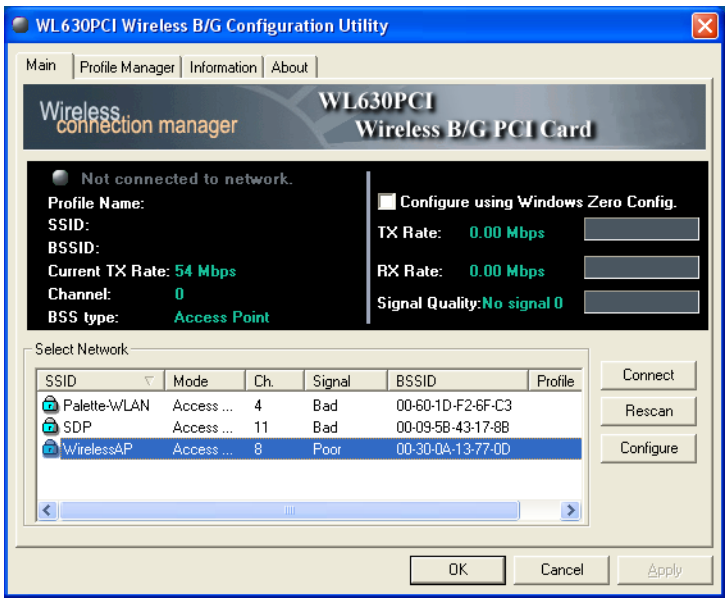
The **Information** tab displays information maintained by the driver, such as the number of packet errors and the total number of bytes received or transmitted. The tab also displays information about the current connection, as well as network information about the station. The statistics are for the period starting when you last connected to a network. The statistics are refreshed at least twice a second.



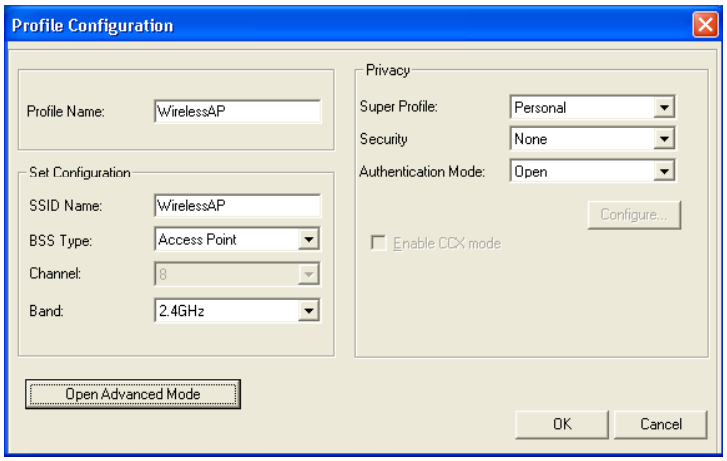

| Item | Description |
|---|---|
| **Connection Status** | Indicates whether the station is currently connected to a network. This is the same connection status as displayed on the Main tab. |
| **Duration** | The time since the station last connected to a network. |
| **Receive / Transmit Statistics** | All information is for the period starting when you last connected to a network, except for Beacons, which is for the period starting when you installed the driver. |
| **Connection Information** | Information about association and authentication attempts with the currently selected network, as well as some connection settings. |
| **Network Information** | Network information, such as the IP address, of the station. |

# 6 Example of connection to an Access Point

1. At the **Main** tab, highlight one of the devices from the list area that you wish to connect and then press the **Connect** button to access it.




2. The **Profile Configuration** window will be displayed so that you can create a profile.



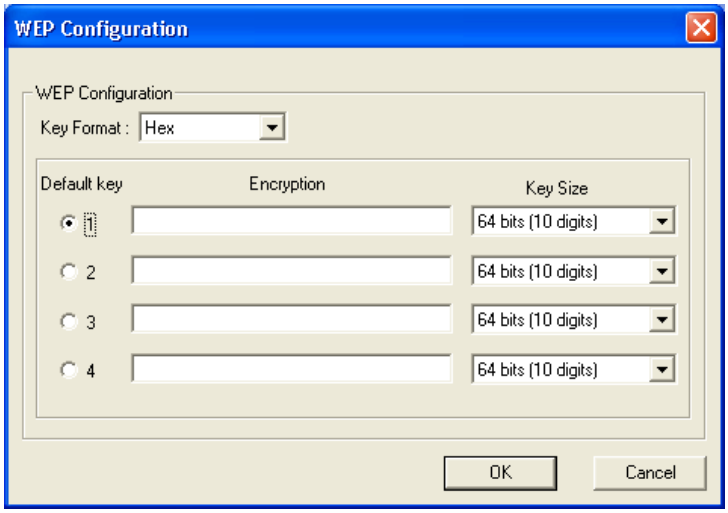

3. The **SSID** name will appear on the **Profile Name**. You can change the **Profile Name** if you wish to.

4. Select **Personal** for **Super Profile** and select **Open** for the **Authentication Mode**.

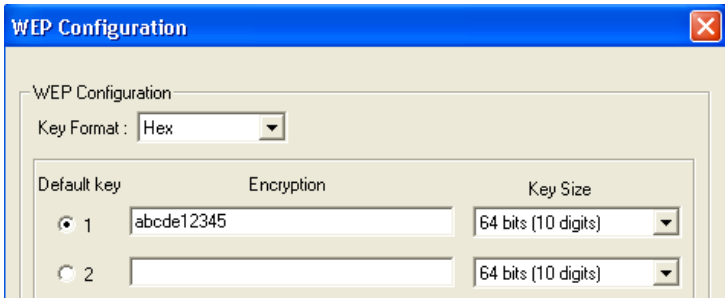
5. Select **None** for the **Security** if the network does not require special security settings and access rights in order to connect to it. Please proceed to **Step 11** on **Page 20**.

6. Select **WEP** for the **Security** if the network requires special security settings and access rights in order to connect to it. Then, click on **Configure…** to set the **WEP Configuration**.

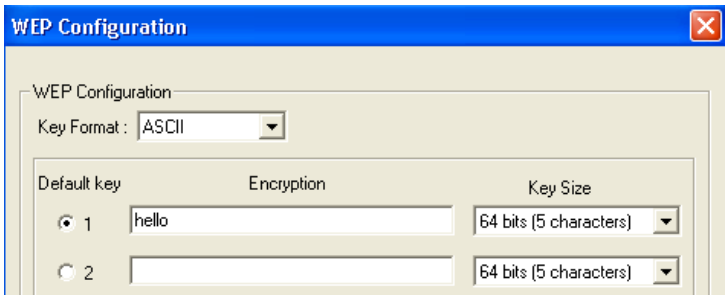
7. The **WEP Configuration** screen will be shown.




8. Select **Hexadecimal (Hex)** if you are using hexadecimal numbers (0-9, or A-F).
   **10 Hexadecimal** digits are needed if **64-bit WEP** is used;
   **26 Hexadecimal** digits are needed if **128-bit WEP** is used;
   **58 Hexadecimal** digits are needed if **256-bit WEP** is used.
   For example, the characters "**1122aabbcc**" are in **10 Hexadecimal** digits.




9. Select **ASCII** if you are using ASCII characters (case-sensitive). ASCII characters are:
   0,1,2,...8,9 and a,b,c,d,...x,y,z.
   **5 ASCII** characters are needed if **64-bit WEP** is used;
   **13 ASCII** characters are needed if **128-bit WEP** is used;
   **29 ASCII** characters are needed if **256-bit WEP** is used.
   For example, the characters "**test1**" are **5 ASCII** keys.




10. Click **OK** to exit the **WEP Configuration**.

11. Click **OK** to exit the **Profile Configuration** and then click on **Apply** in the **Main** tab to activate the settings.