



Vigor610 Wireless Adapter User's Guide

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1

Preface

Thank you for purchasing Wireless LAN Adapter. This manual will assist you with the installation procedure and is valid for all Wireless LAN adapters, such as PC Card, USB, mini-USB, PCI adapter, mini-PCI, etc.

Wireless LAN Basics

Wireless LAN (Local Area Networks) systems offer a great number of advantages over a traditional, wired system. Wireless LANs (WLANs) are more flexible, easier to setup and manage and often more cost effective than their wired equivalence.

Using radio frequency (RF) technology, WLANs transmit and receive data over the air, minimizing the need for wired connections. Thus, WLANs combine data connectivity with user mobility, and, through simplified configuration, enable movable LANs.

With wireless LANs, users can access shared information without looking for a place to plug in and network managers can set up or augment networks without installing or moving wires. Wireless LANs offer the following productivity, convenience and cost advantages over traditional wired networks:

- **Mobility** - Wireless LAN systems can provide LAN users with access to real-time information anywhere in their organization. This mobility supports productivity and service opportunities not possible with wired networks.
- **Installation Speed and Simplicity** - Installing a wireless LAN system can be fast and easy and can eliminate the need to pull cable through walls and ceilings.
- **Installation Flexibility** - Wireless technology allows the network to go where wires cannot go.
- **Reduced Cost-of-Ownership** - While the initial investment required for wireless LAN hardware might be higher than the cost of wired LAN hardware, overall installation expenses and life-cycle costs will be significantly lower. Long-term cost benefits are greatest in dynamic environments requiring frequent moves, adds, and changes.
- **Scalability** - Wireless LAN systems can be configured in a variety of topologies to meet the needs of specific applications and installations. Configurations are easily changed and range from peer-to-peer to full infrastructure networks, also allow roaming over a broad area.

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2

Installation Overview

Introduction

Before installing Vigor610, make sure that there is already an Access Point existed on the wireless network. It is needed in case of Infrastructure network mode.

Here are some steps you will perform in establishing your wireless network connection:

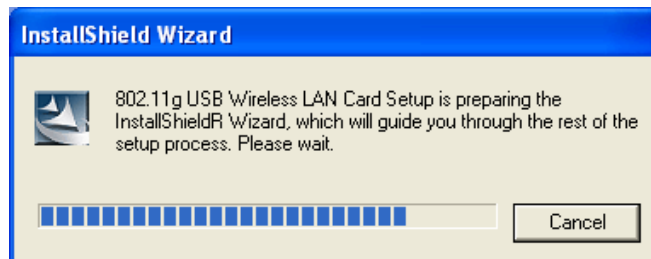
- Install the USB Driver for Vigor610 by using the Install CD.
- Install the Wireless card.
- Configure network protocol(s) that is required to communicate on your network. Most likely you will need the TCP/IP protocol.

Installation Procedure

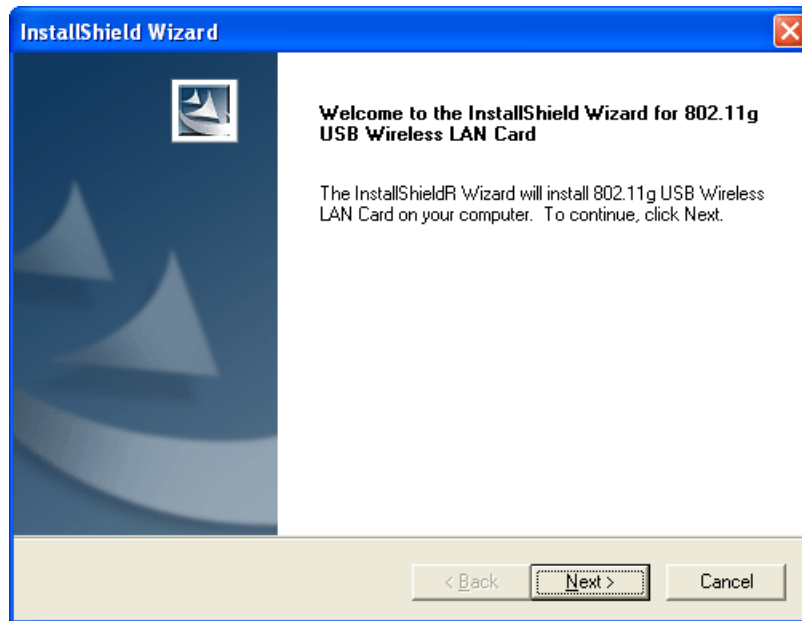
Important !! Before you installing USB driver for Vigor610, do not insert the wireless adapter in your computer.

Follow the step below to install USB driver.

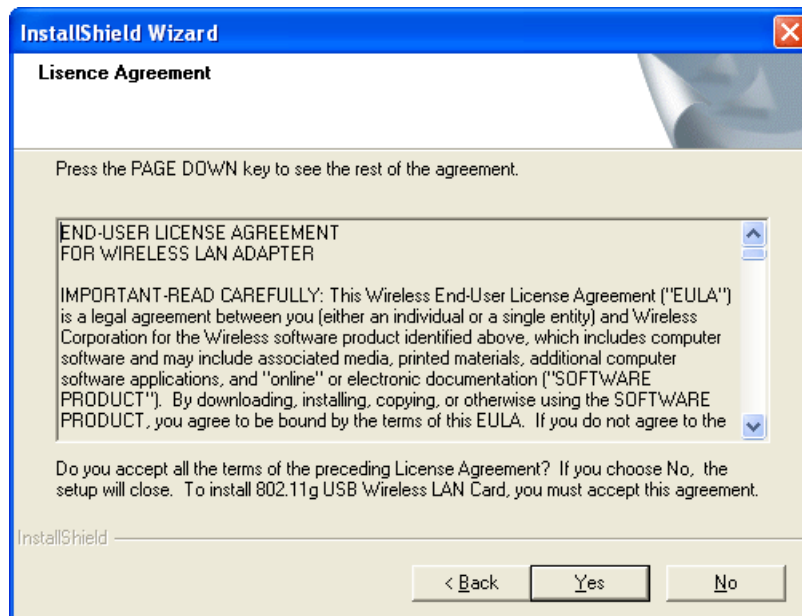
1. Insert the CD into your computer. The following screen will appear.



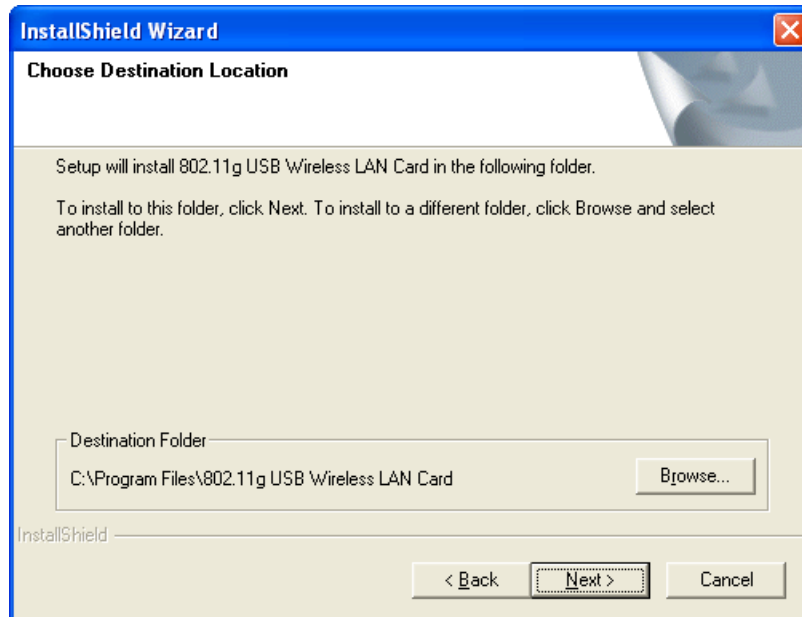
2. The welcome screen will appear as follows. Please click **Next**.



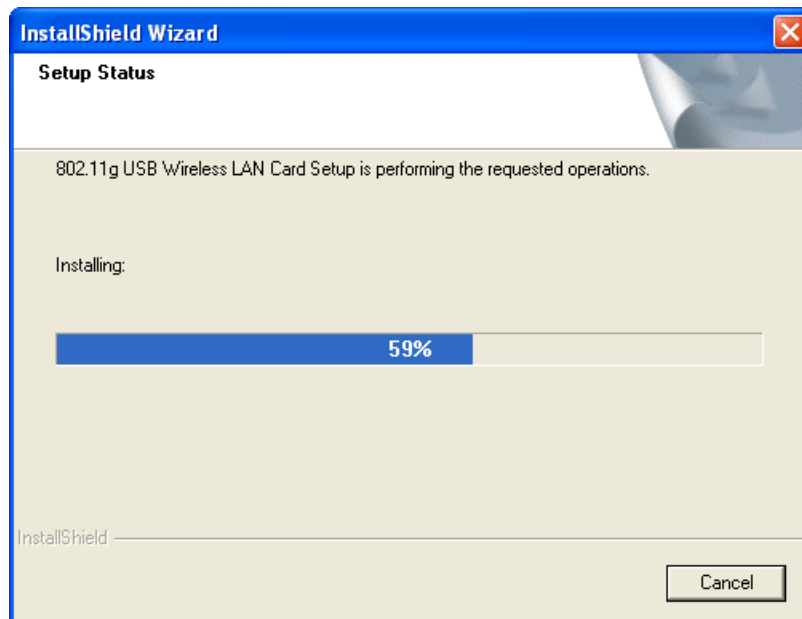
3. In this page, you have to choose **Yes** to continue the installation. If you do not accept the agreement, you can click **No** to exit the wizard. And the driver installation will not be installed to your computer.



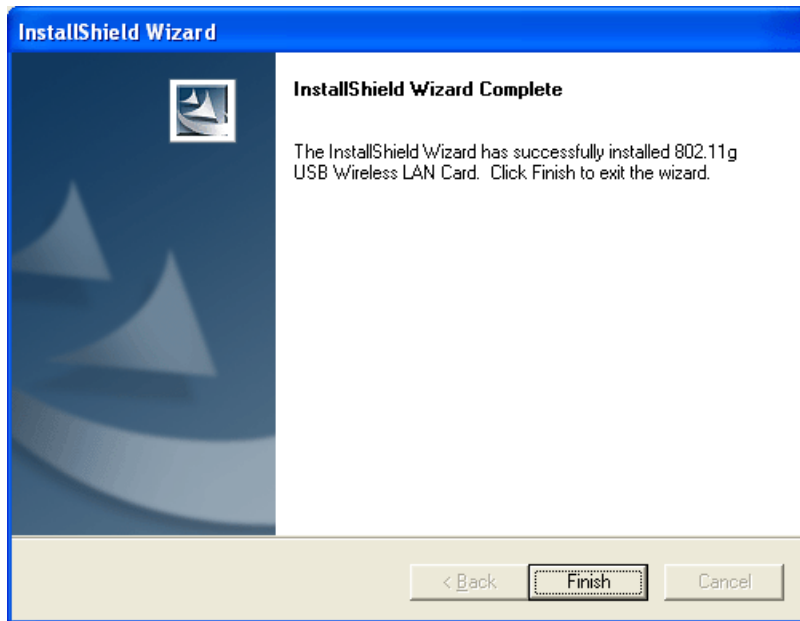
- The default destination folder will be specified in this page. Also, you can click **Browse...** to choose another folder for storing the driver. Click **Next**.



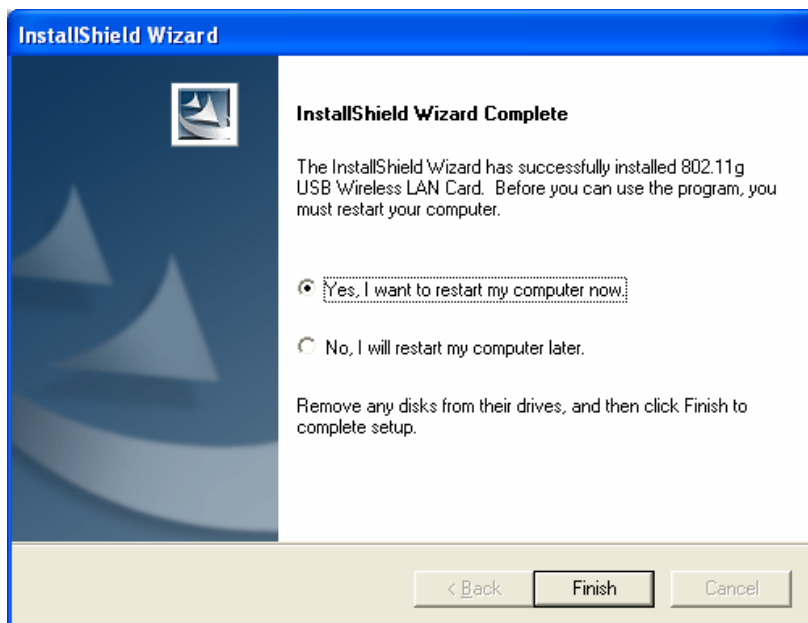
- Now, the program is executing the installation by copying corresponding files to your computer.



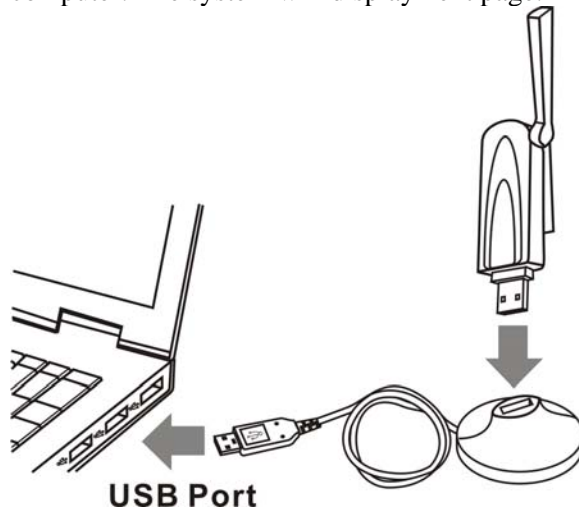
6. When the file copying is completed, the following screen will appear. Please click **Finish**.



7. Now the system will ask you to restart your computer to complete the whole installation. After choosing the proper setting, please click **Finish**.



- After restarting your system, now insert Vigor610 (the wireless adapter) into your computer. The system will display next page.



- The system will find out the hardware (wireless LAN card) automatically. When it locates, a message will be shown on the system tray.

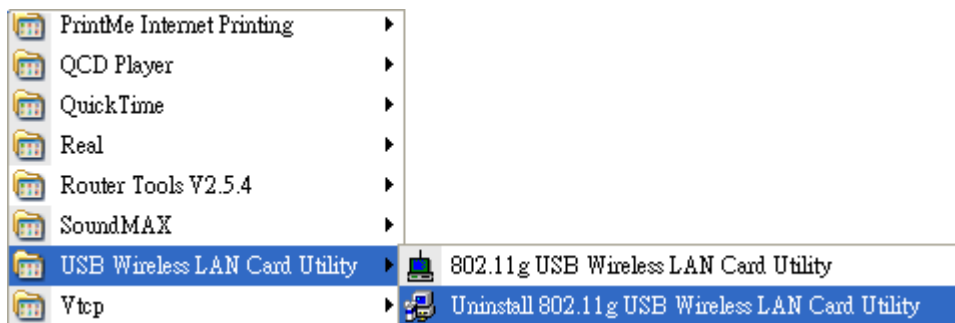


- Now, you can find the wireless card icon in the system tray. Double click it to open the configuration window of Vigor610 wireless adapter.



Un-installation Procedure

If you want to remove the driver for this wireless card, please **Start >> Programs>> USB Wireless LAN Card Utility>>Uninstall**.



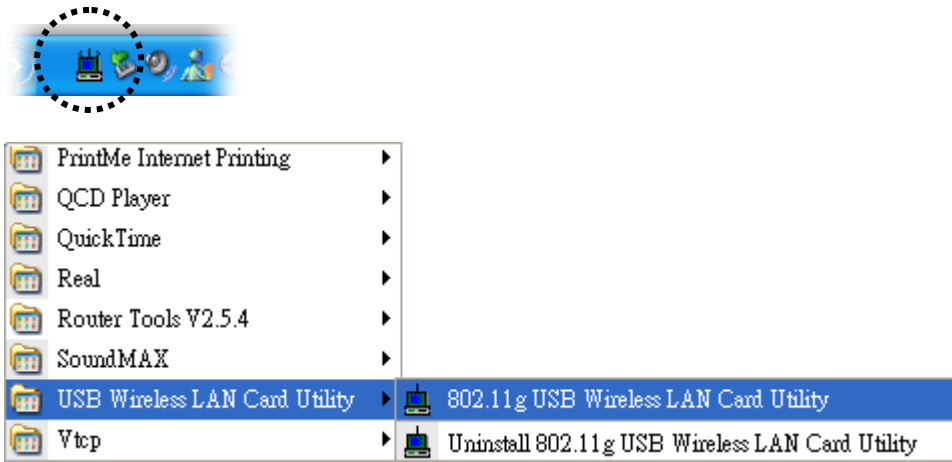
Please follow the on-screen instruction to uninstall the wireless card utility. Last, restart your computer.

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3 Configuration

Wireless Monitor Utility

After finish the driver installation, it is the time to configure the wireless utility for accessing into Internet through wireless connection. Double click on the wireless monitor icon on the system tray. Or open the wireless monitor utility by **clicking Start >> Programs>> USB Wireless LAN Card >>802.11g USB Wireless LAN Card Utility**.



Note: If the wireless monitor icon is in red color, it means that the wireless status is under poor signal or the connection is failed.

The **Wireless Monitor** window will appear as the following. Basically, the software will scan and display available wireless AP automatically.



This chapter will introduce each tab in detail. Also, an example of configuration will be provided for your reference.

Link Information

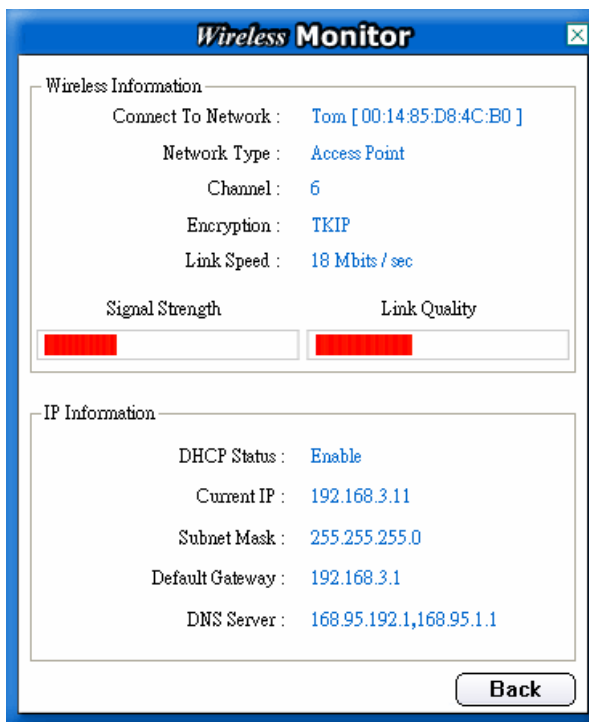
The first page that you will see is link information.



Current Profile String It displays current used profile name for AP. Nothing will be shown here if there is no profile set before.

More This button will display general wireless information for the AP that you connected. Click **Back** to exit this dialog and return to the wireless monitor home page.

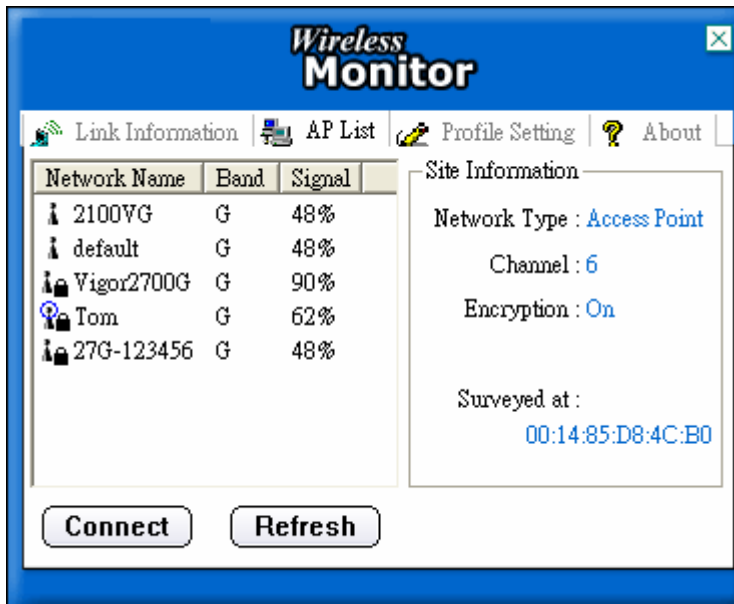
The window of detailed link information by clicking **More...** is shown as follows:



Connect To Network	It displays current status of connection. The SSID of the AP that your computer connected will be shown here (with the MAC address).
Network Type	It displays the mode (Access Point or Peer to Peer) that you set for connecting to AP.
Channel	It displays the channel used for this wireless card.
Encryption	It displays the authentication mode used for this wireless card.
Link Speed	It displays current transferring rate for the link.
Signal Strength	The longer the red bar for signal strength is, the better the connection effect will be. The graph is active only when you choose Access Point as the network type.
Link Quality	And the longer the red bar for link quality is, the better the performance of transmission will be. The graph is active only when you choose Access Point as the network type.
DHCP Status	It displays current status of DHCP (enable or disable).
Current IP	It displays current IP address set in profile setting for the wireless card.
Subnet Mask	It displays the subnet mask set in profile setting for the wireless card.
Default Gateway	It displays the gateway address set in profile setting for the wireless card.
DNS Server	It displays the DNS server set in profile setting for the wireless card.

AP List

The wireless monitor utility will find out all the available Access Points and list them automatically for you to choose. *The following figure is just an example. The real available list depends on the AP(s) that found around your computer system.*



Network Name

It displays the SSID of the AP.



means profile settings for that device.



means a successful connection to that AP



means connecting to that AP failed

Band

It means

Signal

The more the percentage is, the better the link quality will be.

Site Information

It briefly displays general information for the AP you selected.

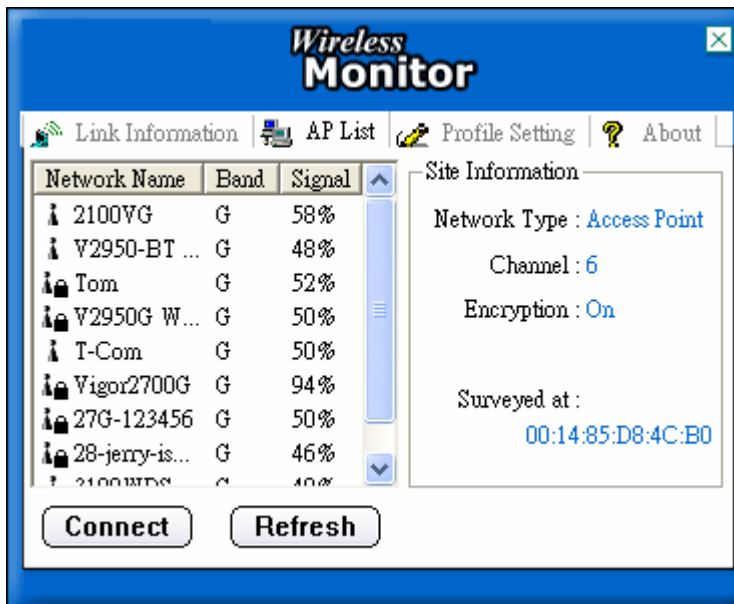
Connect

It starts to build a connection between the station (client) and the AP.

Refresh

It can re-search available APs on wireless network whenever the user clicks it. By the way, the whole list will be refreshed in a certain time automatically.

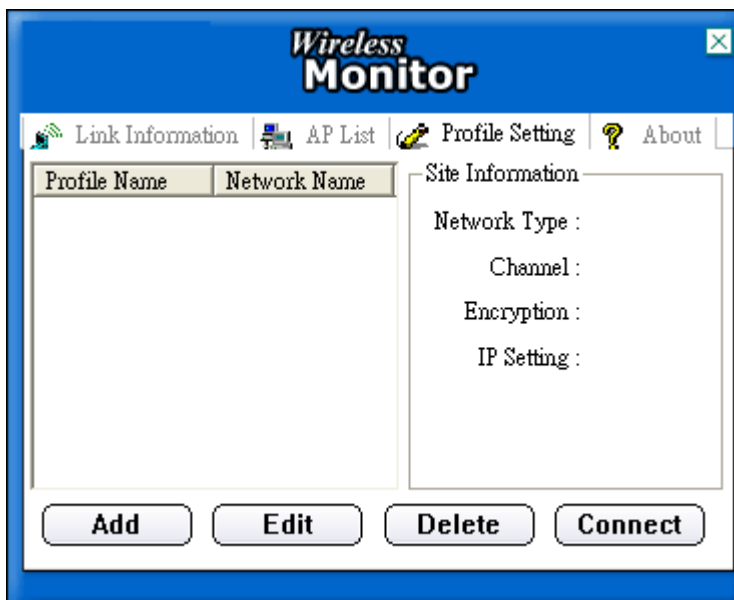
If the available APs are many, scroll bars will appear for the user to scroll and select preferred AP. Please select the one (Access Point) that you want to connect for accessing Internet.



Select the one (AP) that you want to connect and click **Connect**.

Profile Setting

Though there is only one profile can be applied to current used Access Point. Yet, you can set several profiles at one time for applying for different Access Point. It is very convenient for the users to connect with APs for different network environment via wireless card.



Add It allows you to add a new profile.

Edit Select one of the existed profile and click this button to edit it.

Delete Select one of the existed profile and click this button to remove it.

Connect Select one of the existed profile for applying with current connected Access Point.

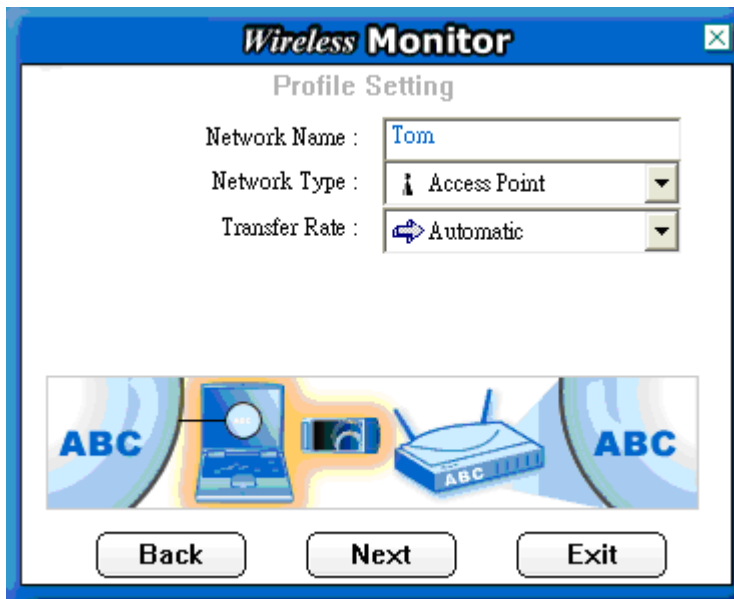
How can you add a new profile?

To add a new profile, please click **Add**. The following Profile Setting window will appear.



Profile Name Type the name for the profile that you want to create for AP. Here **Office** is typed as an example.

When you finish the name input, click **Next** to open next page.



Network Name Type the SSID of the AP that you want to connect. Here **Tom** is typed as an example.

Network Type It determines the normal operation in infrastructure or Ad Hoc mode.



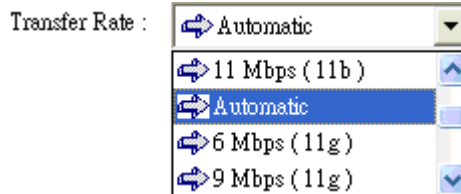
Peer to Peer: This is 802.11 peer-to-peer mode. All the communication will be done from station to station without using

Access Point. The wireless card driver will scan for the existing *Ad Hoc* network which uses the same SSID about five seconds.

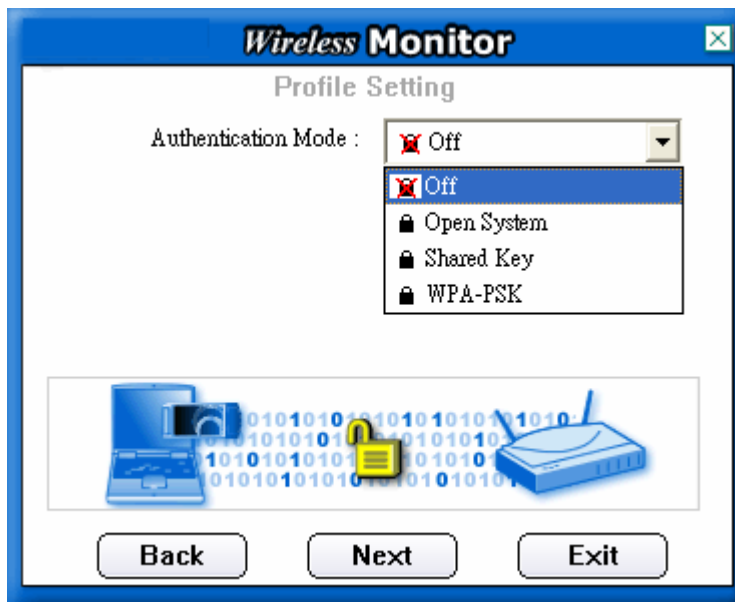
Access Point: This mode will make all the communication being done via the Access Point. The wireless will scan all available APs which match the SSID set above in infrastructure mode.

Transfer Rate

Select **Automatic** to judge the connection rate by the AP automatically. If higher rate is selected, the distance of transmission will be shortened. The selections of Transfer Rate will be changed with different wireless modes.



When you finish the settings of this page, click **Next** to open next page. In the following page, you can set additional measure of security on WLAN by using WEP or WPA encryption.

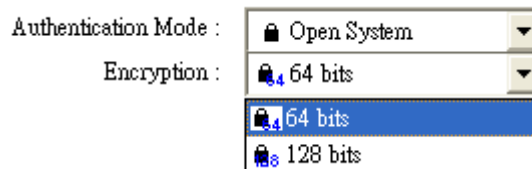


Off

No authentication mode will be applied for the AP. If the AP you want to connect does not need to specify authentication mode, simply choose **Off** and click Next.

Open System

For this mode, you have to choose the value for encryption. There are two selections for you to choose, 64 bits and 128 bits.



Shared Key

For this mode, you have to choose the value for encryption. There are two selections for you to choose, 64 bits and 128 bits.

Authentication Mode :

Encryption :

- 64 bits
- 128 bits

WPA-PSK

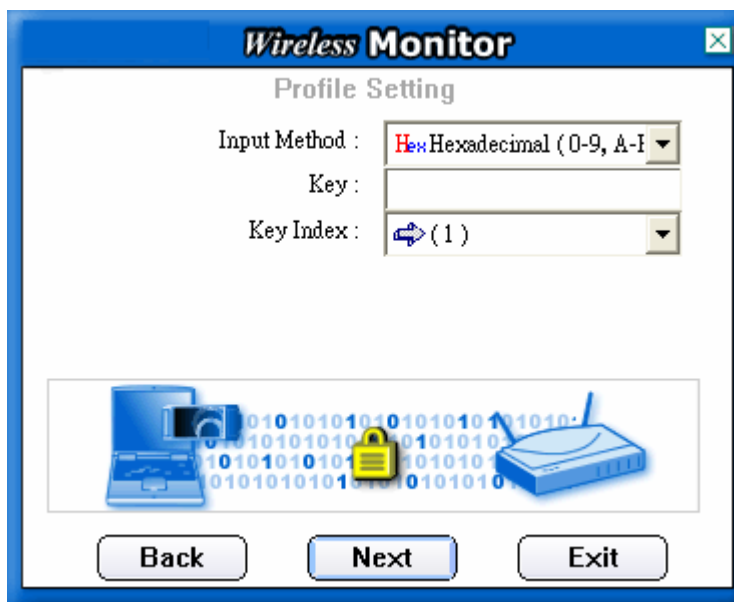
For this mode, you have to choose input method. There are two selections for you to choose, TKIP and AES.

Authentication Mode :

Input Method :

- TKIP
- AES

When you finish the settings of this page, click **Next** to open next page. For **Open System** and **Shared Key** modes, you will see the following page.



Input Method

Choose the input mode for the wireless card. The method you choose here must be the same as the method set in the connected AP. The method you choose here determines the number

Input Method :

- Alphanumeric
- Hex Hexadecimal (0-9, A-F)
- Passphrase

Key

The number you typed here should be the same as the number set in the connected AP. According to the input method you selected, the characters that you have to set will differ.

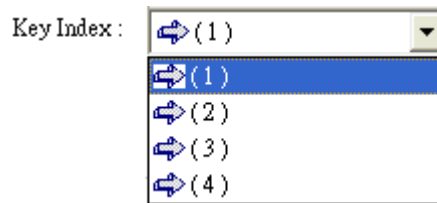
For **Alphanumeric**: Type 5 alphanumeric characters in this field.

For **Hexadecimal (0-9, A-F)**: Type 10 hexadecimal numbers in this field.

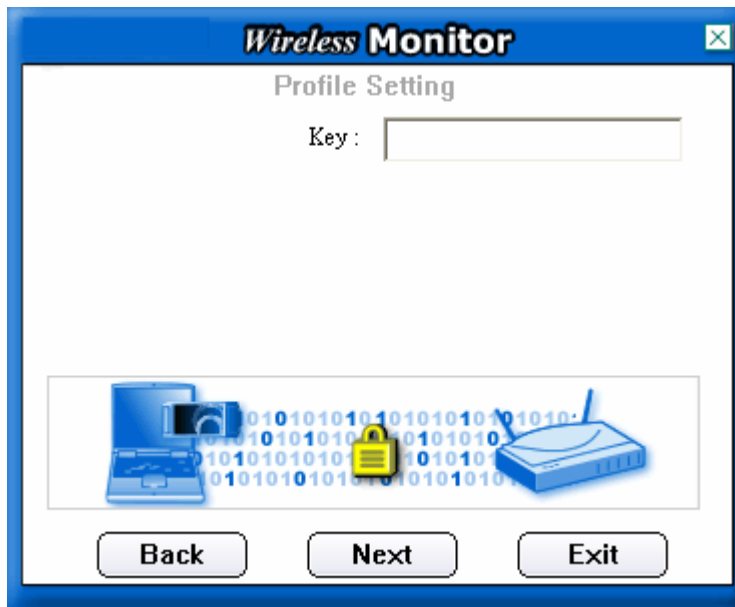
For **Passphrase**: Type 1 to 32 alphanumeric characters in this field.

Key Index

Specify the one which is the same as the setting in the connected AP.

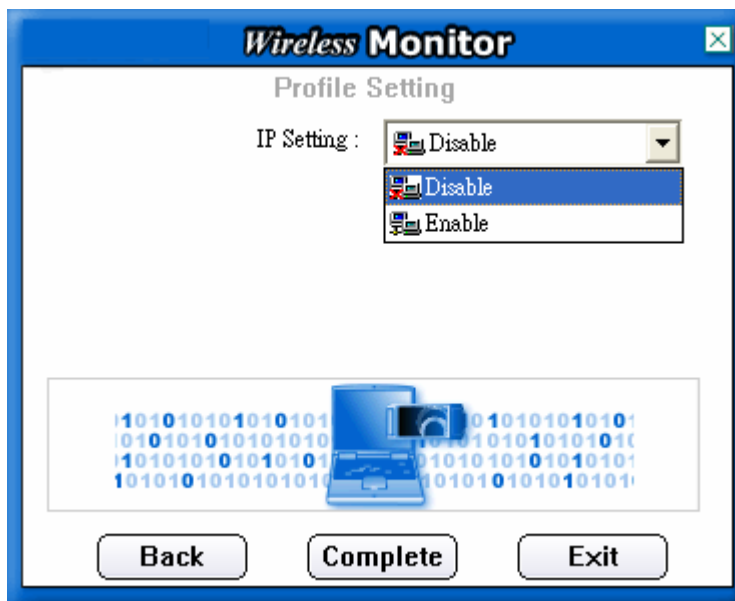


For **WPA-PSK** mode, you will see the following page.

**Key**

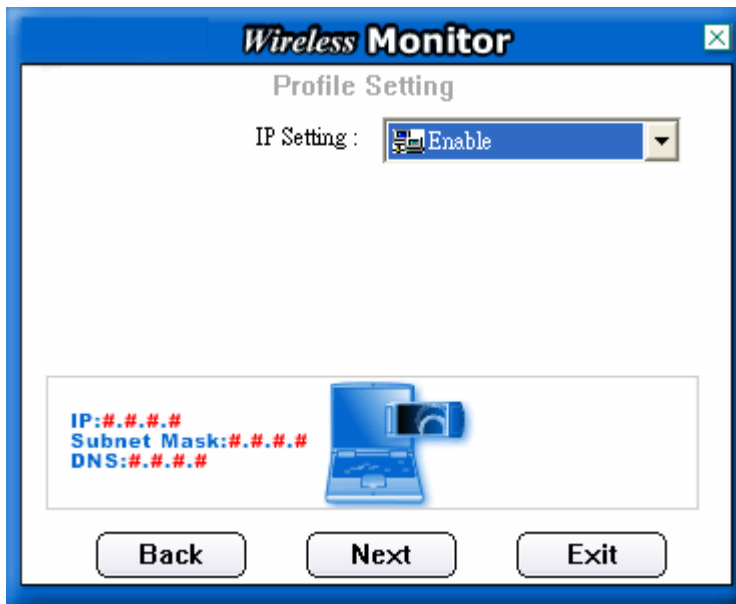
Type 8~63 alphanumeric characters for encryption.

When you finish the settings of this page, click **Next** to open next page. In the following page, you can define profile IP setting assigned by a DHCP server or by a fixed IP that is determined by the network administrator.

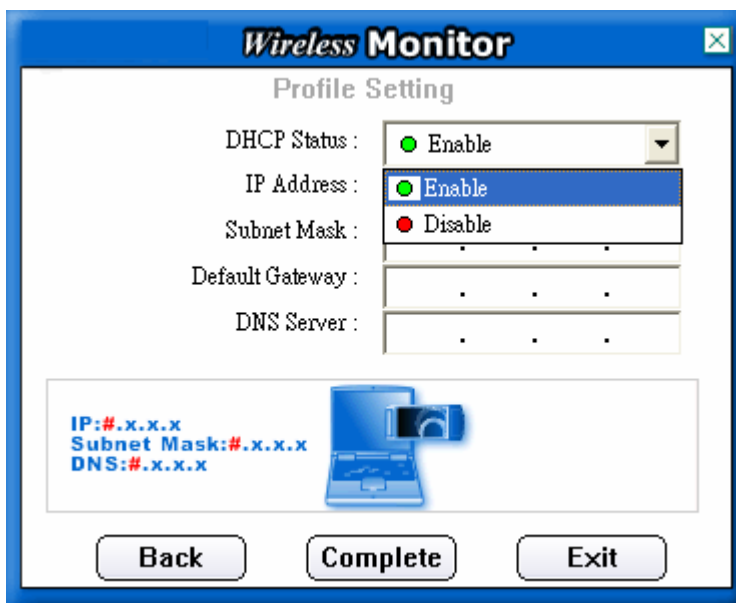
**IP Setting**

If you choose **Disable** for IP Setting, simply click **Complete** for finishing the profile setting. If you choose **Enable** for IP Setting, you can enter fixed IP setting for the wireless card.

Below is the page that you choose Enable as IP setting. Click **Next** to enter detailed information.



In this page, you can activate DHCP server to acquire IP or set the IP settings manually.



DHCP Status

Choose **Enable** if you want TCP/IP setting assigned by DHCP server. If you choose Enable, the IP Address, Subnet Mask, Default Gateway and DNS Server will be disabled. And, if you want to set the IP address manually, you should choose **Disable**.

IP Address

Type the IP address for this wireless card.

Subnet Mask

The default setting, 255.255.255.0 will be displayed automatically.

Default Gateway

Type the gateway of this wireless card.

DNS Server

Type the IP address for the DNS Server if necessary.

Now, you have entered all the required settings, please click **Complete** to return to **Connect** page. Then, click **Connect** to connect the Station (through the wireless card) and the selected AP.



About

This page provides software information such as utility version, driver version, firmware version and MAC address. Simply click **About** tab on the Wireless Monitor window.



Utility Version	It displays the version number of this utility.
Driver Version	It displays the driver version of this wireless card.
Firmware Version	It displays the firmware version of the wireless card.
Address	It displays the MAC address of the wireless card.

This page is left blank.

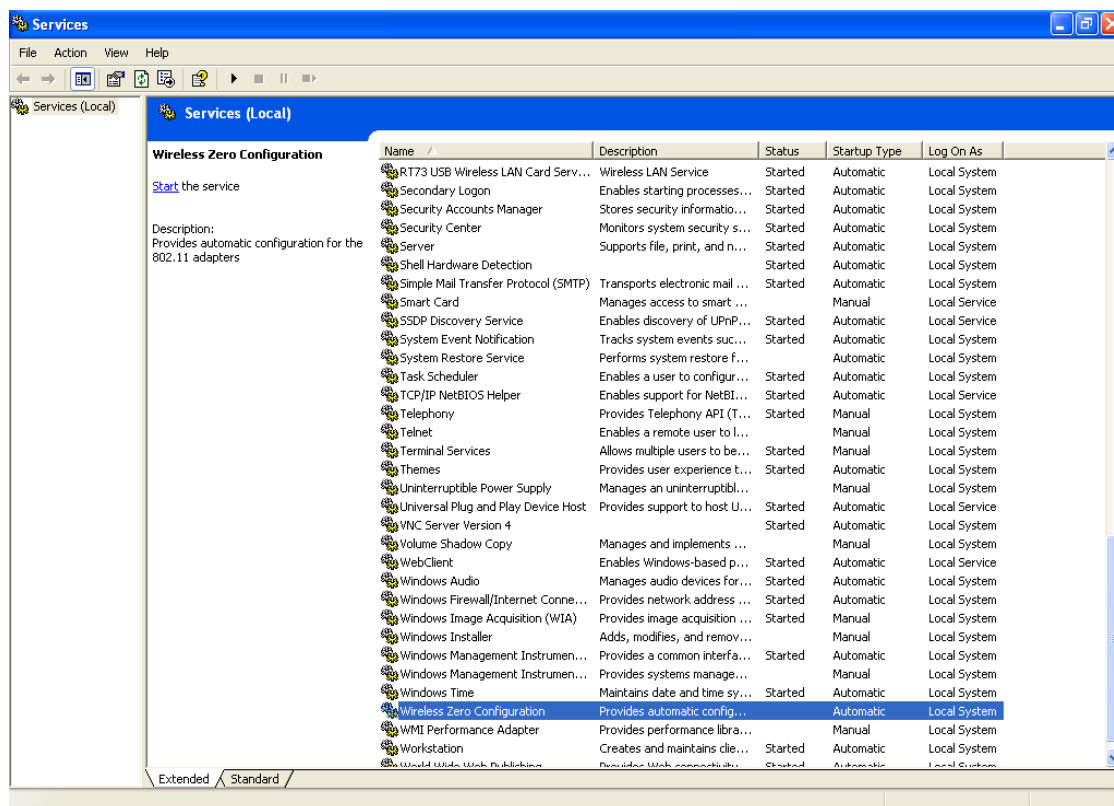
4

Miscellaneous

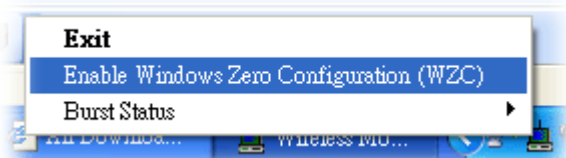
Windows Zero Configuration

Each time you power on your computer, the wireless monitor utility will activate automatically after you configured for your PC. If you do not want to activate it but want to enable wireless connection, simply activate Windows Zero Configuration to achieve your goal.

First, you have to check if the Windows Zero Configuration is enabled or not. Go to **Start>>Settings>>Control Panel** and double click **System Administrative Tools >> Service**. The Service window will appear as follows.



Locate Wireless Zero Configuration. If you find that the status of WZC is not enabled, please click the wireless monitor utility icon and choose **Enable Windows Zero Configuration (WZC)** to activate it.

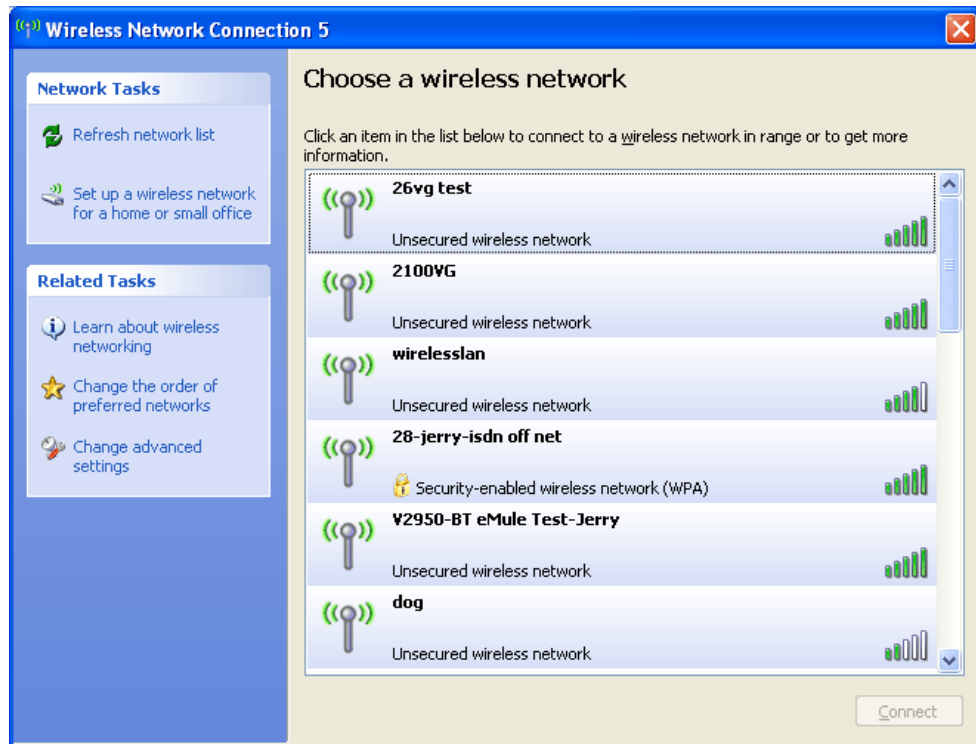


Then follow the steps below to configure WZC.

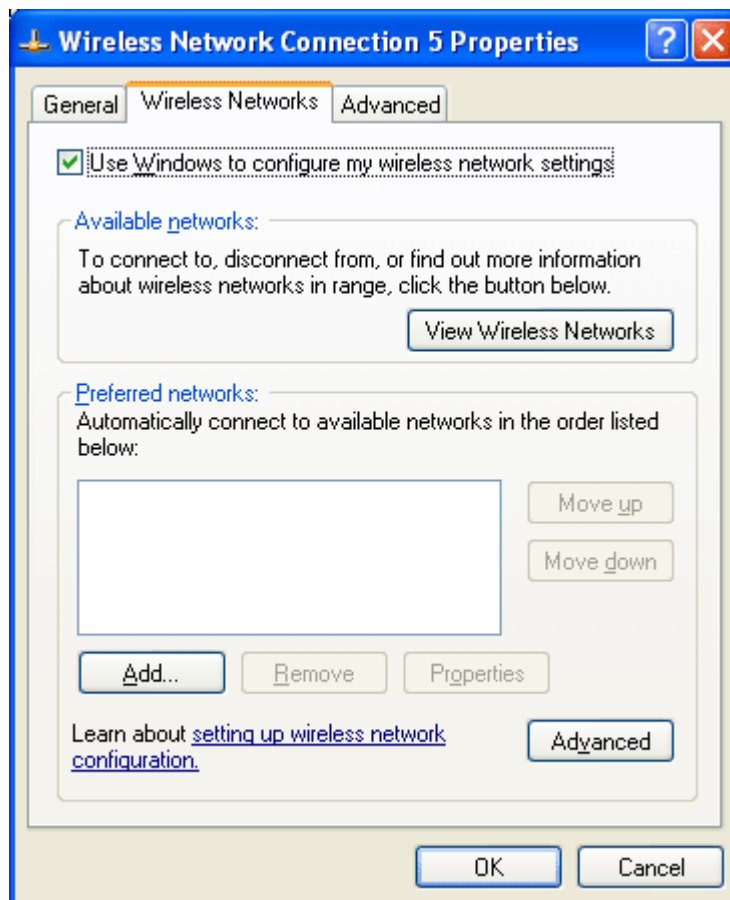
1. Double click the wireless connection icon on the system tray.



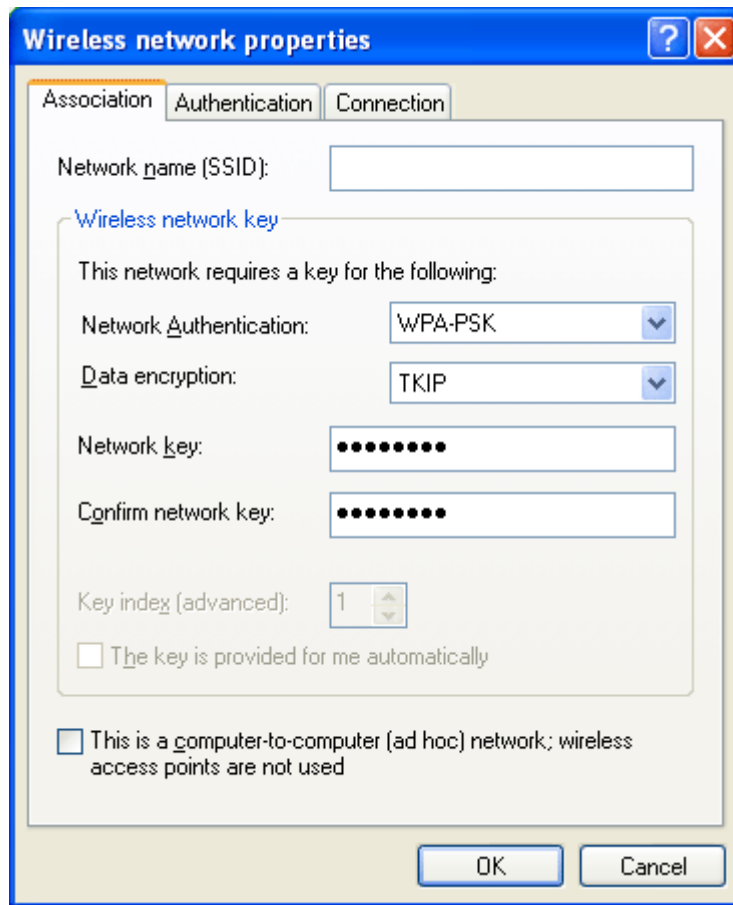
- Next, the following window will appear.



- Click **Change Advanced Settings** and the following window will be shown. Press the **Wireless Networks** tab.

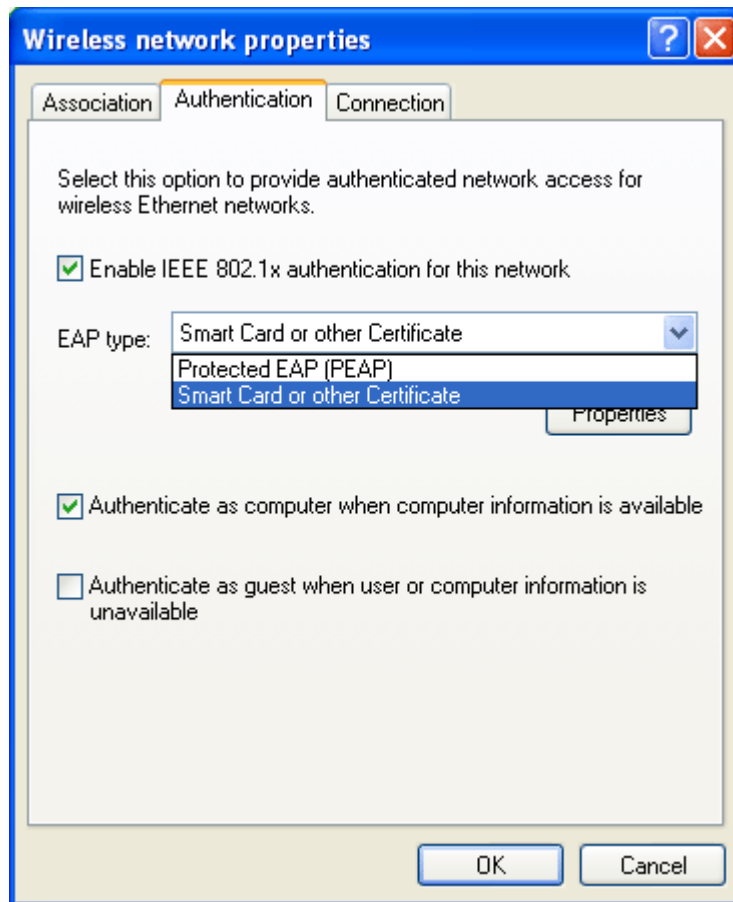


4. Click **Add** to open next window. In this window, type the SSID of the AP that you want to connect with the wireless card. Here, **Tom** is entered as an example. And choose WPA-PSK as the Network Authentication and TKIP as the Data encryption. Then, type the encryption key characters.

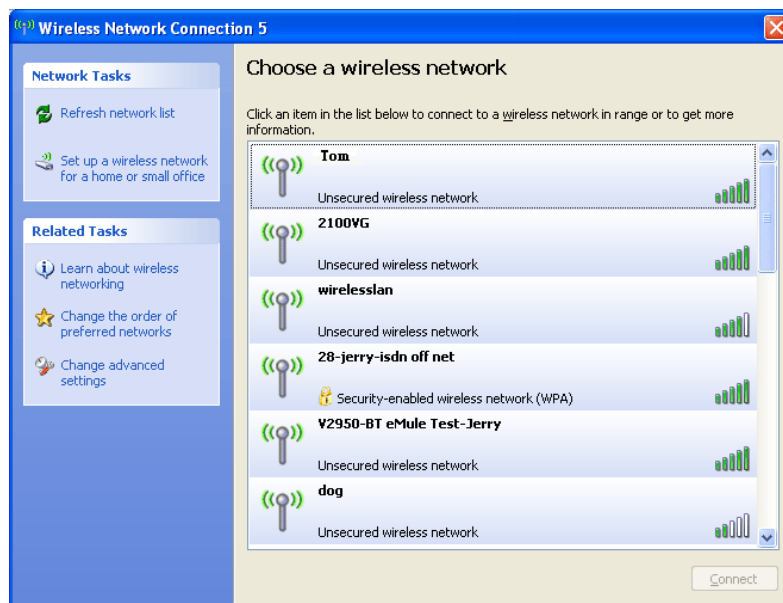


The type for Network Authentication, Data encryption and key must be the same values as configured in the AP that you want to connect.

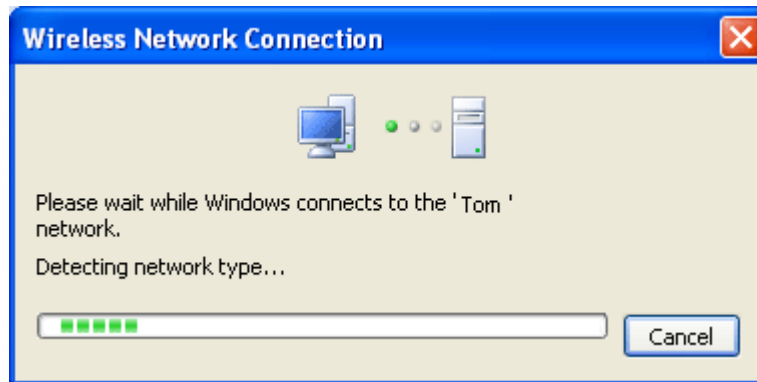
5. Press the **Authentication** tab. Choose the EAP type which is the same as configured in the AP.



6. After click **OK**, the wireless station can associate with the AP.
7. Open **Wireless Connection** window. Please choose “**Tom**” (as an example) and click **Connect**.



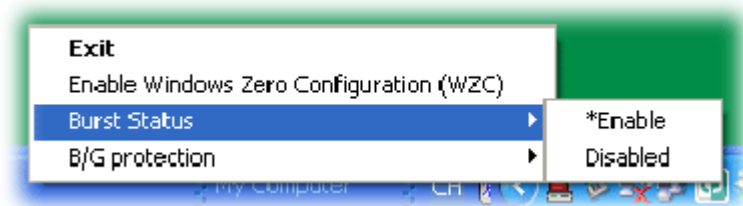
- The wireless connection starts. Please wait for it completes.



- The wireless connection has been established.

Burst Status

It can enhance the performance in data transmission about 40%* more. It is active only when both sides of Access Point and Station (in wireless client) invoke this function at the same time. If the connected AP supports Packet-OVERDRIVE™, you can enable **Burst Status** (for the station) here to enhance the performance in data transmission.



Note: * means the real transmission rate depends on the environment of the network.

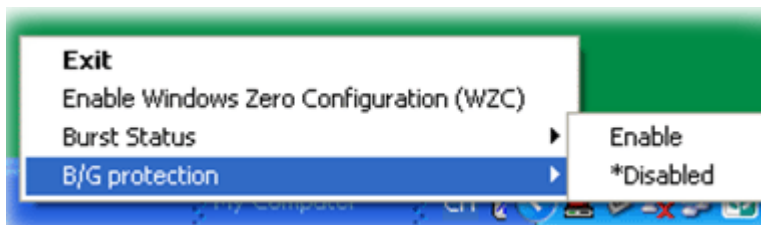
B/G Protection

Please disable B/G protection to enhance the performance of wireless transmission.

If there are 802.11B and 802.11G wireless settings available for your network environment, it is suggested for you to enable such B/G Protection to increase the collision probability for data transmission via 802.11B/802.11G. Yet, **when this function is enabled, the transmission performance will be reduced** for so many signal frames are sent out.

Enable – Activate protection mode.

Disable – Inactivate protection mode.



When B/G Protection is disabled, the transmission rate for Vigor 2700G and receiving rate for Vigor610 will reach more than 30 mbps.