CardBus Adapter

11G WIRELESS Network Adapter

User's Manual

Production component

This WIRELESS production should contain the following items:

1. One piece of CardBus or PCI adapter 11G WIRELESS LAN Card
2. One piece of CD which contain drivers, user's manual, and utility

Quick Installation

1. Insert the product's CD into CD-ROM.
2. Exit all application programs and insert the 11G WIRELESS adapter into the PCMCIA on notebook or PCI slot on desktop.
3. Following "**Found New Hardware Wizard**" window to install driver step by step.
4. Install the WIRELESS adapter utility
5. Configure your WIRELESS adapter for connecting to a WIRELESS network.

FCC Information

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

1. this device may not cause harmful interference, and
2. this device must accept any interference received; including interference that may cause undesired operation. Federal Communications Commission (FCC) Statement.

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 the equipment 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 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.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This device has been tested for compliance with FCC RF Exposure(SAR) limits in a typical laptop configuration with a PCMCIA slot on either the right or left side of the laptop and can be used in laptop computers with substantially similar physical dimensions, construction, and electrical and RF characteristics.
3. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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Chapter 1 Terminology Introduction

This chapter will introduce terminology about IEEE802.11 what referred by this manual. And in this character we will explain terminology according to IEEE802.11 Std.

- Ad-Hoc Network(Peer to Peer)

  A network composed solely of stations within mutual communication range of each other via the WIRELESS medium(WM). An Ad Hoc network is typically created in a spontaneous manner. The principal distinguishing characteristic of an ad hoc network is limited temporal and spatial extent. These limitations allow the act of creating and dissolving the ad hoc network to be sufficiently straightforward and convenient so as to be achievable by nontechnical users of the network facilities; i.e., no specialized “technical skills” are required and little or no investment of time or additional resources is required beyond the stations that are to participate in the ad hoc network. The term ad hoc is often used as slang to refer to an independent basic service set(IBSS).

- Infrastructure Network

  The infrastructure includes the distribution system medium (DSM), access point(AP), and portal entities. It is also the logical location of distribution and integration service functions of an extended service set(ESS). An infrastructure contains one or more APs and zero or more portals in addition to the distribution system(DS).

- Basic Service Set(BSS)

  A set of stations controlled by a single coordination function.

- BSSID

  Basic service set identifier

- Station service(SS)

  The set of services that support transport of medium access control(MAC) service data units(MSDUs) between stations within a basic service set(BSS)

- SSID

  Station service identifier

- Association

  The service used to establish access point/station(AP/STA) mapping and enable STA invocation of the distribution system services(DSSs).

- Authentication

  The service used to establish the identify of one station as a member of the set of stations authorized to associate with another station.

- Channel

  an instance of medium use for the purpose of passing protocol data units(PDUs) that may be used simultaneously, in the same volume of space, with other instances of medium use(no other channels) by other instances of the same physical layer(PHY), with an acceptably low frame error ratio due to mutual interference. Some PHYs provide only one channel, whereas others provide multiple channels. Examples of channel types are shown in the following tables

Single channel	**n-channel**
Narrowband radio-frequency(RF) channel	Frequency division multiplexed channels
Baseband infrared	Direct sequence spread spectrum(DSSS) with code division multiple access

- Wired equivalent privacy(WEP)

  The optional cryptographic confidentiality algorithm specified by IEEE 802.11 used to provide data confidentiality that is subjectively equivalent to the confidentiality of a wired local area network(LAN) medium that does not employ cryptographic techniques to enhance privacy.

Chapter 2 System Requirements

Before installing the adapter and related sof `tware, make sure the computer system meets the minimum requirements described below.

2-1 Hardware

The adapter can be installed in any recent-model IBM-type microcomputer with a PCMCIA on notebook or PCI slot on desktop which support CardBus or PCI interface. The Cardbus adapter is a Type II CardBus card, and can be installed in a Type II or Type III CardBus slot.

2-2 Software

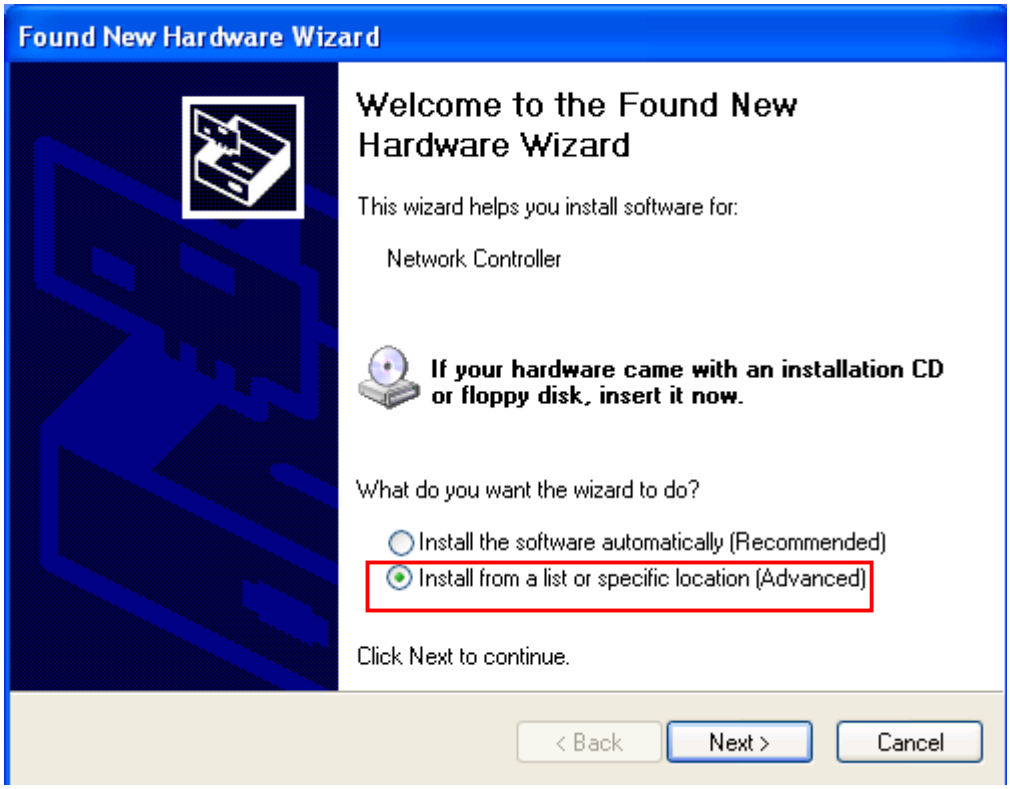
The drivers included with the adapter allow the adapter to be used in Microsoft Windows 98, ME, 2000, and XP.

Chapter 3 Install Driver for Windows Series

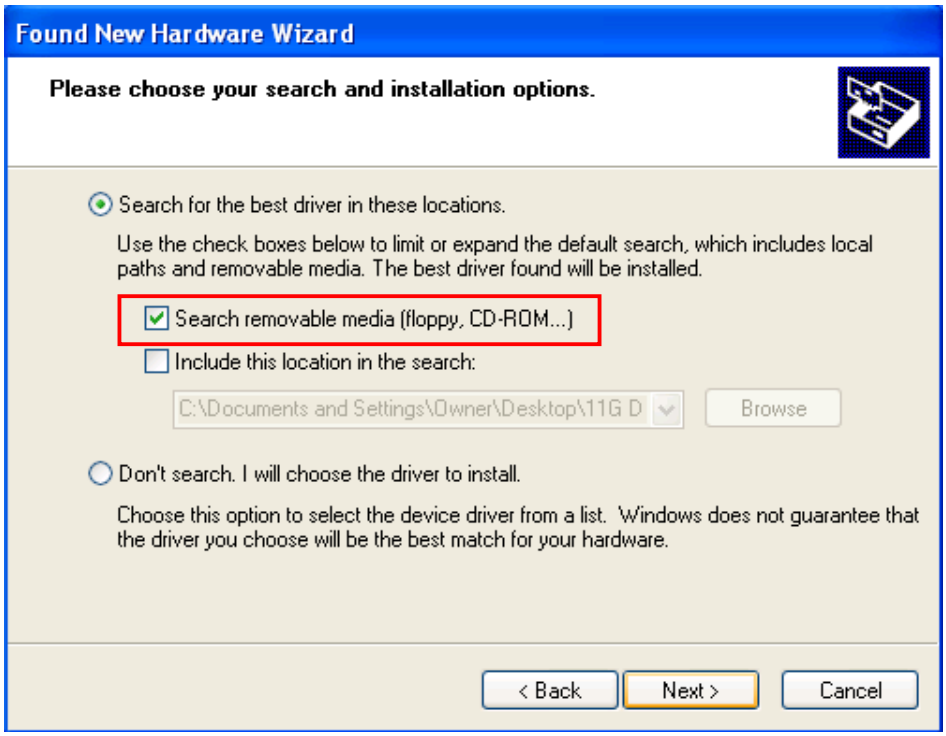
This section describes the installation of the 11G WIRELESS LAN Card driver for the Windows98/ME/2000 and Windows XP operating systems. The installation procedures for Windows XP refer to *3-1 Set up WIRELESS LAN Card for Windows XP*; for Windows 2000 please see *3-2 Set up WIRELESS LAN Card for Windows 2000;* for Windows 98/ME refer to *3-4 Set up WIRELESS LAN Card for Windows 98/ME.*

3-1 Set up WIRELESS LAN Card for Windows XP

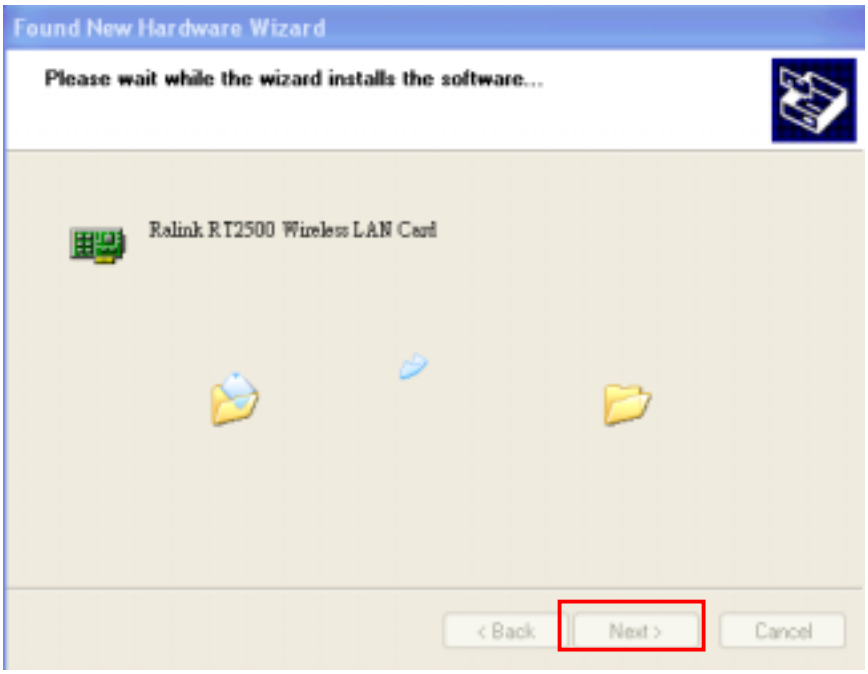
Step 1: After inserting the WIRELESS LAN Card into the PCMCIA on notebook or PCI slot desktop, the Windows will auto-detect the WIRELESS LAN Card and a "**Found New Hardware Wizard**" window will show up. Select "**Install from a list or specific location (Advanced)**" to install the driver.



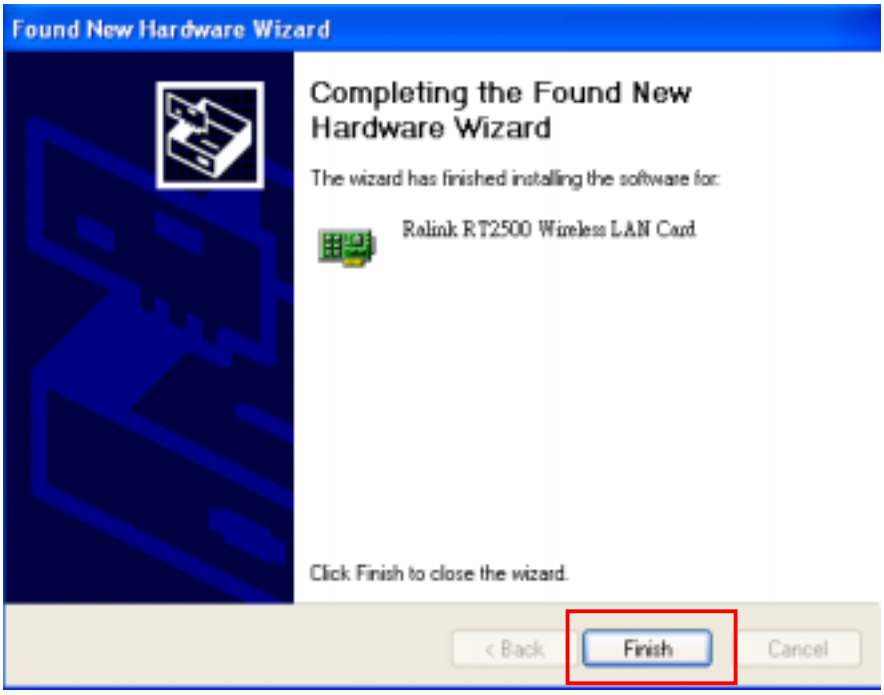
Step 2: Insert the Product CD-ROM into the CD-ROM drive. Select "**Search removable media [floppy, CD-ROM…]**" check box and click on **Next** to install the driver.



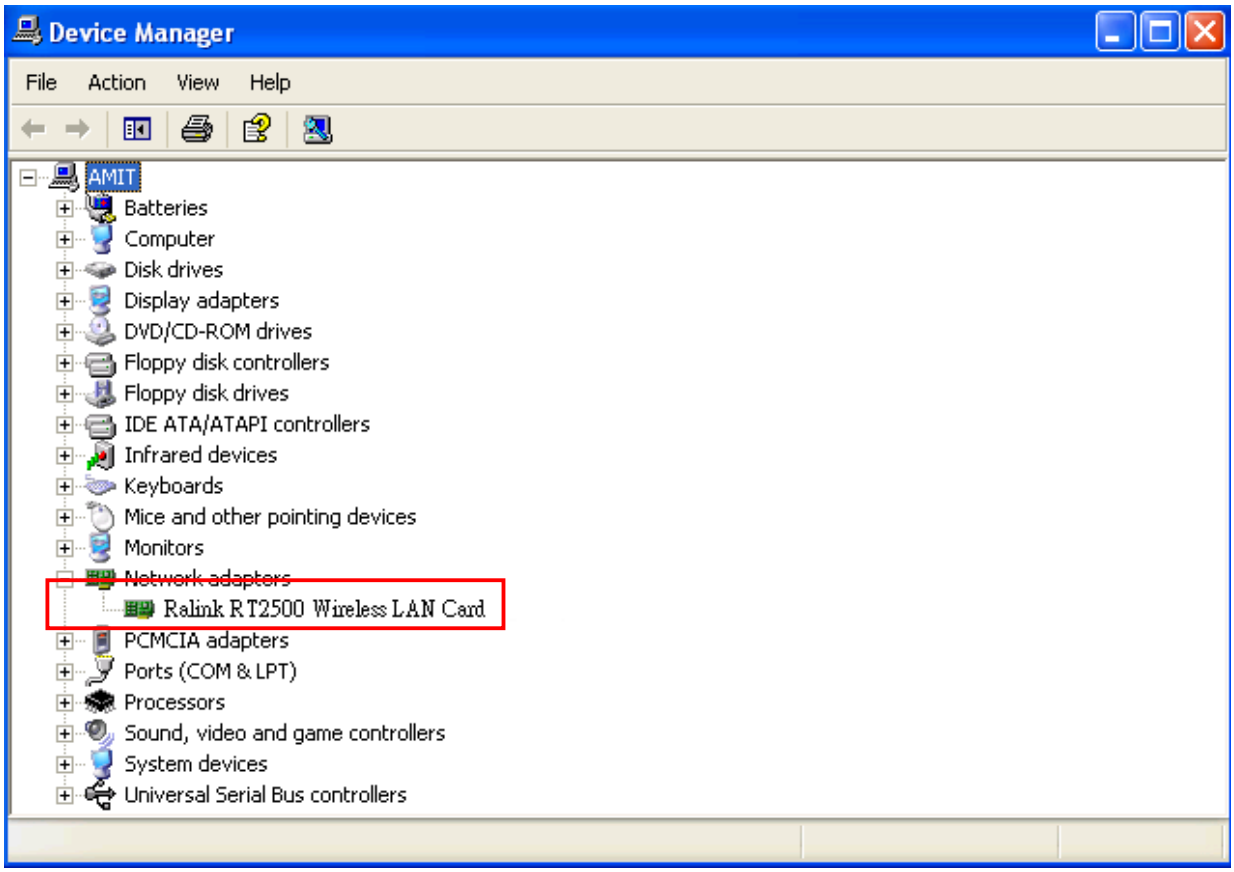
Step 3: The windows will find "**Ralink RT2500 Wireless LAN Card**" and start copying corresponding files into the system. Click on **Next** to continue.



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

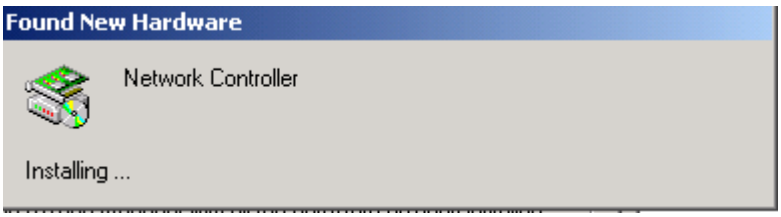


Step 6: Right click "**My Computer**" from **Start**, select **Properties**, go to the **Hardware** tab and click the **Device Manager** button to see if any error icon appears next to the **Network Adapter/WIRELESS LAN Card**. If exist no error, your **Ralink RT2500 Wireless LAN Card** is working well.

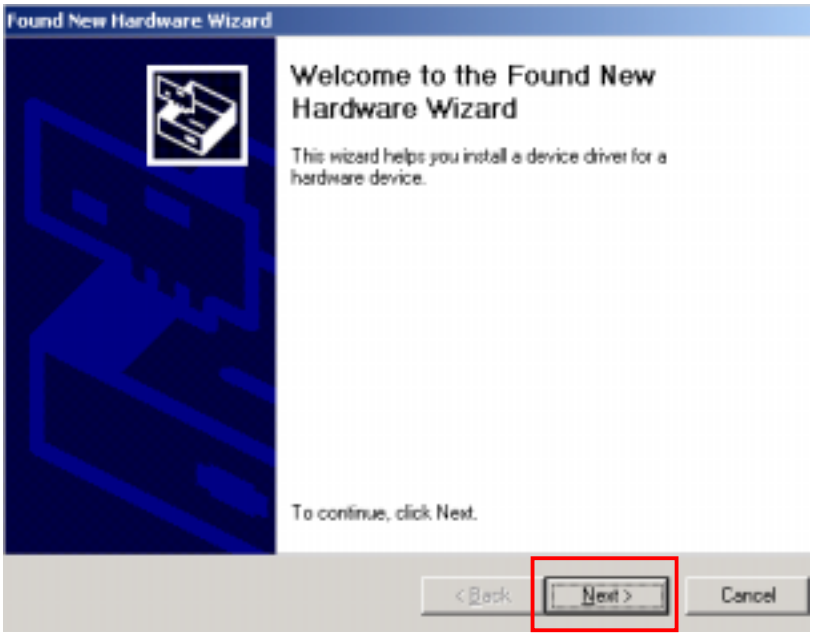


3-2 Set up WIRELESS LAN Card for Windows 2000

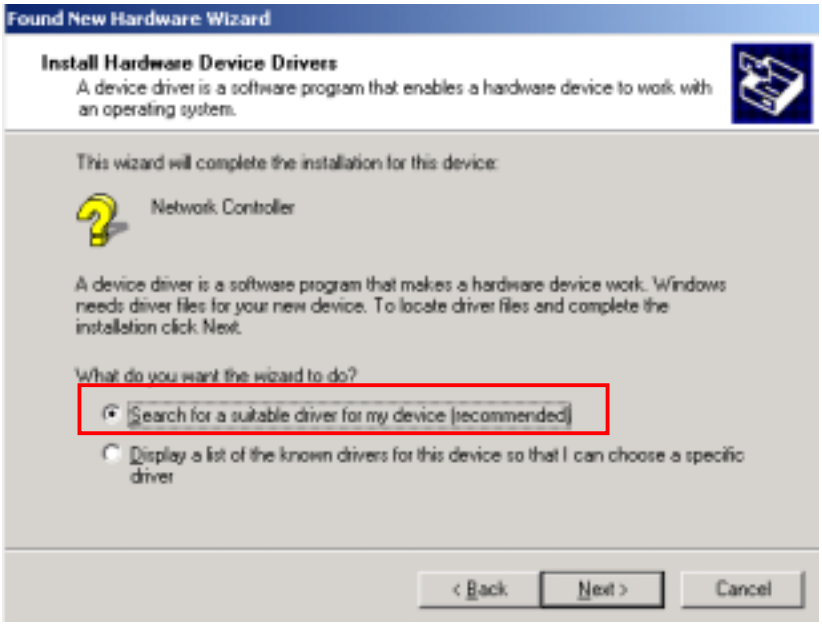
Step 1: After inserting the WIRELESS LAN Card into the PCMCIA on notebook or PCI slot on desktop, Windows will auto-detect the WIRELESS LAN Card.



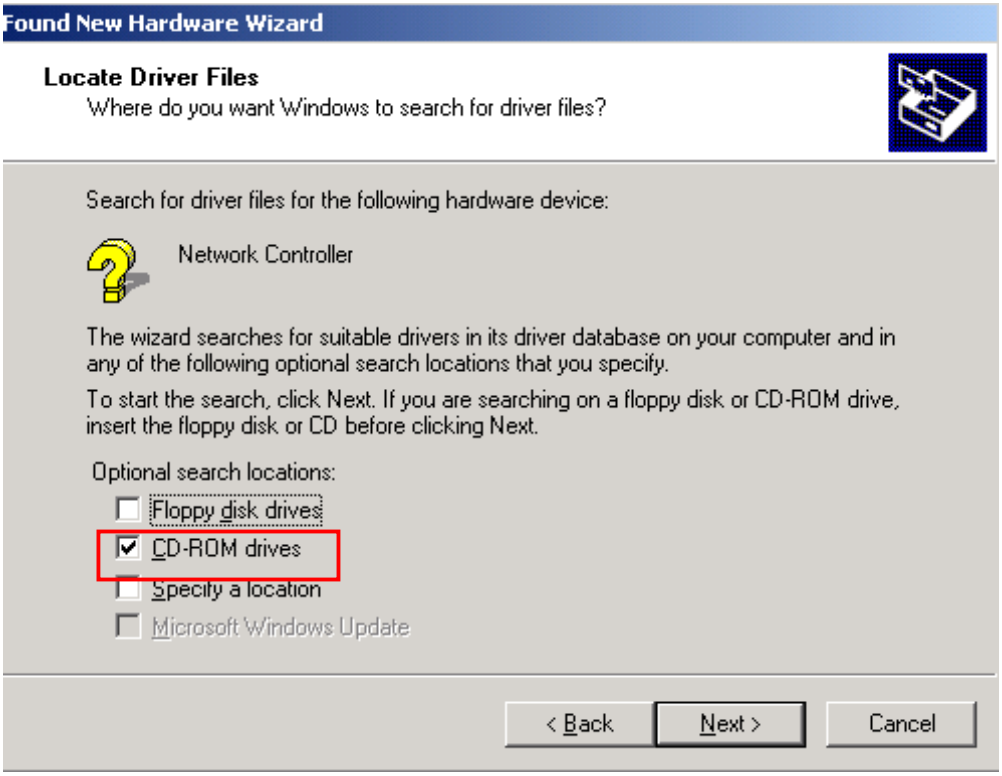
Step 2: A "**Found New Hardware Wizard**" window shows up. Click **Next** to proceed.


Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install a device driver for a hardware device.
To continue, click Next.
< Back
Next >
Cancel

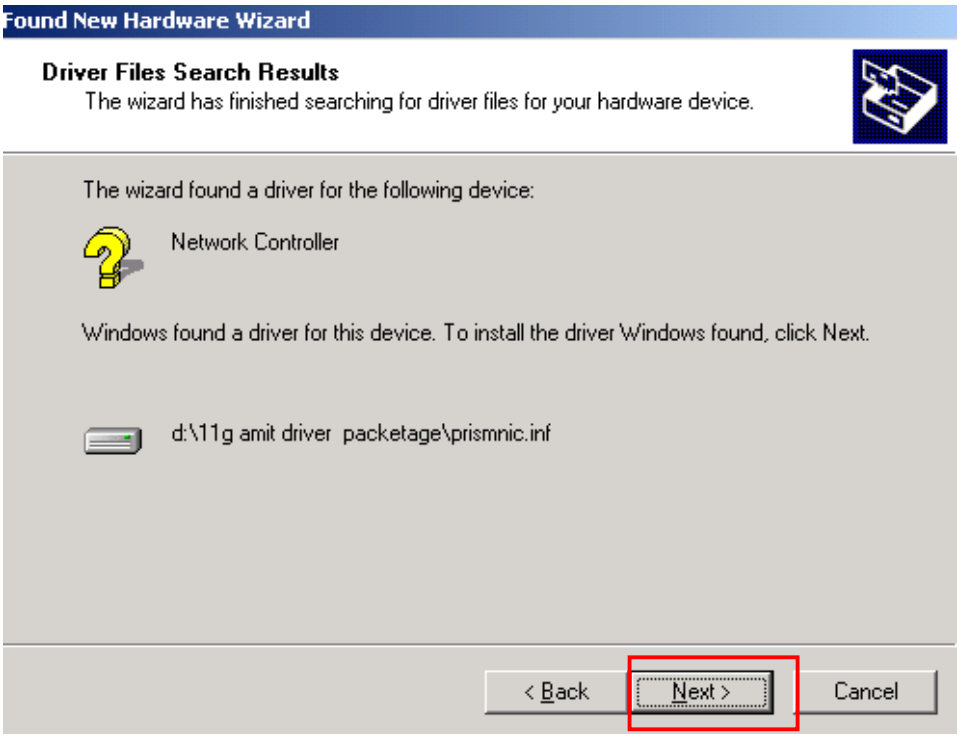
Step 3: Select "**Search for a suitable driver for my device (recommended)**".



Step 4: Insert the Product CD-ROM into the CD-ROM drive. Specify the location where the driver is placed. Click on **Next** to install the driver.

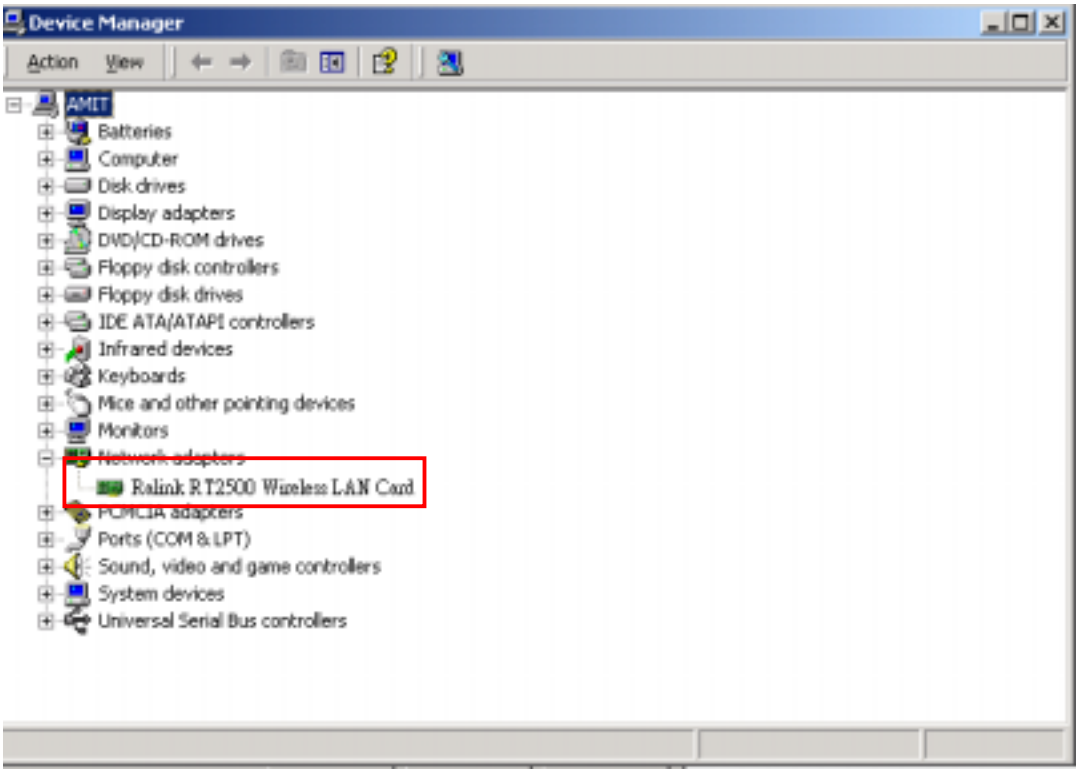


Step 5: The windows will find "**Network Controller**". Click on **Next** to continue.



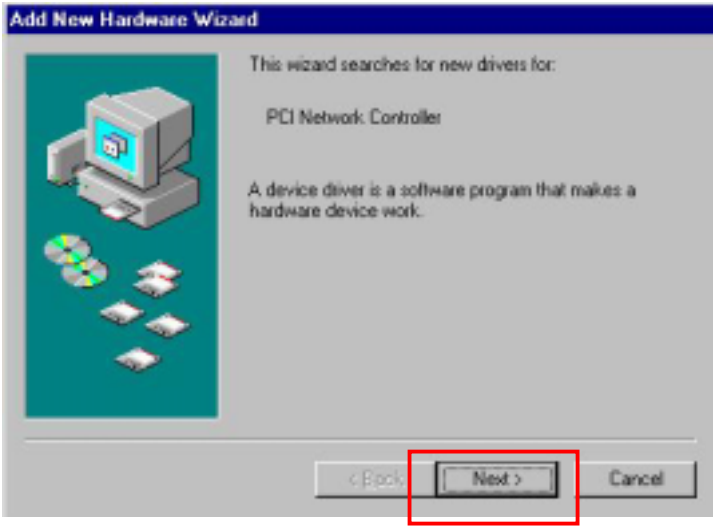
Step 6: Click **Finish** to complete the installation.

Step 7: Open **Control Panel/System/Device Manager**, and check **Network Adapters** to see if any error icon appears. If no error, your **Ralink RT2500 Wireless LAN Card** is working well.



3-3 Set up WIRELESS LAN Card for Windows 98/ ME

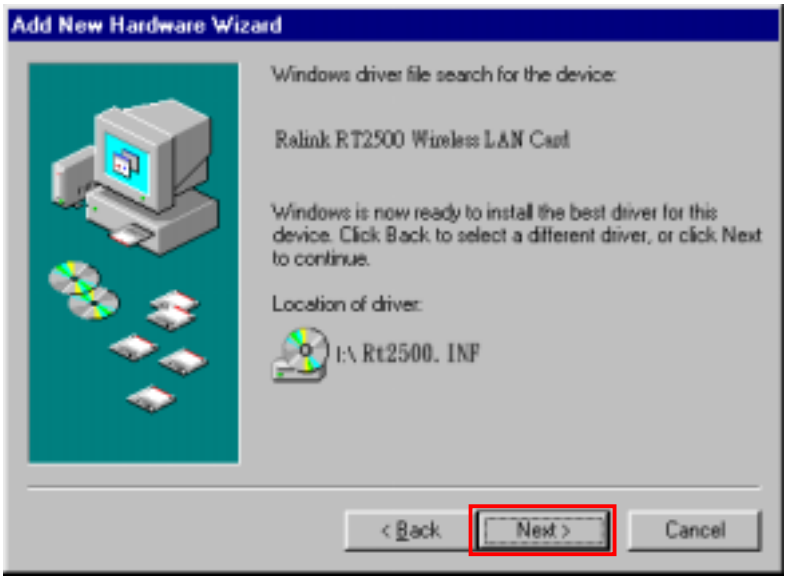
Step 1: After inserting the WIRELESS LAN Card into the PCMCIA on notebook or PCI slot on desktop, Windows will auto-detect new hardware and will display an "**Add New Hardware Wizard**" window. Click **Next** to continue.



Step 2: Select "**Search for the best driver for your device (Recommended)**" and click **Next**.

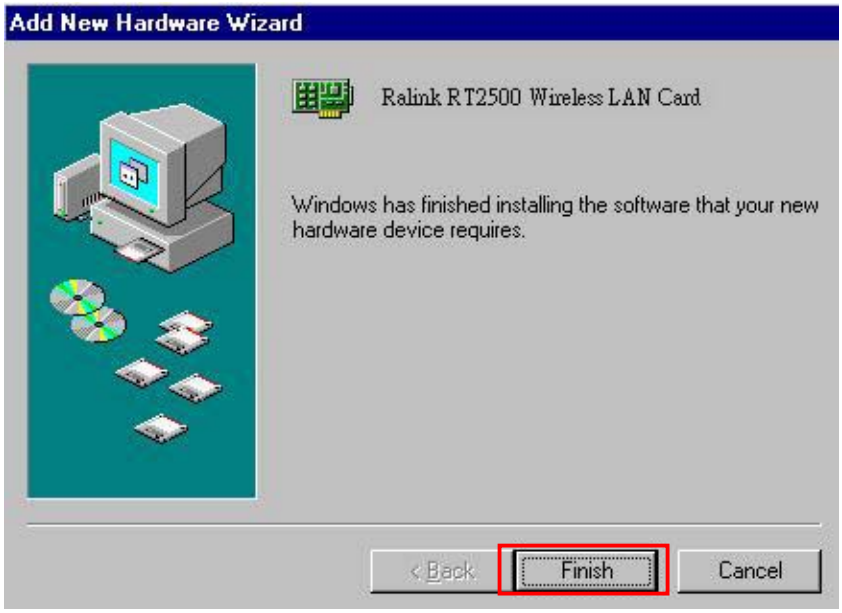
Step 3: Insert the Product CD-ROM into the CD-ROM drive. Select the "**CD-ROM drive**" check box and click on **Next** to install the driver.

Step 4: The Windows will find "**Ralink RT2500 Wireless LAN Card**". Click **Next** to continue.



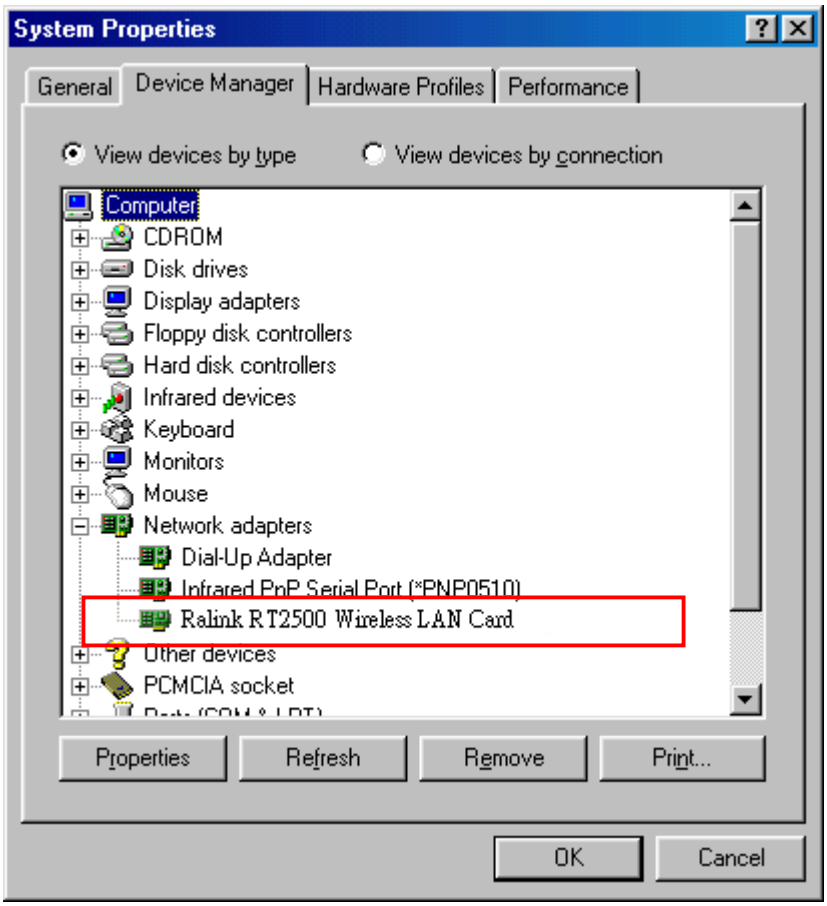
Step 5: Once the 『 Please insert the disk labeled 'Windows 98 Second Edition CD-ROM/ME CD-ROM", and then click OK』 window appears, inset enter the path corresponding to the appropriate drives and click **OK**. Usually these files can be found at C:\Windows or C:\Windows\system.

Step 6: Click **Finish** to complete the software installation.



Step 7: Restart the computer.

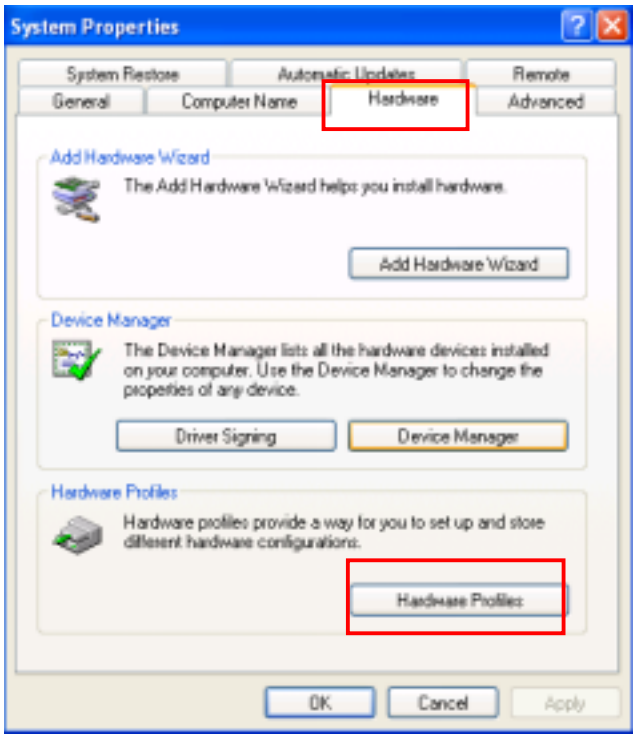
Step 8: Open **Control Panel/System/Device Manager**, and check **Network Adapters** to see if any error icon appears next to the IEEE 802.11 WIRELESS LAN Card. If no error, your **Ralink RT2500 Wireless LAN Card** is working well.



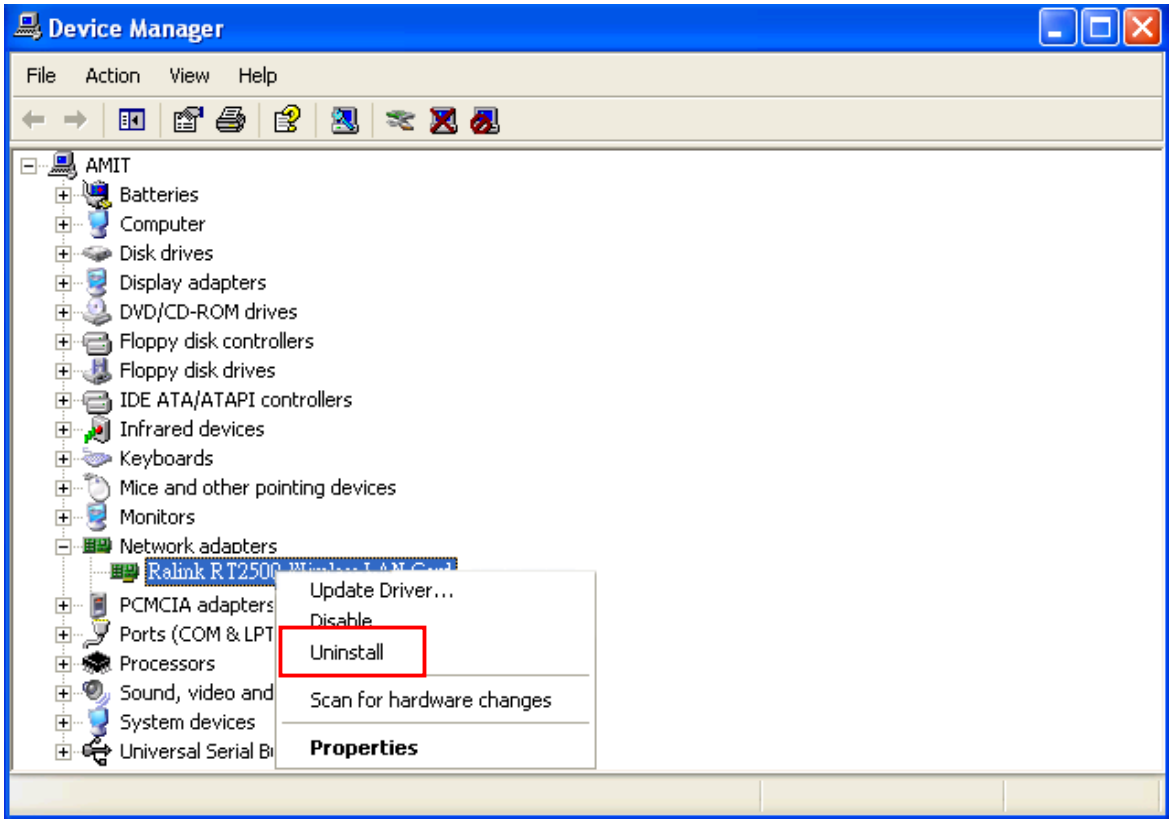
3-4 Uninstall the WIRELESS LAN Card

If you do not need the WIRELESS connectivity of your WIRELESS LAN Card, it is advised that you uninstall the card from its slot as described below:

1. Open **Control Panel/System/Device Manager**, and check **Network Adapters**



2. In the list of Network adapters components, click right to select "**Ralink RT2500 Wireless LAN Card**".



3. Choose Uninstall.

You will be asked for confirmation and instructed to reboot the computer in operation system Microsoft Win98 and WinME.

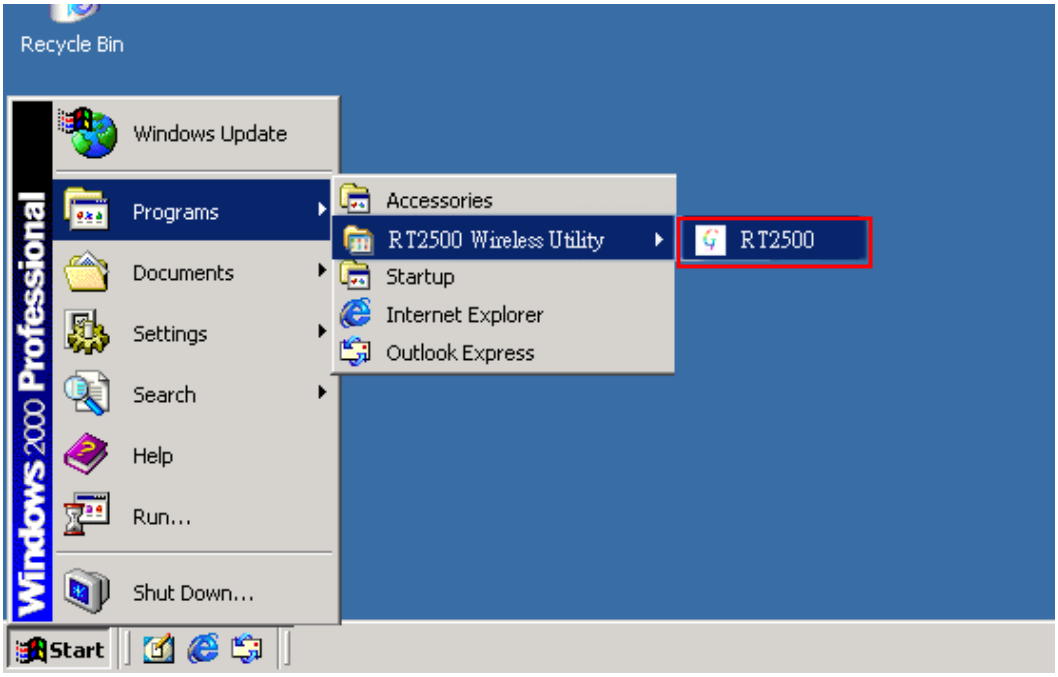
Chapter 4 Configure the WIRELESS Lan Adapter

This chapter will show you how to configure your WIRELESS Lan adapter by using utility in the Product CD Package under Windows series Operation System

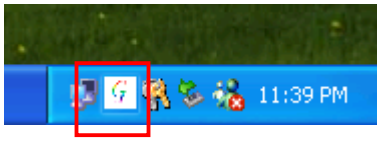
4-1 Install Utility

1. Put the CD Package into you CD-Rom, and the install program will autorun the frame as follows, choose ***Utility Setup*** and finish the install process step by step.

2. After finishing the install process, you can execute the utility as follows

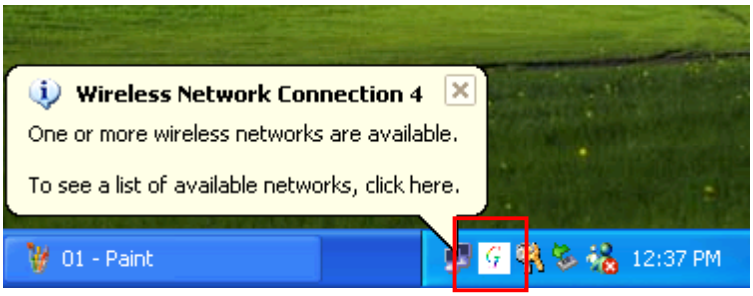


3. You will see the utility icon after you executing program **twlan** if your WIRELESS Adapter is alive



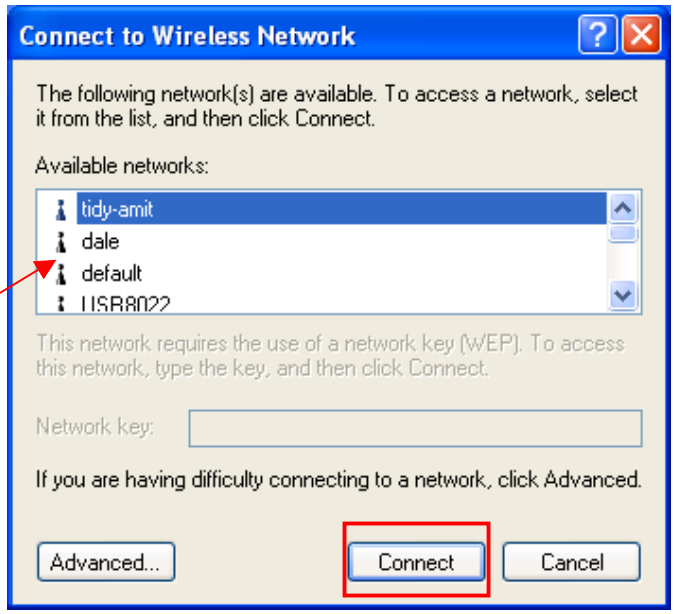
4-2 Configure WIRELESS Lan Adapter for Windows XP

After installing **Ralink RT2500 Wireless LAN Card**, the Windows XP will display a "WIRELESS Network Connection " message.



Click on the message and the "*Automatic WIRELESS Network Configuration*" will then appear automatically and allow users to connect to an available WIRELESS infrastructure network (Access Point), shown as follows. You may click the **Advanced** button to make advanced configuration for the WIRELESS LAN Card, shown as below.

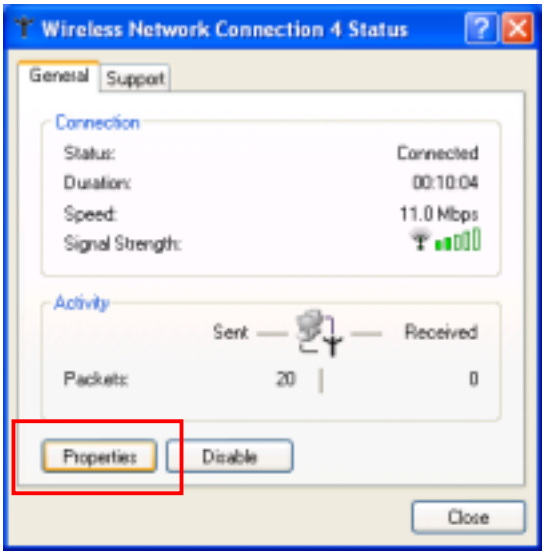
Choose one suitable server



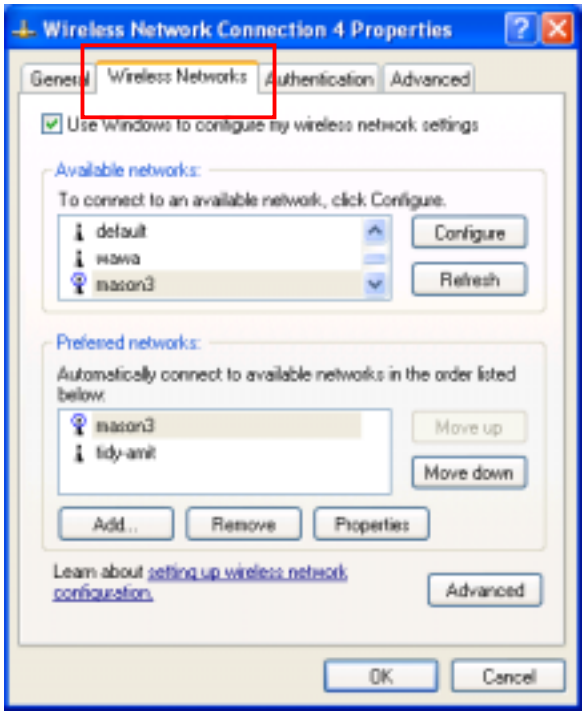
In order to reconfigure you WIRELESS connection, you can deal as follow procedure

1.click left the network icon.

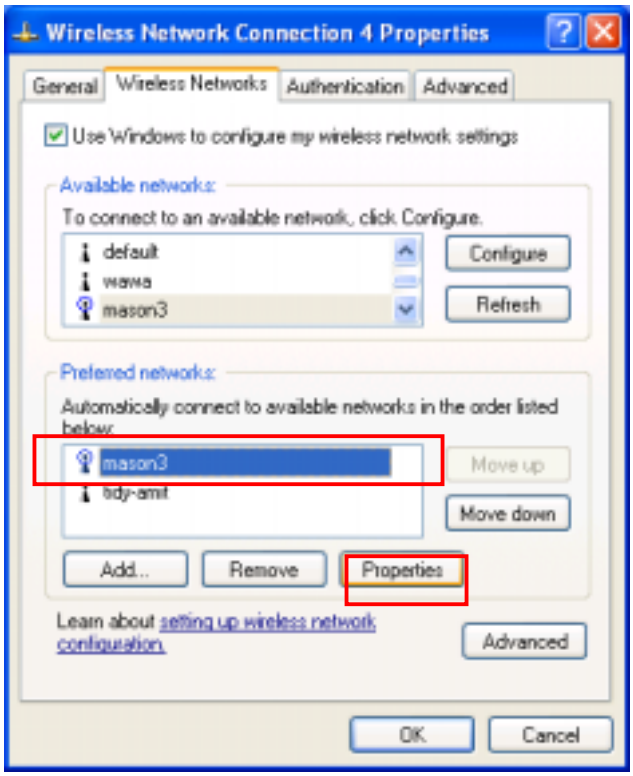
2. Click **Properties** to continue

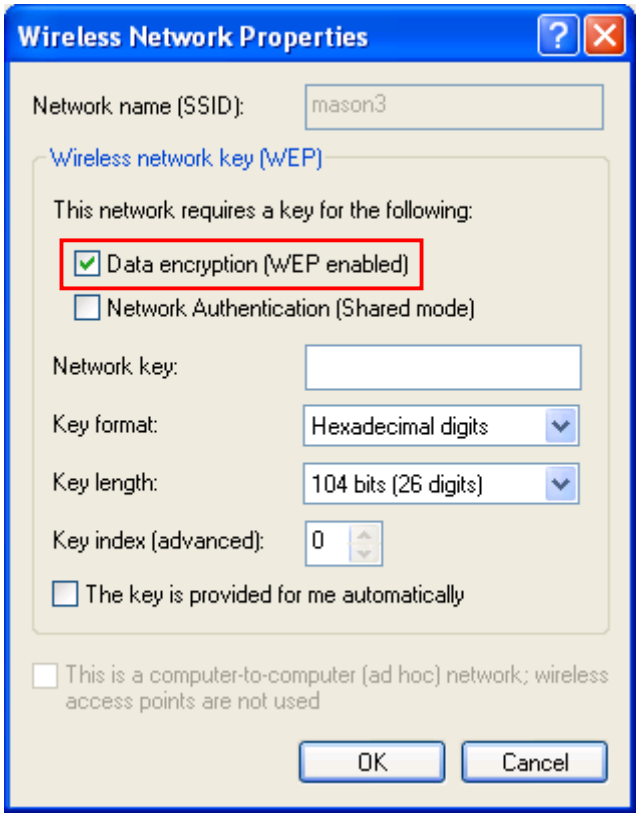


3. Click **WIRELESS Networks** to reconfigure the WIRELESS network connection.



4. If you need a key(WEP) to connect the WIRELESS network, you should keyin the key that supported by the WIRELESS network router or access point

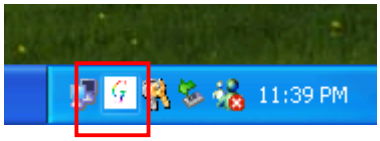




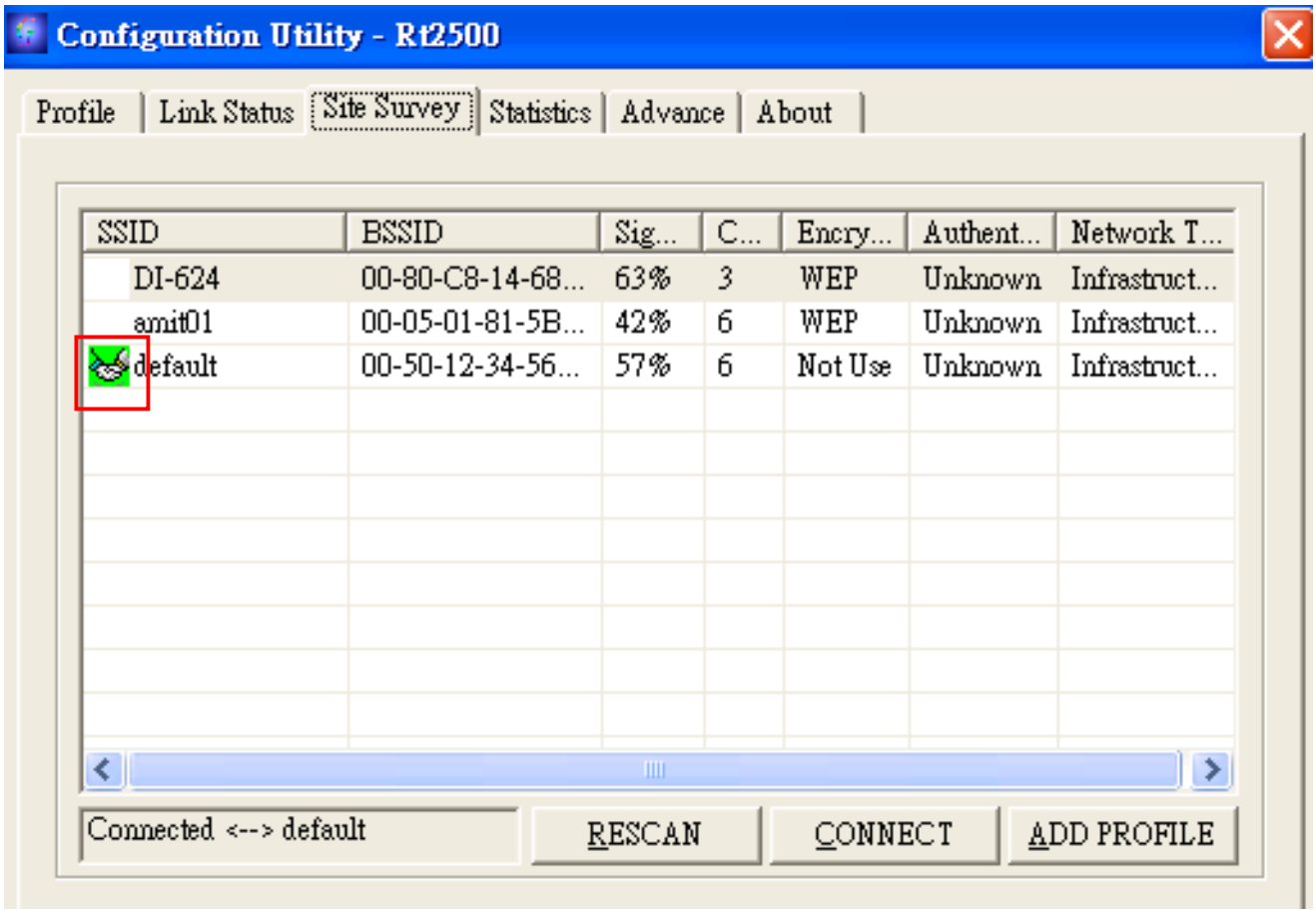
Note: Under the Windows XP, it is recommend to use the "***Automatic WIRELESS Network Configuration***" to configure your 11G WIRELESS LAN Card. The WIRELESS LAN Utility comes with the WIRELESS LAN Card is not support the Windows XP.

4-3 Configure WIRELESS LAN Adapter for Windows 98/ME/2000 by utility

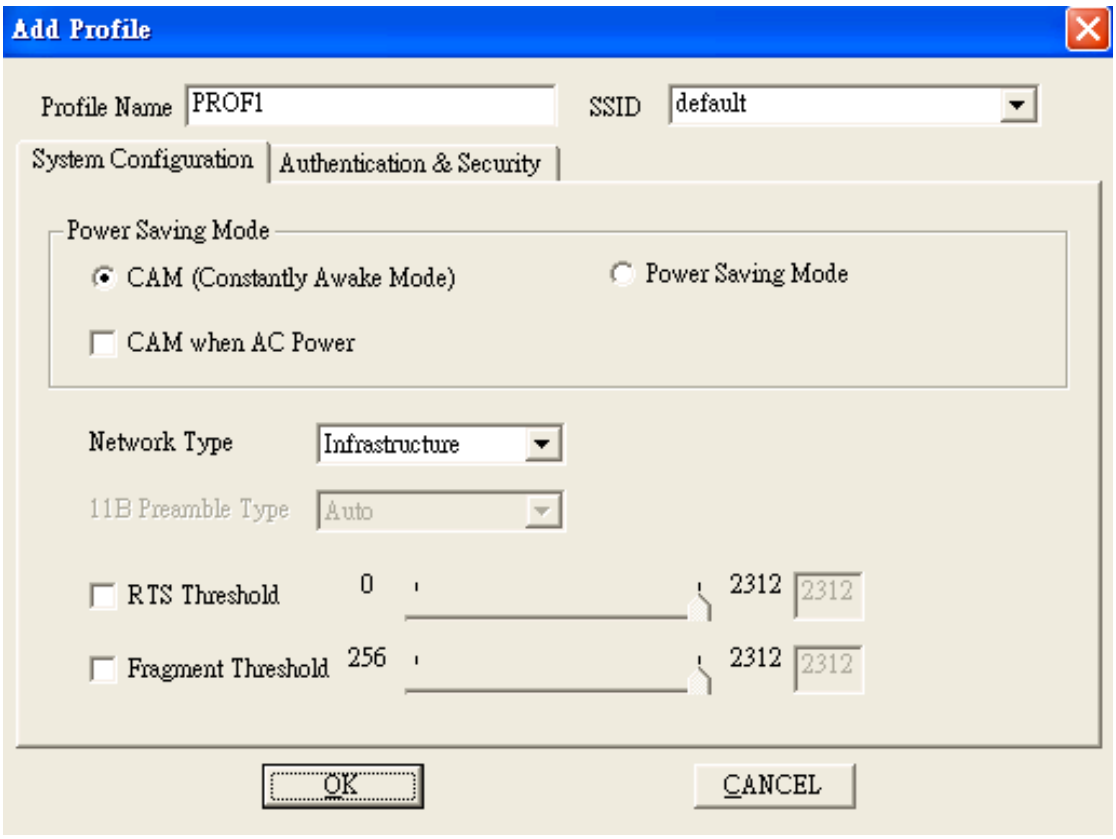
1. click the utility icon, and you will see the application interface as step 2.



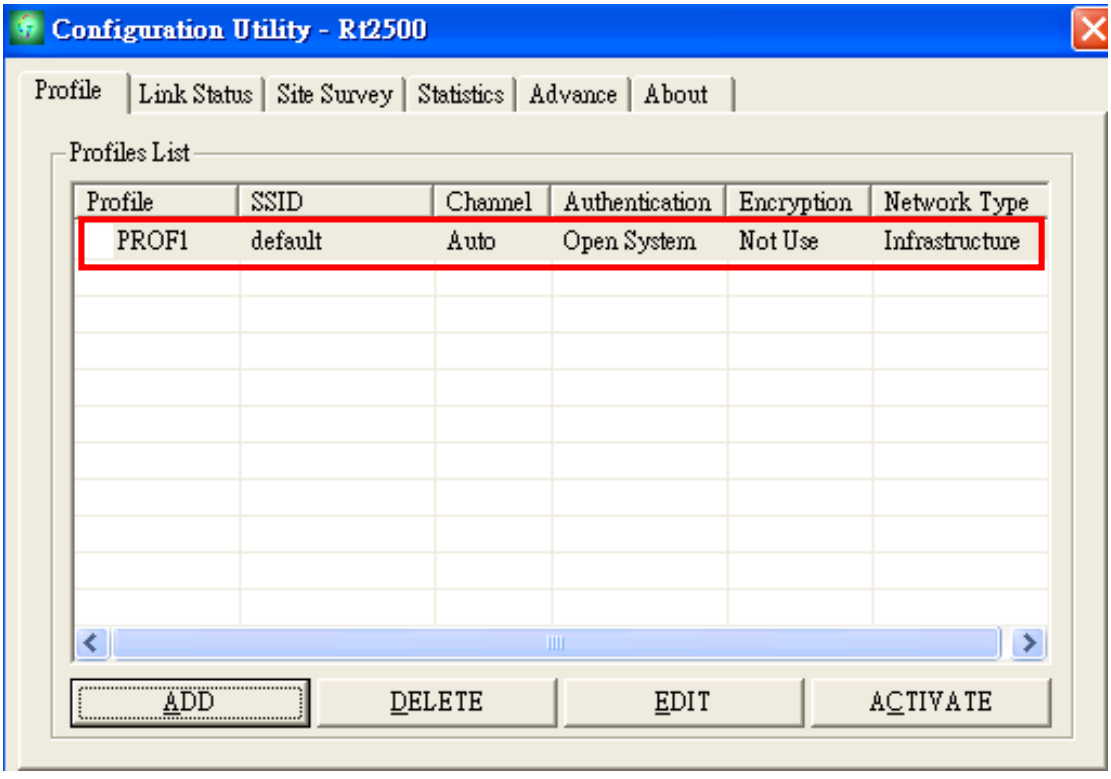
2. main configure window show as follows, in order to connect an access point to communicate with other station, double click any SSID of access pint. The icon will show in the side of SSID if connect successful. You can also click the button “ADD PROFILE” to save current configure to Profile page.



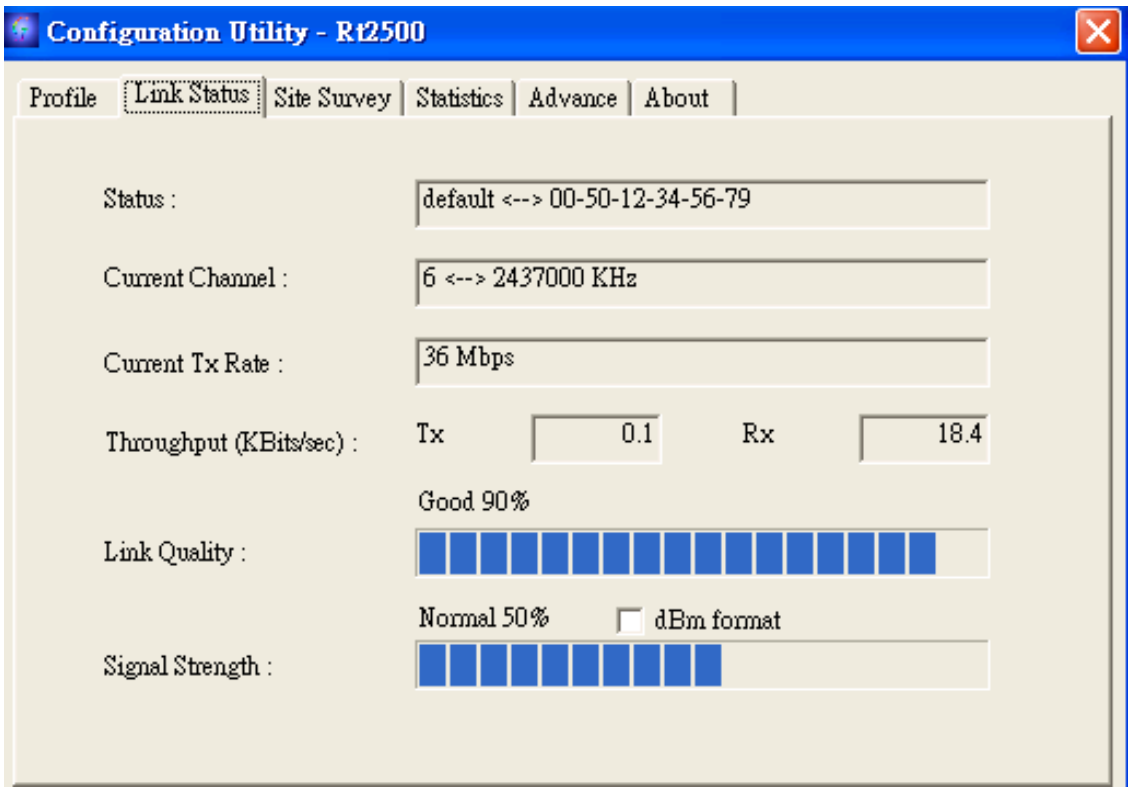
After you push the bottom " ADD PROFILE ", you will see the information about the connection. You can give name to this connection for a convenient connect.



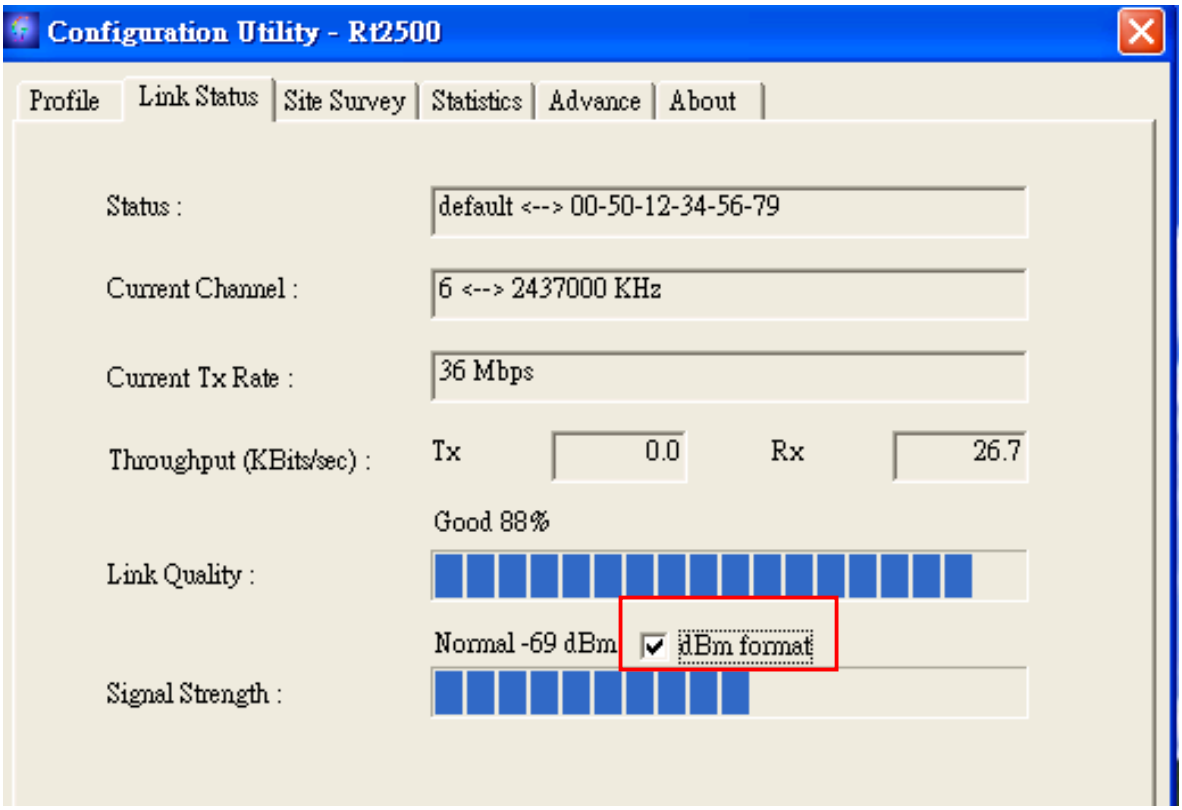
The profile will save in the "Profile" page.



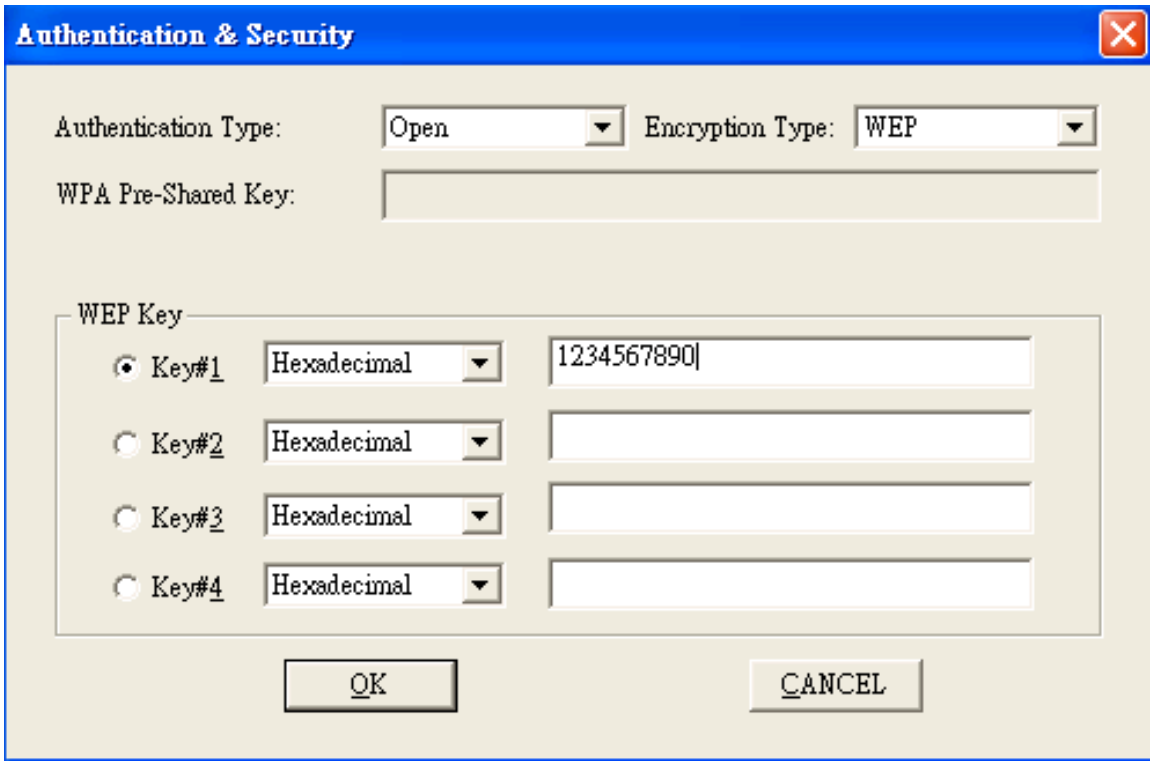
3. After you configure your connection, the related information will show in the “Link Status” page as follows

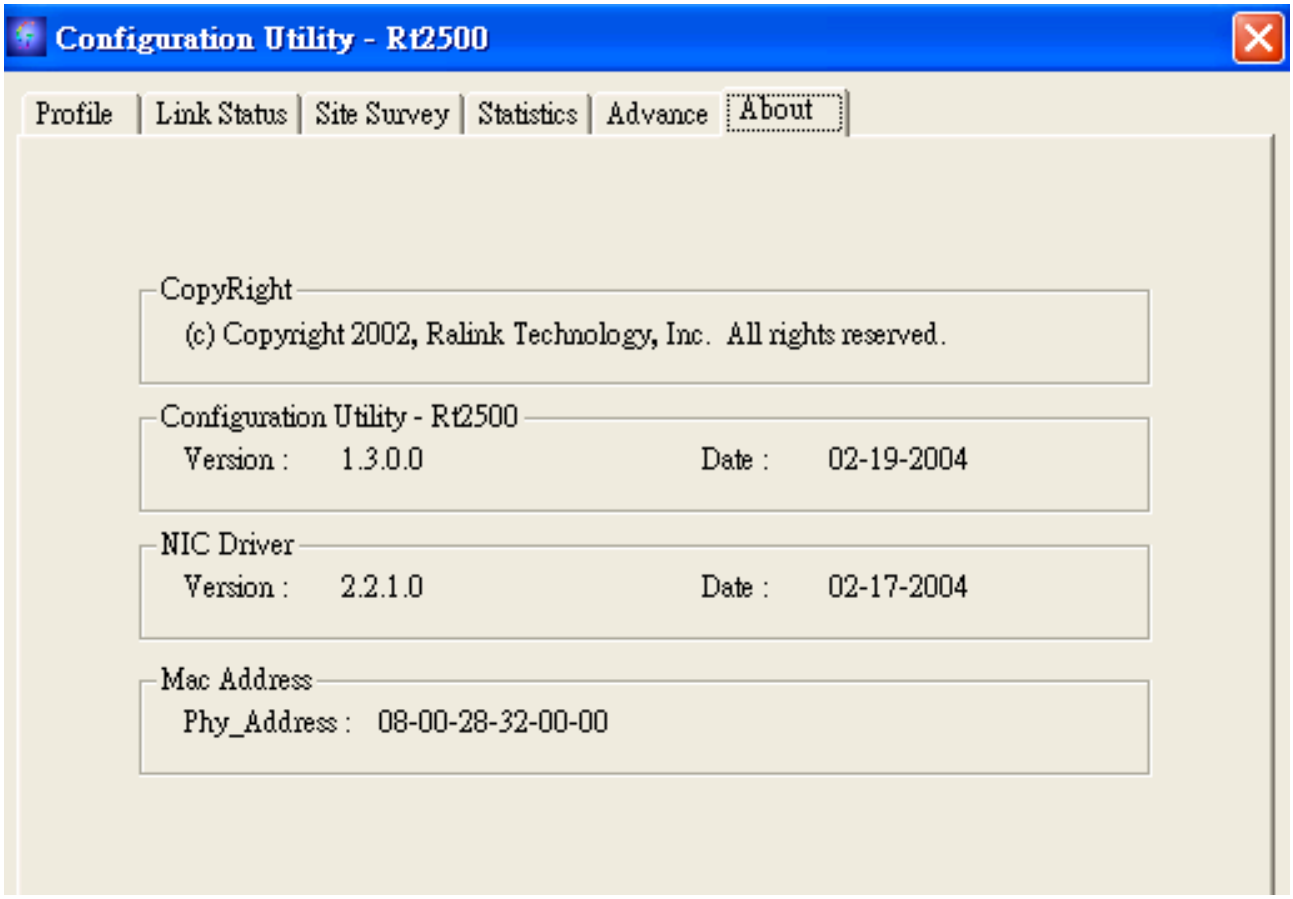


You can change Signal Strength in dBm format.



4. If the access point requests the client to authenticate or associate, double click the access point in the “Site Survey” page. And you should configure the related information here.



5. “Statistics” page show wireless LAN card’s state of Transmit and Receive.

6. “About” page shows utility version、driver version and MAC Address.