11Mbps High Speed Wireless LAN PC Card

User's Manual

Technical Support

The firmware version of the 11Mbps Wireless LAN PC Card is displayed on the utility main window. Users could download and upgrade the most recent software version from the supplier's web site or refer to the selling contact for the latest software information. If you have difficulty resolving the problem while installing or using the 11Mbps Wireless LAN PC Card, please contact the supplier for support.

About This Manual

11Mbps Wireless LAN PC Card User's Manual is first published on January, 2002. The manual includes procedures for the setup of the 11Mbps Wireless LAN PC Card under Windows XP, Windows 2000, Windows NT, Windows 98 or Windows ME. Take a moment to read through this manual and familiarize yourself with wireless technology.

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 equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Table of Contents

About Wireless LAN PC Card   1

The 11Mbps IEEE 802.11b Wireless LAN PC Card is a standard PCMCIA adapter that fits into any standard PCMCIA Type II slot in a notebook computer. Its 11Mbps data rate gives equivalent Ethernet speed to access corporate network or the Internet in a wireless environment. In addition, a detachable antenna version is specifically designed for system integrator application. When installed, 11Mbps Wireless LAN PC Card is able to communicate with any 802.11 and 802.11b compliant products.

1-1 Features and Benefits

1. Fully IEEE 802.11b compatible.

2. Direct Sequence Spread Spectrum (DSSS) technology provides robust, interference-resistant and secure wireless connection.

3. Supports 1, 2, 5.5 and 11 Mbps data rate.

4. Working range up to 800 ft. in an open environment.

5. Seamless connectivity to wired Ethernet and PC network LAN's augments existing networks quickly and easily.

6. Greater flexibility to locate or move networked PCs.

7. Wireless connection without the cost of cabling.

8. Easy to install and user friendly, just Plug and Play.

9. Low power consumption.

10. Supports a variety of operating systems (Win98/ME/NT/2000/XP)

11. 64-bit and 128-bits WEP encryption capable.

12. Provides Window-based Diagnostic Tools, most notably, Site Survey, Link Quality Test and Access Point Browser.

1-2 Applications

11Mbps Wireless LAN PC Card offers a fast, reliable, cost-effective solution for wireless client access to the network in applications like these:

1. **Remote access to corporate network information**
    E-mail, file transfer and terminal emulation.

2. **Difficult-to-wire environments**
    Historical or old buildings, asbestos installations, and open area where wiring is difficult to deploy.

3. **Frequently changing environments**
    Retailers, manufacturers and those who frequently rearrange the workplace and change location.

4. **Temporary LANs for special projects or peak time**
    C1- Trade shows, exhibitions and construction sites where a temporary network will be practical.
    C2- Retailers, airline and shipping companies need additional workstations during peak period.
    C3- Auditors requiring workgroups at customer sites.

5. **Access to database for mobile workers**
    Doctors, nurses, retailers, accessing their database while being mobile in the hospital, retail store or office campus.

6. **SOHO (Small Office and Home Office) users**
    SOHO users need easy and quick installation of a small computer network.

7. **High security connection**
    The secure wireless network can be installed quickly and provide flexibility. (Please refer to page 27 for encryption configuration.)

1-3 Product Kit

11Mbps Wireless LAN PC Card comes with the following items.   Please go through each item below.   If any of listed items appears to be damaged or missing, please contact your local dealer.

11Mbps Wireless LAN PC Card

- 11Mbps Wireless LAN PC Card……………….………………….……..   x 1

- 11Mbps PC Card Software and Documentation CD or Floppy Diskette……....   x 1

- 11Mbps Wireless LAN PC Card User Manual…………..…………………..…   x 1

1-4 About Wireless LAN PC Card LED Indicators

The 11Mbps Wireless LAN PC Card has two LED indicators.   The behavior of the indicators is described as below:

Power LED
- OFF – No light
- ON – Solid Yellow

LINK
PWR

Link LED
- Solid Green – Associated with the Access Point or Ad-Hoc wireless workstation.
- Blinking Green – Not connecting to the Access Point or Ad-Hoc wireless workstation.

Getting Started

2

This chapter describes the instructions that guide you through the proper installation of your 11Mbps Wireless LAN PC Card for the Windows XP/2000/NT/ME/98 operating systems.

The complete installation of the 11Mbps Wireless LAN PC Card consists of the following steps:

STEP 1: Insert your Wireless LAN PC Card into your notebook.
STEP 2: Install the corresponding driver and utility.
STEP 3: Set basic settings.
STEP 4: Finish Installation.

2-1 Before Installation

In addition to the items shipped with the client adapter, you will also need the following in order to install the adapter:

1. A computer equipped with a Type II or Type III PCMCIA slot, and a PCMCIA card and socket services compliant with revision 2.10 of the PCMCIA specification (or higher).

2. Windows XP/2000/NT/98/ME (with a Windows installation CD-ROM, diskettes for use during installation)

3. Minimum 500 Kbytes free disk space for installing driver and utility program.

2-2 Insert the 11Mbps Wireless LAN PC Card

To install the 11Mbps Wireless LAN PC Card, please do the following:

1. Find an available Type II or Type III PCMCIA slot on your computer.
2. With the Wireless LAN PC Card's 68-pin connector facing the PCMCIA slot and its label facing up, slide the PCMCIA adapter completely into the PCMCIA slot.
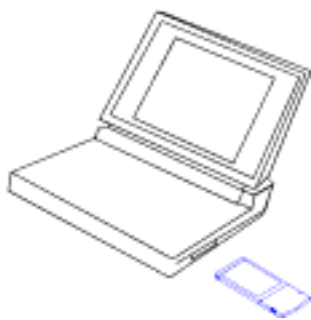
Fig Insert the 11Mbps PC Card into the notebook.

> **CAUTION:** Do not force the client adapter into the slot. Forcing it will damage both the client adapter and the slot. If the client adapter does not go in easily, remove the card and reinsert it.

Install Driver for Windows

<div style="text-align: right;">3</div>

This section describes the installation of the 11Mbps Wireless LAN PC Card driver for the Windows 98/ME/NT4.0/2000 and Windows XP operating systems. The installation procedures for Windows XP refer to *3-1 Set up Wireless LAN PC Card for Windows XP*; for Windows 2000 please see *3-2 Set up Wireless LAN PC Card for Windows 2000;* for Windows NT please go to *3-3 Set up Wireless LAN PC Card for Windows NT;* for Windows 98/ME refer to *3-4 Set up Wireless LAN PC Card for Windows 98/ME.*

> **Note:** Before you start the installation, you are advised to keep the Windows CD-ROM in case you might need certain system files.

## 3-1 Set up Wireless LAN PC Card for Windows XP

Step 1: After inserting the 11Mbps Wireless LAN PC Card into the PCMCIA slot on your notebook, the Windows will auto-detect the Wireless LAN PC Card and a "**Found New Hardware Wizard**" window will show up. Select "**Install from a list or specific (Advanced)**" to install the driver.

Step 2: 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.
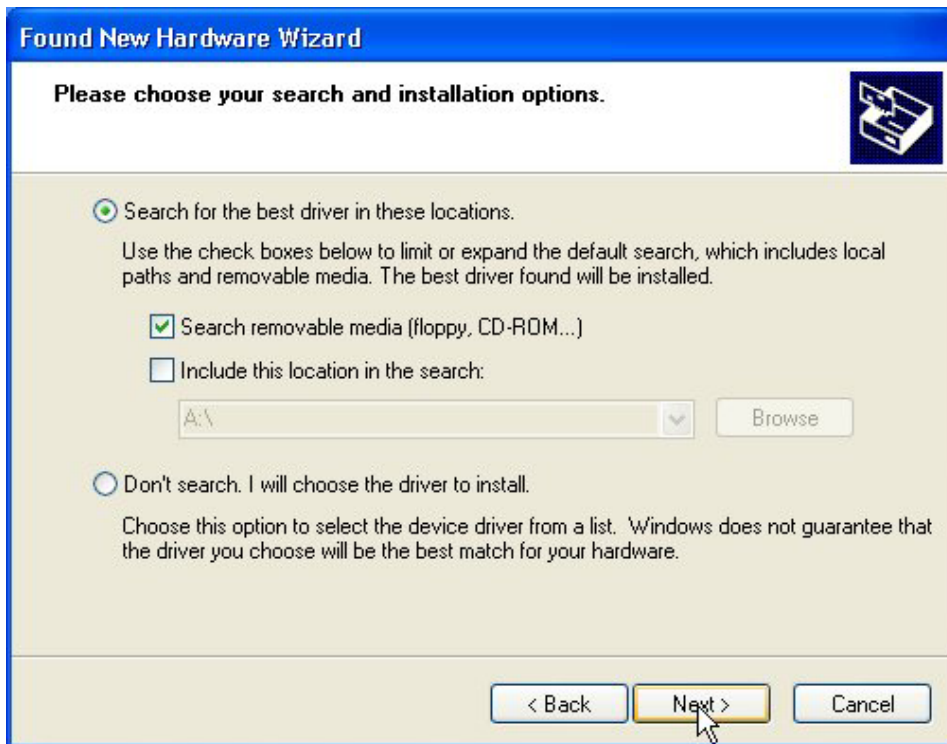

Step 3: The windows will find "**IEEE 802.11 Wireless LAN/PC Card (5V)**" and start copying corresponding files into the system. Click on **Next** to continue.
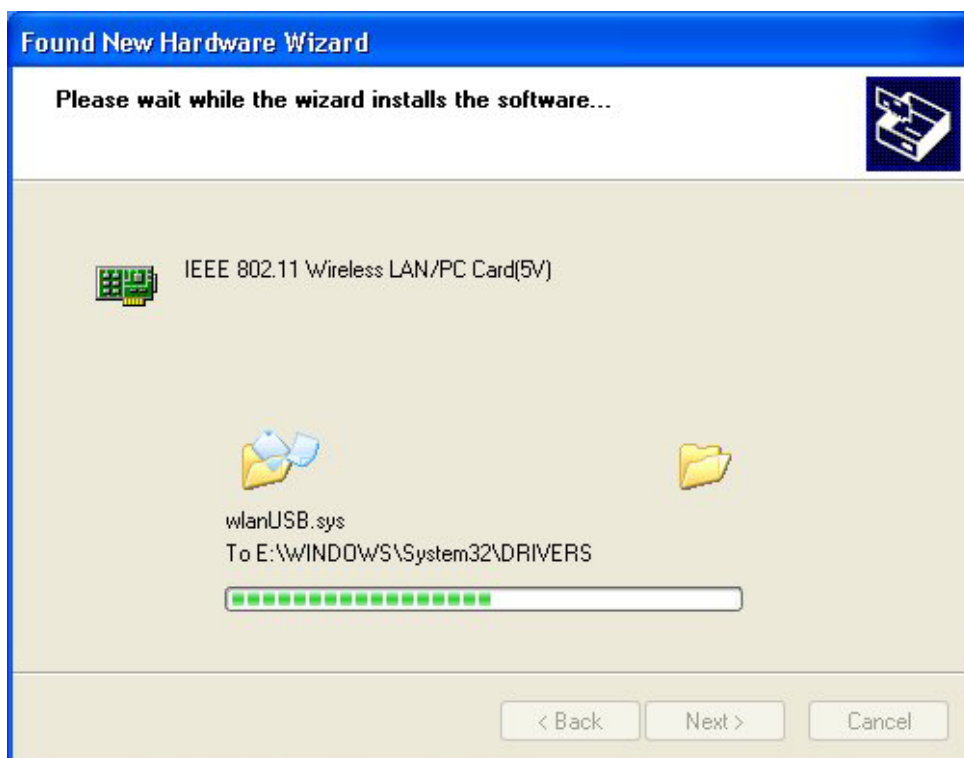
Step 4: Click **Finish** to complete the installation.

Step 5: 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/IEEE 802.11 Wireless LAN/PC Card**. If no, your 11Mbps Wireless LAN PC Card is working well.
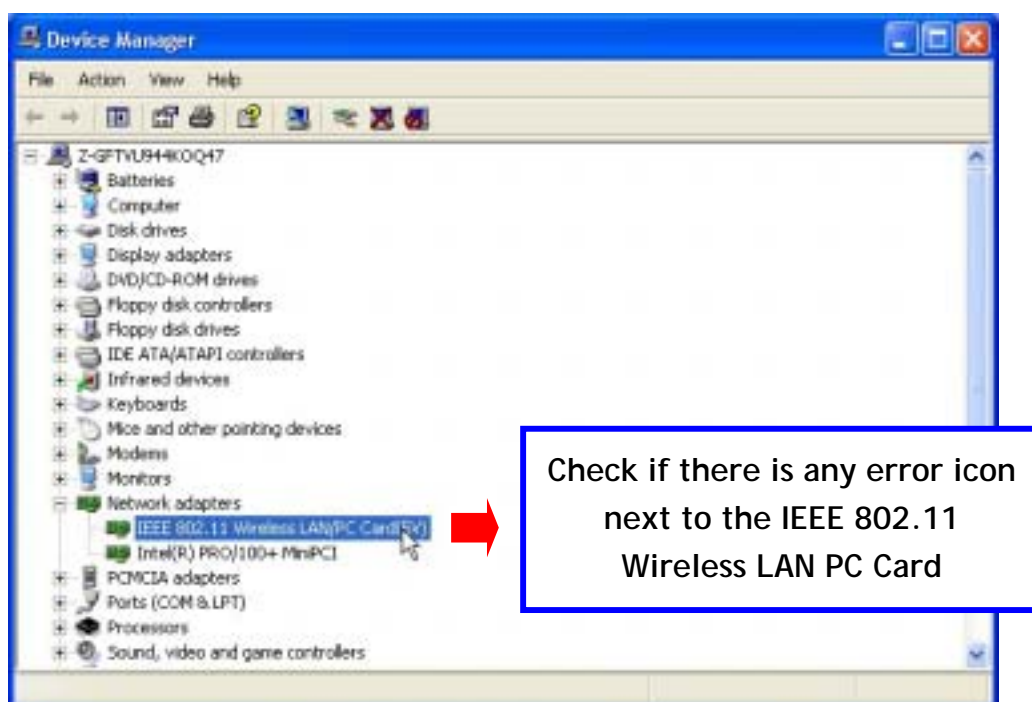
After installing the Wireless LAN PC Card, the Windows XP will display a "Wireless Network Connection # " message.


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 PC Card, shown as below.

For more information on using the automatic wireless network configuration please refer to Windows XP **Help** file.

If you desire to use our WLAN Utility, you need to disable the Windows XP *Automatic Wireless Network Configuration* first by un-checking this check box.
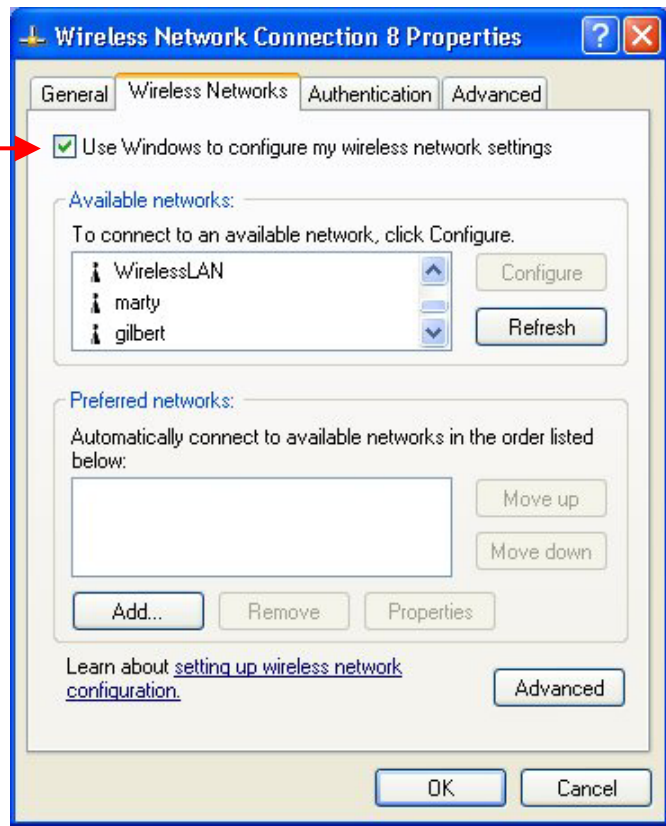
However, the WLAN Utility, which comes with the Wireless LAN PC Card, provides you more tools to configure the Wireless LAN PC Card and monitor the wireless connection.   For more information on installing and using the WLAN Utility, please refer to the following sections "*Installation of the WLAN Utility*" and "*Usage of the WLAN Utility*".

> **Note:** To use the WLAN utility under Windows XP, you need to disable the *Automatic Wireless Network Configuration* first.   Steps are described as follows:
> - Right click the **Network Connections** icon.   Select **Properties**.
> - Go to the **Wireless Networks** tab.
> - Uncheck the "**Use Windows to configure my wireless network settings**" check box and click the **OK** button (see the above picture).

3-2 Set up Wireless LAN PC Card for Windows 2000

Step 1: After inserting the 11Mbps Wireless LAN PC Card into the PCMCIA slot on your notebook, Windows will auto-detect the 11Mbps Wireless LAN PC Card.
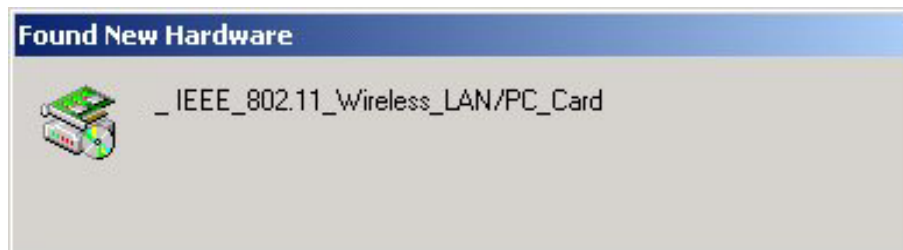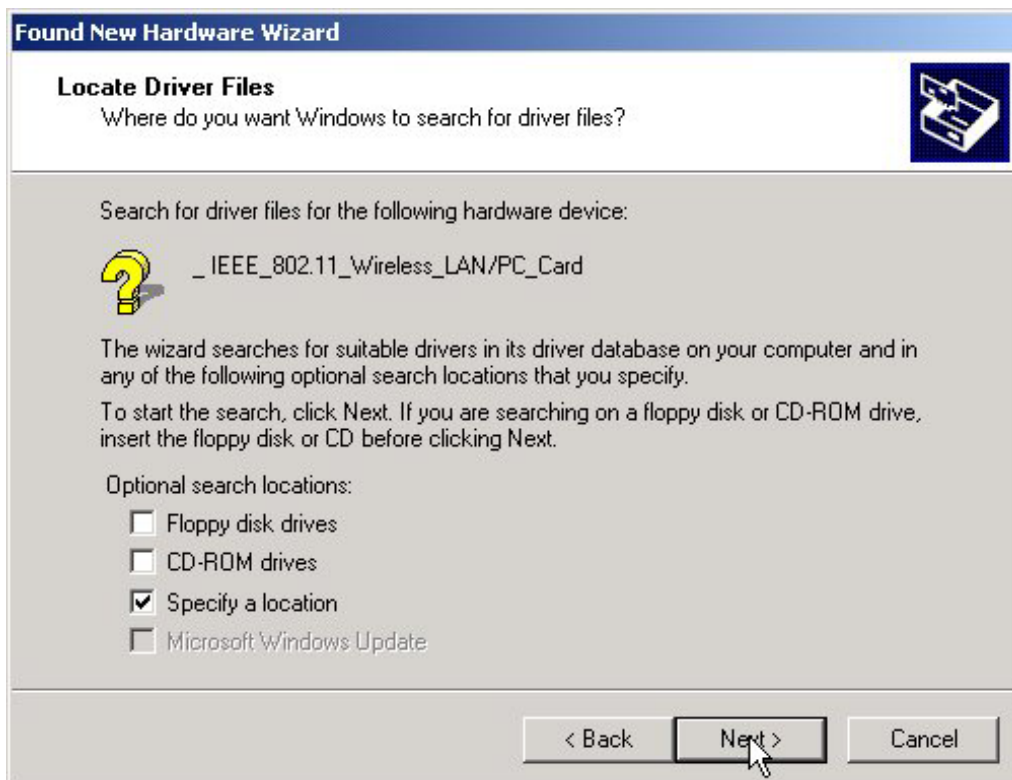

Step 2: A "**Found New Hardware Wizard**" window shows up.　Click **Next** to proceed.

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 "**IEEE 802.11 Wireless LAN/PC Card (5V)**". 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, your 11Mbps Wireless LAN PC Card is working well.


Check if there is any error icon next to the IEEE 802.11 Wireless LAN PC Card
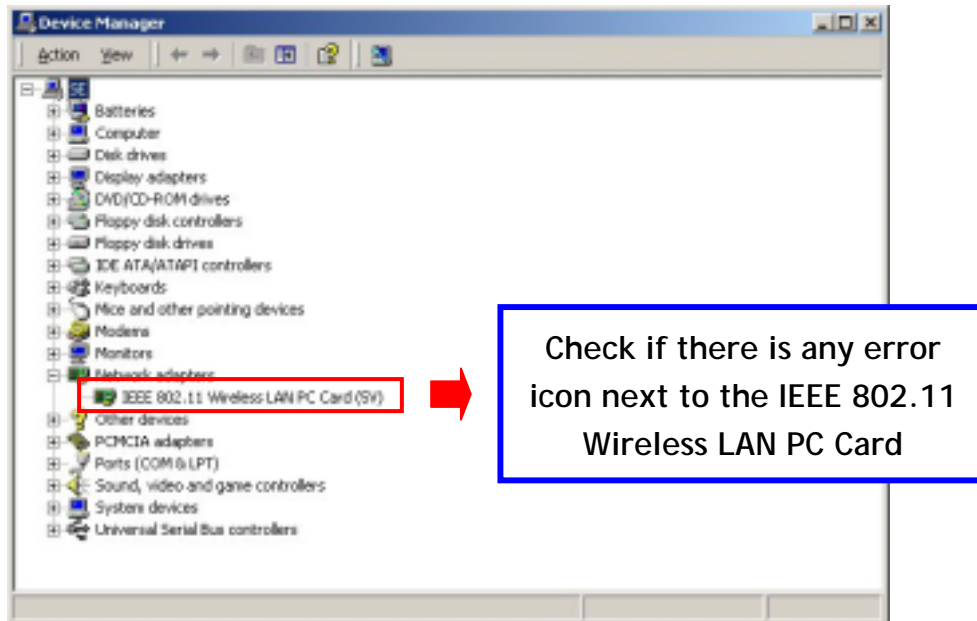
3-3 Set up Wireless LAN PC Card for Windows NT

Step 1: From the desktop, select **Control Panel**, double-click **Network**, go to the **Adapters** tab, and then click the **Add** button.
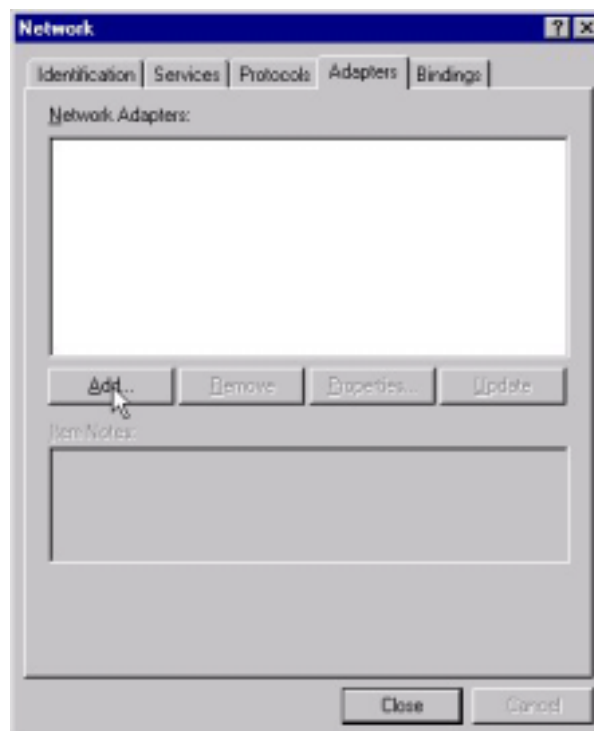
Step 2: Windows NT will present a list of all its supported adapters. Windows NT will present a list of all its supported adapters.   Click **Have Disk** to continue.
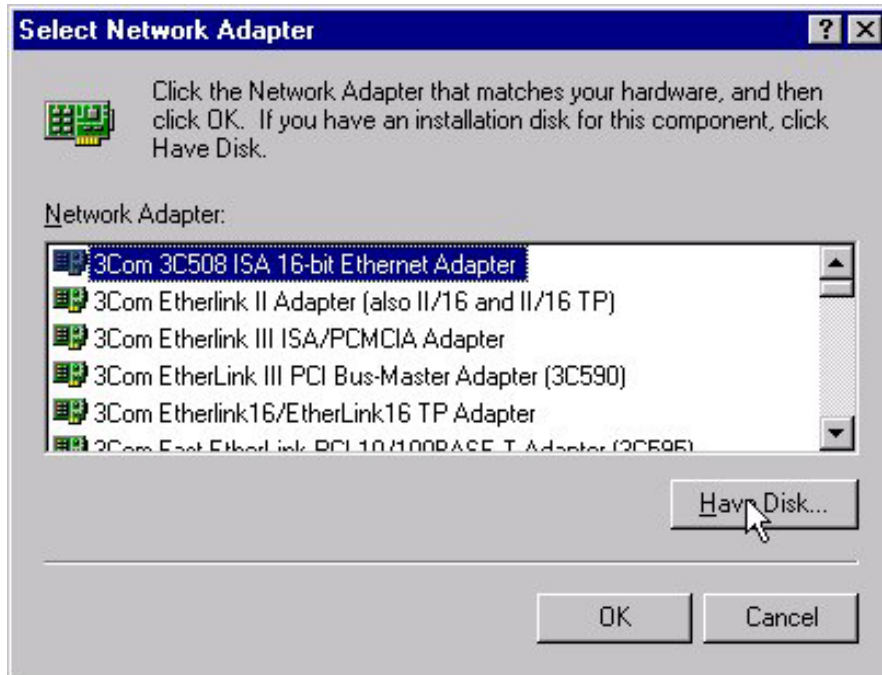
Step 3: Windows NT will ask for the path containing the 11Mbps Wireless LAN PC Card driver for Windows NT.   Insert the Product CD-ROM into the CD-ROM drive, and then click **OK** to continue.
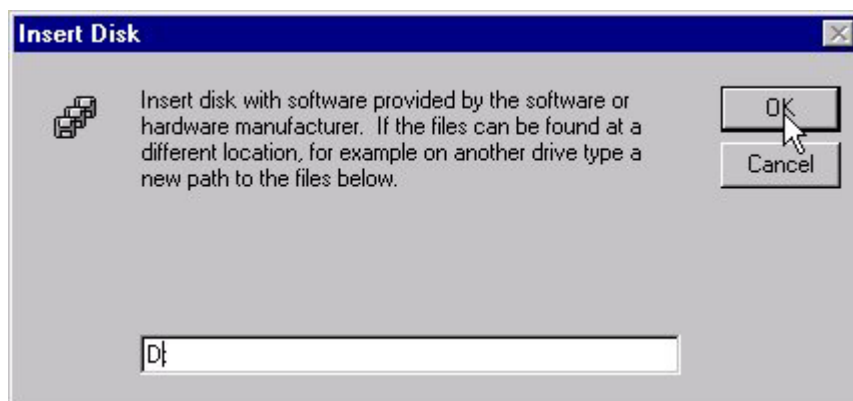

Step 4: The Windows will find "**IEEE 802.11 Wireless LAN PC Card**".   Click **OK** and Windows will then copy the necessary files into the system.

Step 5: Restart the Windows to finish the installation.

Step 6: To ensure whether the 11Mbps Wireless LAN PC Card works fine or not, go to **Control Panel**, double-click **Devices**, then verify whether the 11Mbps PC Card driver has started.

Check whether the driver is successfully installed and started
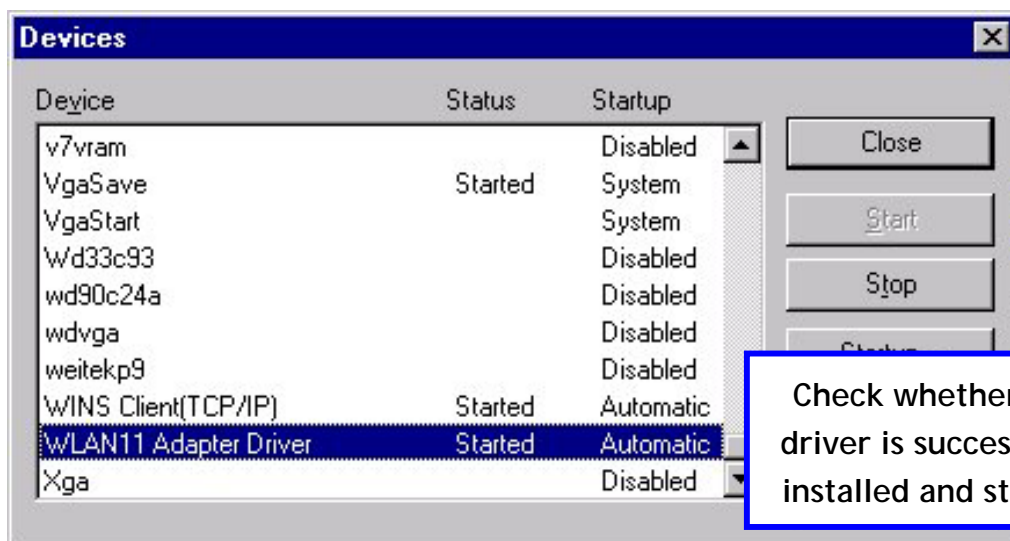
3-4 Set up Wireless LAN PC Card for Windows 98/ ME

Step 1: After inserting the 11Mbps Wireless LAN PC Card into the PCMCIA slot on your notebook, 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 "**IEEE 802.11 Wireless LAN/PC 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.
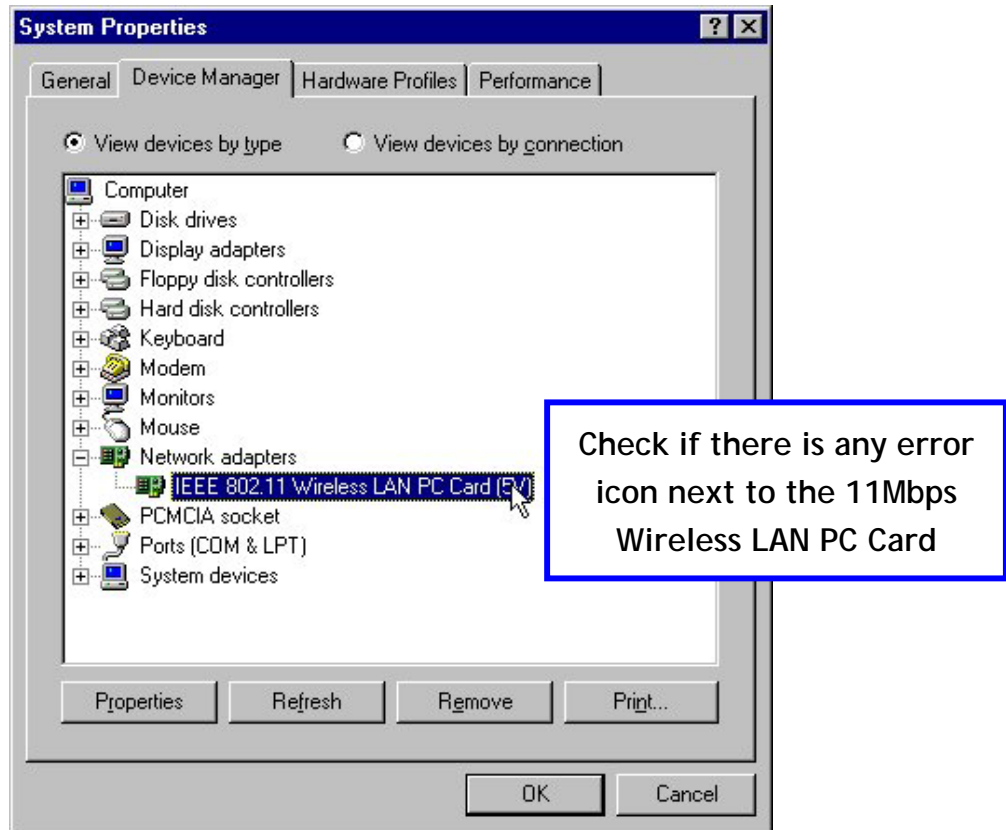

Step 6: Click **Finish** to complete the software installation.

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 PC Card.   If no, your 11Mbps Wireless LAN PC Card is working well.

3-5 Remove the Wireless LAN PC Card

If you do not need the wireless connectivity of your 11Mbps Wireless LAN PC Card, it is advised that you remove the card from its slot as described below:

Note: When removing the 11Mbps Wireless LAN PC Card, you will lose your connection to the network.   Prior to removing the PC Card, make sure you have closed all files and network applications (such as e-mail).

You are advised to always disable the PC Card **prior** to removing the card from the PC Card slot.   This will allow the Windows operating system to:

■   Log off from the network server.

■   Disable the 11Mbps Wireless LAN PC Card driver.

■   Disconnect power to the PC Card slot (which will extend battery life for mobile computers)

To stop using the 11Mbps Wireless LAN PC Card, do the following steps:

1. Click once on the PC Card icon on the right side of the Windows task bar.

2. Select the option "**Stop IEEE 802.11 Wireless LAN/PC Card (5V)**".

3. Wait a few seconds until the operating system displays a pop-up message to indicate you can safely remove the PC Card.   Click **OK** and you may then take out the 11Mbps Wireless LAN PC Card.

Configure the Wireless LAN PC Card   4

This chapter gives you assistance with detailed configuration for the 11Mbps Wireless LAN PC Card under Windows XP/2000/NT/98/ME.
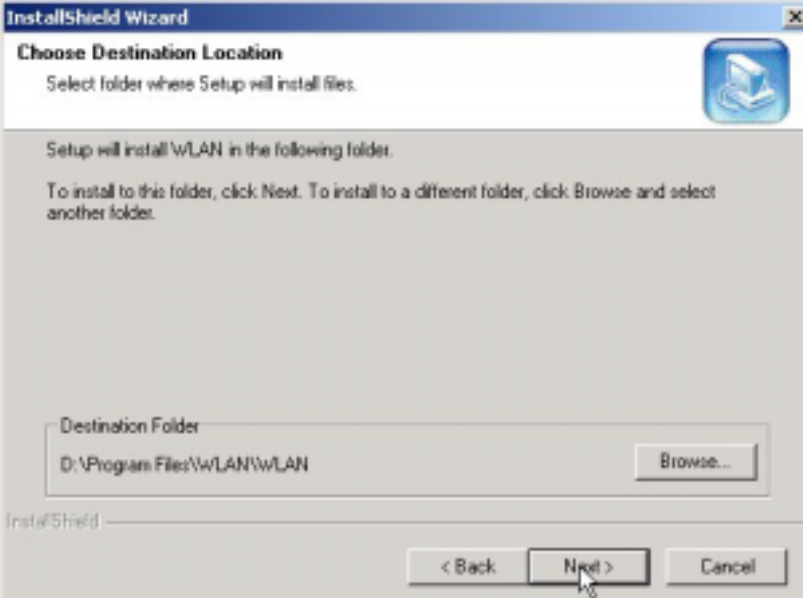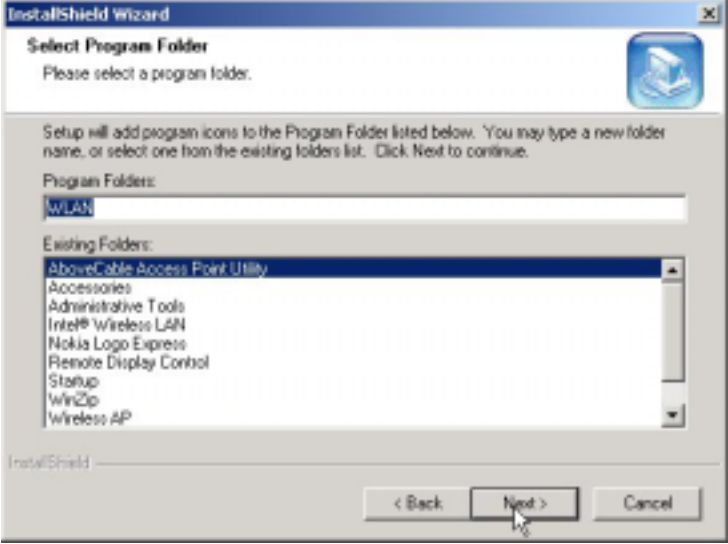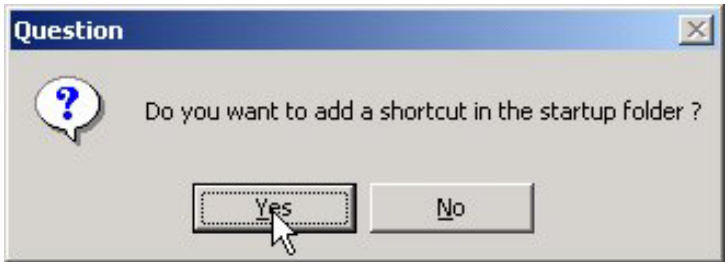
4-1 Install the WLAN Utility

To install the WLAN Utility, follow these steps:

Step 1: Insert the Product CD-ROM or floppy disk again.
Step 2: Go to the **utility** folder and run **setup.exe**.
Step 3: The InstallShield Wizard will show up and guide you through the rest of the setup process.

Run the Setup Utility	
*Choose Destination Location and click **Next** to continue*	

*Select a program folder and click **Next***	
You may add a shortcut in the startup folder as desired	

Upon completion, go to **Program Files** and run the WLAN Utility and its icon will appear in the **System Tray** in the bottom right corner of your task bar.   Clicking on the icon will open the configuration window.   When you minimize the window, the system tray icon will be loaded in the System Tray again.

The color behind the system tray icon indicates the link status:

 Blue indicates a good or excellent link.

 Yellow indicates a usable but weak link.

 Red indicates no or very poor link quality. When you minimize the window, the system tray icon will be loaded in the **System Tray** again.

4-2 Use the WLAN Utility

The WLAN Utility enables you to make configuration changes and perform user-level diagnostics on your 11Mbps Wireless LAN PC Card in the Windows XP/2000/NT/98/ME operating system environments.   The WLAN Utility consists of window with 5 items for you to monitor and configure the 11Mbps Wireless LAN PC Card: **Configuration**, **Link Test**, **AP Browser**, **Site Survey** and **About**.

Configuration:

The **Configuration** item allows you to modify the configuration parameters for the 11Mbps Wireless LAN PC Card such as **Profile**, **Network Type**, **Ad-Hoc Channel**, **Transmit Rate**, **ESSID**, **WEP**, **RTS/CTS**, **Fragment Threshold**, and **Power Save** mode.   Furthermore, you may monitor the current status of the Wireless LAN PC Card such as **State**, **Current Channel**, **Current Tx Rate**, **Throughput**, **Link Quality** and **Signal Strength**.
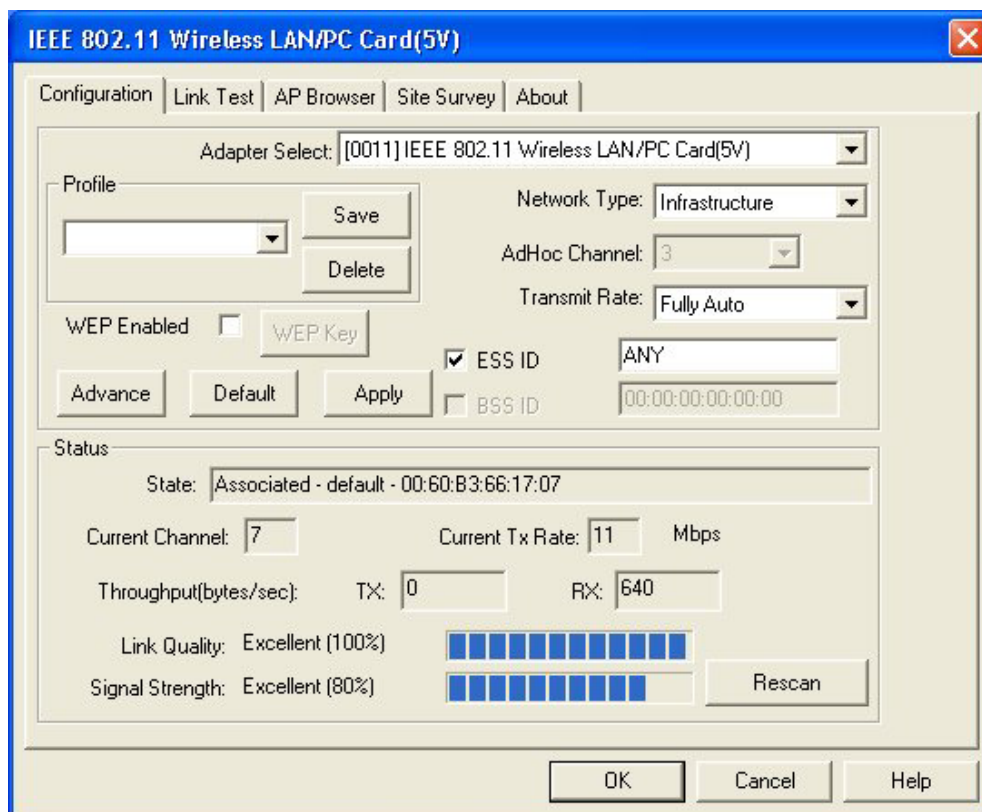
Profile

The **Profile** field allows you to set values for all parameters by selecting a previously defined profile.   To create the profile, go to the **Profile** field, type a profile name and set the corresponding parameters.   If one of the profiles is no longer used, you may remove it by clicking the **Delete** button.   After changing parameters, save the profile and click the **Apply** button to take effect.   You can have multiple profiles and modify the profile at any time.


Alternatively, you may choose the profile by right clicking the system tray icon on the task bar, making the configuration more friendly and efficient.

Network Type

There are 3 network types for the 11Mbps Wireless LAN PC Card to operate.   If you need to access company network or Internet via Access Point, select "**Infrastructure**".   To set up a group of wireless stations for file and printer sharing, select "**Pseudo AdHoc**" or "**802.11 AdHoc**" (without Access Point).   If **Pseudo Ad-Hoc (without access point)** is selected, you need to set wireless stations with the *same channel*.   For **802.11 AdHoc**, the *same ESS ID* is required to the wireless stations.
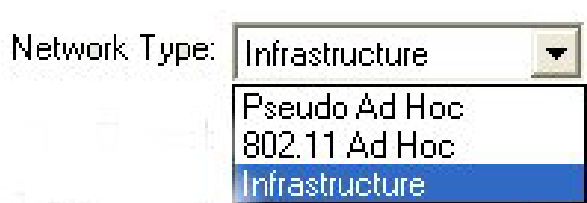
ESSID

The ESS ID is the unique ID used by Access Points and stations to identify a wireless LAN. Wireless clients associating to any Access Point must have the same ESSID. The default setting is ANY, which allows your Wireless LAN PC Card to automatically associate to any Access Point (Infrastructure mode) in the vicinity of your wireless adapter. Alternatively, you may check the **ESS ID** check box to specify the ESS ID. It will then attempt to associate with Access Points or stations with the same ESS ID. The ESS ID can be set up to *32 characters* and is case sensitive.

Check here before entering the ESS ID

If there two Access Points with the same ESSID, you may check the BSS ID check box and enter the MAC address of the Access Point you desire to connect to.
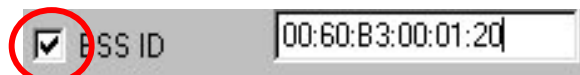
Check here before entering the BSS ID

Transmit Rate

The 11Mbps Wireless LAN PC Card provides various data rate options for you to select. Data rates options include **Fully Auto**, **2 Mbps, 1 or 2 Mbps**, **5.5 Mbps**, and **11 Mbps**. In most networking scenarios, you will see that the factory-set default "**Fully Automatic**" will prove the most efficient. This setting will allow your 11Mbps Wireless LAN PC Card to operate at the maximum data rate. When the communications quality drops below a certain level, the PC Card will automatically switch to a lower data rate. Transmission at lower data speeds are usually more reliable. However, when the communications quality improves again, the 11Mbps Wireless LAN PC Card will gradually increase the data rate again, until it has reached the highest available transmit rate.
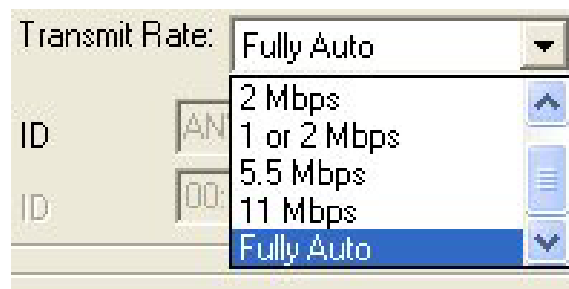
WEP

To prevent unauthorized wireless stations from accessing data transmitted over the network, the WLAN Utility offers highly secure data encryption, known as WEP, making your data transmission over air more secure.   To activate the WEP Encryption, check the **WEP Enabled** check box.   An Encryption window will then appear.   The instructions are as follows:

➢ Pull down the **Encryption (WEP)** menu and select either **64bit** or **128bit** encryption method.

➢ Specify the encryption keys.   There are two methods to set the WEP keys, as described below:

Create Encryption Keys by Using a Passphrase

To create encryption keys by using a passphrase, click the **Create Key with Passphrase** check box and type a character string in the **Passphrase** field.   As you type, the utility uses an algorithm to generate 4 keys automatically.   Select either the **64bit** or **128bit** encryption first, and type a string in the **Create Key with Passphrase** field.   Select one key from the 4 WEP keys and click **OK**.   Then click the **Apply** button on the **Configuration** tab to make the setting take effect.
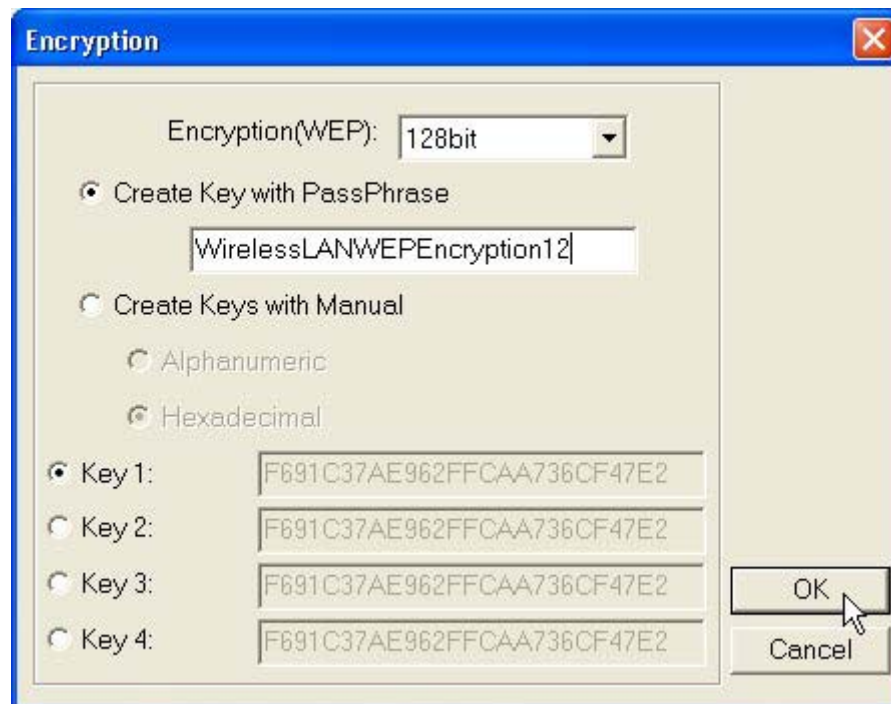
Create Encryption Keys Using a Passphrase (128bit)

Create Encryption Keys Manually

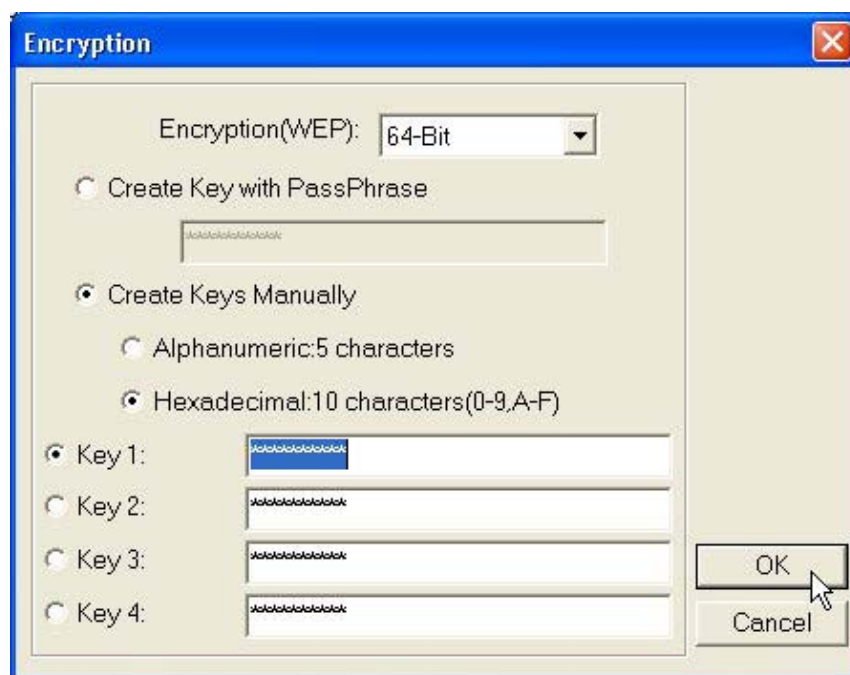You can also create encryption keys manually by clicking the **Create Keys Manually** check box.

For 64bit encryption you may choose:

- **Alphanumeric***: 5 characters* (case sensitive) ranging from "a-z", "A-Z" and "0-9" (e.g. MyKey)
- **Hexadecimal**: *10 hexadecimal digits* in the range of "A-F", "a-f" and "0-9" (e.g. 11AA22BB33)

For 128bit encryption you may choose:

- **Alphanumeric***: 13 characters* (case sensitive) ranging from "a-z", "A-Z" and "0-9" (e.g. MyKey12345678)
- **Hexadecimal**: 26 *hexadecimal digits* in the range of "A-F", "a-f" and "0-9" (e.g. 00112233445566778899AABBCC)*.*

After entering the WEP keys in the key field, select one key as active key, click the **OK** button and then click the **Apply** button on the **Configuration** tab to make the setting take effect.


Create Encryption Keys Manually (64bit)

> **Note:** The WEP key must be set up exactly the same on the Wireless LAN stations as they are on the wireless Access Points. If you set "MyKey" for the Wireless LAN PC Card, the same WEP Key "MyKey" must be assigned to the Access Point or other stations.

Advance

The WLAN Utility also offers the advanced configuration for user to set the 11Mbps Wireless LAN PC Card under certain network environment.   These advanced options include Power Management, RTS/CTS and Fragmentation Threshold.   To enable the advanced configuration, go to the Configuration tab and click the **Advance** button.
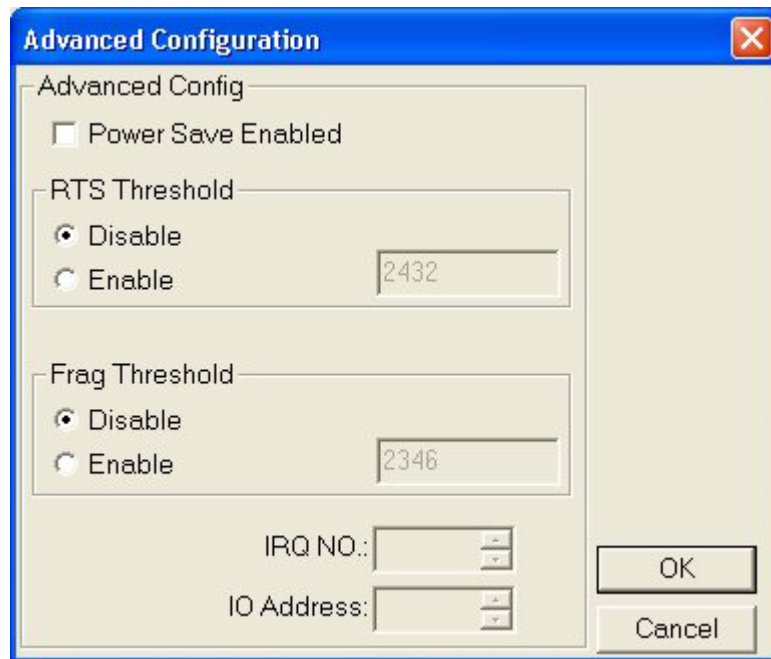

Power Management

The Power Save option is designed to conserve battery life of you computer.   When Power Save is enabled, your 11Mbps Wireless LAN PC Card will go into sleep mode to minimize power consumption.

> **Note:** When power saving mode is enabled, the Access Points you use need to support power saving as well so that the communication can be established.

RTS Threshold

RTS Threshold is a mechanism implemented to prevent the "Hidden Node" problem.   "Hidden Node" is a situation in which two stations are within range of the same Access Point, but are not within range of each other.   The following figure illustrates an example of the "Hidden Node" problem.   Both stations (STA) are within range of the Access Point, however, they cannot hear each other.   Therefore, they are hidden nodes for each other.   When a station starts data transmission with the Access Point, it might not notice that the other station is already using the wireless medium.   When these two stations send data at the same time, they might collide when arriving simultaneously at the Access Point.   The collision will most certainly result in a loss of messages for both stations.
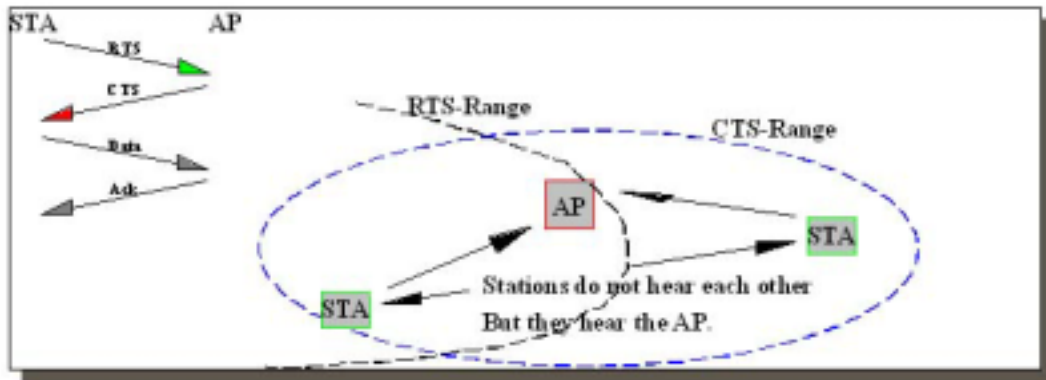
Thus, the RTS Threshold mechanism provides a solution to prevent data collisions.   When you enable RTS Threshold on a suspect "hidden station", this station and its Access Point will use a Request to Send/Clear to Send protocol (RTS/CTS).   The station will send an RTS to the Access Point, informing that it is going to transmit the data.   Upon receipt, the Access Point will respond with a CTS message to all station within its range to notify all other stations to defer transmission.   It will also confirm the requestor station that the Access Point has reserved it for the time-frame of the requested transmission.

If the "Hidden Node" problem is an issue, please specify the packet size.   *The RTS mechanism will be activated if the data size exceeds the value you set.*   It is highly recommended that you set the value ranging from 0 to 1500.   The default value is **Disable**.

> **Note:** Enabling RTS Threshold would cause redundant network overhead that could negatively affect the throughput performance instead of providing a remedy.

Frag. Threshold

Fragmentation mechanism is used for improving the efficiency when high traffic flows along in the wireless network.   If your 11Mbps Wireless LAN PC Card often transmit large files in wireless network, you can enable the Fragmentation Threshold by clicking the **Enable** button and the mechanism will split the packet.   The value can be set from 256 to 1500.   The default value is **Disable**.

IRQ NO./IO Address

To avoid device conflict, you may modify the IRQ No. and IO Address for your device (Only available under Windows NT).

Status:

The Status field on the **Configuration** menu provides the following information.
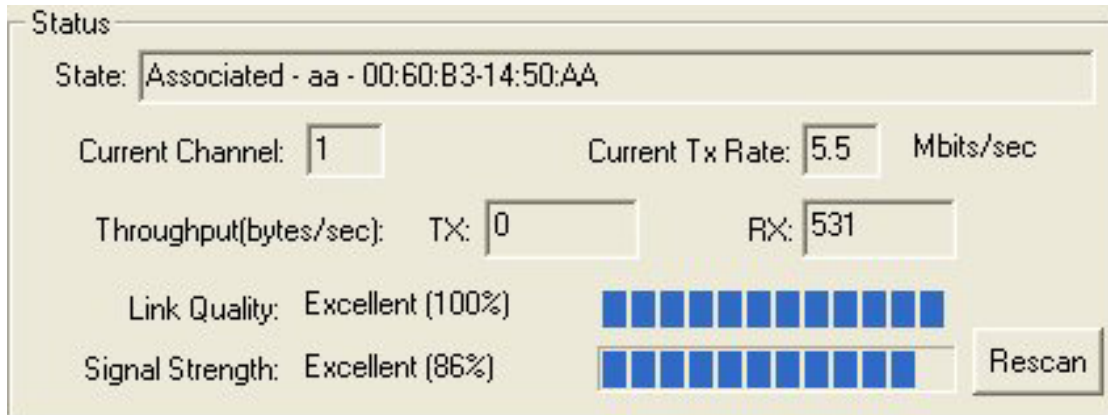
State: When operating in Infrastructure mode, this field shows the MAC address of the Access Point with which the Wireless LAN PCMCIA Card is communicating. When operating in Ad-Hoc mode, it shows the virtual MAC address used by computers participating in the Ad-Hoc network.

Current Channel: Shows the channel on which the connection is made.

Current Tx Rate: Shows the highest transmit rate of the current association.

Throughput: Shows the short term transmit and receive throughput in bytes/second, and is continuously updated.

Link Quality: Based on the quality of the received signal of the Access Point beacon. There are 5 states of link quality:

100%~80%: Excellent link.
80%~60%: Good link quality.
60%~40%: Fair link quality.
Under 40%: Poor or no connection.

Signal Strength: Based on the received signal strength measurement of the baseband processor of the Beacon signal. Same as link quality, there are 5 states of signal strength:

100%~80%: Excellent signal strength.
80%~60%: Good signal strength.
60%~40%: Fair signal strength.
Under 40%: Poor or no signal strength.

You can click the **Rescan** button to force the radio to rescan all available channels. If your link quality or signal strength is poor, rescanning can be used to push the radio off a weak Access Point and search for a better link with another Access Point.

Link Test:

The **Link Test** tool helps you examine data transmission quality between your 11Mbps Wireless LAN PC Card and any workstation on the network.   By entering IP address of 2 remote station, setting ping interval and packet size, you may know whether communication has been made successfully or not.   Additionally, you may run the loopback test by clicking the **Look back** button to verify the communication quality between your wireless station and Access Point.   The **Refresh** button is used for setting the counters back to 0.
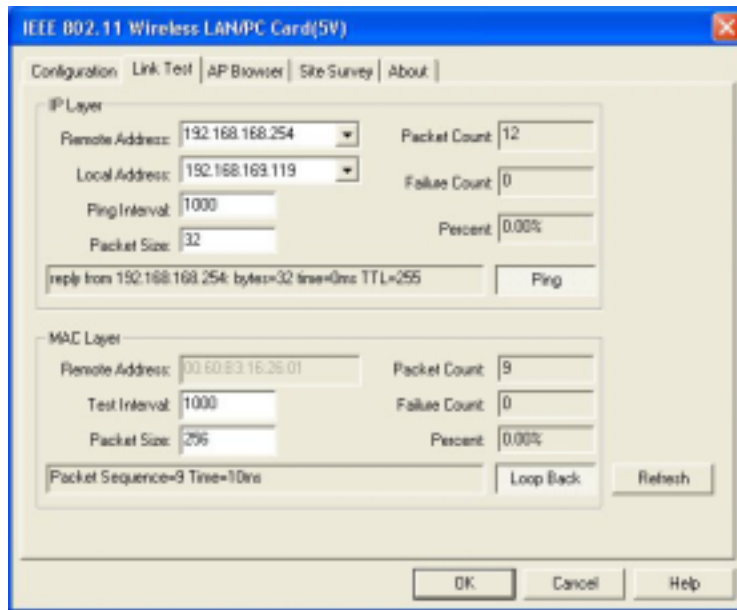

AP Browser:

By clicking the **Rescan** button, the AP Browser can display Access Points around the working environment.   Besides showing the ESSID of each Access Point, it also displays BSSID, Channel, Signal, Quality and Supported Rates.   To join any of the displayed Access Points, highlight the Access Point you desire to connect and then click the **Join BSS** (when there are more than 2 Access Points with the same ESSID), or **Join ESS** button to join the group.
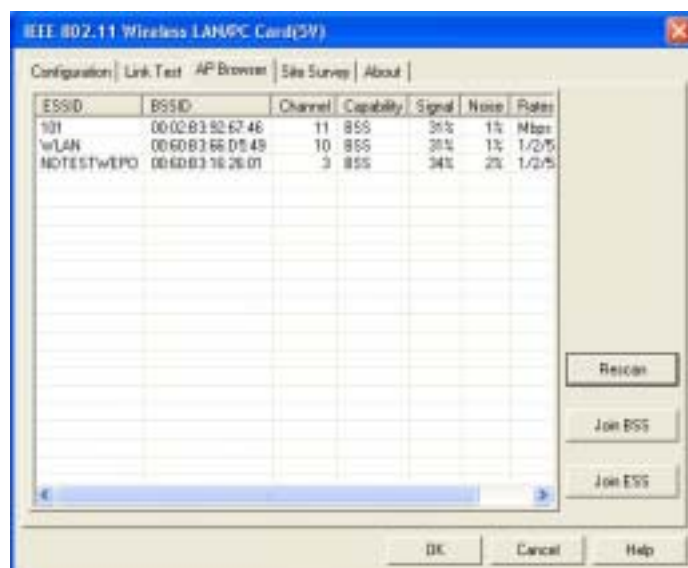
Site Survey:

When the **Site Survey** screen is displayed, the channel quality of all 14 radio channels will be displayed.   These channel quality measurements are shown on each gauge for the 14 radio channels.   The blue bar indicated the channel quality is clear and good.   The **higher** the blue bar is, the **better** quality you have (i.e., less interference).   The yellow bar indicates the channel quality is fair and the red bar indicates the channel is busy or having severe interference.
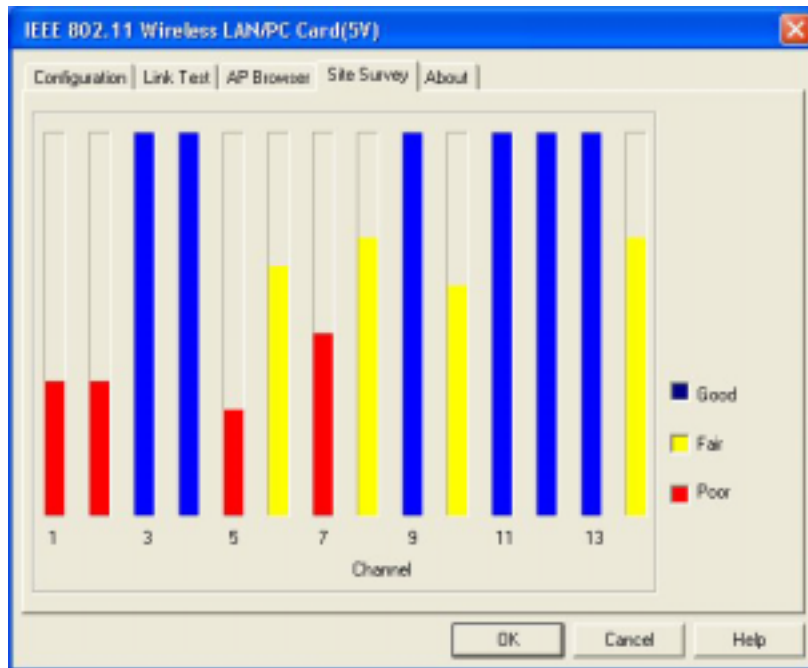
About:

The **About** item shows the versions of the Wireless LAN Utility, driver, firmware of the 11Mbps Wireless LAN PC Card.   Also, the MAC address and frequency domain are displayed.
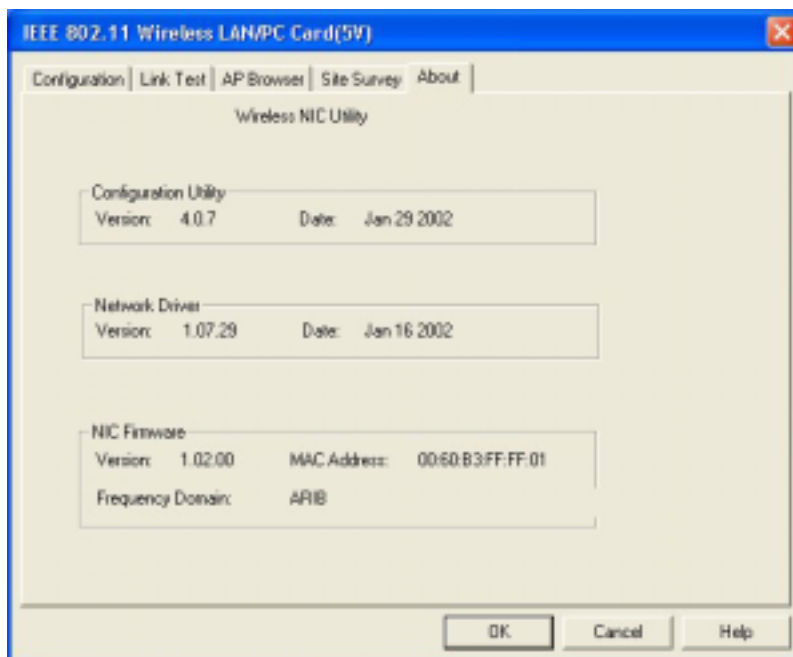
Limited Warranty

This Warranty constitutes the sole and exclusive remedy of any buyer or reseller's equipment and the sole and exclusive liability of the supplier in connection with the products and is in lieu of all other warranties, express, implied or statutory, including, but not limited to, any implied warranty of merchantability of fitness for a particular use and all other obligations or liabilities of the supplier.

In no even will the supplier or any other party or person be liable to your or anyone else for any damages, including lost profits, lost savings or other incidental or consequential damages, or inability to use the software provided on the software media even if the supplier or the other party person has been advised of the possibility of such damages.

The following are special terms applicable to your hardware warranty as well as services you may use during part of the warranty period.   Your formal Warranty Statement, including the warranty applicable to our Wireless LAN products, appears in the Quick Installation Guide which accompanies your products.

Duration of Hardware Warranty: One Year

Replacement, Repair or Refund Procedure for Hardware:

If your unit needs a repair or replacement, return it to your dealer/distributor in its original packaging.   When returning a defective product for Warranty, always include the following documents:

- The Warranty Repair Card
- A copy of the invoice/proof of purchase, and
- The RMA Report Form (To receive a Return Materials Authorization form (RMA), please contact the party from whom you purchased the product).

Upon proof-of-purchase we shall, at its option, repair or replace the defective item at no cost to the buyer.

This warranty is contingent upon proper use in the application for which the products are intended and does not cover products which have been modified without the reseller's approval or which have been subjected to unusual physical or electrical demands or damaged in any way.

Please complete the information below and include it along with your products.

Name:	**-36-**
Title:	
Company:	
Telephone:	
Fax:	
Email:	
City/State/Zipcode:	
Country:	
Product Name:	
Serial Number:	
MAC Address:	
Invoice Date:	
Product Description:	

If you have any further questions, please contact your local authorized reseller for support.