

Wireless Network PCI Adapter

User's Manual

Rev 1.0

Regulatory compliance

FCC Warning

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.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

IMPORTANT NOTE:

Federal Communications Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operation in conjunction with any other antenna or transmitter.

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

About this manual

This User's Manual describes how to install and operate your PCI Wireless Network Adapter. Please read this manual before you install the product.

This manual includes the following topics:

- Product description and features.
- Hardware installation procedure.
- Software installation procedure.
- FAQ

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Chapter 1 - Introduction

Thank you for purchasing the PCI Wireless Network Adapter. This high-speed PCI Wireless Network Adapter provides you with an innovative wireless networking solution. The Adapter is easy to set up and use. With this innovative wireless technology, you can share files and printers on the network –without inconvenient wires!

The Adapter is a network Adapter with a rate of 1, 2, 5.5, and 11 Mbps operating in the ISM band using Direct Sequence Spread Spectrum (DSSS) transmission implementing the IEEE 802.11b standard. This Adapter provides Device Drivers for Windows Operating Systems. It also provides tools for the configuration of the Adapter. The tool, as well as the installation steps of the plug-and-play procedure for the Windows operating systems, is described in this document.

Features

The PCI Wireless Network Adapter offers compliance with the IEEE 802.11b specification. This feature allows them to communicate with other wireless devices that support the standard. Features of the Adapter are:

- **Uses 2.4GHz frequency band, which complies with worldwide requirement**
- **Wireless interface following the IEEE 802.11b standard**
- **Using PCI interface**
- **Enciphering/deciphering of wireless data by the implementation of the WEP algorithm**
- **Wire-free access to networked resources from anywhere beyond the desktop**
- **Allows users move between Access Points without resetting their connection reconfiguration**
- **Delivers data rate up to 11 Mbps**
- **Supports 11, 5.5, 2, and 1 Mbps rates**
- **Provide PCI Wireless Network Adapter Configuration utility**
- **The Adapter uses external Antenna with LEDs indicating Power and Link**
- **Supports most popular operating systems**

What is Wireless LAN?

Wireless Local Area Network (WLAN) systems offer a great number of advantages over traditional wired systems. WLAN is flexible and easy to setup and manage. They are also more economical than wired LAN systems.

Using radio frequency (RF) technology, WLAN transmit and receive data through the air. WLAN combine data connectivity with user mobility. For example, users can roam from a conference room to their office without being disconnected from the LAN.

Using WLAN, users can conveniently access-shared information, and network administrators can configure and augment networks without installing or moving network cables.

WLAN technology provides users with many convenient and cost saving features:

- **Mobility:** WLAN provide LAN users with access to real-time information anywhere in their organization, providing service opportunities that are impossible with wired networks.
- **Ease of Installation:** Installing is easy for novice and expert users alike, eliminating the need to install network cables in walls and ceilings.
- **Scalability:** WLAN can be configured in a variety of topologies to adapt to specific applications and installations. Configurations are easily changed and range from peer-to-peer networks suitable for a small number of users to full infrastructure networks of thousands of users roaming over a broad area.

Wireless LAN Modes

Wireless LANs can be configured in one of two ways:

Ad-hoc Networking	Also known as a peer-to-peer network, an ad-hoc network is one that allows all workstations and computers in the network to act as servers to all other users on the network. Users on the network can share files, print to a shared printer, and access the Internet with a shared modem. However, with ad-hoc networking, users can only communicate with other wireless LAN computers that are in the wireless LAN workgroup, and are within range.
Infrastructure Networking	Infrastructure networking differs from ad-hoc networking in that it includes an access point. Unlike the ad-hoc structure where users on the LAN contend the shared bandwidth, on an infrastructure network the access point can manage the bandwidth to maximize

	bandwidth utilization. Additionally, the access point enables users on a wireless LAN to access an existing wired network, allowing wireless users to take advantage of the wired networks resources, such as Internet, email, file transfer, and printer sharing. Infrastructure networking has the following advantages over ad-hoc networking: • Extended range: each wireless LAN computer within the range of the access point can communicate with other wireless LAN computers within range of the access point. • Roaming: the access point enables a wireless LAN computer to move through a building and still be connected to the LAN. • Wired to wireless LAN connectivity: the access point bridges the gap between wireless LANs and their wired counterparts.
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Notes on Wireless LAN Configuration

When configuring a wireless LAN (WLAN), be sure to note the following points:

- Optimize the performance of the WLAN by ensuring that the distance between access points is not too far. In most buildings, WLAN Adapters operate within a range of 100 ~ 300 feet, depending on the thickness and structure of the walls.
- Radio waves can pass through walls and glass but not metal. If there is interference in transmitting through a wall, it may be that the wall has reinforcing metal in its structure. Install another access point to circumvent this problem.
- Floors usually have metal girders and metal reinforcing struts that interfere with WLAN transmission.

This concludes the first chapter. The next chapter deals with the hardware installation of the Adapter.

Chapter 2 - Hardware Installation

This chapter covers connecting your PCI Wireless Network Adapter to PCI slot of desktop PC.

Package Contents

Please make sure that items below are included on package.

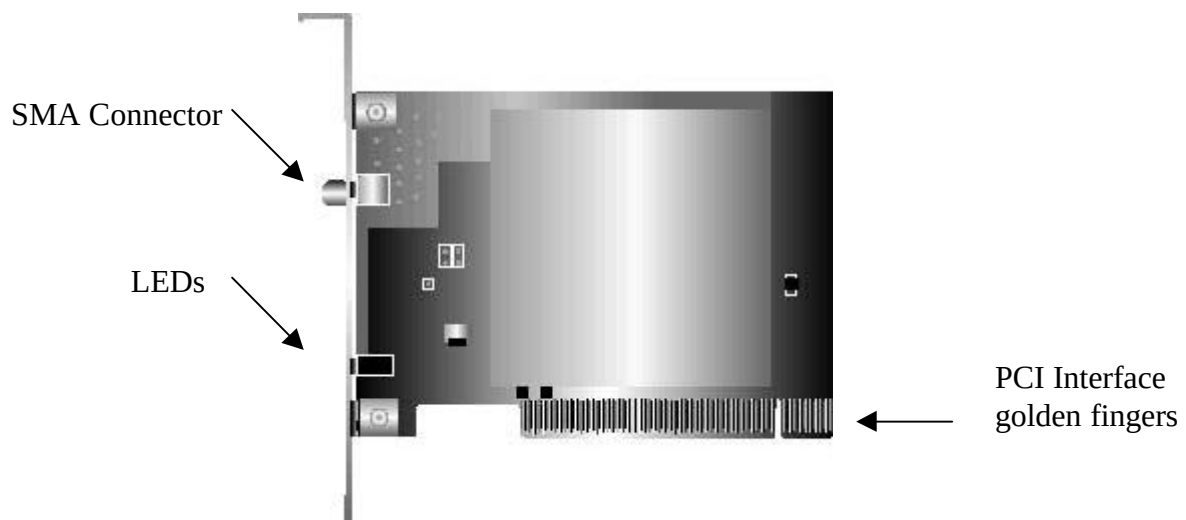
- ✓ One PCI Wireless Network Adapter
- ✓ One Driver / Utility CD-ROM (this user's manual included)
- ✓ One Quick Installation Guide
- ✓ One external antenna

System Requirements for the Adapter

- Operating System: Microsoft Windows 95/98/ME/2000/NT4.0/XP
- Desktop PC with CD-ROM drive
- One free PCI slot
- Pentium-Class 90MHz or higher

Install the PCI Adapter

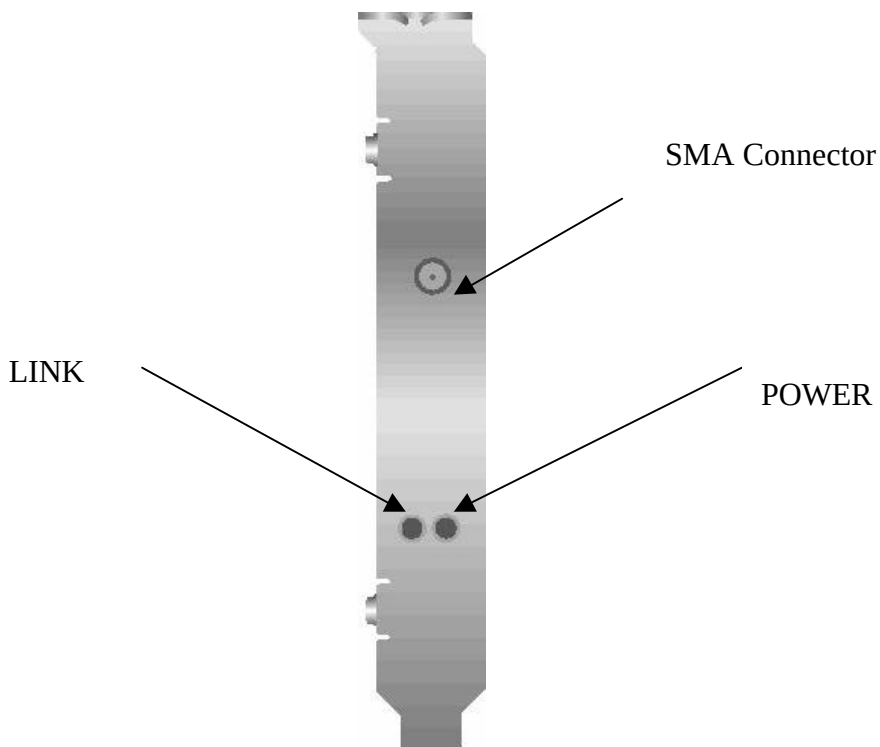
NOTE: These instructions apply to most desktop computers. For detailed information on inserting PCI Adapter into your desktop PC, consult the desktop PC User's Manual.



The PCI Wireless Network Adapter

- 1. Turn off the computer, unplug the power cord and remove the computer's cover.*
- 2. Pick a free PCI expansion slot and remove the protective bracket.*
- 3. Insert the Adapter into the slot until it is fully seated.*
- 4. Secure the adapter bracket with the screw from step 2.*
- 5. Replace the computer's cover.*
- 6. Reconnect the power cord and turn on the computer.*

LED Indicators



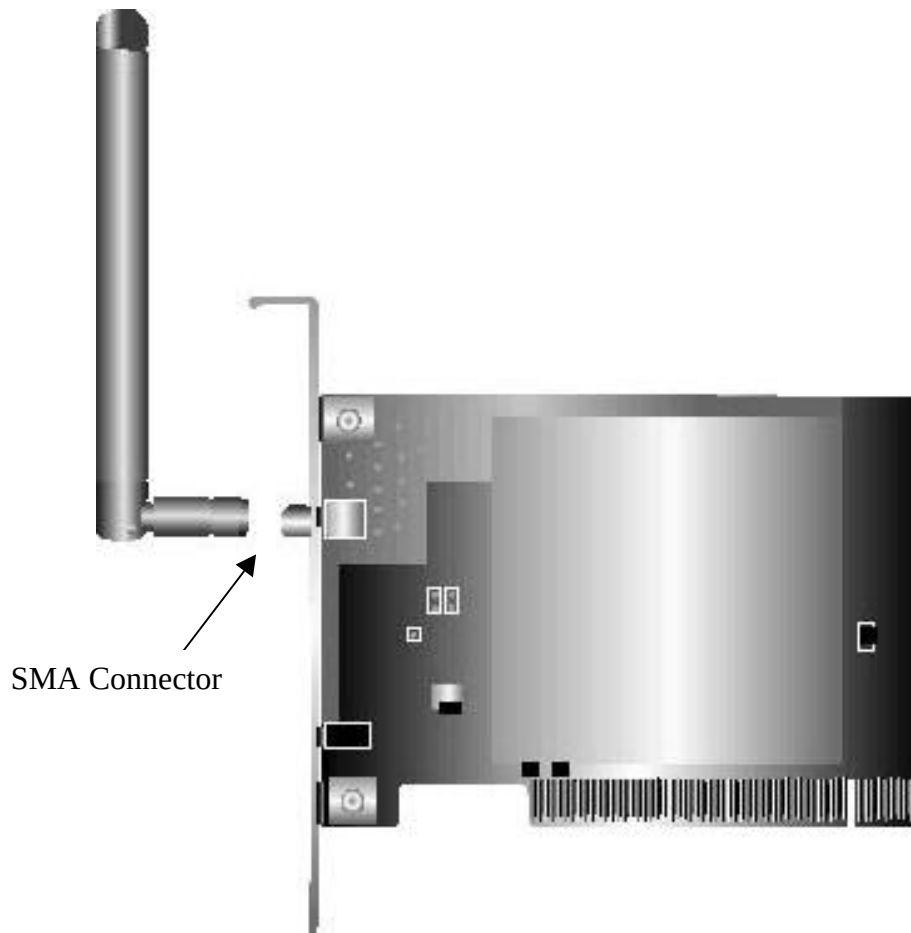
Side view of PCI Adapter from bracket.

The following table describes the meaning of LED indicators:

LED	MEANING
POWER	Indicates that the Adapter is powered on (solid green).
LINK	Indicates link status. The LED lights up (solid green) while the wireless connection is linked. If the LED is blinking green, the adapter is searching for possible wireless connection.

Connecting the adjustable Antenna to the Adapter

After installing the Adapter on computer, connect external Antenna to the Adapter from the SMA connector. Hold the antenna in the desired orientation and then turn the lock nut clockwise until snug (do not over tighten the nut). To adjust the antenna direction, turn the nut counter clockwise one full turn, adjust the antenna and then tighten the nut.



After hardware installation is completed, please go to Chapter 3 to install driver on different Operating System.

Chapter 3 – Driver Installation for Windows

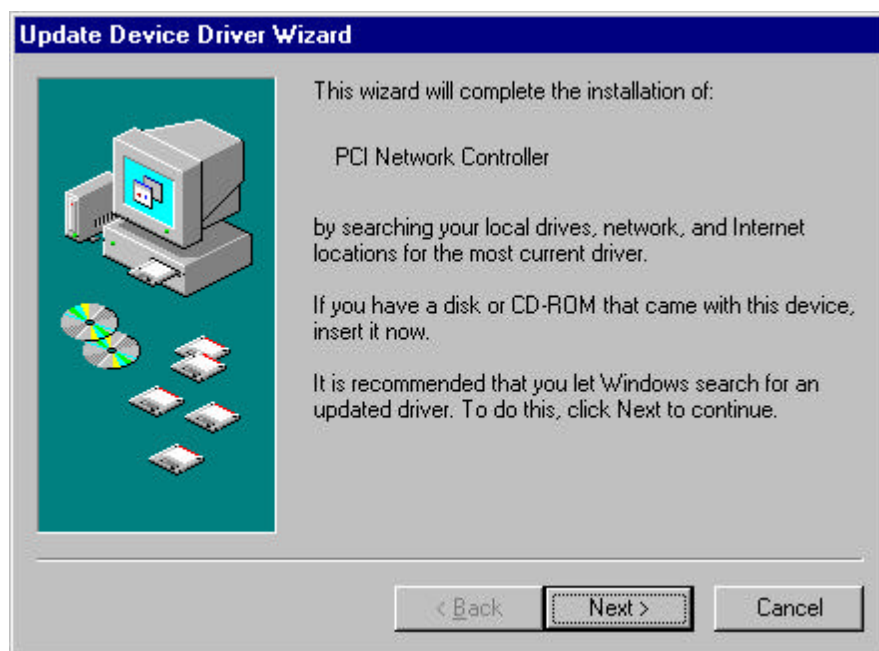
The following sections cover PCI Wireless Network Adapter driver installation in the Windows Operating Systems.

Note: You have to install your hardware first before you begin to install the drivers.

Driver installation for Windows 95 OSR2

Follow the steps below to install the PCI Wireless Network Adapter drivers for Windows 95 OSR2.

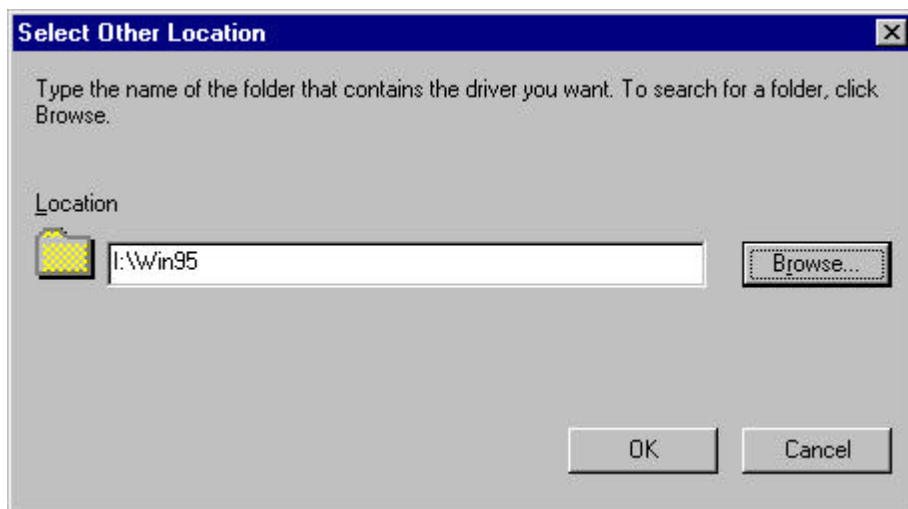
1. Insert the PCI Wireless Network Adapter to PCI slot of desktop PC first. (Refer to Chapter 2 – Hardware installation.)
2. After Windows 95 OSR2 detects the PCI Wireless Network Adapter, the *Update Device Driver Wizard* window appears. Clicks **Next** to continue the installation.



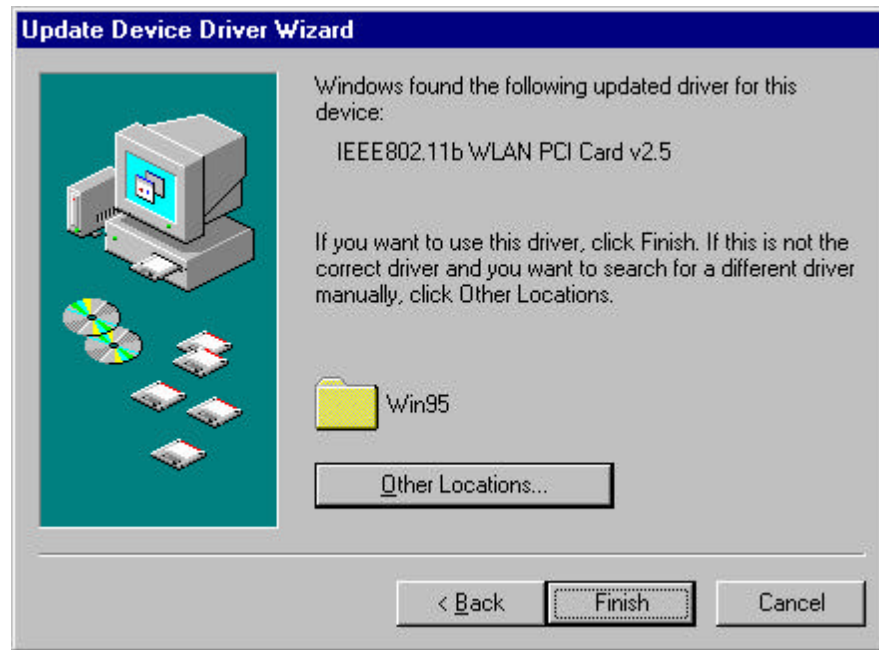
3. Windows searches for the driver and the following screen appears:



4. Click **Other Locations** to bring up the following window:



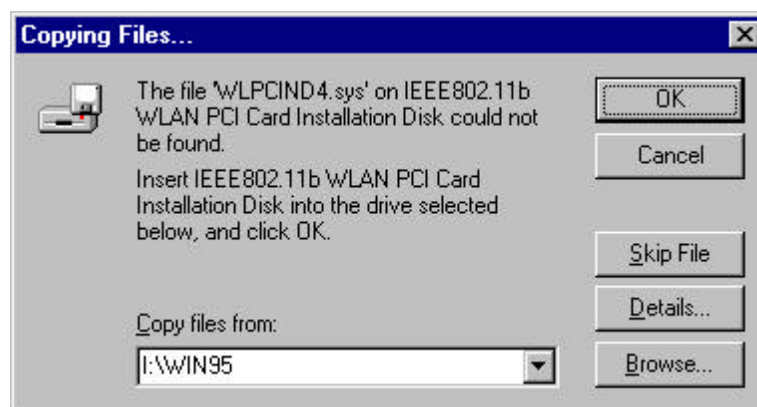
5. Type **I:\Win95** where **I** is your CD-ROM drive letter. Then click **OK**. The following screen appears:



- Click **Finish** to continue. Windows may prompt you the following window to ask you insert the disc.



- Click **OK** to continue.



- Again type **I:\WIN95:** where **I** is your CD-ROM drive letter and click **OK**.

*NOTE: If you did not install the Windows 95 OSR2 from your hard drive, Windows will prompt you to input the path to the Windows 95 CD-ROM. Follow the instructions on your screen, and then click **OK** to continue.*

Then system will start to install Wireless LAN Utility. Please refer to procedures at Chapter 4.

Driver installation for Windows 98

Follow the steps below to install the PCI Wireless Network Adapter drivers for Windows 98.

1. Insert the PCI Wireless Network Adapter to PCI slot of desktop PC first. (Refer to Chapter 2 – Hardware installation.)
2. After Windows 98 detects the PCI Wireless Network Adapter, the *Add New Hardware Wizard* window appears. Clicks **Next** to continue the installation.



3. A screen appears prompting you to select an installation method. Select **Search for the best driver for your device. (Recommended)** and click **Next** to continue.



4. Ensure that the **CD-ROM drive** is selected. Insert the driver CD-ROM into your CD-ROM drive and click **Next** to continue.



5. The following screen appears showing the driver search result. Click **Next** to continue the installation.



6. Windows 98 copies files to your hard disk. The following screen will appear to inform you when the software installation has finished. Click **Finish** to finish the installation.



7. The following screen will ask you to restart your computer to finish the installation. Click **Yes** to reboot the system. After system reboot, the Wireless LAN Utility will be installed automatically. Please go to Chapter 4 to install the utility.

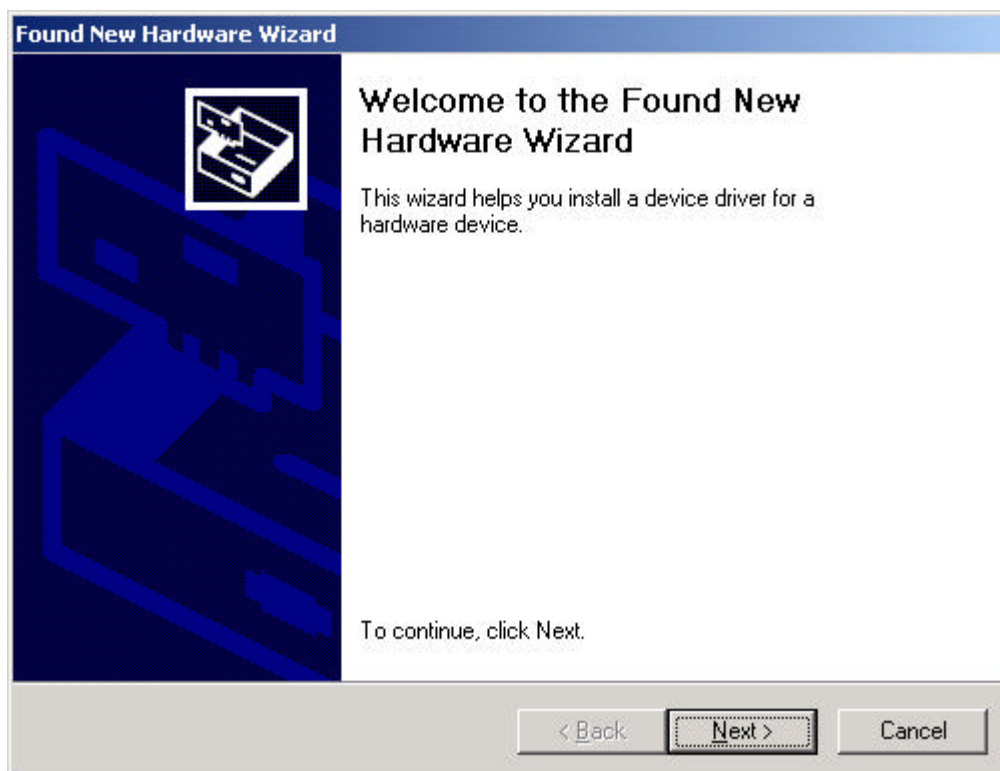


*NOTE: In most cases, Windows will automatically copy all of the files needed for networking. If Windows asks you for the files and prompts you to input the path to the files. Follow the instructions on your screen, and then click **OK** to continue.*

Driver installation for Windows 2000

Follow the steps below to install the PCI Wireless Network Adapter drivers for Windows 2000.

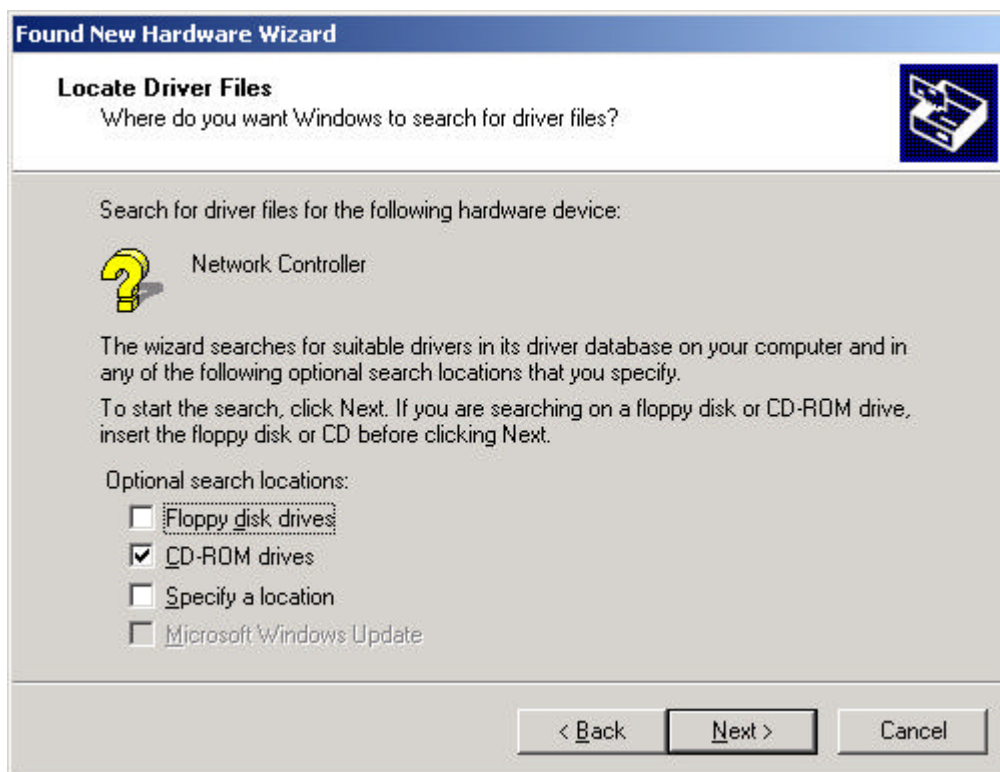
1. Insert the PCI Wireless Network Adapter to PCI slot of desktop PC first. (Refer to Chapter 2 – Hardware installation.)
2. After Windows 2000 detects the PCI Wireless Network Adapter, the *Found New Hardware Wizard* window appears. Click **Next** to start the installation.



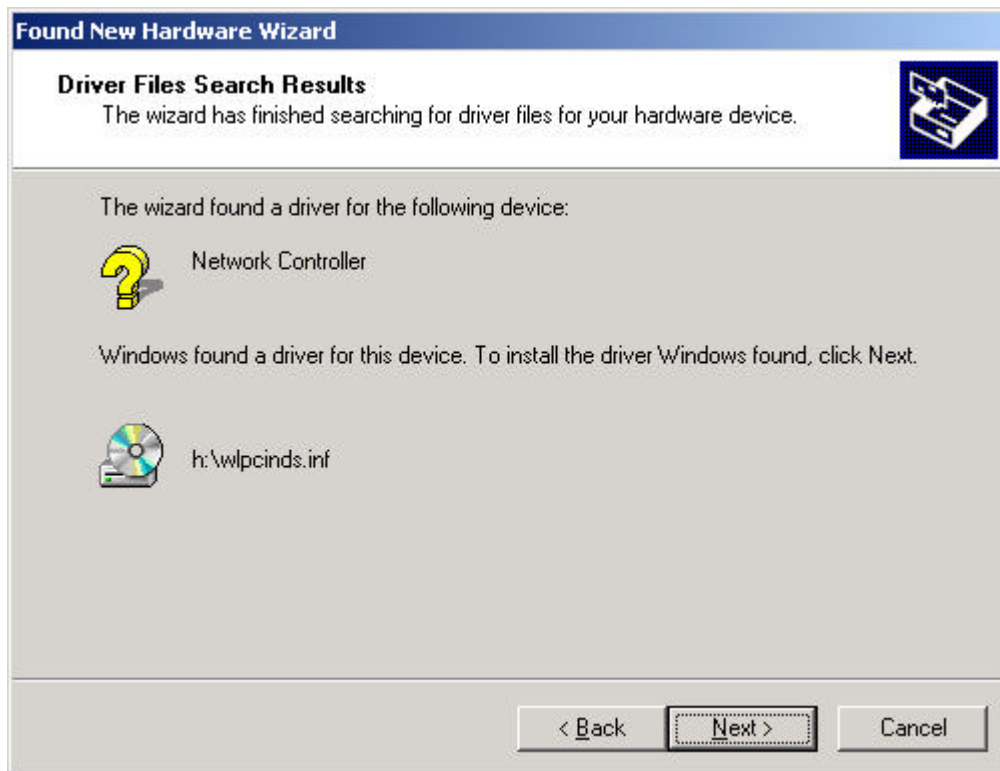
3. A screen appears prompting you to select an installation method. Select **Search for a suitable driver for my device (recommended)** and click **Next** to continue.



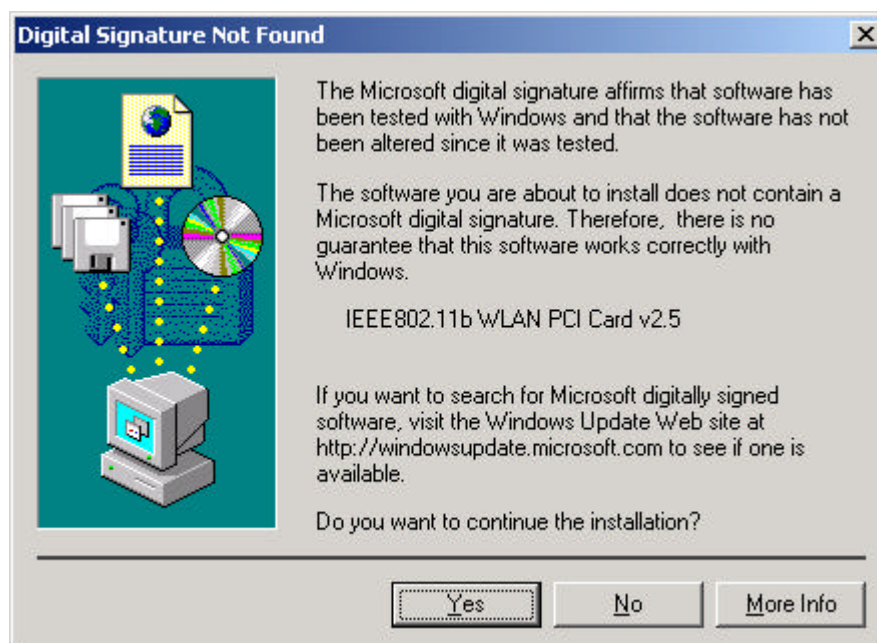
4. Ensure that the **CD-ROM driver** is selected and insert the driver CD-ROM into your CD-ROM drive and click **Next** to continue.



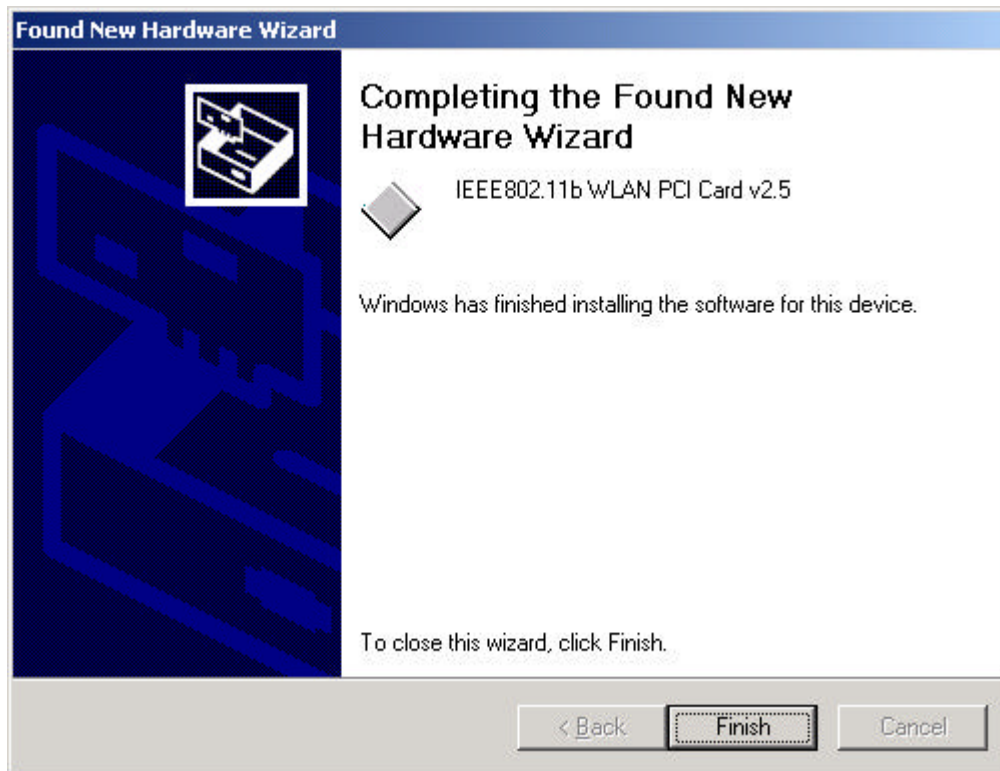
5. The following screen appears showing the driver search result. Click **Next** to continue the installation.



6. The following screen appears. Click **Yes** to continue



7. The Windows has finished installing software for the device. Click **Finish** to finish the installation.

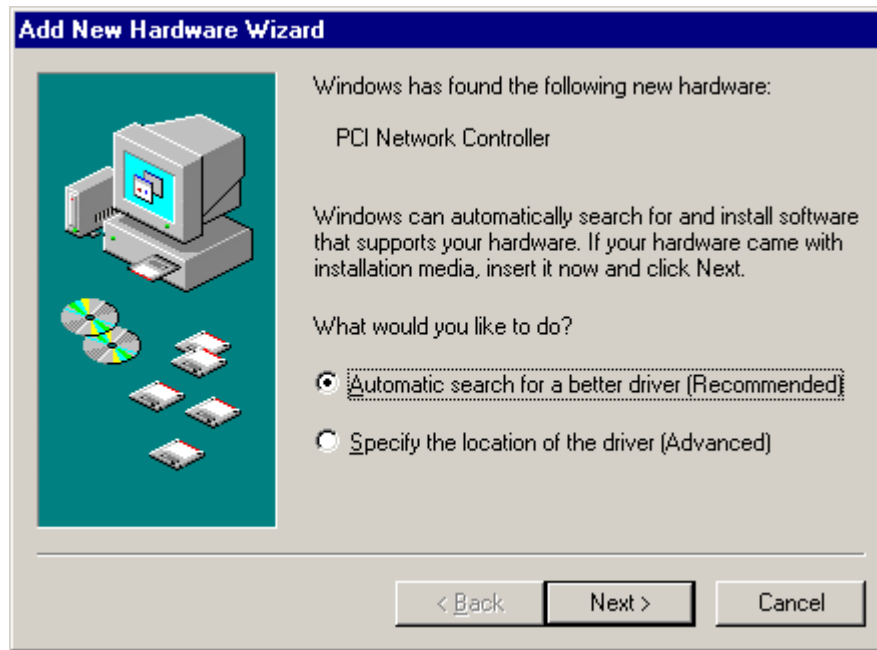


Then system will start to install Wireless LAN Utility. Please refer to procedures at Chapter 4.

Driver installation for Windows ME

Follow the steps below to install the PCI Wireless Network Adapter drivers for Windows ME.

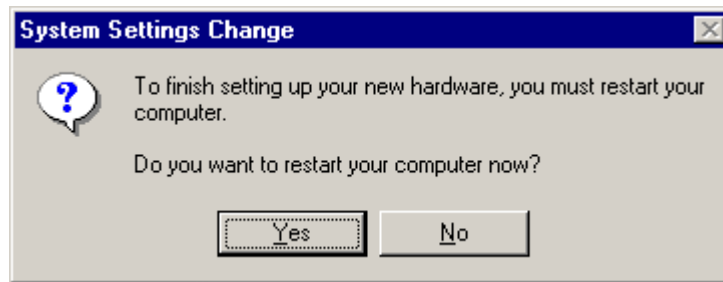
1. Insert the PCI Wireless Network Adapter to PCI slot of desktop PC first. (Refer to Chapter 2 – Hardware installation.)
2. After Windows ME detects the PCI Wireless Network Adapter, the *Add New Hardware Wizard* window appears. Select **Automatic search for a better driver (Recommended)** and insert the driver CD-ROM into CD-ROM drive and click **Next** to continue.



3. The system will find the setup files and follow the instruction to copy files to your hard disk. The following screen will appear when the software installation has finished. Click **Finish** to finish the installation.



4. The following screen will ask you to restart your computer to finish the hardware setting up. Click **Yes** to reboot the system. After system reboot, the Wireless LAN Utility will be installed automatically. Please go to Chapter 4 to install the utility.



*NOTE: In most cases, Windows will automatically copy all of the files needed for networking. If Windows asks you for the files and prompts you to input the path to the files. Follow the instructions on your screen, and then click **OK** to continue.*

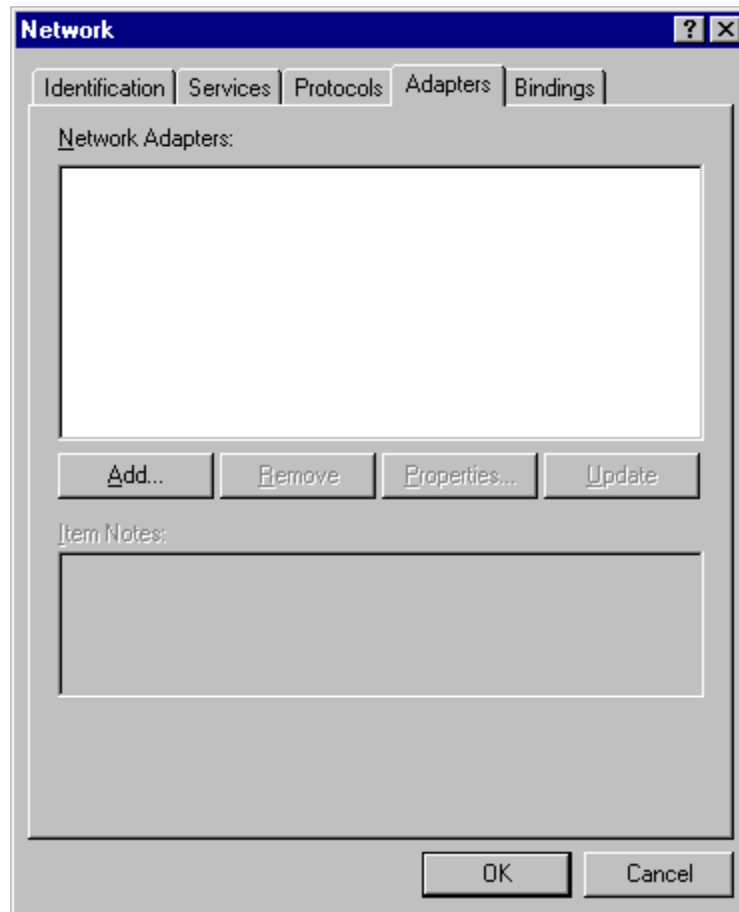
Driver installation for Windows NT4.0

This installation procedure assumes that you have installed the network component on your computer.

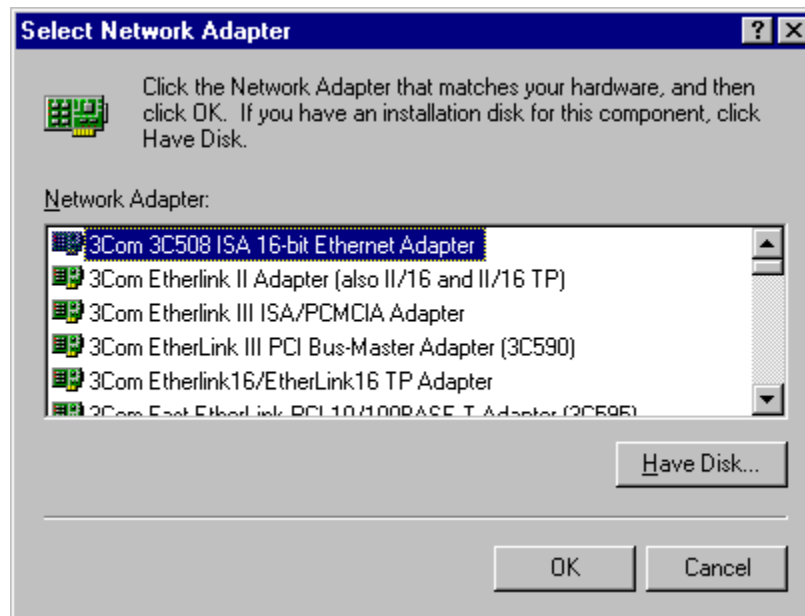
To check whether the network component has been installed, double click the **Network** icon in the **Control Panel**. If it has not been installed, refer to the Windows NT 4.0 installation guide for instructions on installing the component.

Follow the steps below to install the driver.

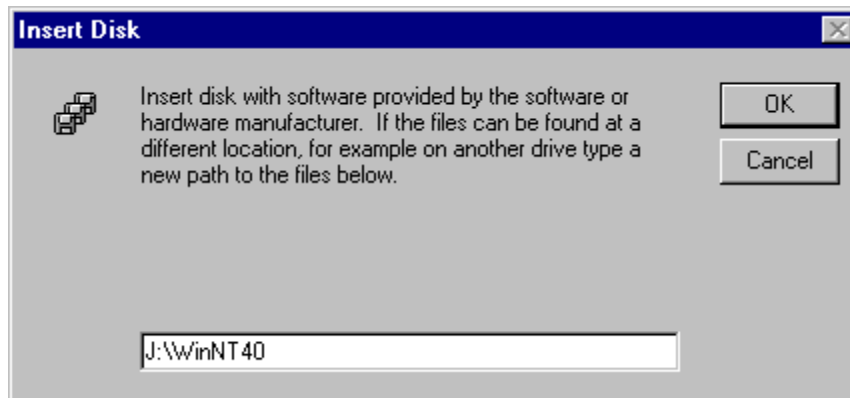
5. Insert the PCI Wireless Network Adapter to PCI slot of desktop PC first. (Refer to Page8 – Hardware installation.)
6. Log in to NT 4.0 as **Administrator**.
7. Double click the **Network** icon in the **Control Panel**, and select the **Adapters** tab as shown in the following screen. Then click **Add** to add a new adapter to continue.



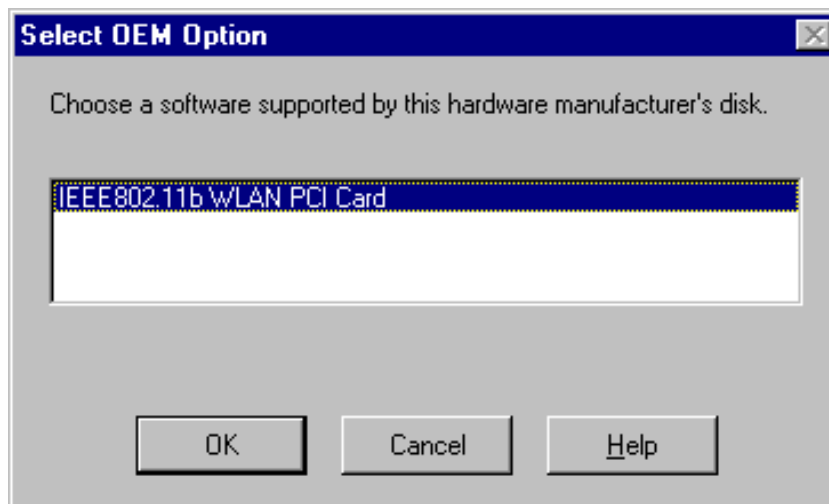
8. The following screen appears. Then click **Have Disk** to continue.



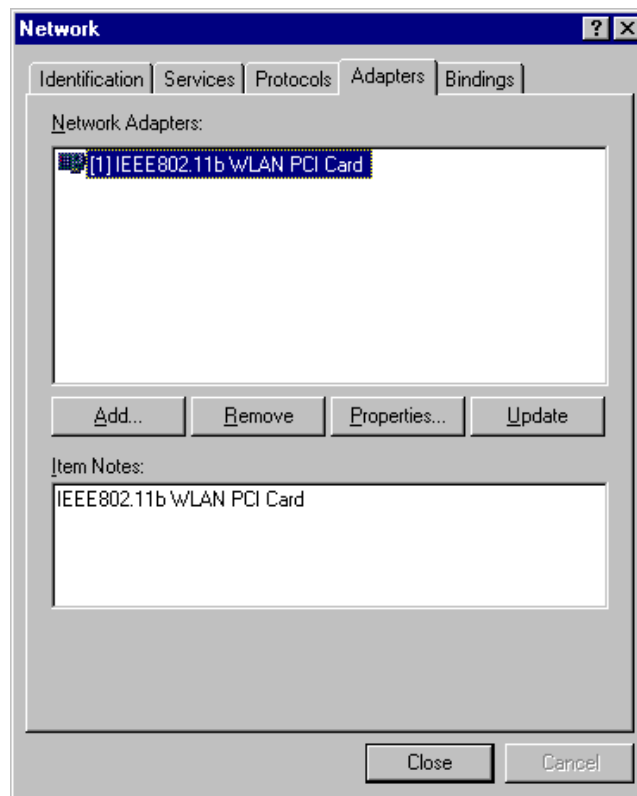
9. The following screen appears. Type **J:\ WinNT40** where **J** is your CD-ROM drive letter. Insert the driver CD-ROM, and click **OK** to continue.



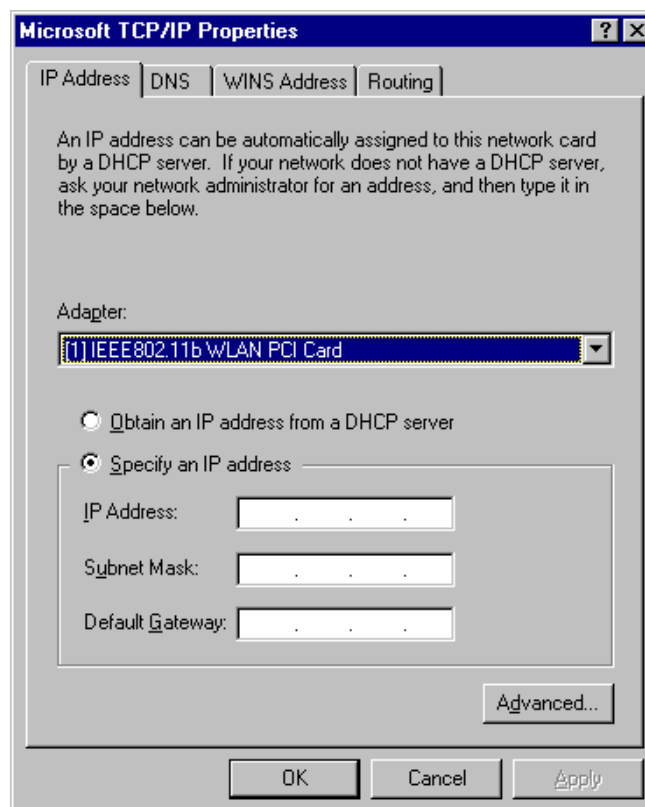
10. After finding the installation file, the *Select OEM Option* window is displayed as follows. Select **IEEE802/11b WLAN PCI Card** and click **OK** to continue.



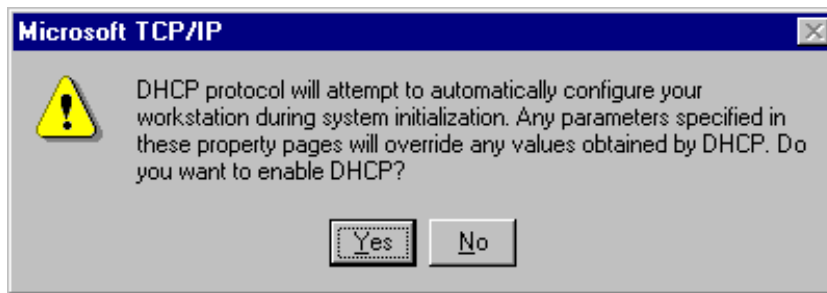
11. You are returned to the *Network* window. Click **Close** to exit the *Network* window.



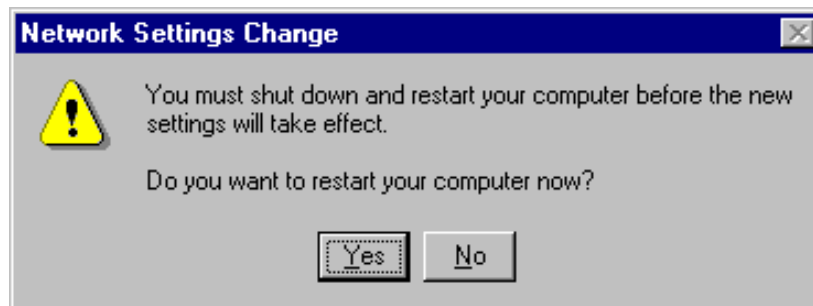
12. The Microsoft TCP/IP properties window appears. Please specify an IP address or select to obtain an IP address from DHCP Server and then click **OK** to continue.



13. The following window appears. Please read the description and click **Yes** to continue if there is no questions.



14. The following window appears. Click **Yes** to reboot the system. After system reboot, the Wireless LAN Utility will be installed automatically. Please go to Chapter 4 to install the utility.



Driver installation for Windows XP

Follow the steps below to install the PCI Wireless Network Adapter drivers for Windows XP.

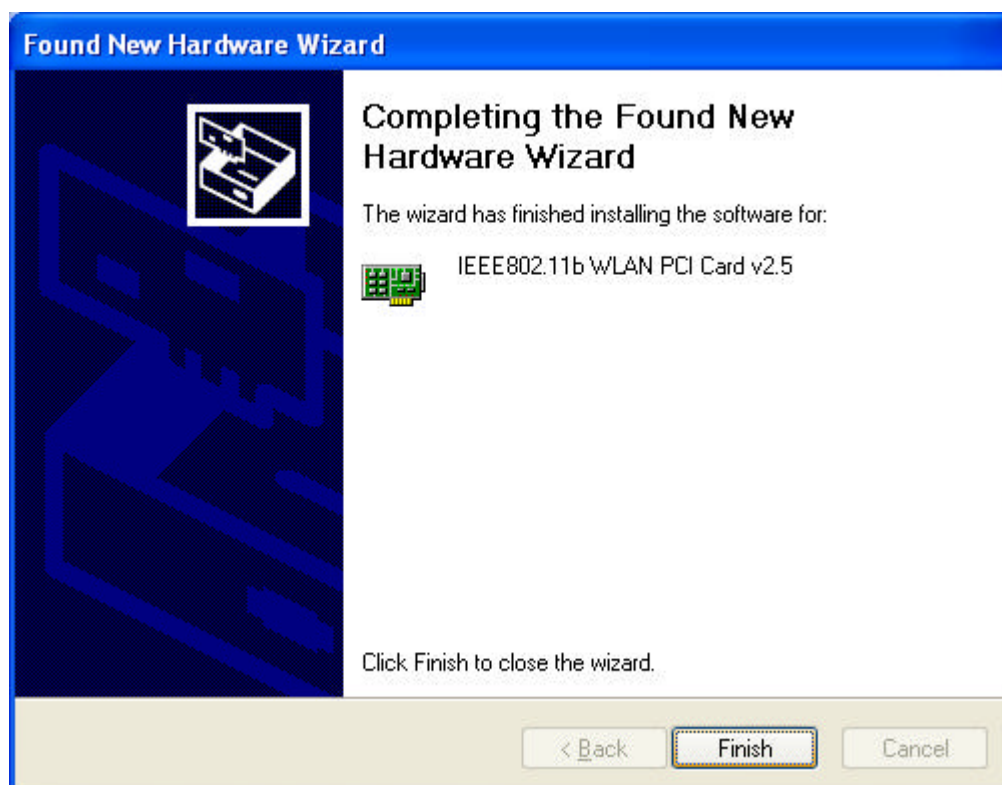
1. Insert the PCI Wireless Network Adapter to PCI slot of desktop PC first. (Refer to Chapter 2 – Hardware installation.)
2. After Windows XP detects the PCI Wireless Network Adapter, the *Found New Hardware Wizard* window appears. Select **Install the software automatically [Recommended]** and insert the driver CD-ROM into CD-ROM drive and click **Next** to continue.



3. Click **Continue Anyway** to continue the installation.



4. The Windows has finished installing software for the device. Click **Finish** to finish the installation



Then system will start to install Wireless LAN Utility. Please refer to procedures at Chapter 4.

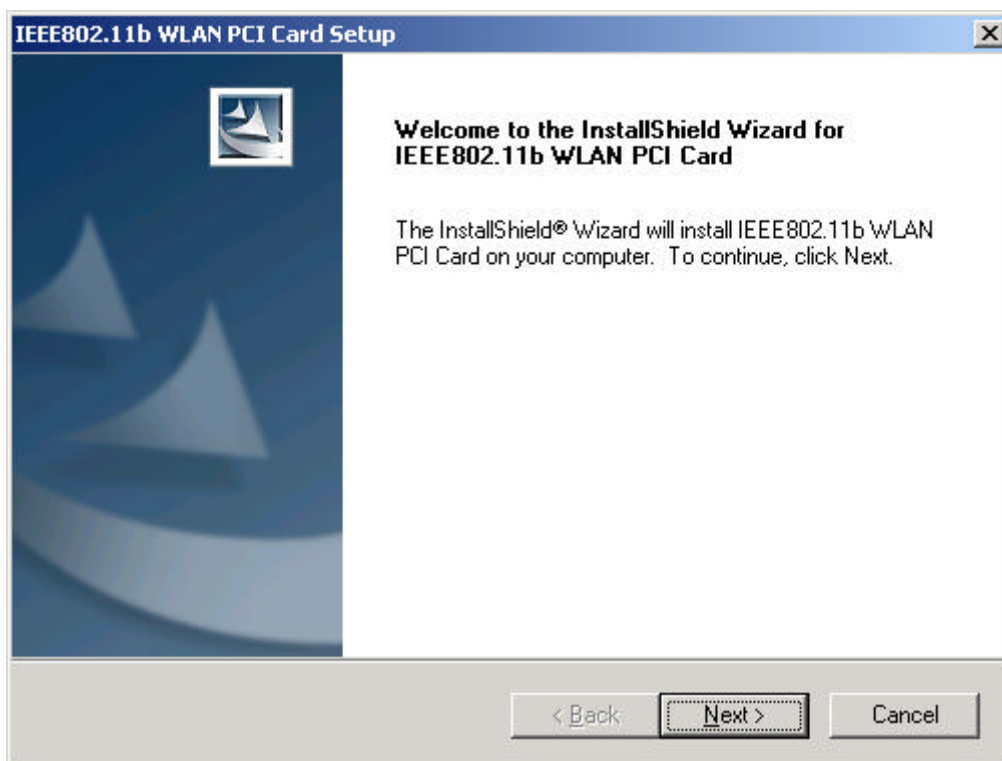
Chapter 4 – Installing and Using the Wireless Utility

The following sections cover the PCI Wireless Network Adapter utility installation and configuration.

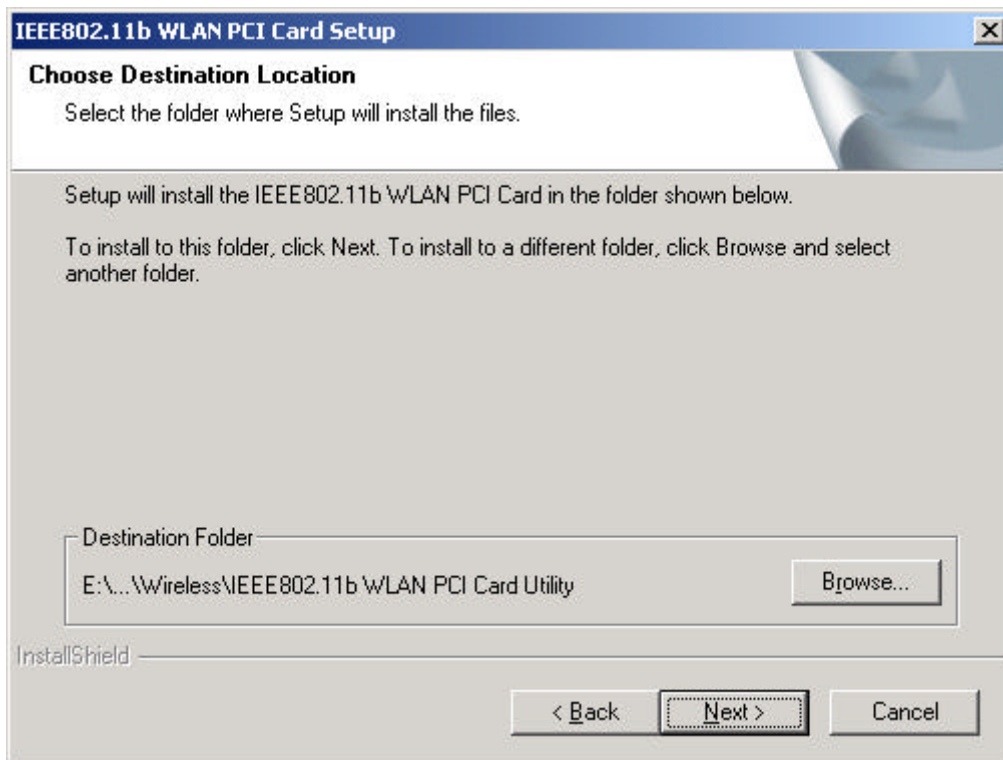
Installation in Windows

After you have installed driver, system will start to install Wireless LAN Utility. Please follow the steps below to install the utility.

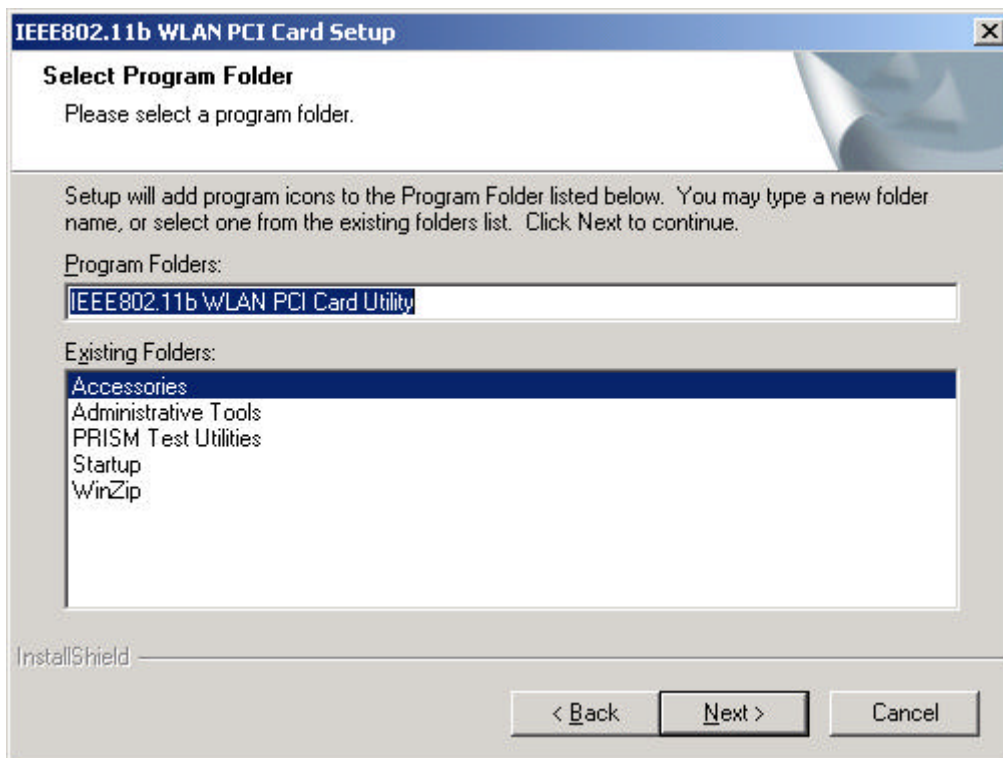
1. Once you see the following screen, click **Next** to continue.



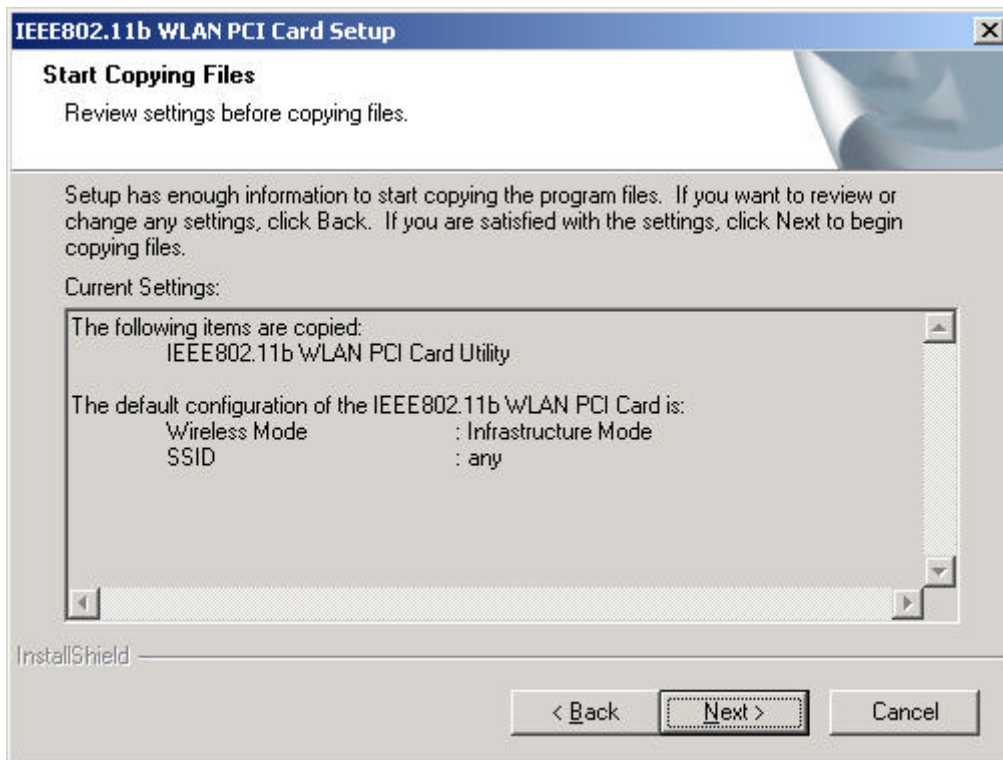
- The screen will show you the default destination chosen by the utility. Click **Next** to continue or click the **Browse** button to select an alternate destination.



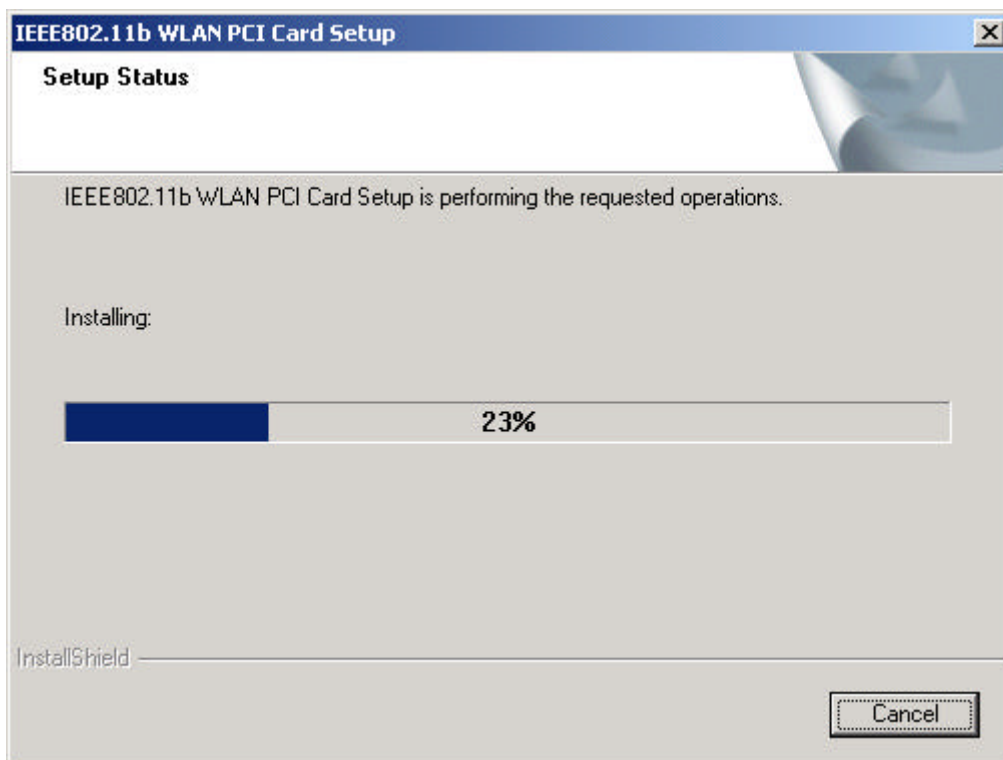
- The following screen will add program icons to the Program Folder. You may type a new folder name or select one from the existing folders list. Click **Next** to continue or click **Back** to review or change any settings.



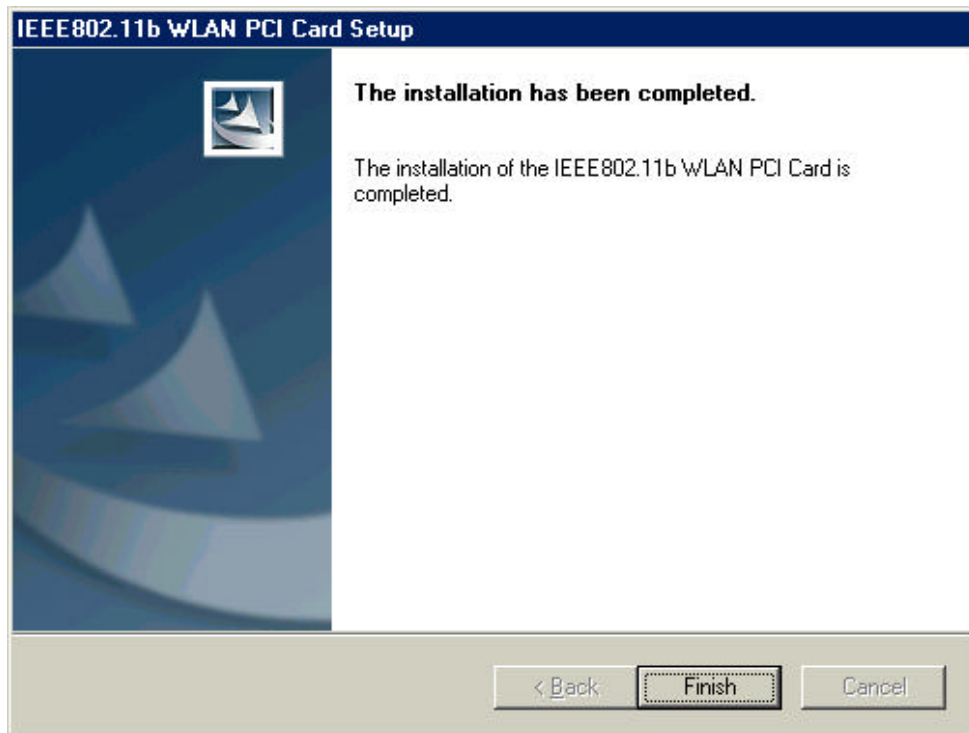
4. The following screen shows the current settings, click **Next** to continue or click **Back** to change the **Destination Folder** in step 3.



5. The following screen shows you the Setup status by percentage.



6. The Windows has finished installing Wireless LAN Utility. Click **Finish** to finish the installation.



Firmware Upgrade

After you have installed the utility, the firmware upgrade screen will appear if the firmware of the card is too old or not suitable for running on your environment.

1. Once you see the following screen, click **OK** to continue.



2. The Utility has finished upgrading firmware for the device. Click **OK** to finish the upgrade.

