TEW-303PI

2.4 GHz Wireless LAN PCI Network Adapter

User's Guide

CONTENTS

1. Package Contents

Fig. 1.1

Contents

- **TEW-303PI** 2.4GHz Wireless LAN PCI Network Adapter (with antenna)

- CD-ROM with Drivers, Setup Utility, Quick Installation Guide, and User's Guide

- Printed Quick Installation Guide

  If any of the above items are missing, please contact your reseller.

System Requirements

- A computer with an available 32-bit PCI slot

- Windows XP, Windows 2000, Windows Me, or Windows 98

- CD-ROM drive on computer

- At least 32 MB of memory and a 300 MHz processor (recommended)

- An 802.11b Access Point or another 802.11b wireless adapter (not required for driver and utility installation)

2. Introduction

The TEW-303PI Wireless PCI Adapter is an enhanced 802.11b high-performance, wireless adapter that supports high-speed wireless networking at home, at work or in public places.

Unlike most 802.11b network cards, the TEW-303PI provides speeds of up to 22 Mbps (compared to the standard 11 Mbps) when used with other TRENDware products.

The TEW-303PI is also compatible with existing 802.11b devices.

It is an ideal way to connect computer to a Wireless Local Area Network (WLAN.) After completing the steps outlined in the *Quick Installation Guide* (included in the package) you will have the ability to share information and resources, such as files and printers, and take full advantage of a "connected" environment for work or play!

The TEW-303PI includes software drivers for the most popular Microsoft Windows operating systems (Windows XP, Windows 2000, Windows Me, Windows 98) and can be integrated into a larger network, running, in either Ad Hoc mode (without an Access Point) or Infrastructure mode (with an Access Point.) *Please take a look at our Getting Started section in this manual to see examples of typical network setups using the TEW-303PI in both Infrastructure and Ad-Hoc modes.*

This manual provides a quick introduction to wireless technology and its application as it relates to networking. Take a moment to read through this manual and get acquainted with wireless technology.

Product Features

- Provides high-speed wireless connection up to 22Mbp
- Operates in the 2.4GHz frequency range
- Maximum reliability, throughput and connectivity with automatic data rate switching
- Supports Wired Equivalent Privacy (WEP) data encryption at 64/128/256-bit encryption
- Supports infrastructure networks via an Access Point and peer-to-peer communication in ad-hoc mode
- Built-in dual diversity antenna for reduced interference in a multi-path environment
- 32-bit PCI Performance
- User-friendly configuration and diagnostic utilities

LED Indicators

LED stands for **L**ight-**E**mitting-**D**iode. The TEW-303PI has one LED:

    Power - This LED lights **green** to indicate that the card is installed properly and receiving power from the computer.

Power LED

Fig. 2.1

3. Wireless Basics

TRENDware wireless products are based on industry standards to provide easy-to-use and compatible high-speed wireless connectivity within your home, business or wherever a wireless network is available. Strictly adhering to the IEEE standard, the TRENDware wireless family of products will allow you to access the data you want, when and where you want it. No longer will you be limited to one location or forced to run new wiring through your home or office. You will be able to enjoy the freedom that wireless networking delivers.

A wireless local area network (WLAN) is a cellular computer network that transmits and receives data with radio signals instead of wires. Wireless LANs are used increasingly in both home and office environments, and public areas such as airports, coffee shops and universities. Innovative ways to utilize WLAN technology are helping people to work and communicate more efficiently. Increased mobility with the absence of cabling and other fixed infrastructure have proven to be beneficial for many users.

Wireless users can use the same applications they use on a wired network. Wireless adapter cards used on laptop and desktop systems, support the same protocols as Ethernet adapter cards. For most users, there is no noticeable functional difference between a wired Ethernet desktop computer and a wireless computer equipped with a wireless adapter other than the added benefit of the ability to roam within a wireless-cell. Under many circumstances, it may be desirable for mobile network devices to link to a conventional Ethernet LAN in order to use servers, printers or an Internet connection supplied through the wired LAN. A Wireless Access Point (AP) is a device used to provide this link.

People use wireless LAN technology for many different purposes.

- **Mobility -** Productivity increases when people have access to data in any location within the operating range of the WLAN. Management decisions based on real-time information can significantly improve worker efficiency.

- **Low Implementation Costs** WLANs (Wireless Local Area Networks) are easy to set up, manage, change and relocate. Networks that frequently change, both physically and logically, can benefit from WLANs ease of implementation. WLANs can operate in locations where installation of wiring may be impractical.

- **Installation Speed and Simplicity** - Installing a wireless LAN system can be fast and easy and can eliminate the need to install cable through walls and ceilings.

- **Network Expansion** - 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 Local Area Networks (WLANs) 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 networks suitable for a small number of users to full infrastructure networks of thousands of users that allow roaming over a broad area.

TRENDware Wireless Family of LAN products include:

- 2.4GHz Wireless LAN PCI Network Adapter **(TEW-301PC)**

- 2.4GHz Witrless LAN CompactFlash Network Adapter **(TEW-302CF)**

- 2.4GHz Wireless LAN PCI Adapter **(TEW-303PI)**

- 2.4GHz Wireless LAN USB Network Adapter **(TEW-304UB)**
- Wireless Access Point + Wireless Bridge **(TEW-310APB)**

- Wireless Internet Router/Access Point **(TEW-311BRP)**

Standards - Based Technology
The IEEE802.11b standard-based technology assures that the TRENDware Products are interoperable with existing compatible 2.4GHz wireless technology. This means you will be able to transfer large files quickly or even watch a movie in MPEG format over your network without noticeable delays. The technology works by using multiple frequencies in the 2.4GHz range at speeds up to 22Mbps. TRENDware products will automatically sense the best possible connection speed to ensure the greatest speed and range possible with the technology.

Installation Considerations
Designed to go up to 1,312 feet (400 meters) outdoors and up to 328 feet (100 meters) indoors, the TRENDware TEW-303PI lets you access your network with your laptop computer from virtually anywhere. Keep in mind, however, that the number, thickness, and location of walls, ceilings or other

objects that the wireless signal must pass thru may limit range. Typical ranges vary depending on the types of materials and any background RF (radio frequency) noise in your home or business. The key to maximizing range is to follow these basic guidelines:

1. Keep the number of walls and ceilings between the wireless Access Point and your receiving device (i.e., the TEW-303PI) to a minimum - Each wall or ceiling can reduce your TRENDware Wireless product's range from 3-90 feet (1-30 meters.)   Position your Access Points, Internet Routers, and computers so that the number of walls or ceilings is minimized.

2. Be aware of the direct line between Access Points, Internet Routers, and computers. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Try to make sure that the Access Points and Adapters are positioned so that the signal will travel straight through a wall or ceiling for better reception.

3. Building Materials make a difference - A solid metal door or aluminum studs may have a negative effect on range. Try to position Access Points, and computers with wireless adapters so that the signal passes through drywall or open doorways and not other materials.

4. Make sure that the device's antenna is positioned for best reception by using the software signal strength tools included with your product.

5. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that may generate extreme RF noise.

For the average home, signal range should not be an issue. If you experience low or no signal strength in areas of your home that you wish to access, consider positioning the Access Point in a location directly between the computers with wireless adapters. Additional Access Points can be connected to provide better coverage in rooms where the signal does not appear as strong as desired.

Using radio frequency (RF) technology, WLANs (Wireless Local Area Networks) 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.

4. Getting Started

For the price of a single IP Address from your Broadband Internet Service provider you can share the Internet with all the computers on your local network, without sacrificing speed or security, using TRENDware networking products.

There are basically two modes of networking:
Infrastructure using Access Point
Ad-Hoc directly connecting to other wireless computers, for peer-to-peer communication.

On the following pages we will show you an example of an **Infrastructure Network** and an **Ad-Hoc Network**.

An **Infrastructure** network contains an Access Point. The **Infrastructure Network** example shown on the following page contains the following TRENDware network devices:

- A wireless Internet Router/Access Point (DHCP enabled). **TEW-311BRP**

- A laptop computer with a wireless network adapter **TEW-301PC**

- A desktop computer with an Ethernet adapter **TEW-303PI**

- A xDSL/Cable modem for accessing Internet access

> *DHCP* *stands for Dynamic Host Configuration Protocol. It is a protocol for assigning IP addresses "automatically" to network computers. With a DHCP-capable gateway/router, there is no need to manually assign an IP address for the network computer.*

Setting Up an Infrastructure Network to share Internet Connection
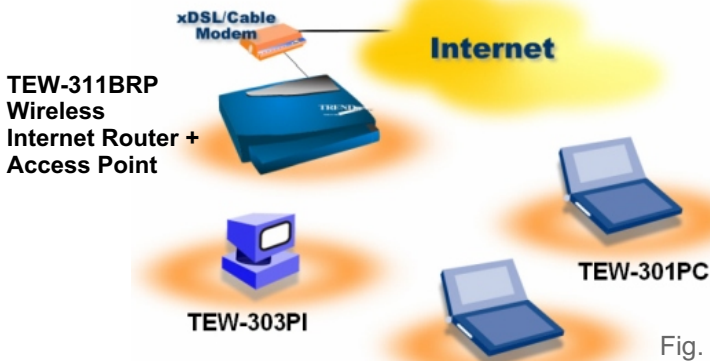
Fig. 4.1

*Please remember that **TRENDware** wireless devices are pre-configured to connect together, right out of the box, with the default settings.*

1. You will need a broadband Internet access (Cable Modem/DSL Modem) subscription.

2. Consult with your Cable/DSL provider for proper installation of the modem.

3. Connect the modem to a wireless Internet router.

4. If an Ethernet port is available on the router, connect a computer that is equipped with an Ethernet Network adapter to the router.

5. Install the drivers for the wireless network adapter (such as the **TRENDware TEW-303PI**) into the computer. *See the **Quick Installation Guide** included with the TEW-303PI.*

Please refer to the following sections of this manual for additional information about setting up a network:

***Networking Basics-** learn how to check your IP Address; share printers and files.*

***Using the Configuration Utility-** learn the settings you must use on each computer in your network for successful communication.*

***Troubleshooting** learn how to check for the proper installation of the network adapters' drivers and other tips for troubleshooting the network.*

Setting up a Wireless Ad-Hoc Network
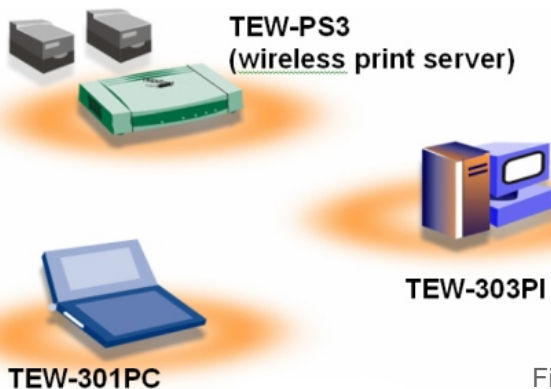
Fig. 4.2

1 Install a wireless network adapter into a computer. *See the **Quick Installation Guide** included with the product for installation instructions*.

2 Install the **TEW-303PI** into a computer. *See the **Quick Installation Guide** included with the product*.

3 Set the wireless configuration for the adapters to Ad-Hoc mode, set the adapters to the same channel, same SSID and assign an IP Address to each computer on the Ad-Hoc network. (See Box below)

When assigning IP Addresses to the computers on the network, please remember that the **IP Address for each computer must be in the same IP Address range as all the computers in the network**, and the subnet mask must be exactly the same for all the computers in the network.

For example: If the first computer is assigned an IP Address of 192.168.0.2 with a Subnet Mask of 255.255.255.0, then the second computer can be assigned an IP Address of 192.168.0.3 with a Subnet Mask of 255.255.255.0, etc.

IMPORTANT: If computers or other devices are assigned the same IP Address, one or more of the devices may not be visible on the network

Fig. 5.1

Installing the TEW-303PI Drivers & Utility

NOTE: Do not insert the TEW-303PI into the PCI slot at this point. You will be instructed in Section 2 to install the TEW-303PI PCI adapter later in this Installation Guide.

Windows XP, 2000, Me, or 98 Installation:
The following screen shots are taken from Windows XP. Windows 2000, Me, and 98 will have a similar screenshots for installing the drivers.

- *Turn on the laptop computer.*

- *Insert the TRENDware TEW-303PI Driver CD into the CD-ROM Drive (the CD-ROM will autorun and display a menu screen).*

- *Click on the device Model Name and then click on Install on the installation screen.*

If the CD Autorun function on your computer does not automatically start, please double click on My Computer on the desktop, right click on the CD-ROM Drive, select Explore, double-click on 22M.EXE.

Welcome to the InstallShield Wizard for 22M WLAN Adapter Utility and Driver

The InstallShieldR Wizard will install 22M WLAN Adapter Utility and Driver on your computer. To continue, click Next.

Click **Next>**

< Back | Next > | Cancel

Fig. 5.2.1

InstallShield Wizard

Choose Destination Location
Select folder where Setup will install files.

Setup will install 22M Wireless LAN Adapter in the following folder.

To install to this folder, click Next. To install to a different folder, click Browse and select another folder.

Destination Folder
C:\Program Files\22M Wireless LAN

Browse...

Click **Next>**

< Back | Next > | Cancel

Fig. 5.2.2

InstallShield Wizard

Select Options
Select the options you want to install.

Setup will install 22M WLAN Adapter Utility in the following folder.

To install to this folder, click Next. To install to a different folder, click Browse and select another folder.

Destination Folder
C:\Program Files\22M WLAN

Browse...

Click **Next>**

< Back | Next > | Cancel

Fig. 5.2.3

Select **No, I will restart my computer later.**

and then

Click **Finish**
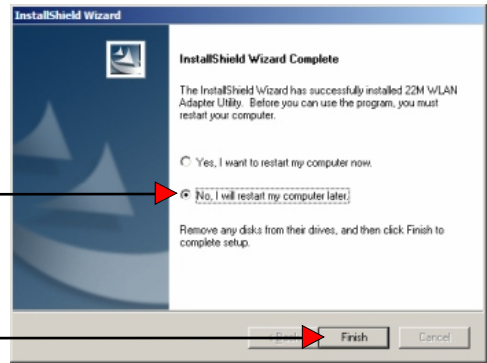
Fig. 5.2.3

Install the TEW-303PI in computer's PCI slot

1. Make sure computer is powered off.
2. Open the computer case (please follow the instructions that comes with your computer)
3. Locate the free PCI slot on the motherboard (PCI slots are normally white in color and about 9 cm (3.5 inches) long) and remove the dust cover for this PCI slot.
4. Gently insert the TEW-303PI into the PCI slot
5. Secure the card on the computer case and replace the computer cover.
6. Attached the antenna to the TEW-303PI (turn the nut on the end of the antenna clockwise until snug).
7. Connect the power cord to the computer.
8. Power On the computer.

Restart Your Computer

After the computer boots back up, the **Found New Hardware Wizard** (Windows XP) screen will appear:

Click Next at the Found New Hardware Wizard screen (Fig. 5.2.4)

Select **Install the software automatically (Recommended)**

and then

Click Next>

Fig. 5.2.4

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For Windows XP, Fig. 5.2.5 may appear after the computer restarts. Click **Continue Anyway** to finalize the installation. (This device has been successfully tested to work on Windows XP, as well as Windows 2000, Windows Me and Windows 98. Microsoft certification is pending.)

Hardware Installation

⚠ The software you are installing for this hardware:

22M PCI Wireless Adapter

has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)

Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.

[Continue Anyway] [STOP Installation]

Fig. 5.2.5

For Windows 2000, Fig. 5.2.6 may Appear after the laptop computer restarts. Select **Yes** to finalize the installation.

Digital Signature Not Found

The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.

The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.

22M PCMCIA Wireless Adapter

If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.

Do you want to continue the installation?

[Yes]   No   More Info

Fig. 5.2.6

Click **Finish** to complete the installation.

Found New Hardware Wizard

Completing the Found New Hardware Wizard

The wizard has finished installing the software for:

22M PCI Wireless Adapter

Click Finish to close the wizard.

< Back   [Finish]   Cancel

Fig. 5.2.7

For Windows Me and 98, after the computer restarts, it will ask you to reboot the computer once more to finalize the driver installation. Select **Yes** to finalize the installation.

System Settings Change

❓ To finish setting up your new hardware, you must restart your computer.

Do you want to restart your computer now?

[Yes]   No
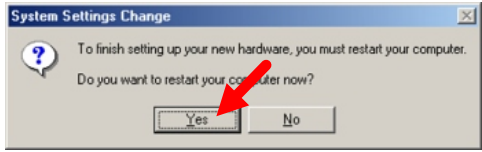
Fig. 5.2.8

YOU HAVE COMPLETED THE INSTALLATION OF THE DRIVERS. SEE NETWORKING BASICS IN THIS MANUAL FOR INFORMATION ON SETTING UP YOUR NETWORK.

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If you want to alter the default settings or optimize the performance of the TEW-303PI, TRENDware has included a configuration utility to do so.

> *Note: Out of the box, with its default settings, the TEW-303PI will associate with TRENDnet Wireless Routers and Access Point.*

After the computer restarts, the configuration utility will automatically start and the utility icon will appear in the bottom right hand corner of the screen (Taskbar).

> ● *Double-click on the **Configuration Utility icon** (Fig. 6.1) shown on the right.*

Fig. 6.1

After double-clicking on the icon (Fig. 6.1), the 22M WLAN Adapter Utility window will appear.

> If the utility icon does not appear on the Taskbar, double-click the shortcut icon **22M WLAN Adapter** Utility on your desktop. Or click on **Start** > select **Programs** > **22M WLAN** > **22M WLAN Adapter Utility**.

Configuration Utility - Link Info

After clicking on the Configuration Utility icon, the **Link Info** screen will display the following:
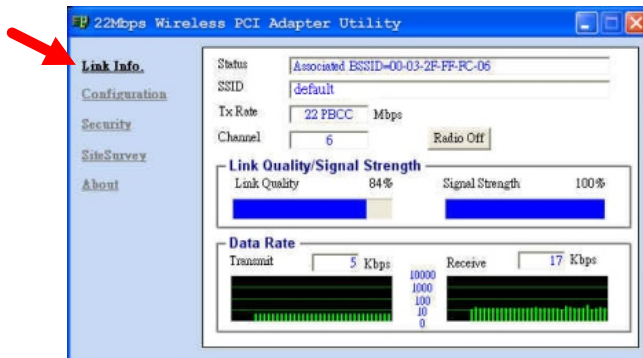
Fig. 6.2

Status: Displays the MAC Address of the Access Point that is associated with the TEW-303PI.

SSID: The Service Set Identifier is the name assigned to the wireless network. The factory SSID setting is set to **default**.

Tx Rate: The factory setting is set to 22 Mbps; however, **Tx Rate** settings are automatically determined by the TEW-303PI depending on the distance and the Tx Rate of the access point.

Channel: Displays the radio channel information. By default, the channel is set to 1.

Radio On/Off: When necessary, click on this button to turn off the wireless radio signal. Click on Radio On to enable the wireless signal transmission.

Link Quality / Signal Strength: Displays the Link Quality for the TEW-303PI wireless connection to the Access Point. The Signal Strength represents the wireless signal between the Access Point and the TEW-303PI. The percentage coincides with the graphical bar.

Data Rate: Displays the statistics of data transmitted and received.

Configuration Utility - Configuration

This Configuration Screen displays the default settings for the TEW-303PI.
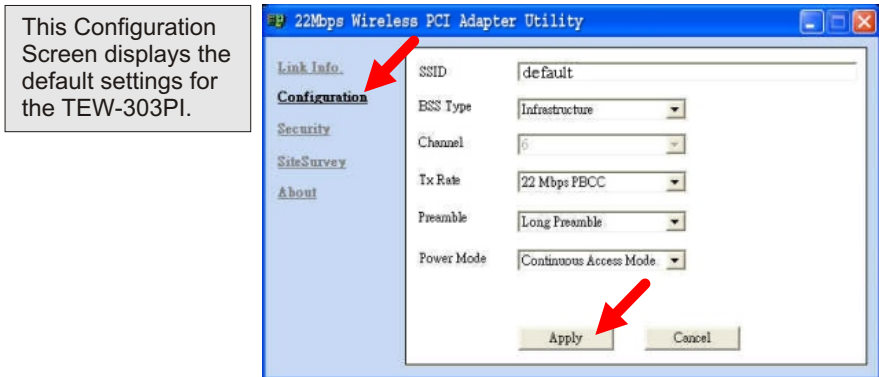
Fig. 6.4

To communicate on the network all devices must have the same settings for the following properties:

SSID - (Service Set Identifier) is a name that identifies a wireless network. Access Points and wireless clients attempting to connect to a specific WLAN (Wireless Local Area Network) must use the same SSID. The default setting is **default**.

BSS Type - Click on the pull-down menu; select from the following options:

- **Infrastructure -** connecting the WLAN using an Access Point (The **default** setting.)
- **Ad-Hoc -** wireless mode used when connecting directly to computer equipped with a wireless adapter in a peer-to-peer environment.

Channel The **default** channel setting is channel 1. However, the TEW-303PI will automatically select the channel to match the channel setting for the selected Access Point. In Ad-Hoc mode, the channel must be manually set to the same channel for each wireless adapter.

TX Rate - Select the transmission rate on the network. 11Mbps is the **default** setting.

Preamble - Select **Long** or **Short Preamble.** The Preamble defines the length of the CRC block (Cyclic Redundancy Check is a common technique for detecting data transmission errors) for communication between the Access Point and the roaming wireless Network adapters. **Long Preamble** is the **default** setting. *Note: High network traffic areas should use the shorter preamble type.*

Power Mode Select from three modes:
- **Continuous Access Mode -** this **default** setting consumes the most power
- **Maximum Power Save**-this setting consumes the least power
- **Power Save-** this setting consumes a moderate amount of power

If any changes are made to the configuration of the wireless adapter, click ***Apply*** *to save the changes.*

Configuration Utility - Security
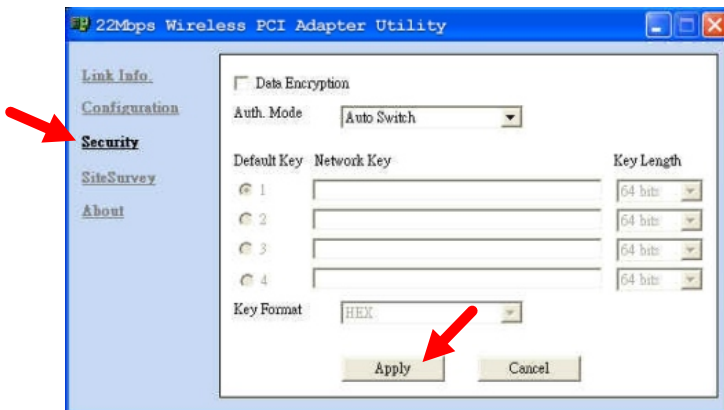
Fig. 6.5

Please note that all devices must share the same Security (Encryption) settings to communicate on the network.

Data Encryption enable Encryption by clicking on the box.

- The TEW-303PI has Encryption disabled as the default setting.

Authorization mode choose one of the following modes:
- **Open Authentication** communicates the key across the network
- **Shared Authentication** allows communication only with other devices with identical WEP settings
- **Auto** will automatically adjust to the Authentication mode of the wireless client

Network Key enter a key in either ASCII (e.g., a word) or hexadecimal format

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Key Format - ASCII or Hexadecimal

Hexadecimal digits consist of the numbers 0-9 and the letters A-F
ASCII (American Standard Code for Information Interchange) is a code for representing English letters as numbers from 0-127

Key type - select the key length, either 64, 128 or 256 bits
Key Index You can create up to 4 different security keys
Click **Apply** to save the changes.

Configuration Utility - Site Survey
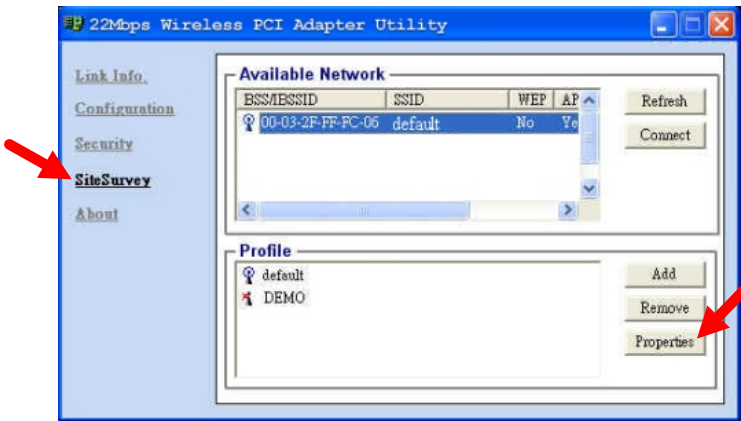
Fig. 6.6

The Wireless Network you are currently connected to.

Available Wireless Network.

Unavailable Wireless Network.

Available Networks
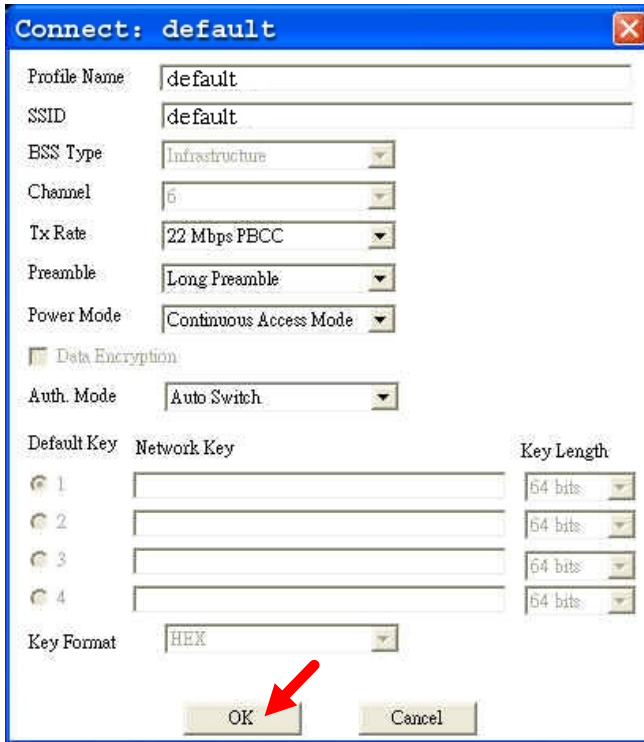
The top section of the window displays the **Available Networks.** Scroll up and down the list and highlight the network to which you wish to connect. Click on the **Connect** button to connect to the desired network.

Profiles

In the lower half of the screen, you can manage the profiles that you have created for the wireless network at home, at the office, and in public places. Scroll up and down and highlight the profile that you wish to configure. You can **ADD** or **REMOVE** a profile, or configure the **Properties** of the profile in order to connect with an available network.

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Properties

Click on **Properties** and the screen below will appear.

Fig. 6.7

In this window you can configure all the properties of a profile in order to connect with a network of your choice.

After you have entered your changes in this window, click **OK** to save the changes.

Configuration Utility - About

The **ABOUT** screen gives you information about the **Firmware** and **Utility Versions** of the TEW-303PI.

7. Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the TEW-303PI Wireless Adapter. Read the following descriptions if you are having problems. *(The examples below are illustrated in Windows XP. If you have another operating system, these solutions will still apply although the appearance on your computer screen may differ.)*

1. Checking the Installation of the Drivers for the Wireless Adapter

Go to **Start**
Right-click on **My Computer**
Click **Properties**
(If the "My computer" icon is on your desktop, you can simply right click on it and click on "Properties")

Fig. 7.1

Select the **Hardware Tab**
Click **Device Manager**
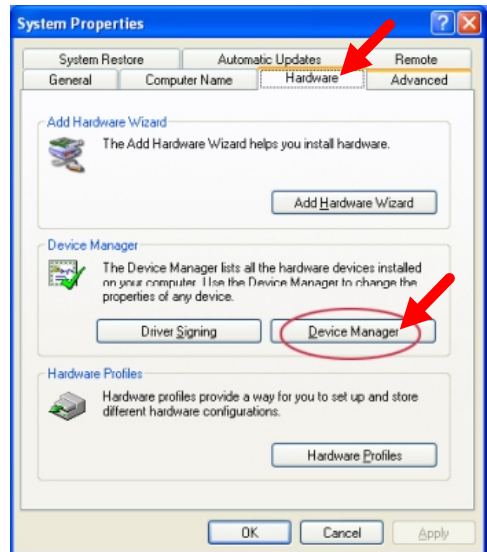
Fig. 7.2

Double-click on **Network Adapters**
Right-click on **22M Wireless Adapter**
Select **Properties** to check that the drivers are installed properly.
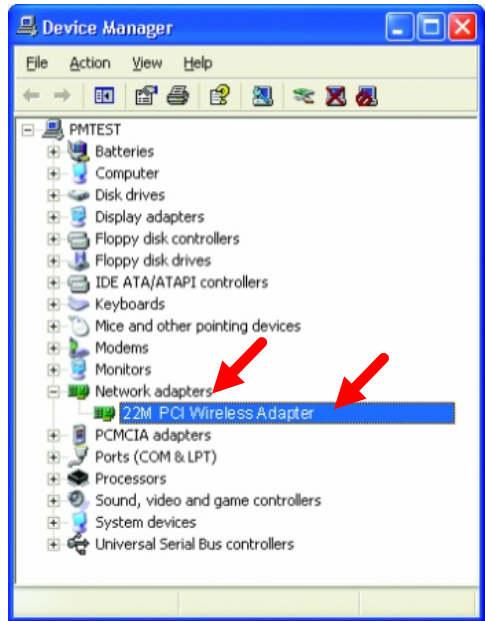
Fig. 7.3

Look under **Device Status** and check that the device is working properly.

Click **OK** to close this window.
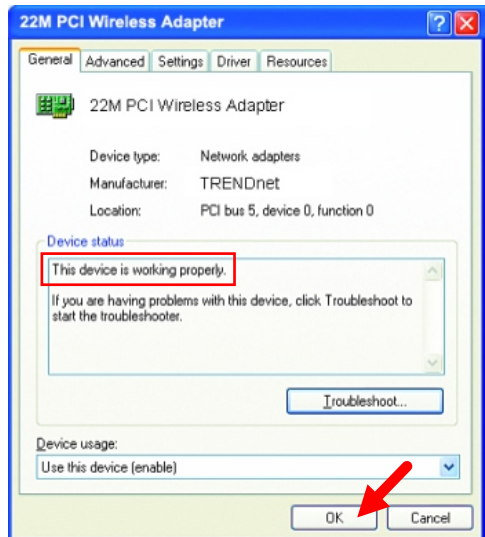
Fig. 7.4

2. I cannot connect to the Access Point or the Wireless Router.
> Make sure that the SSID on the TEW-303PI PCI adapter is exactly the same as the SSID on the Access Point or Wireless Router.

3. The TEW-303PI Power and Link lights are not on.
> Check to see if the TEW-303PI PCI adapter is firmly inserted into a PC PCI slot.

4. I forgot my Encryption key.
> Reset the Access Point to its factory default settings and restore the TEW-303PI Wireless PCI Adapter to the factory default settings. (The default settings are listed in Ch.6: **Using the Configuration Utility** in this manual.)

5. The computer does not recognize the TEW-303PI Wireless Adapter.
> Make sure that the TEW-303PI Wireless Adapter is properly seated in the computer's PCI slot.

> If Windows does not detect the hardware upon insertion of theadapter, make sure to completely remove drivers that were previously loaded. To remove the drivers, do the following:

>> A.Under **Tools**> select **Folder Options**…> select **View** > under **Hidden files and folders** > select **Show hidden files and folders**

>> B.Uncheck **Hide extension for known file types** > click on **Apply**

>> C.Search for the files **TIACXLN.INF** and **TIACXLN.SYS**. Remove these files from the **INF** and **SYSTEM32** (DRIVERS) folders in the Windows directory. Note: Windows XP and Windows 2000 will rename **.inf** files that have not received WHQL certification into **oem.inf** files (e.g., **oem1.inf.)**

6. The computer with the TEW-303PI installed is unable to connect to the wireless network.
> Check that the LED indicators for wireless products are indicating normal activity. If not, there may be a problem with the device.

> Check that the LED indicators on the wireless router are functioning properly. If not, check that the AC power and Ethernet cables are firmly connected.

> Check that the IP Address, subnet mask, gateway, and DNS settings are correctly entered for the network.

In **Infrastructure** mode, make sure the same **Service Set Identifier (SSID)** is specified on the settings for the wireless clients and access points.   The **SSID** factory default setting for this adapter is **default.** (Double-click on the WLAN icon in the taskbar. The **Link Info** screen will display the SSID setting.)

In **Ad-Hoc** mode, all wireless clients will need to have the same **SSID**. Please note that it might be necessary to set up one client to establish a **BSS (Basic Service Set)** and wait briefly before setting up other clients. This prevents several clients from trying to establish a **BSS** at the same time, which can result in multiple singular **BSSs** being established, rather than a single **BSS** with multiple clients associated to it.

Check that the **Network Connection** for the wireless client is configured properly. Select **AP (Infrastructure)** when connecting to an access point and select **Ad-Hoc mode** when connecting without an access point. Double-click on the **WLAN icon** in the taskbar > click on **Configuration** to change the settings for the wireless adapter.

If **Encryption** is enabled, make sure that the correct encryption keys are entered on both the TEW-303PI and other wireless devices. Double-click on the **WLAN** icon in the taskbar > click **Encryption**. Check to see that the key selected is set to the same key as other devices on the network.

8. Networking Basics

Using the Network Setup Wizard in Windows XP

In this section you will learn how to establish a network at home or work, using **Microsoft Windows XP.**

Go to **Start** > **Control Panel** > **Network Connections**
Select **Set up a home or small office network**
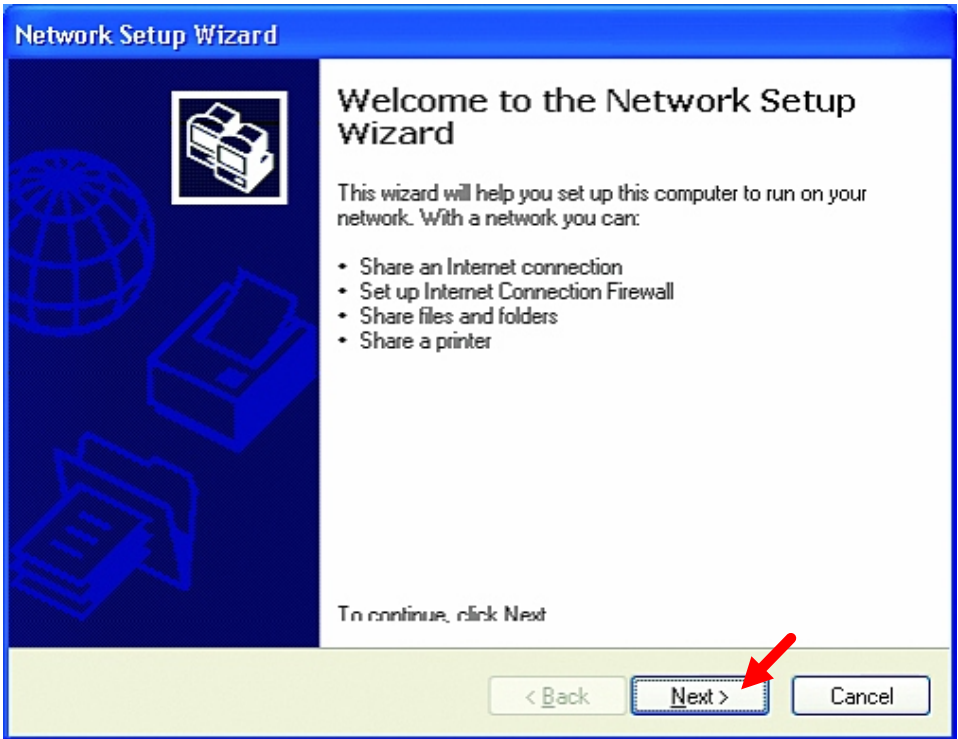
Fig. 8.1

When this screen appears, click **Next.**

Please follow all the instructions in this window:
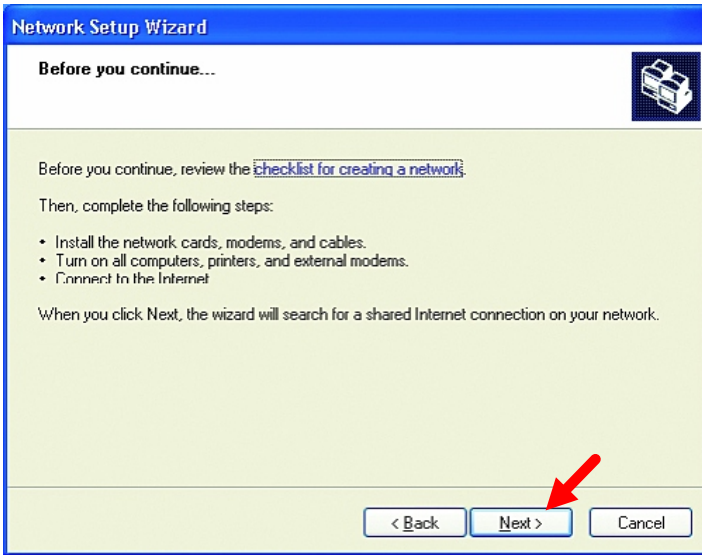
Fig. 8.2

Click **Next**

In the following window, select the best description of your computer. If your computer connects to the Internet through a gateway/router, select the second option as shown.
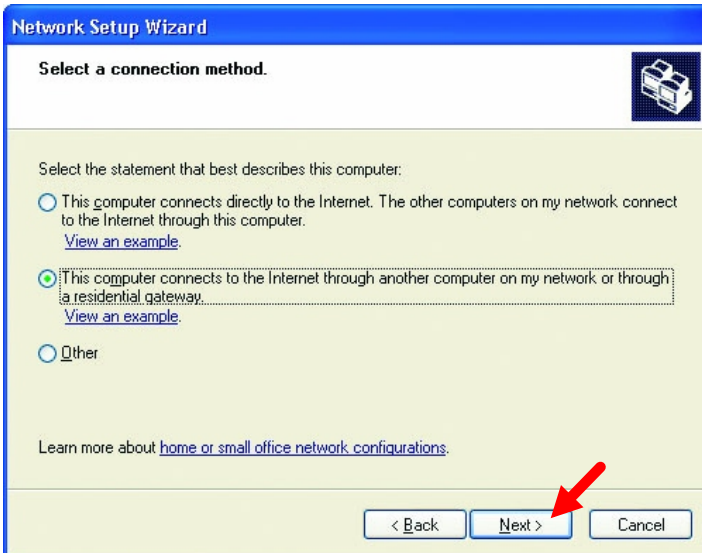
Fig. 8.3

Click **Next**

Enter a **Computer description** and a **Computer name.**
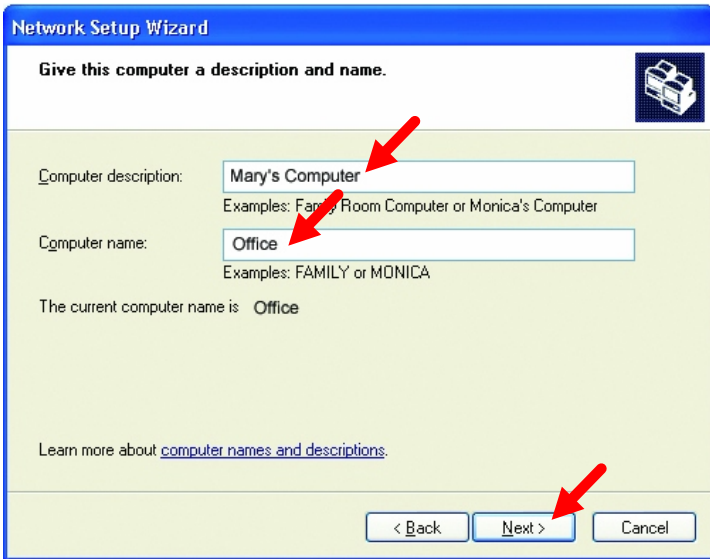
Fig. 8.4

Click **Next**
(**Note**: Each computer should have a unique Computer name)

Enter a **Workgroup** name. All computers on your network should have the same **Workgroup name.**
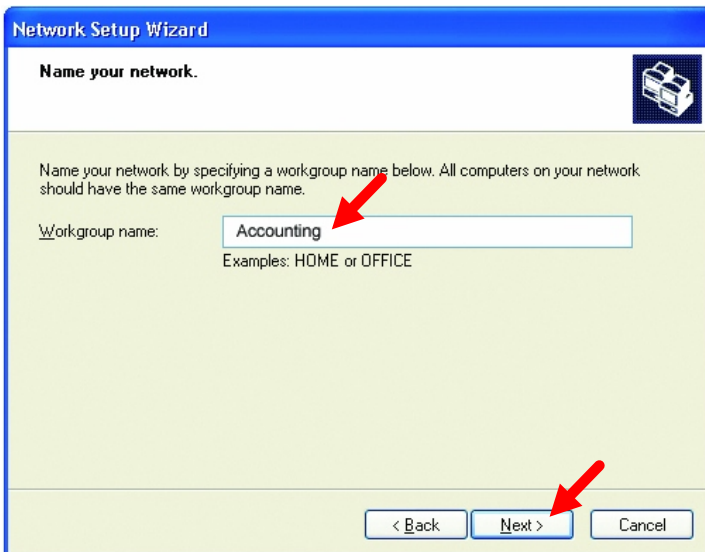
Fig. 8.5

Click **Next**

Please wait while the wizard applies the changes.
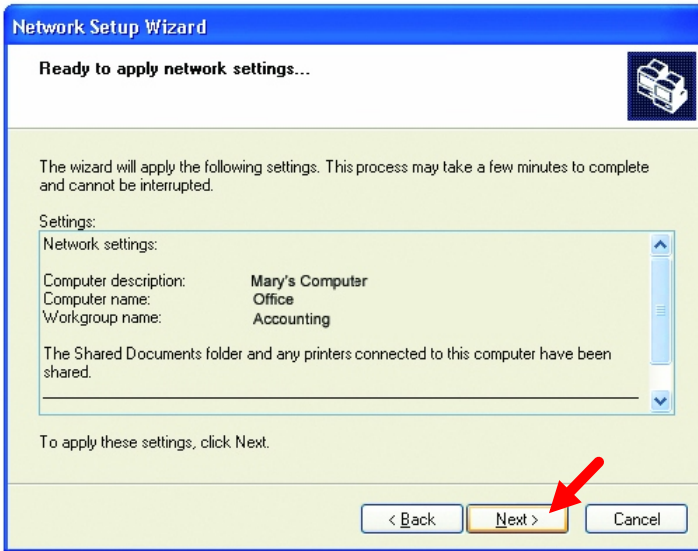
Fig. 8.6

When the changes are complete, click **Next**.

Please wait while the wizard configures the computer.
This may take a few minutes.
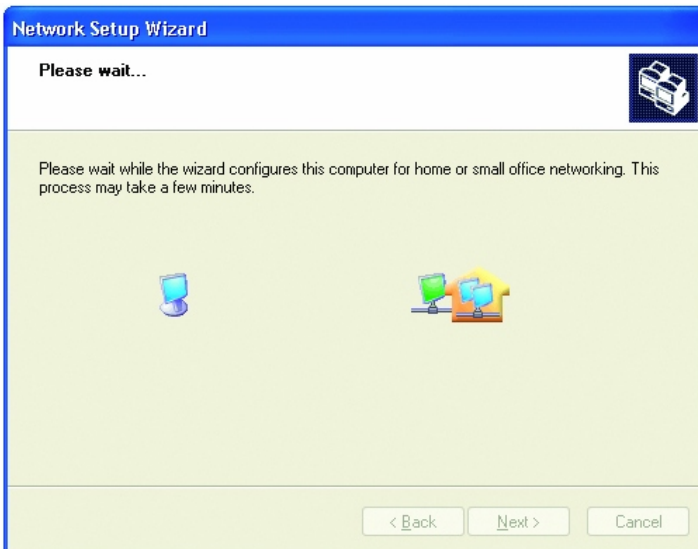
Fig. 8.7

In the window below, select the best option. In this example, **Create a Network Setup Disk** has been selected. You will run this disk on each of the computers on your network. Click **Next**.
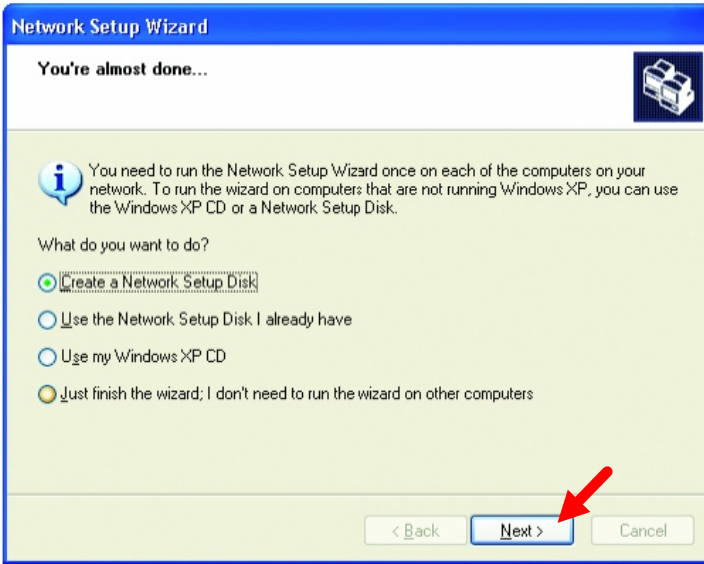
Fig. 8.8

Insert a disk into the Floppy Disk Drive, in this case drive **A:**

Fig. 8.9

Format the disk if you wish, and click **Next.**

Please wait while the wizard copies the files.

Fig. 8.10

Please read the information under **Here's how** in the screen below. After you complete the **Network Setup Wizard** you will use the **Network Setup Disk** to run the **Network Setup Wizard** once on each of the computers on your network. To continue, click **Next**
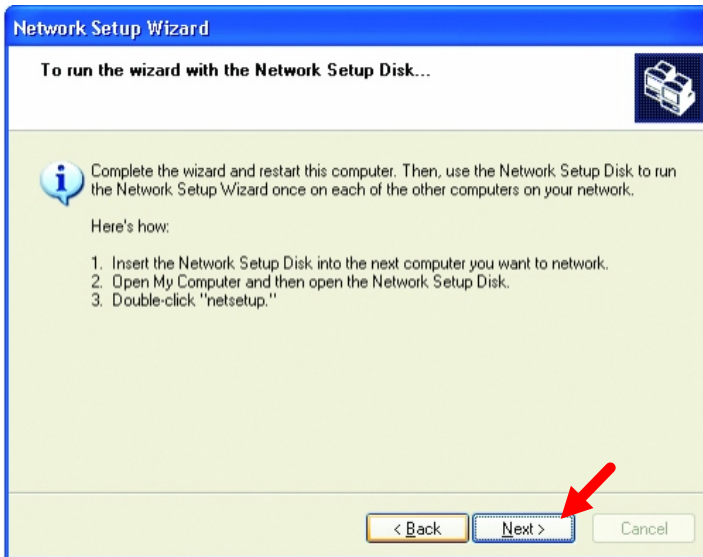
Fig. 8.11

Please read the information on this screen, then click **Finish** to complete the
Network Setup Wizard.

Fig. 8.12

The new settings will take effect when you restart the computer. Click **Yes** to
restart the computer.
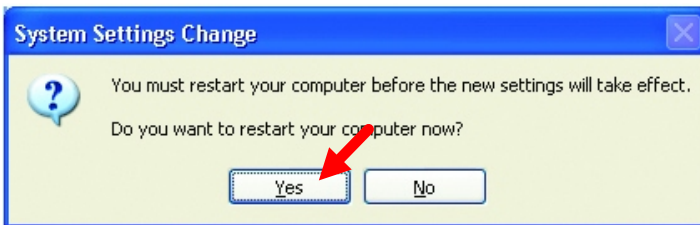
Fig. 8.13

You have completed configuring this computer. Next, you will need to run the
Network Setup Disk on all the other computers on your network. After running
the **Network Setup Disk** on all your computers, your new wireless network will
be ready to use.

Naming your Computer

To name your computer, please follow these directions:

In **Windows XP**:

   Click **Start** (in the lower left corner
   of the screen)
   Right-click on **My Computer**
   Click **Properties**

(If the "My computer" icon is on your
desktop, you can simply right click on
it and click on "Properties")

   Select the **Computer Name** Tab
   in the **System Properties**
   window.

*You may enter a Computer
description if you wish; this field is
optional.*

To rename the computer or join a
domain,
   Click **Change**
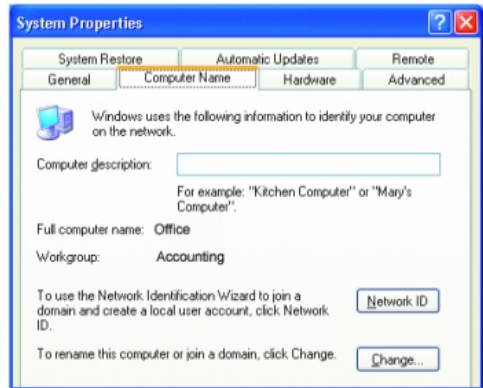
In this window, enter the **Computer name**.

Select **Workgroup** and enter the name of the **Workgroup**.

All computers on your network must have the same **Workgroup** name.

Click **OK**
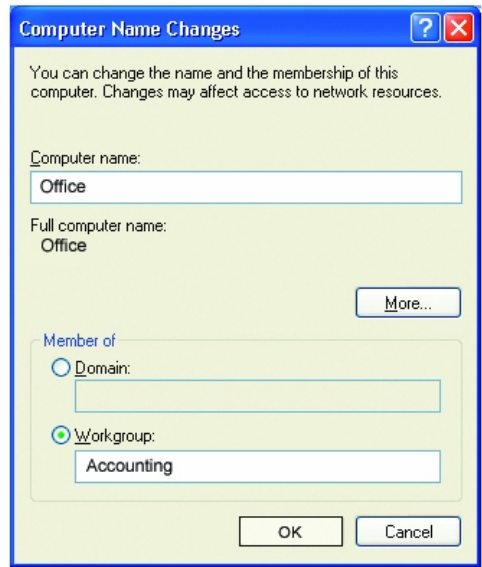
Fig. 8.16

Checking the IP Address in Windows XP/2000

Go to Start > All Programs > Accessories > Command Prompt
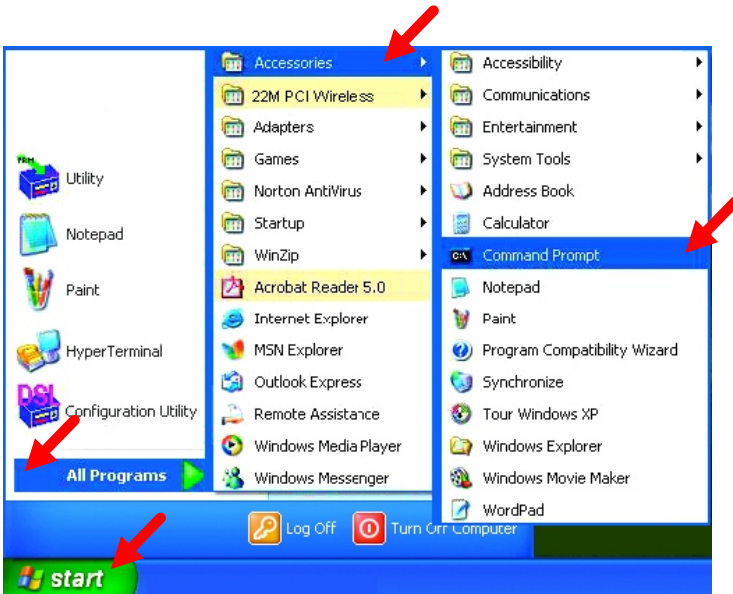
Fig. 8.17

Type **Command** and click **OK**
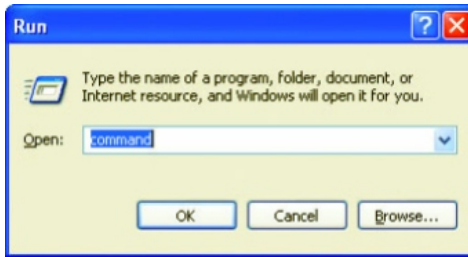
Type **ipconfig /all** and hit **Enter** at the prompt**.** All the configuration settings are displayed as shown below.
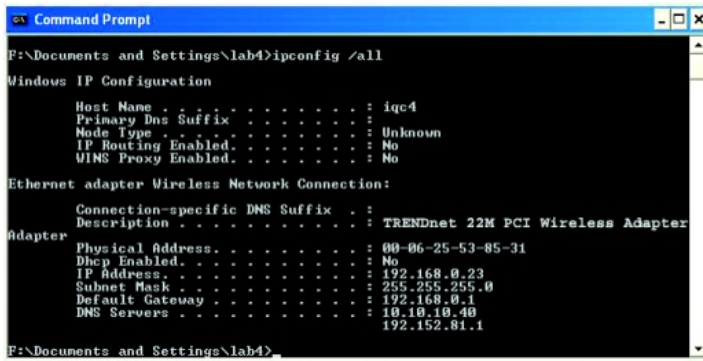
Type **ipconfig /renew** at the prompt to get a new IP Address, shown below.
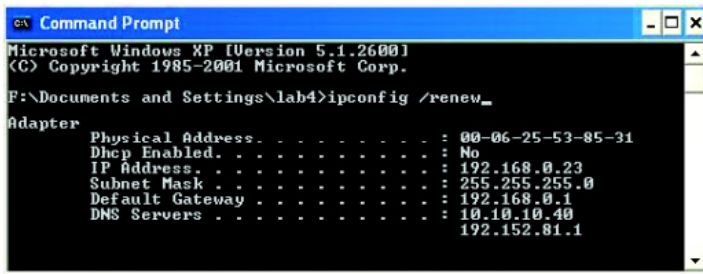
(**Windows 98/ME users:** go to **Start** > **Run**. Type **Command**. Type **winipcfg** at the prompt. Click **Release and Renew** to obtain a new IP Address.)

Note: Residential Gateways/Internet Routers will automatically assign IP Addresses to the computers on the network, using DHCP (Dynamic Host Configuration Protocol) technology. If you are using a DHCP-capable Gateway/Router you will not need to assign Static IP Addresses, however, you need to set the TCP/IP protocol to automatically obtain IP.

F you are not using a DHCP capable Gateway/Router, or you need to assign a Static IP Address, please follow these instructions:

Go to **Start**
Double-click on
 Control Panel
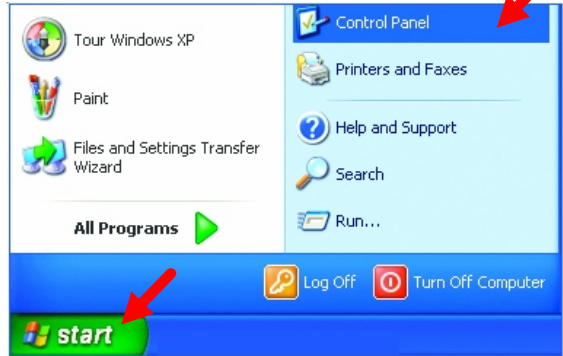
Fig. 8.21

Double-click on
Network Connections

Fig. 8.22

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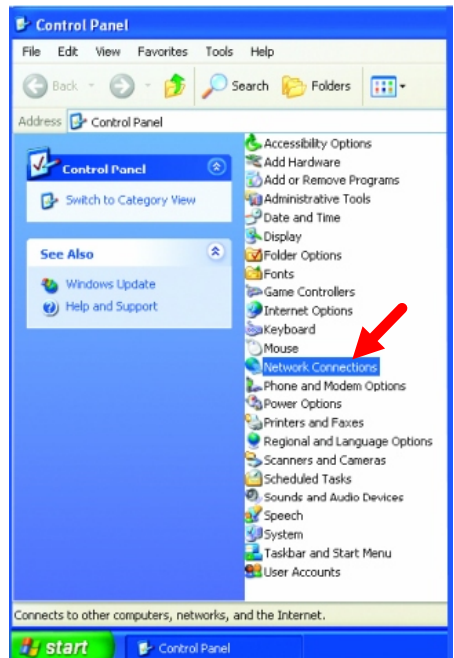
Right-click on **Local Area Connections.**

Click **Properties**
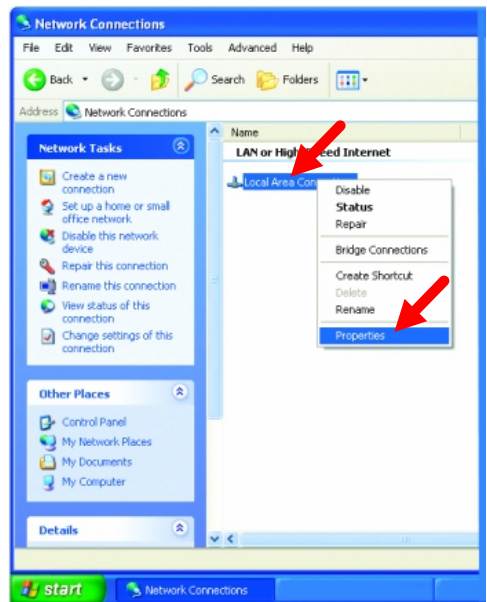
Fig. 8.23

Highlight **Internet Protocol (TCP/IP)**

Click **Properties**
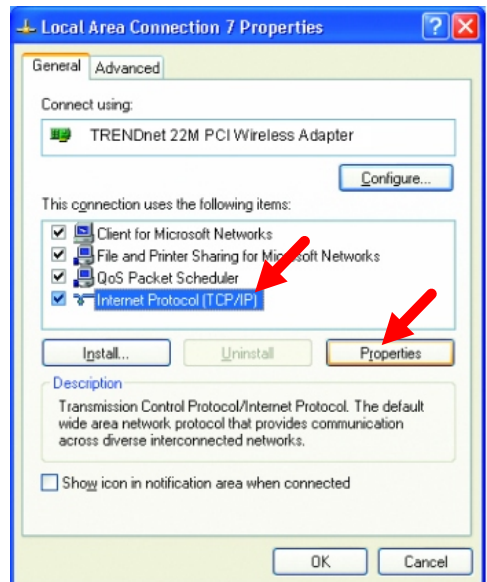
Fig. 8.24

Select Use the following IP address in the **Internet Protocol (TCP/IP) Properties** window,

Input your **IP address and subnet mask.** (The IP Addresses on your network must be within the same range. For example, if one computer has an IP Address of 192.168.0.2, the other computers should have IP Addresses that are between 192.168.0.3 and 192.168.0.254. No two computes can have the same IP Address. The subnet mask must be the same for all the computers on the network.)

Input your **DNS server address only if you plan to use the Internet. (Note: If you are entering a DNS server address, you must also enter the IP Address of the Default Gateway.)**

The DNS server information will be provided by your ISP (Internet Service Provider.)
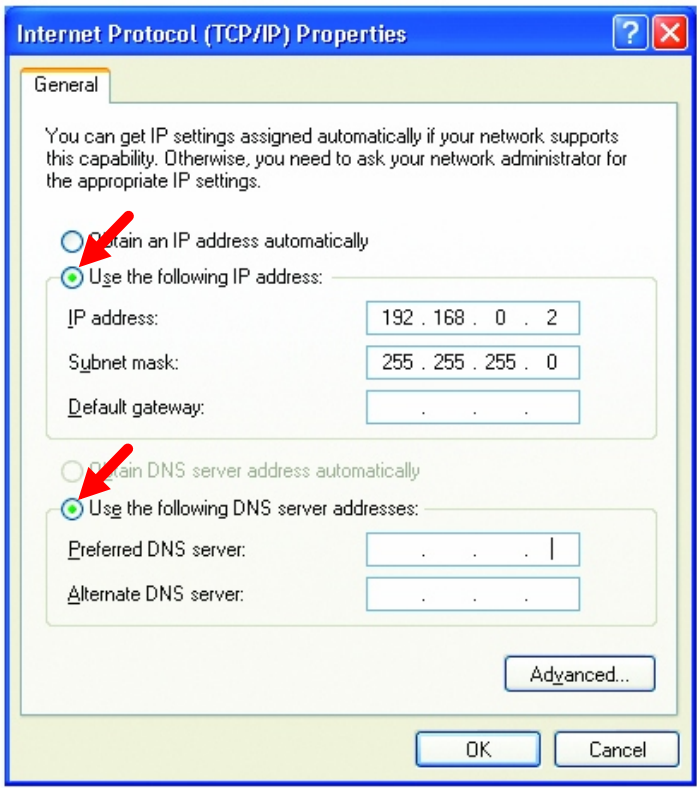
Fig. 8.25

Click **OK**

You have completed the assignment of a Static IP Address.

To be able to connect to a wireless network, make sure the proper network settings are configured for TEW-303PI.

Go to **Start** > right-click on **My Network Places** >
Select **Properties** > double-click on the **Wireless Network Connection** associated with the 22M wireless Adapter >
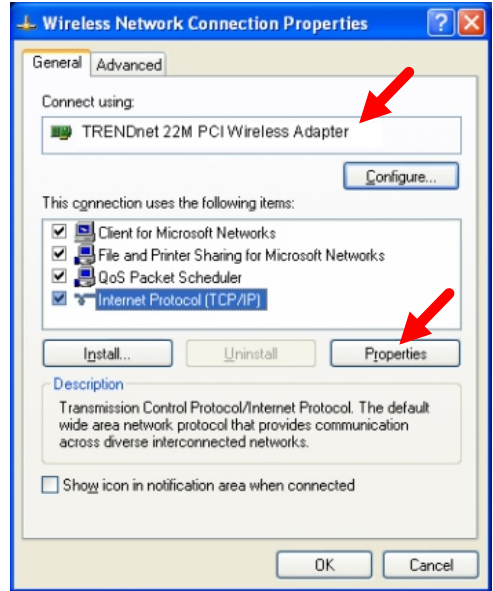Select **Properties** > select **Internet Protocol (TCP/IP)** > click **Properties**

Fig. 8.26

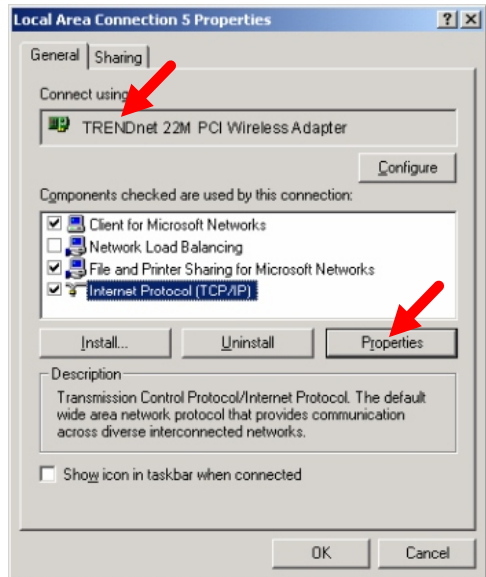**Connecting to a Wireless Network with a Wireless Router or an Access Point using a DHCP server in Windows XP.**

Select **Obtain an IP address automatically** - if the Wireless Router or Access Point has DHCP server enabled

Select **Obtain DNS server address automatically.**

Click **OK**
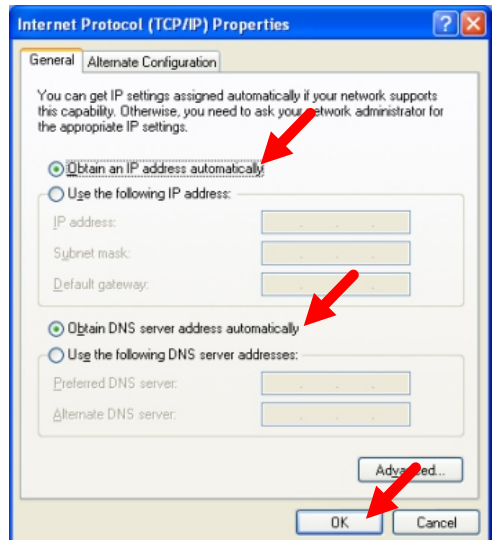
Fig. 8.27

Connecting to a Wireless Network with a Wireless Router or an Access Point using a static IP address in Windows XP.

Select **Use the following IP address** - if the Wireless Router or Access Point **does not** have a DHCP server enabled.

Input a static IP address within the same range as the Wireless Router or Access Point.

IP address: 192.168.0.51
Subnet mask: 255.255.255.0
Default Gateway: Enter the LAN IP   address of the Wireless Router

Select **Use the following DNS server address**. Enter the ISP provided DNS addresses.

Click **OK**
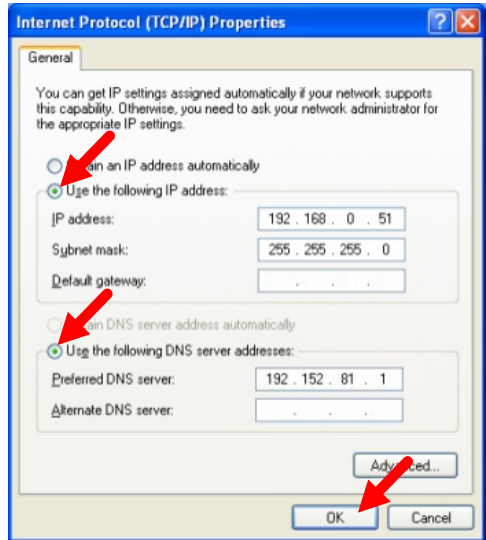
Fig. 8.28

Connecting to a Wireless Network in Windows 2000

Go to **Start** > **Settings** > **Network and Dial-up Connections** > Double click on the **Local Area Connection** associated with the 22M Wireless Adapter > select **Properties** > select **Internet Protocol (TCP/IP)** > click **Properties**

Fig. 8.29

Connecting to a Wireless Network with a Wireless Router or an Access Point using a DHCP server in Windows 2000.

Select **Obtain an IP address automatically.**

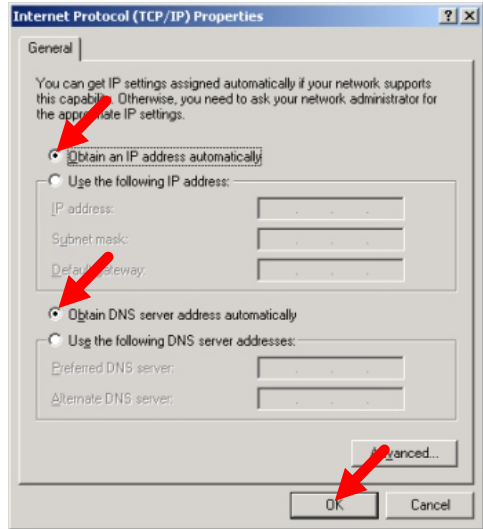Select **Obtain DNS server address automatically.**

Click **OK**

Fig. 8.30

Connecting to a Wireless Network with a Wireless Router or an Access Point using static IP address in Windows 2000.

Select **Use the following IP address**

Input a static IP Address within the same IP Address range as the wireless router or the access point.

IP address: 192.168.0.51
Subnet mask: 255.255.255.0
Default Gateway: Enter the LAN IP address of the Wireless Router

Select **Use the following DNS server address.** Leave this section blank.
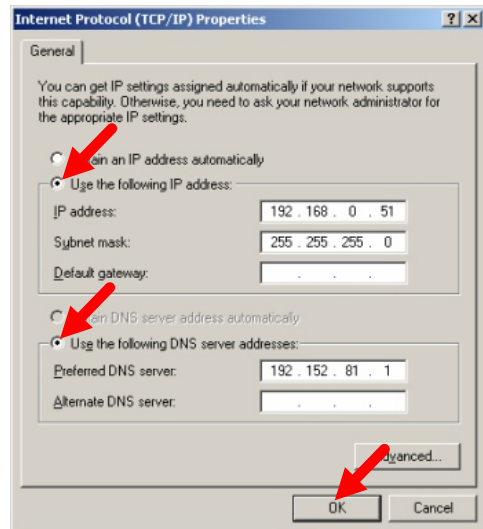
Click **OK**

Fig. 8.31

Connecting to a Wireless Network in Windows Me and 98

Go to **Start** > **Settings** >
Control Panel > Double-click
on the **Network** associated
with the 22M Wireless
Adapter > click **Properties** >
select **Internet Protocol
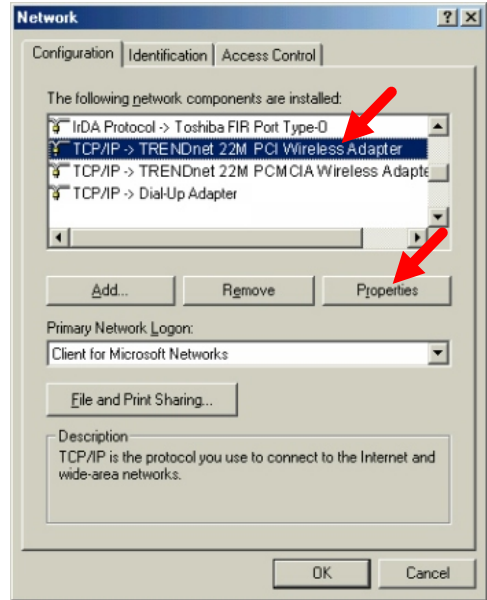(TCP/IP)** > click **Properties**

Fig. 8.32

**Connecting to a Wireless Network with a Wireless Router or an
Access Point using a DHCP server in Windows Me and 98.**

Select the **IP Address** tab.
Then, select **Obtain an IP
address automatically**.

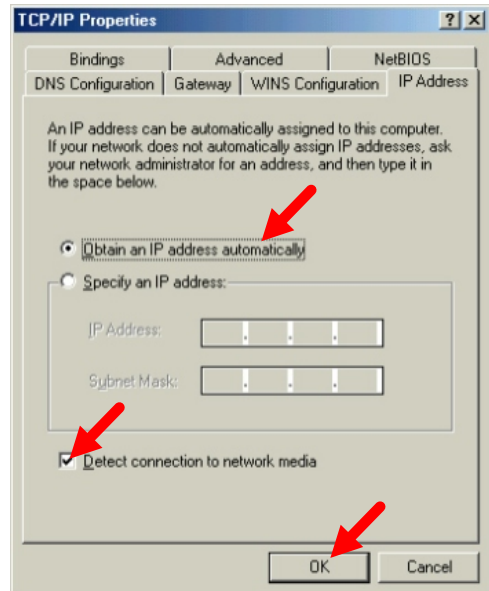Select **Detect connection to
network media**.

Click **OK**

Fig. 8.33

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Connecting to a Wireless Network with a Wireless Router or Access Point using a static IP address in Windows Me or Windows 98.

Select **Specify an IP address.**

Input a static IP address within the same IP Address range as the wireless router or access point.

IP address: 192.168.0.51
Subnet mask: 255.255.255.0
Default Gateway: Enter the LAN IP address of the Wireless Router
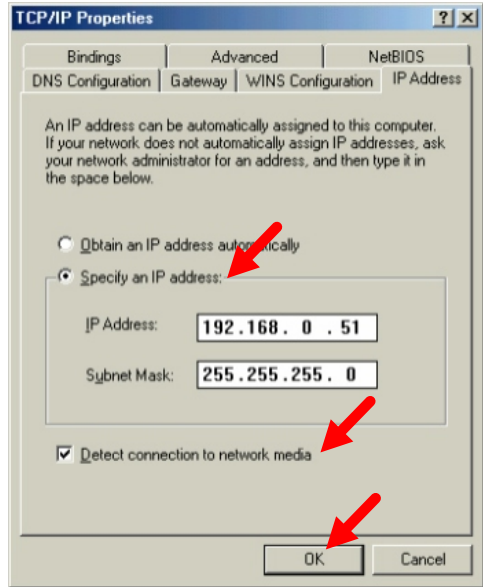
Select **Detect connection to network media.**

Fig. 8.34

Checking the Wireless Connection by Pinging

For Windows XP and 2000:

Go to **Start** > **Run** > type **cmd**. A window similar to *Fig. 8.35* will appear.
Type **ping xxx.xxx.xxx.xxx** and hit **Enter**, where **xxx** is the **IP address** of the Wireless Router or Access Point.
A good wireless connection will show four replies from the wireless router or access point, as shown.
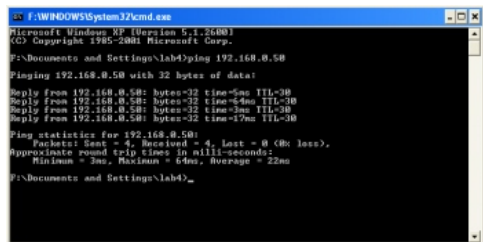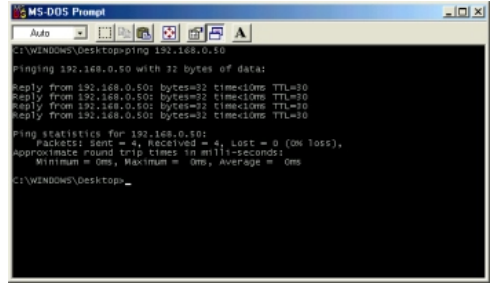
Click **OK**

Fig. 8.35

For Windows Me and 98:

Go to **Start** > **Run** > type **command**.   A window similar to *Fig. 8.36* will appear. Type **ping xxx.xxx.xxx.xxx**, where **xxx** is the **IP address** of the Wireless Router or Access Point. A good wireless connection will show four replies from the wireless router or access point, as shown.

Fig. 8.36

File and Printer Sharing
For help with other tasks in home or small office networking, see **Using the Shared Documents** folder and **Sharing files and folders** in the **Help and Support Center** in Microsoft Windows XP.

9. Technical Specifications

Standards:
 IEEE 802.11
 IEEE 802.11b

Bus Type:
 32-bit PCI version 2.2

Supported Operating Systems:
 Windows XP
 Windows 2000
 Windows ME
 Windows 98

Data Security:
 256-bit WEP (Wired Equivalent Privacy) Encryption

Data Rate:
 22Mbps
 11Mbps
 5.5Mbps
 2 Mbps
 1Mbps

Range:
 Indoors up to 328 feet (100 meters)
 Outdoors up to 1,312 feet (400 meters)

Network Architecture:
 Supports Ad-Hoc Mode (Peer-to-Peer without Access Point) or
 Infrastructure Mode (Communications to wired networks via Access
 Points with Roaming)
 Compliant with IEEE 802.11b Standards

Modulation Techniques:
 Barker (2 Mbps/3db)
 CCK (5.5 Mbps/5.5db)
 PBCC (5.5 Mbps/1.5db)
 CCK (11 Mbps/8.5db)
 PBCC (11 Mbps/4.5db)
 PBCC (22 Mbps/8.5db)

Modulation Technology:
　　PBCC Packet Binary Convolutional Coding
　　Direct Sequence Spread Spectrum (DSSS)
　　11 chip Barker Sequence

Transmitter Output Power:
　　15dBm   2dB

External Antenna Type:
　　Detachable / Reverse SMA

Over-Driving Levels:
　　Tolerates up to +17dBm at the Antenna

Frequency Range:
　　2.4 2.462 Ghz

Physical Dimensions:
　　 L = 133 mm (5.24 inches)
　　W = 121 mm (4.76 inches)
　　H = 18 mm (0.71 inches)

Temperature:
　　Operating Temperature: 0C to 50C (32ºF to 122ºF)
　　Storage Temperature: -20C to 70C (-4ºF to 158ºF)

Humidity:
　　Up to 95% Non-condensing

Emissions:
　　FCC
　　CE

Safety:
　　UL

10. Contacting Technical Support

You can find the most recent software and user documentation on the TRENDware website www.trendware.com.

TRENDware provides free technical support for customers within the United States for the duration of the warranty period on this product.

U.S. customers can contact TRENDware technical support through our web site, by e-mail, or by phone.

TRENDware Technical Support over the Telephone:

      Tel: +1-310-891-1100

TRENDware Technical Support E-mail Address:

      E-mail: support@trendware.com

When contacting technical support, please provide the following information:

      Serial number of the unit
      Model number or product name
      Software type and version number