D-Link *AirPro* **DWL-A520**
5 GHz Wireless PCI Adapter

Manual

Rev. 031802

D-Link
Building Networks for People

Contents

Package Contents

Contents of Package:

- D-Link *AirPro* DWL-A520 5GHz Wireless PCI Adapter
- Manual and Drivers on CD
- Quick Installation Guide (printed)

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

System Requirements:

- A desktop computer with an available 32-bit PCI Card slot
- Windows XP, Windows 2000, Windows ME, or Windows 98 SE
- At least 32 MB of memory and a 300 MHz processor or higher
- An 802.11a Access Point (e.g., DWL-5000AP for **Infrastructure Mode**) or another 802.11a wireless adapter (e.g., DWL-A650 for laptops or another DWL-A520 for **Ad-Hoc mode**.)

Introduction

The D-Link *AirPro* DWL-A520 Wireless PCI Adapter is an advanced IEEE 802.11a compatible, high performance, wireless adapter that supports data transfer speeds of up to 72 Mbps in ***Turbo Mode.***

It is an ideal way to connect your desktop computer to a Wireless Local Area Network (WLAN.) After completing the steps outlined in the Quick Install Guide (included in your 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! Please take a look at our **Getting Started** section in this manual. You will see several options for setting up a network using the DWL-A520.

The DWL-A520 comes with software drivers for the most popular Microsoft Windows operating systems and can be integrated into a larger network, running Windows XP, Windows 2000, Windows ME, Windows 98SE, in either Ad Hoc mode (without an Access Point) or Infrastructure mode (with an Access Point.)

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.

4

Product Features

- Adheres to 802.11a standard in providing high data wireless transfer rates of up to 54 Mbps. Capable of providing data rates of up to 72 Mbps in **Turbo Mode**.

- Operation in the 5.2GHz Unlicensed National Information Infrastructure (U-NII) frequency band

- Orthogonal Frequency Division Multiplexing (OFDM) – a new technique for transmitting high-speed data over a radio wave.

- Dynamic data rate scaling from 6, 9, 12, 18, 24, 36, 48, 54 and 72Mbps depending upon reception quality.

- Maximum reliability, throughput and connectivity with automatic data rate switching.

- Supports Wired Equivalent Privacy (WEP) data encryption at 64/128/152-bit encryption with dynamic key exchange for security.

- Supports infrastructure networks via Access Point and Ad-Hoc networks via peer-to-peer communication.

- Built-in dual diversity antenna for reduced interference in a multi-path environment.

- Requires an available 32-bit PCI Card slot that is PCI 2.2 compliant.

- User-friendly configuration and diagnostic utilities.

LED

LED stands for **light-emitting diode.** The **DWL-A520 Wireless PCI Adapter** has two **LEDs**: **POWER** and **ACTIVITY**.

Network Mode	LED Activity
Network Activity	Both LEDs flash in unison
Searching for a Network Connection	Both LEDs flash alternately
Associated with the Network, but No Activity	Both LEDs flicker dimly
Power Save Mode (Power-up or Reset)	POWER LED – slow rate blink
Adapter is disabled	Only the POWER LED flashes

ACTIVITY

POWER

Wireless Basics

D-Link *AirPro* wireless products are based on industry standards to provide easy-to-use and compatible high-speed wireless connectivity within your home or business. Strictly adhering to IEEE 802.11a, the D-Link *AirPro* 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 LAN (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. Innovative ways to utilize WLAN technology are helping people to work and communicate more efficiently. Increased mobility and the absence of cabling and other fixed infrastructure has proven to be beneficial for many users.

Wireless users can use the same network applications they use on an Ethernet LAN. 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 the 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. Ad-hoc management decisions based on real-time information can significantly improve worker efficiency.

Low Implementation Costs - WLANs 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. Furthermore, IEEE standardization mandates interoperability of all WLAN devices that conform to the 802.11a set of standards.

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

Wireless Basics *(continued)*

Installation Flexibility - Wireless technology allows the network to go where wires cannot go.

Reduced Cost-of-Ownership - While the initial investment required for wireless LAN hardware might be higher than the cost of wired LAN hardware, overall installation expenses and life-cycle costs will be significantly lower. Long-term cost benefits are greatest in dynamic environments requiring frequent moves, adds, and changes.

Scalability - Wireless LAN systems can be configured in a variety of topologies to meet the needs of specific applications and installations. Configurations are easily changed and range from peer-to-peer networks suitable for a small number of users to full infrastructure networks of thousands of users that allow roaming over a broad area.

D-Link *AirPro* Wireless LAN products include:

◆ 802.11a 5GHz Wireless Cardbus Adapters used with laptop computers (DWL-A650)

◆ 802.11a 5GHz Wireless PCI cards used with desktop computers (DWL-A520)

◆ 802.11a 5GHz Wireless Access Points (DWL-5000AP)

Standards - Based Technology
The IEEE 802.11a standard designates that devices operate at an optimal data rate of 54 Megabits per second. 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. This technology works by transmitting high-speed digital data over a radio wave utilizing **OFDM** (**O**rthogonal **F**requency **D**ivision **M**ultiplexing) technology. **OFDM** works by splitting the radio signal into multiple smaller sub-signals that are then transmitted simultaneously at different frequencies to the receiver.   **OFDM** reduces the amount of **crosstalk** (interference) in signal transmissions. D-Link *AirPro* products will automatically sense the best possible connection speed to ensure the greatest speed and range possible with the technology.

Wireless Basics *(continued)*

Installation Considerations
Designed to go up to 900 feet (~300 meters), D-Link *AirPro* DWL-A520 lets you access your network with your computer from virtually anywhere you want. Keep in mind, however, that the number and thickness of walls, ceilings or other objects that the wireless signals must pass thru may limit range. Typical ranges vary depending on the types of materials and background RF noise in your home or business. The key to maximizing range is to follow these basic principles:

1. Keep the number of walls and ceilings between the Access Point and your receiving device to a minimum - Each wall or ceiling can reduce your D-Link *AirPro* Wireless product's range from 3-90 feet (1-30 meters.) For some businesses or for a large residential home deployment, it may be beneficial to have more than one access point with overlapping coverage.

2. Be aware of the direct line between Access Points and computers with wireless adapters - 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 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 generate extreme RF noise.

Wireless Basics *(continued)*

For the average residence, range should not be a problem. 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 that will be connected. 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.

Getting Started

To begin, select the type of wireless network you will be building.
We will discuss the following types of networks in this section:

1. *A Home Internet Network*
   with A Residential Gateway/Router

2. *A Home Internet Network with Multiple IP Addresses*

3. *An Ad Hoc Network*

4. *An Ad Hoc Network with Internet Sharing*

Please select, from the four types of networks described above, the type of network that is appropriate for your needs. Please follow the instructions in the corresponding section that follows.

1. A Home Internet Network with A Residential Gateway/Router

(Network administrators with Dynamic IPs can also follow these instructions.)
If you have two or more computers (laptops or desktops) and want to share files, printers, and Internet access using a DHCP-capable Residential Gateway/Router – or - if you want to connect to an Ethernet network that uses Dynamic (DHCP) IP addresses, then follow the instructions on the next page. When it is complete, your network may look similar to this:

DHCP stands for Dynamic Host Configuration Protocol. It is a protocol for assigning dynamic IP addresses "automatically." With a DHCP-capable gateway, there is no need to manually assign an IP address.

10

1. A Home Internet Network with A Residential Gateway/Router
(continued)

(Requirements: A Residential Gateway/Router connected with an Ethernet (CAT5) cable to an 802.11a Access Point such as the DWL-5000AP.)

This type of installation requires that you provide a dynamic IP address for each computer on your network. You will need a DHCP-capable Residential Gateway/Router for your network.

To complete the installation, please follow these steps:

1. Connect the **Router/Gateway** (for example, the **D-Link DI-704P**) to a Broadband connection, (e.g., a **Cable** modem such as the **D-Link DCM-200** cable modem or a **DSL** modem such as the **D-Link DSL-300**.)

2. Connect the 802.11a Access Point (**DWL-5000AP**) to the router.

3. Install the **D-Link** *AirPro* **DWL-A520 Wireless PCI Adapter** into a desktop computer on your wireless network. (You can also install the **D-Link** *AirPro* **DWL-A650 Wireless Cardbus Adapter** into a laptop computer. Please refer to the **Quick Install Guide** included with each product.)

4. Check the **Device Manager** to confirm that the wireless adapter is installed correctly. Please refer to the **Networking Basics** section in this manual entitled: **Checking the Installation of the Drivers for the Wireless Adapter.**

5. *By default, the wireless adapter is set to obtain a Dynamic IP Address.* If you are having difficulty connecting, check to make sure that the **IP Address** of the **wireless adapter** is within the IP address range of your network. Please refer to the **Networking Basics** section in this manual entitled: **Checking The IP Address**.

6. Learn to share printers and files. Please refer to the **Networking Basics** section in this manual entitled: **Adding and Sharing Printers in Windows XP**.

2. A Home Internet Network with Multiple IP Addresses

(Network administrators with Static IPs can also follow these instructions.)
If you have two or more computers (laptops or desktops) and want to share files, printers, and Internet access using multiple IP addresses that you have purchased from your Internet Service Provider **-or-** you want to connect to an Ethernet network that uses Static IP Addresses, then follow the instructions on the next page. When you have completed your network, it should look similar to this:
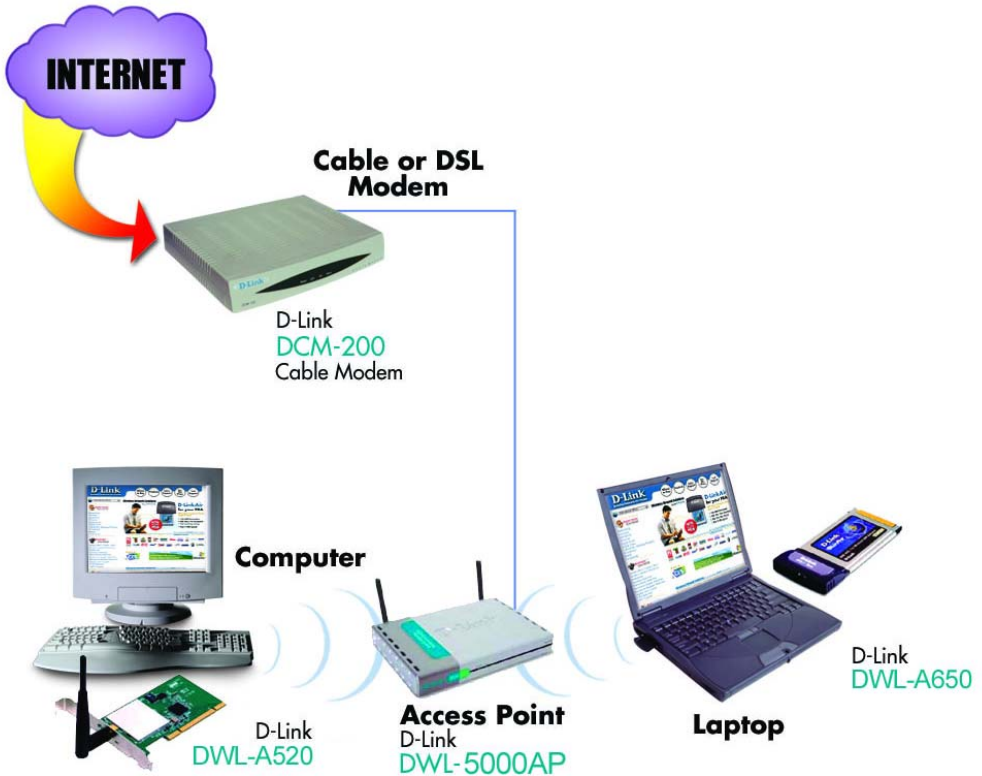
Please note that this type of installation requires that your ISP (Internet Service Provider) provides you a static IP address for each computer and the Access Point on your network. Please refer to the manual that came with your Access Point to determine its configuration.

12

Please follow these steps to complete the installation:

1. Connect the **Wireless Access Point** (the **D-Link *AirPro* DWL-5000AP** is shown in the example) to a Broadband connection (i.e., a **Cable** modem such as the **D-Link DCM-200** cable modem.)

2. Install the **D-Link *AirPro* DWL-A520 Wireless PCI Adapter** into a desktop computer on your wireless network. (You can also install the **D-Link *AirPro* DWL-A650 Wireless Cardbus Adapter** into a laptop computer. Please refer to the **Quick Install Guide** included with each product.)

3. Check the **Device Manager** to confirm that the **wireless adapter** is installed correctly. Please refer to the **Networking Basics** section in this manual entitled: **Checking the Installation of the Drivers for the Wireless Adapter**.

4. Set the **Static IP Address** of the **wireless adapters.** Please refer to the **Networking Basics** section in this manual entitled: **Assigning an IP Address**.

Note: The IP Address for all computers must be in the same IP Address range, and the Subnet Mask must be the same for all the computers on 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.

*If you are using a **PPPoE client** (**Point to Point Protocol over Ethernet**) please contact your **ISP (Internet Service Provider)** for further instructions regarding connecting to the Internet.*

5. Learn to share printers and files. Please refer to the **Networking Basics** section in this manual entitled: **Adding and Sharing Printers in Windows XP**.

3. An Ad Hoc Network

If you have two or more computers (desktops or laptops) and want to share files and printers, but no Internet connection, please complete the following instructions. When your Ad Hoc network is complete it may look similar to this:

(Requirements: Wireless network adapters -for example, the **D-Link *AirPro* DWL-A650** and the **DWL-A520**.)

To complete this installation, please follow these steps:

1. Install the **D-Link *AirPro* DWL-A520 Wireless PCI Adapter** into a desktop computer on your wireless network. (You can also install the **D-Link *AirPro* DWL-A650 Wireless Cardbus Adapter** into a laptop computer. Please refer to the **Quick Install Guide** included with each product.)

2. Set the **Static IP Address** of the **wireless adapters**. Please refer to the **Networking Basics** section in this manual entitled: **Assigning an IP Address**.

Note: The IP Address for all computers must be in the same IP Address range, and the Subnet Mask must be the same for all computers on your 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.

3. Check the **Device Manager** to confirm that the **wireless adapter** is installed correctly. Please refer to the **Networking Basics** section in this manual entitled: **Checking the Installation of the Drivers for the Wireless Adapter**.

4. Check the **Wireless Configuration** for each **wireless adapter**. Please refer to the **Networking Basics** section in this manual entitled: **Checking the Wireless Configuration**.

5. Learn to share printers and files. Please refer to the **Networking Basics** section in this manual entitled: **Adding and Sharing Printers in Windows XP**.

14

4. An Ad Hoc Network with Internet Sharing

If you have two or more computers (desktops or laptops) and want to share files, printers, and Internet access using one computer or laptop as an Internet Server, then follow the instructions below. When you have completed your network, it should look similar to this:

To share an Internet connection with Internet Sharing software you will need to purchase Internet Sharing software or use the Internet Connection Sharing (ICS) utility provided with Windows XP, Windows 2000, Windows ME or Windows 98SE.

Please follow your software documentation to properly configure the Internet sharing software after you install your wireless networking adapters. To install your wireless network adapter follow the instructions on the next page.

If the Internet Sharing Software will be installed on the same computer into which you are installing this wireless network adapter, then follow these steps:

1. Install the **D-Link *AirPro* DWL-A520 Wireless PCI Adapter** (please refer to the **Quick Install Guide.**)

2. Check the **Device Manager** to confirm that your adapter is installed correctly. Please refer to the **Networking Basics** section in this manual entitled: **Checking the Installation of the Drivers for the Wireless Adapter**.

3. Install your **Internet Sharing Software**

4. If required by the ICS software, set the static IP Address for the **wireless adapter**. Please refer to the **Networking Basics** section in this manual entitled: **Assigning an IP Address**.

Note: The IP Address for all the computers on the network must be in the same IP Address range, and the Subnet Mask must be the same for all the computers on 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.

5. Learn to share printers and files. Please refer to the **Networking Basics** section in this manual entitled: **Adding and Sharing Printers**.

If the **Internet Sharing Software** will be installed on a computer other than the one in which you are installing the **D-Link *AirPro* DWL-A520 Wireless PCI Adapter**, then follow these steps:

1. Install the **D-Link *AirPro* DWL-A520 Wireless PCI Adapter** into the computer (please refer to the **Quick Install Guide.**)

2. Check the **IP Address** for the **wireless adapter**. Please make certain that all the computers on your network are in the same IP Address range. Please refer to the **Networking Basics** section in this manual entitled: **Checking your IP Address**.

*Note: By default, the **wireless adapter** is set to obtain a **Dynamic IP Address,** automatically.*

3. Learn to share printers and files. Please refer to the **Networking Basics** section in this manual entitled: **Adding and Sharing Printers in Windows XP**.

16

Using the Configuration Utility

The Configuration Utility program for the DWL-A520 is called **LinkMon**. Please refer to the *Quick Install Guide* that came with the DWL-A520 for instructions on how to install **LinkMon** on your computer. Once you have installed **LinkMon** (the configuration utility), you can read this section of the manual to find out how to monitor and configure your DWL-A520 adapter using **LinkMon**. There are five tabs in the **LinkMon** Configuration Utility program. In this section we will describe the uses for each tab in the Configuration Utility window.

To access **LinkMon** once it has been installed, just double-click on the **LinkMon** icon in the taskbar.

Under the **General Tab** you will find general information about the program and its operations.

General Tab
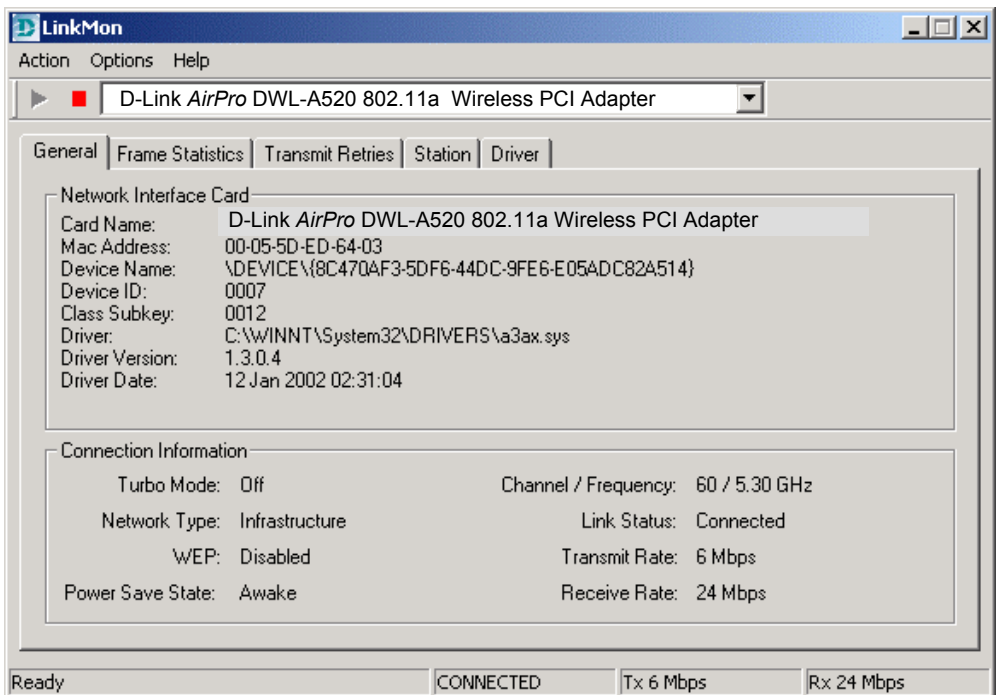
Using the Configuration Utility *(continued)*

Under the **Frame Statistics Tab** you will find statistical information showing the number of frames being sent and received, retry count on frames sent, frame checksum error counts for received frames, and receive signal strength indicator (RSSI) information.
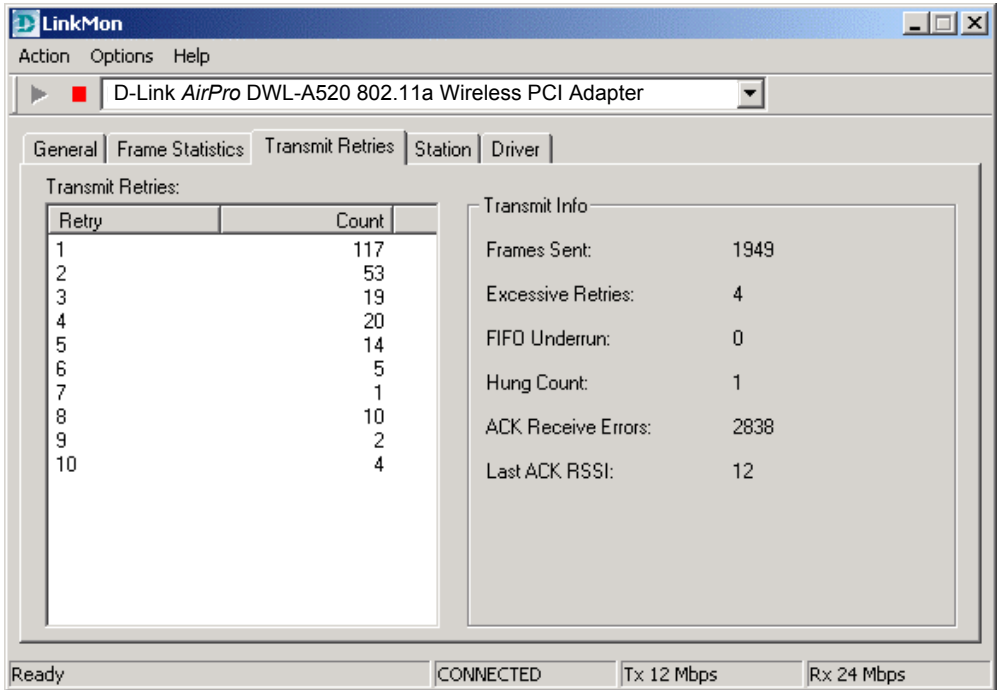
Frame Statistics Tab
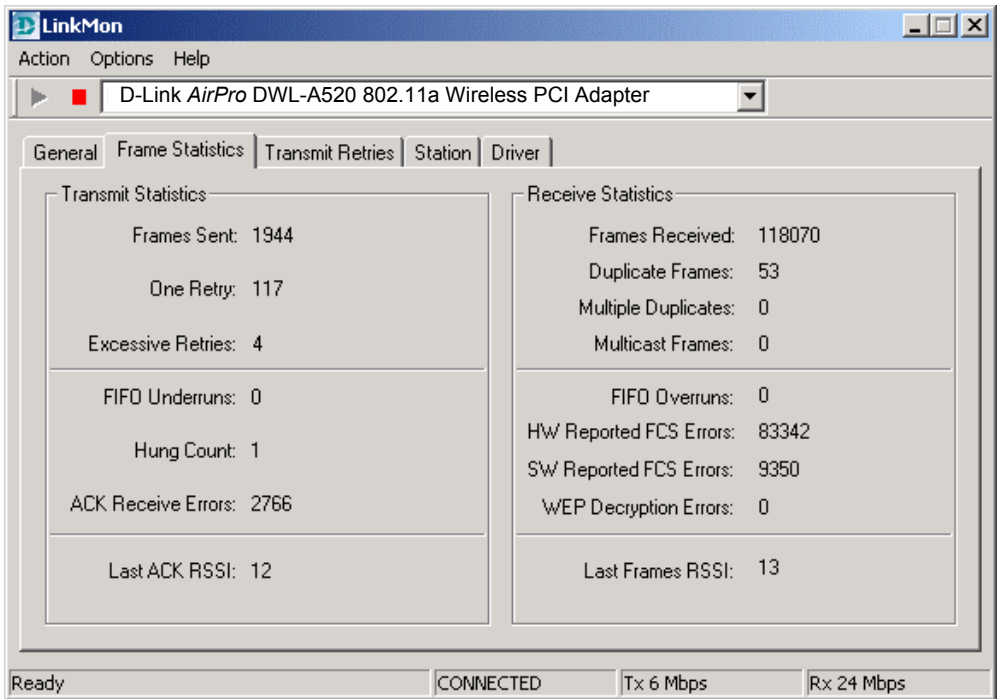
Using the Configuration Utility *(continued)*

Under the **Transmit Retries Tab** you will find detailed transmit retry statistical information for transmitted frames.

Transmit Retries Tab

Using the Configuration Utility *(continued)*

Under the **Station Tab** you will find detailed **BSS** information including **SSID**, **BSSID**, association status, operating channel frequency, and information about scanned APs.

Station Tab
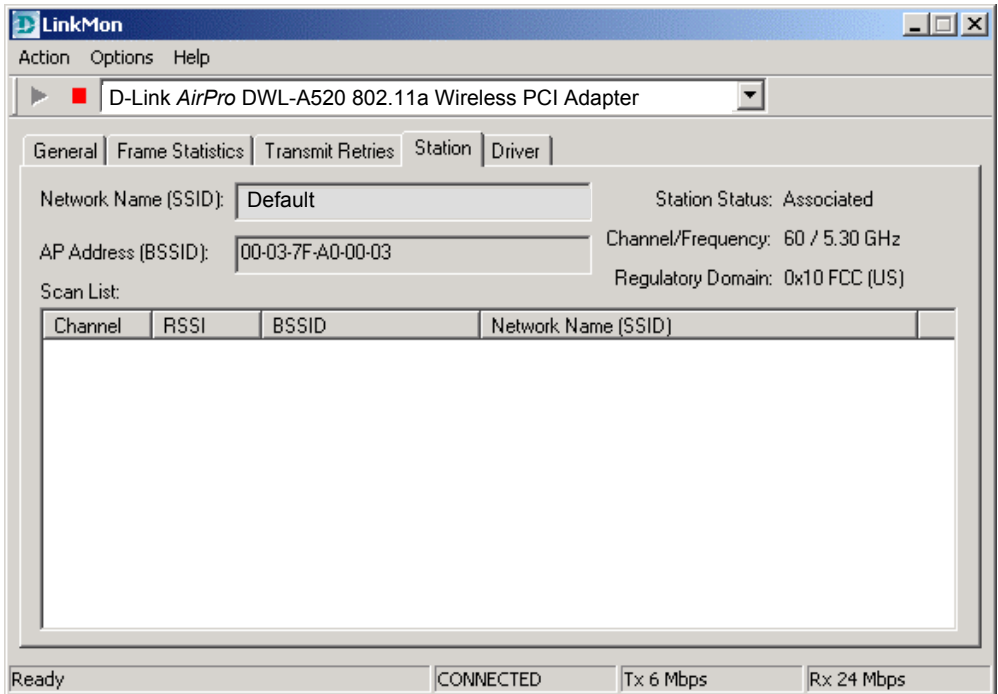
BSS – (Basic Service Set) when one AP is connected to a wired network and a set of wireless stations, it is a **BSS**.

SSID – (Service Set Identifier) it is essentially a **network name**; a name that identifies a wireless network. All Access Points and all devices attempting to connect to a specific WLAN (Wireless Local Area Network) must use the same SSID.

Using the Configuration Utility *(continued)*

Under the **Driver Tab** you will find statistical data pertaining to NDIS (Network Driver Interface Specification) driver operations.

Driver Tab
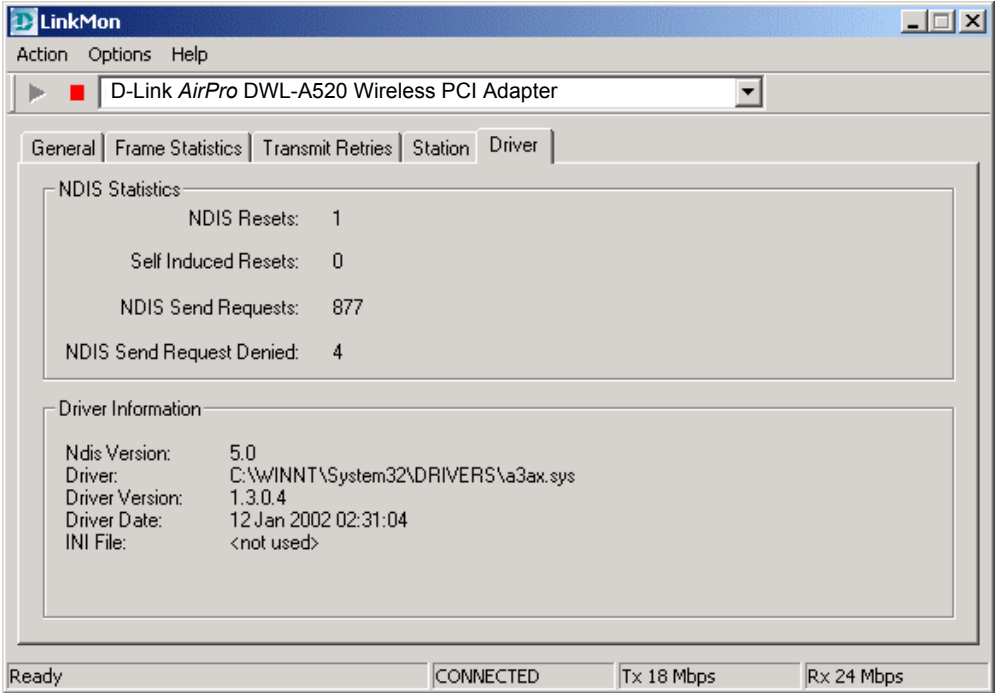
Using the Configuration Utility *(continued)*

The **Action menu** allows the unloading of the NDIS driver, and the resetting of the network interface card (NIC.) Note that unloading the driver and resetting the NIC are options that are available only in Windows XP and Windows 2000.
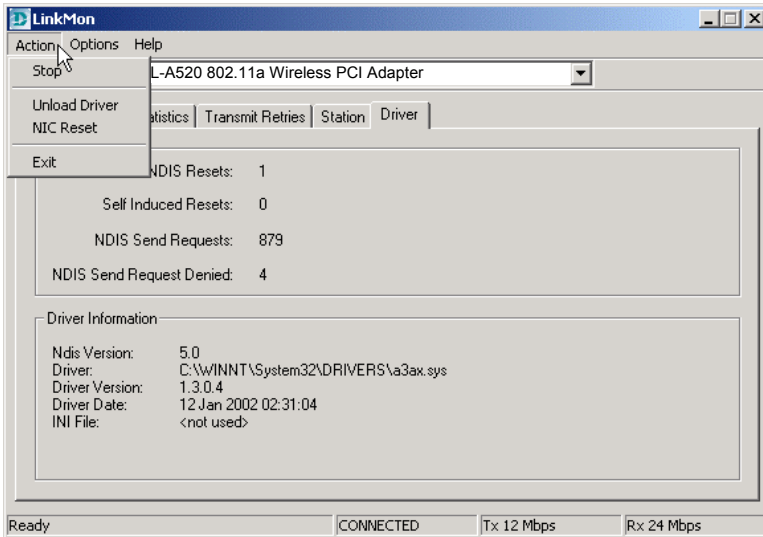
On the **Options menu**, choose **Settings**:
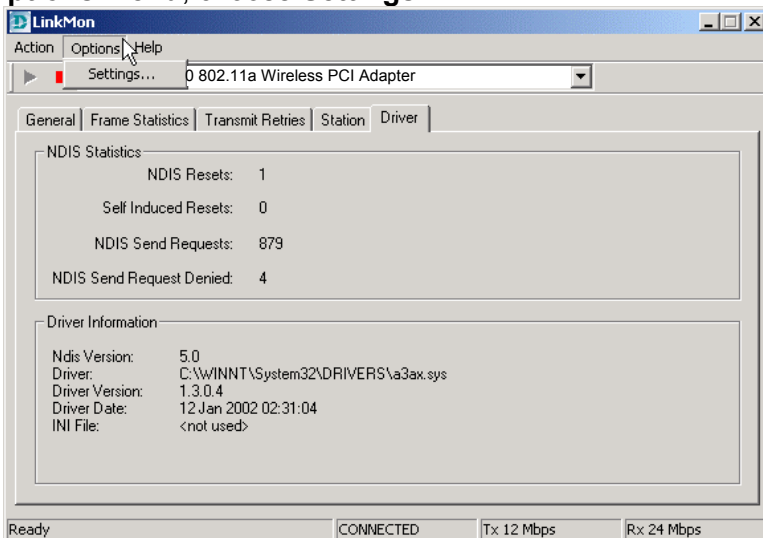
Using the Configuration Utility *(continued)*

Under the **Display Tab**, you can select the data display modes of *Cumulative,* or *Relative.* *Cumulative* mode displays statistical data collected when **LinkMon** is started. *Relative* mode displays differences in the statistical data since the last update of collected data.
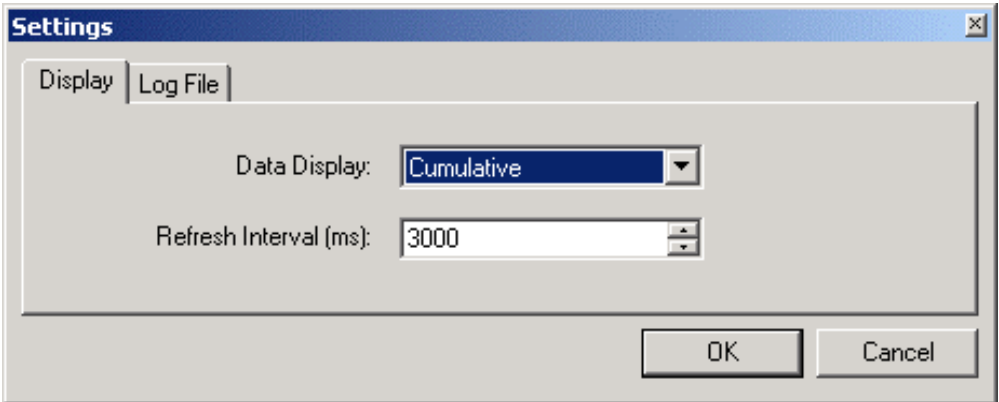
Under the **Log File Tab**, the logging function can be enabled to log to a file the statistical information collected by the **LinkMon** utility, for later reference or post processing by an application such as Microsoft Excel.
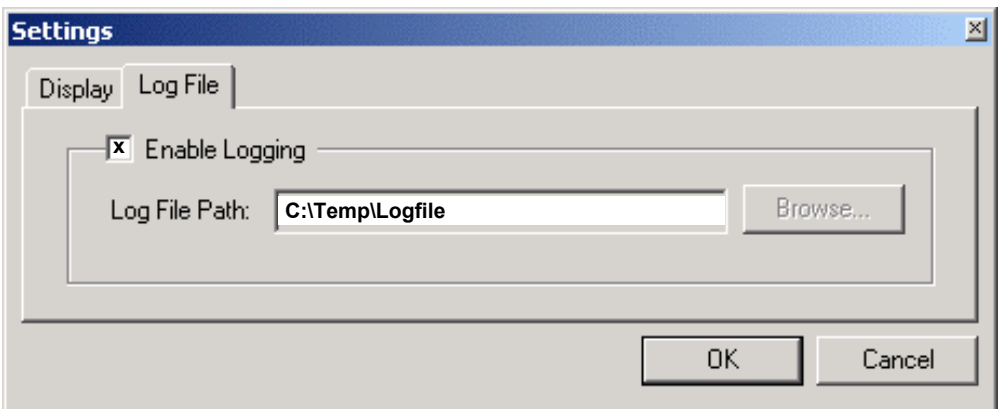
Click the *Enable Logging* click-box to enable **LinkMon** to write a log file. You must also specify the full DOS path to the log file, such as C:\Temp\Logfile.

Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DWL-A520 Wireless PCI Adapter. Read the following descriptions if you are having problems.

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

- Go to **Start**

- **Right-click** on **My Computer**
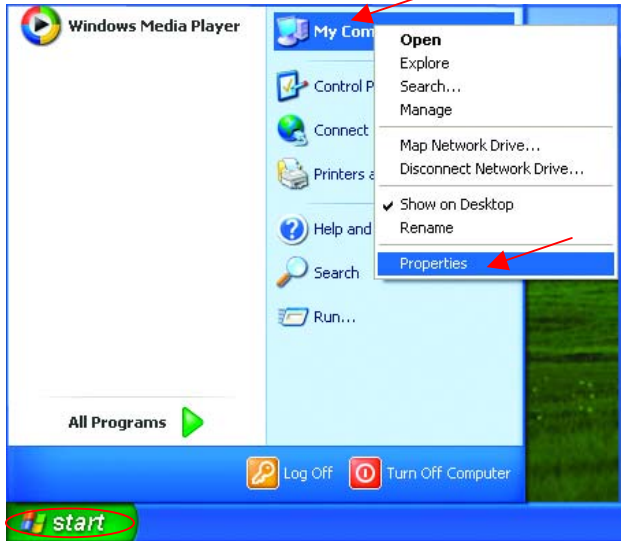
- Click **Properties**

- Select the **Hardware Tab**

- Click **Device Manager**
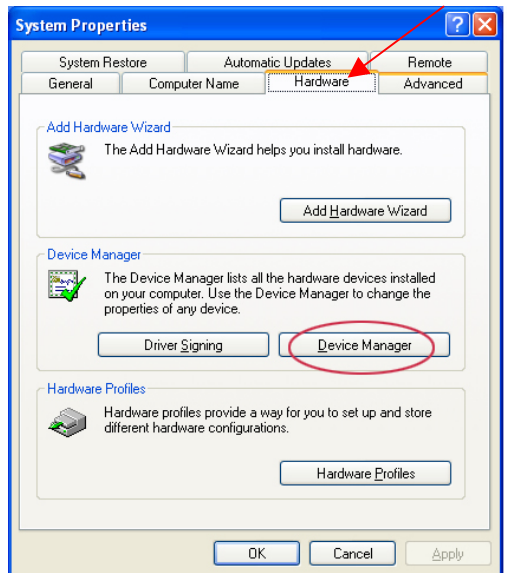
Troubleshooting *(continued)*

- Double-click on **Network Adapters**

- **Right-click** on **D-Link *Air Pro* DWL-A520 Wireless PCI Adapter**

- Select **Properties** to check that the drivers are installed properly.
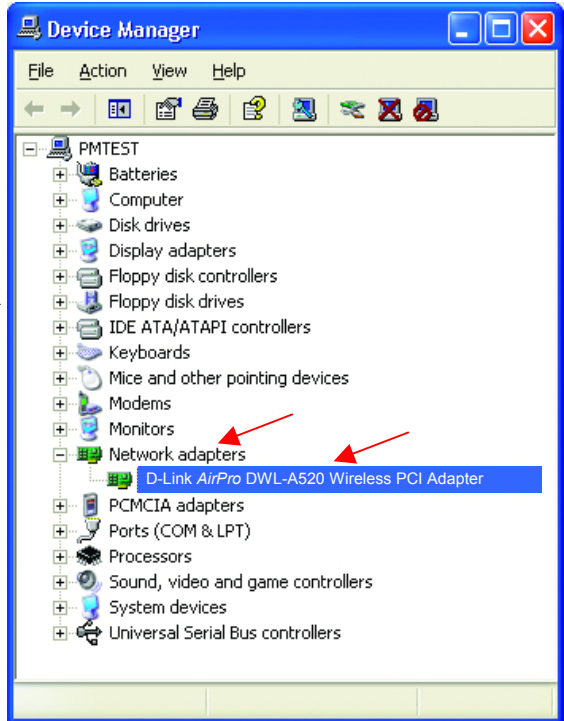
- Look under **Device Status** to check that the device is working properly.
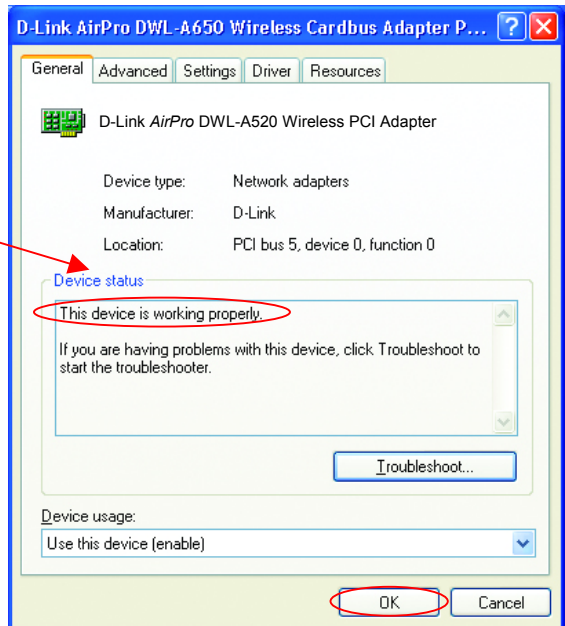
- Click **OK**

Troubleshooting *(continued)*

2. The computer does not recognize the DWL-A520 802.11a Wireless PCI Adapter.

- Make sure that the DWL-A520 Wireless PCI Adapter is properly seated in the computer's PCI slot.

- Check that the DWL-A520 is installed in a 32-bit PCI 2.2 slot.

- If Windows does not detect the hardware upon insertion of the adapter, 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 **NetA3x.inf** and **A3ax.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 certification into **oem.inf** files (e.g., **oem1.inf.)**

3. The DWL-A520 802.11a Wireless PCI Adapter does not work properly after the driver is installed.

- **Restart** the computer. (In some cases, it will be necessary to restart the computer after installing the drivers.)

- In Windows XP, go to **Start**>**Control Panel**>**System**>**Hardware** Tab> click on the **Device Manager** Tab> click on **Network Adapters**> double click on **D-Link Air*Pro* DWL-A520 Wireless PCI Adapter**> make sure that **"This device is working properly"** is displayed under **Device Status** under the **General** Tab. (Please refer to **Checking the Installation of the Drivers for the Wireless Adapter** in the **Troubleshooting** section on the previous page of this manual for more information.)

- If the device is not working properly and a yellow exclamation mark is displayed, then there is probably a resource conflict. First, try inserting the card into a different PCI slot. If there is still a problem, make sure the computer system has a free IRQ and if necessary,

uninstall the drivers, restart the system, and repeat the driver installation procedure.

4. The computer with the wireless adapter installed is unable to connect to the wireless 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 the D-Link *AirPro* products is **Default.** (Please refer to **Checking the Wireless Configuration** in the **Networking Basics** section of this manual for more information.)

- In **Ad-Hoc** mode, both 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. (Please see the **Status Tab** in **Linkmon** in the **Configuration Utilities** section or see **Checking the Wireless Configuration** in the **Networking Basics** section of this manual to learn more about **BSS-Basic Service Set.**)

- 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 **network connection icon** in the taskbar > click on **Properties** > click on **Configure** > select the **Settings** Tab > click on **Modify** to change the settings for the wireless adapter.   (Please refer to **Checking the Wireless Configuration** in the **Networking Basics** section of this manual for more information.)

- Verify that the **Turbo Mode** setting is exactly the same for wireless clients and the access point.   Please note that the wireless connection will not be established in **Infrastructure** or **Ad-Hoc** mode if **Turbo Mode** is enabled on one end of the wireless connection and not the other. (Please refer to **Checking the Wireless Configuration** in the **Networking Basics** section of this manual for more information.)

- If **Enable Security** is selected, make sure that the correct encryption keys are entered on both the wireless clients and the access points.

Troubleshooting *(continued)*

(Please see **Checking the Wireless Configuration** in the **Networking Basics** section of this manual for more information.)

5. The wireless client cannot access the Internet in the Infrastructure mode.

- Make sure the wireless client is associated and joined with the correct Access Point. To check this connection: **Right-click** on the **Networking Icon** in the taskbar> select **View Available Wireless Networks**. The **Connect to Wireless Network** screen will appear. Please make sure you have selected the correct available network, as shown in the illustrations below.
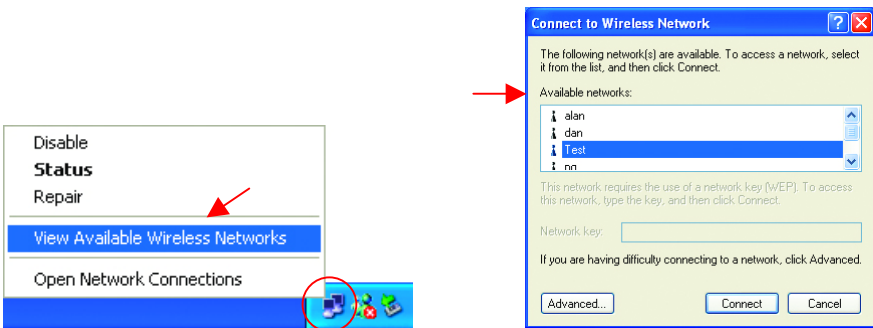
- Check that the **IP Address** assigned to the wireless adapter is within the same **IP Address range** as the access point and gateway. *(For example: if one computer has an IP Address of 192.168.0.2, the other computers should have IP Addresses that are sequential, like 192.168.0.3 and 192.168.0.4. The subnet mask must be the same for all the computers on the network.)* To check the **IP Address** assigned to the wireless adapter, **double-click** on the **Network Connection Icon** in the taskbar > select the **Support tab** and the **IP Address** will be displayed. (Please refer to **Checking the IP Address** in the **Networking Basics** section of this manual.)

- If it is necessary to assign a **Static IP Address** to the wireless adapter, please refer to the appropriate section in **Networking Basics**. If you are entering a **DNS Server Address**, you must also enter the **Default Gateway Address.** *(Remember that if you have a DHCP-capable router, you will not need to assign a Static IP Address. See **Networking Basics: Assigning a Static IP Address**.)*

28

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.**

Note: Please refer to websites such as <u>http://www.homenethelp.com</u> and <u>http://www.microsoft.com/windows2000</u> for information about networking computers using Windows 2000, ME or 98.

Go to **START**>**CONTROL PANEL**>**NETWORK CONNECTIONS**
Select **Set up a home or small office network**
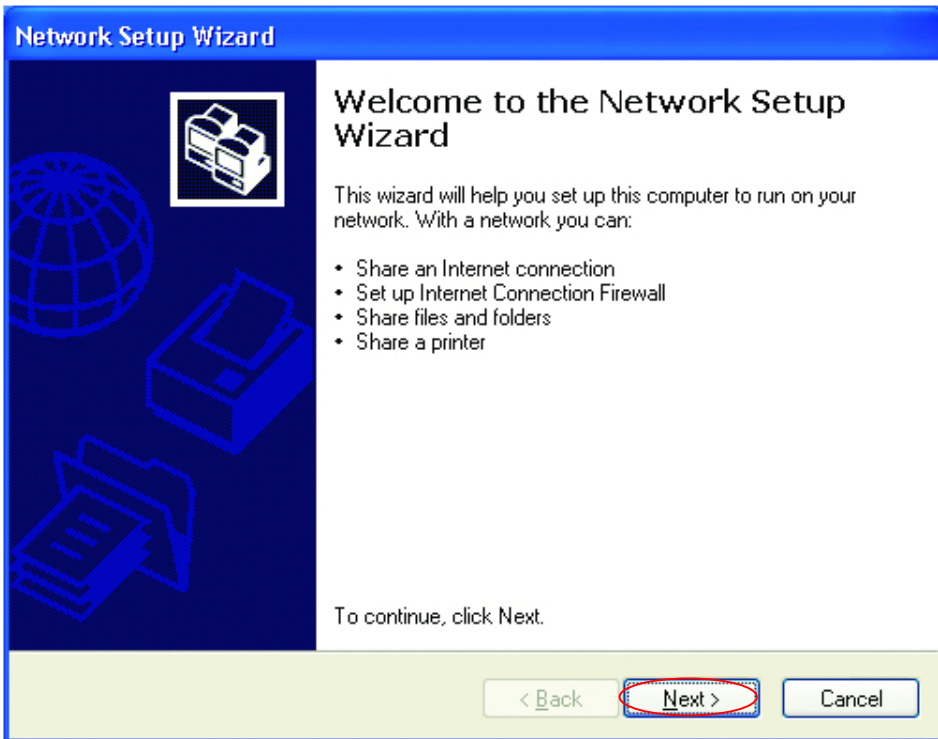
When this screen appears, click **Next.**

Networking Basics

Please follow all the instructions in this window:
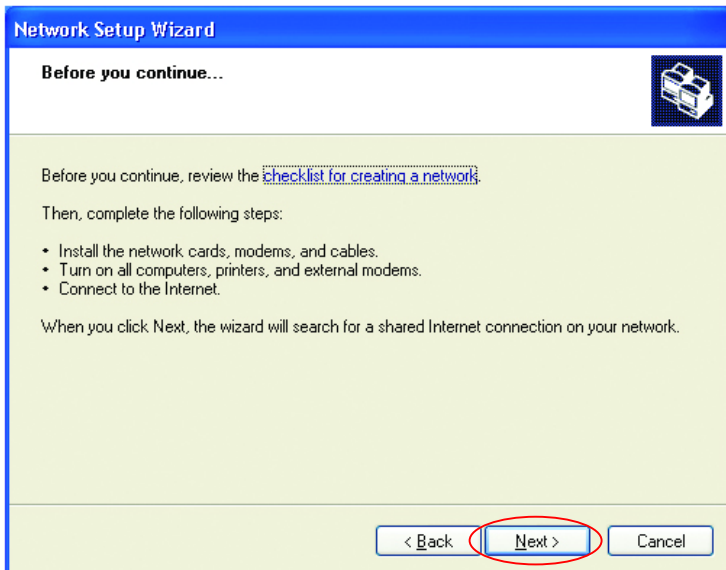
Click **Next**
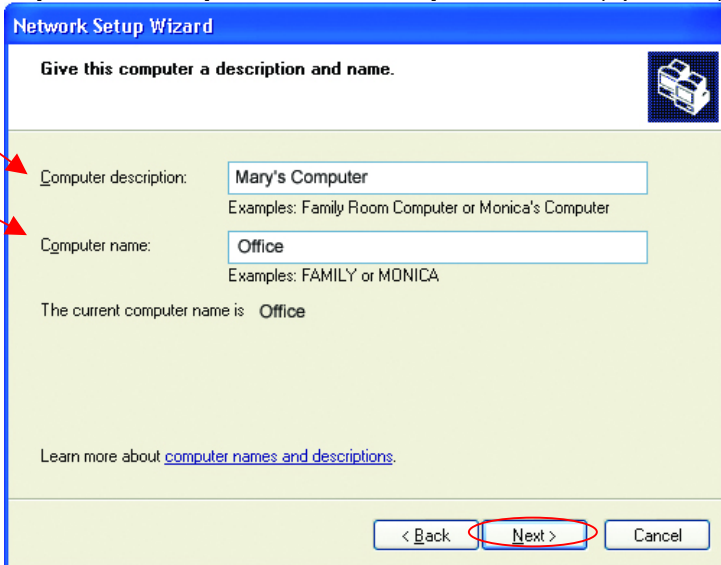
In the following window, select the best description of your computer. If your computer connects to the internet through a gateway/router, select the second option as shown.
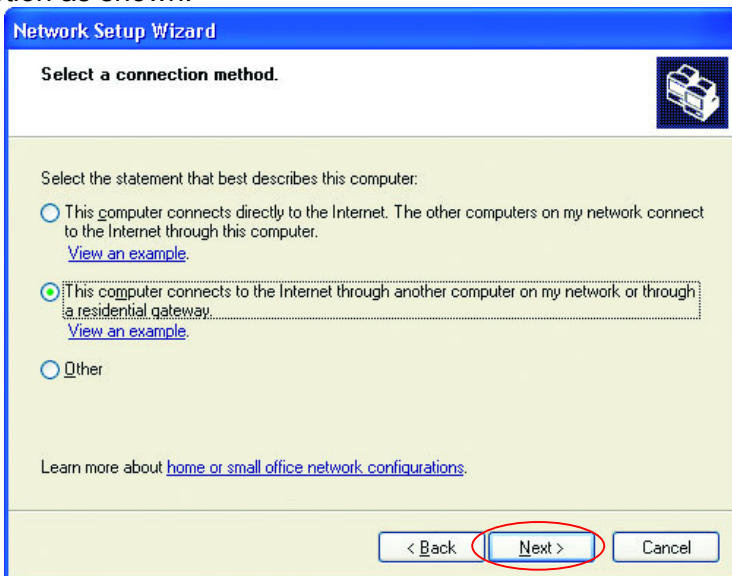
Click **Next**

Networking Basics
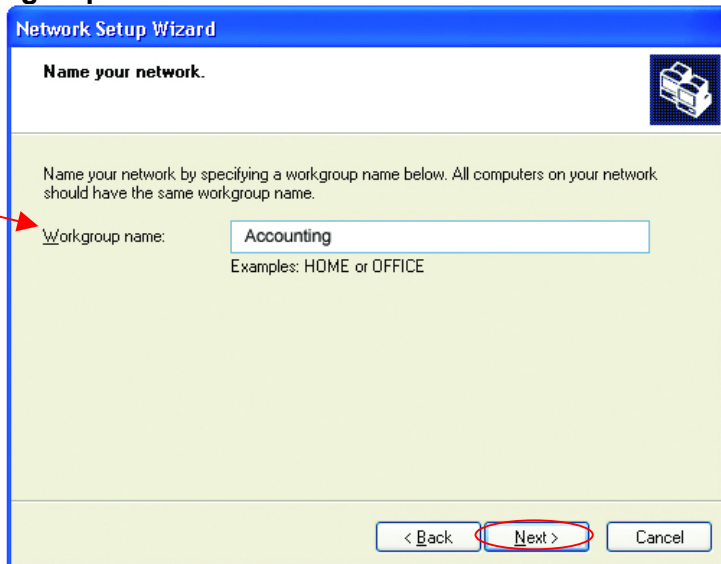
Enter a **Computer description** and a **Computer name** (optional.)

Click **Next**

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

Click **Next**

Networking Basics

Please wait while the wizard applies the changes.
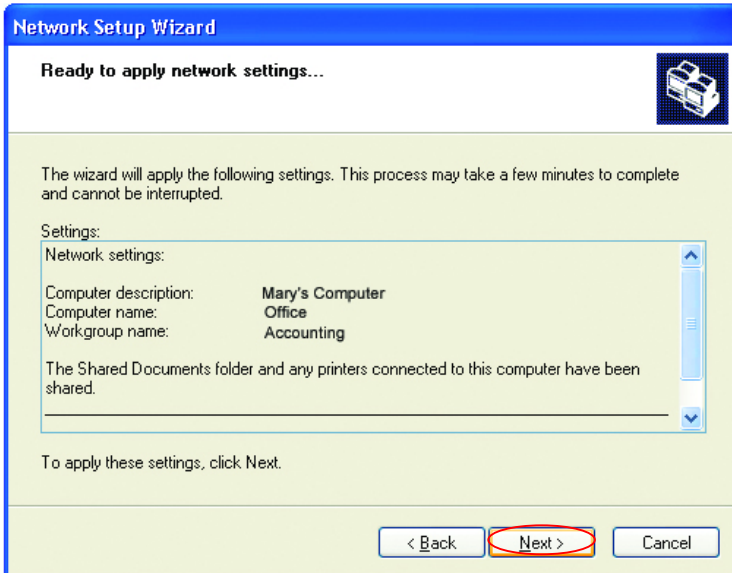
When the changes are complete, click **Next**.

Please wait while the wizard configures the computer.
This may take a few minutes.
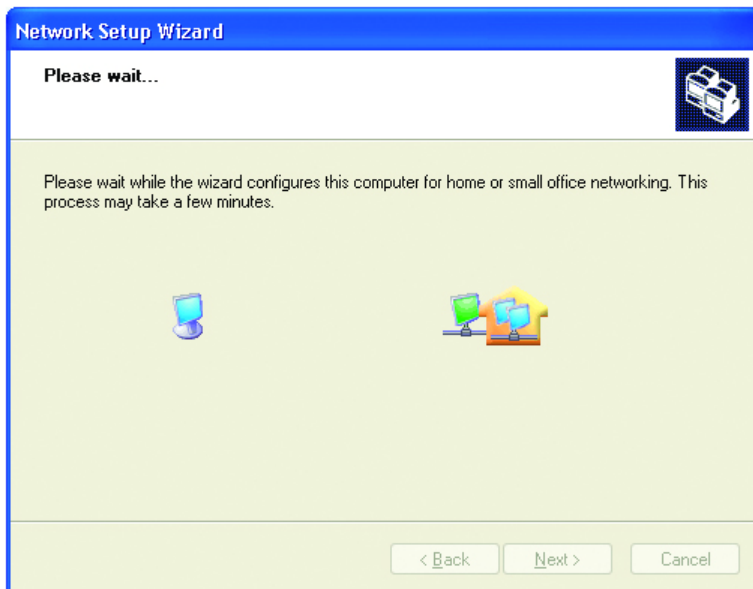
Networking Basics

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**.
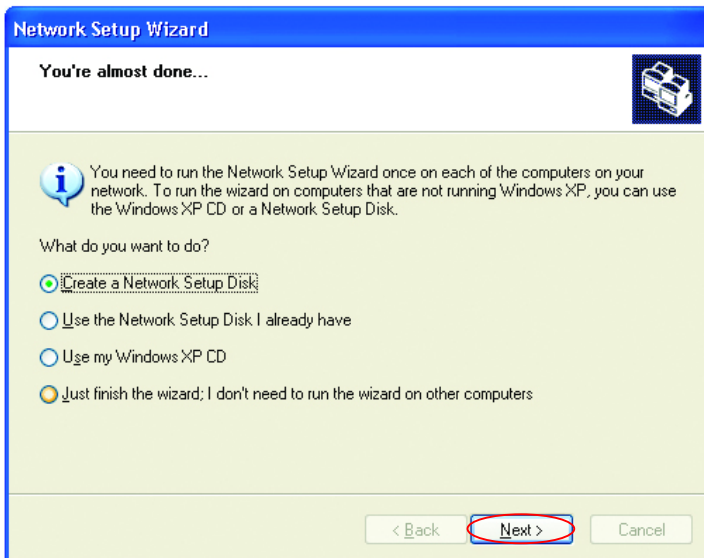
Insert a disk into the Floppy Disk Drive, in this case drive **A:**
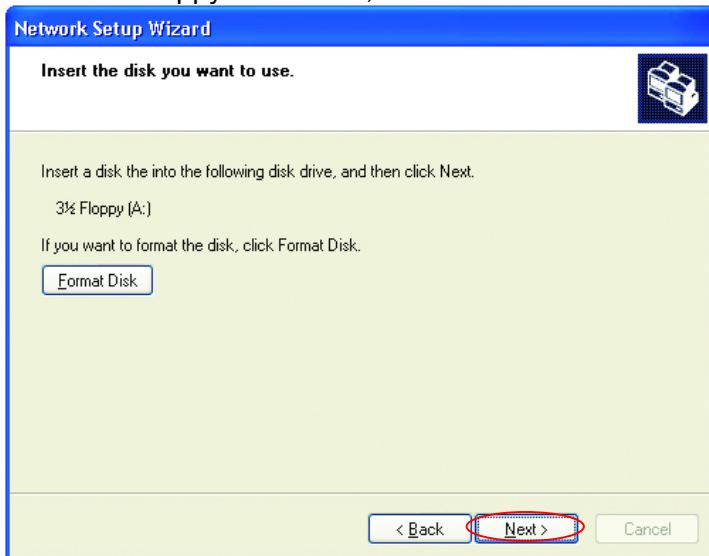
Format the disk if you wish, and click **Next.**

Networking Basics

Please wait while the wizard copies the files.

Copying...

Please wait while the wizard copies files...

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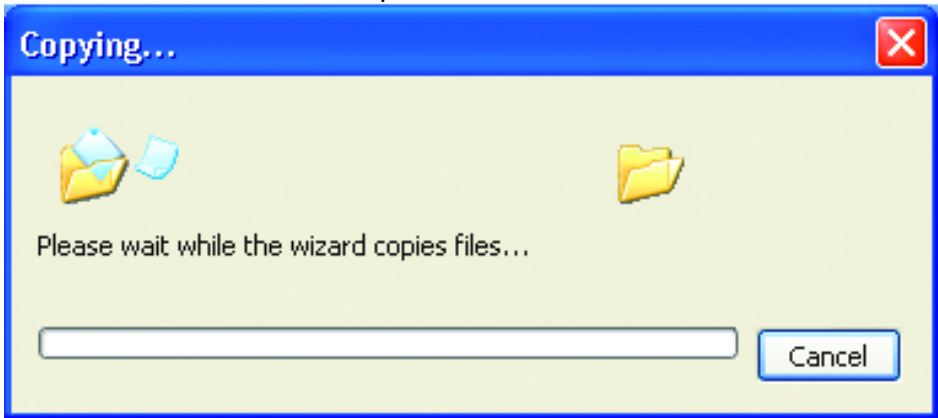
Please read the information under **Here's how** in the screen below. After you complete the **Network Setup Wizard** you will use the **Network Setup Disk** to run the **Network Setup Wizard** once on each of the computers on your network. To continue, click **Next**.
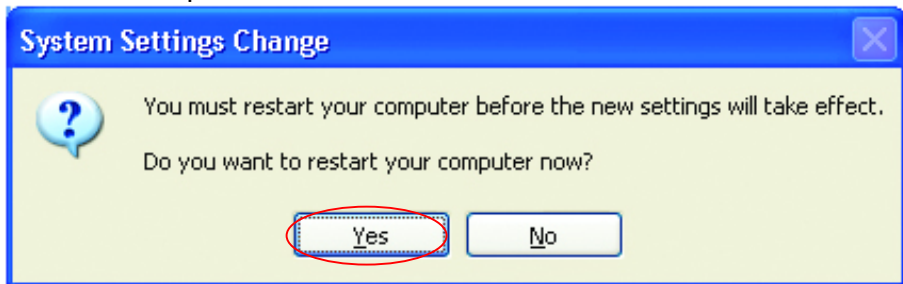
Network Setup Wizard

To run the wizard with the Network Setup Disk...

Complete the wizard and restart this computer. Then, use the Network Setup Disk to run the Network Setup Wizard once on each of the other computers on your network.

Here's how:

1. Insert the Network Setup Disk into the next computer you want to network.
2. Open My Computer and then open the Network Setup Disk.
3. Double-click "netsetup."

< Back   Next >   Cancel

Networking Basics

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

Network Setup Wizard

Completing the Network Setup Wizard

You have successfully set up this computer for home or small office networking.

For help with home or small office networking, see the following topics in Help and Support Center:

- Using the Shared Documents folder
- Sharing files and folders

To see other computers on your network, click Start, and then click My Network Places.

To close this wizard, click Finish.

< Back   Finish   Cancel

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

System Settings Change

? You must restart your computer before the new settings will take effect.

Do you want to restart your computer now?

Yes   No

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.

Networking Basics
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**

- Select **Properties** and **Click**
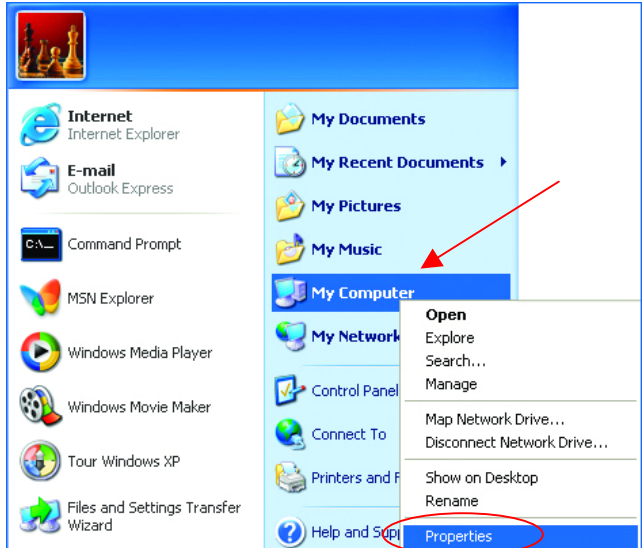
- Select the **Computer Name Tab** in the **System Properties** window.

You may enter a Computer description if you wish, this field is optional.
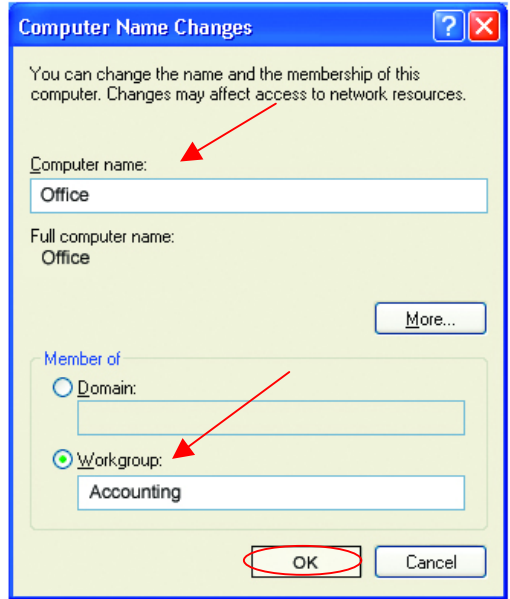
To rename the computer and join a domain,
- Click **Change**
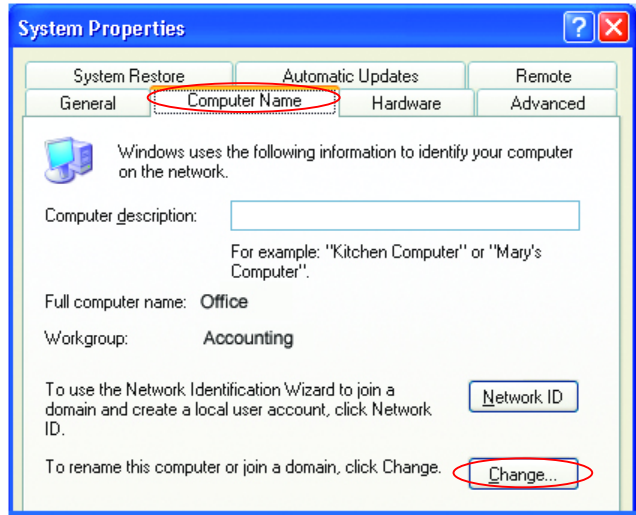
Networking Basics
Naming your Computer *(continued)*

- 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**

Checking the Installation of the Drivers for the Wireless Adapter

- Go to **Start**
- **Right-click** on **My Computer**
- Click **Properties**
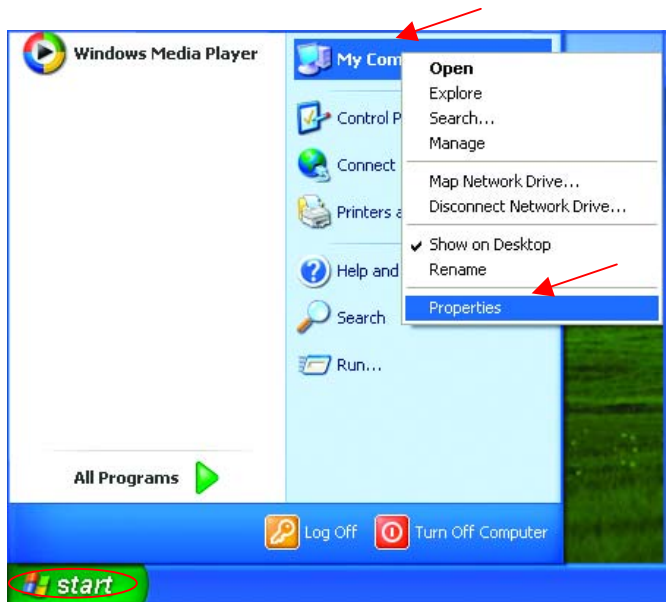
Networking Basics
Checking the Installation of the Drivers for the Wireless Adapter

- Select the **Hardware Tab**
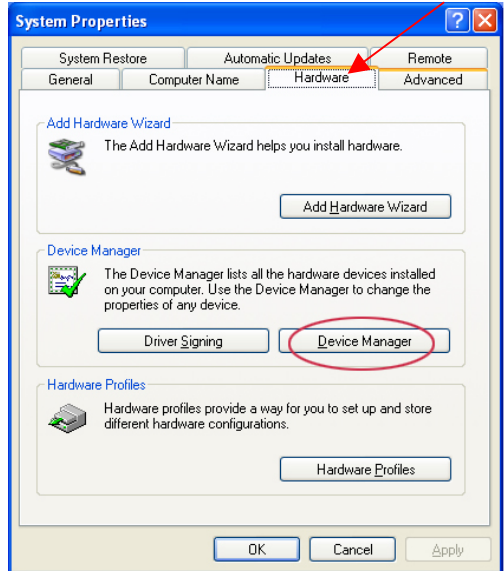
- Click **Device Manager**

- Click on **Network Adapters**

- **Right-click** on **D-Link *Air Pro* DWL-A520 Wireless PCI Adapter**

- Select **Properties** to check that the drivers are installed properly.
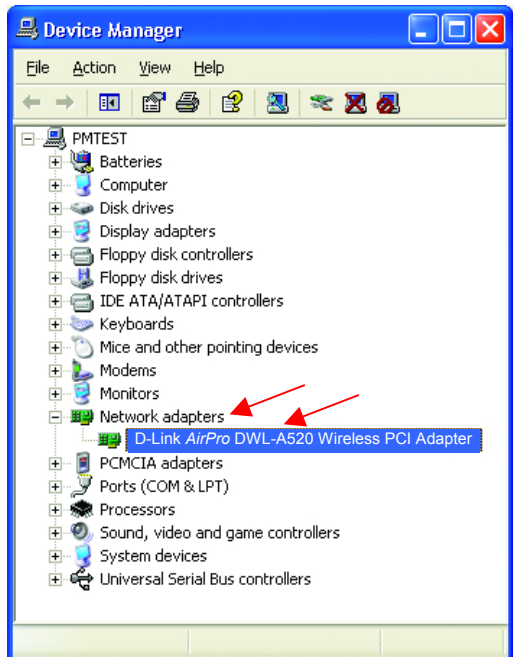
Networking Basics
Checking the Installation of the Drivers for the Wireless Adapter

- Look under **Device Status** to check that the device is working properly.
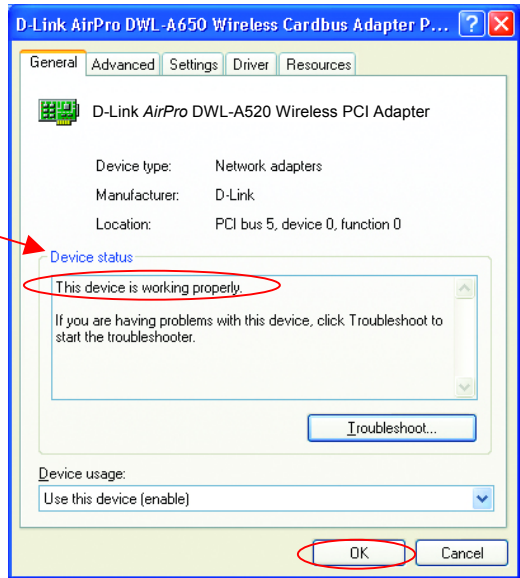
- Click **OK**

Checking the Wireless Configuration

- **Double-click** on the **Local Area Connection Icon** in the taskbar.

In this window you will see the **Signal Strength** and the **Status** of the DWL-A520. In this case the Status and the Signal Strength are fine.
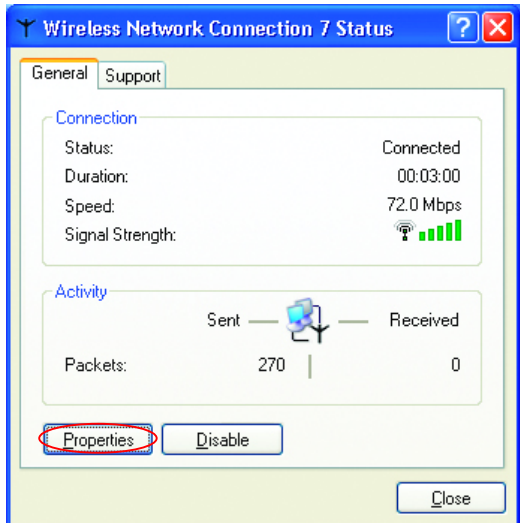
For more information:
- Click **Properties**

Networking Basics
Checking the Wireless Configuration

- Click **Configure** to access more information.
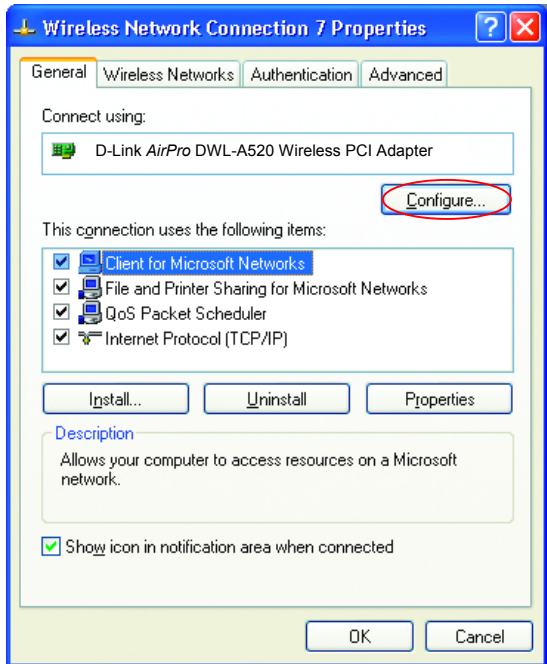
- Select **Settings**

This screen shows the wireless configuration.

- Click **Modify** to check on the configuration.
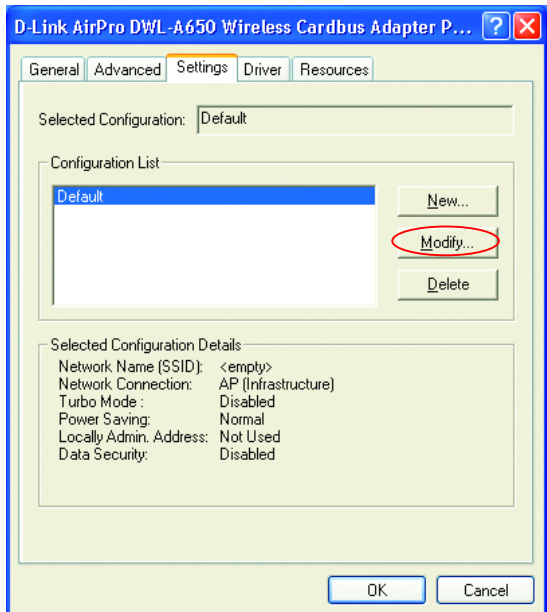
Networking Basics
Checking the Wireless Configuration

- The **Network Name (SSID)** should be set to **Default.**

- The **Network Connection** should be set to the correct mode (**Infrastructure** or **Ad Hoc**.)

- The **Turbo Mode** setting (**Disabled** in the example here) must be the same on all the stations in your network.
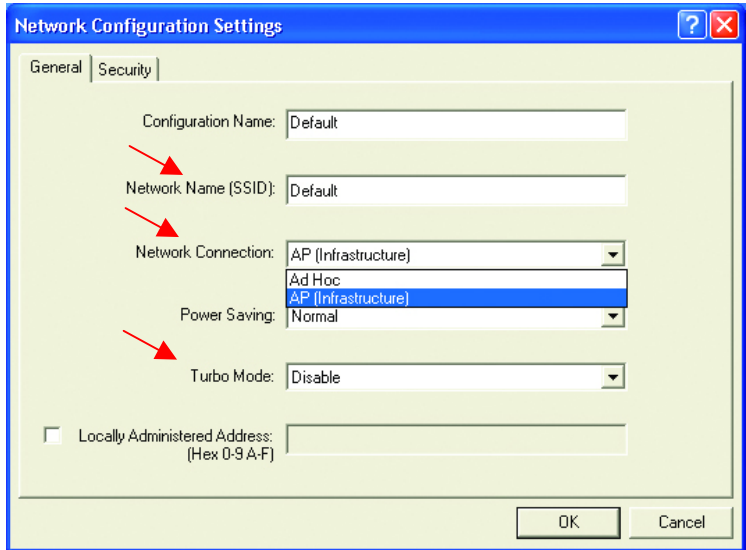
- Click on the **Security Tab**

- If **Enable Security** is selected on one station on your network, it must be selected on all stations. Likewise, if **Enable Security** is deselected on one station, it must be deselected on all stations.
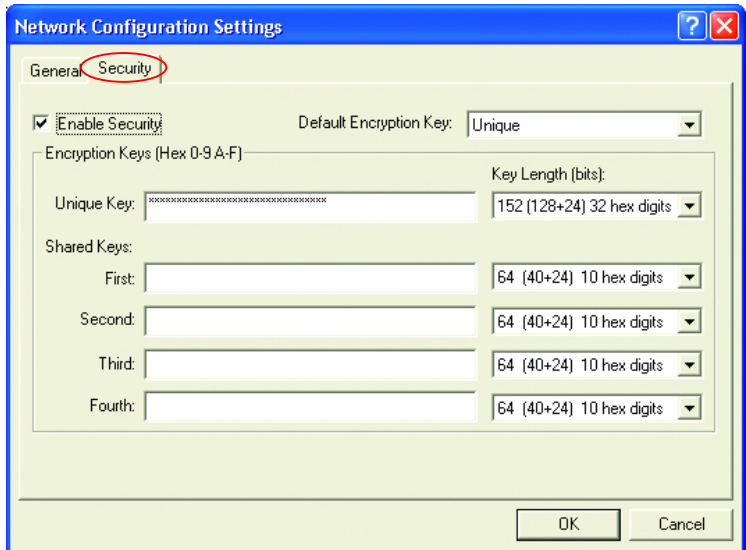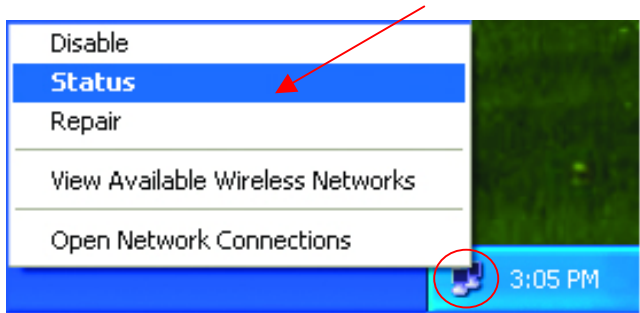
- Check to see that your **IP Address** and your **Subnet Mask** are in the correct range. See the **Networking Basics** sections: **Checking the IP Address** and **Assigning a Static IP Address**.
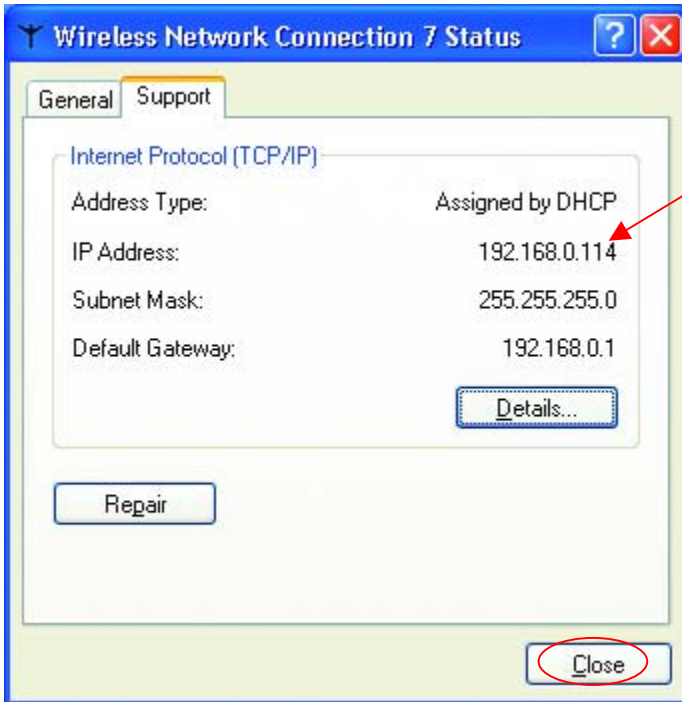
Networking Basics
Checking the IP Address in Windows XP

- **Right-click** on the **Networking Icon** in the task bar

| Disable |
| **Status** |
| Repair |
| View Available Wireless Networks |
| Open Network Connections |

3:05 PM

- Click on **Status**

The following window will display

- Click the **Support tab**.

Wireless Network Connection 7 Status

General | Support

Internet Protocol (TCP/IP)

Address Type:	Assigned by DHCP
IP Address:	192.168.0.114
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.0.1

Details...

Repair

Close

- Click **Close**

Networking Basics

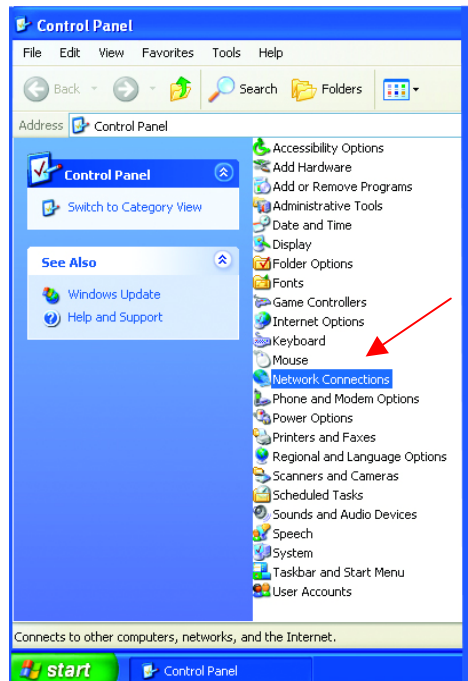## Assigning a Static IP Address

Note: Residential Gateways/Broadband 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.

If 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**
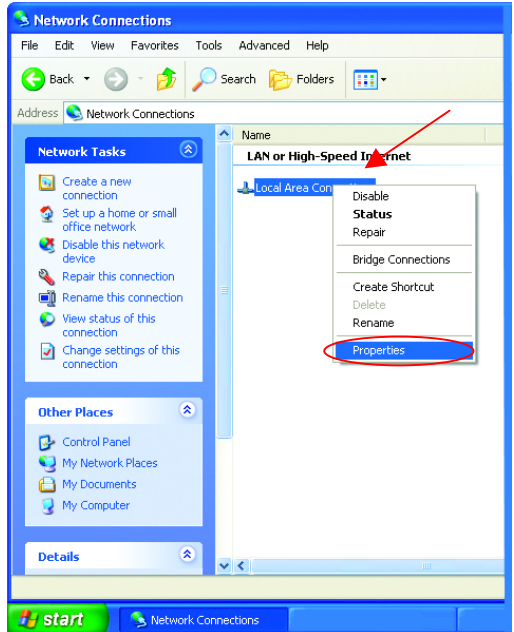
- **Double-click** on **Control Panel**
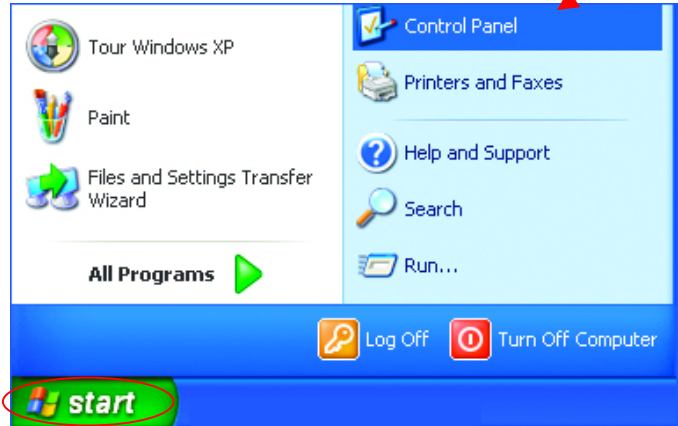
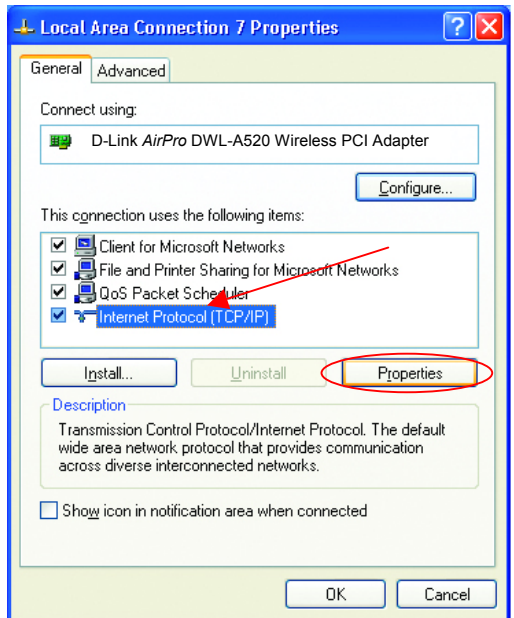- **Double-click** on **Network Connections**

Networking Basics
Assigning a Static IP Address

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

- **Double-click Properties**

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

- Click **Properties**

44

Networking Basics
Assigning a Static IP Address

- 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 sequential, like 192.168.0.3 and 192.168.0.4. The subnet mask must be the same for all the computers on the network.)

- Input your **DNS server addresses. (Note: If you are entering a DNS server address, you must enter the IP Address of the Default Gateway.)**

The DNS server information will be provided by your ISP (Internet Service Provider.)
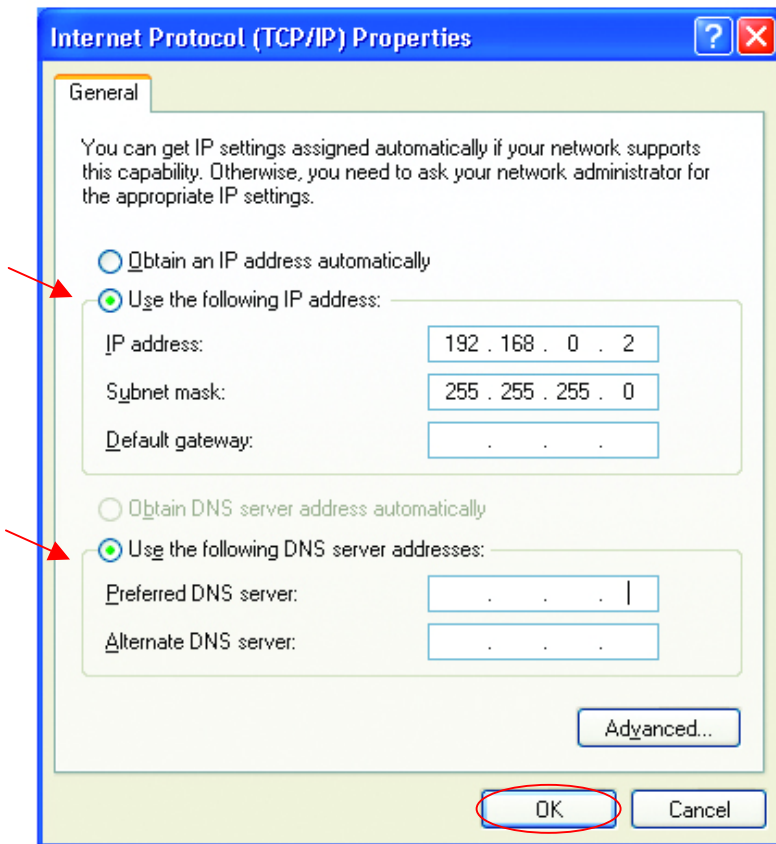
- Click **OK**

You have completed the assignment of a Static IP Address. *(You do not need to assign a Static IP Address if you have a DHCP-capable Gateway/Router.)*

Networking Basics

Adding and Sharing Printers in Windows XP

After you have run the **Network Setup Wizard** on all the computers in your network (please see the **Network Setup Wizard** section at the beginning of **Networking Basics**,) you can use the **Add Printer Wizard** to add or share a printer on your network.

Whether you want to add a **local printer** (a printer connected directly to one computer,) share an **LPR printer** (a printer connected to a print server) or share a **network printer** (a printer connected to your network through a Gateway/Router,) use the **Add Printer Wizard**. Please follow the directions below:

First, make sure that you have run the <u>Network Setup Wizard</u> on all of the computers on your network.

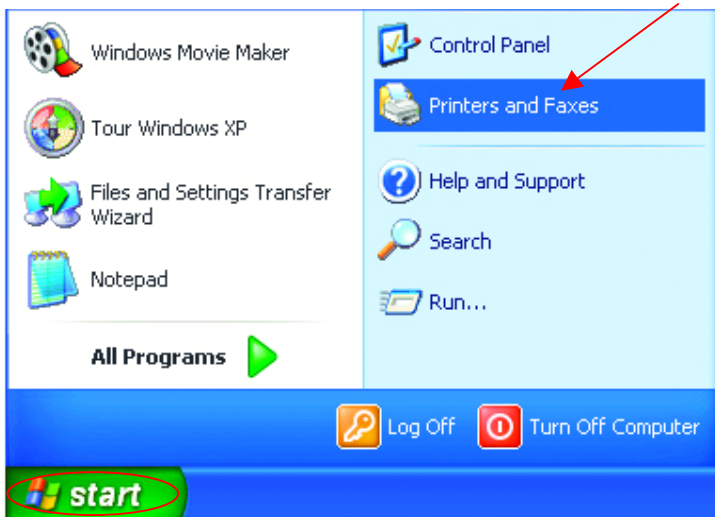We will show you 3 ways to use the **Add Printer Wizard**

1. Adding a local printer
2. Sharing an network printer
3. Sharing an LPR printer

Adding a local printer
(A printer connected directly to a computer)

A printer that is not shared on the network and is connected directly to one computer is called a **local printer**. If you do not need to share your printer on a network, follow these directions to add the printer to one computer.
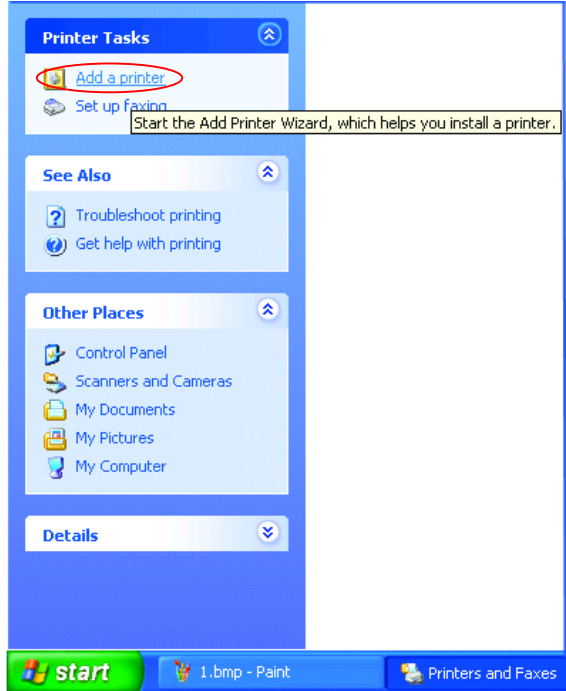
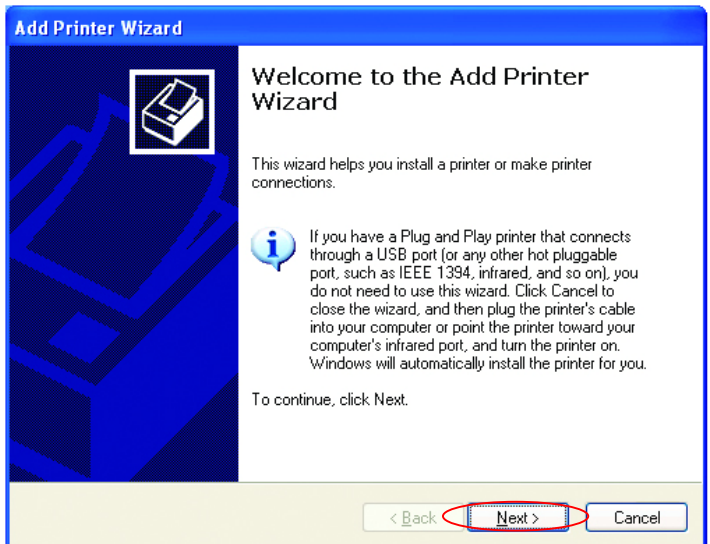- Go to **Start**>
  Printers and Faxes

46

Networking Basics
Adding a local printer

- Click on **Add a printer**

Printer Tasks
- Add a printer
- Set up faxing

Start the Add Printer Wizard, which helps you install a printer.

See Also
- Troubleshoot printing
- Get help with printing

Other Places
- Control Panel
- Scanners and Cameras
- My Documents
- My Pictures
- My Computer

Details

start — 1.bmp - Paint — Printers and Faxes

Add Printer Wizard

Welcome to the Add Printer Wizard

This wizard helps you install a printer or make printer connections.

If you have a Plug and Play printer that connects through a USB port (or any other hot pluggable port, such as IEEE 1394, infrared, and so on), you do not need to use this wizard. Click Cancel to close the wizard, and then plug the printer's cable into your computer or point the printer toward your computer's infrared port, and turn the printer on. Windows will automatically install the printer for you.

To continue, click Next.

< Back   Next >   Cancel

- Click **Next**

Networking Basics
Adding a local printer

- Select **Local printer attached to this computer**

- *(Deselect **Automatically detect and install my Plug and Play printer** if it has been selected.)*
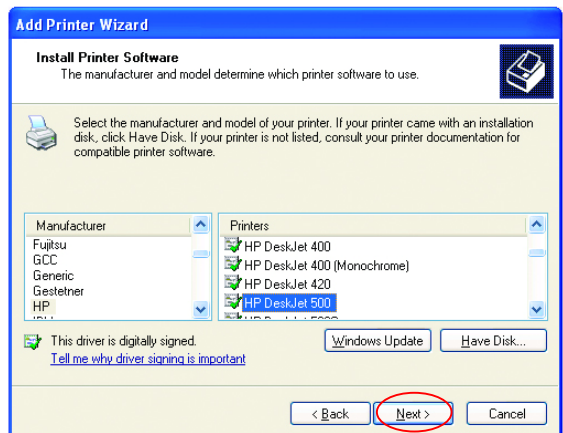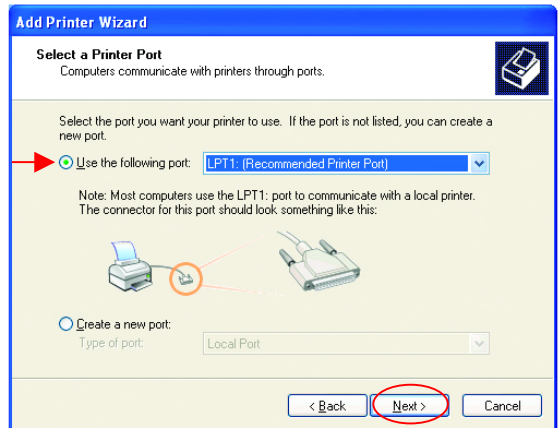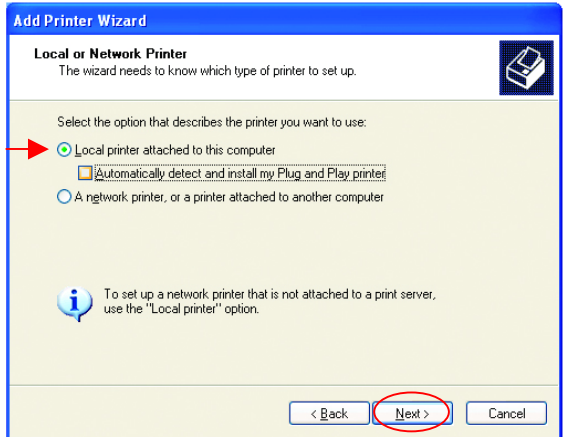
- Click **Next**

- Select **Use the following port:**

- From the pull-down menu **select the correct port** for your printer

(Most computers use the LPT1: port, as shown in the illustration.)

- Click **Next**

- Select and highlight the correct driver for your printer.

- Click **Next**

*(If the correct driver is not displayed, insert the CD or floppy disk that came with your printer and click **Have Disk**.)*

48

Networking Basics
Adding a local printer

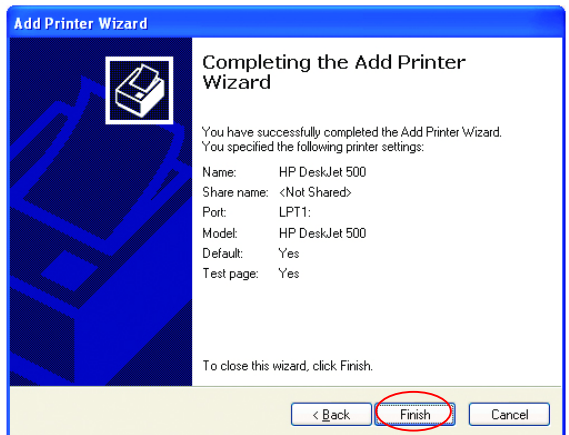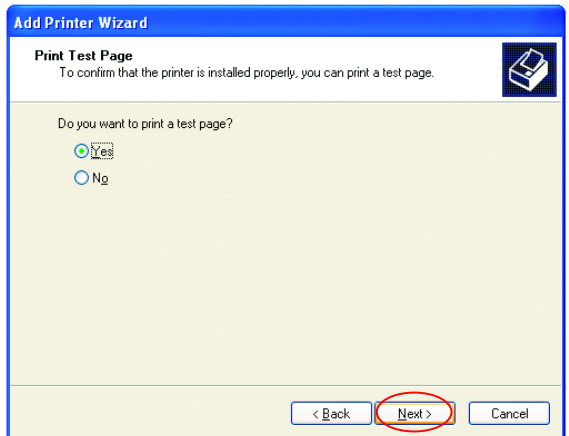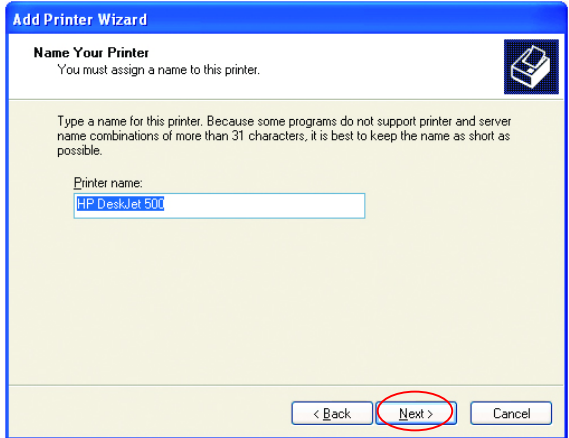- At this screen, you can change the name of the printer (optional.)

- Click **Next**

- Select **Yes**, to print a test page. A successful printing will confirm that you have chosen the correct driver.

- Click **Next**

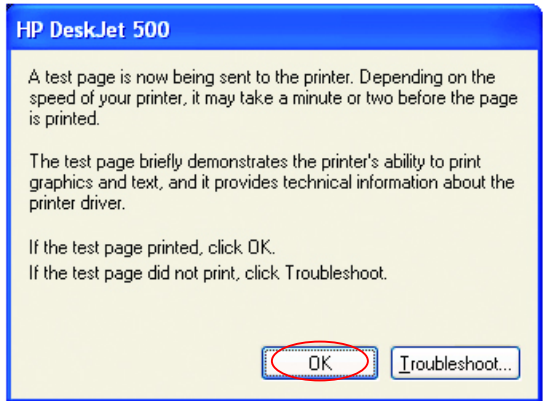This screen gives you information about your printer.

- Click **Finish**

Networking Basics
Adding a local printer
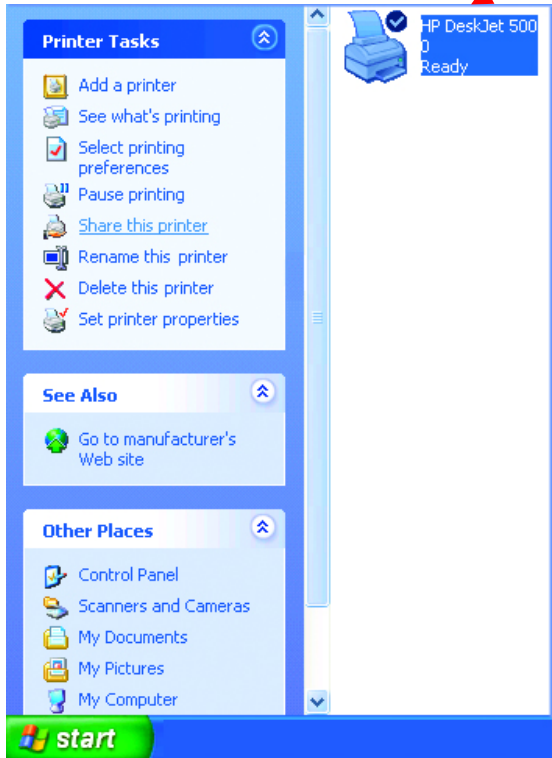
When the test page has printed,

- Click **OK**

- Go to **Start**> **Printers and Faxes**

A successful installation will display the printer icon as shown at right.

You have successfully added a local printer.
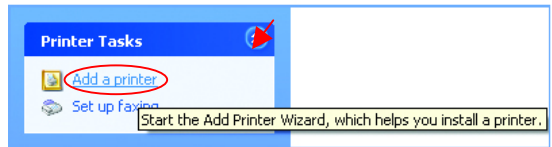
Networking Basics

Sharing a network printer

After you have run the **Network Setup Wizard** on all the computers on your network, you can run the **Add Printer Wizard** on all the computers on your network. Please follow these directions to use the **Add Printer Wizard** to share a printer on your network:
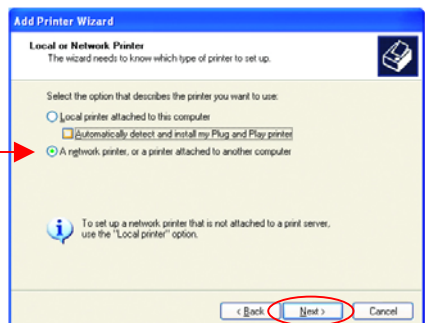
- Go to **Start**>
  Printers and Faxes
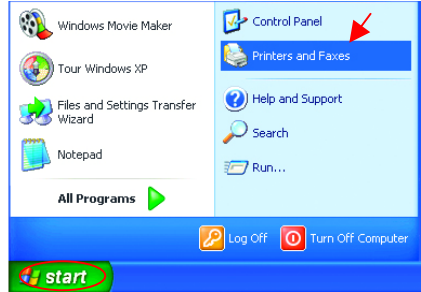
- Click on **Add a Printer**

- Click **Next**
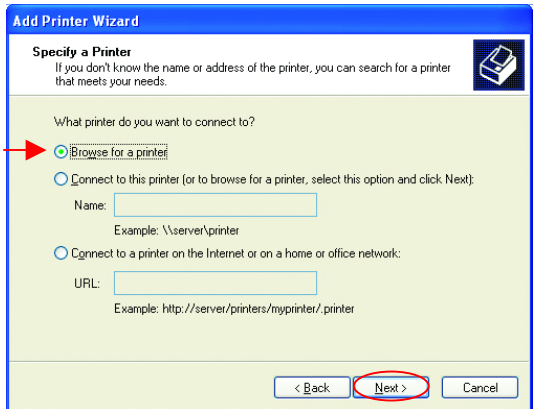
- Select **Network Printer**
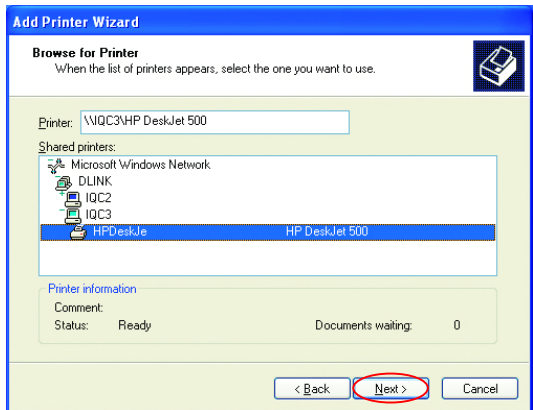
- Click **Next**

Networking Basics
Sharing a network printer
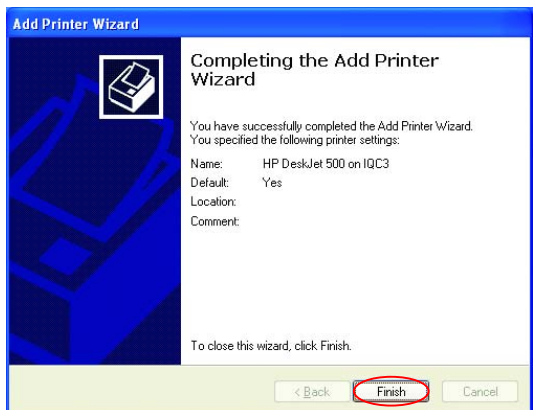
- Select **Browse for a printer**

- Click **Next**

- Select the **printer** you would like to share.

- Click **Next**

- Click **Finish**

52

Networking Basics
Sharing a network printer

To check for proper installation:

- Go to **Start**>
  Printers and Faxes
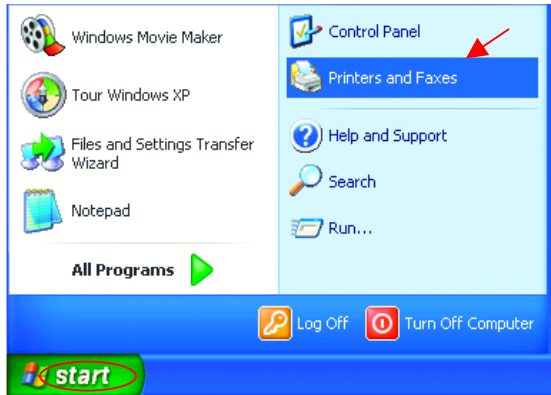
The printer icon will appear at right, indicating proper installation.

You have completed adding the printer.

To share this printer on your network:
- Remember the **printer name**
- Run the **Add Printer Wizard** on all the computers on your network.
- Make sure you have already run the **Network Setup Wizard** on all the network computers.

After you run the **Add Printer Wizard** on all the computers in the network, you can share the printer.
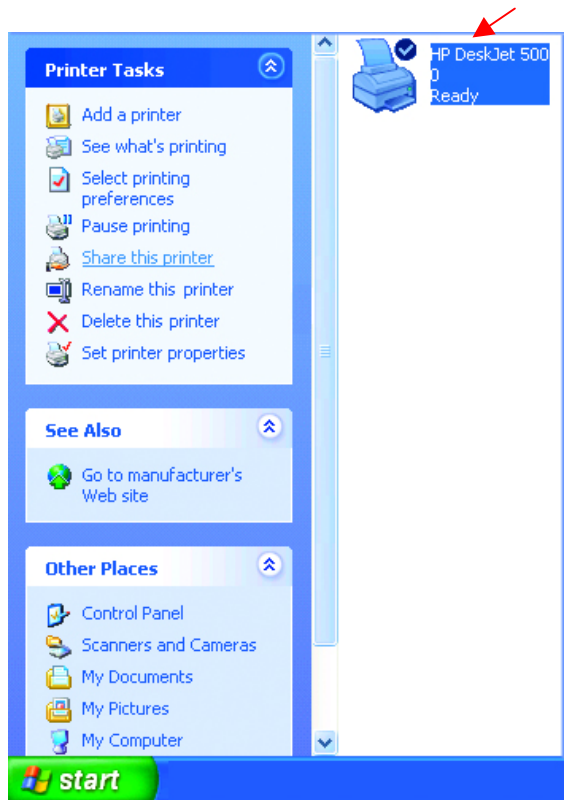
Networking Basics
Sharing an LPR printer

To share an **LPR printer** (using a print server,) you will need a Print Server such as the **DP-101P+.** Please make sure that you have run the **Network Setup Wizard** on all the computers on your network. To share an **LPR printer**, please follow these directions:

- Go to **Start**>
  Printers
  and Faxes

- Click on
  Add a Printer

The screen to the
right will display.

- Click **Next**
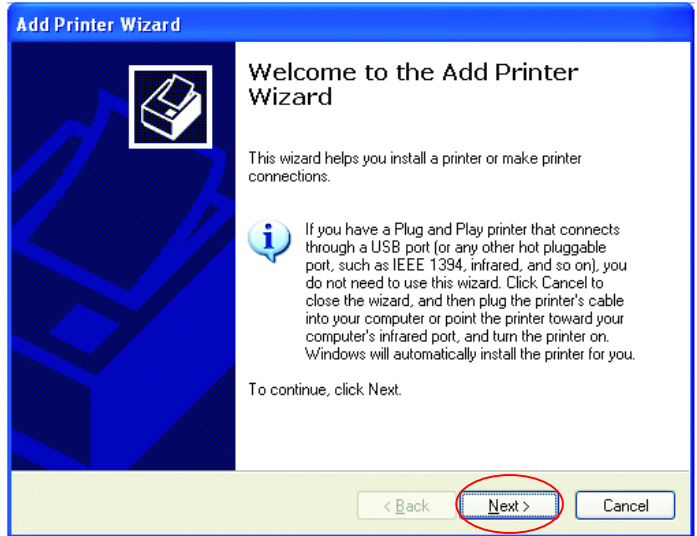
- Select
  Local
  printer…

- Click **Next**

54
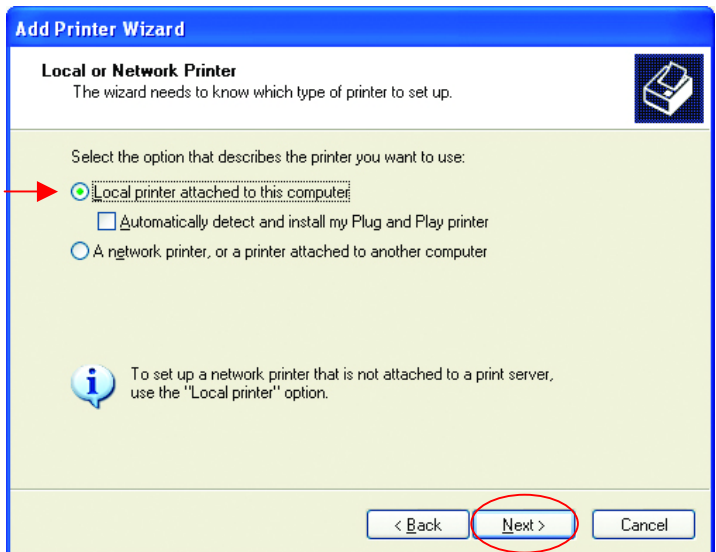
Networking Basics
Sharing an LPR printer

- Select **Create a new port**

- From the pull-down menu, select **Standard TCP/IP Port**, as shown.
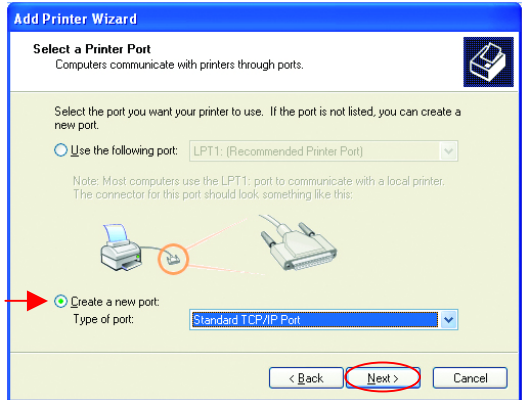
- Click **Next**

- Please read the instructions on this screen.
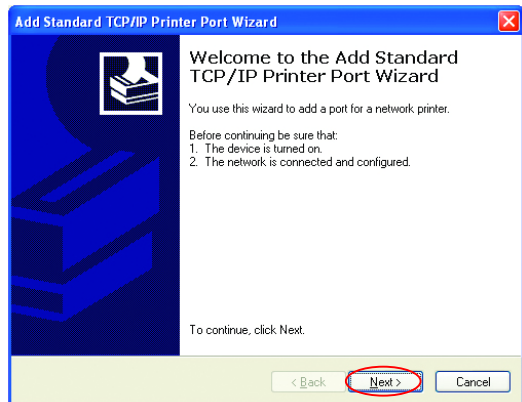
- Click **Next**

- Enter the **Printer IP Address** and the **Port Name**, as shown.
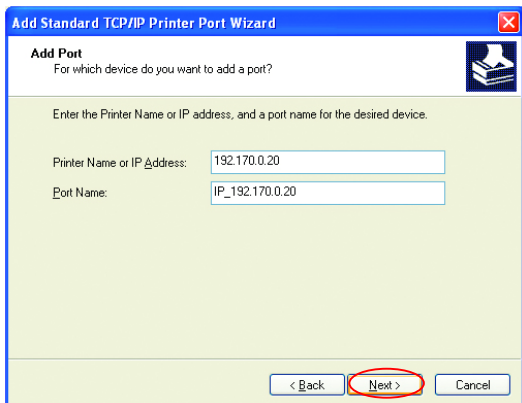
- Click **Next**

Networking Basics
Sharing an LPR printer

- In this screen, select **Custom.**
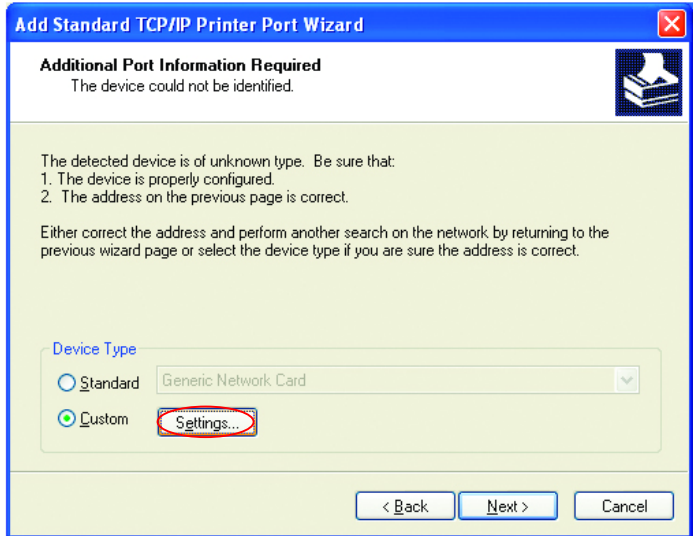
- Click **Settings**

- Enter the **Port Name** and the **Printer Name** or **IP Address**.
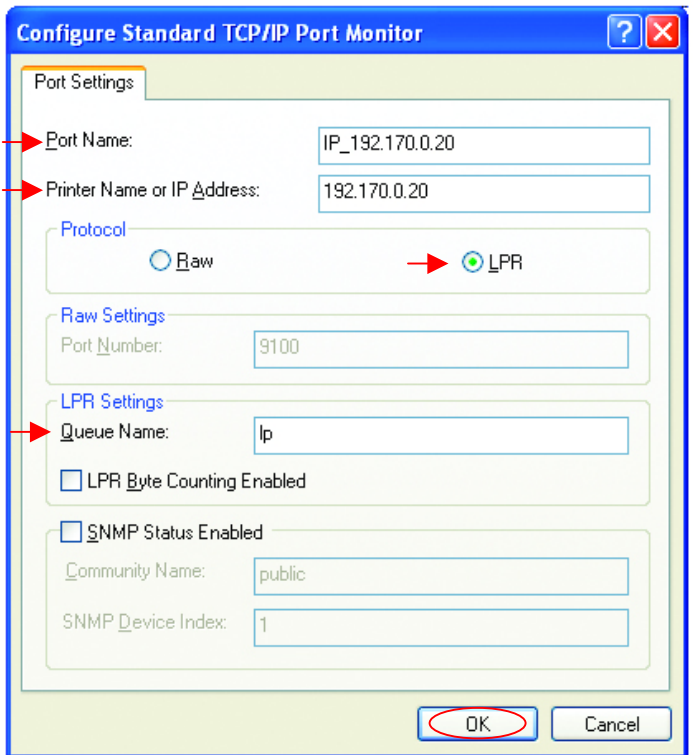
- Select **LPR**

- Enter a **Queue Name.** If there is more than one port on the print server, you must name the **Queue**.

- Click **OK**

Networking Basics
Sharing an LPR printer

- This screen will show you information about your printer.
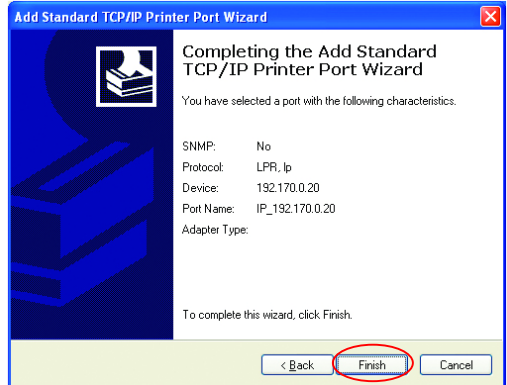
- Click **Finish**

- Select **the printer** you are adding from the list of **Printers**.
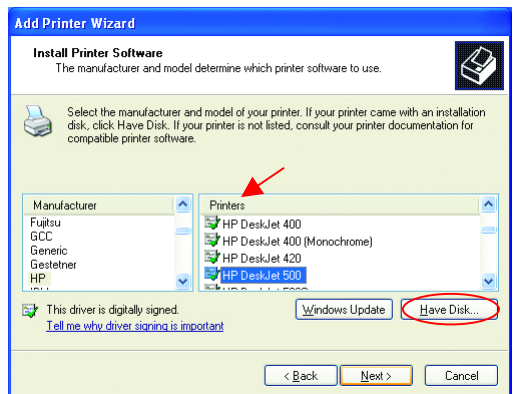
- Insert the printer driver disk that came with your printer.

- Click **Have Disk**

If the printer driver is already installed,

- Select **Keep existing driver**
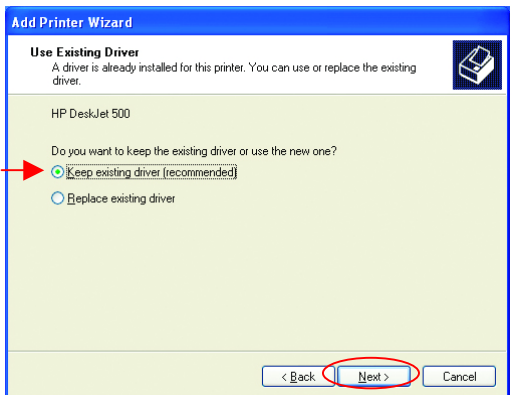
- Click **Next**

Networking Basics
Sharing an LPR printer

- You can rename your printer if you choose. It is optional.

Please remember the name of your printer. You will need this information when you use the Add Printer Wizard on the other computers on your network.
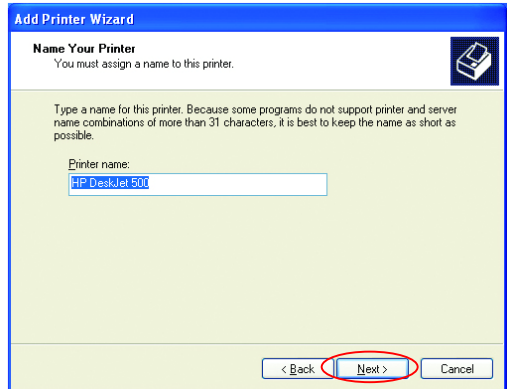
- Click **Next**

- Select **Yes**, to print a test page.
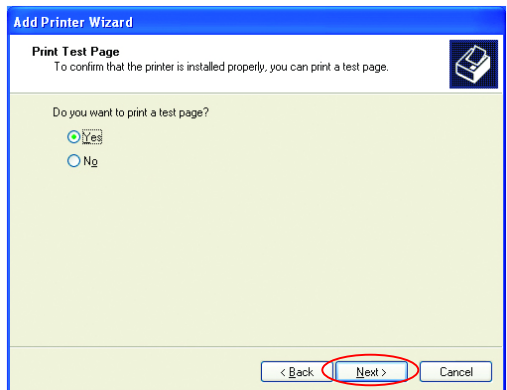
- Click **Next**

This screen will display information about your printer.

- Click **Finish** to complete the addition of the printer.

- Please run the **Add Printer Wizard** on all the computers on your network in order to share the printer.
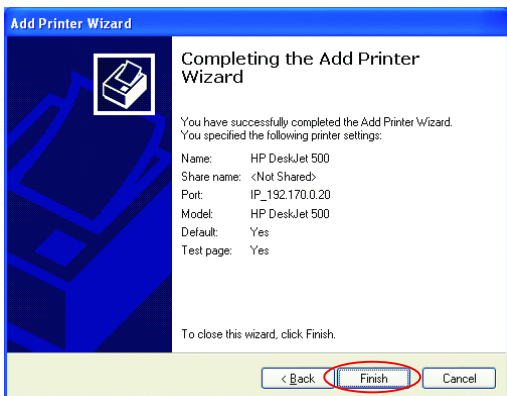
*Note: You must run the **Network Setup Wizard** on all the computers on your network before you run the **Add Printer Wizard**.*

58

Networking Basics
Other Tasks

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.

Technical Specifications

Standards
- IEEE 802.11a (Wi-Fi5)

Adapter Type
- PCI 2.2 compliant
- PCI 32-bit interface

Supported OS
- Windows XP
- Windows 2000
- Windows ME
- Windows 98SE

Frequency Range
- 5.150-5.350 GHz

Data Rates
- 6, 9, 12, 18, 24, 36, 48, 54, 72 Mbps

Modulation Technology
- Orthogonal Division Frequency Multiplexing (OFDM)

Modulation Techniques
- BPSK (Binary Phase Shift Keying)
- QPSK (Quadrature Phase Shift Keying)
- 16 QAM (Quadrature Amplitude Modulation)
- 64 QAM (Quadrature Amplitude Modulation)

Data Security
- 64, 128, 154-bit WEP (Wired Equivalent Privacy) Encryption

Media Access Control
- CSMA/CA

Diagnostic LED
- Power
- Link

Current Consumption
- Sleep mode - <40mW
- Transmit mode - 1650mW
- Receive mode – 1250mW

Operating Voltage
- 3.3V$\pm$ -10%

Network Architecture
- Ad-Hoc Mode (Peer-to-Peer without Access Point)
- Infrastructure Mode (Communications to wired networks via Access Points with Roaming)

Antenna Type
- Integrated dual diversity antennas with 1.5dBi gain

Available Channels:
- Eight non-overlapping channels for North America

MTBF (Mean Time Between Failure)
- 30,000 hours

Physical Dimensions
- L ~ 5.24 inches (133 mm)
- W ~ 4.76 inches (121 mm)
- H ~ 0.71 inches (18mm

Temperature
- Operating: 0ºC to 60ºC (32ºF to 140ºF)
- Storing: -20ºC to 85ºC (-4ºF to 185ºF)

Humidity:
- 5%-95%, non-condensing

Emissions:
- FCC part 15b
- UL1950-3

Warranty
- Three Years

Contacting Technical Support

You can find the most recent software and user documentation on the D-Link website.

D-Link 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 D-Link technical support through our web site, or by phone.

D-Link Technical Support over the Telephone:
(800) 758-5489
24 hours a day, seven days a week.

D-Link Technical Support over the Internet:
http://support.dlink.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*

Limited Warranty and Registration

D-Link Systems, Inc. ("D-Link") provides this 3-Year warranty for its product only to the person or entity who originally purchased the product from:

- D-Link or its authorized reseller or distributor.
- Products purchased and delivered with the fifty United States, the District of Columbia, US Possessions or Protectorates, US Military Installations, addresses with an APO or FPO.

3-Year Limited Hardware Warranty: D-Link warrants that the hardware portion of the D-Link products described below ("Hardware") will be free from material defects in workmanship and materials from the date of original retail purchase of the Hardware, for the period set forth below applicable to the product type ("Warranty Period").

3-Year Limited Warranty for the Product(s) is defined as follows

- Hardware (excluding power supplies and fans)
- Spare parts and spare kits Ninety (90) days.

D-Link's sole obligation shall be to repair or replace the defective Hardware at no charge to the original owner. Such repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement Hardware need not be new or of an identical make, model or part; D-Link may in its discretion replace the defective Hardware (or any part thereof) with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. The Warranty Period shall extend for an additional ninety (90) days after any repaired or replaced Hardware is delivered. If a material defect is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to repair or replace the defective Hardware, the price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware (or part thereof) that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

Limited Software Warranty: D-Link warrants that the software portion of the product ("Software") will substantially conform to D-Link's then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original delivery of the Software for a period of ninety (90) days ("Warranty Period"), if the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. D-Link's sole obligation shall be to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link's functional specifications for the Software. Except as otherwise agreed by D-Link in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. The Warranty Period shall extend for an additional ninety (90) days after any replacement Software is delivered. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

What You Must Do For Warranty Service:
Registration is conducted via a link on our Web Site (http://www.dlink.com/). Each product purchased must be individually registered for warranty service within ninety (90) days after it is purchased and/or licensed.

FAILURE TO PROPERLY TO REGISTER MAY AFFECT THE WARRANTY FOR THIS PRODUCT.

Submitting A Claim. Any claim under this limited warranty must be submitted in writing before the end of the Warranty Period to an Authorized D-Link Service Office.

- The customer must submit as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same.

- The original product owner must obtain a Return Material Authorization (RMA) number from the Authorized D-Link Service Office and, if requested, provide written proof of purchase of the product (such as a copy of the dated purchase invoice for the product) before the warranty service is provided.

- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package.
- The customer is responsible for all shipping charges to and from D-Link (No CODs allowed). Products sent COD will become the property of D-Link Systems, Inc. Products should be fully insured by the customer and shipped to **D-Link Systems Inc., 53 Discovery Drive, Irvine CA 92618**.

D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link's reasonable handling and return shipping charges for any product

that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

What Is Not Covered:
This limited warranty provided by D-Link does not cover: Products that have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; and Any hardware, software, firmware or other products or services provided by anyone other than D-Link.

Disclaimer of Other Warranties: EXCEPT FOR THE 3-YEAR LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO NINETY (90) DAYS. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

Limitation of Liability: TO THE MAXIMUM EXTENT PERMITTED BY LAW, D-LINK IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, LOSS OF INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO D-LINK FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NON-CONFORMING PRODUCT.

GOVERNING LAW: This 3-Year Warranty shall be governed by the laws of the state of California. Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This limited warranty provides specific legal rights and the product owner may also have other rights which vary from state to state.

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 communication. 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.

Modifications to this device are not authorized, may violate FCC regulation Part 15.407, and will void the warranty for this product. This device is intended to operate in the frequency band of 5.15 to 5.25 GHz under all conditions of normal operation. According to FCC 15.407 (e), normal operation of this device is restricted to indoor use only to reduce any potential harmful interference to co-channel Mobile Satellite Systems, or radar systems that use 5.25 to 5.35 GHz and 5.65 to 5.85 GHz frequency bands. This interference could also damage this device.

Registration: Register your D-Link *AirPro* DWL-A520 online at http://www.dlink.com/sales/reg

Free Manuals Download Website

http://myh66.com

http://usermanuals.us

http://www.somanuals.com

http://www.4manuals.cc

http://www.manual-lib.com

http://www.404manual.com

http://www.luxmanual.com

http://aubethermostatmanual.com

Golf course search by state

http://golfingnear.com

Email search by domain

http://emailbydomain.com

Auto manuals search

http://auto.somanuals.com

TV manuals search

http://tv.somanuals.com