

# Networking Basics

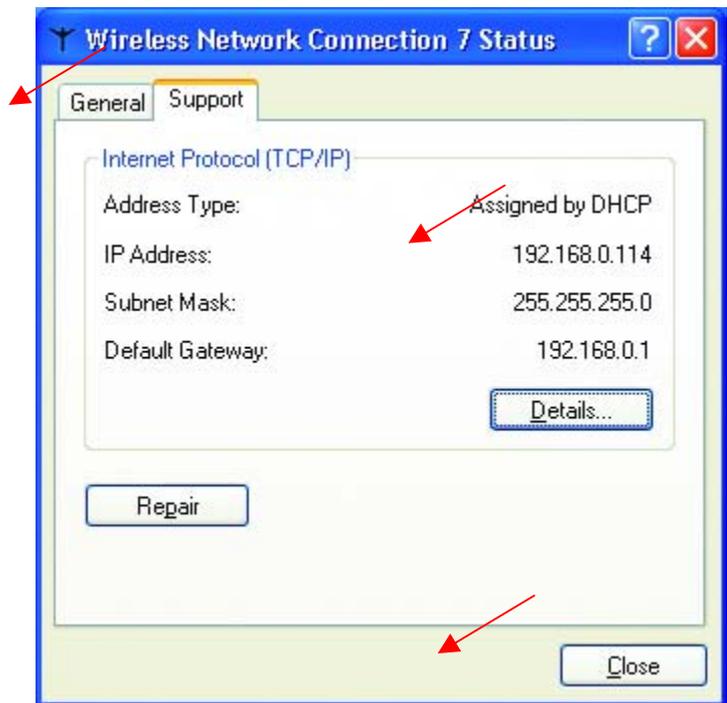
## Checking the IP Address in Windows XP

- **Right-click** on the networking icon in the task bar
- **Click on Status**



The following window will display

- **Click the Support tab.**



- **Click Close**

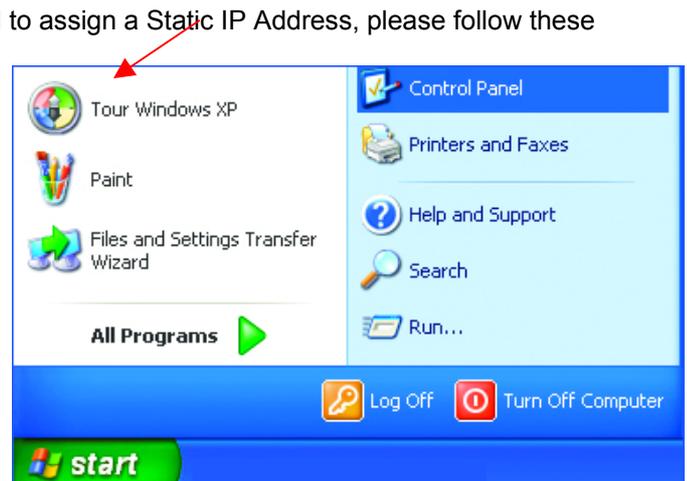
# Networking Basics

## Assigning a Static IP Address

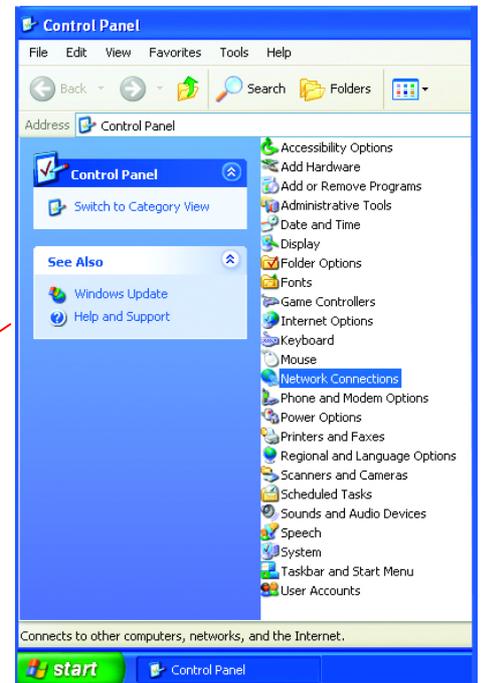
*Note: Residential Gateways/Broadband Routers will automatically assign IP Addresses to the computers on the network, using DHCP (Dynamic Host Configuration Protocol) technology. If you are using a DHCP-capable Gateway/Router you will not need to assign Static IP Addresses.*

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**



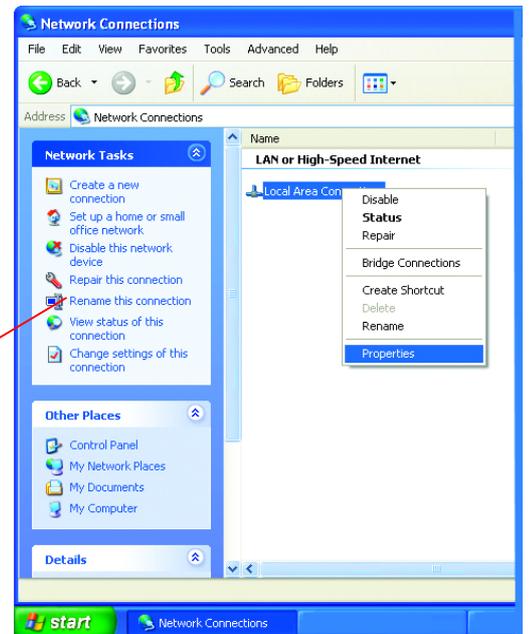
- **Double-click on Network Connections**



## Networking Basics

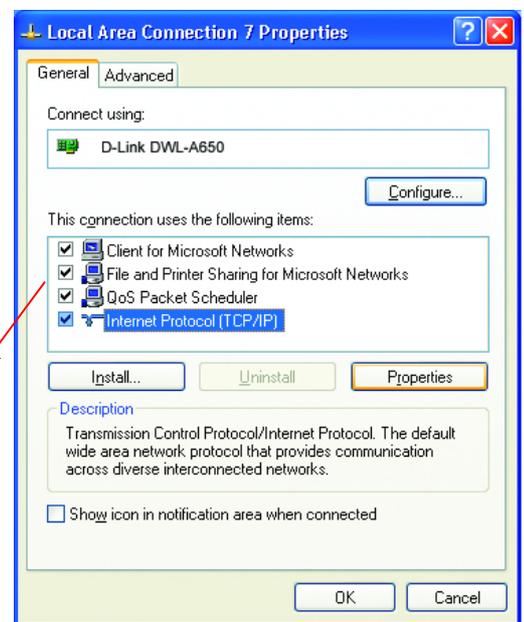
### Assigning a Static IP Address

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



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

- **Click Properties**

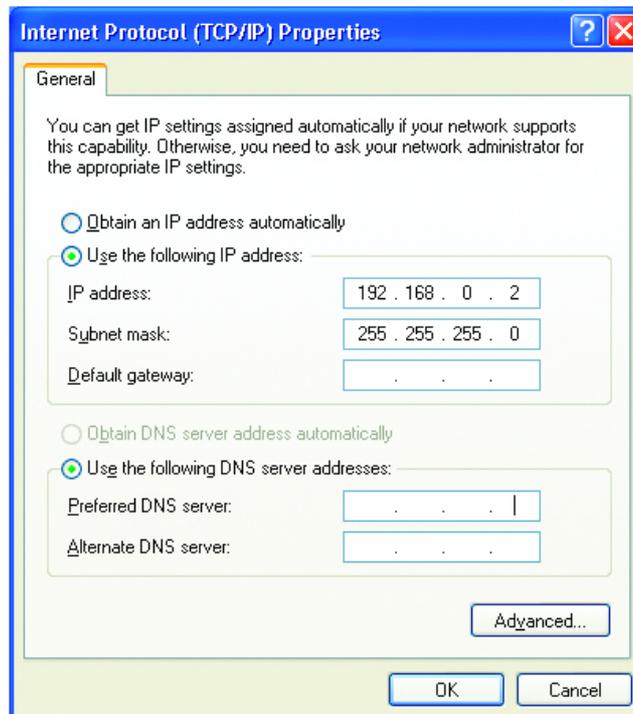


## Networking Basics

### 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.**)
- **Click OK**

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



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 Network Setup Wizard on all of the computers on your network.**

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

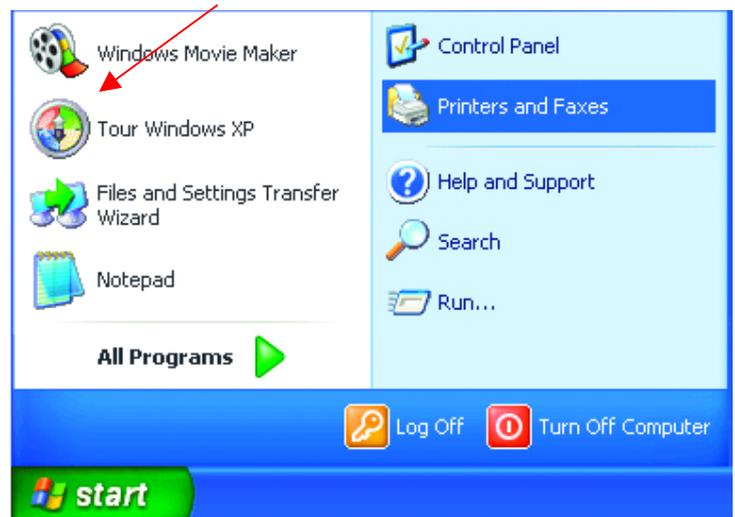
1. Adding a local printer
2. Sharing a network printer
3. Sharing an LPR printer

### 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.

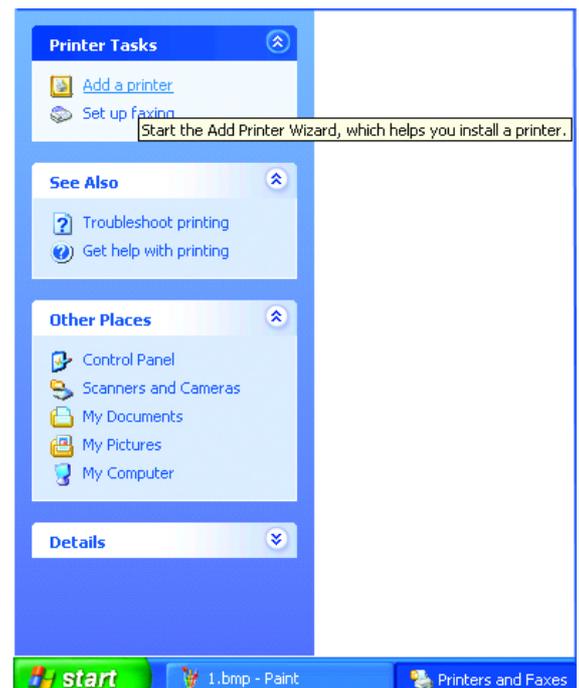
- Go to Start> Printers and Faxes

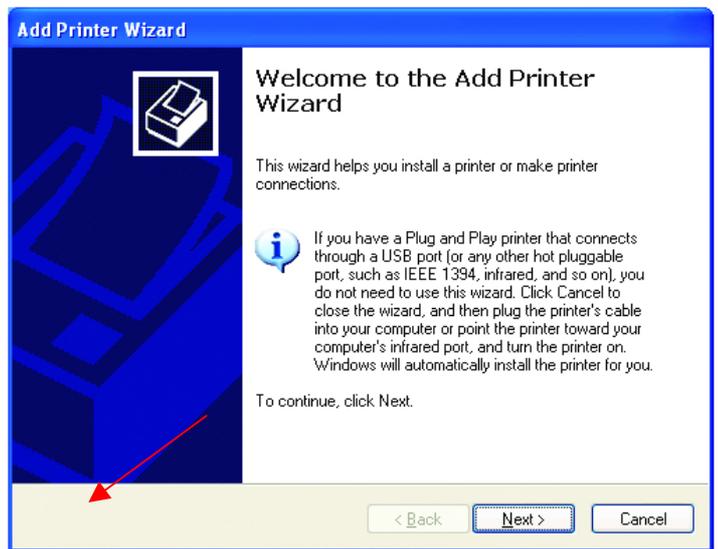


## Networking Basics

### Adding a local printer

- Click on Add a printer





- 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



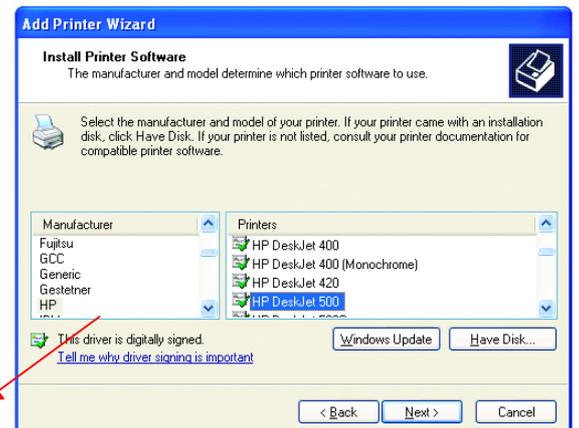
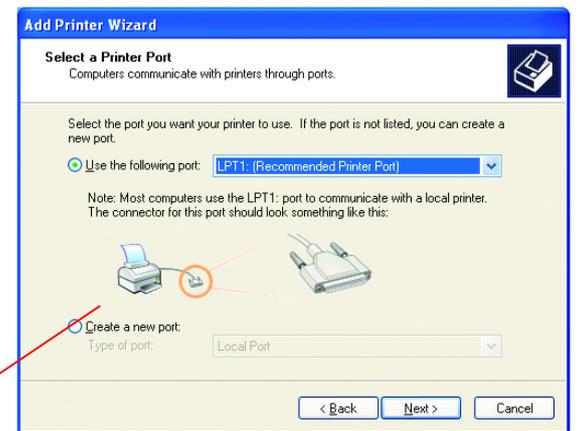
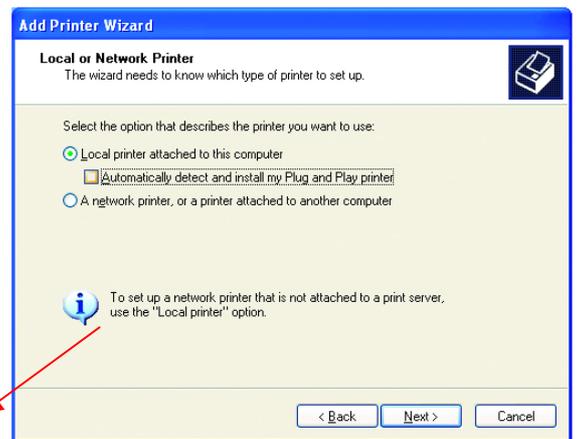
*(Most computers use the **LPT1:** port, as shown in the illustration.)*

- 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.**)*



# Networking Basics

## Adding a local printer

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

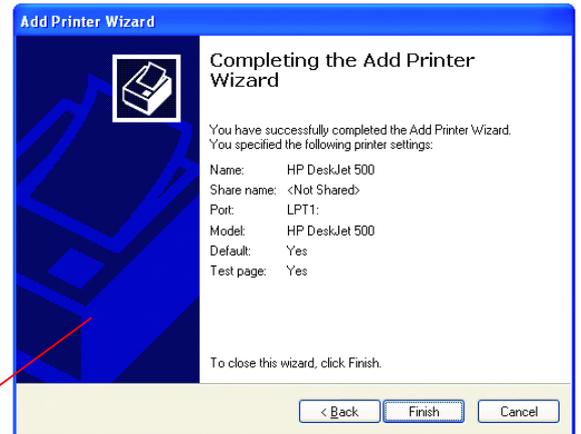
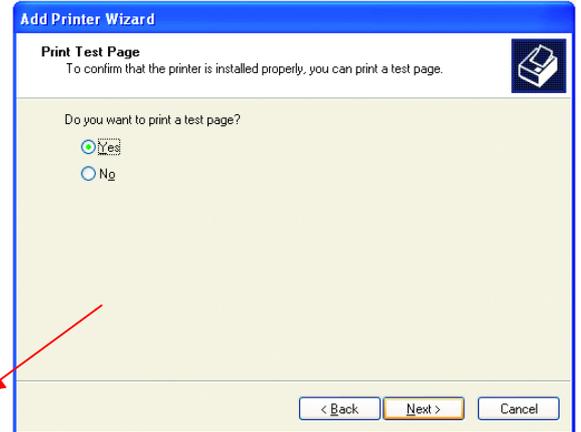
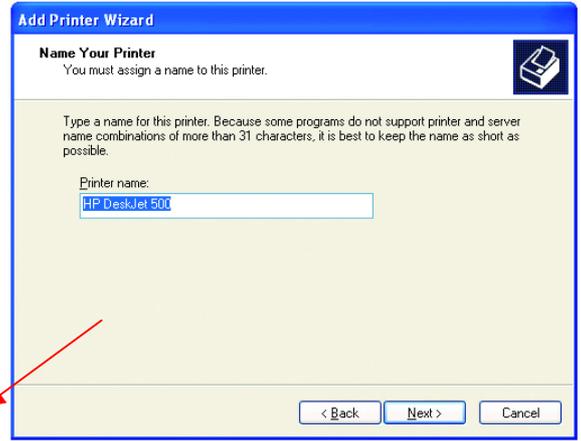
- **Click Next**

- **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**

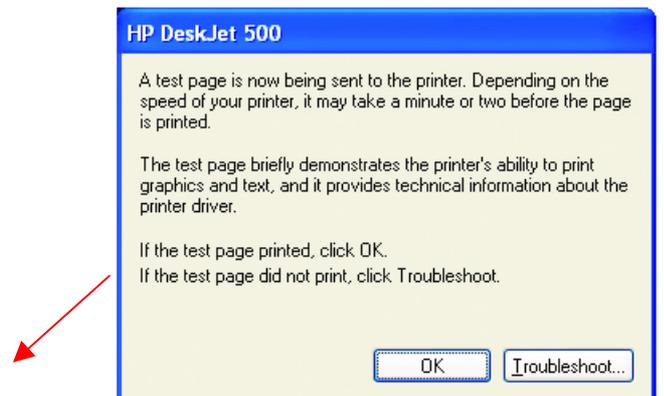


# Networking Basics

## Adding a local printer

When the test page has printed,

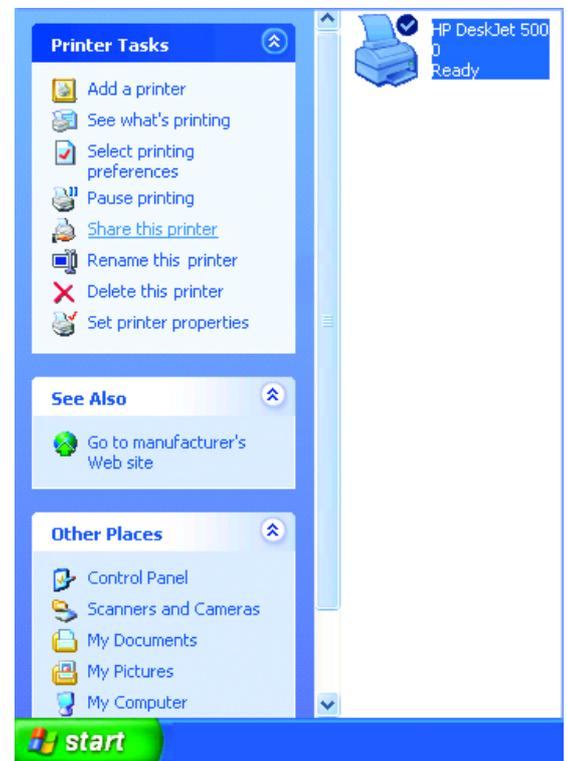
- **Click OK**



- 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

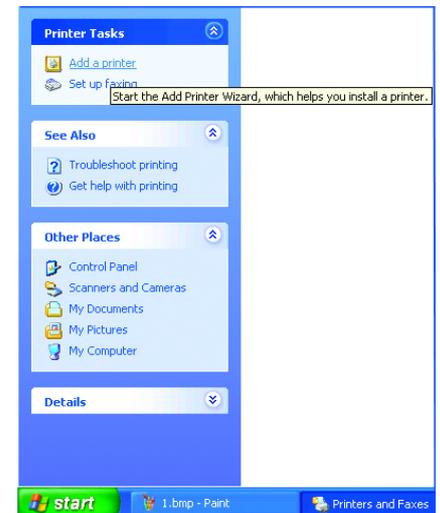
### Sharing a network printer

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**



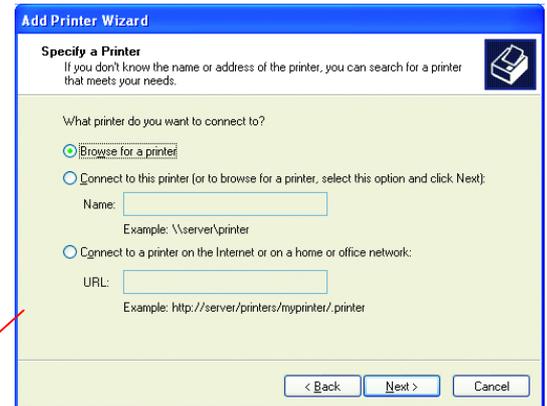
- Click Next



## Networking Basics

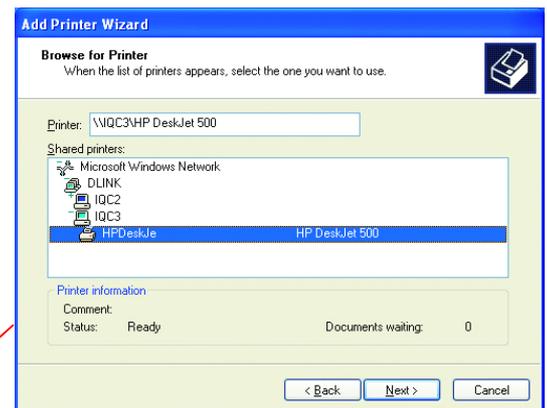
### Sharing a network printer

- Select **Browse for a printer**



- Click Next

- Select the printer you would like to share.



- Click Next



- Click Finish

# Networking Basics

## Sharing a network printer

To check for proper installation:

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



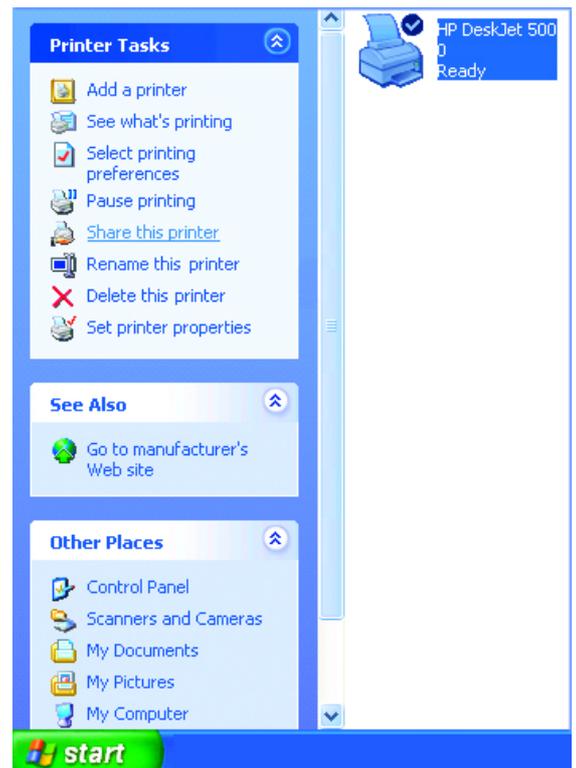
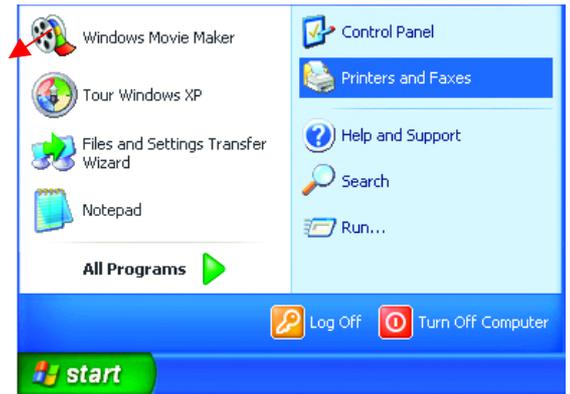
*The printer icon will appear at right, indicating proper installation.*

*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+** or the **DP-313** or a Gateway/Router with a printer port such as the **DI-713P**. 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.

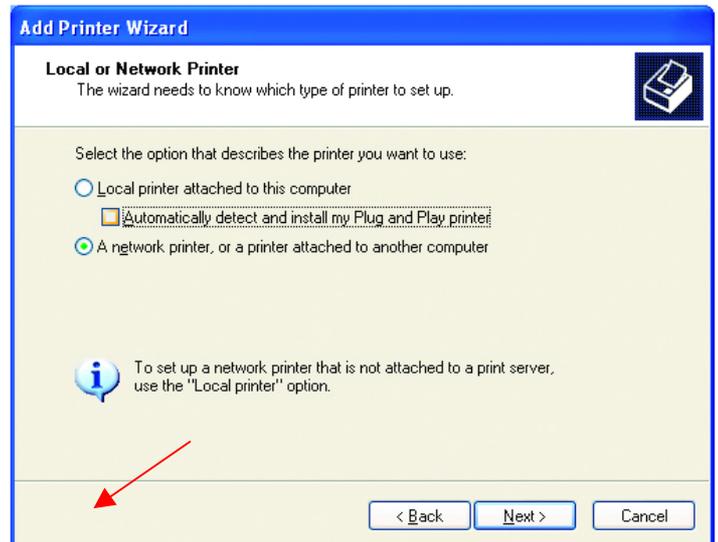
- Click **Next**



- Select **A Network Printer**



- Click **Next**



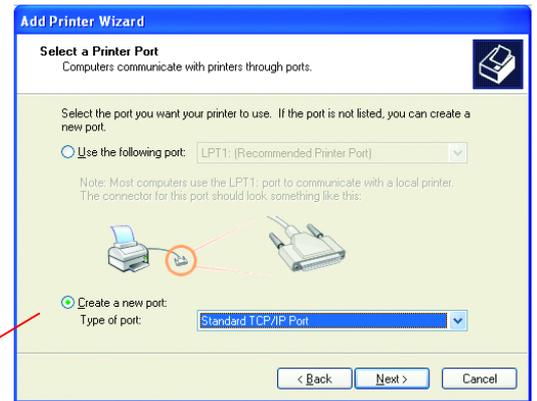
## Networking Basics

### 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**

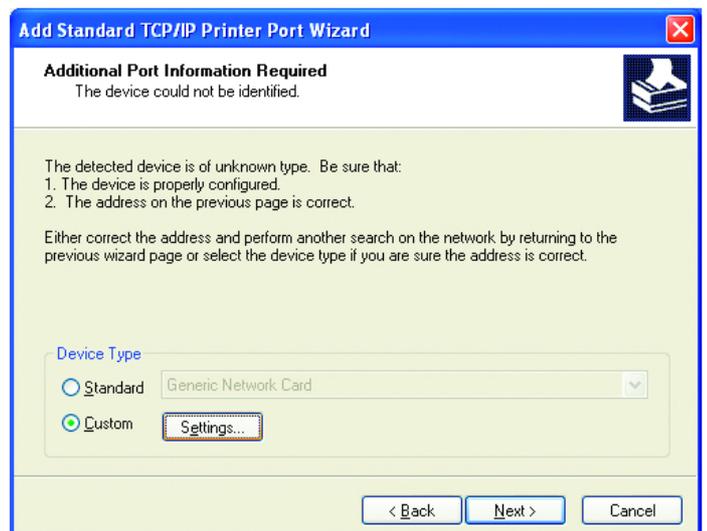


## Networking Basics

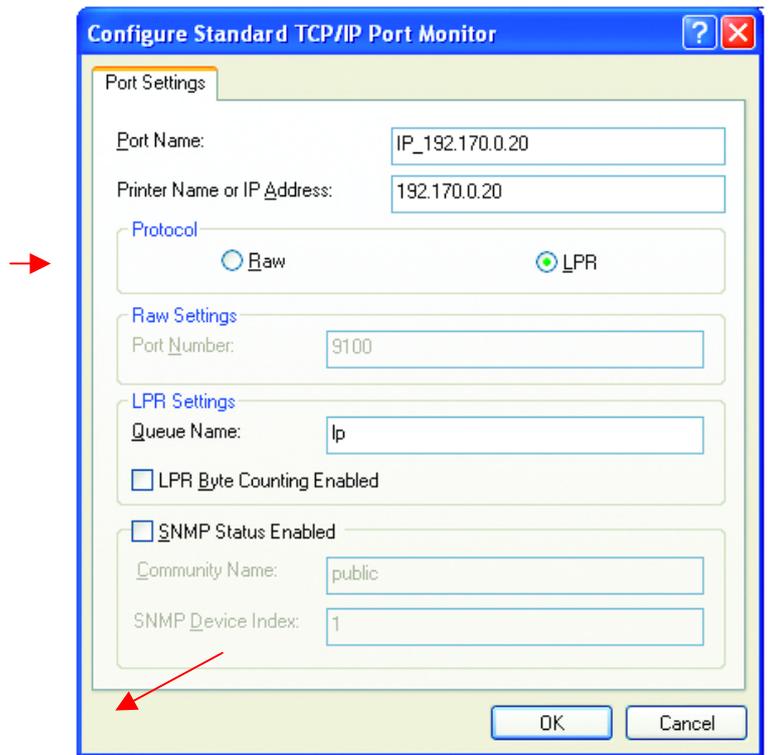
### Sharing an LPR printer

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

- **Click Settings**



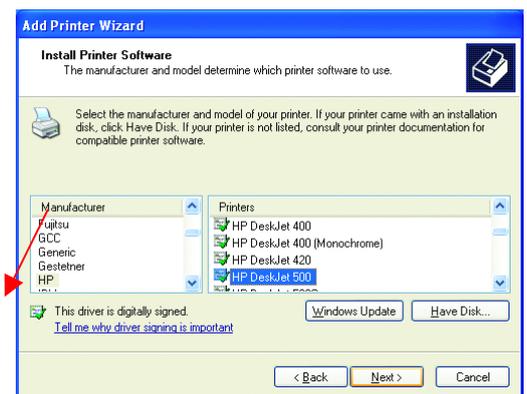
- Enter the **Port Name** and the **Printer Name** or **IP Address**.
- **Select LPR**
- Enter a **Queue Name**. If there is more than one port on the print server, you must name the **Queue**.
- **Click OK**



## Networking Basics

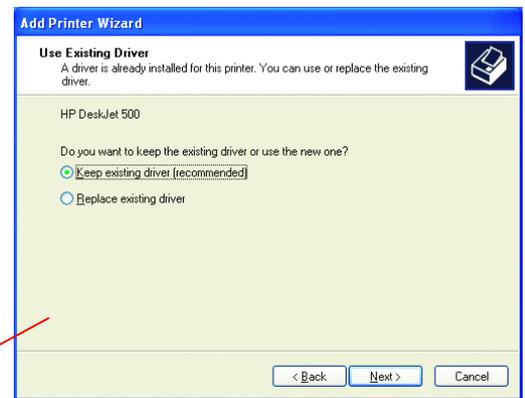
### Sharing an LPR printer

- 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

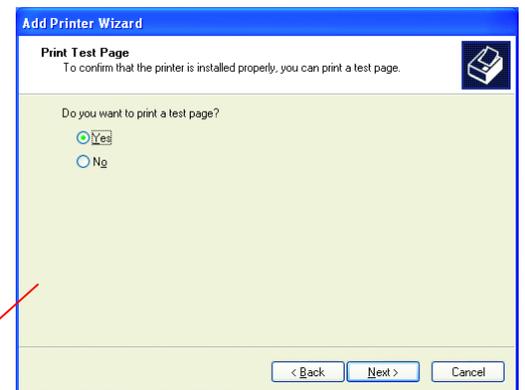
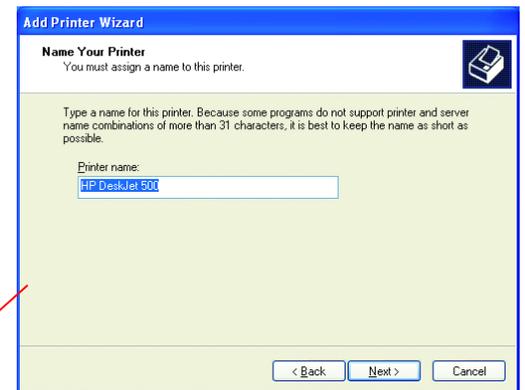
### Sharing an LPR printer

- 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**.*

## Networking Basics

### Other Tasks

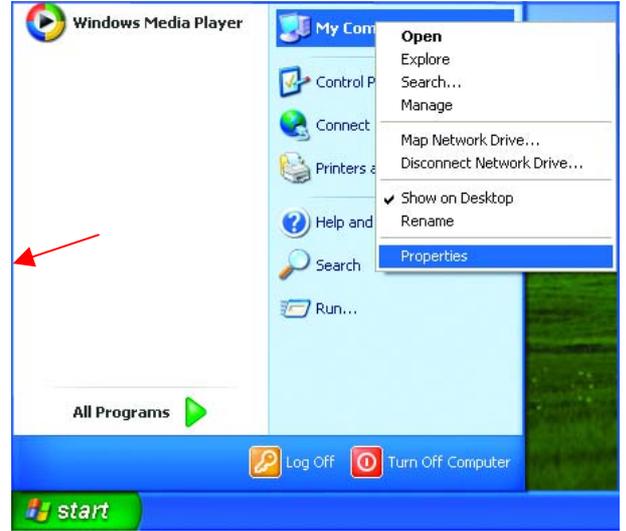
For help with other tasks in home or small office networking, see **Using the Shared Documents** folder and **Sharing files and folders** in the **Help and Support Center** in Microsoft Windows XP.

# Troubleshooting

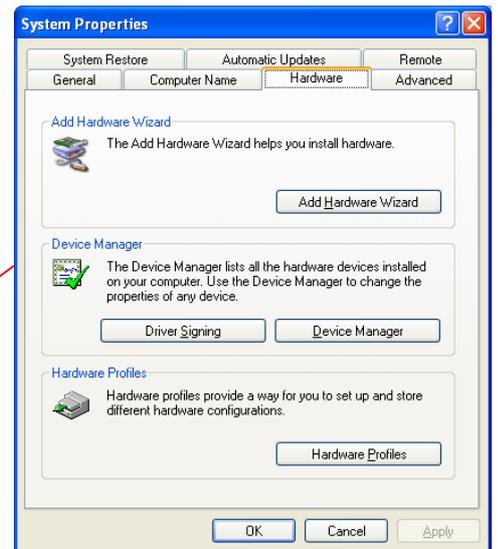
This chapter provides solutions to problems that can occur during the installation and operation of the WUS-B12 Wireless USB Adapter. Read the following descriptions if you are having problems.

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

- Go to **Start**
- **Right-click** on **My Computer**
- Click **Properties**

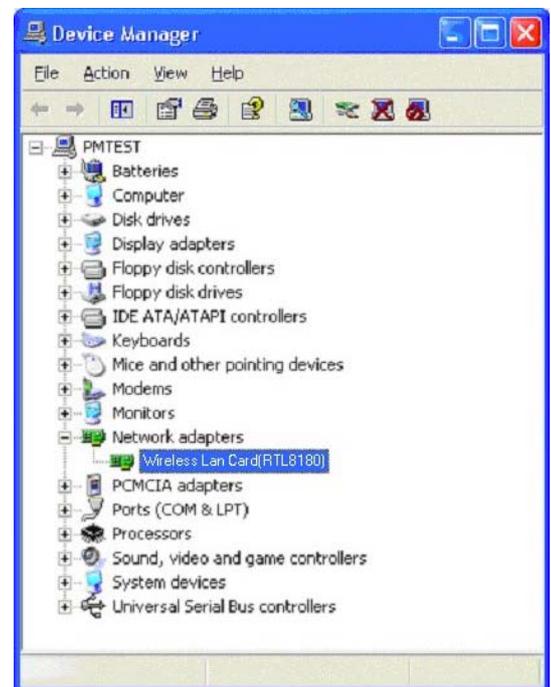


- Select the **Hardware Tab**
- Click **Device Manager**



## Troubleshooting (continued)

- Click on **Network Adapters**
- **Right-click** on **WUS-B12 Wireless LAN Card**
- Select **Properties** to check that the drivers are installed properly.

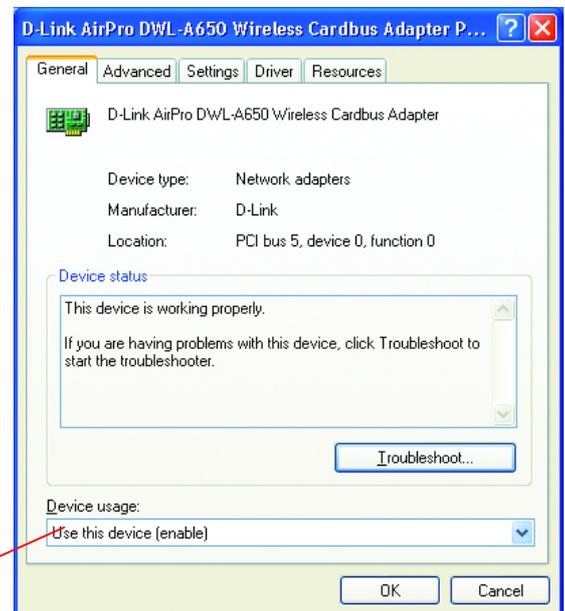


- Look under **Device Status** to check that the device is working properly.

WUS-B12 Wireless USB Adapter



- Click **OK**



## Troubleshooting (continued)

### 2. The computer does not recognize the WUS-B12 802.11b Wireless USB Adapter.

- Make sure that the WUS-B12 Wireless USB Adapter is properly seated in the computer's USB port.
- If Windows does not detect the hardware upon insertion of the adapter, make sure to completely remove drivers that were previously installed. To remove the drivers, do the following:
  - Under **Tools**> select **Folder Options...**> select **View** > under **Hidden files and folders** > select **Show hidden files and folders**
  - Uncheck **Hide extension for known file types** > click on **Apply**
  - Search for the files **NetA3AB.inf** and **A3AB.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 WUS-B12 802.11b Wireless USB Adapter does not work properly after the driver is installed.

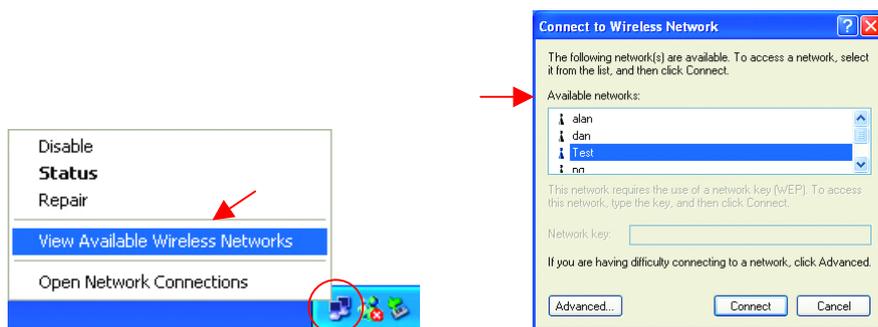
- **Restart** the computer. (In some cases, it will be necessary to restart the computer after installing the drivers.)

- 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 AirPro WUS-B12 Wireless USB 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 **Networking Basics** section 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. In this case, make sure the computer system has a free IRQ and if necessary, uninstall the drivers, restart the system, and repeat the driver installation procedure.

## Troubleshooting (continued)

### 4. 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**.)

# Technical Specifications

## Standards

- IEEE 802.11b (Wi-Fi)

## Adapter Type

- USB 1.0

## Supported OS

- Windows XP
- Windows 2000
- Windows ME
- Windows 98
- Windows 95

## Frequency Range

- 2400 ~ 2497MHz ISM Band

## Data Rates

- 1, 2, 5.5, 11 Mbps

## Modulation Technology

- Direct Sequence Spread Spectrum (DSSS)

## Modulation Techniques

- DBPSK (Differential Binary Phase Shift Keying)
- DQPSK (Differential Quadrature Phase Shift Keying)
- CCK (Complementary Code Keying)

## Data Security

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

## Media Access Control

- CSMA/CA with ACK

## Diagnostic LED

- Power
- Link

## Current Consumption

- Sleep mode - 80mA
- Transmit mode - 350mA
- Receive mode - 200mA

## Operating Voltage

- 3.3VDC  $\pm$  -5%

## Network Architecture

- Ad-Hoc Mode and 802.11 Ad-hoc Mode for network configurations that do not have any access points.
- Infrastructure Mode for network configurations with access points.

## Antenna Type

- Printed PCB antenna

## Available Channels:

- 12 non-overlapping channels for US and Canada
- 4 non-overlapping channels for Japan
- 19 non-overlapping channels for US

## MBTF (Mean Time Between Failure)

- 30,000 hours

**Physical Dimensions**

- L ~ 82.5 mm
- W ~ 27.2 mm
- H ~ 12 mm

**Temperature**

- Operating: 0°C to 55°C (32°F to 131°F)
- Storing: -20°C to 75°C (-4°F to 167°F)

**Humidity:**

- 10%-90%, non-condensing

**Emissions:**

- FCC part 15b
- UL1950-3

**Warranty**

- Three Years

## Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one 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.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

**IMPORTANT NOTE:****FCC Radiation Exposure Statement:**

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

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