

Networking Basics

Assigning a Static IP Address with *Macintosh OS X*

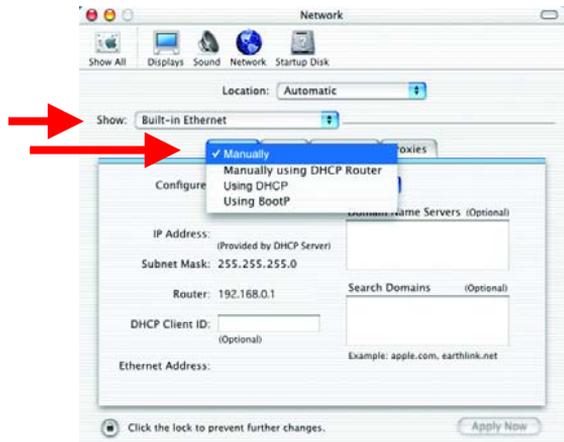
Go to the **Apple Menu** and select **System Preferences**.

Click on **Network**



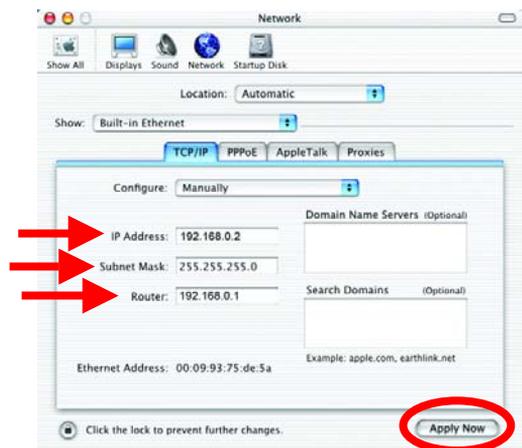
Select **Built-in Ethernet** in the **Show** pull-down menu.

Select **Manually** in the **Configure** pull-down menu.



Input the **Static IP Address**, the **Subnet Mask** and the **Router IP Address** in the appropriate fields.

Click **Apply Now**



Networking Basics

Selecting a Dynamic IP Address with Macintosh OS X

Go to the **Apple Menu** and select **System Preferences**.

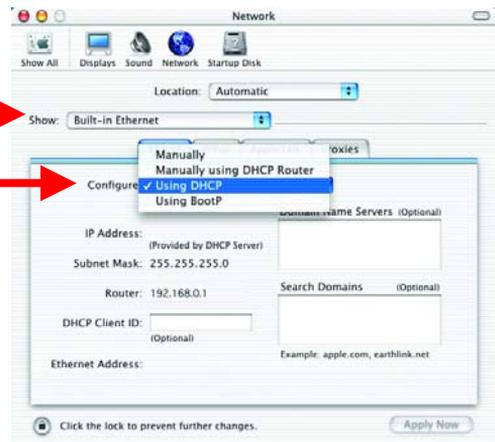
Click on **Network**



Select **Built-in Ethernet** in the **Show** pull-down menu.

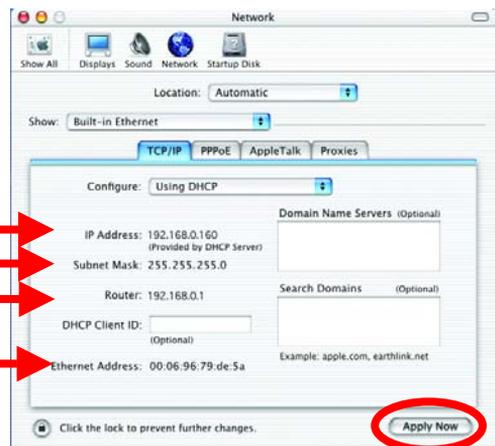
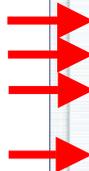


Select **Using DHCP** in the **Configure** pull-down menu.



Click **Apply Now**

The **IP Address**, **Subnet mask**, and the **Router's IP Address** will appear in a few seconds.

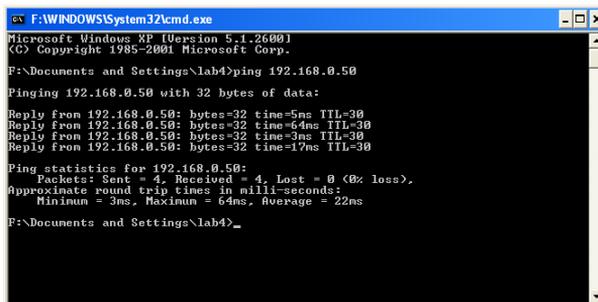


Networking Basics

Checking the Wireless Connection by Pinging For Windows XP and 2000:

Go to **Start > Run > type cmd**. A window similar to *Fig. 9.25* will appear. Type **ping xxx.xxx.xxx.xxx**, where **xxx** is the **IP address** of the Wireless Router or Access Point.

A good wireless connection will show four replies from the wireless router or access point, as shown.



```
Microsoft Windows [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

F:\Documents and Settings\lab4>ping 192.168.0.50

Pinging 192.168.0.50 with 32 bytes of data:

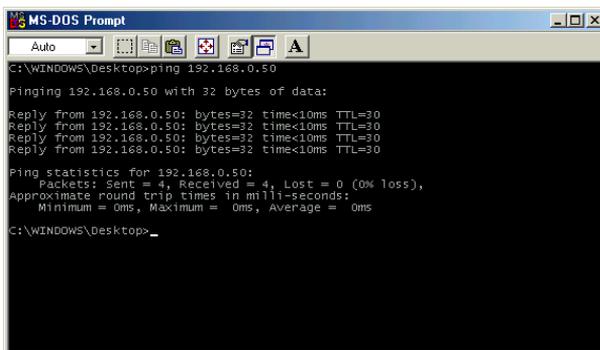
Reply from 192.168.0.50: bytes=32 time=5ms TTL=30
Reply from 192.168.0.50: bytes=32 time=64ms TTL=30
Reply from 192.168.0.50: bytes=32 time=3ms TTL=30
Reply from 192.168.0.50: bytes=32 time=17ms TTL=30

Ping statistics for 192.168.0.50:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 64ms, Average = 22ms

F:\Documents and Settings\lab4>
```

Checking the Wireless Connection by Pinging For Windows Me and 98:

Go to **Start > Run > type command**. A window similar to *Fig. 9.26* will appear. Type **ping xxx.xxx.xxx.xxx**, where **xxx** is the **IP address** of the Wireless Router or Access Point. A good wireless connection will show four replies from the wireless router or access point, as shown.



```
MS-DOS Prompt

Auto

C:\WINDOWS\Desktop>ping 192.168.0.50

Pinging 192.168.0.50 with 32 bytes of data:

Reply from 192.168.0.50: bytes=32 time<10ms TTL=30

Ping statistics for 192.168.0.50:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\WINDOWS\Desktop>
```

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 an network printer
3. Sharing an LPR printer

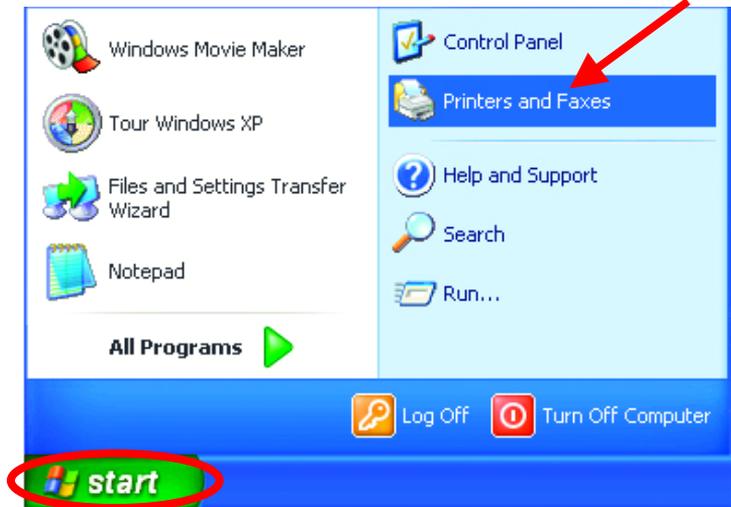
Networking Basics

Adding a local printer

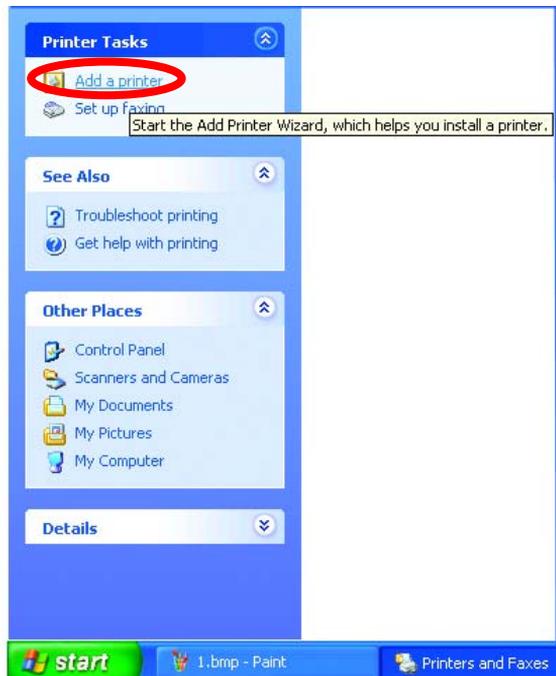
(A printer connected directly to a computer)

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**



- Click on **Add a printer**

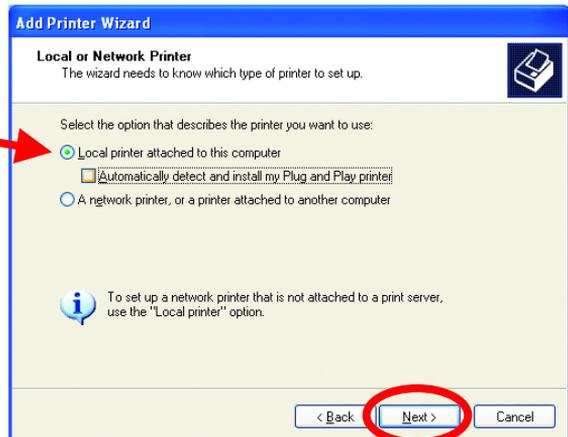


Networking Basics

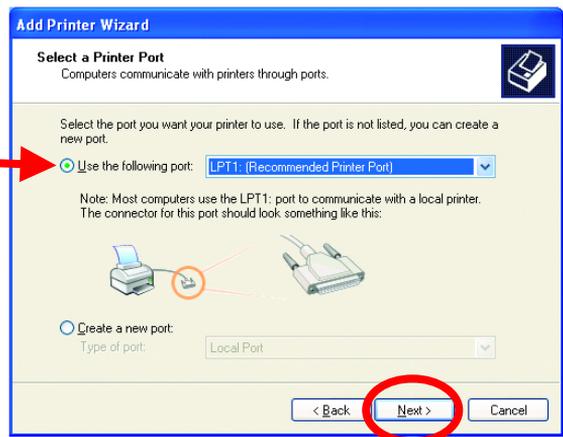
Adding a local printer



- Click **Next**



- Select **Local printer attached to this computer**
- *(Deselect **Automatically detect and install my Plug and Play printer** if it has been selected.)*
- Click **Next**



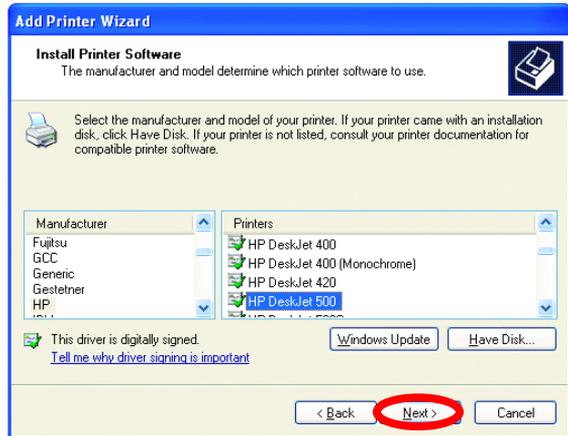
- Select **Use the following port:**
- From the pull-down menu **select the correct port** for your printer
- *(Most computers use the **LPT1:** port, as shown in the illustration.)*
- Click **Next**

Networking Basics

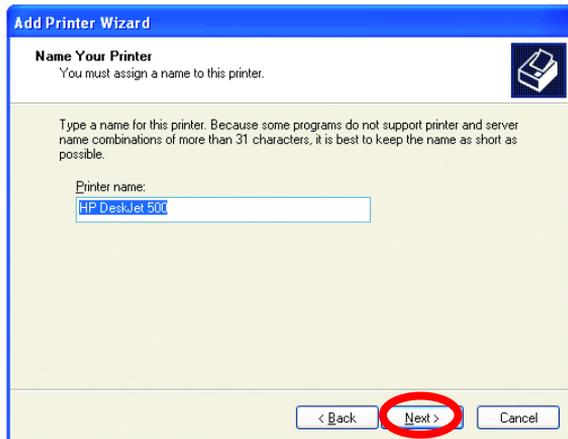
Adding a local printer

- 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.**)*

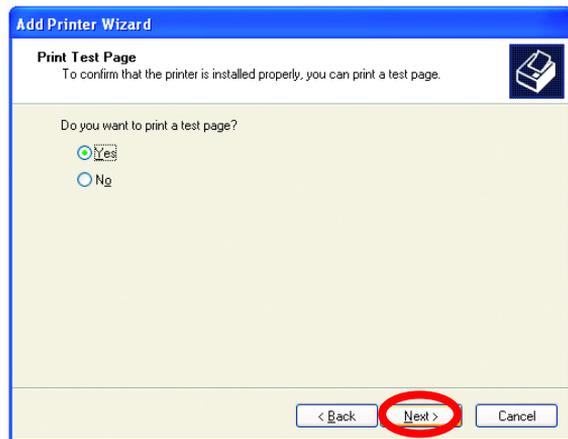


- At this screen, you can change the name of the printer (optional.)



- Click **Next**

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

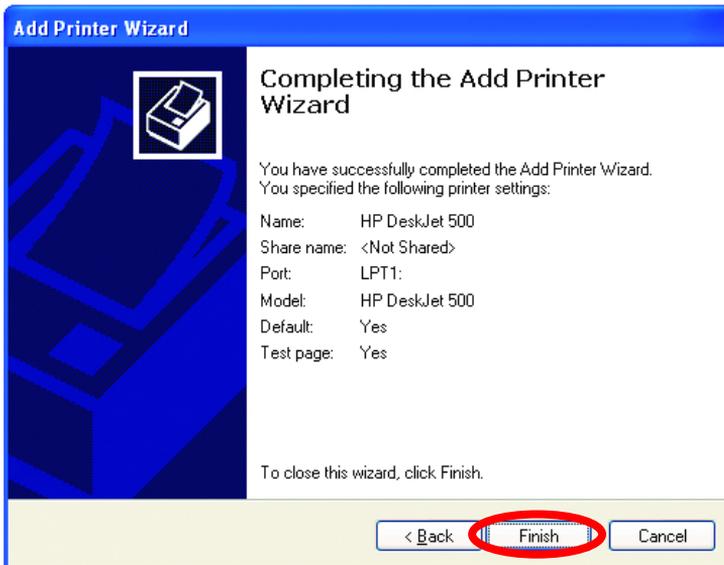


- Click **Next**

Networking Basics

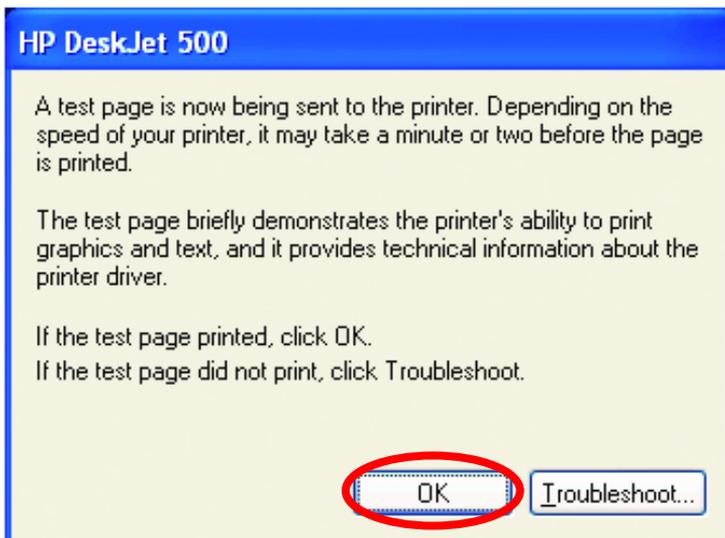
Adding a local printer

This screen gives you information about your printer.



Click **Finish**

When the test page has printed,



Click **OK**

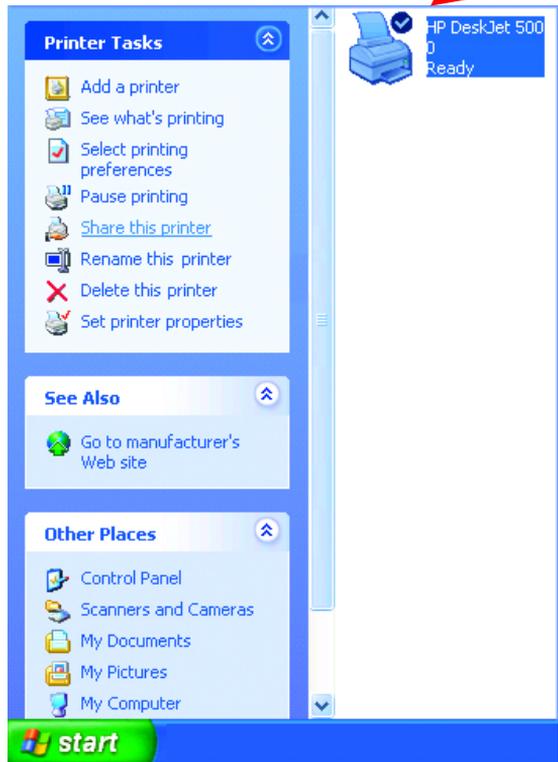
Networking Basics

Adding a local printer

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

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

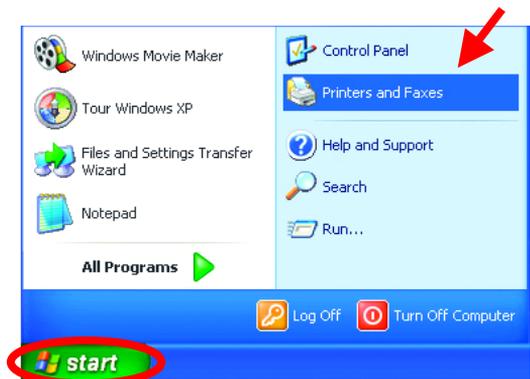
You have successfully added a local printer.



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**



Networking Basics

Sharing a network printer

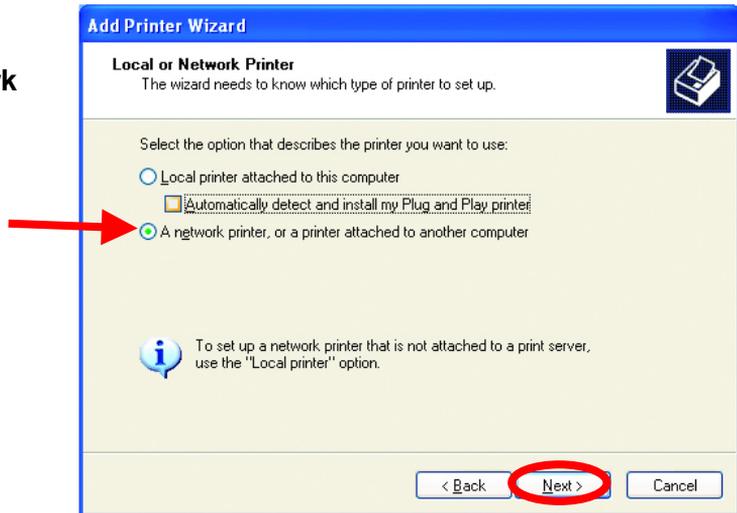
- Click on **Add a Printer**



- Click **Next**



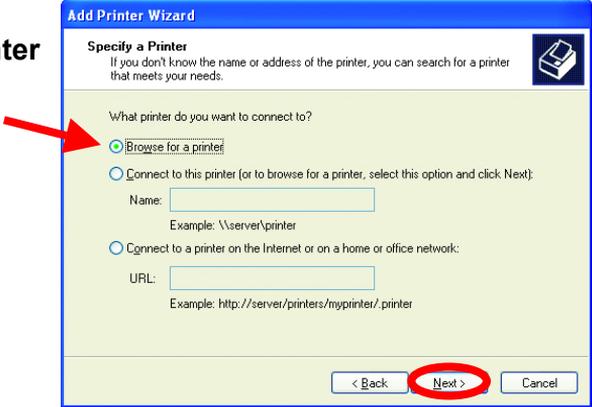
- Select **Network Printer**
- Click **Next**



Networking Basics

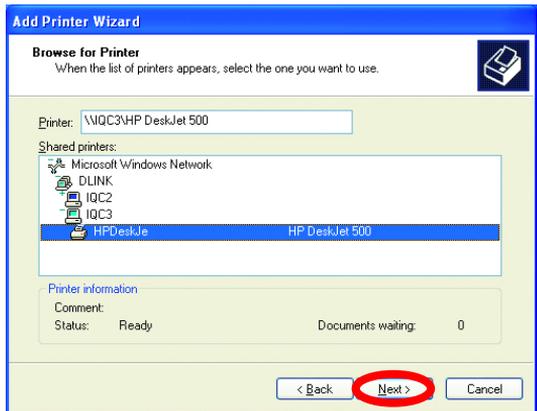
Sharing a network printer

- Select **Browse for a printer**



- Click **Next**

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



- Click **Next**

- Click **Finish**

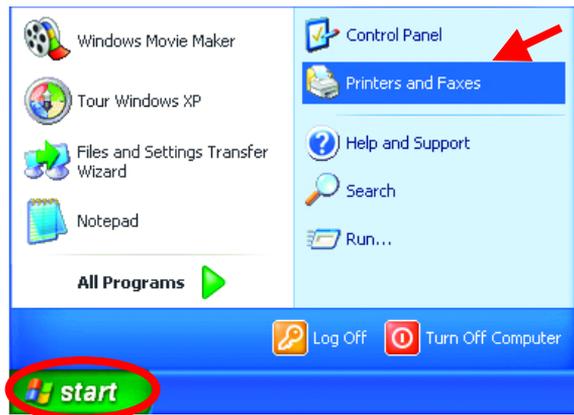


Networking Basics

Sharing a network printer

To check for proper installation:

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



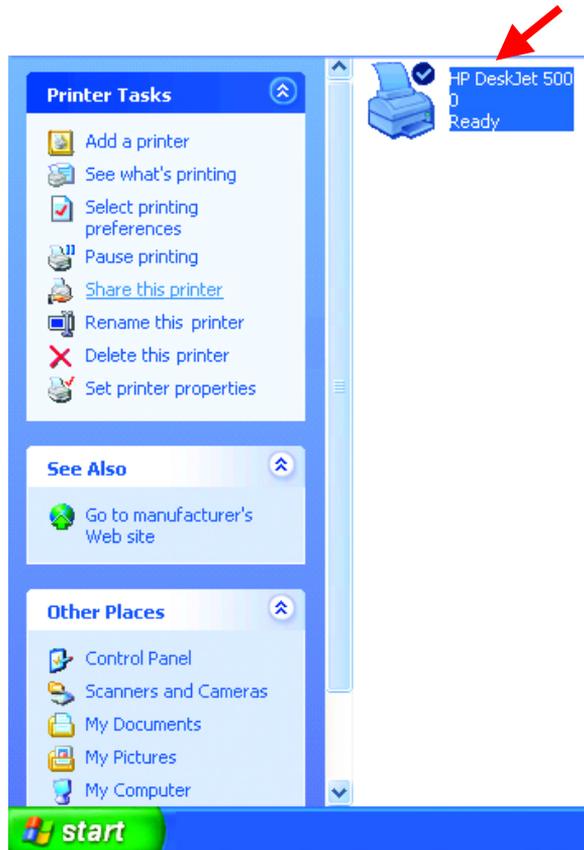
The printer icon will appear at right, indicating proper installation.

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

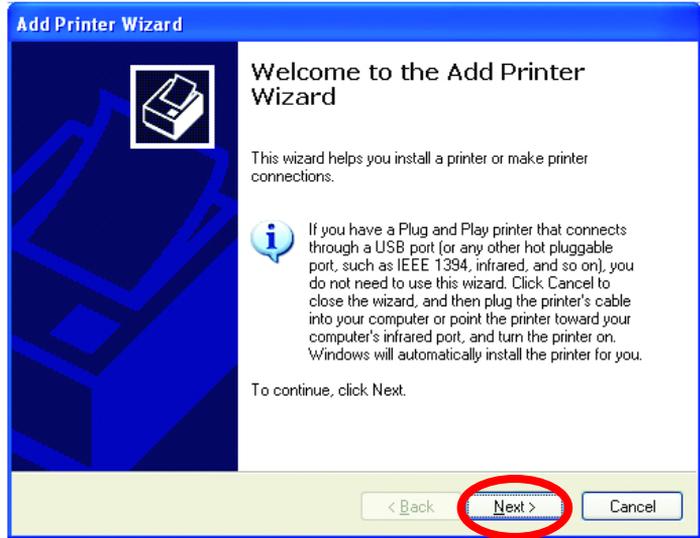
Sharing an LPR printer

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**

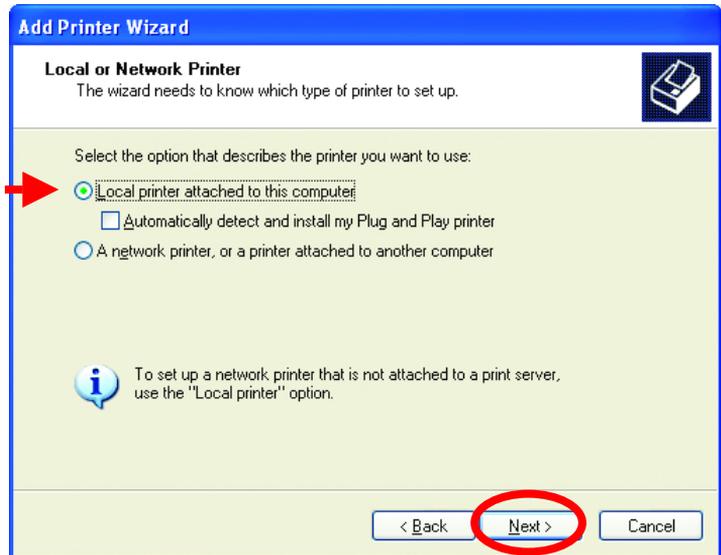
The screen to the right will display.

- Click **Next**



- Select **Local printer...**

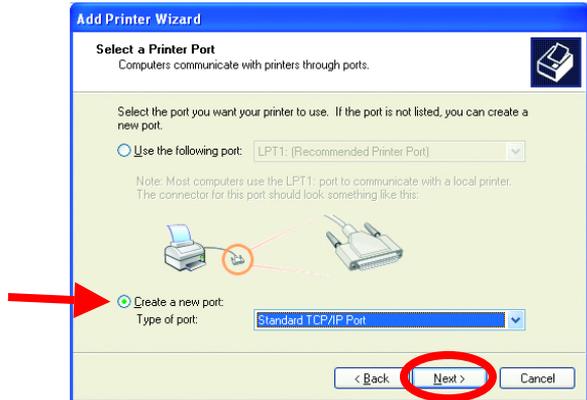
- Click **Next**



Networking Basics

Sharing an LPR printer

- Select **Create a new port**
- From the pull-down menu, select **Standard TCP/IP Port**, as shown.



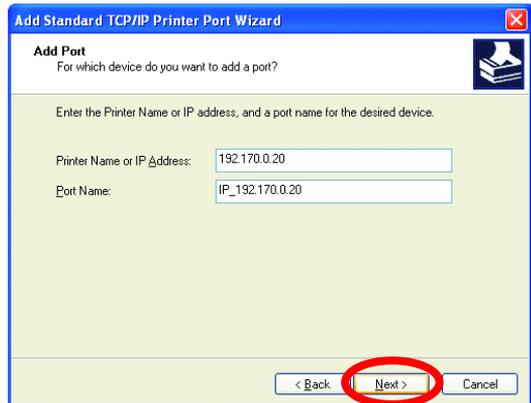
- Click **Next**

- 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**

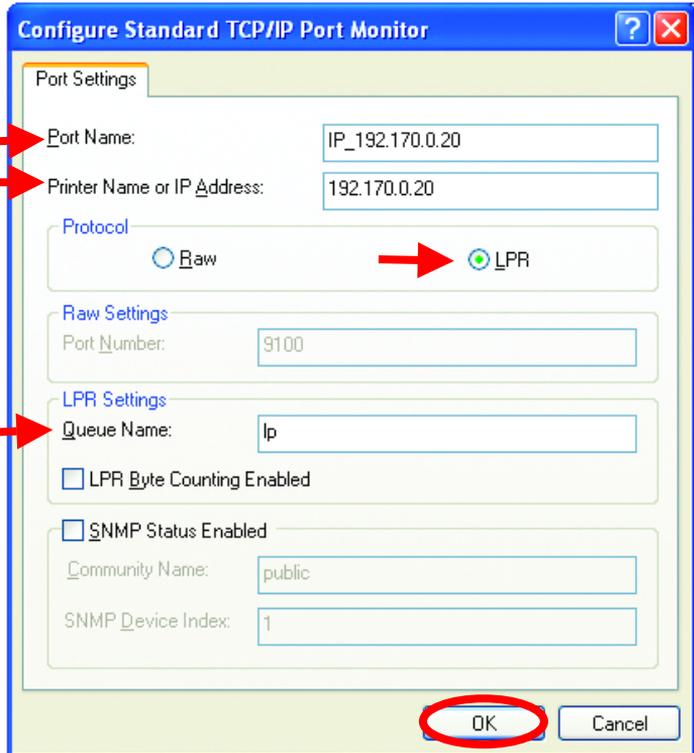


- Enter the **Port Name** and the **Printer Name** or **IP Address**.

- Select **LPR**

- Enter a **Queue Name** (if your Print-Server/ Gateway has more than one port, you will need a **Queue name**.)

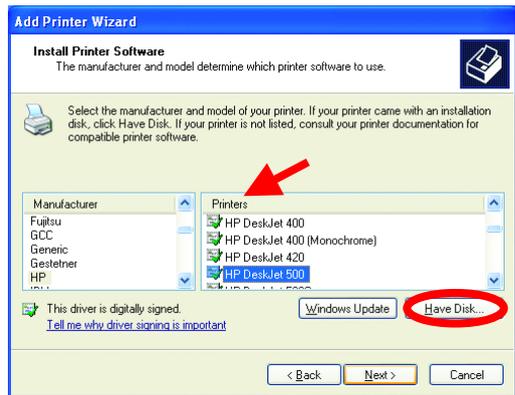
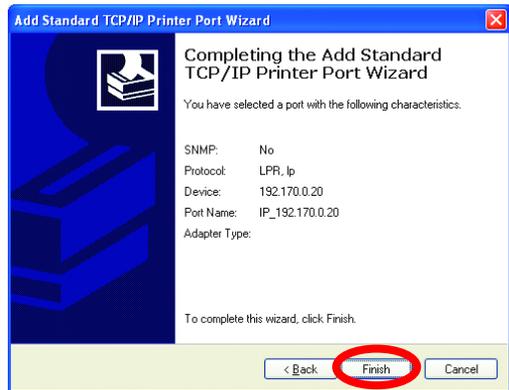
- Click **OK**



Networking Basics

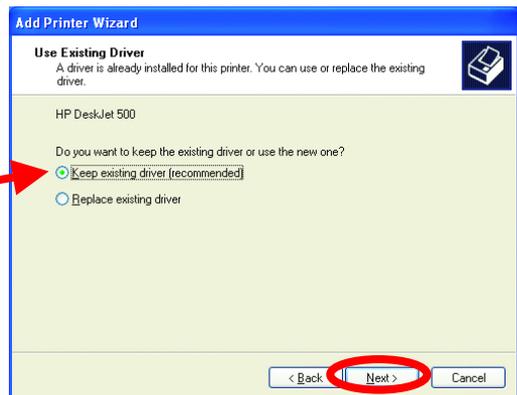
Sharing an LPR printer

- 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

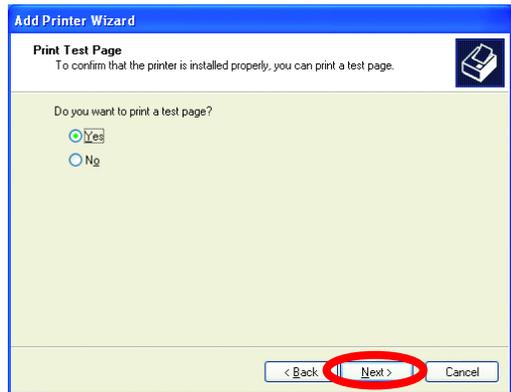
- You can rename your printer if you choose. It is optional.

*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.

8. Technical Specifications

Standards

- IEEE 802.11
- IEEE 802.11b
- IEEE 802.3
- IEEE 802.3u

Port

- Auto MDIX 10/100 Mbps Fast Ethernet

Frequency Range

- 2.4 – 2.4835 GHz

Data Rates with Automatic Fallback

- 22 Mbps
- 11 Mbps
- 5.5 Mbps
- 2 Mbps
- 1 Mbps

Encryption

- 64, 128, 256-bit WEP

Diagnostic LEDs

- Power (Green)
- WLAN (Yellow)

External Antenna Type

- Detachable with reverse SMA connector

Operating Range*

- Indoors – up to 328 feet (100 meters)
- Outdoors – up to 1,312 feet (400 meters)

*Environmental factors may adversely affect range

Temperature

- Operating: 32°F to 131°F (0°C to 55°C)
- Storage: -4°F to 167°F (-4°C to 167°C)

Humidity:

- 5%-95% maximum, (non-condensing)

Safety & Emissions:

- FCC
- UL

Media Access Control:

- CSMA/CA with ACK

Modulation Technology:

- PBCC-Packet Binary Convolutional Coding
- Direct Sequence Spread Spectrum (DSSS)
- CCK – Complementary Code Keying
- 11-chip Barker sequence

Modulation Techniques:

- PBCC (22Mbps/8.5db)
- PBCC (11Mbps/4.5db)
- CCK (11 Mbps/8.5db)
- PBCC (5.5 Mbps/1.5db)
- CCK (5.5Mbps/5.5db)
- Barker (2 Mbps/3db)
- Barker 1Mbps/0db)

Power Input:

- External Power Supply
- DC 5V, 2.5A

Transmitter Output Power:

- 15dBm (32mW) \pm 2dB

Over-driving levels:

- Tolerates up to +17dBm at the antenna

Device Management:

Web-Based – Internet Explorer v6 or later ; Netscape Navigator v6 or later ; or other Java-enabled browsers.

Dimensions:

- L=3.5 inches (90mm)
- W=3.2 inches (82mm)
- H=1.6 inch (40mm)

Weight:

- .34 lbs (153g)

Warranty:

- 3 years

9. 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:

(877) 453-5465

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*

10. Warranty and Registration

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. (“D-Link”) provides this Limited warranty for its product only to the person or entity that originally purchased the product from:

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

Limited Warranty: D-Link warrants that the hardware portion of the D-Link products described below will be free from material defects in workmanship and materials from the date of original retail purchase of the product, for the period set forth below applicable to the product type (“Warranty Period”), except as otherwise stated herein.

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

- Hardware (excluding power supplies and fans) Three (3) Years
- Power Supplies and Fans One (1) Year
- Spare parts and spare kits Ninety (90) days

D-Link’s sole obligation shall be to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund at D-Link’s sole discretion. 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 have an identical make, model or part. D-Link may in its sole 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. Repaired or replacement Hardware will be warranted for the remainder of the original Warranty Period from the date of original retail purchase. 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 retail purchase of the Software for a period of ninety (90) days (“Warranty Period”), provided that 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 or to refund at D-Link’s sole discretion. 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. Software will be warranted for the remainder of the original Warranty Period from the date or original retail purchase. 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.

Non-Applicability of Warranty: The Limited Warranty provided hereunder for hardware and software of D-Link’s products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold “As-Is” without any warranty whatsoever including, without limitation, the Limited Warranty as described herein, notwithstanding anything stated herein to the contrary.

Submitting A Claim: The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

- The customer must submit with the product 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. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the Product and will not ship back any accessories.
- The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery ("COD") is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer and shipped to **D-Link Systems, Inc., 53 Discovery Drive, Irvine, CA 92618**. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link, with shipping charges prepaid. Expedited shipping is available if shipping charges are prepaid by the customer and upon request.

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, if in D-Link's judgment, 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; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product. Repair by anyone other than D-Link or an Authorized D-Link Service Office will void this Warranty.

Disclaimer of Other Warranties: EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER 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.

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

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.

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.

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.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of about eight inches (20cm) between the radiator and your body.

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

01/03/03

Register your D-Link product online at
<http://support.dlink.com/register>