

D-Link DPR-2000

WIRELESS G USB 4-PORT MULTIFUNCTION PRINT SERVER

Manual

Rev. 02 (June, 2009)

D-Link[®]
Building Networks for People

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 communications. However, there is no guarantee that interference will not occur in a Particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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
 - (2) this device must accept any interference received, including interference that may cause undesired operation.
-

Table of Contents

Before You Begin	1
Package Contents:.....	1
System Requirements:.....	1
Introduction	2
External Features	5
USB Printer Ports (1 to 4).....	6
Ethernet LAN Port	6
Power Socket	6
Wireless LAN Interface	6
Reset Button.....	6
LED Indicators.....	7
Setting up the DPR-2000	9
Installing the Print Server	9
Power ON Self-Test.....	10
Using the PS Software	12
Auto-Run Installation.....	12
PS Software	13
Installing PS Software	13
Using PS-Link.....	15
Installing and Using a Multifunction Printer Multifunction/GDI Printer	22
Using PS-Wizard	37
Using the Web Configurator	42
HOME.....	42
SETUP > LAN SETUP	45
SETUP > Wireless Setup	46

Table of Contents

SETUP > Printer Setup	52
ADVANCED > Advanced LAN.....	57
ADVANCED > Advanced Wireless.....	59
ADVANCED > User Access	60
ADVANCED > SNMP	64
MAINTENANCE > Password	65
MAINTENANCE > Save/Restore Settings.....	66
MAINTENANCE > Firmware Upgrade	68
MAINTENANCE > Diagnostics	70
STATUS > Device Info.....	71
STATUS > Network	72
STATUS >Wireless Status.....	74
STATUS >Print Log	75
HELP	76
Reboot.....	77
Refresh Printer Status	78
TCP/IP Printing for Windows Vista	79
TCP/IP Printing for Windows XP	86
TCP/IP Printing for Windows 2000.....	95
TCP/IP Printing for Windows 98SE/ME	104
Unix/Linux Printing.....	116
Printing Text Files From Unix	116
Printing from BSD Unix Versions	117
Printing From SCO Unix System V/386	120
Printing From Solaris.....	122
Printing From Red Hat Linux.....	123
Setting up Printing in Mac OS X Tiger (10.4.9).....	127

Table of Contents

Adding a Printer.....	128
AppleTalk-enabled or Bonjour-enabled Printers	131
Setting up AppleTalk Printing in Mac OS 9	139
Wireless Basics	143
Wireless Installation Considerations	145
WPS (Wi-Fi Protected Setup).....	147
Technical Specifications	148
Appendix: DPR-2000 Printer Compatibility List	150

Before You Begin



Package Contents:

Your DPR-2000 package should contain the following:

- D-Link DPR-2000 USB 2.0 Multifunction Print Server
- Manual and Warranty on CD
- Printed Quick Installation Guide
- Cat. 5 Ethernet cable

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

System Requirements:

- Computer with Ethernet interface.
- Windows Vista/XP/2000/NT4/ME/98SE/95

Or

- Apple Mac OS 9.x to MAC OS X 10.4.x

Or

- Linux, Solaris, SCO Unix, AIX
- Internet Explorer 6.0 or above; Netscape Navigator version 6.0 or above, with JavaScript enabled
- Your printer must support the required operating system.

Introduction

D-Link's DPR-2000 USB Multifunction Print Server provides four USB printer ports for connection to four USB printers and/or multifunction equipment. It allows you to share these connected devices with a group of users on a wired Ethernet network as well as an IEEE 802.11 wireless network. The DPR-2000 is designed primarily for office use, where a cluster of printers and/or multifunction equipment is deployed in a close proximity, such as in an equipment room. Multiple users can connect to these printers and or multifunction equipment over the network via the DPR-2000 to use these devices' printing, scan and fax functions. The DPR-2000 manages the flow of print and fax files from network users and delivers the print and fax jobs quickly and efficiently. With four USB printer ports, the DPR-2000 eliminates the need to buy four separate print servers for each shared printer/multifunction equipment, as well as the trouble of separately installing them.

The DPR-2000 comes with easy to use software compatible with most Windows-based networks. Protocol support for TCP/IP, NetBEUI and AppleTalk is provided to ensure seamless connection to major networking operating systems.

In addition to this software, the DPR-2000 also has a built in web configurator that allows the administrator to configure it and manage the multiple print queues through TCP/IP, using a standard web browser program.

Comparing with a PC-based print server, the DPR-2000 improves the network printing services in the following ways:

- The DPR-2000 manages the print file traffic for all of the connected printers. This

provides relief for your PC file servers and allows them to be used to their full capacity for file access or other network services. On peer-to-peer networks, workstations can print directly to the Print Server without increasing the load of another workstation or server.

- The DPR-2000 Print Server is portable and cheap compared to a PC-based print server. This means you're able to deploy the DPR-2000 in locations that offer maximum convenience to users.
- The DPR-2000 provides a PS-Link software utility that enables multiple computers to use the print/scan/fax/copy functions of the printers connected to this print server. With the **PS-Link** you can install your printers' manufacturer drivers without creating a physical USB connection from each printer to your computers. After the software provided by your printers' manufacturers is installed, using the printers' scan and fax functions will be exactly the same as how they are described in your printers' manuals.
- The DPR-2000 provides a PS-Wizard to let you easily add a network printer on Windows for traditional TCP/IP printing.

The DPR-2000 is compatible with the following network operating systems and protocols:

■ TCP/IP

UNIX lpr/lpd (HP-UX, SunOS, Solaris, SCO, UnixWare, IBM AIX) Windows NT/2000, Windows 95/98SE/ME, Windows XP/Vista, NetWare 5.x NDPS LPR Remote Printing

■ **NetBEUI**

Windows NT/2000/XP, Windows 95/98SE/ME, Windows for Workgroups, Microsoft LAN Manager, IBM LAN Server

■ **AppleTalk**

Mac OS EtherTalk

The PS software, PS Link and PS Wizard allow further configuration of the DPR-2000:

➤ **PS-Link** — Use this to enable your computers to use your printers' print/scan/fax/copy functions and GDI printing. **PS-Link** helps you to install your printers' manufacturer drivers without creating any physical USB connection from your printers to your computers. For more information see the *Using the PS Software* chapter.

➤ **PS-Wizard** — This tool allows you to easily add a printer to your computer. For more information see the *Using the PS Software* chapter.

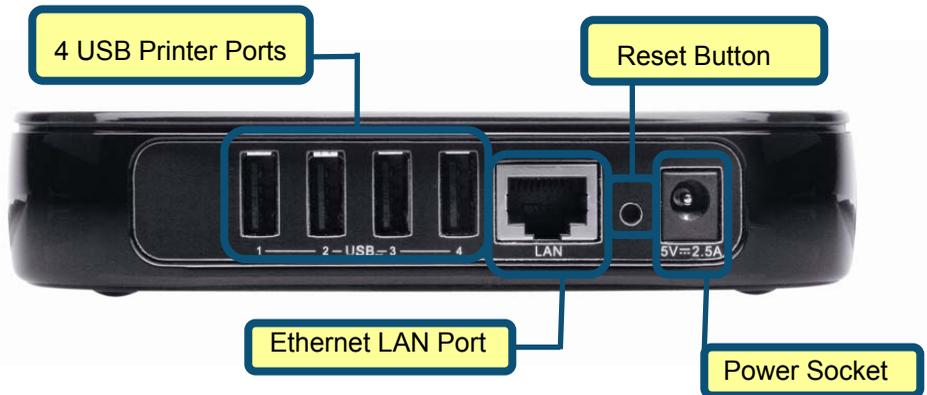
External Features

The DPR-2000's USB printer ports are located on the rear panel of this Print Server and are configurable using the web configurator.

The default IP address of the DPR-2000 is automatically acquired from a DHCP server on the network. If a DHCP server cannot be found, use the default IP address for the DPR-2000, which is **192.168.0.10**.

NOTE: *Your PC's IP Address must be in the same subnet as the Print Server's IP Address for the two devices to communicate. (For example, if the Print Server's IP Address is 192.168.0.10, with a subnet mask of 255.255.255.0, then your computer's IP Address should be 192.168.0.x, where x is a value between 1 and 254, excluding 10.)*

External Features



USB Printer Ports (1 to 4)

Each of the four USB 2.0 printer ports can be connected to a USB printer or USB multifunction printer.

Ethernet LAN Port

This port connects to an Ethernet LAN port of a switch or a router, using a Cat 5 Ethernet cable. This port supports 10/100Mbps network speeds and the NWay protocol, allowing the Print Server to automatically detect or negotiate the transmission speed of the network.

Power Socket

This connects to the power adapter that is supplied with this Print Server.

Wireless LAN Interface

The 802.11g wireless LAN (WLAN) interface and its antenna are hidden inside this device. This interface connects to your wireless AP or router.

Reset Button

Pressing this button will reset the Print Server to its default factory configuration settings.

LED Indicators



All LED indicators are on the top side of the Print Server.

■ Power

A steady blue light confirms that the Print Server is turned ON.

■ USB 1 to 4

A steady blue light for each of the four USB ports indicates the printer connected to a particular USB port is online and successfully connected to the Print Server. This light will also blink to indicate that data is being transferred between the Print Server and connected printer.

■ Ethernet Link/Act

A steady blue light confirms that the Print Server has a wired connection to your Ethernet network. This light will also blink when the Print Server is receiving or transmitting data on the wired network.

These three LED indicators are also used during the Print Server's Power-ON Self Test to indicate any hardware failures.

■ **Wireless LAN Link/Act**

A steady blue light confirms that the Print Server has a wireless connection to your wireless network. This light will also blink when the Print Server is receiving or transmitting wireless data on the network.

All LED indicators described above are also used during the Print Server's Power-ON Self Test to indicate any hardware failures.

Setting up the DPR-2000



Installing the Print Server

WARNING:

- Configuration problems may result if you power ON the Print Server without first establishing its network connection.
- Use power adapter supplied with this Print Server to connect to an AC source. Using a power adapter with an incorrect power rating will damage the Print Server and void its warranty.
- Connect **only** USB printers or USB multifunction equipment to the USB ports of the Print Server. **Do not** connect any other USB devices to these USB ports. Doing so may damage your Print Server and will void the warranty for this product.
- For a list of printers that are compatible with this Print Server, please see the Appendix in this manual. The compatibility list is not comprehensive. Even if your printer is not included in the list, it may still be compatible with this Print Server.

Check your D-Link web site for the latest updated list.

This section will describe the installation steps for a wired Ethernet connection.

Follow the steps below to avoid any complications during the hardware installation:

1. Confirm that all the printers that you will connect to the DPR-2000 are operating correctly.
2. When you have confirmed that the printers are operating correctly, switch their power OFF.
3. Confirm that your network is operating normally.
4. Use a Cat. 5 Ethernet cable, connect the DPR-2000's Ethernet LAN port to an Ethernet LAN port of an Ethernet switch or router.
5. While the printer is turned OFF, connect the USB cables to the printers and then to the USB ports on the DPR-2000.
6. Turn ON the powers of the printers.
7. Insert the power adapter's output plug into the power socket on the rear panel of the DPR-2000.
8. Connect the other end of the power adapter into an AC power outlet. This will supply power to the DPR-2000. The blue LED on the DPR-2000's front panel should turn ON and this Print Server's self-test will proceed.

Power ON Self-Test

Every DPR-2000 has been factory-tested to operate properly. When the DPR-2000 is powered ON, it automatically performs a Self-Test on each of its major components. The final result of the Self-Test is signaled by the state of the USB LED indicators following the Self-Test. Preliminary to the actual component tests, all LED indicators are tested to confirm their operation.

Setting up the DPR-2000

Immediately after power-up, all LEDs should illuminate steadily for several seconds. Then the USB LEDs should turn OFF simultaneously. Irregularity of any of the LEDs during these LED tests may mean there is a problem with the LEDs themselves.

The actual component tests immediately follow the LED tests. A normal (no fault) result is signaled by simultaneous flashing of the LEDs three times, followed by a quiescent state with all LEDs dark.

If the Self-Test routine traps any component error, then following the LED tests the Self-Test will halt and the LEDs will continuously signal the error according to the following table. In the event of any such error signal, contact your dealer for correction of the faulty unit.

USB LED	Faulty Component
On	DRAM error
1 long 3 short	Flash Protected
1 long 5 short	Flash Erase/Program error
1 long 6 short	LAN Controller error
1 long 14 short	LAN MII error
1 long 18 short	USB error

Using the PS Software

Auto-Run Installation

Insert the included installation CD into your computer's CD-ROM drive to initiate the auto-run program. If auto-run does not start, click **My Computer** > **[CD ROM Drive Letter]**.

The content of the installation CD-ROM includes:

- **Install PS Software** – Click this to install the **PS Software**, which contains **PS-Link** and **PS-Wizard** that can configure more settings for the Print Server, such as:
 - Changing the IP address,
 - Supporting the multiple functions (Print/Scan/Copy/Fax) of a multifunction printer, GDI printing, and other software from any multifunction/GDI printer, and
 - Adding a printer to your computer.
- **View Quick Installation Guide** – Click this to preview the *Quick Installation Guide* in PDF format for step-by-step instructions of the Print Server installation.
- **View Manual** – Click this to preview the *User Manual* in PDF format for detailed information regarding the Print Server.
- **Install Acrobat Reader** – Click this to install Acrobat Reader for the viewing and printing of PDF files found on this Installation CD-ROM.
- **Exit** – Click to close the Auto-Run program.

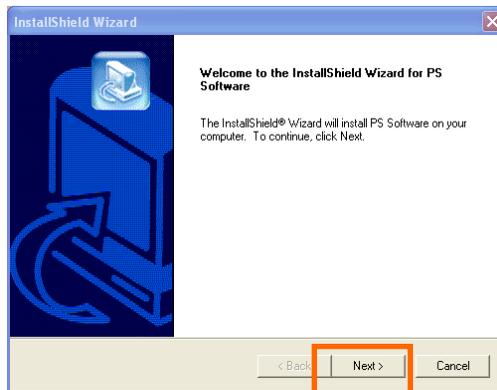
PS Software

To avoid any conflict within your network, use the **PS Software** to change your Print Server's settings, such as its IP address.

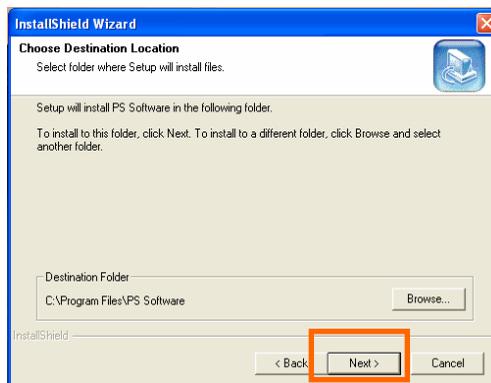
The **PS Software** contains two utilities, namely the **PS-Link** and the **PS-Wizard**.

Installing PS Software

1. Click the **Next >** button in the welcome window of the **InstallShield Wizard**.



2. Specify the destination location by clicking the **Browse...** button. Otherwise, click the **Next >** button to continue.

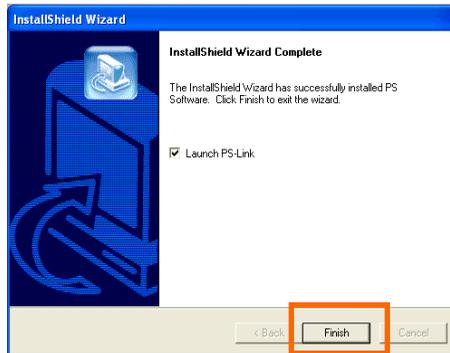


Using the PS Software

3. You may enter a new folder name in the Program Folder field if you want to change the default name. Otherwise click the **Next >** button to go to the next screen.



4. The **InstallShield Wizard** starts to install the software, and the Progress bar indicates the installation is proceeding until the following window shows up. Click the **Finish** button to complete the installation.

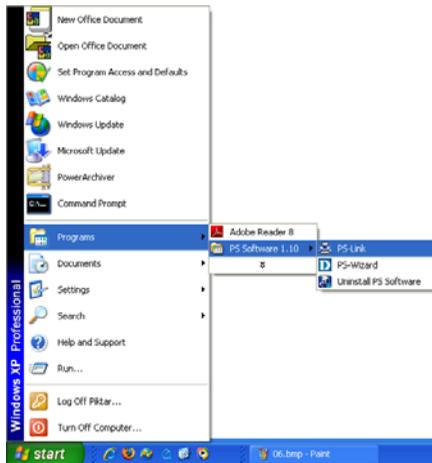


After installing the program, you can access the two utilities (**PS-Link** and **PS-Wizard**) by clicking **Start** → **Programs** → **PS Software**.

Using PS-Link

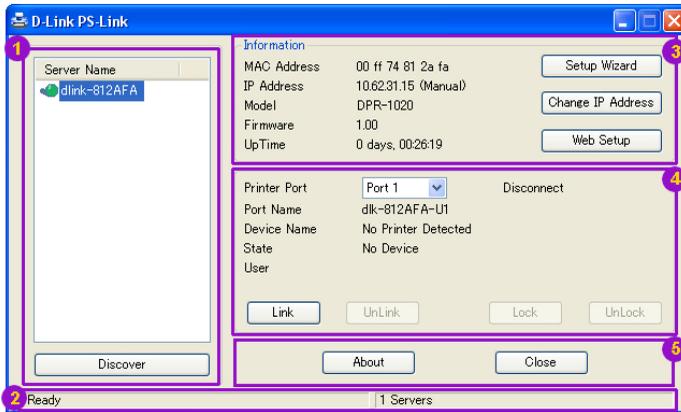
PS-Link (for Windows 2000/XP/2003/Vista) is a utility that will help you install your printers' manufacturer drivers. Using the **Link** command you can simulate a physical USB connection between your computer and a printer, thus enabling you to complete the installation of the manufacturer drivers without making a USB connection to your computer.

To start PS-Link, go to **Start** → **Programs** → **PS Software**, and click **PS-Link**.



PS-Link will then start and automatically search for all print servers in the same network segment. If the installation has been successful, you will see that the name of your Print Server has been discovered and is listed in the **Server Name** column. If your Print Server is not listed, please check your network connectivity and click the **Discover** button again.

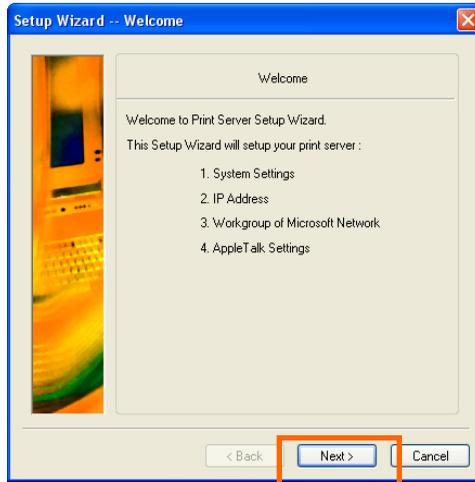
Using the PS Software



- 1 Server Name:** This list displays the names of all print servers within the network.
Discover: Click this button to search for more print servers.
- 2 Status Bar:** The status bar at the bottom of the screen displays the current system status and number of connected print servers.
- 3 Information:** This field displays the basic information regarding the selected print server in the Device List.

There are also three buttons: **Setup Wizard**, **Change IP Address**, and **Web Setup**. Here is an explanation of each button:

[Setup Wizard] – Setup Wizard will allow you to configure your Print Server step by step. When this button is clicked, the following screen will display.

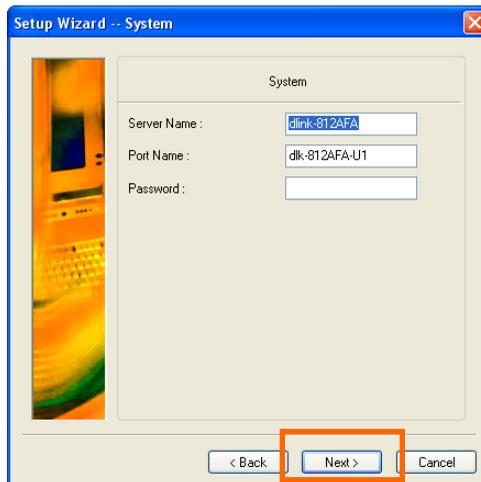


Click **Next >** to begin configuring the settings.

System Settings

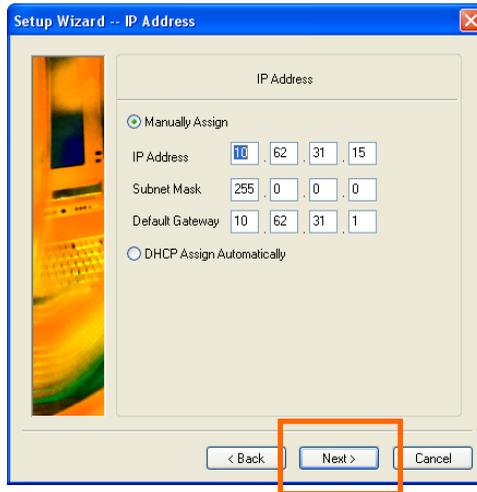
Enter the Server Name, Port Name and Password for your Print Server.

Click **Next >** to continue to the next page, or **Cancel** to exit.



● Changing the IP Address:

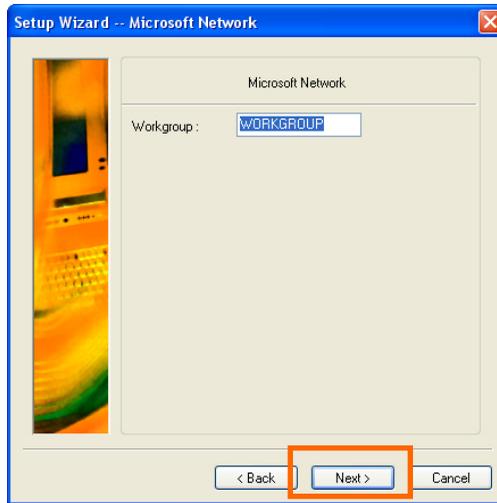
Select **Manually Assign** to enter a specific IP address for your Print Server, or **DHCP Assign Automatically** to have an IP address automatically assigned to your Print Server. Click **Next >** to continue to the next page, or **Cancel** to exit.



● Microsoft Network Workgroup

Type the name of the Microsoft Workgroup.

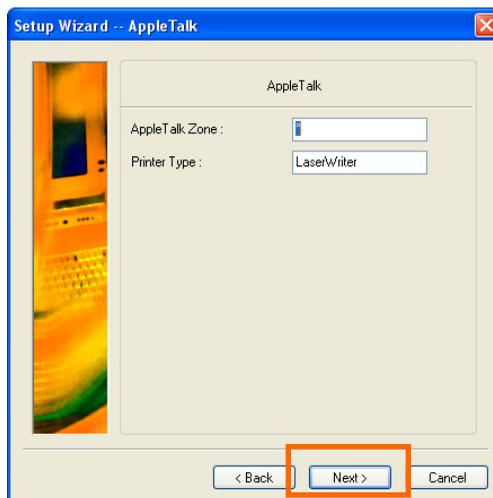
Click **Next >** to continue to the next page, or **Cancel** to exit.



● AppleTalk Settings (Optional)

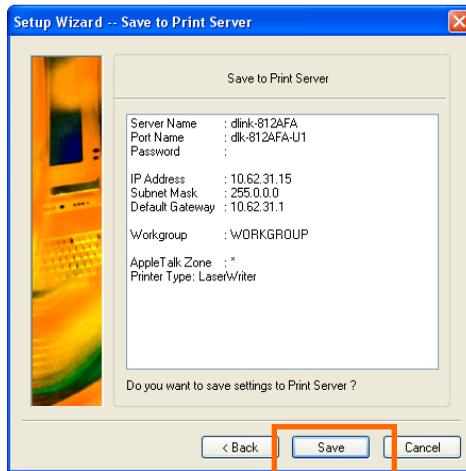
Enter the AppleTalk Zone or just type "*" if your AppleTalk network is not divided into zones. Type the Printer Type.

Click **Next >** to continue to the next page or **Cancel** to exit.

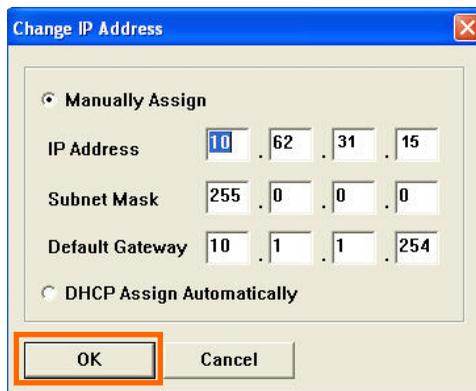


Using the PS Software

After the configuration of these screens is complete, click **Save** to store the settings that are displayed, or **Cancel** to abort. You can also click **< Back** to modify these settings.



[Change IP Address] - Click this button to bring up the following screen. This screen allows you to change the IP Address of the Print Server. Select **Manually Assign** to enter a specific IP address for the Print Server, or **DHCP Assign Automatically** to have an IP address automatically assigned to the Print Server. Click **OK** to save your changes, or **Cancel** to abort.



Using the PS Software

[Web Setup] – Click this button to launch the web configurator. You can also launch the web configurator by clicking on the name of the server in the Device List.



4 Printer Port: This field displays the basic information and the current status of the connected printers. It also allows you to use the four control buttons (**Link**, **UnLink**, **Lock** and **UnLock**).

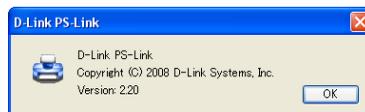
[Link] – The function of this button is to simulate the physical connection between a printer and a computer via a USB cable. This means you can set up a link by simply clicking this button without physically attaching the printer's USB cable to your computer. This is because the USB cable will be connected from the printer to the Print Server and not to your computer.

[UnLink] – This button disconnects the simulated link between the printer and the computer.

[Lock] – Clicking the **Lock** button will enable the **Single User Mode**. In this mode only one user may output files to a printer at a time.

[UnLock] – Clicking the **Unlock** button will enable the **Shared Mode**. In this mode multiple users may output files to same printer at the same time.

5 About: Click this to display the PS-Link version number. Click the **OK** button to close this window.



Close: To exit **PS-Link**, click this button.

Installing and Using a Multifunction Printer Multifunction/GDI Printer

This section will tell you how to use a multifunction or GDI printer through the PS-Link utility after the printer manufacturer's driver has already been installed.

For PCs with the multifunction/GDI printer driver installed:

If your computer already has the MULTIFUNCTION or GDI printer driver installed, you can just click the **Link** button in **PS-Link** to complete the connection between the printer and your computer.

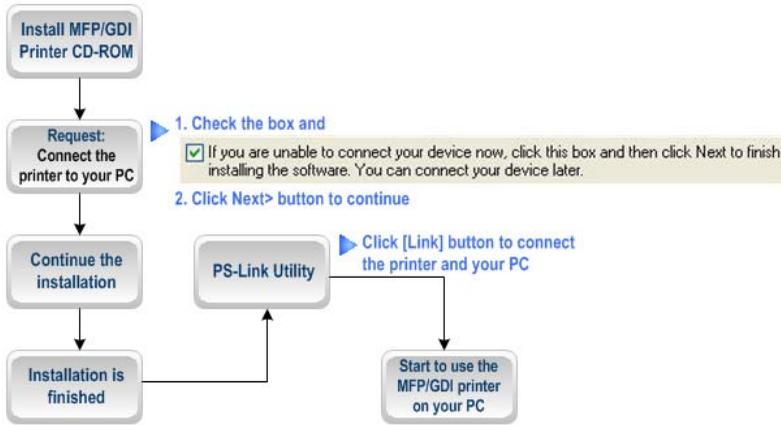
For PCs without the multifunction/GDI printer driver installed:

If your computer does not have the multifunction or GDI printer driver installed, you may use the following procedure:

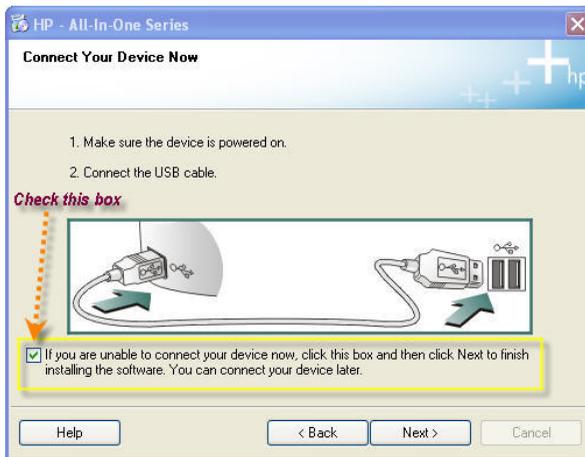
1. Insert the manufacturer's CD-ROM into your computer's CD-ROM drive to initiate the auto-run program.
2. Follow the instructions of the manufacturer's CD-ROM to install the multifunction printer driver and other software until you are requested to attach the printer's USB cable to your computer.
3. The installation steps will be different depending on the printer and manufacturer brand. Below you will find diagrams for several printers from different manufacturers:

Using the PS Software

For HP:

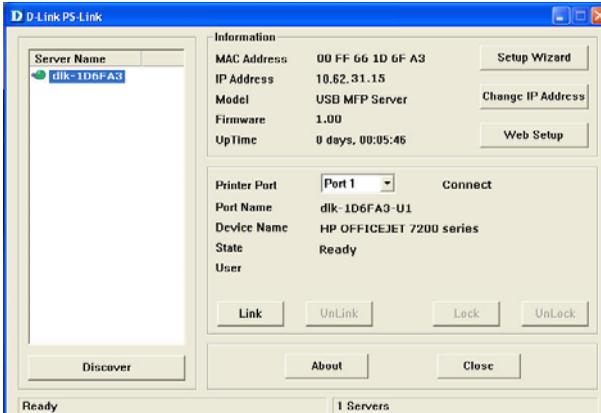


1. When the installation program asks you to connect the USB cable, you are allowed to connect it later by checking a box. Click the **Next >** button to continue the installation.



2. When the installation of all drivers has been completed, you may use the **PS-Link** utility to complete the physical connection between the MUTIFUNCTION/GDI printer and your computer by clicking the **Link** button.

Using the PS Software

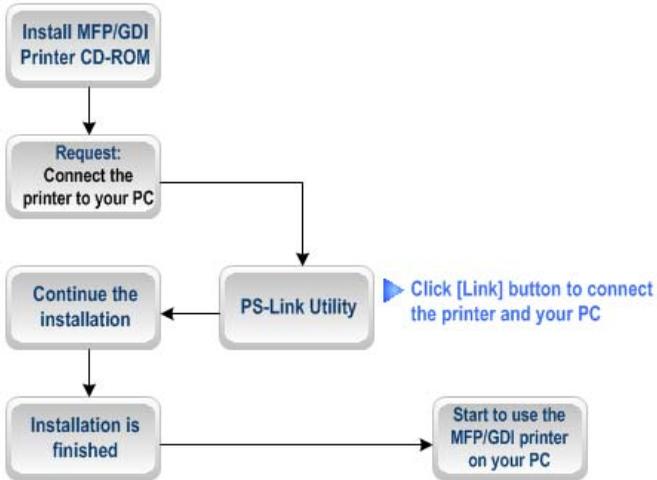


If the connection is successfully established, the following message will be displayed. Press **OK** to exit.

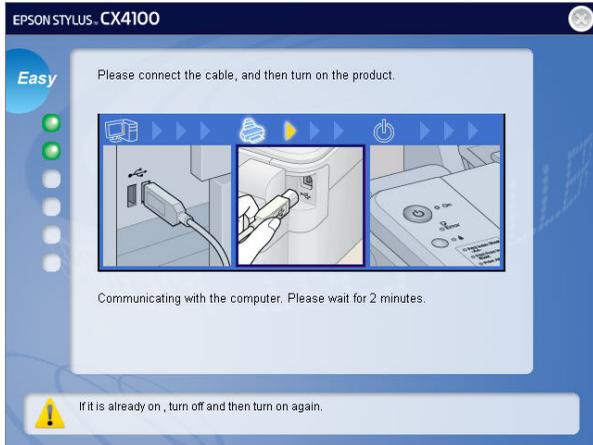


3. Now the MUTIFUNCTION/GDI printer is ready for use from your computer.

For EPSON:

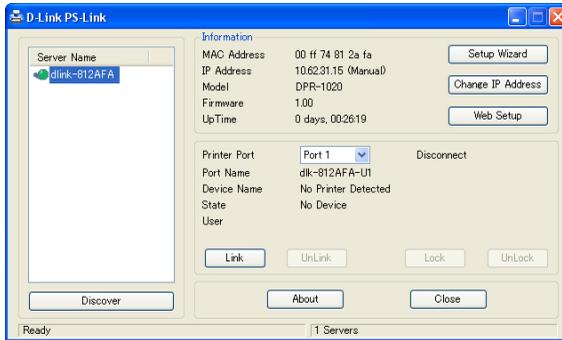


1. When the installation program asks you to connect the USB cable of the MUTIFUNCTION/GDI printer to your computer, do ignore this prompt message. Use **PS-Link** to simulate a USB connection between your printer and computer.



2. To do this, launch the **PS-Link** utility and click the **Link** button.

Using the PS Software

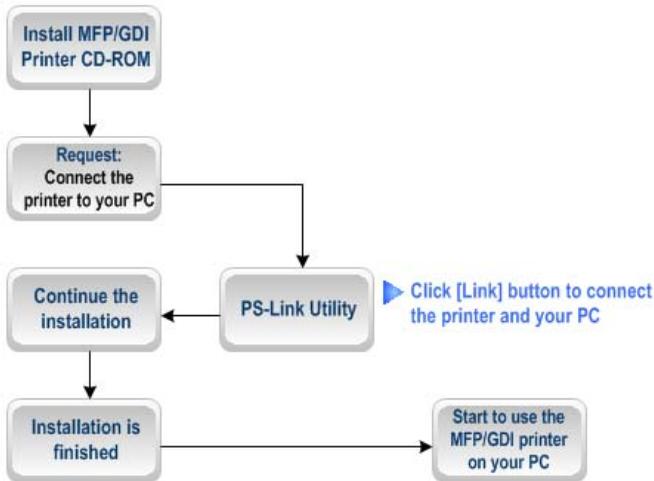


When the connection is successfully established, the following message will be displayed. Press **OK** to exit.



3. Continue with the installation of the MUTIFUNCTION/GDI printer by inserting the CD-ROM in your computer and proceed with the remaining steps.
4. When the installation is completed, you may start to use the multiple functions (Print/Scan/Copy/Fax) of the MUTIFUNCTION/GDI printer from your computer.

For Canon:

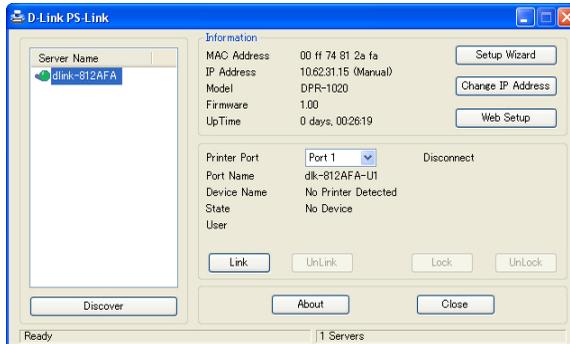


1. When the installation program asks you to connect the USB cable of the MUTIFUNCTION/GDI printer to your computer, do not ignore this prompt message. Use **PS-Link** to simulate a USB connection between your printer and computer.



2. Launch the **PS-Link** utility and click the **Link** button.

Using the PS Software

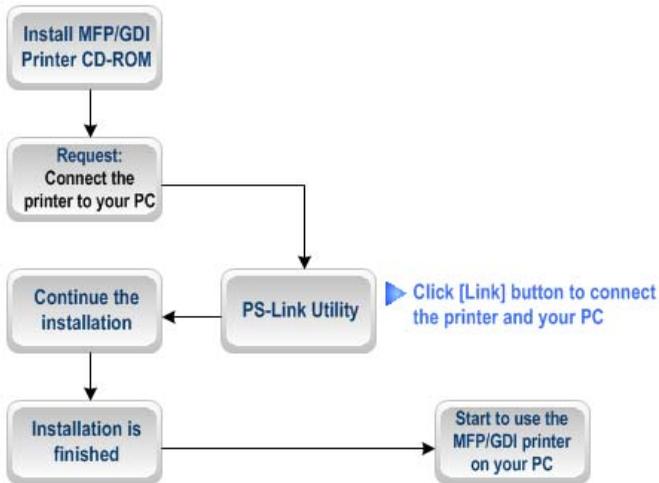


When the connection is successfully established, the following message will appear. Press **OK** to exit.

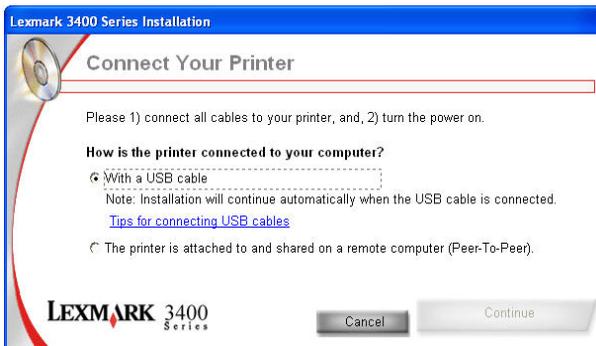


3. Continue with the installation of the MUTIFUNCTION/GDI printer by inserting the CD-ROM in your computer and proceed with the remaining steps.
4. When the installation is completed, you may start to use the multiple functions (Print/Scan/Copy/Fax) of the MUTIFUNCTION/GDI printer from your computer.

For Lexmark:

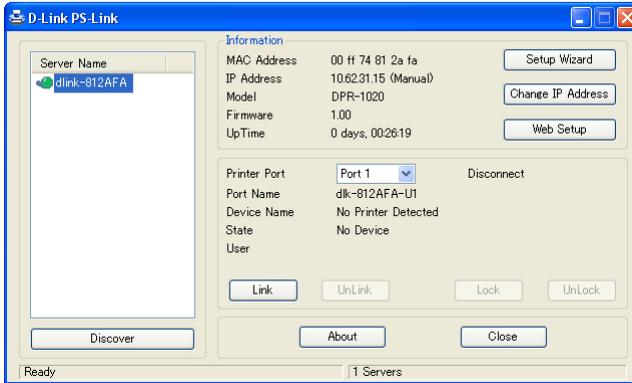


1. When the installation program asks you to connect the USB cable of the MUTIFUNCTION/GDI printer to your computer, do not ignore this prompt message. Use **PS-Link** to simulate a USB connection between your printer and computer.



2. Launch the **PS-Link** utility and click the **Link** button.

Using the PS Software

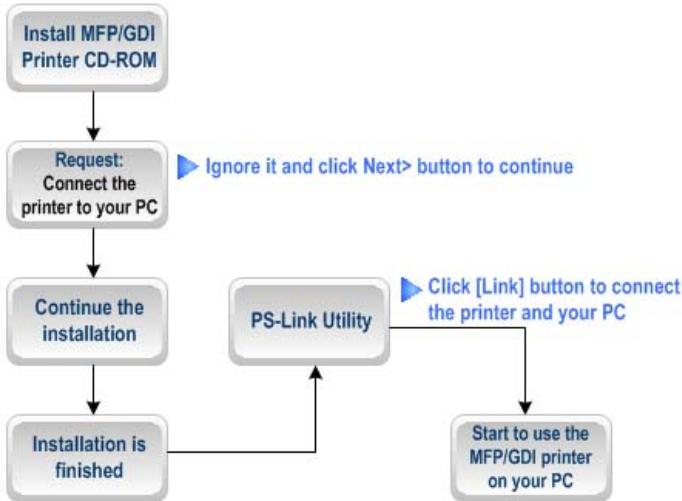


When the connection is successfully established, the following message will be displayed. Press **OK** to exit.

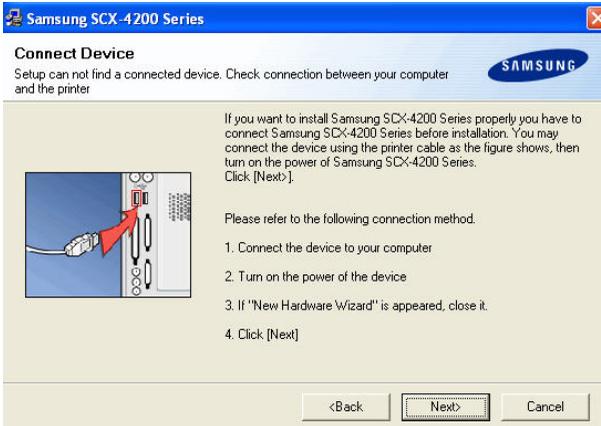


3. Continue with the installation of the MUTIFUNCTION/GDI printer by inserting the CD-ROM in your computer and proceed with the remaining steps.
4. When the installation is completed, you may start to use the multiple functions (Print/Scan/Copy/Fax) of the MUTIFUNCTION/GDI printer from your computer.

For Samsung:

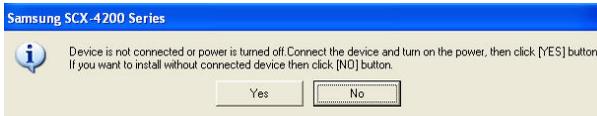


1. When the installation program asks you to connect the printer to your computer, just ignore it and click the **Next>** button to continue.



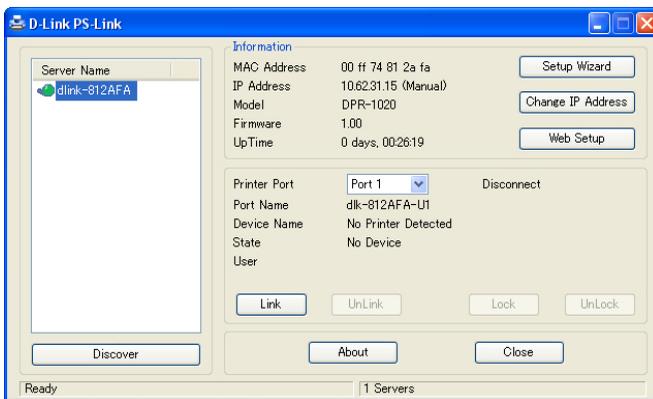
2. The program will prompt you again to connect the two devices, click **No** and continue with the rest of the installation.

Using the PS Software



3. When the installation of the MUTIFUNCTION/GDI printer CD is finished, you may use **PS-Link** to complete the physical connection between the MUTIFUNCTION/GDI printer and your computer.

Click the **Link** button in the **PS-Link** window below.

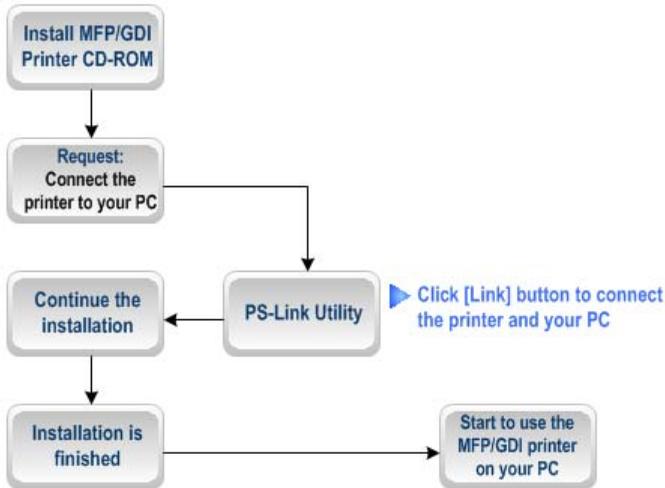


When the connection is successful established, the following message will be displayed. Press **OK** to exit.

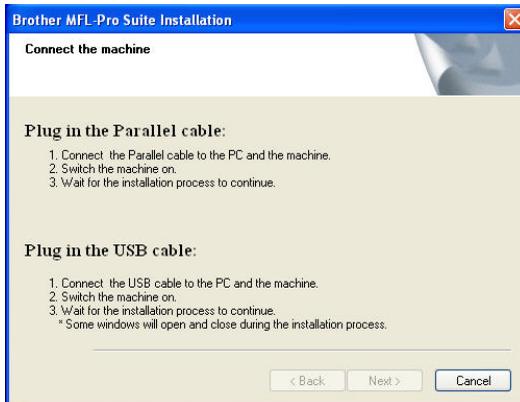


4. Now the MUTIFUNCTION/GDI printer is ready to use from your computer.

For Brother:

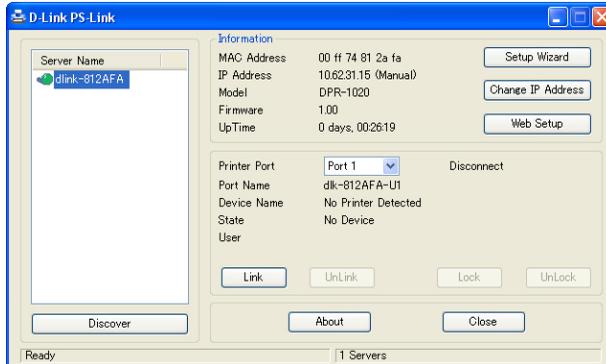


1. When the installation program asks you to connect the USB cable of the MUTIFUNCTION/GDI printer to your computer, do not ignore this prompt message. Use **PS-Link** to simulate a USB connection between your printer and computer.

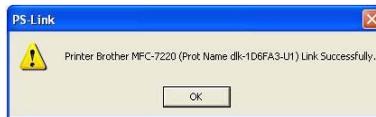


2. Launch the **PS-Link** utility and click the **Link** button.

Using the PS Software

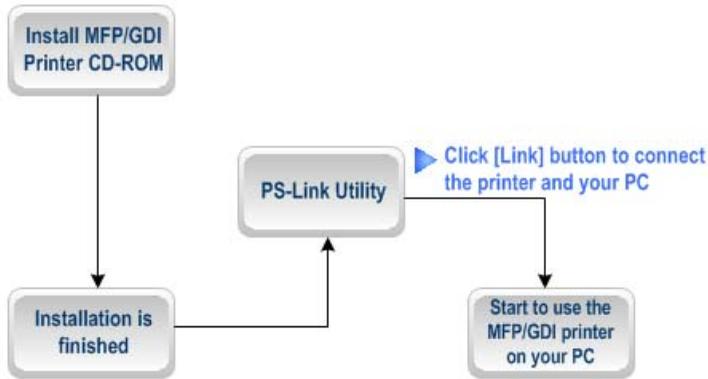


When the connection is successfully established, the following message will be displayed. Press **OK** to exit.



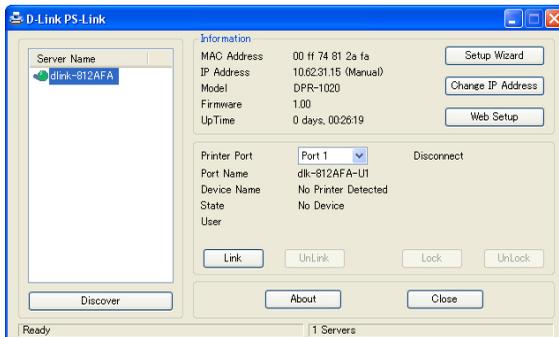
3. Continue with the installation of the multifunction/GDI printer by inserting the CD-ROM in your computer and proceed with the remaining steps.
4. When the installation is completed, you may start to use the multiple functions (Print/Scan/Copy/Fax) of the MUTIFUNCTION/GDI printer from your computer.

For Fuji Xerox:



1. The installation program of the Xerox multifunction/GDI printer will not request you to make a physical connection between the printer and your computer.
2. When the installation is finished, you will have to establish a link between the MUTIFUNCTION/GDI printer and your computer in order to use the printer from your computer. To do this, you need to use **PS-Link** to link the two devices:

Launch the **PS-Link** utility and click the **[Link]** button.



When a connection has been successfully established, the following message will be displayed. Press **OK** to exit.

Using the PS Software



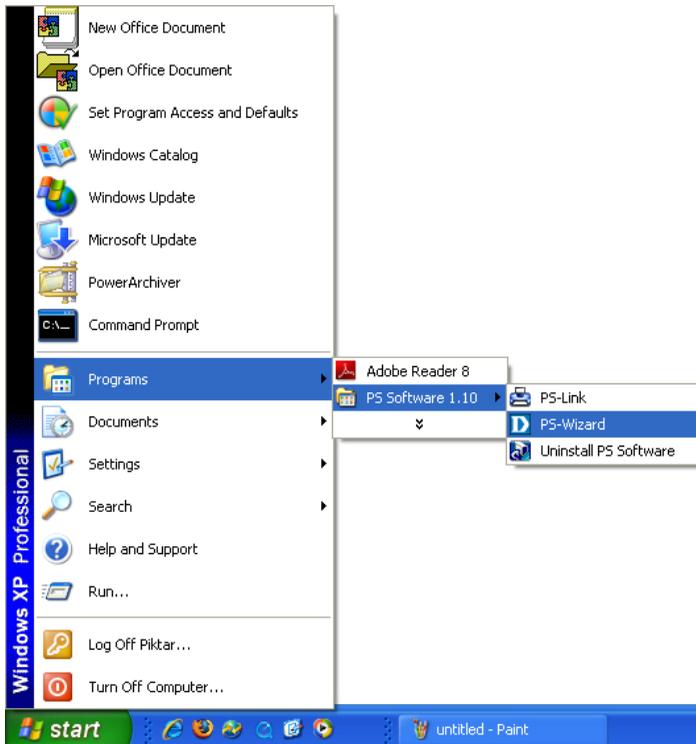
3. Now the multifunction/GDI printer is ready to use from your computer.

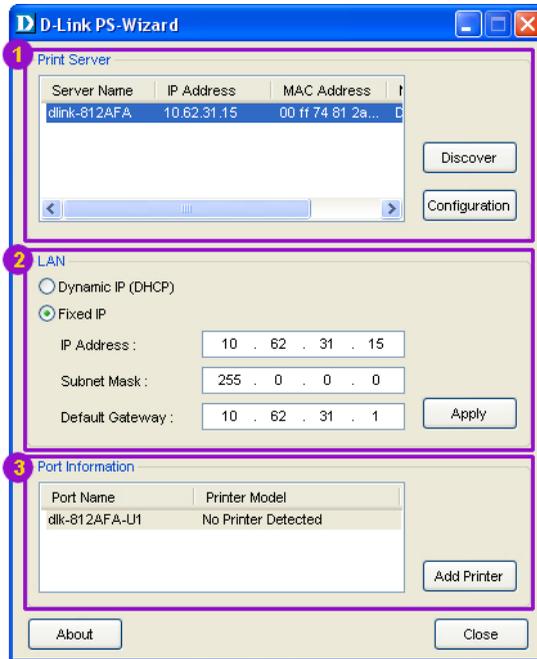
Using PS-Wizard

PS-Wizard (Windows 2000/XP/2003/Vista) is a simple and useful tool for you to easily add a printer onto your computer without any complex configuration.

The **PS-Wizard** also allows you to change the IP address settings for the Print Server, including its IP address, Subnet Mask address and default Gateway address.

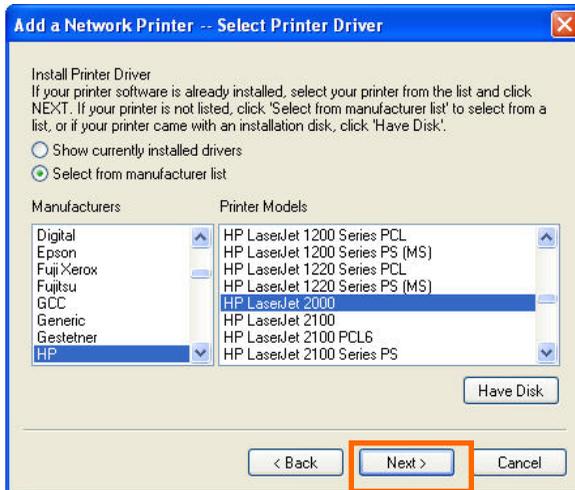
Go to **Start** → **Programs** → **PS Software**, and select **PS-Wizard**.





- 1 Print Server:** This field allows you to manually discover any connected print servers and to further configure a selected print server.
- 2 LAN:** Here you can select to use a Dynamic IP (DHCP) or a static IP address for the selected Print Server. Click **Apply** button to implement the new settings.
- 3 Port Information:** This is the main function of the **PS-Wizard** and enables you to easily add a printer onto your computer.

To add a printer, click **Add Printer**. The following window will appear:



The wizard provides three ways for you to select a printer driver:

1. Show currently installed drivers:

Select this option to see if your printer software is already installed. If not, you may try the next method. After selecting a printer driver, click the **Next>** button to continue.

2. Select from manufacturer list:

Select the **Select from manufacturer list** option to manually select your printer by brand and model. Click the **Next >** button to continue when you have selected the desired driver.

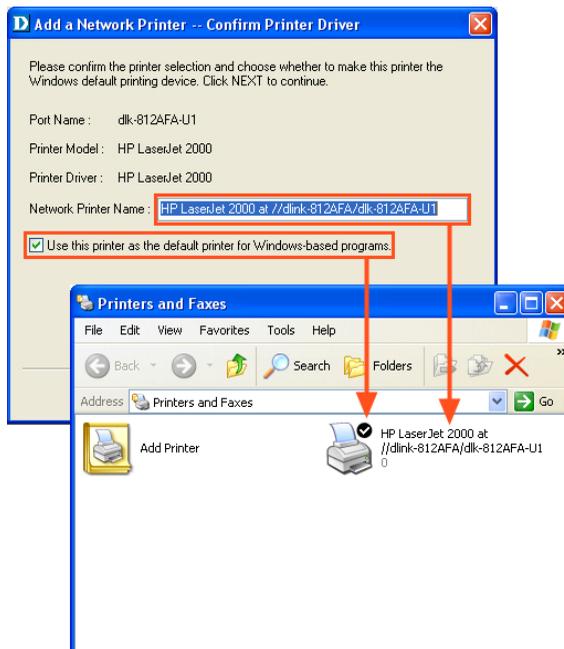
3. Have Disk:

Click the **Have Disk** button to bring up the following window. Insert the manufacturer's installation CD to install the printer driver. Select the driver; then click **OK** to continue.



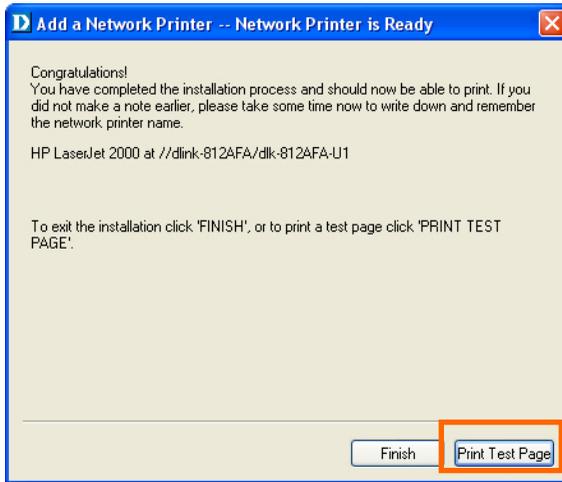
The wizard will ask you to confirm your selection in the next pop-up window. Here, you are allowed to edit the Printer Name in the **Network Printer Name** field, and to enable this printer as the default printer by checking **Use this printer as the default printer for Windows-based programs** box.

Verify the configuration, then click **Next >** to continue. The printer icon (in this case the HP Laser Jet 2000) will be automatically created in the Windows' **Printers and Faxes** screen, as shown in the following illustration.

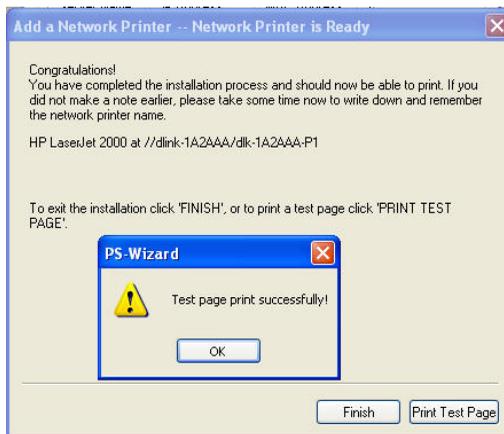


Using the PS Software

When the following window appears, click **Print Test Page** to perform a printing test.



If everything operates as normal, click **Finish** to exit.



If the test failed, check to see if the driver program is correct, the printer is powered ON and connected, and the Print Server is up and running on the network.

Using the Web Configurator

HOME

To begin managing your DPR-2000, make sure it has been powered ON and connected to your network. There are three possible ways to access the DPR-2000's web configurator:

- Launch your browser and go to the following URL address, then type in the following URL:

http//dlink-xxxxxx

where **xxxxxx** is the last six digits of your DPR-2000's MAC address. This MAC address can be found on the bottom of your DPR-2000.

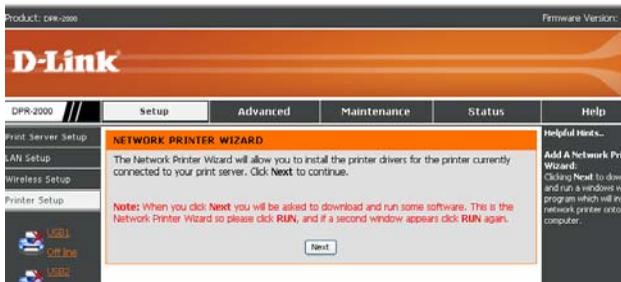
- Another way to access the web configurator is to type in the IP address of your DPR-2000 at the URL address field of the web browser. The default IP address of your DPR-2000 is **192.168.0.10**, but this may have changed if you have a DHCP server on your network.

- Lastly, an alternative way is, if you use Microsoft Windows, click **My Network Places** on your computer desktop. The DPR-2000 supports UPnP, so it should be automatically discovered and its icon displayed on the list of LAN devices. Click on the DPR-2000 icon.

You computer should then display the following screen. Type **admin** in the **User name** field, and leave the password in the **Password** field blank. Click the **OK** button to login.



Your computer should then display the following main screen of your Print Server's web configurator. On this screen, in addition to product information, there are five links on the top of the main screen: **Setup**, **Advanced**, **Maintenance**, **Status**, and **Help**. Clicking a link from the bar will display its submenu. Selecting an option from the submenu will display the content in the center column.



SETUP > Print Server Setup

The Print Server Setup screen allows you to modify the Print Server Name and the Port Name, Description and PJL Printer selection of each of the printers connected to your DPR-2000. Do not change these settings unless you are asked to do so by your network administrator.



Print Server Name

In this section, you can configure the basic information of your Print Server. The basic information contains the name of the print server, assigned in the **Server Name** field, and a location for the print server, assigned in the **Location** field (optional).

Port Settings

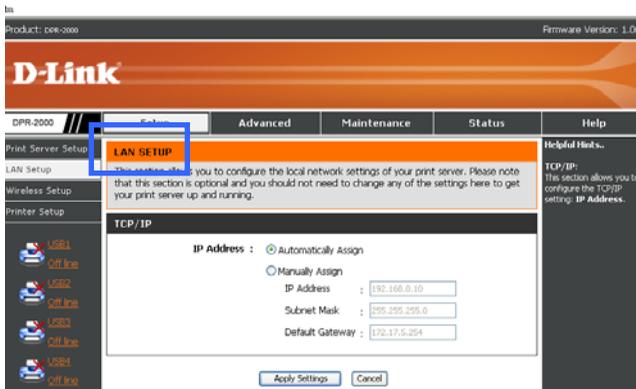
In this section you can assign a Port Name and Description for each of the USB printer ports. It also allows you to select the PJL Printer setting (**Yes** or **No**).

NOTE: *PJL (Printer Job Language) has certain job requirements that must be met to work correctly. For more information, please refer to your printer's manual.*

Click **Apply Settings** to save all changes, or click **Cancel** to abort and exit.

SETUP > LAN SETUP

The LAN Setup screen allows you configure your Print Server's local network settings. Please note that this section is optional and you normally do not need to change any of the settings here to get your Print Server up and running.



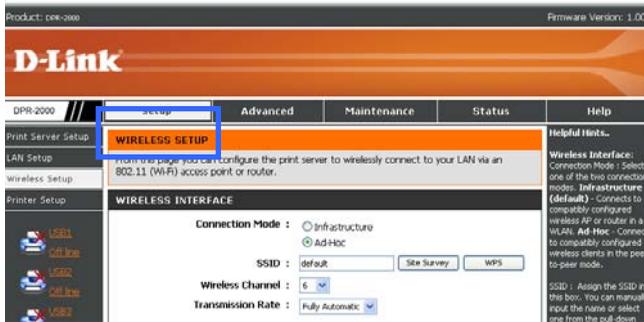
TCP/IP

This screen allows you to automatically or manually assign an IP address for your Print Server. If you click **Manually Assign**, enter the information in these boxes: **IP Address**, **Subnet Mask**, and **Default Gateway**.

If you have made changes to this screen, click **Apply Settings** to save them. To abort and exit, click **Cancel**.

SETUP > Wireless Setup

This section tells you how to configure your Print Server so it can connect to your wireless LAN via an 802.11 wireless router or access point. Connection from wireless users (computers) to your Print Server is through this wireless router or access point.



The WIRELESS SETUP screen is divided into two sections: one for wireless interface, the other for data encryption.

WIRELESS INTERFACE

This section tells you how to configure your Printer Server's wireless interface.

Connecting to Wireless Router or Access Point

Your Print Server's wireless interface supports only the Wireless Client mode. This means that it cannot operate as a wireless access point that provides wireless connection to wireless computers that send in print files. You will then need to connect your Print Server to a wireless router or an access point of your network. Wireless computers accessing the printers will connect to your Print Server via the wireless router or access point. Do as follows to connect your Print Server to a wireless router or access point:

1. For **Connection Mode**, select **Infrastructure**.
2. The SSID is the ID name of the wireless network that you wish your Print Server to belong to. Leave this **SSID** as default if your wireless network already has a default SSID set up in wireless routers and/or access points. Otherwise, click **Site Survey** to display a list of wireless routers and access points currently connected to your network. To re-display the latest list, click **Rescan**. To select an SSID on the list, click the button of that SSID, then click **Select**. To exit without making any selection, click **Exit**.
3. For **Transmission Rate**, select **Fully Automatic** if you wish to let your router or AP automatically select the wireless speed for your Print Server. If your wireless network is not very stable, you can force a specific wireless speed (e.g. a lower speed) by selecting one of the wireless speeds listed in this field.

Connecting to a Single Wireless Computer

There are instances where you can connect use the ad-hoc mode to connect your Print Server to your wireless network. If your network does not have any wireless router or access point, you will want to use this mode. Or, if you simply wish to do a printing test on your network printer, you can also use this mode. An ad-hoc connection will connect your Print Server to a single wireless computer. Do as follows to establish an ad-hoc connection:

1. For **Connection Mode**, select **Ad-Hoc**.
2. Select an SSID from the **Site Survey** list, or leave it as default.
3. Select a wireless Channel that will be used between the wireless computer and your Print Server.
4. For Transmission Rate, select a wireless speed from the list or leave it as **Fully Automatic**.

Disabling Wireless Data Encryption

Print, fax and scanned files travelling in the air can be protected if you enable wireless data encryption. If you disable this encryption, the only benefit is wireless data will travel faster between your computers and your Print Server. If you wish to disable data encryption, click the **Disable** button.

WEP Encryption

WEP (Wired Equivalent Privacy) encryption is based on the IEEE 802.11 standard and uses the RC4 encryption algorithm. WEP provides security by encrypting data travelling between your Printer Server and the connected wireless router or access point.

To gain access to a WEP network, you must know the key. The key is a string of characters that you create. When using WEP, you must determine the level of encryption. The type of encryption determines the key length. 128-bit encryption requires a longer key than 64-bit encryption. Keys are defined by entering in a string in HEX (hexadecimal - using characters 0-9, A-F) or ASCII (American Standard Code for Information Interchange – alphanumeric characters) format. ASCII format is provided so you can enter a string that is easier to remember. The ASCII string is converted to HEX for use over the network. Four keys can be defined so that you can change keys easily.

Do as follows to set up WEP encryption:

1. Click **WEP Encryption**.
2. For the encryption key length, select **64bits** or **128bits** in the **Length** field.
3. For the encryption key string, select the format by clicking **ASCII** or **HEX** in the

Format field.

4. Type in four encryption keys. These keys will be used as options.
5. For **Encrypt Data Transmission Using**, select one of the four keys that you typed in step 4 above.
6. For **Authentication Type**, select **Open System**, **Shared Key**, or **Both**.
7. Click **Apply Settings** to complete, or **Cancel** to abort and exit.

WPA/WPA2 Encryption

WPA (Wi-Fi Protected Access) is a Wi-Fi standard that was designed to improve security. WPA-PSK/WPA2-PSK uses a passphrase or key to authenticate your wireless connection. The key is an alpha-numeric password between 8 and 63 characters long. The password can include symbols (!?*&_) and spaces. This key must be the exact same key entered on your wireless router or access point.

Do as follows to set up WPA encryption:

1. Click WPA-PSK / WPA2-PSK.
2. Type in 8 to 63 ASCII or 64 HEX characters for **Preshared Key**.
3. Click **Apply Settings** to complete, or **Cancel** to abort and exit.

NOTES:

- For both WEP and WPA encryptions, it is recommended that you enable encryption on your Print Server before your wireless computers.
- Your wireless signal may degrade when you enable encryption, due to the added overhead.

Wi-Fi PROTECTED SETUP (WPS)

Wi-Fi Protected Setup (WPS) is a Wi-Fi standard for easy and secure establishment

Using the Web Configurator

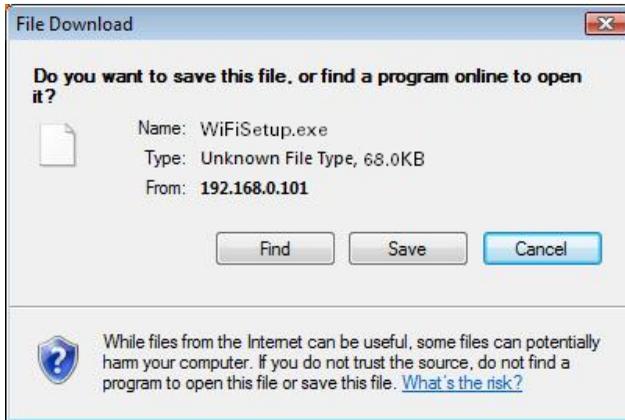
of a wireless network. Without WPS, you would have to manually set a wireless network name (SSID) and a security key that match those set in the router or access point. With WPS, you don't need to do these settings if your router or access point also supports WPS. If you have already created a security profile (with or without data encryption) in your router or access points, the settings in this profile will be applied to your Print Server. Otherwise, WPA-PSK will be used as the data encryption method between Print Server and the router or access point.

Do as follows to set up a WPS connection:

1. Make sure that your router or access point also supports WPS.
2. On the **WIRELESS SETUP** screen, click the **WPS** button.
3. The following screen will appear:



4. Click **Next**. The following Windows dialog box will appear:



5. If your router or access point has a WPS button, press and hold this button a few seconds, then release it. Otherwise, run the WPS program inside the router or access point. The router or access point will start broadcasting the wireless settings in its profile for the Print Server to apply.
6. Within seconds after you have pressed the WPS button of the router or access point or run its WPS program, on the Windows dialog box shown in step 4 above, click **Run** to start running the WPS Installation Wizard inside the Print Server's firmware. Your Print Server will pick up the broadcast signals from the router or access point and apply its wireless settings.

SETUP > Printer Setup

To be able to use the printers connected to the Print Server, users must have the driver programs of the printers installed in their computers. While these programs are provided by the printers' manufacturers, some of these programs are also included in the Microsoft Windows network operating system installed in the users' computers.

The **Printer Setup** screen allows you to install these driver programs in each of the computers that want to use the printers connected to the Print Server. Do as follows to install a printer driver in the user's computer. If all four printers are connected to your Print Server and the user wishes to use all four of them, repeat this procedure for each of the printers.

1. Make sure that the Printer Server is connected to the network and running, and the target printers are connected to the Print Server.
2. From the user's computer, access the Print Server's web configurator. On the left column of the web configurator's main screen, click **Printer Setup** to display following screen:



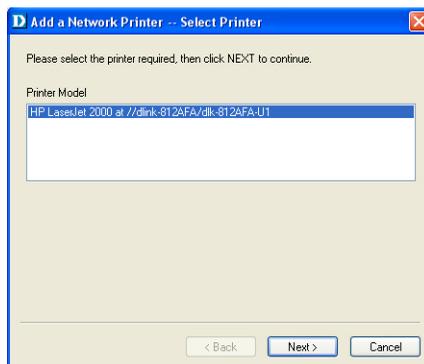
3. Click **Next** to display the following Windows Wizard program dialog box:



4. Click **Run** to execute the Windows Wizard program. If a security warning appears click **Run** again.



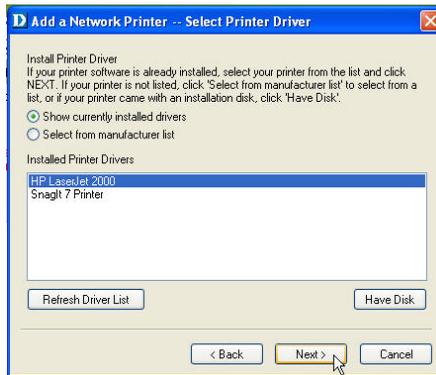
5. The screen will display all the printers currently connected to the Print Server. Each printer's information is displayed in one row, which includes the printer's name (such as HP LaserJet 2000), the Print Server's name (such as dlink-334455), and the name of the port to which the printer is connected (such as dk-334455-U1, where U1 is USB port number 1). Select the target printer, then click **Next >** to continue.



6. The Windows Wizard program provides three options for you to select a driver program for the target printer that you selected in step 5:

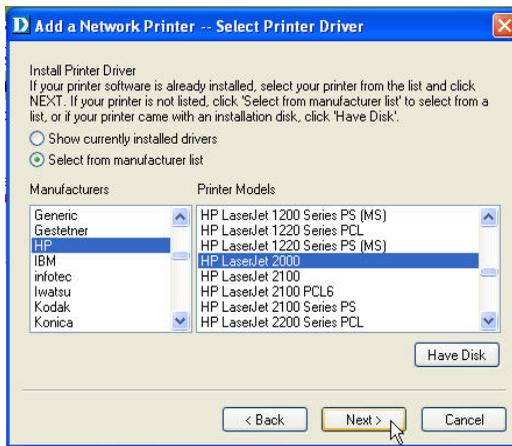
a. Show currently installed drivers:

Select this option to list out all printer driver programs previously installed in the user's computer, under the **Installed Printer Drivers** box. Note that this box only displays the printer names, and not the printer driver programs. Select the target printer, then click **Next>** to continue. If your target printer is not on the box, try the next option.



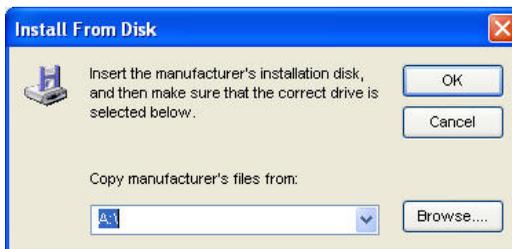
b. Select from manufacturer list:

This option displays all printer driver programs included in the Microsoft Windows network operating system of your user's computer. Click the **Select from manufacturer list** button to display the **Manufacturers** and **Printer Models** boxes. Select the target printer's manufacturer and model, then click **Next >** to continue. If your target printer is not on the boxes, try the next option.



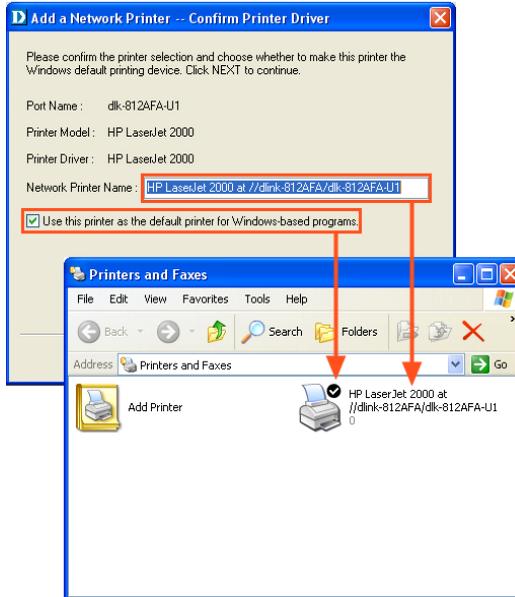
c. Have Disk:

Select this option if you have on hands the driver program of the target printer. Click the **Have Disk** button to bring up the following window. Insert the manufacturer's installation CD to install the printer driver. Click **OK** to continue.

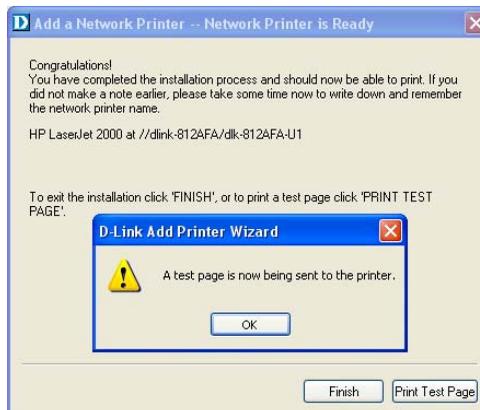


7. After you have selected the printer driver, the wizard will ask you to confirm your selection in the next window. You're allowed to edit the name of the printer in the **Network Printer Name** field and enable this printer as the default printer by checking the **Use this printer as the default printer for Windows-based programs** box. Since you can connect up to four printers to your Print Server, you should include the printer port number in the **Network Printer Name** to make it easy to get identified.

8. After you have completed the verification and configuration, click **Next >** to continue. The printer (in this case the HP Laser Jet 2000) will be automatically created in the Windows' **Printers and Faxes** screen.



When the following screen displays, you can perform a print test by clicking the **Print Test Page** button. If everything is operating normally, click **OK**, then click **Finish** to exit.



ADVANCED > Advanced LAN

The **Advanced LAN** screen allows you to change more advanced network settings for your Print Server. It's recommended that you do not change these settings unless instructed to do so by your network administrator. The **Advanced LAN** screen contains three sections: TCP/IP, Microsoft Network, and AppleTalk.

Product: DPR-2000 Firmware Version: 1.00

D-Link

DPR-2000 // Setup **Advanced** Maintenance Status Help

Advanced LAN

Advanced Wireless Please do not change any of the following settings unless instructed to do so by your network administrator.

User Access

E-Mail Notification

SNMP

USB1 [off line](#)

USB2 [off line](#)

USB3 [off line](#)

USB1 [off line](#)

USB2 [off line](#)

Reboot

NETWORK SETTING

Please do not change any of the following settings unless instructed to do so by your network administrator.

TCP/IP

DNS Server Address : 1: 0.0.0.0
2: 0.0.0.0

UPnP : Enable Disable

Mac Bonjour/Rendezvous : Enable Disable

Second HTTP Port :
Port Number :
(For Remote Web Configuration and IPP Printing)

MICROSOFT NETWORK

Workgroup : WORKGROUP

APPLETALK

AppleTalk Zone : *

USB1 : Chooser Name : dl-334455-U1
Printer Type : LaserWriter
PostScript Level : Level 2
Font Group : Standard 35

USB2 : Chooser Name : dl-334455-U2
Printer Type : LaserWriter
PostScript Level : Level 2
Font Group : Standard 35

USB3 : Chooser Name : dl-334455-U3

Helpful hints...

TCP/IP: If you are using e-mail printing or e-mail notification, you will need to setup the DNS Server Address. Only if your network has a DNS Server setup should you enter the address into the DNS Server Address box, otherwise leave it as 0.0.0.0.

UPnP allows your print server to be discoverable on the network.

Mac Bonjour/Rendezvous allows your print server to be discoverable on an Apple Mac network.

TCP/IP

This section contains four configuration options: **DNS Server Address**, **UPnP**, **Mac Bonjour/Rendezvous**, and **Second HTTP Port**.

- **DNS Server Address:** This lists the two DNS Server addresses of your Print Server. Your Print Server will go to one of these servers to get its dynamic IP address at boot-up time (i.e. when it is powered ON).
- **UPnP:** This option allows you to enable or disable UPnP. If you select **Enable**, your Print Server will be automatically discovered and placed in Windows' list

of on-line printers and fax machines.

- **Mac Bonjour/Rendezvous:** This option allows you to enable or disable Mac Bonjour/Rendezvous, a function similar to Windows' auto-discovery described above.
- **Second HTTP Port:** This option allows you to enable or disable a second HTTP Port for remote configuration of the Print Server remote printing function through the Internet.

Microsoft Network

- **Workgroup:** This is the name of the workgroup that you want your Print Server to be associated with.

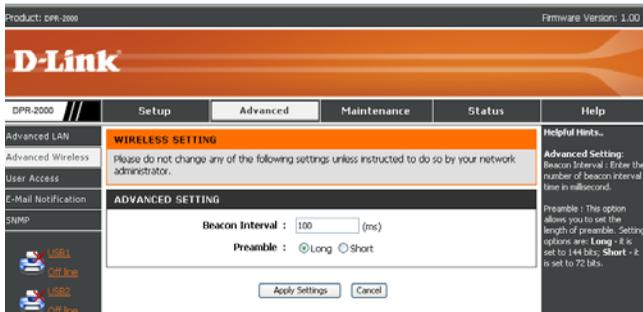
AppleTalk

- **AppleTalk Zone:** This is the name of the AppleTalk Zone to which the Print Server belongs
- **USB1, USB2, USB3, USB4:** These are the four printer ports of the Print Server. Specify the following settings for each of the printer ports.
- **Chooser Name:** This field displays the Port Name that you specified when you set up the printer connected to the port.
- **Printer Type:** Enter the printer's type in this box.
- **PostScript Level:** Select the PostScript Level from the drop-down list box (Level 1 or Level 2).
- **Font Group:** Select the Font Group from the drop-down list box.

Once you have completed the settings for each printer port, click **Apply Settings** to store the settings. To abort and exit, click **Cancel**.

ADVANCED > Advanced Wireless

The **Advanced Wireless** screen allows you to change the wireless settings of your infrastructure network, where all wireless signals are transferred through a wireless router or access point. Note that you should not change these settings unless instructed to do so by your network administrator.



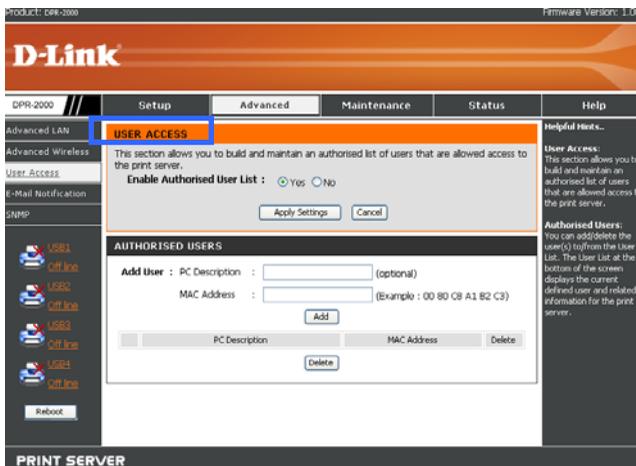
There are two advanced wireless settings that can be changed:

- **Beacon Interval:** This parameter affects the latency in sending unicast packets to power saving stations and broadcast/multicast packets in general. The default setting is 100, or ten beacons per second. To change this, type in a new value in this box.
- **Preamble:** The Preamble, which is located in every wireless data packet, is used to communicate to the receiver that data is on its way. Most wireless routers and access points are configured for a Long Preamble. The default setting in your Print Server is Long Preamble. To change this, click **Short**.

Once you have completed the settings for each printer port, click **Apply Settings** to store the settings. To abort and exit, click **Cancel**.

ADVANCED > User Access

The **User Access** screen allows you to create and maintain an authorized list of users that you allow to access the Print Server.



User Access

If you click **Yes** in the **Enable Authorized User List** field, users in the User List (shown in the next section on this same screen) will be permitted to access the Print Server. If you have made changes to any setting on this screen and wish to apply the new setting, click **Apply Settings** to store the new settings in the Print Server. To abort and exit (i.e. without saving the settings), click **Cancel**.

Maintaining the User List

The User List displays all the users that you allow to access the Print Server. This list is displayed in the section labeled **AUTHORIZED USERS** on the screen. Authorized users are listed in the **PC Description** field. Their computers' Ethernet MAC addresses are listed in the **MAC Address** field.

Using the Web Configurator

To add a user to the User List, do as follows:

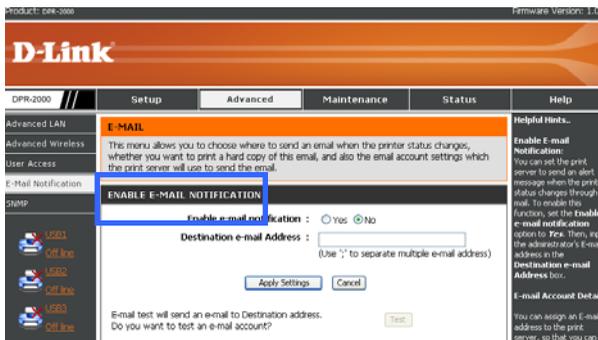
1. Type in the name of the user in the **PC Description** field. This name can be the name of the user, or the name of the computer, or anything that helps you to identify.
2. Type in the MAC address of the computer's Ethernet interface. Note that this computer does not have to be actually connected to the network (on-line) at the time when you key in its MAC address. The Print Server will only verify this computer's MAC address when it attempts to establish a connection with the Print Server.
3. Click **Add** to add to the User List.

To delete a user from the User List, do as follows:

1. In the User List, select the target user.
2. Click **Delete** to delete that user from the User List.

ADVANCED > E-Mail Notification

The Print Server can notify you of events that happen to it and the printers by e-mail, and print these events on the printer. To enable this function, go the E-Mail Notification screen below:



Enable E-mail Notification

You can set the Print Server to send a message to your e-mail to alert you of an event that happened, such as when a printer status changed. To enable this function, do as follows:

1. Click **Yes** next to **Enable e-mail notification**.
2. In the **Destination e-mail Address** field, type an e-mail address. You may type in more than one address in this field. If you do, separate the addresses by semi-colons (;).
3. Click **Apply Settings** to enable this function. To abort and exit, click **Cancel**.
4. If you clicked **Apply Settings** in step 4 and wish to have a test e-mail sent to the address or addresses that you specified in step 2, click **Test**, then check to see if you have received the test e-mail.

E-mail Account Details

This screen section contains the fields detailing your notification e-mail account.

- **Print Server E-mail Address:** This is the address where you wish to receive e-mail from the network administrator. An example of this usage is when the mail box of the e-mail address that you specified in the *Enable E-mail Notification* section above is full, a message will be generated by the network administrator and sent to this Print Server email address.
- **Incoming E-mail (POP3) Server Address:** This is the address of the server through which your Print Server can receive e-mail (i.e. the server address of the Print Server E-mail Address that you specified above).
- **Outgoing E-mail (SMTP) Server Address:** This is the address of the server through which your Print Server can send an e-mail.
- **E-mail Account (POP3) Name:** This is the name of the sever where your Print Server E-mail Address is located.
- **E-mail Account (POP3) Password:** This is password to your Print Server E-mail Address

Click **Apply Settings** after you have filled in all of the fields above to save, then re-boot the Print Server. To abort and exit, click **Cancel**.

E-mail Printing

E-mail containing ASCII text that your Print Server receives can be automatically printed out from the printer connected to USB Port 1. To enable this function, do as follows:

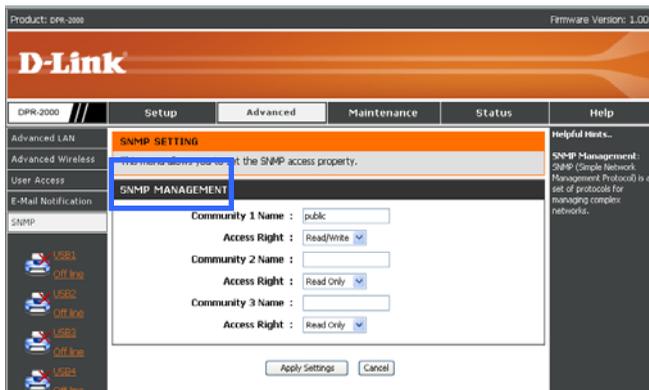
1. Click the Enable button next to **E-mail Printing (ASCII Text Only)**.
2. Type in an time interval (in minutes) in the **Check E-mail Interval** field.
3. Click **Apply Settings** to enable this function, then re-boot the Print Server. To abort and exit, click **Cancel**.

ADVANCED > SNMP

This Print Server has a limited number of SNMP (Simple Network Management Protocol) MIBs built into it. These MIBs (Management Information Base) allow your Printer Server to be integrated in an SNMP-based manageable network, which might include more complex network devices such as SNMP-managed switches, routers and wireless access points. The SNMP screen allows you to do settings to the SNMP MIBs inside your Print Server

SNMP Management

There are three MIBs inside the Print Server that you can set values for. They are the three **Community Names** and their **Access Rights**. An SNMP Community tells the network administrator which community (i.e. group of managed devices) it belongs to. Your Print Server can belong to up to three SNMP communities. The Access Right refers to the network administrator's ability to change the Community Name.



Do as follows to set a Community Name and Access Right:

4. For each **Community Name**, type in a name.

5. Select an **Access Right** for that Community Name.

6. Click **Apply Setting** to save the settings in the Print Server. To abort and exit without saving, click **Cancel**.

MAINTENANCE > Password

By default, the User Name of the Print Server is Admin, and its Password is blank. The User Name and Password are used to access the user interface of the Print Server to set its configurations. The Password screen below allows you to change this default password.



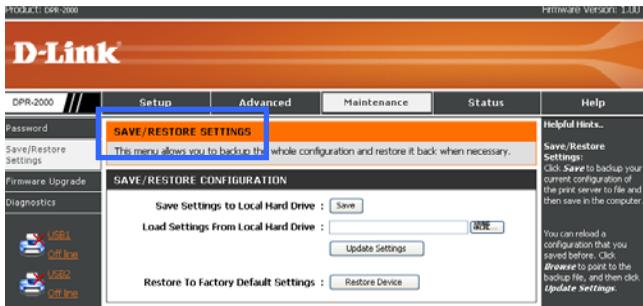
Do as follows to set the password:

1. In the **Current Password** field, type in the current password (which is also the default password, if you have never changed it).
2. In the **New Password** field, type in a new password.
3. In the **Confirm Password** field, type in the new password again to confirm.
4. Click **Apply Settings** to save the new password in the Print Server. To abort and exit without saving, click **Cancel**.

MAINTENANCE > Save/Restore Settings

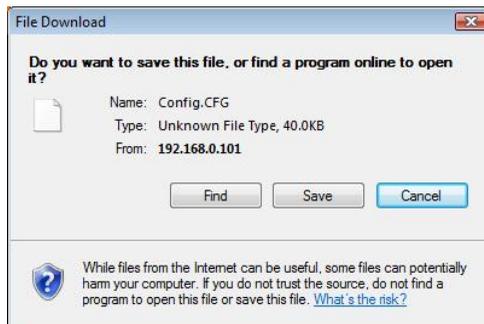
The Save/Restore Settings screen allows you to do three things:

- Save the current configuration settings inside your Print Server to your computer's disk drive,
- Load configuration settings that you previously saved from a computer drive to your Print Server, and
- Restore the factory default settings to your Print Server.



To save the current settings in your Print Server to your computer's disk drive, do as follows:

1. Next to **Save Settings to Local Hard Drive**, click **Save**. A dialog window will pop up:



Using the Web Configurator

2. Click **Save**. You will be prompted for the target path where you wish to hold the Printer Server's settings. Select the target folder or the drive. Then click **Save** to save.

To load the Print Server's settings that you previously saved to your computer drive, do as follows:

1. Next to **Load Settings From Local Hard Drive**, type in target path or click the **Browse** button to browse.
2. Click **Update Settings** to load the saved settings to your Print Server.
3. Reboot your Print Server by unplugging its power adapter cable and then plugging it in again.

To restore the factory default settings to your Print Server, do as follows;

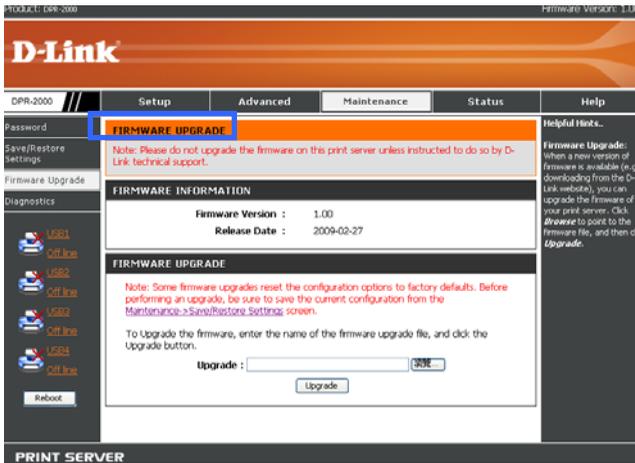
1. Next to **Restore To Factory Default Settings**, click **Restore Device**.
2. Reboot your Print Server by unplugging its power adapter cable and then plugging it in again.

MAINTENANCE > Firmware Upgrade

Your Print Server can be upgraded with new firmware when it becomes available.

New firmware will allow you to use functions that are added to your Print Server.

New firmware can be uploaded to your Print Server via the following screen:



This screen indicates the current firmware inside your Print Server. To upgrade its firmware, do as follows:

WARNING: *All configuration settings currently inside your Print Server will be replaced by the factory default settings when the new firmware is uploaded to the Print Server. Make sure that you have saved your current settings to a computer drive for restoration later. Refer to the preceding section for instructions.*

1. Have the new firmware file ready on a disk or a computer drive. Type in the path of the target path of the new firmware file, or click **Browse** to browse.
2. Click Upgrade. Your Print Server will start to load the new firmware to its flash memory. It is very important that you do not turn OFF the power of either the

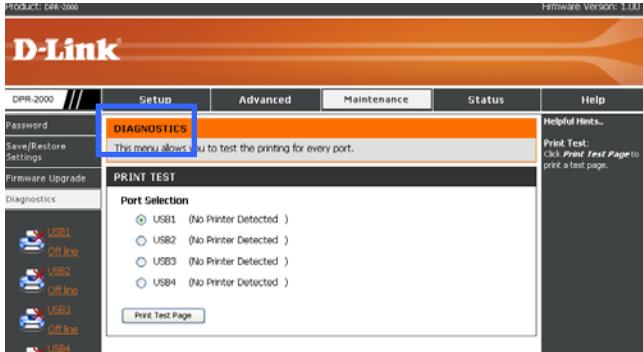
Using the Web Configurator

computer or the Print Server, or tamper with any connecting cables during the process.

3. When the firmware uploading process is completed, you will be prompted in a pop-up window. Click **Finish** to complete and exit.
4. Reboot your Print Server by unplugging its power adapter cable and then plugging it in again.

MAINTENANCE > Diagnostics

You can do a print test for each of the printers that are connected to your Print Server. The Diagnostics screen below allows you to do this.



To print a test page, do as follows:

1. Click on a target printer to select. To select a number of printers, click on all the target printers
2. Click **Print Test Page** to start printing. If you have selected more than one printers, the test pages will be printed on all selected printers.

STATUS > Device Info

The Device Info screen below displays the information and status of your Print Server, its connected printers and its Ethernet LAN port. This information is useful for troubleshooting. This screen can be scrolled to display information that is not shown.

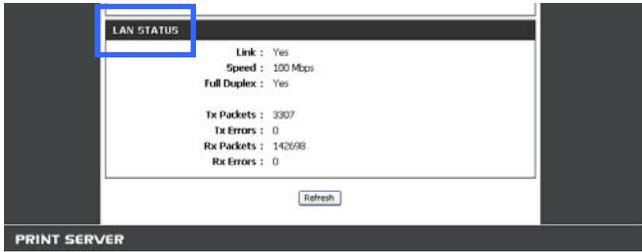


Print Server Status

The fields in this section display the information related to the Print Server itself.

Printer Status

The fields in this section display the information and status related to each printer. If no printer is connected to a printer port, the screen will indicate the status as **Off line** in the **Printer Speed** and **Printer Status** fields.



LAN Status

The fields in this section display the information related to the Ethernet port of the Print Server.

STATUS > Network

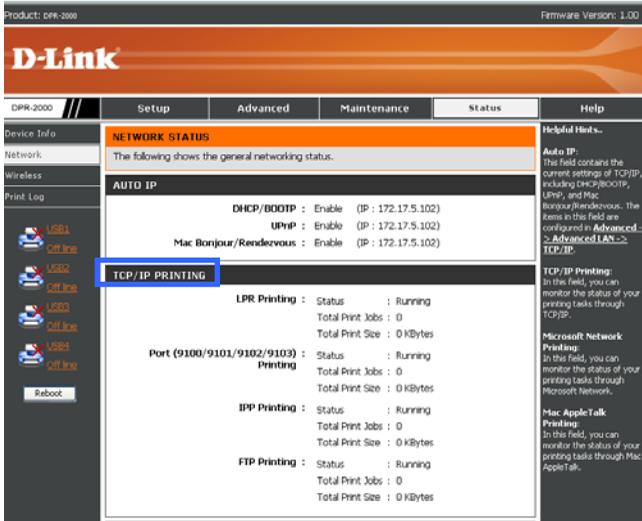
The Network screen displays the general network status of your Print Server.

Auto IP



This screen section shows your Print Server's current TCP/IP settings, such as DHCP/BOOTP, UPnP, and Mac Bonjour/Rendezvous. These settings can be made using the **Advanced** → **Advanced LAN** → **TCP/IP** screens (refer to a preceding section in this manual for details).

TCP/IP Printing



In this section shows the status of the various printing tasks through TCP/IP, such as the LPR printing task, the four USB printer port printing task, the IPP printing task, and the FTP printing task.

Microsoft Network Printing



This screen section shows the status of printing tasks through Microsoft Windows. These tasks include the SMB (over NetBEUI) printing and the SMB (over NBT) printing.

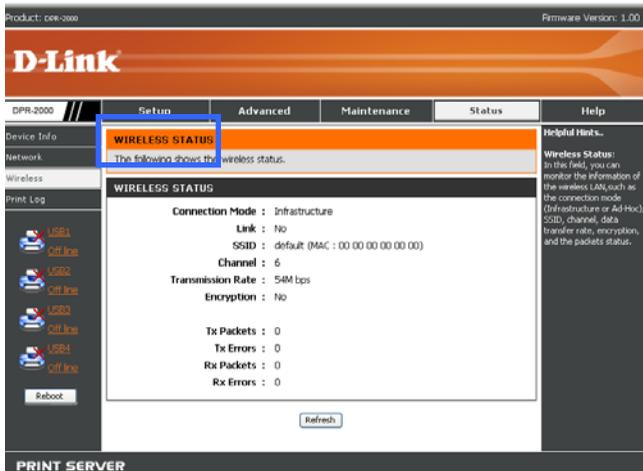
Mac AppleTalk Printing



This screen section shows the status of your printing tasks through Mac AppleTalk.

STATUS > Wireless Status

The Wireless Status screen displays the wireless network status of the Print Server.

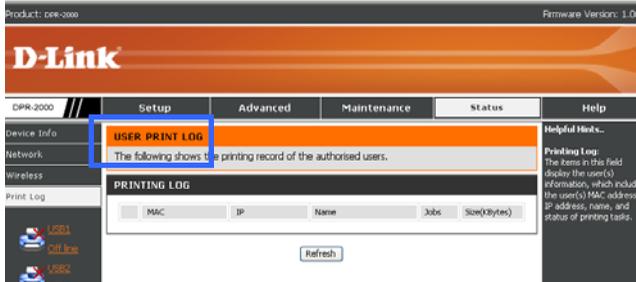


STATUS >Print Log

The Print Log screen displays the printing records of authorized users.

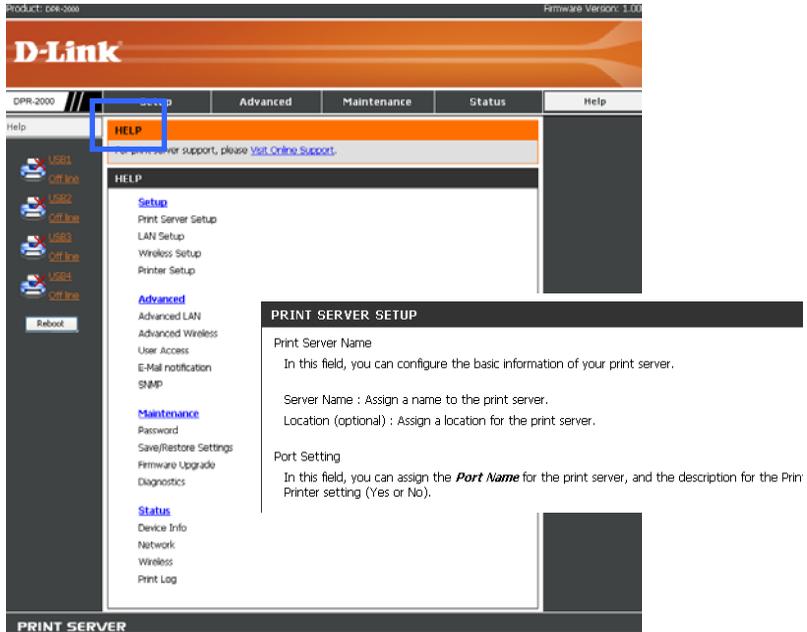
Printing Log

The printing log displays rows of information pertaining to each authorized user. For each row, you have the MAC address of the user's computer, his IP address, the name of the user, the status of printing tasks and size of printing tasks.



HELP

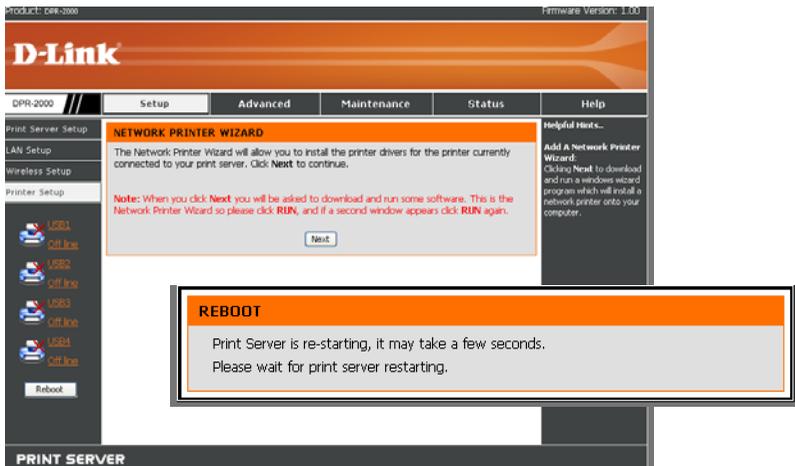
The Help screen provides help on how to use the Print Server's functions.



This screen displays a list of function topics. Click on a top to display the help information:

Reboot

The **Reboot** is located at the bottom of the left column of the screen. Pressing the Reboot button will re-boot your Print Server. A re-boot is required after you have made changes to the Print Server's settings, so the Print Server can apply the new settings.



After you have pressed the Reboot button, the following message will appear:

Wait until the message disappears. Your Print Server should now begin to use its new settings.

Refresh Printer Status

Click the printer in the left column to refresh the status of the printer.

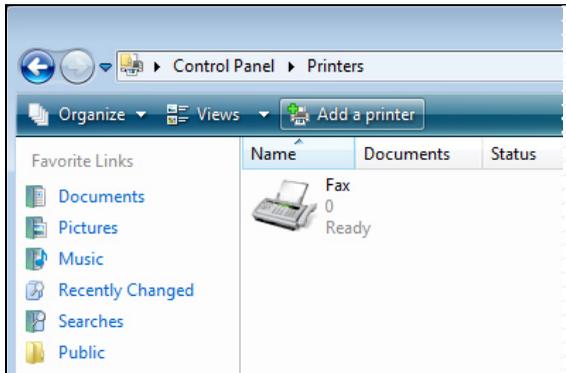


TCP/IP Printing for Windows Vista

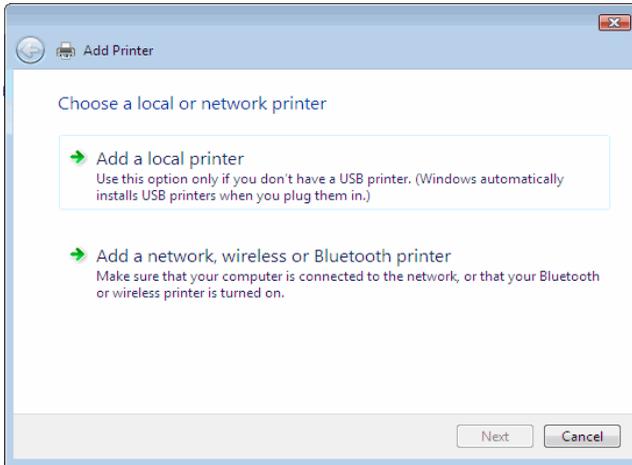
Go to **Start → Control Panel → Printers**.



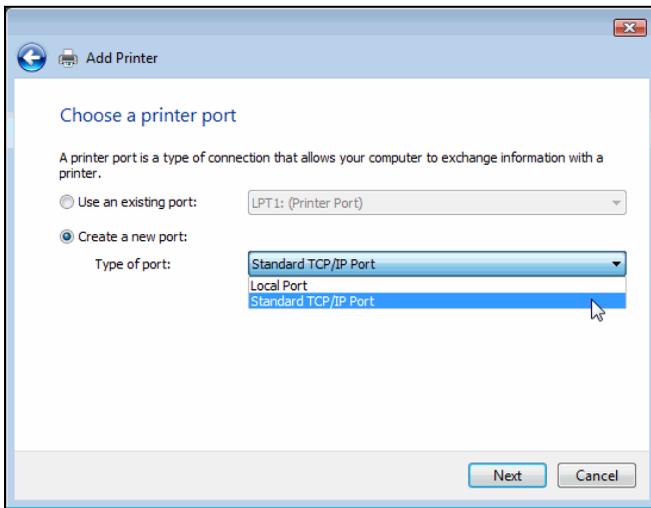
Click **Add a printer**.



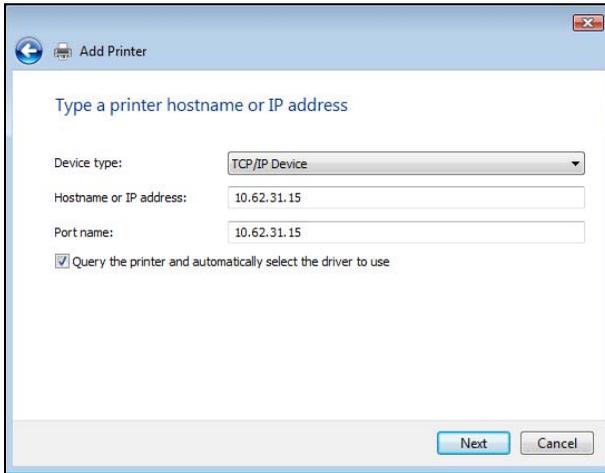
Select the first option, **Add a local printer**, and then click **Next**.



Select the second option, **Create a new port**, and highlight **Standard TCP/IP Port** from the pull-down menu. Click **Next**.

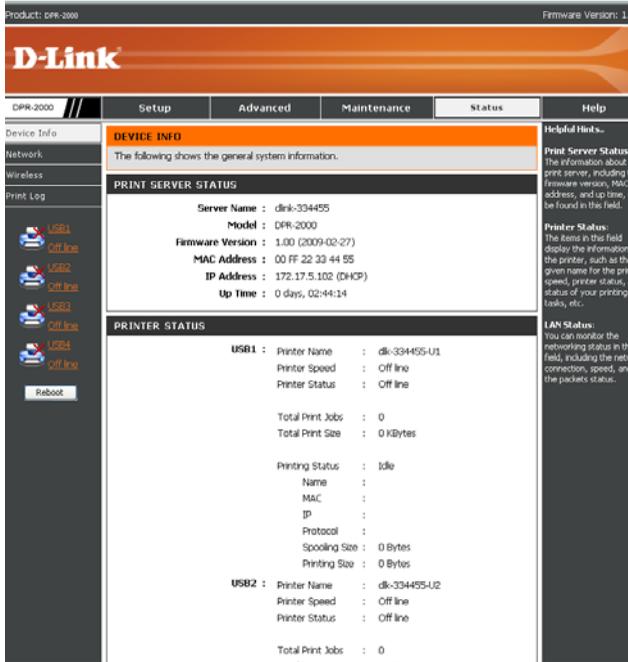


In the **Hostname or IP address field**, type the IP address of the Print Server (e.g. 10.62.31.15), this address can be found in the **PRINTER SERVER STATUS** screen of the Print Server's web configurator. The **Port Name** field will automatically fill in. Click **Next**.



The screenshot shows the 'Add Printer' wizard in Windows Vista. The window title is 'Add Printer'. The main heading is 'Type a printer hostname or IP address'. The 'Device type' dropdown is set to 'TCP/IP Device'. The 'Hostname or IP address' field contains '10.62.31.15'. The 'Port name' field also contains '10.62.31.15'. A checkbox labeled 'Query the printer and automatically select the driver to use' is checked. At the bottom right, there are 'Next' and 'Cancel' buttons.

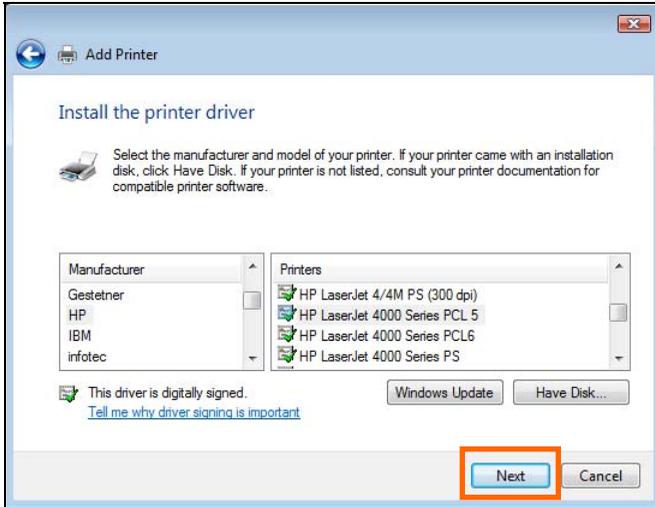
TCP/IP Printing for Windows Vista



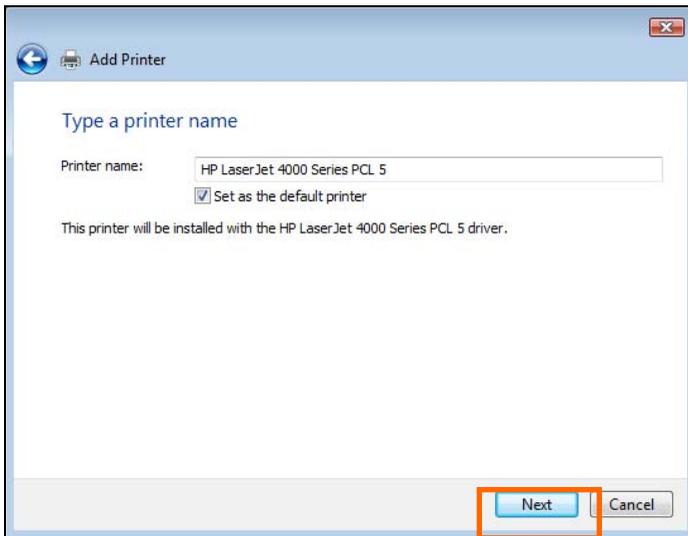
In the next screen highlight the printer you wish to add. If the printer is not on the list, click **Have Disk** and insert the printer driver disk that came with your printer to install the printer drivers.

Click **Next**

TCP/IP Printing for Windows Vista

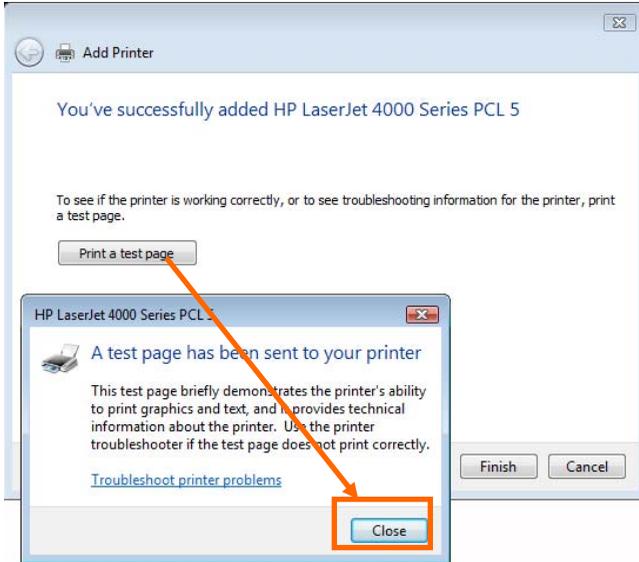


Click **Next** to start installing the printer.

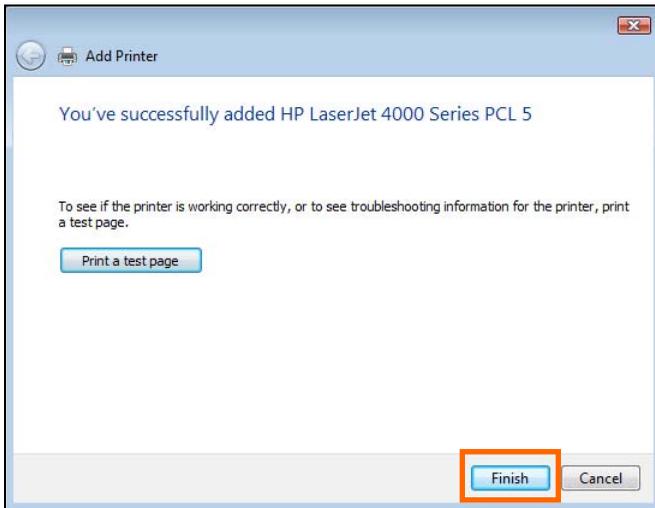


After clicking **Print a test page**, a small dialogue box will display as below. Click **Close**.

TCP/IP Printing for Windows Vista

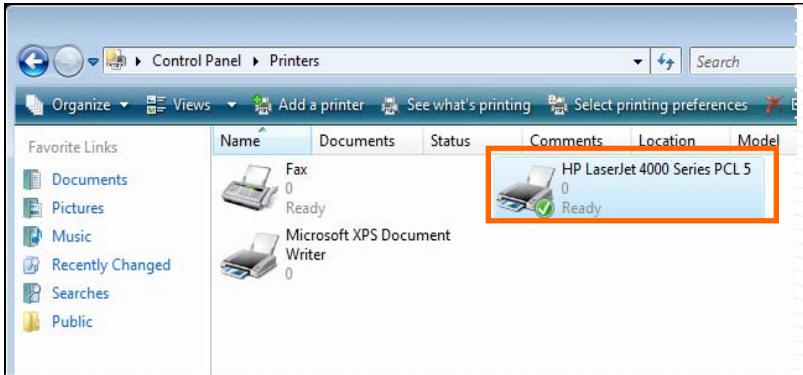


Click **Finish**.



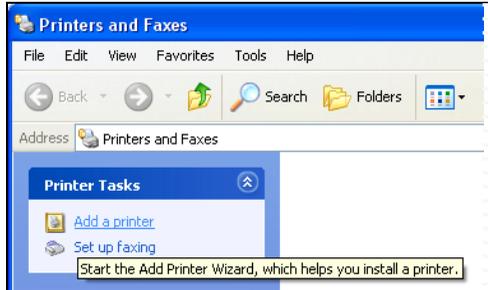
The printer is now ready for use.

TCP/IP Printing for Windows Vista

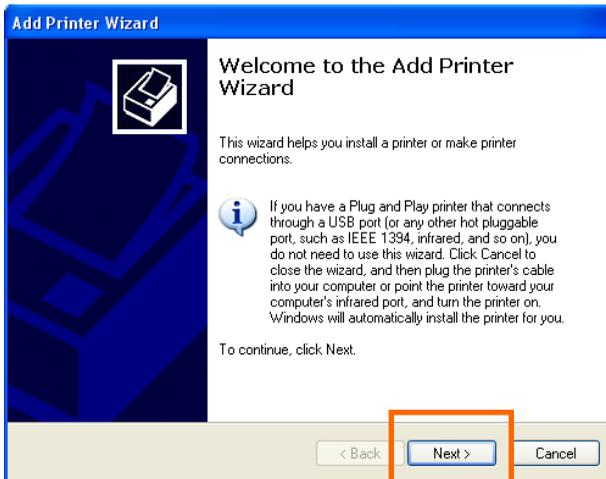


TCP/IP Printing for Windows XP

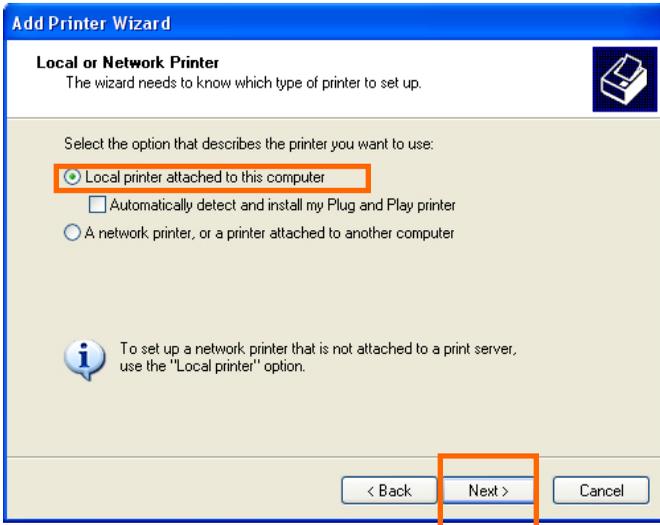
Go to **Start** → **Printers and Faxes** → **Add a Printer**.



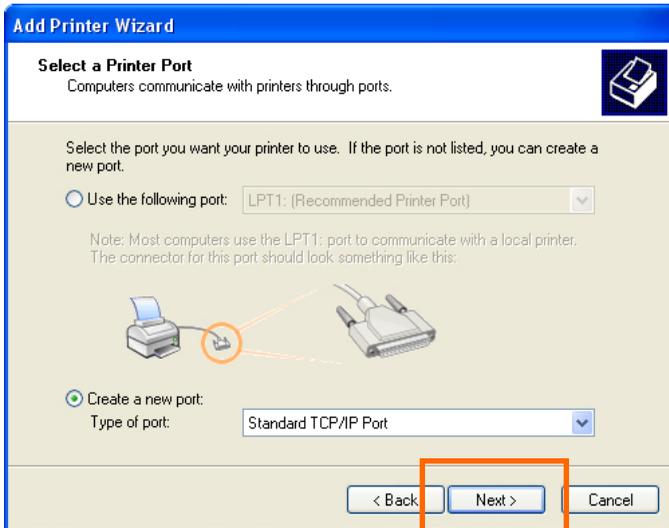
When the following screen displays, click **Next**.



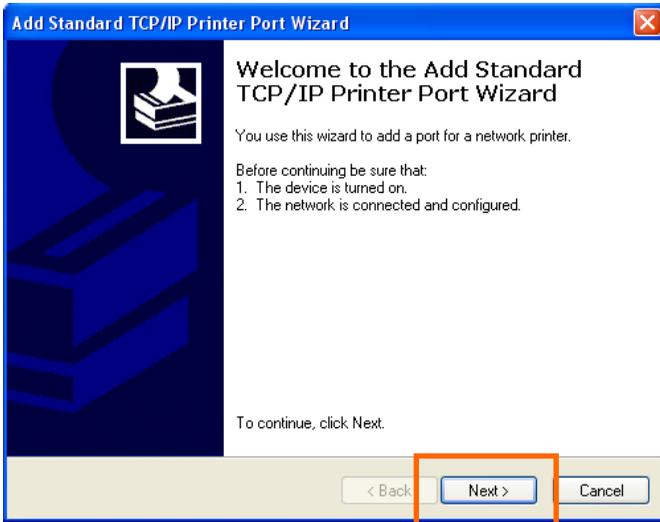
Select the first option, **Local printer attached to this computer**, and click **Next**.



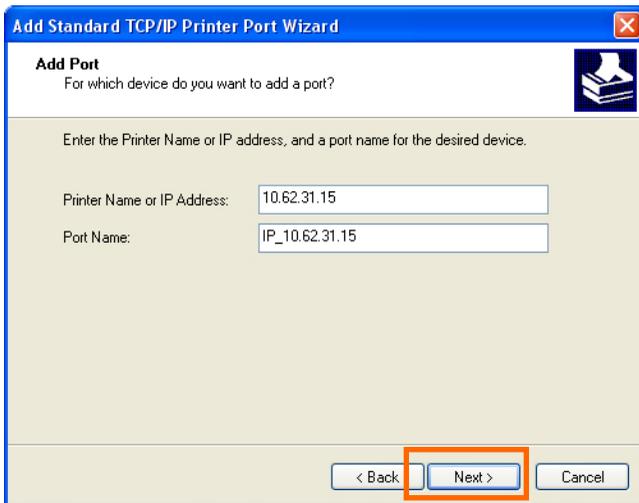
Click the second option, **Create a new port**, and select **Standard TCP/IP Port** from the drop-down list box. Click **Next**.



Click **Next**.



In the **Hostname or IP address** field, type the IP address of the Print Server (e.g. 10.62.31.15). This address can be found in the **PRINTER SERVER STATUS** screen of the Print Server's web configurator. The **Port Name** field will be automatically filled in. Click **Next**.



The screenshot shows the D-Link DPR-2000 web interface. The top navigation bar includes Setup, Advanced, Maintenance, Status, and Help. The left sidebar shows various connection options like USB1, USB2, USB3, and Wireless. The main content area is titled 'DEVICE INFO' and provides the following details:

- SERVER INFO**
 - The following shows the general system information.
- PRINT SERVER STATUS**
 - Server Name : dlink-334455
 - Model : DPR-2000
 - Firmware Version : 1.00 (2009-02-27)
 - MAC Address : 00 FF 22 33 44 55
 - IP Address : 172.17.5.102 (DHCP)
 - Up Time : 0 days, 02:44:14
- PRINTER STATUS**
 - USB1**
 - Printer Name : dlk-334455-U1
 - Printer Speed : Off line
 - Printer Status : Off line
 - Total Print Jobs : 0
 - Total Print Size : 0 KBytes
 - Printing Status : Idle
 - Name :
 - MAC :
 - IP :
 - Protocol :
 - Spooling Size : 0 Bytes
 - Printing Size : 0 Bytes
 - USB2**
 - Printer Name : dlk-334455-U2
 - Printer Speed : Off line
 - Printer Status : Off line
 - Total Print Jobs : 0

Helpful links on the right side include Print Server Status, Printer Status, and LAN Status.

Select **Custom** and click **Settings**.

The screenshot shows the 'Add Standard TCP/IP Printer Port Wizard' dialog box. The title bar reads 'Add Standard TCP/IP Printer Port Wizard'. The main content area is titled 'Additional Port Information Required' and contains the following text:

The device could not be identified.

The device is not found on the network. Be sure that:

1. The device is turned on.
2. The network is connected.
3. The device is properly configured.
4. The address on the previous page is correct.

If you think the address is not correct, click Back to return to the previous page. Then correct the address and perform another search on the network. If you are sure the address is correct, select the device type below.

Device Type

Standard Generic Network Card

Custom **Settings...**

At the bottom of the dialog box are buttons for '< Back', 'Next >', and 'Cancel'.

TCP/IP Printing for Windows XP

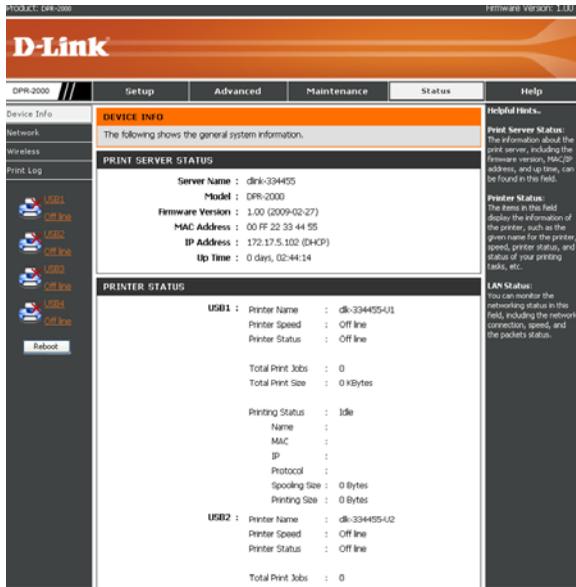
The following screen will be displayed. Select **LPR** from the **Protocol** field.

Enter the **Queue Name**, which can be found in the **PRINTER STATUS** screen of the Print Server's web configurator. Click **OK**.

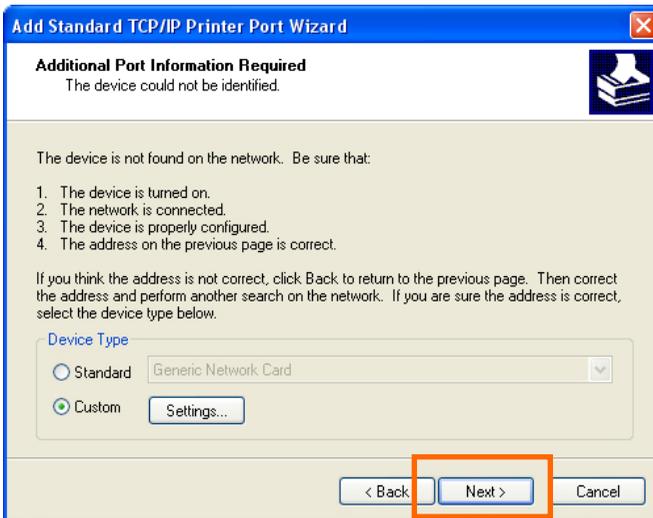
The screenshot shows the 'Configure Standard TCP/IP Port Monitor' dialog box. The 'Port Settings' tab is active. The 'Port Name' is 'IP_10.62.31.15' and the 'Printer Name or IP Address' is '10.62.31.15'. The 'Protocol' section has 'Raw' and 'LPR' radio buttons, with 'LPR' selected. The 'Raw Settings' section has 'Port Number' set to '515'. The 'LPR Settings' section has 'Queue Name' set to 'dlk-812AFA-U1', 'LPR Byte Counting Enabled' unchecked, and 'SNMP Status Enabled' unchecked. The 'Community Name' is 'public' and the 'SNMP Device Index' is '1'. The 'OK' button is highlighted with an orange box.

Port Name:	IP_10.62.31.15
Printer Name or IP Address:	10.62.31.15
Protocol	<input type="radio"/> Raw <input checked="" type="radio"/> LPR
Raw Settings	Port Number: 515
LPR Settings	Queue Name: dlk-812AFA-U1 <input type="checkbox"/> LPR Byte Counting Enabled <input type="checkbox"/> SNMP Status Enabled
	Community Name: public SNMP Device Index: 1
	<input type="button" value="OK"/> <input type="button" value="Cancel"/>

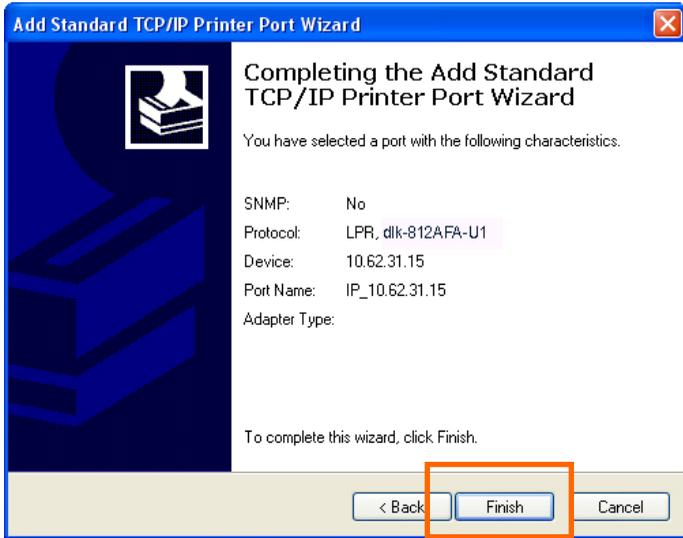
TCP/IP Printing for Windows XP



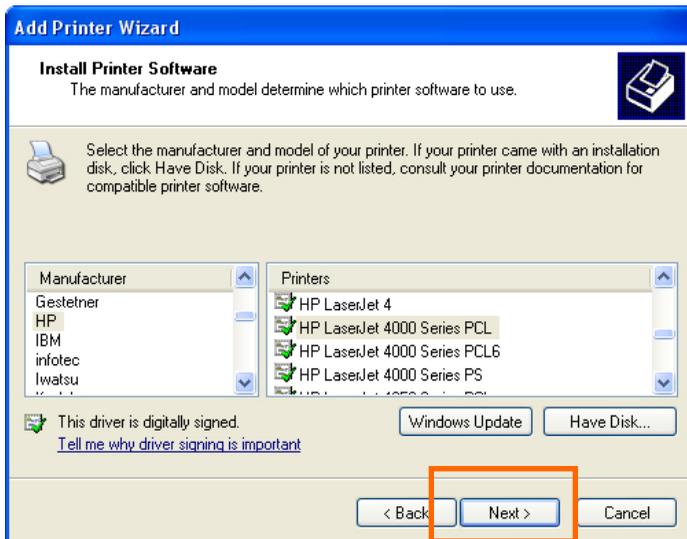
Click Next.



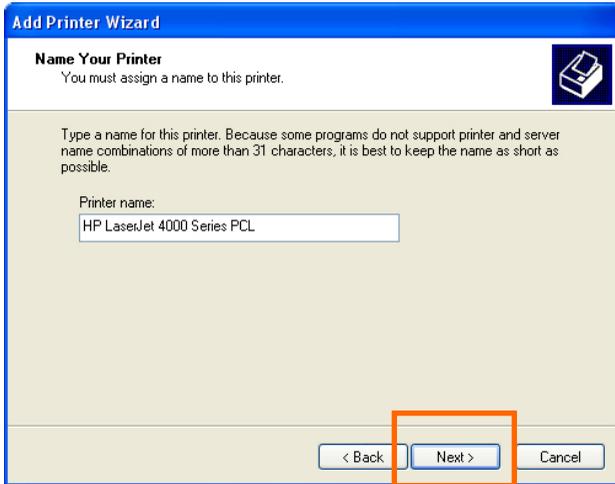
Click **Finish**.



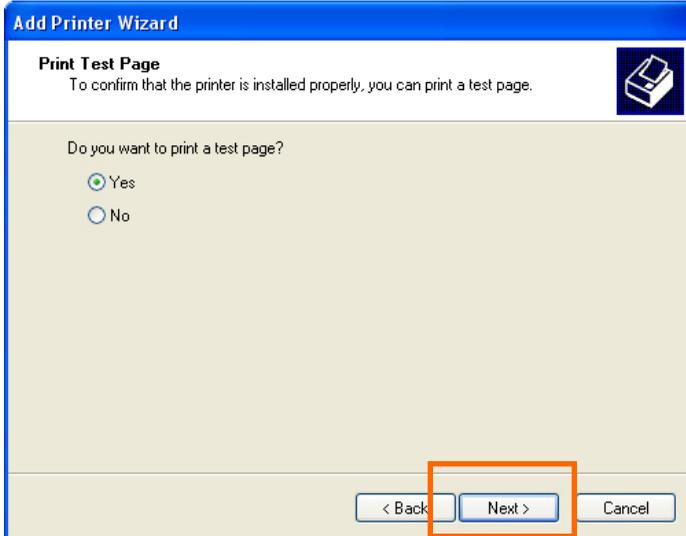
In the next screen, highlight the printer you wish to add. If the printer is not on the list, click **Have Disk** and insert the printer driver disk that came with your printer to install the printer drivers. Click **Next**



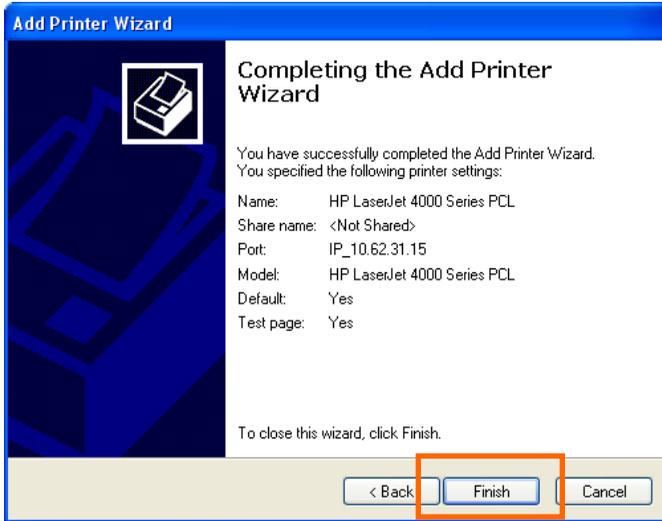
At this screen, you can input a name for the printer, and then click **Next**.



Select **Yes** to print a test page. Then click **Next**.



Click **Finish**. The printer is now ready for use.

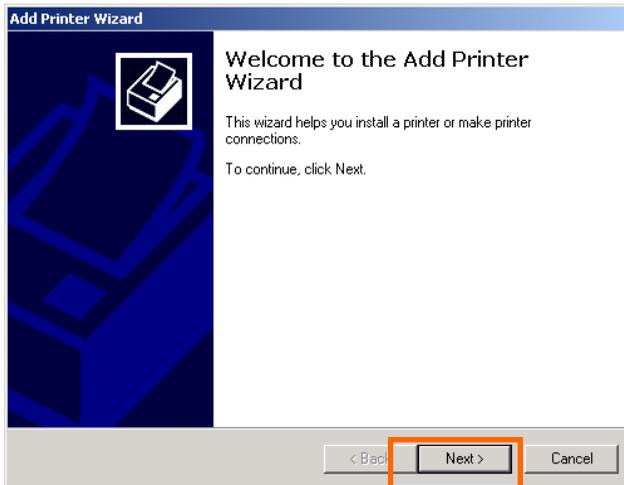


TCP/IP Printing for Windows 2000

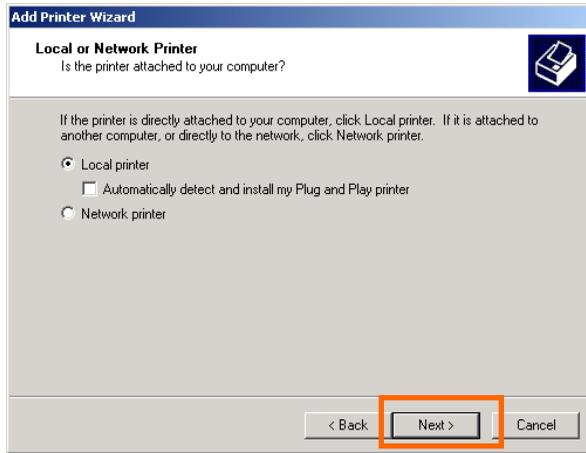
Go to **Start** → **Settings** → **Printers and Faxes** → **Add a Printer**.



When the following screen shows up, click **Next**.

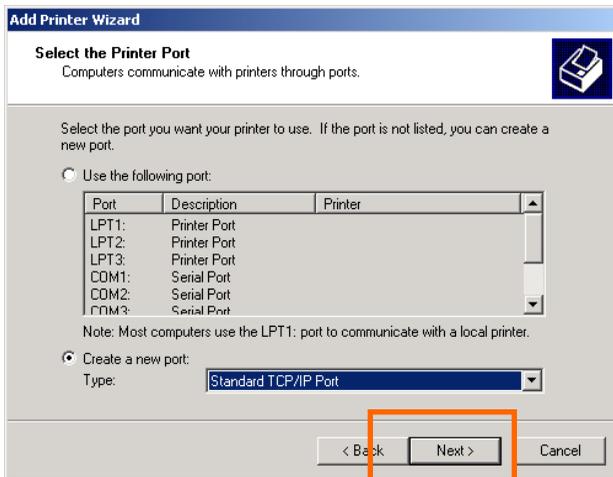


Select the first option, **Local printer**, and click **Next**.

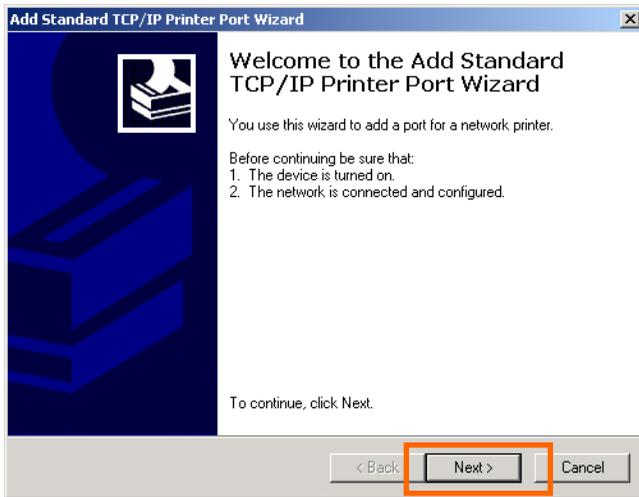


Click **Next** if the New Printer Detection screen pops up.

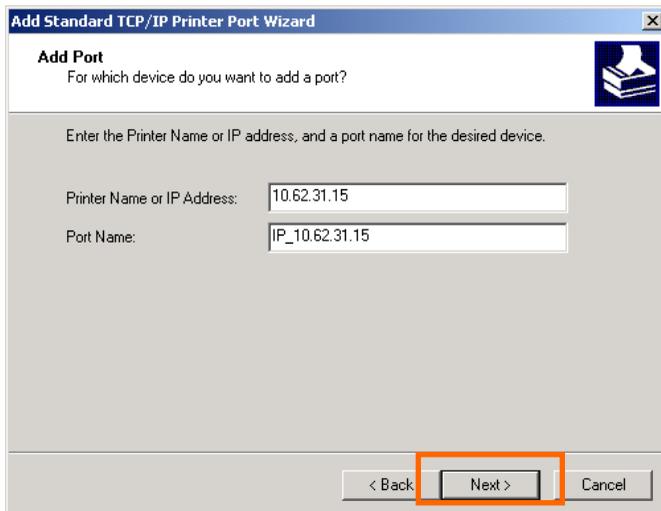
On the next screen, select the second option **Create a new port** and highlight **Standard TCP/IP Port** from the drop-down list. Click **Next**.



Click **Next**.

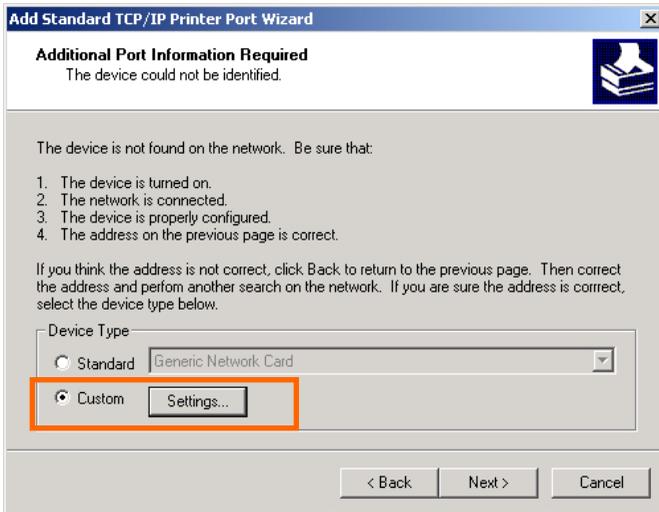


In the **Hostname or IP address** field, type the IP address of the Print Server (e.g. 10.62.31.15). This address can be found in the **PRINTER SERVER STATUS** screen of the Print Server's web configurator. The **Port Name** field will be filled in automatically. Click **Next**.





Select **Custom** and click **Settings**.



The following screen will display, select **LPR** from the **Protocol** field.

Enter the **Queue Name**, which can be found in the **PRINTER STATUS** screen of the Print Server's web configurator. Click **OK**.

The screenshot shows a dialog box titled "Configure Standard TCP/IP Port Monitor". It has several sections:

- Port Settings:** Port Name: IP_10.62.31.15; Printer Name or IP Address: 10.62.31.15.
- Protocol:** Radio buttons for "Raw" and "LPR". "LPR" is selected.
- Raw Settings:** Port Number: 9100.
- LPR Settings:** Queue Name: dlk-812AFA-U1; LPR Byte Counting Enabled: unchecked.
- SNMP Status Enabled:** unchecked; Community Name: public; SNMP Device Index: 1.
- Buttons:** "OK" and "Cancel". "OK" is highlighted with an orange box.

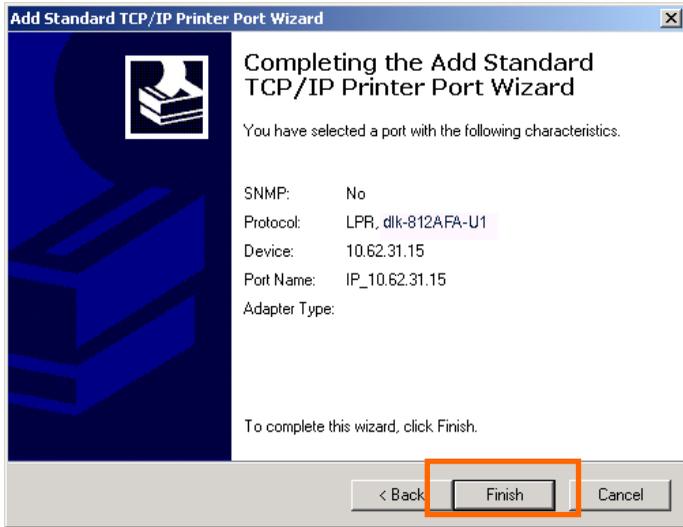
The screenshot shows the D-Link DPR-2000 web interface. The top navigation bar includes tabs for Setup, Advanced, Maintenance, Status, and Help. The main content area is divided into three sections:

- DEVICE INFO:** Displays general system information: Server Name: dlk-334455, Model: DPR-2000, Firmware Version: 1.00 (2009-02-27), MAC Address: 00 FF 22 33 44 55, IP Address: 172.17.5.102 (DHCP), and Up Time: 0 days, 02:44:14.
- PRINT SERVER STATUS:** Lists two printers: USB1 (Printer Name: dlk-334455-U1, Printer Speed: Off line, Printer Status: Off line, Total Print Jobs: 0, Total Print Size: 0 KBytes, Printing Status: Idle) and USB2 (Printer Name: dlk-334455-U2, Printer Speed: Off line, Printer Status: Off line, Total Print Jobs: 0).
- Helpful Links:** Provides information on Print Server Status, Printer Status, and LAN Status.

Click **Next**.

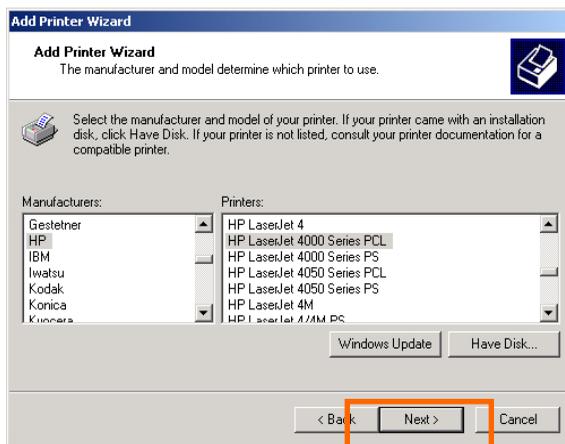
The screenshot shows the 'Add Standard TCP/IP Printer Port Wizard' dialog box. The title bar reads 'Add Standard TCP/IP Printer Port Wizard'. The main text says 'Additional Port Information Required' and 'The device could not be identified.' Below this, it states 'The device is not found on the network. Be sure that:' followed by a list of four steps: 1. The device is turned on, 2. The network is connected, 3. The device is properly configured, and 4. The address on the previous page is correct. A paragraph follows: 'If you think the address is not correct, click Back to return to the previous page. Then correct the address and perform another search on the network. If you are sure the address is correct, select the device type below.' At the bottom, there is a 'Device Type' section with two radio buttons: 'Standard' (selected) and 'Custom'. The 'Standard' option has a dropdown menu showing 'Generic Network Card'. The 'Custom' option has a 'Settings...' button. At the very bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with an orange rectangle.

Click **Finish**.

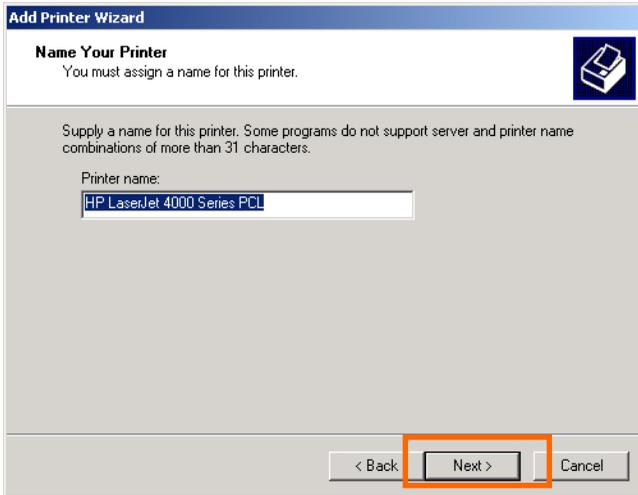


In the next screen highlight the printer you wish to add. If the printer is not on the list, click **[Have Disk]** and insert the printer driver disk that came with your printer to install the printer drivers.

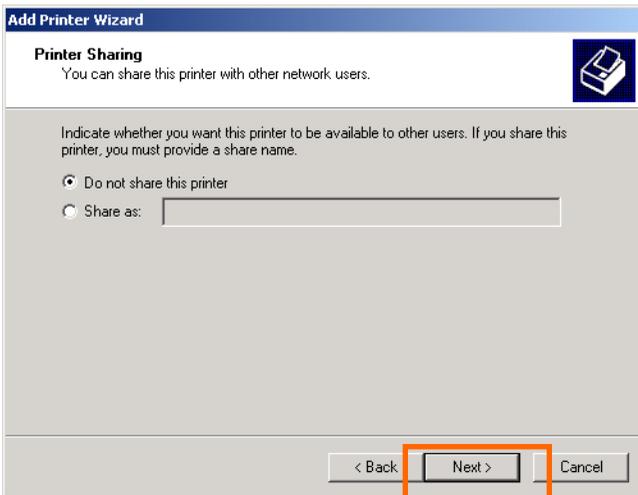
Click **Next**



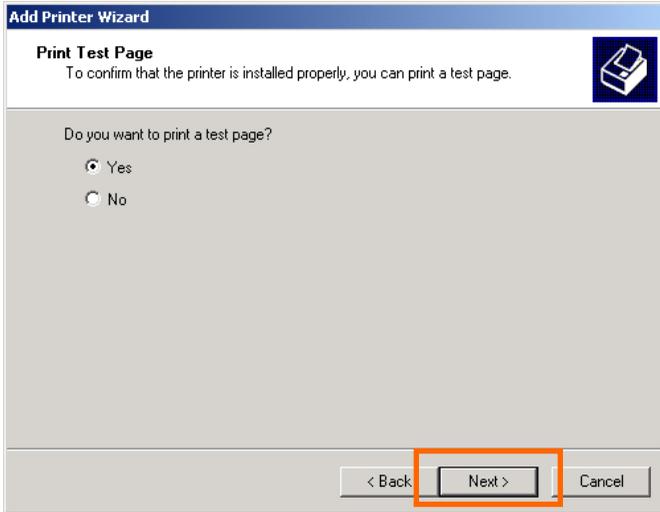
At this screen, input a name for the printer, and then click **Next >**.



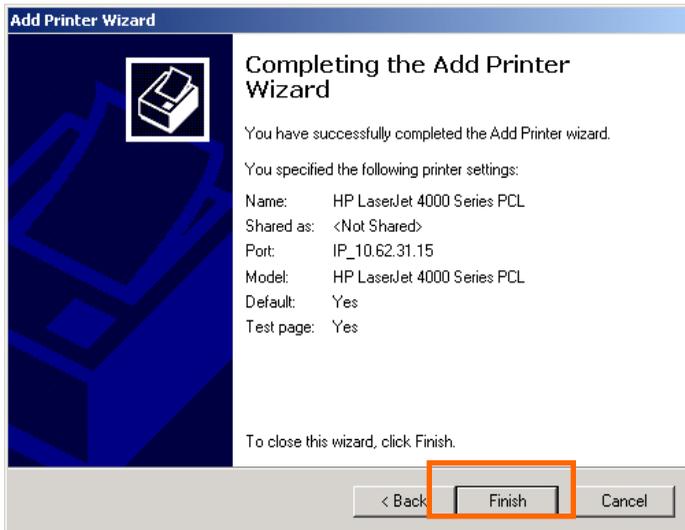
Select the first option, **Do not share this printer**. Then click **Next**.



Select **Yes** to print a test page, click **Next**.

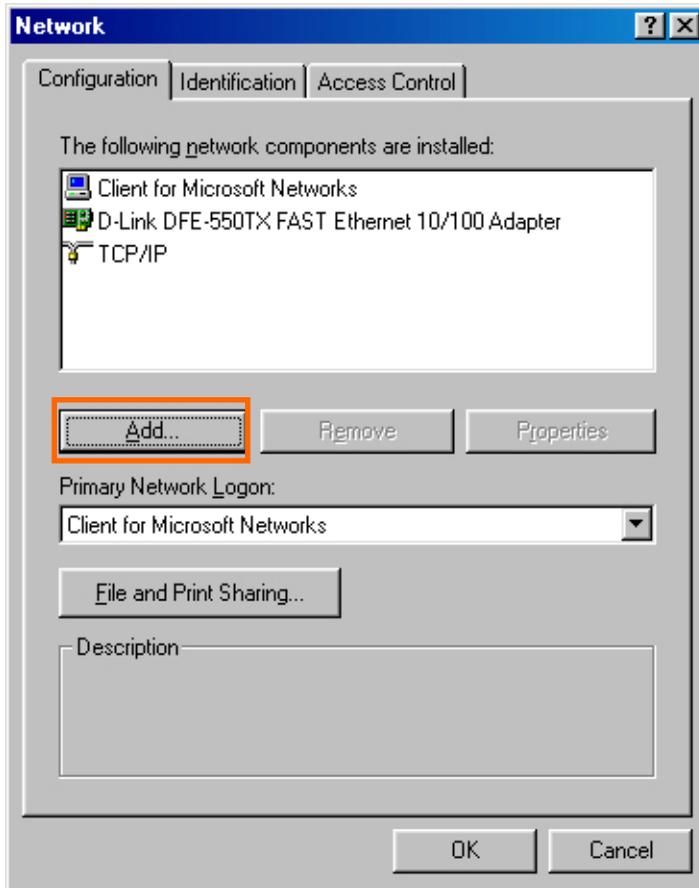


Click **Finish**. The printer is now ready for printing with Windows 2000 on your network.

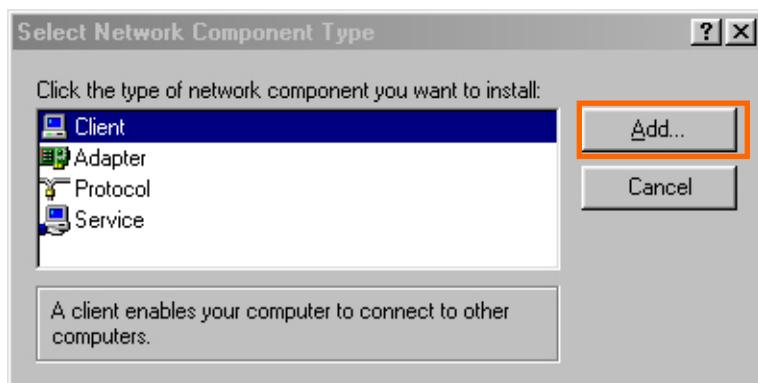


TCP/IP Printing for Windows 98SE/ME

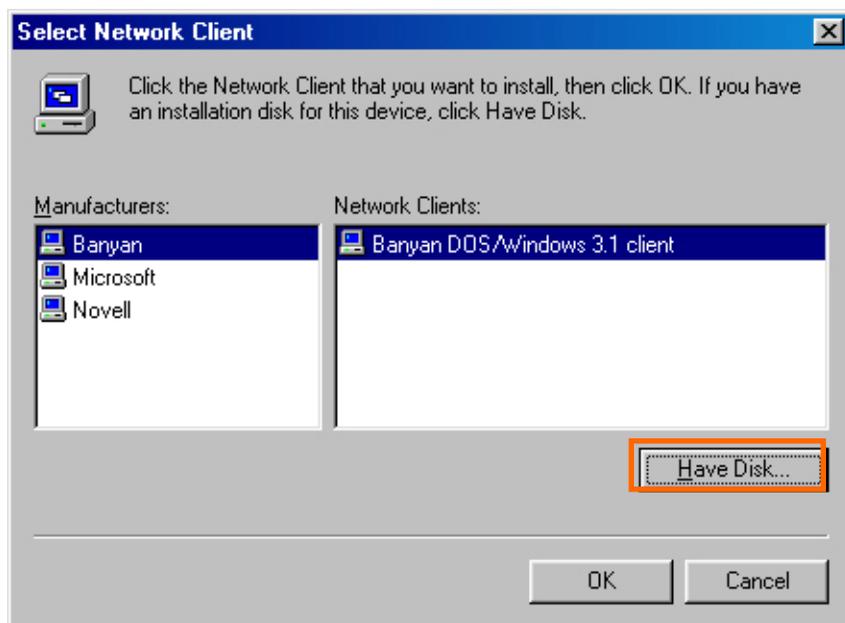
Go to **Start** → **Settings** → **Control Panel**. Double click on **Network**, and then click **Add**.



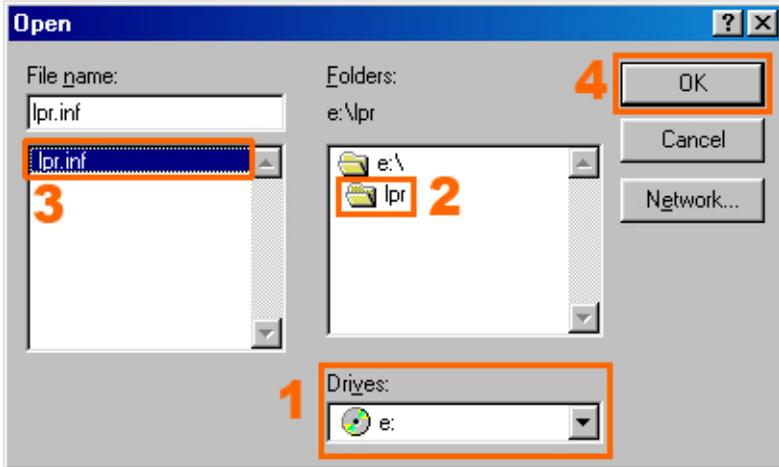
Highlight **Client** and click **Add**.



At this screen, click **Have Disk**.



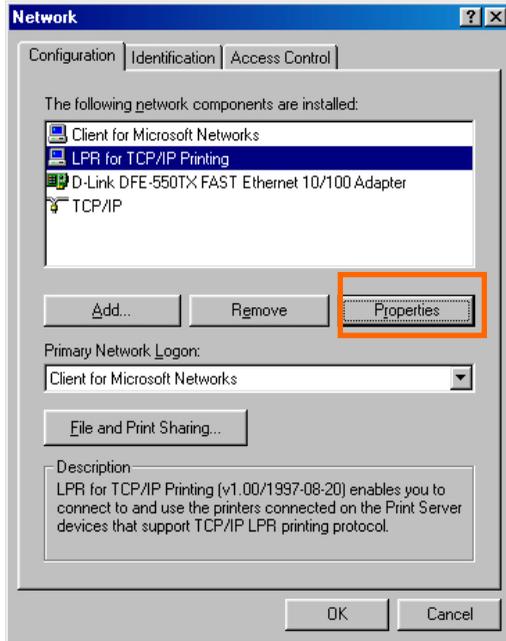
1. Insert the DPR-2000 CD into your CD-ROM drive. Select the CD's drive letter from the drop-down box.
2. Double-click on the folder **lpr**.
3. Select **lpr.inf** to highlight it.
4. Click **OK**.



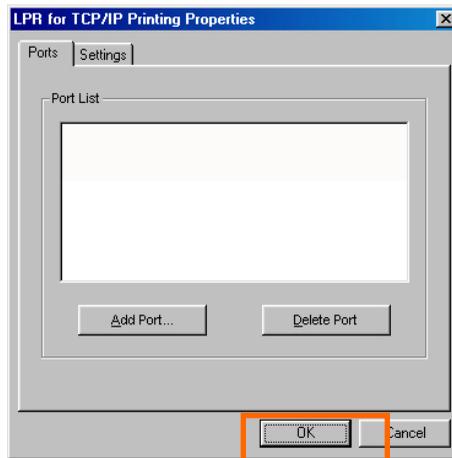
Click **OK** to confirm the location of the file.



You should now be back to the Network Properties Page. Highlight **LPR for TCP/IP Printing** and click **Properties**.

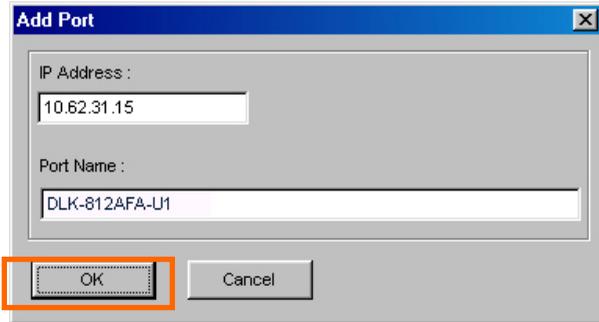


Click **Add Port**.

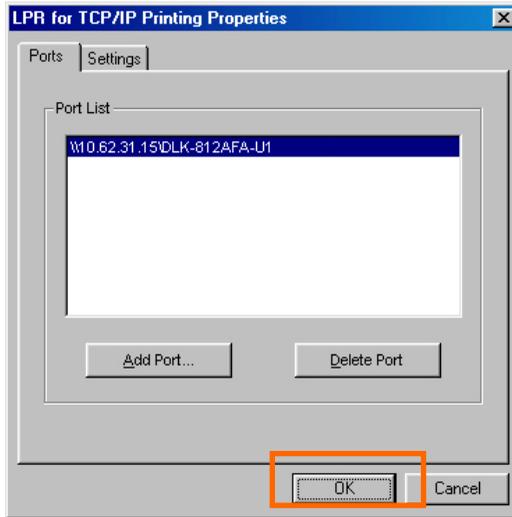


Type in the IP address and Port Name of the Print Server, this information can be found in the **PRINTER SERVER STATUS** and **PRINTER STATUS** screens of the Print Server's Web configurator. Click **OK**.

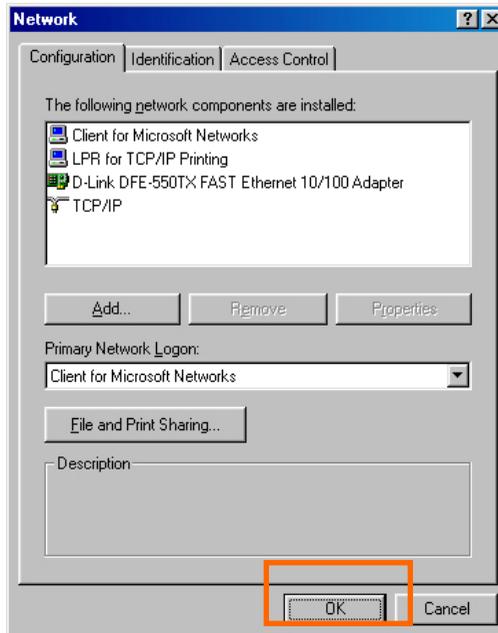
NOTE: The IP Address and Port Name here are just examples only.



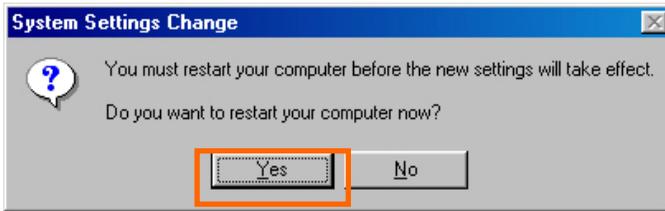
The IP Address and Port Name will be displayed in the following screen (the IP address and port name in the screen above are for example only). Click **OK**.



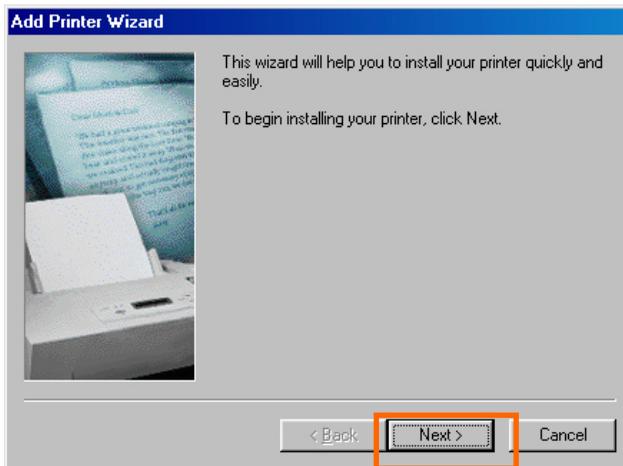
Click **OK**.



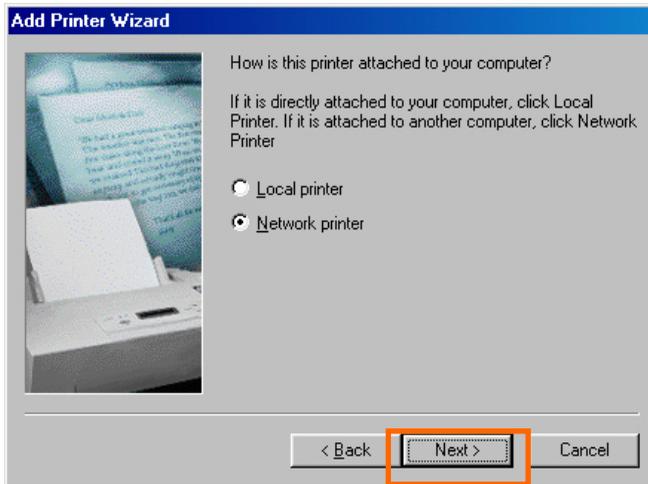
Windows will ask to restart. Click **Yes**.



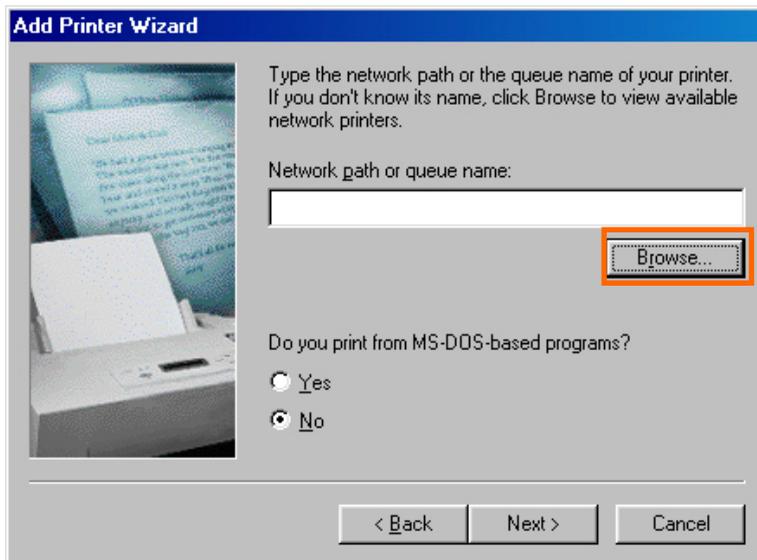
Once your computer has rebooted, click on **Start → Settings → Printers → Add Printer**. When the Add Printer Wizard screen appears, click **Next**.



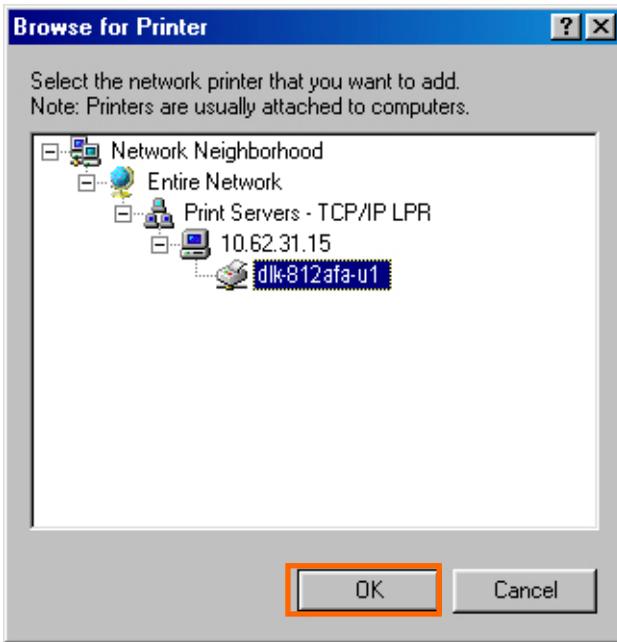
Select **Network Printer** and click **Next**.



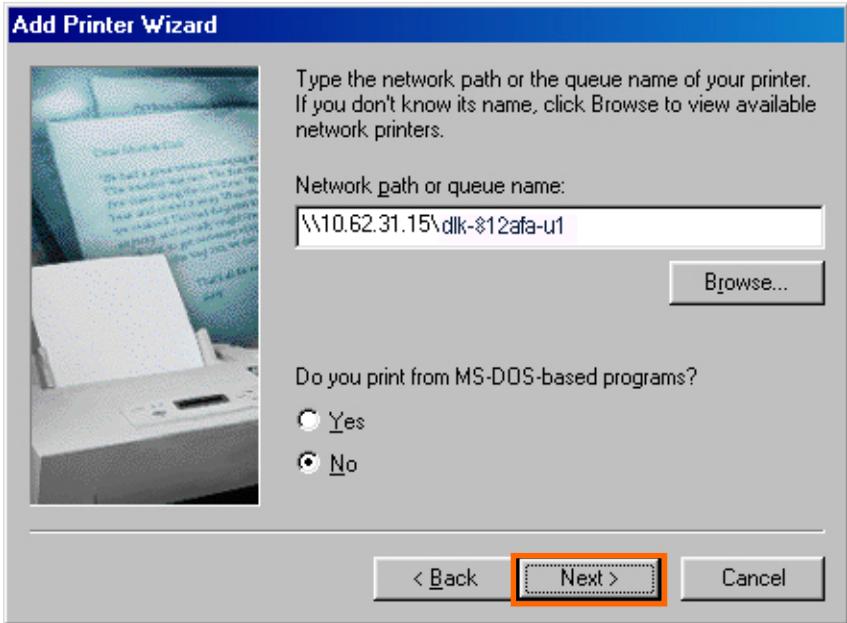
Type in the path if you know it; otherwise, click **Browse**.



From the following screen, browse for the printer port and highlight the port (e.g. dlink-1D6FA3 in this manual). Click **OK**.

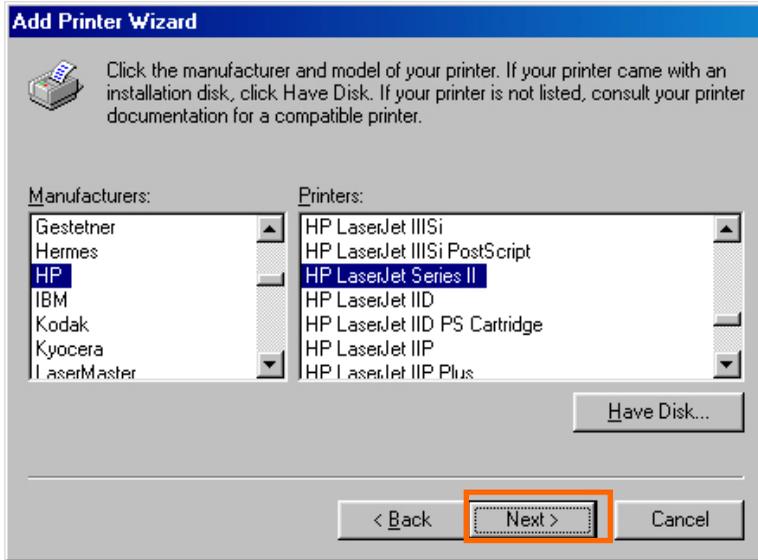


If the network path is not specified, type in the **IP Address** and **Port Name** of the Print Server (like in the example below). Select **Yes** or **No** to enable or disable printing from MS-DOS based programs. Click **Next**.

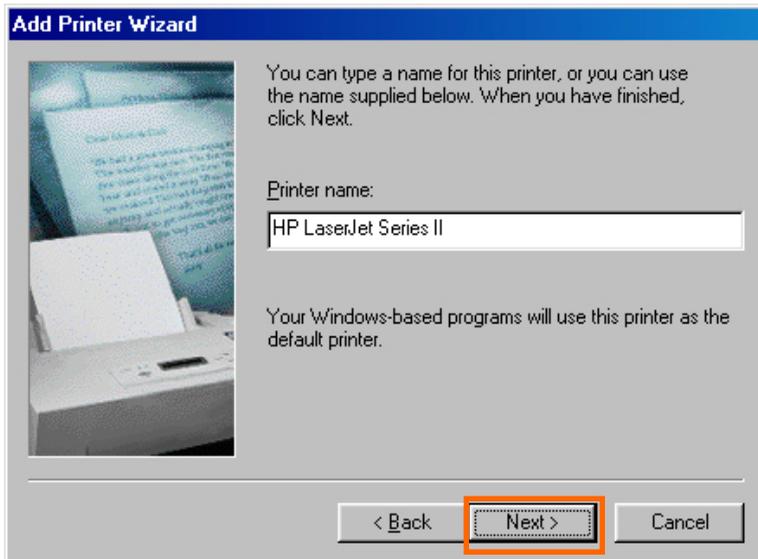


In the next screen highlight the printer you wish to add. If the printer is not on the list, click **[Have Disk]** and insert the printer driver disk that came with your printer to install the printer drivers.

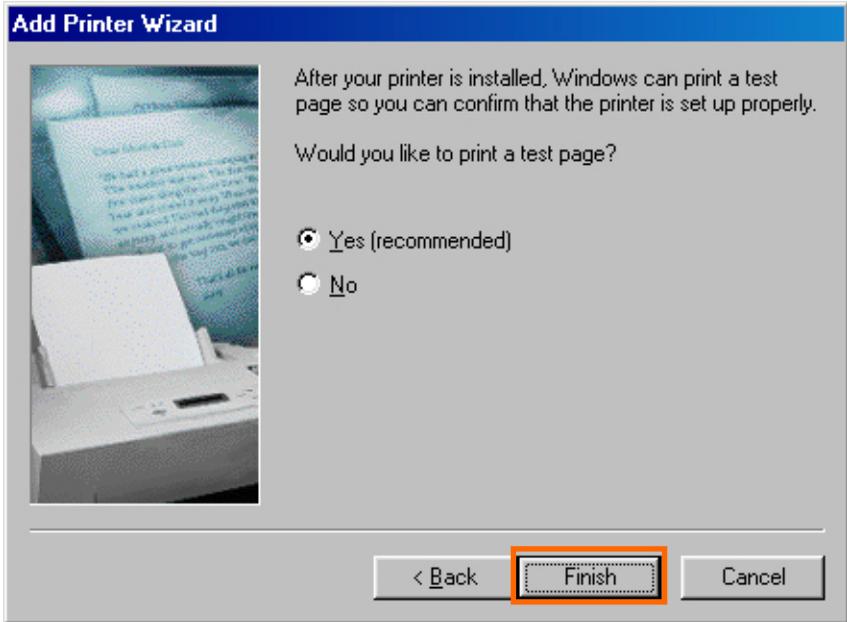
Click **Next**



Click **Next**.



Select **Yes** to print a test page. Click **Finish**.



To check whether the printer is installed, go to **Start → Settings → Printers**.



Unix/Linux Printing

Printing Text Files From Unix

Text files on Unix systems contain lines that end with “newline” characters, as opposed to MS-DOS and Windows-related operating systems that end with a carriage return followed by a linefeed. Most printers require a carriage return/linefeed pair at the end of each line, making it necessary for some translation to be done before Unix text files can be printed on most printers.

For this purpose, you can define two “printers” for the same printer port, one that prints to the port itself, and one that prints to the port name with `_TEXT` added to the name. Files printed to the second port will be translated so that the printer has the carriage return/linefeed pairs that it needs.

For example, you could define a printer `hp51` that prints to port `PS-142634-P1`, and a printer `hp51t` that prints to port `PS-142634-P1_TEXT`. Your graphics files could then be printed to the `hp51` printer, and “raw” text files could be printed to the `hp51t` printer.

Printing from BSD Unix Versions

For “flavors” of the Unix operating system derived from or related to the BSD releases, such as SunOS 4.x, Linux, BSD/OS, FreeBSD, or NetBSD, you can use the following procedure to enable users to print to a printer connected to your D-LINK network print server:

1. Log in as the superuser (root).
2. Add an entry for the print server in the host’s `/etc/hosts` file, giving a hostname for the print server’s IP address. A line in `/etc/hosts` contains an IP address and one or more aliases for the host . For example:

```
202. 39. 74. 40      ps-142634 ps-142634.dlink.com.tw
```

If you use DNS (the Domain Naming Services protocol), you can add an address record entry to your DNS database for the print server.

3. Create a spool directory for the printer:
 - ◇ On SunOS systems, create the directory as a subdirectory of `/var/spool`, with the same name as the printer (e.g., `/var/spool/hp51`).
 - ◇ On Linux systems, create the directory as a subdirectory of `/user/spool` `/lp`.
 - ◇ On BSD/OS, FreeBSD, or NetBSD systems, create the directory as subdirectory of `/var/spool`.
4. Change the owner and permissions of the directory so that it is owned and writable by group `daemon`, using the following commands:

Setting up Printing in Mac OS X Tiger (10.4.9)

```
chown bin.daemon /var/spool/hp51
```

```
chmod 775 /var/spool/hp51
```

5. Add an entry for the printer to `/etc/printcap`, similar to the following:

```
hp51:\  
  
:lp=:sd=/var/spool/hp51 :mx#0:\  
  
:rm=ps-142634:rp=ps-142634-p1:
```

The meaning of each of the entries is described below. The directory path in the `sd` spool directory entry should match the directory name you created above. If your entry requires more than one line you can escape the newline with a backslash.

6. Issue the command

```
lpc start hp51
```

to start a spool daemon for the printer. The printer will now be available for use.

7. Optionally, add another `printcap` entry (and issue another `lpc start` command) for a second printer, using the `port_TEXT` port. This second printer name can be used for printing text files.

Entries in `/etc/printcap` begin with a name for the printer or a list of name, separated by `|` (a vertical bar). The entries used above are:

- ◆ `lp=` The `lp` entry is used to specify a local printer device. Since the printer is a remote printer, this entry should be blank.

- ◆ **sd=dir** The location of the printer's local spool directory.
- ◆ **mx#blocks** The limit for print job files in the local spool directory; 0 means no limit.
- ◆ **rm=address** The host where the remote printer is located, in this case the D-Link print server.
- ◆ **rp=printer** The name of the printer on the remote host.
For the D-Link print server, the port name should be used.
Note: this entry is case-sensitive.

Printing From SCO Unix System V/386

To allow printing to a printer attached to your D-LINK network print server from a SCO Unix System V/386 host.

1. Login as the superuser (root).
2. Add an entry for the print server in the host's `/etc/hosts` file, giving a hostname for the print server's IP address. A line in `/etc/hosts` contains an IP address and one or more aliases for the host. For example:

```
202.39.74.40      ps-142634 ps-142634.dlink.com.tw
```

If you use DNS (the Domain Naming Services protocol), you can add an address record entry to your DNS database for the print server.

3. Change to the `/dev` directory, and issue the command

```
mkdev rlp
```

4. The script will ask:

```
Do you want to install or delete remote printing (i/d/q)?
```

Answer `i` and press Enter to continue.

5. The script will ask:

```
Do you want to change the remote printer description file  
/etc/printcap (y/n)?
```

Answer `y` and press Enter to continue.

6. The script will ask:

```
Please enter the printer name (q to quit):
```

Enter an alias for the printer on the local machine and press Enter. This name should be the same as the destination port name.

7. Answer r (remote printer) to the question

Is printer a remote printer or a local printer (r/l)?

8. When prompted with the question:

Please enter the name of the remote host that printer is attached to:

then enter the address of the D-Link print server. You can use the name you added to /etc/host in the step above.

9. Confirm that your entries are correct.

Is this correct? (y/n)

10. Answer the question:

Would you like this to be the system default printer? (y/n)

11. When you are done adding remote printers, enter q for the printer name.

12. Answer y to the question

Do you want to start remote daemon now (y/n)?

Once remote printing is set up, you can use the `lp` command to print jobs to the new printer. For more information, consult your SCO Unix documentation.

Printing From Solaris

To allow printing from a Sun Solaris workstation,

1. Log in as the superuser (root).
2. Add an entry for the print server in the host's `/etc/hosts` file, giving a hostname for the print server's IP address. A line in `/etc/hosts` contains an IP address and one or more aliases for the host. For example:

```
202.39.74.40      ps-142634  ps-142634.dlink.com.tw
```

If you use DNS (the Domain Naming Services protocol), you can add an address record entry to your DNS database for the print server.

3. In OpenWindows, start the `admintool` program.
4. Click on the **Printer Manager** icon.
5. From the **Edit** menu, select **Add Print**, then **Add Access to Remote Printer...**
6. Enter values for the fields as follow:
 - ◇ **Printer Name** This field should contain the name of the printer port you wish to use. The field is case-sensitive.
 - ◇ **Printer Server** This field should contain the IP address of the print server, or the alias name you added in step 2.
 - ◇ **Printer Server OS** This field should be set to BSD.
7. Confirm the addition.
8. Optionally repeat the addition to add another printer for printing text files, with `_TEXT` appended to the port name.

Once you have added the new printer, you can use the `lp` command to print files to the printer. Consult your Solaris documentation for details.

Printing From Red Hat Linux

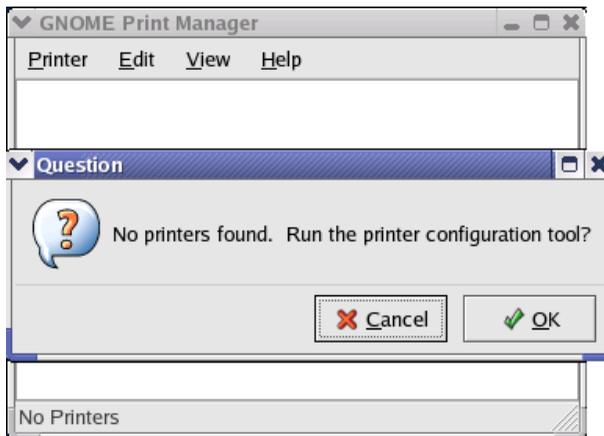
Adding a Printer



1. Click the printer icon at the bottom of the desktop.



2. Since no printer is set up so far, a prompt appears asking to run the printer configuration tool.

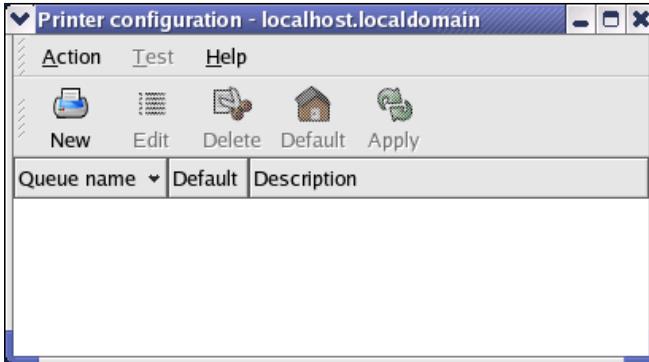


3. Click the **OK** button in the pop-up dialogue box to open the main **Printer configuration tool** menu. Note that to use the **Printer configuration tool** you must have root privileges, and to start the application you may also type the command: "redhat-config-printer".



4. Click the **New** button in the **Printer configuration tool** menu.

Setting up Printing in Mac OS X Tiger (10.4.9)



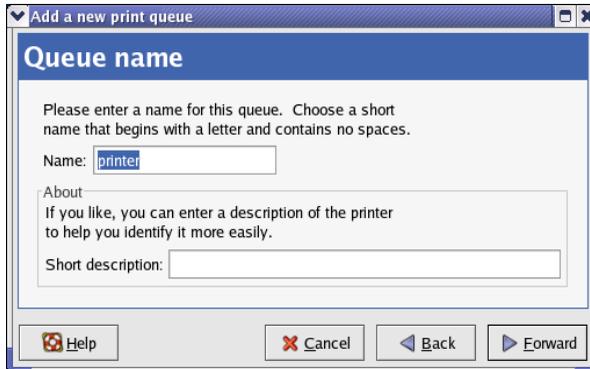
Printer Configuration Tool menu

5. The **Add a new print queue** menu appears, click **Forward** to continue.

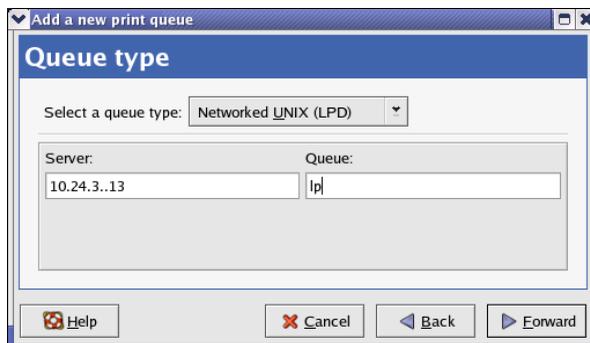


6. Enter a unique name for the printer in the **Name** text field. The printer name cannot contain spaces and must begin with a letter. The printer name may contain letters, numbers, dashes (-), and underscores (_). Optionally, enter a short description for the printer, which can contain spaces. Then click **Forward** to enter **Queue type** window.

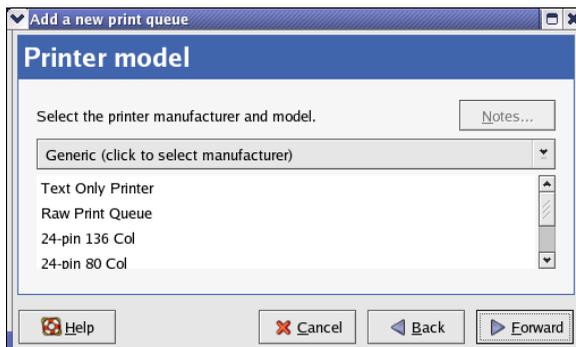
Setting up Printing in Mac OS X Tiger (10.4.9)



7. Select Networked UNIX (LPD) in the **Select a queue type** drop-down list, enter the IP address of the print server to which the printer is attached in the **Server** field, and type the port name in **Queue** field. Click **Forward** to select the type of printer.

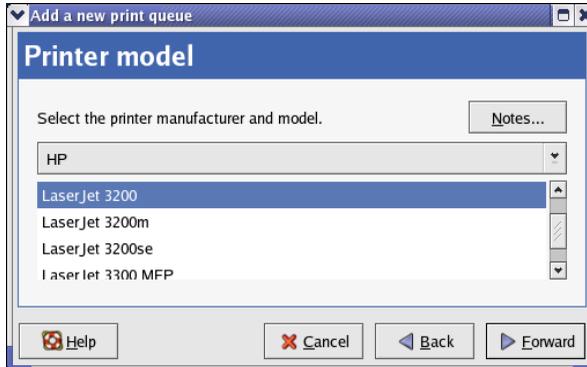


8. Select the printer model.



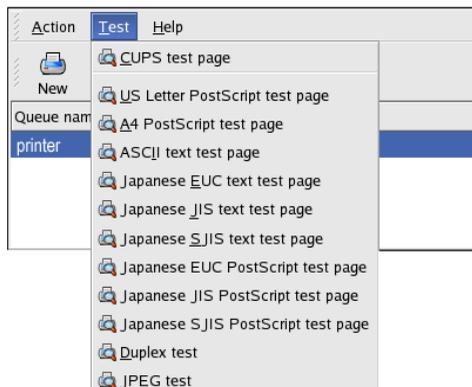
Setting up Printing in Mac OS X Tiger (10.4.9)

If a printer has not been detected automatically, select the model from the list. You can manually select the name of the printer manufacturer from the **Generic (click to select manufacturer)** drop-down menu, and then the printer model from the sub-list. Click **Forward** to continue.



9. The last step is to confirm your printer configuration. Click the **Apply** button to confirm or **Back** button to modify the configuration.

10. Print a test page to make sure the printer is functioning properly. To print a test page, select the printer from the printer list, then select the appropriate test page from the **Test** menu.



Setting up Printing in Mac OS X Tiger (10.4.9)

NOTE: Mac OS printing is supported by Postscript printers only!

With Mac OS X Tiger (10.4), you can use Apple Talk, Bonjour, Internet Printing Protocol (IPP), Line Printer Daemon (LPD), and HP Jet Direct-Socket printing through Print Server.



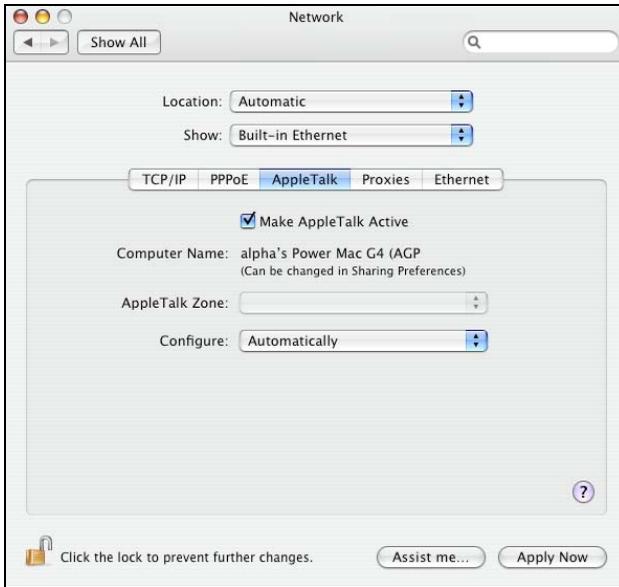
Click on this icon in your Dock to open your **System Preferences** screen as below.



Click on the **Network** icon to view the menu below.

Select the **Apple Talk** tab in the **Network** menu. Check the box labeled **Make Apple Talk Active**. Click on the **Apply Now** button and close the menu. Apple Talk is now active on the system. Now a printer can be added.

Setting up Printing in Mac OS X Tiger (10.4.9)



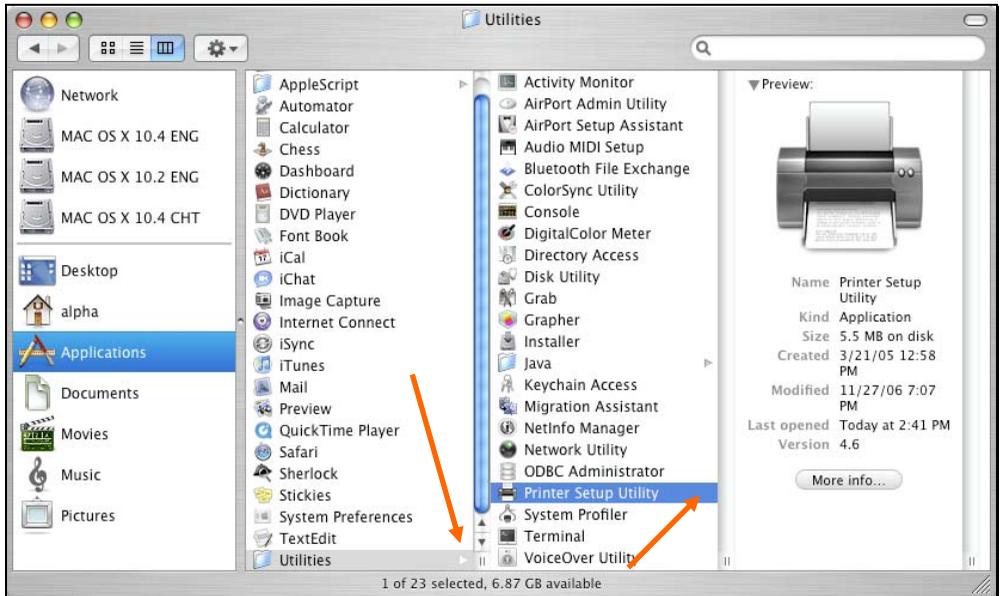
Adding a Printer

Use the **Go** menu at the top tool bar and open the **Utilities** folder.



Setting up Printing in Mac OS X Tiger (10.4.9)

In the **Utilities** folder, find and select **Printer Setup Utility** to see the **Printer List** dialog window.



Click **Add** button to open the **Printer Browser** screen.



Mac OS X Tiger (10.4) supports five printing protocols:

1. AppleTalk

Setting up Printing in Mac OS X Tiger (10.4.9)

2. Bonjour
3. Internet Printing Protocol (IPP)
4. Line Printer Daemon (LPD)
5. HP Jet Direct – Socket

To add an Internet Printing Protocol, Line Printer Daemon or HP Jet Direct – Socket

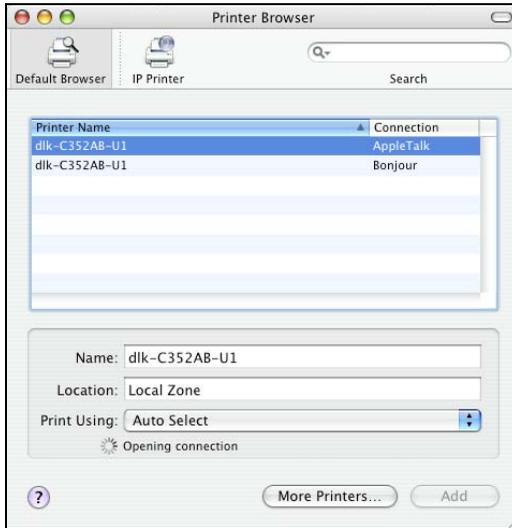


enabled printer, click on the **IP Printer** button and follow the instructions to add an IP Printer in the “Adding an IP printer” section.

AppleTalk-enabled or Bonjour-enabled Printers

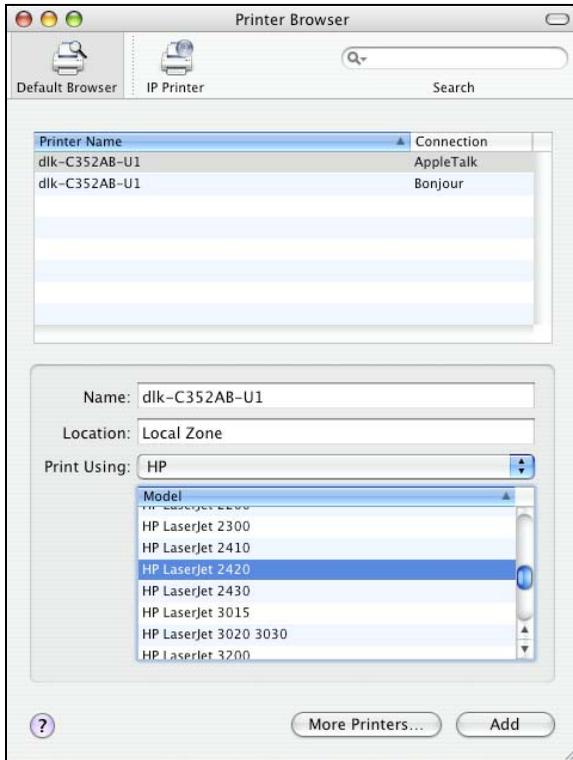


To add an AppleTalk-enabled or Bonjour-enabled printer, click the button in the **Printer Browser** menu.



Select the printer model from **Printer Name** list and **Connection** type in the **Printer Browser** menu. The printer name selected should be the same as that appearing listed in the Printer Server's web manager. In the example here, the printer name is dlk-C352AB-U1. By default the **Printer Browser** will use **Auto Select** for **Print Using**. This may also be manually selected in the **Print Using** drop-down list box by brand and model. Click the **Add** button to exit the **Printer Browser** window and implement the new setting.

Setting up Printing in Mac OS X Tiger (10.4.9)



The printer that has just been added will show up in the **Printer List** menu, it might take a few seconds depending on network conditions. When the printer appears it is ready for use. Quit the **Printer Setup Utility** and start printing.



Adding an IP Printer

To add an Internet Printing Protocol, Line Printer Daemon, or HP Jet Direct – Socket



enabled printer, click the **IP Printer** button in the **Printer Browser** screen.

Select a desired printing protocol from the **Protocol** drop-down menu.



Type the IP Address of the printer. The name will appear in the **Name** field when the printer is found. The **Printer Browser** will indicate that it is verifying the address. If the printer is found, the **Printer Browser** will state “Valid and complete address” in the **Address** field.

The printer utility is able to detect the printer and may automatically select the

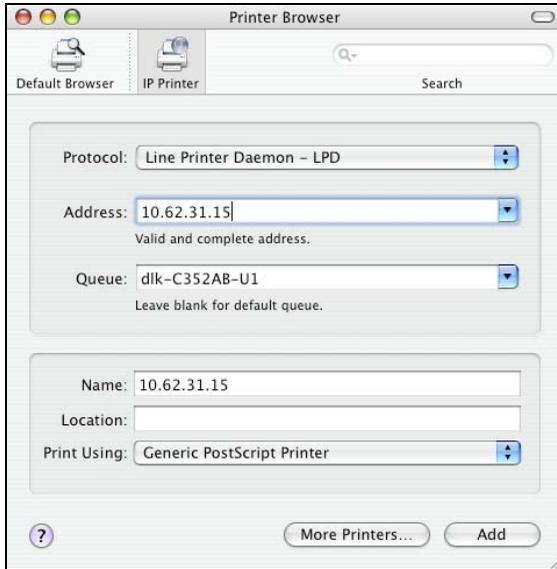
Setting up Printing in Mac OS X Tiger (10.4.9)

correct printer driver in the **Print Using** field. You can manually select the printer-maker from the **Print Using** drop-down menu, and then select the printer model from the scroll-down list - or select **Generic PostScript Printer** option from the **Print Using** drop-down menu if the model is not listed. To implement the setting, click the **Add** button.

The setup procedures for these three printing protocols (Internet Printing Protocol (IPP), Line Printer Daemon (LPD), and HP Jet Direct – Socket) are essentially the same. Illustrated examples are included below as a reference.

To set up LPD Printing:

1. Enter the IP address of the print server to which the printer is attached in the **Address** field.
2. Type the port name in the **Queue** field.

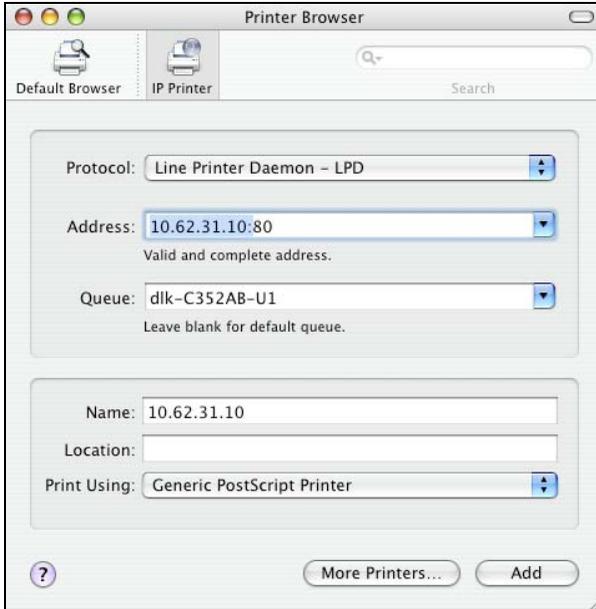


Click the **Add** button after completing the selection of printer model in the **Print Using** drop-down menu.

To set up IPP Printing:

1. Enter the IP address of the print server to which the printer is attached in the **Address** field. After that, type “: 80” or “: **second port**” if the print server’s second port is enabled.
2. Type the port name in the **Queue** field.

Setting up Printing in Mac OS X Tiger (10.4.9)

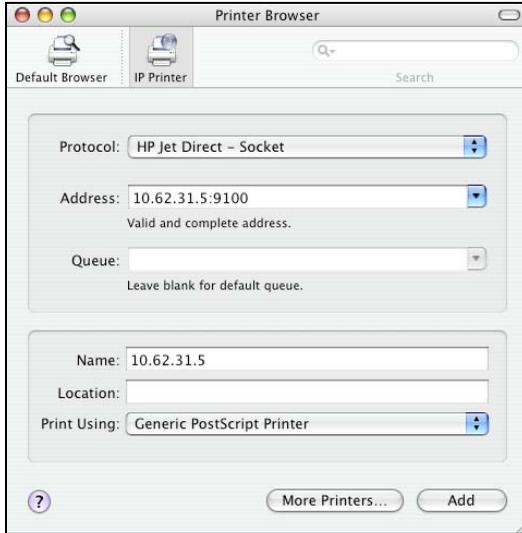


Click the **Add** button after selecting the printer model in the **Print Using** drop-down menu.

To set up Socket Printing:

1. Enter the IP address of the print server to which the printer is attached in the **Address** field. After that, type “: 9100” for the USB port.
2. Keep the **Queue** field blank.

Setting up Printing in Mac OS X Tiger (10.4.9)



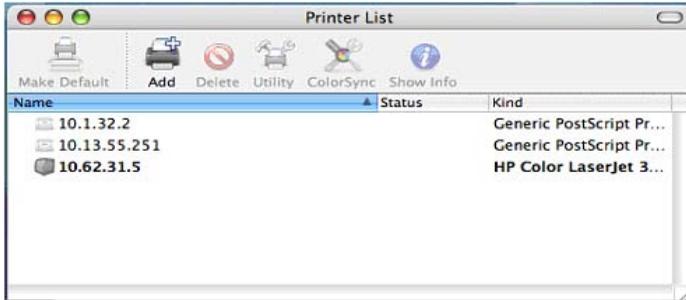
Click the **Add** button after completing the selection of the printer model in the **Print Using** drop-down menu.

When the **Installable Options** pop-up window appears, click the **Continue** button.



Setting up Printing in Mac OS X Tiger (10.4.9)

The printer that has just been added will show up in the **Printer List** menu, it might take a few seconds depending on network conditions. When the printer appears it is ready for use. Quit the **Printer Setup Utility** and start printing.



Setting up AppleTalk Printing in Mac OS 9

NOTE: Mac OS printing is supported by Postscript printers only!

The AppleTalk network protocol is used with computers using the MacOS operating system. It can be used for network communications over standard Ethernet or Fast Ethernet using the EtherTalk transport, or over a proprietary low-speed LocalTalk transport.

Print Server can be used for network printing to PostScript printers. You can print from any MacOS computer connected to your Ethernet network, either directly using an EtherTalk connection, or indirectly through a LocalTalk-to-EtherTalk router.

NOTE: *The Chooser name of a printer connected to one of the Print Server's ports is the same as its Port Name. If you are using AppleTalk printing, you will need to make sure that every Port Name is unique among all of the network printers in your AppleTalk zone. The Port Names shown in this manual are examples only.*

To set up Print Server so that it can be used for AppleTalk printing:

- Make sure the AppleTalk protocol is enabled in your Macintosh.
- Make sure the PC's IP Address corresponds with the Print Server's IP Address in the same segment for the two devices to communicate.
- Launch the browser and enter the print server web configurator, select the ADVANCED tab, click the Advanced LAN button and then scroll to the bottom to the AppleTalk protocol section
- If your AppleTalk network is divided into AppleTalk zones, you will have to specify which zone the Print Server should be in. You should locate the Print Server in the

same zone as most of the users who will be using it. If your network is not divided into zones, the AppleTalk Zone field should contain a single asterisk (*).

For each Printer Port that will be used for AppleTalk printing, you may need to change the AppleTalk Port Settings in the **Advanced LAN** screen, shown as below.

Product: DPR-2000 Firmware Version: 1.00

D-Link

Setup Advanced Maintenance Status Help

Advanced LAN
Advanced Wireless
User Access
E-Mail Notification
SNMP

Reboot

NETWORK SETTING

Please do not change any of the following settings unless instructed to do so by your network administrator.

TCP/IP

DNS Server Address : 1. 0.0.0.0
2. 0.0.0.0

UPnP : Enable Disable

Mac Bonjour/Rendezvous : Enable Disable

Second HTTP Port : Enable Disable

Port Number : 0

(For Remote Web Configuration and IPP Printing)

MICROSOFT NETWORK

Workgroup : WORKGROUP

APPLETALK

AppleTalk Zone : *

USB1 : Chooser Name : dl-394435-U1
Printer Type : LaserWriter
PostScript Level : Level 2
Font Group : Standard 35

USB2 : Chooser Name : dl-394435-U2
Printer Type : LaserWriter
PostScript Level : Level 2
Font Group : Standard 35

USB3 : Chooser Name : dl-394435-U3

Helpful Hints...

TCP/IP:
If you are using e-mail printing or e-mail notification, you will need to setup the DNS Server Address. Only if your network has a DNS Server setup should you enter the address into the DNS Server Address box, otherwise leave it as 0.0.0.0.

UPnP allows your print server to be discoverable on the network.

Mac Bonjour/Rendezvous allows your print server to be discoverable on an Apple Mac network.

AppleTalk

Enter the **AppleTalk Zone** name in the box or a "*" if it is not divided into zones.

Chooser Name: This field displays the print server's port name.

Printer Type: Enter the printer type in this field.

PostScript Level: Select either Level 1 or Level 2 from the drop-down menu.

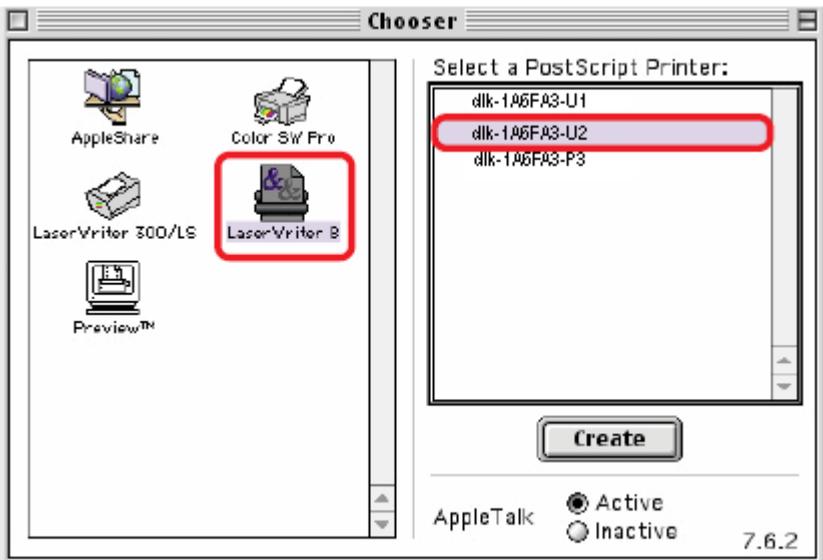
Font Group: Select the Font Group from the drop-down menu.

The exact procedure for selecting a PostScript printer connected to a Print Server may vary slightly depending on what printer driver version you are using. The procedure described below assumes you are using LaserWriter 8.

To choose a printer connected to the Print Server as your Mac OS workstation's default printer, open the Chooser by selecting Chooser from the Apple menu. Select the LaserWriter 8 icon on the left. Make sure that AppleTalk is set to **Active**.

A list of all networked PostScript printers will be displayed as follows.

Double-click the name of the Printer Port you wish to use. The Printer Ports shown are examples only.



If you have not previously set this printer as the default, your computer will prompt you for a PostScript Printer Description file. Choose **Select PPD**.



Select the appropriate printer description file for your printer.

Click Open. (If your printer is not listed, click Generic to use a generic printer description.)

If you wish to access this setting in the future, you can use the Setup button in the Chooser window.

The selected printer will become your computer's default printer. You may need to choose Page Setup in any applications you have open.

Wireless Basics

D-Link wireless products are based on industry standards to provide easy-to-use and compatible high-speed wireless connectivity within your home, business or public access wireless networks. D-Link wireless products allow you to access the data you want, when and where you want. You will be able to enjoy the freedom that wireless networking brings.

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

Wireless users can use the same applications they use on a wired network. Wireless adapter cards used on laptop and desktop systems support the same protocols as Ethernet adapter cards.

People use wireless LAN technology for many different purposes:

■ **Mobility**

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

■ **Low Implementation Costs**

WLANs are easy to set up, manage, change and relocate. Networks that frequently change can benefit from WLANs ease of implementation. WLANs can operate in locations where installation of wiring may be impractical.

■ **Installation and Network Expansion**

Installing a WLAN system can be fast and easy and can eliminate the need to pull cable through walls and ceilings. Wireless technology allows the network to go where wires cannot go – even outside the home or office.

■ **Scalability**

WLANs can be configured in a variety of topologies to meet the needs of specific applications and installations. Configurations are easily changed and range from peer-to-peer networks suitable for a small number of users to larger infrastructure networks to accommodate hundreds or thousands of users, depending on the number of wireless devices deployed.

■ **Inexpensive Solution**

Wireless network devices are as competitively priced as conventional Ethernet network devices.

■ **Standards-Based Technology**

Based on the IEEE 802.11g standard, the DPR-2000 is interoperable with existing compatible 2.4GHz wireless technology with data transfer speeds of up to 54Mbps□ when used with other D-Link devices.

■ **Maximum wireless signal rate based on IEEE Standard 802.11g specifications.**

Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead lower actual data throughput rate.

Wireless Installation Considerations

The D-Link DPR-2000 lets you print through your network, using a wireless connection, from virtually anywhere within its operating range. Keep in mind, however, that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximize wireless range is to follow these basic guidelines:

1. Keep the number of walls and ceilings between the DPR-2000 and other network devices to a minimum. Each wall or ceiling can reduce your D-Link wireless products range from 3-90 feet (1-30 meters). Position your devices so that the number of walls or ceilings is minimized.
2. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (0.5 meters), at a 45-degree angle appears to be almost 3 feet (1meter) thick. At a 2-degree angle it looks over 42 feet (14 meters). Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.
3. Building materials can impede the wireless signal. A solid metal door or aluminum studs may have a negative effect on range. Try to position wireless devices and computers with wireless adapters so that the signal passes through drywall or open doorways and not other materials.
4. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or

Setting up AppleTalk Printing in Mac OS 9

appliances that generate extreme RF noise.

WPS (Wi-Fi Protected Setup)

Wi-Fi Protected Setup (WPS) is a standard for easy and secure establishment of a wireless network. Traditionally, users would have to manually create a wireless network name (**SSID**), and then manually entering a creative, yet predictable security key on both the access point and client to prevent unexpected access to their wireless network.

This whole process requires the users to have the background knowledge of the Wi-Fi devices and the ability to make the necessary configuration changes. With WPS, it will automatically configure a wireless network with a network name (**SSID**) and strong WPA data encryption and authentication. WPS is designed to support various Wi-Fi certified 802.11 products including access points, wireless adapters, Wi-Fi phones, and any other consumer electronics devices.

For DPR-2000, WPS can be enabled by way of **PBC** (Push button configuration) method, in which users simply need to push a WPS button on both WPS devices to connect.

Technical Specifications

Printer Connection

Printer Ports: USB 2.0 (4 ports)

Bi-directional Communication: Hewlett-Packard PJP (Printer Job Language) standard for bi-directional communication.

Ethernet Network Connection

Network Standards: IEEE 802.3 u 100BASE-TX Fast Ethernet

Network Data Transfer Rate: up to 10/100 Mbps (megabits per second)

Network Connector: RJ-45

Wireless Network Connection

Network Standards: IEEE 802.11g wireless LAN

Network Data Transfer Rate: up to 54 Mbps (megabits per second)

Network Protocols

Ethernet Frame Types: 802.2, 802.3, Ethernet II, SNAP (auto-switching)

Transport Protocols: TCP/IP, NetBEUI, AppleTalk/EtherTalk, LPR,SMB

TCP/IP Protocols Supported: BOOTP, SNMP, FTP, LPD, RARP, DHCP, IPP

Management and Diagnostics

Standard: SNMP

MIBs: MIB-II (RFC 1213)

Diagnostic LED Indicators: Power, Link/Act, USB

Environmental and Physical

Power Supply: External power supply providing 5V, 2.5A DC

Dimensions: 135 (W) x 27 (H) x 97 (D) mm (5.31 x 1.06 x 3.82 inches)

Operating Temperature: 0 to 40°C (32 to104°F)

Storage Temperature: -25 to 55°C (-13 to 131°F)

Humidity: 5% to 95% non-condensing

Setting up AppleTalk Printing in Mac OS 9

Emission Certification: FCC Class B, CE Class B, VCCI Class B, C-Tick

Appendix: DPR-2000 Printer Compatibility List

Printers Supported on Windows 2000 SP4 and Windows XP

Printer	Printer List		Results (*Y=Pass, N=Fail, N/A=Non-available function)		
	Manufacturer	Model	Printing	Scan	Fax
1.	Avision	MF3100L	Y	Y	N/A
2.	Benq	CM3000	Y	Y	N/A
3.	Brother	MFC-210C	Y	Y	Y
4.	Brother	MFC-420CN	Y	Y	Y
5.	Brother	MFC-3240C	Y	Y	Y
6.	Brother	MFC-7220	Y	Y	Y
7.	Canon	PIXMA MP110	Y	Y	N/A
8.	Canon	PIXMA MP150	Y	Y	N/A
9.	Canon	PIXMA MP160	Y	Y	N/A
10.	Canon	PIXMA MP170	Y	Y	N/A
11.	Canon	PIXMA MP180	Y	Y	N/A
12.	Canon	PIXMA MP450	Y	Y	N/A
13.	Canon	PIXMA MP460	Y	Y	N/A
14.	Canon	PIXMA MP500	Y	Y	N/A
15.	Canon	PIXMA MP510	Y	Y	N/A
16.	Canon	PIXMA MP530	Y	Y	Y
17.	Canon	PIXMA MP600	Y	Y	N/A
18.	Canon	PIXMA MP810	Y	Y	N/A
19.	Canon	PIXMA MP830	Y	Y	Y
20.	Canon	PIXMA MP950	Y	Y	N/A
21.	Canon	PIXMA MP960	Y	Y	N/A

Appendix: DPR-2000 Printer Compatibility List

22.	Dell	Photo 926	Y	Y	N/A
23.	Dell	Photo 966	Y	Y	Y
24.	EPSON	PM-A970	Y	Y	N/A
25.	EPSON	PM-A920	Y	Y	N/A
26.	EPSON	PM-A820	Y	Y	N/A
27.	EPSON	PM-A720	Y	Y	N/A
28.	EPSON	PM-A950	Y	Y	N/A
29.	EPSON	PM-A890	Y	Y	N/A
30.	EPSON	PM-A750	Y	Y	N/A
31.	EPSON	PM-A650	Y	Y	N/A
32.	EPSON	STYLUS CX2900	Y	Y	N/A
33.	EPSON	Stylus CX3700	Y	Y	N/A
34.	EPSON	Stylus CX3900	Y	Y	N/A
35.	EPSON	Stylus CX4100	Y	Y	N/A
36.	EPSON	Stylus CX4700	Y	Y	N/A
37.	EPSON	Stylus CX4900	Y	Y	N/A
38.	EPSON	STYLUS CX5700F	Y	Y	N/A
39.	EPSON	STYLUS CX5900	Y	Y	N/A
40.	EPSON	STYLUS CX6900F	Y	Y	N/A
41.	EPSON	Stylus Photo RX530	Y	Y	N/A
42.	EPSON	Stylus Photo RX580	Y	Y	N/A
43.	EPSON	Stylus Photo RX590	Y	Y	N/A
44.	EPSON	Stylus Photo RX630	Y	Y	N/A
45.	EPSON	Stylus Photo RX650	Y	Y	N/A
46.	Fuji Xerox	WorkCentre 3119	Y	Y	N/A
47.	HP	Deskjet F380	Y	Y	N/A

Appendix: DPR-2000 Printer Compatibility List

48.	HP	PSC1315	Y	Y	N/A
49.	HP	Photosmart C1350	Y	Y	N/A
50.	HP	Photosmart C1610	Y	Y	N/A
51.	HP	Photosmart C3180	Y	Y	N/A
52.	HP	Photosmart C4180	Y	Y	N/A
53.	HP	Photosmart C5180	Y	Y	N/A
54.	HP	OfficeJet 4255	Y	Y	Y
55.	HP	OfficeJet 4355	Y	Y	Y
56.	HP	OfficeJet 5510	Y	Y	Y
57.	HP	OfficeJet 5610	Y	Y	Y
58.	HP	OfficeJet 6110	Y	Y	Y
59.	HP	OfficeJet 7210	Y	Y	Y
60.	HP	LaserJet 3050	Y	Y	Y
61.	Lexmark	x3470	Y	Y	N/A
62.	Lexmark	x5470	Y	Y	Y
63.	Samsung	SCX-4100	Y	Y	N/A
64.	Samsung	SCX-4200	Y	Y	N/A

Printers Supported on Windows Vista 32-bit

Printer	Printer List		Results <i>(*Y=Pass, N=Fail, N/A=Non-available function)</i>		
	Manufacturer	Model	Printing	Scan	Fax
1.	Avision	MF3100L	Y	Y	N/A
2.	Benq	CM3000	Driver not available		N/A
3.	Brother	MFC-210C	Y	Y	Y
4.	Brother	MFC-420CN	Y	Y	Y
5.	Brother	MFC-3240C	Y	Y	Y
6.	Brother	MFC-7220	Y	Y	Y
7.	Canon	PIXMA MP110	Y	Y	N/A
8.	Canon	PIXMA MP150	Y	Y	N/A
9.	Canon	PIXMA MP160	Y	Y	N/A
10.	Canon	PIXMA MP170	Y	Y	N/A
11.	Canon	PIXMA MP180	Y	Y	N/A
12.	Canon	PIXMA MP450	Y	Y	N/A
13.	Canon	PIXMA MP460	Y	Y	N/A
14.	Canon	PIXMA MP500	Y	Y	N/A
15.	Canon	PIXMA MP510	Y	Y	N/A
16.	Canon	PIXMA MP530	Y	Y	Y
17.	Canon	PIXMA MP600	Y	Y	N/A
18.	Canon	PIXMA MP810	Y	Y	N/A
19.	Canon	PIXMA MP830	Y	Y	Y
20.	Canon	PIXMA MP950	Y	Y	N/A
21.	Canon	PIXMA MP960	Y	Y	N/A
22.	Dell	Photo 926	Y	Y	N/A
23.	Dell	Photo 966	Y	Y	Y

Appendix: DPR-2000 Printer Compatibility List

24.	EPSON	PM-A970	Y	Y	N/A
25.	EPSON	PM-A920	Y	Y	N/A
26.	EPSON	PM-A820	Y	Y	N/A
27.	EPSON	PM-A720	Y	Y	N/A
28.	EPSON	PM-A950	Y	Y	N/A
29.	EPSON	PM-A890	Y	Y	N/A
30.	EPSON	PM-A750	Y	Y	N/A
31.	EPSON	PM-A650	Y	Y	N/A
32.	EPSON	Stylus CX2900	Y	Y	N/A
33.	EPSON	Stylus CX3700	Y	Y	N/A
34.	EPSON	Stylus CX3900	Y	Y	N/A
35.	EPSON	Stylus CX4100	Y	Y	N/A
36.	EPSON	Stylus CX4700	Y	Y	N/A
37.	EPSON	Stylus CX4900	Y	Y	N/A
38.	EPSON	STYLUS CX5700F	Y	Y	N/A
39.	EPSON	STYLUS CX5900	Y	Y	N/A
40.	EPSON	STYLUS CX6900F	Y	Y	N/A
41.	EPSON	Stylus Photo RX530	Y	Y	N/A
42.	EPSON	Stylus Photo RX580	Y	Y	N/A
43.	EPSON	Stylus Photo RX590	Y	Y	N/A
44.	EPSON	Stylus Photo RX630	Y	Y	N/A
45.	EPSON	Stylus Photo RX650	Driver not available		N/A
46.	Fuji Xerox	WorkCentre 3119	Y	Driver not available	N/A
47.	HP	Deskjet F380	Y	Y	N/A
48.	HP	PSC1315	Y	Y	N/A
49.	HP	Photosmart C1350	Y	Y	N/A

Appendix: DPR-2000 Printer Compatibility List

50.	HP	Photosmart C1610	Y	Y	N/A
51.	HP	Photosmart C3180	Y	Y	N/A
52.	HP	Photosmart C4180	Y	Y	N/A
53.	HP	Photosmart C5180	Y	Y	N/A
54.	HP	LaserJet 3050	Y	Y	Driver not available
55.	Lexmark	x3470	Y	Y	N/A
56.	Lexmark	x5470	Y	Y	Y
57.	Samsung	SCX-4100	Y	Y	N/A
58.	Samsung	SCX-4200	Y	Y	N/A

Other Printers from the brands listed above may also be supported.

For an updated compatibility list please visit: <http://support.dlink.com.tw>