

HP LaserJet 2410/2420/2430 Software Technical Reference



HP LaserJet 2410, 2420, and 2430 printers

Software Technical Reference



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1 Purpose and scope

Introduction

This software technical reference (STR) provides information about and troubleshooting tips for the printing-system software for the HP LaserJet 2410, 2420, and 2430 printers.

This document is prepared in an electronic format to serve as a quick-reference tool for Customer Care Center (CCC) agents, support engineers, system administrators, management information systems (MIS) personnel, and HP LaserJet 2410, 2420, and 2430 printer end users, as appropriate.



NOTE This STR describes drivers that are shipped with the printing-system software CD. This STR does *not* cover drivers that might be released for use by support personnel.

The following information is included in this technical reference:

- descriptions of drivers and platforms with system modifications
- procedures for installing and uninstalling software components
- descriptions of various topics associated with the HP LaserJet 2410, 2420, and 2430 printers, including engineering details



NOTE An addendum to this STR includes system modification information and descriptions of known software issues and workarounds.

This chapter contains information about the following topics:

- [HP LaserJet 2410, 2420, and 2430 printers](#)
- [Printing-system software CD](#)
- [Structure and availability of the software CD](#)


HP LaserJet 2410, 2420, and 2430 printers

The following table contains descriptions of the HP LaserJet 2410, 2420, and 2430 printer models that are described in this STR. Product configurations might vary among countries/regions.

Table 1-1 Features of the HP LaserJet 2410, 2420, and 2430 printers

Feature	Model Specifications
Performance	<ul style="list-style-type: none"> ■ HP LaserJet 2410 printer: 24 pages per minute (ppm) for A4-sized media; 25 ppm for letter-sized media ■ HP LaserJet 2420 printer: 28 pages per minute (ppm) for A4-sized media; 30 ppm for letter-sized media ■ HP LaserJet 2430 printer: 33 pages per minute (ppm) for A4-sized media; 35 ppm for letter-sized media
Memory	<ul style="list-style-type: none"> ■ 32 megabytes (MB) of memory for the HP LaserJet 2410 and 2420 printers, expandable to 288 MB ■ 48 MB of memory for the HP LaserJet 2420d and 2430t printers, expandable to 304 ■ 64 MB of memory for the HP LaserJet 2420n, 2420dn, 2430tn and 2430dtn printers, expandable to 320 MB
User interface	<ul style="list-style-type: none"> ■ Graphical display on control panel ■ Enhanced Help with animated graphics ■ Embedded Web server to gain access to support and order supplies (for network-connected products) ■ HP toolbox software to provide printer status and alerts, order supplies, show documentation and troubleshooting information, and print internal printer information pages
Supported printer personalities	<ul style="list-style-type: none"> ■ PCL 6 ■ PCL 5 ■ PDF ■ MIME ■ Postscript emulation
Storage features	<ul style="list-style-type: none"> ■ Job storage ■ Fonts and forms
Environmental features	<ul style="list-style-type: none"> ■ PowerSave setting ■ High content of recyclable components and materials ■ Energy Star® compliant ■ Blue Angel compliant.

Table 1-1 Features of the HP LaserJet 2410, 2420, and 2430 printers (continued)

Feature	Model Specifications
Fonts	<ul style="list-style-type: none"> ■ 66 default TrueType fonts installed with typical installation. ■ 92 additional postscript fonts available on the installation CD. ■ Supports forms and fonts on the disk by using HP Web Jetadmin.
Paper Handling	<ul style="list-style-type: none"> ■ Prints on media from 76 x 127 mm (3 by 5 inches) to 216 x 356 mm (8.5 x 14 inches) in size. ■ Prints on media with weights from 60 g/m² to 199 g/m² (16 lb to 53 lb bond). ■ Prints on a wide range of media types including labels, transparencies, and envelopes. ■ 250-sheet paper tray (Tray 2) ■ Optional 500-sheet paper tray (Tray 3); standard on the HP LaserJet 2430 printer ■ Duplexing unit is standard on HP LaserJet 2420d, 2420dn and 2430dtn printers ■ 250-sheet face-down output bin
Accessories	<ul style="list-style-type: none"> ■ 100-pin DDR memory DIMM (dual inline memory module) ■ Optional 500-sheet paper tray
Connectivity	<ul style="list-style-type: none"> ■ Optional embedded HP Jetdirect print server; standard on HP LaserJet 2420n, 2420dn, 2430tn, and 2430dtn printers ■ Universal Serial Bus (USB) 2.0 connection ■ Standard bidirectional, extended capabilities (ECP) type-B (IEEE 1284-compliant) parallel cable ■ The printer supports an auxiliary connection for paper handling input devices.
Supplies	<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <ul style="list-style-type: none"> ■ The supplies status page contains information on toner level, page count, and estimated pages remaining. ■ The product uses a no-shake cartridge design. ■ The product checks for authentic HP print cartridges at cartridge installation. ■ The product offers Internet-enabled supply-ordering capabilities (by using the embedded Web server or the HP Toolbox software). </div> <div style="flex: 0.5; padding-left: 10px;"> <p> NOTE Both USB and parallel connections are supported, but cannot be used at the same time.</p> </div> </div>

Printing-system software CD

This section contains information about the following topics:

- [Software features](#)
- [HP LaserJet documentation](#)

Software features

This section contains information about the following topics:

- [Printing system and installer](#)
- [HP LaserJet print drivers](#)
- [Driver Autoconfiguration](#)
- [Update Now](#)
- [HP Driver Preconfiguration](#)

Printing system and installer

The following sections contain information about the printing-system software and the installer on the software CD that came with the product.

HP LaserJet 2410, 2420, and 2430 printing-system software CD for Windows systems

For the Microsoft® Windows® environment (Windows 98, Windows 98, Windows NT® 4.0, Windows 2000, Windows XP, and Windows Server 2003), the HP LaserJet 2410, 2420, and 2430 printing-system software CD provides an interactive software window that you can use not only to install the print drivers and related components, but also to gain access to online user documentation, a customization utility, Adobe® Acrobat® Reader® software, and optional HP software.

The following illustration shows the main screen of the HP LaserJet 2410, 2420, and 2430 printing-system software CD, which appears when you insert the software CD in your CD-ROM drive. If the screen does not appear when you insert the software CD, click **Start**, click **Run**, click **Browse...**, navigate to the root directory of the software CD, and then double-click the SETUP.EXE file to start the installer.

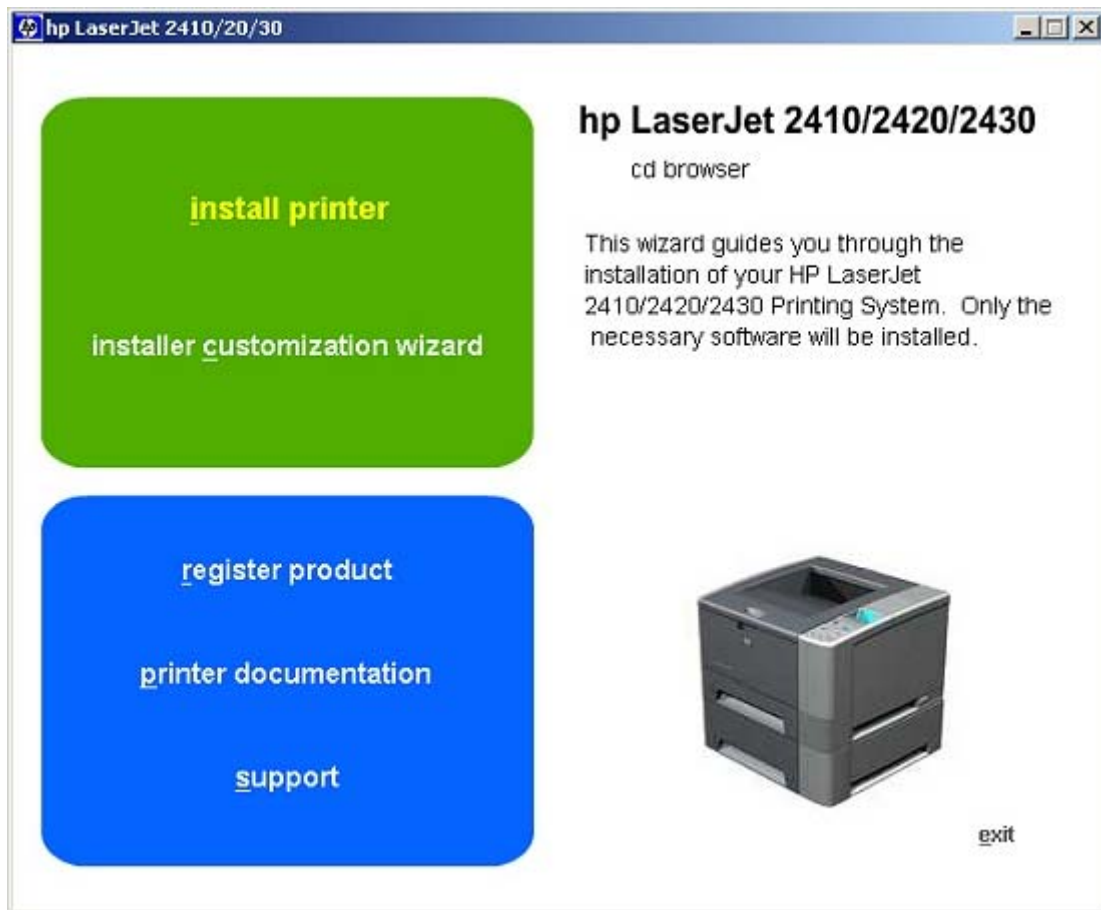


Figure 1-1 Installation software CD main screen

The main screen of the software CD contains installation options in the upper-left panel and documentation options in the lower-left panel. As you move your cursor over each option, a description of the option appears above the product image.



NOTE The options on your product might vary from the illustration.

install printer. This wizard guides you through the installation of your HP LaserJet 2410, 2420, and 2430 printing-system software. You are given the choice of performing a Typical Installation, a Minimum Installation, or a Custom Installation. If you select Typical Installation, only the necessary software is installed. If you select Minimum Installation, only the components required for basic printing are installed. If you select Custom Installation, you can select the components that you want to install.

installer customization wizard. Use this wizard to customize the HP LaserJet 2410, 2420, and 2430 print driver installer by presetting the installation options in a response file. The installer that you have customized can then be used for silent, unattended installation.



NOTE For HP Traditional PCL 5e drivers and all Windows NT 4.0 drivers, use HP Web Jetadmin or the HP Driver Preconfiguration utility to create a silent installer.

register product. Use this option to register your product online. Using the Web registration, you can gain access to support and services, manage your profile, and sign up for free support alerts, driver notices, and personalized newsletters.

printer documentation. Use this option to view the HP LaserJet 2410, 2420, and 2430 printer user documentation. The following document options are available when you click this option:

- **user guide (interactive)**
- **user guide (printer friendly)**
- **install notes**
- **hp driver preconfiguration user guide**
- **embedded web server guide**
- **hp jetdirect guide**



NOTE If your system does not have Adobe Acrobat Reader 4.0 or later installed, clicking any of the links to documentation that is provided in the portable document format (PDF) file format opens a version of Adobe Acrobat Reader software that runs from the HP LaserJet 2410, 2420, and 2430 printing-system software CD. The CD Browser version of Acrobat Reader is in English only, but can be used to open localized versions of .PDF documents. The Adobe Acrobat Reader software is not installed on your computer and can only run while the printing-system software CD is in the CD-ROM drive. Adobe Acrobat Reader is also available from www.adobe.com.

support. To increase productivity and get the most use from your printer, view a list of optional software programs that are available for installation and links to HP Web sites. The following options are available:

- Click **hp web jetadmin** to download HP Web Jetadmin software from the Web for a Web browser-based network-management tool.
- Click **supplies** for information about ordering HP LaserJet 2410, 2420, and 2430 printer supplies.
- Click **product information** for HP LaserJet 2410, 2420, and 2430 printer support information and updates.
- Click **hp.com** to go to the HP home Web page for information about products and services, support, drivers, and HP online stores.

Installer features

The common Windows installer is designed to provide a simple and consistent installation method for the product. The common installer is available for the Windows 98, Windows Me, Windows 2000, Windows XP, and Windows Server 2003 operating systems.

The common Windows installer offers the following features:

- The HP LaserJet 2410, 2420, and 2430 printing-system software CD features an interactive software interface. See [HP LaserJet 2410, 2420, and 2430 printing-system software CD for Windows systems](#).
- Network connection is integrated so that you can install drivers and connect to a network product in a single process.
- The selection dialog box sets the operating-system language as the default language (for Windows 98, Windows Me, Windows 2000, Windows XP, and Windows Server 2003 only). You can use the installer to select any of the languages available on the HP LaserJet 2410, 2420, and 2430 printing-system software CD.

The HP LaserJet 2410, 2420, and 2430 printing-system software CD also includes the following features:

- The HP LaserJet Uninstaller Utility
- The HP Customization Utility for custom installations
- The HP Toolbox application

All of the Windows system components are installed by using the HP LaserJet 2410, 2420, and 2430 printing-system installer. The installer automatically detects your language of choice and your operating system. You can select the type of installation that you prefer: Typical Installation, Minimum Installation, or Custom Installation.

HP LaserJet print drivers

HP LaserJet 2410, 2420, and 2430 print drivers make the printer features available and allow the computer to communicate with the product. The printing system includes software for end users and network administrators who are working in the following operating environments:

- Microsoft Windows 98 and Windows Me
- Microsoft Windows NT 4.0, Windows 2000, Windows XP (32-bit and 64-bit), and Windows Server 2003 (32-bit and 64-bit)
- Apple Mac OS 9.x and later, and Mac OS X (V10.1 and later)

Automatic driver configuration, driver update capability after a new configuration, and preconfiguration features are available with the HP LaserJet 2410, 2420, and 2430 print drivers.



NOTE For the latest information about the printing-system software components, view the readme files on the CD. For additional information about installing the printing-system software, view the *Hewlett Packard LaserJet 2410/2420/2430 series Printing System Install Notes* on the printing-system software CD.

All of the drivers provide access to the paper-handling and print-quality features, and are described in chapters 3 and 4 of this guide.

HP PCL 5e, PCL 6, and PS emulation drivers

The following drivers are available on the HP LaserJet 2410, 2420, and 2430 printing—system software CD:

- The HP Traditional PCL 5e Driver for Windows 98, Windows Me, and Windows NT 4.0.
- The HP Traditional PCL 6 Driver for Windows 98, Windows Me, and Windows NT 4.0.
- The HP Traditional Postscript 3 Emulation Driver for Windows 98, Windows Me, and Windows NT 4.0.
- The HP PCL 6, PCL 5e, and PS 3 emulation unidrivers for Windows 2000, Windows XP, and Windows Server 2003.



NOTE If you select a Typical Installation during installation of the printing-system software, the HP PCL 6 driver is installed by default. You must use the Add Printer wizard to install any of the PCL 5 drivers.

Table 1-2 Print drivers included with the HP LaserJet 2410, 2420, and 2430 printers

Operating System ¹	PCL 6	PCL 5e	PS emulation
Windows 98, Windows Me	X	X	X
Windows NT 4.0	X	X	X
Windows 2000	X	X	X
Windows XP	X	X	X
Windows Server 2003	X	X	X
Macintosh OS			X

¹ Not all product features are available from all drivers or operating systems. See the online Help in your driver for information about the features that are available.

Print-driver version numbers for Windows operating systems

The HP LaserJet 2410, 2420, and 2430 PCL 6 and PCL 5e print drivers support Windows 98, Windows Me, Windows NT 4.0, Windows 2000, Windows XP, and Windows Server 2003 operating systems. The HP LaserJet 2410, 2420, and 2430 PS emulation driver software provides postscript feature support for the HP LaserJet 2410, 2420, and 2430 printers.

If you are using an HP traditional driver, you can view the print-driver version number by clicking the HP logo in the lower-left corner of the following HP traditional PCL 6 or PCL 5e driver tabs:

- **Finishing**
- **Effects**
- **Paper**
- **Job Storage**
- **Basics**

If you are using an HP unidriver in Windows 2000, Windows XP, or Windows Server 2003 environments, follow these steps to find driver-version information:

- 1 Click **Start**.
- 2 Click **Settings**.
- 3 Click **Printers** (or **Printers and Faxes** in Windows XP and Windows Server 2003).
- 4 Right-click the printer icon.
- 5 Click **Properties**.
- 6 Click the **About** tab.



NOTE For a list of print drivers, updated HP printing-system software, and product support information, go to www.hp.com/support/lj2410 for the HP LaserJet 2410 printer, www.hp.com/support/lj2420 for the HP LaserJet 2420 printer, or www.hp.com/support/lj2430 for the HP LaserJet 2430 printer.

Macintosh and Macintosh-compatible printing system

The HP LaserJet 2410, 2420, and 2430 printing system for Macintosh is composed of the Print Center for OS X and the Apple LaserWriter driver for OS 9, which are provided with the operating system, and HP-created PPD files. The driver uses these files to determine the features and postscript commands that the product supports. Bidirectional support in AppleTalk connections supports software autoconfiguration. The following are installable components:

- The HP LaserJet Installer for Mac OS 9, and Mac OS X
- The HP LaserJet Screen Fonts Installer
- SYSTEM/EXTENSIONS/PRODUCT DESCRIPTIONS (for Mac OS 9)
- LIBRARY/PRINTERS/PPDS/CONTENTS/RESOURCES/LANGUAGE.LPROJ (for Mac OS X)
- Online Help, an HTML-based printer and utility help that can be viewed through a browser or in the Macintosh OS Help Center (in English only)
- Install notes



NOTE The HP LaserJet Utility is a standalone utility that is not installed by the installer, but is available on the HP LaserJet 2410, 2420, and 2430 printer software CD. It is an HP utility that is installed in the HP LaserJet folder of Mac OS 9 and provides configuration and management support for postscript. It can be found on the CD in a directory called “hp OS 9 LaserJet Utility.”

Additional driver availability

- HP OpenVMS drivers. For further information, go to h71000.www7.hp.com/openvms/print/
- HP Install Network Printer Wizard (INPW). For further information, go to www.hp.com/go/inpw_software
- OS/2 PCL 5c/6 print driver
- OS/2 PS print driver

- UNIX® model scripts. For further information about UNIX model scripts, go to www.hp.com/go/unixmodelscripts.
- Tru64 UNIX printing. For further information, go to h30097.www3.hp.com/printing/
- Linux drivers. For further information, go to www.hp.com/go/linuxprinting.
- SAP printing. For further information, go to www.hp.com/go/sap/print



NOTE The OS/2 drivers are available from IBM and are packaged with OS/2.

Driver Autoconfiguration

The HP LaserJet PCL 6 and PCL 5e drivers for Windows features automatic discovery and driver configuration for product accessories at the time of installation. Accessories that can be detected include the duplexing unit, optional paper tray, and dual inline memory modules (DIMMs).

Update Now

If you have modified the configuration of the product since installation, the driver can be automatically updated with the new configuration in environments that support bidirectional communication. Use the **Update Now** feature to automatically reflect the new configuration in the driver.



NOTE The Update Now feature is not supported in environments where shared Windows NT 4.0, Windows 2000, or Windows XP clients are connected to Windows NT 4.0, Windows 2000, or Windows XP hosts.

HP Driver Preconfiguration

HP Driver Preconfiguration is a software architecture and set of tools that permits HP software to be customized and distributed in managed corporate printing environments. Using HP Driver Preconfiguration, information technology (IT) administrators in corporate and enterprise environments can preconfigure the printing and device defaults for HP print drivers before installing the drivers in the network environment. For more information, see the *HP Driver Preconfiguration Support Guide*, which is available on the software CD or from www.hp.com/support/lj2410 for the HP LaserJet 2410 printer, www.hp.com/support/lj2420 for the HP LaserJet 2420 printer, or www.hp.com/support/lj2430 for the HP LaserJet 2430 printer.

Information about HP Driver Preconfiguration is also available by going to www.hp.com/go/hpdpc_sw, and then selecting **Cross operating system (BIOS, Firmware, Diagnostics, etc.)**.

HP LaserJet documentation

This section describes the HP LaserJet 2410, 2420, and 2430 printer documentation that is available to users and administrators.

The following table lists the availability of HP LaserJet 2410, 2420, and 2430 printing-system documentation by operating system.

Table 1-3 Documentation availability

Document	Windows 98/Me	Windows NT 4.0	Windows 2000/XP/Server 2003	Macintosh
<i>HP LaserJet 2400 Series User Guide</i> (.PDF file)	x	x	x	x
<i>HP LaserJet 2400 Series User Guide</i> (.CHM file)	x	x	x	x
<i>Hewlett Packard LaserJet 2410/2420/2430 series Printing System Install Notes</i>	x	x	x	
<i>HP Embedded Web Server Guide</i>	x	x	x	x
<i>HP Driver Preconfiguration User Guide</i>	x	x	x	x
<i>HP Jetdirect Administrator's Guide</i>	x	x	x	x
<i>HP Device Installer Customization Wizard</i>	x	x	x	x

Access to HP LaserJet documents depends on the type of document and its location. Some documents can be opened from the installer CD Browser. Others are found on the software CD and can be opened by navigating to the folder where they reside. Still others are available on the Web through links in the installer CD Browser or CD folders. Documents are available in the following file formats:

- **Portable Document Format (.PDF).** The HP LaserJet 2410, 2420, and 2430 printing-system software CD includes Adobe Acrobat Reader for viewing online documentation. If your system does not have Adobe Acrobat Reader 4.0 or later installed, clicking any of the links to documentation that is provided in the portable document format (PDF) file format opens an English-only version of Adobe Acrobat Reader software that runs from the HP LaserJet 2410, 2420, and 2430 printing-system software CD. The Adobe Acrobat Reader software is not installed on your computer and can only run while the printing-system software CD is in the CD-ROM drive.
- **Compiled HTML (.CHM).** When you click a documentation link to a .CHM document, a Microsoft HTML Viewer opens the file on your computer screen. The .CHM files can reside either on the printing-system software CD or on the Web.
- **Hypertext Markup (.HTM).** When you click a documentation link to an .HTM document, a Web browser opens the file on your computer screen. The .HTM files can reside either on the printing-system software CD or on the Web.
- **Rich Text format (.RTF).** This is a text file. You can navigate to .RTF files and open them in Microsoft Word or Microsoft WordPad.

HP LaserJet 2400 Series User Guide

The *HP LaserJet 2400 Series User Guide* describes the basic features of the product.

To view this guide, click **printer documentation** in the installer CD Browser, and then click **user guide (interactive)**. The guide opens as a Windows Help file (.CHM file). This readable, onscreen version of the guide is provided in accordance with the Americans with Disabilities Act (ADA).

The screen-readable version (.CHM) of the User Guide for the HP LaserJet 2410, 2420, and 2430 printers is also available on the HP LaserJet 2410, 2420, and 2430 printing-system software CD. To

open the guide from the software CD, navigate to the **<language>** folder for your language, and then open the **Manuals** folder. In that folder, open the following file:

- LJ2410_20_30_USE_XXWW.CHM



NOTE The "XX" in the file name varies in each language. For instance, the file name for the French version of the guide is LJ2410_20_30_USE_FRWW.CHM

To print the User Guide, click **printer documentation** on the installer CD Browser, and then click **user guide (printer friendly)**. The guide is provided as a .PDF file, which you can print.

You can also open the .PDF file by inserting the printing-system software CD into the CD-ROM drive and navigating to the **<language>** folder for your language, and then open the **Manuals** folder. In that folder, open the following file:

- LJ2410_20_30_USE_XXWW.PDF



NOTE The "XX" in the file name varies for each language. For instance, the file name for the French version of the guide is LJ2410_20_30_USE_FRWW.PDF

When you have the file open, you can click **File** and then click **Save As** to save a copy of the file to another location.

Hewlett Packard LaserJet 2410/2420/2430 series Printing System Install Notes

The *Hewlett Packard LaserJet 2410/2420/2430 series Printing System Install Notes* is a document (in .HTM format) that contains important information about product features, instructions for installing the printing-system software, and technical assistance.

To view this file from the software CD, click **printer documentation** on the main screen of the installer CD Browser, and then click **install notes**.

You can also open the file by inserting the software CD into the CD-ROM drive and navigating to **<language>**. In that folder, open the following file:

- LJ24X0_INSTALL-NOTE_XXWW.HTM



NOTE The "XX" in the file name varies for each language. For instance, the file name for the French version of the document is LJ24X0_INSTALL-NOTE_FRWW.HTM.

When you have the file open in a text editor (such as NotePad or WordPad), you can click **File** and then click **Save As** to save a copy of the file to another location.

HP Driver Preconfiguration User Guide

The *HP Driver Preconfiguration User Guide* is a guide (in .PDF format) for preconfiguring drivers in network environments.

To view this guide, click **printer documentation** on the main screen of the installer CD Browser, and then click **hp driver preconfiguration user guide**.

You can also gain access to the *HP Driver Preconfiguration User Guide* by inserting the software CD into the CD-ROM drive, navigating to the **English** folder, and then to the **Manuals** folder. In that folder, open the following file:

- PRECONFIG_SUPPORT_ENWW.PDF



NOTE The *HP Driver Preconfiguration User Guide* is available only in English on the software CD.

When you have the file open, you can click **File** and then click **Save As** to save a copy of the file to another location.

HP Embedded Web Server Guide

The *HP Embedded Web Server User Guide* (in .PDF format) provides information about device status, settings, and networking for the HP LaserJet 2410, 2420, and 2430 printers.

To view this guide, click **printer documentation** on the main screen of the installer CD Browser, and then click **embedded web server guide**.

You can also gain access to the *HP Embedded Web Server User Guide* by inserting the software CD into the CD-ROM drive, navigating to the **<language>** folder for your language, and then to the **Manuals** folder. In that folder, open the following file:

- EWS81_USE_XXWW.PDF



NOTE The "XX" in the file name varies for each language. In French, the file name is EWS90_USE_FRWW.HTM.

When you have the file open, you can click **File** and then click **Save As** to save a copy of the file to another location.

HP Jetdirect Administrator's Guide

The *HP Jetdirect Administrator's Guide* is a network administrator's guide (in .PDF format) that contains information about connecting the product directly to a network.

To view this guide, click **printer documentation** on the main screen of the installer CD Browser, and then click **hp jetdirect guide**.

You can also gain access to the *HP Jetdirect Administrator's Guide* by inserting the software CD into the CD-ROM drive, navigating to the **<language>** folder for your language, and then to the **Manuals** folder. In that folder, open the following file:

- HPJDIAG_XXWW.PDF



NOTE The "XX" in the file name varies for each language. In French, the file name is HPJDIAG_FRWW.PDF.

When you have the file open, you can click **File** and then click **Save As** to save a copy of the file to another location.

HP Device Installer Customization Wizard

The *HP Device Installer Customization Wizard* (in .HTM format) provides network administrators with information about options and installation settings that can be selected for the Installer Customization Wizard.

You can gain access to the *HP Device Installer Customization Wizard* by inserting the software CD into the CD-ROM drive and navigating to the **<language>** folder for your language, and then to the **Manuals** folder. In that folder, open the following file:

- CUSTOMIZATION_README_XXWW.RTF



NOTE The "XX" in the file name varies for each language. In French, the file name is CUSTOMIZATION_README_FRWW.PDF.

When you have the file open, you can click **File** and then click **Save As** to save a copy of the file to another location.

Structure and availability of the software CD

The software CD for the HP LaserJet 2410, 2420, and 2430 printer contains a variety of files for installing the printing-system software on your computer. This section describes the files that are available on the software CD, as well as additional support and fulfillment information.

In-box file layout

The HP LaserJet 2410, 2420, and 2430 printing-system software consists of two partitions: one for installing the product into Windows operating systems, and the other for Macintosh operating systems. The files include documentation files and files that are required to install and uninstall the printing-system components.

HP LaserJet software CD, Windows partition

The root directory in the Windows partition of the software CD contains the AUTORUN.EXE file, SETUP.EXE file, and the following directories and support files:

- autorun
- Fonts
- HW
- System32
- Temp
- toolbox
- WebReg
- Language directories for all the languages that are on the software CD

The printing-system files for each language reside in the following directories:

- Drivers
- Manuals

File layouts differ by language for each regional version of the software CD.

To view the files, insert the HP LaserJet 2410, 2420, and 2430 printer software CD, right-click **Start**, click **Explore**, and then select the CD-ROM drive.

HP LaserJet software CD, Macintosh partition

The files contained in the Macintosh partition of the HP LaserJet software CD are grouped by language and reside in the following directories:

- Root directory
- HP LASERJET INSTALLERS (for Macintosh operating systems)
- PDF (for guides and manuals)

File layouts differ by language for each regional version of the software CD.

Availability and fulfillment

This section provides information about the availability of the HP LaserJet 2410, 2420, and 2430 printing-system software and related software and firmware. Printing-system software on a CD is available from HP fulfillment centers.

In-box CDs

The HP LaserJet 2410, 2420, and 2430 printing-system software CD is available in five versions. The following list shows the five versions of the software CD and the languages they support:

- **CD AM - Americas and Europe:**
 - DE = German (Deutsch)
 - EN = English
 - ES = Spanish (Español)
 - FR = French (Français)
 - IT = Italian (Italiano)
 - NL = Dutch (Nederland)
 - PT = Brazilian Portuguese (Português)
- **CD WE - Western Europe and Arabic:**
 - AR = Arabic
 - DN = Danish (Dansk)
 - EN = English
 - FR = French (Français)
- **CD NE - Northern Europe and Russian:**
 - EN = English
 - FI = Finnish (Suomi)
 - NO = Norwegian (Norsk)
 - RU = Russian (Russ)
 - SV = Swedish (Svenska)
 - TR = Turkish (Turkçe)
- **CD EE - Eastern Europe:**
 - CZ = Czech (Cesky)
 - EL = Greek
 - EN = English
 - HE = Hebrew

- HU = Hungarian (Magyar)
- PL = Polish (Polski)
- **CD AS - Asia:**
 - EN = English
 - KO = Korean
 - TH = Thai
 - ZHCN = Simplified Chinese
 - ZHTW = Traditional Chinese



NOTE Drivers for various languages do not necessarily correspond to geographic countries/regions. European languages, for instance, are distributed on three CDs.

The following tables show the printing-system components that are supported in each language.

Table 1-4 CD AM - Americas and Europe

Component	DE	EN	ES	FR	IT	NL	PT
HP Traditional Postscript 3 Emulation Driver (PS Emulation Driver)	x	x	x	x	x	x	x
HP Traditional PCL 6 Driver	x	x	x	x	x	x	x
HP Traditional PCL 5e Driver	x	x	x	x	x	x	x
HP PCL 6 Unidriver	x	x	x	x	x	x	x
HP PCL 5e Unidriver	x	x	x	x	x	x	x
PS Emulation Driver	x	x	x	x	x	x	x
Common Windows Installer	x	x	x	x	x	x	x
Add Printer Wizard Installer	x	x	x	x	x	x	x
Customization Utility Wizard	x	x	x	x	x	x	x
CD Browser	x	x	x	x	x	x	x
<i>HP Driver Preconfiguration User Guide</i>		x					
<i>HP LaserJet 2400 Series User Guide (PDF)</i>	x	x	x	x	x	x	x
<i>HP LaserJet 2400 Series User Guide (CHM)</i>	x	x	x	x	x	x	x
<i>HP Jetdirect Administrator's Guide</i>	x	x	x	x	x	x	x
<i>Hewlett Packard LaserJet 2410/2420/2430 series Printing System Install Notes</i>	x	x	x	x	x	x	x
<i>HP Embedded Web Server User Guide</i>	x	x	x	x	x	x	x

Table 1-4 CD AM - Americas and Europe (continued)

Component	DE	EN	ES	FR	IT	NL	PT
<i>HP Device Installer Customization Wizard</i>	x	x	x	x	x	x	x
HP Toolbox	x	x	x	x	x	x	x

Table 1-5 CD WE - Western Europe and Arabic

Component	AR	DN	EN	FR
PS Emulation Driver	x	x	x	x
HP Traditional PCL 6 Driver	x	x	x	x
HP Traditional PCL 5e Driver	x	x	x	x
HP PCL 6 Unidriver	x	x	x	x
HP PCL 5e Unidriver	x	x	x	x
PS Emulation Unidriver	x	x	x	x
Common Windows Installer	x	x	x	x
Add Printer Wizard Installer	x	x	x	x
Customization Utility Wizard	x	x	x	x
CD Browser	x	x	x	x
<i>HP Driver Preconfiguration User Guide</i>			x	
<i>HP LaserJet 2400 Series User Guide (PDF)</i>	x	x	x	x
<i>HP LaserJet 2400 Series User Guide (CHM)</i>	x	x	x	x
<i>HP Jetdirect Administrator's Guide</i>		x	x	x
<i>Hewlett Packard LaserJet 2410/2420/2430 series Printing System Install Notes</i>	x	x	x	x
<i>HP Embedded Web Server User Guide</i>		x	x	x
<i>HP Device Installer Customization Wizard</i>	x	x	x	x
HP Toolbox		x	x	x

Table 1-6 CD NE - Northern Europe and Russian

Component	EN	FI	NO	RU	SV	TR
PS Emulation Driver	x	x	x	x	x	x
HP Traditional PCL 6 Driver	x	x	x	x	x	x
HP Traditional PCL 5e Driver	x	x	x	x	x	x
HP PCL 6 Unidriver	x	x	x	x	x	x
HP PCL 5e Unidriver	x	x	x	x	x	x
PS Emulation Unidriver	x	x	x	x	x	x

Table 1-6 CD NE - Northern Europe and Russian (continued)

Component	EN	FI	NO	RU	SV	TR
Common Windows Installer	x	x	x	x	x	x
Add Printer Wizard Installer	x	x	x	x	x	x
Customization Utility Wizard	x	x	x	x	x	x
CD Browser	x	x	x	x	x	x
<i>HP Driver Preconfiguration User Guide</i>	x					
<i>HP LaserJet 2400 Series User Guide (PDF)</i>	x	x	x	x	x	x
<i>HP LaserJet 2400 Series User Guide (CHM)</i>	x	x	x	x	x	x
<i>HP Jetdirect Administrator's Guide</i>	x	x	x	x	x	x
<i>Hewlett Packard LaserJet 2410/2420/2430 series Printing System Install Notes</i>	x	x	x	x	x	x
<i>HP Embedded Web Server User Guide</i>	x	x	x		x	
<i>HP Device Installer Customization Wizard</i>	x	x	x	x	x	x
HP Toolbox	x	x	x		x	

Table 1-7 CD EE - Eastern Europe

Component	CZ	EL	EN	HE	HU	PL
PS Emulation Driver	x	x	x	x	x	x
HP Traditional PCL 6 Driver	x	x	x	x	x	x
HP Traditional PCL 5e Driver	x	x	x	x	x	x
HP PCL 6 Unidriver	x	x	x	x	x	x
HP PCL 5e Unidriver	x	x	x	x	x	x
PS Emulation Unidriver	x		x	x	x	x
Common Windows Installer	x	x	x	x	x	x
Add Printer Wizard Installer	x	x	x	x	x	x
Customization Utility Wizard	x	x	x	x	x	x
CD Browser	x	x	x	x	x	x
<i>HP Driver Preconfiguration User Guide</i>			x			
<i>HP LaserJet 2400 Series User Guide (PDF)</i>	x	x	x	x	x	x

Table 1-7 CD EE - Eastern Europe (continued)

Component	CZ	EL	EN	HE	HU	PL
<i>HP LaserJet 2400 Series User Guide (CHM)</i>	x	x	x	x	x	x
<i>HP Jetdirect Administrator's Guide</i>	x		x		x	x
<i>Hewlett Packard LaserJet 2410/2420/2430 series Printing System Install Notes</i>	x	x	x	x	x	x
<i>HP Embedded Web Server User Guide</i>			x			
<i>HP Device Installer Customization Wizard</i>	x	x	x	x	x	x
HP Toolbox			x			

Table 1-8 CD AS - Asia

Component	EN	KO	TH	ZHCN	ZHTW
PS Emulation Driver	x	x	x	x	x
HP Traditional PCL 6 Driver	x	x	x	x	x
HP Traditional PCL 5e Driver	x	x	x	x	x
HP PCL 6 Unidriver	x	x	x	x	x
HP PCL 5e Unidriver	x				
PS Emulation Unidriver	x	x	x	x	x
Common Windows Installer	x	x	x	x	x
Add Printer Wizard Installer	x	x	x	x	x
Customization Utility Wizard	x	x	x	x	x
CD Browser	x	x	x	x	x
<i>HP Driver Preconfiguration User Guide</i>	x				
<i>HP LaserJet 2400 Series User Guide (PDF)</i>	x	x	x	x	x
<i>HP LaserJet 2400 Series User Guide (CHM)</i>	x	x	x	x	x
<i>HP Jetdirect Administrator's Guide</i>	x	x		x	x
<i>Hewlett Packard LaserJet 2410/2420/2430 series Printing System Install Notes</i>	x	x	x	x	x
<i>HP Embedded Web Server User Guide</i>	x				
<i>HP Device Installer Customization Wizard</i>	x	x	x	x	x

Table 1-8 CD AS - Asia (continued)

Component	EN	KO	TH	ZHCN	ZHTW
HP Toolbox	x				



NOTE Japanese drivers are available on the Web, but not on the software CD. See www.hp.com/go/lj2410_software for the HP LaserJet 2410 printer, www.hp.com/go/lj2420_software for the HP LaserJet 2420 printer, or www.hp.com/go/lj2430_software for the HP LaserJet 2430 printer.

Web deployment

All software that is contained on the installation CD is also available on the Web.

Web deployment is the preferred method for obtaining the latest software. The Web site offers a notification option for automatic e-mail notification about new software releases.

Printing-system software

The HP LaserJet 2410, 2420, and 2430 printing-system software is available for download from www.hp.com/go/lj2410_software for the HP LaserJet 2410 printer, www.hp.com/go/lj2420_software for the HP LaserJet 2420 printer, or www.hp.com/go/lj2430_software for the HP LaserJet 2430 printer.

The printing-system software supports the following operating systems:

- Windows 98 and Windows Me
- Windows XP Professional (32-bit)
- Windows XP Home Edition
- Windows 2000 (32-bit)
- Windows Server 2003 (32-bit)



NOTE Windows NT 4.0 drivers can be installed only by using the Add Printer wizard.

Standalone drivers

The HP PCL 6, HP PCL 5e, and HP PS emulation drivers and unidrivers are available individually to support the following operating systems:

- Windows 98 and Windows Me
- Windows NT 4.0
- Windows 2000
- Windows XP (32-bit and 64-bit)
- Windows Server 2003 (32-bit and 64-bit)
- Mac OS 9.x
- Mac OS X (10.1 or later)

Other operating systems

Drivers and related software are available for these additional operating environments:

- UNIX
- Linux
- OS/2
- HP Open VMS

Software component availability

The following table lists the availability of HP LaserJet software components by operating system.



NOTE In the following table, "98/Me" refers to Windows 98 and Windows Me; "4.0" refers to Windows NT 4.0; "2000" refers to Windows 2000; "XP" refers to Windows XP; and "XP 64" refers to 64-bit drivers for Windows XP.

Table 1-9 Software component availability for HP LaserJet 2410, 2420, and 2430 printer

Component	98/Me	4.0	2000/XP ¹	XP 64
Drivers				
HP traditional PCL 5e and PCL 6 drivers	x	x		
HP PCL 5e and PCL 6 unidrivers			x	x
PS Emulation Unidriver			x	x
PS Emulation Driver	x	x		
HP Driver Preconfiguration	x	x	x	x
Installer				
Common Windows Installer	x	x	x	x
Customization Utility Wizard	x	x	x	x
CD Browser	x	x	x	x
Add Printer Wizard install	x	x	x	x
Web Registration	x	x	x	x

¹ This information also applies to Windows Server 2003.

2 Software description

Introduction

The HP LaserJet 2410, 2420, and 2430 printer comes with software and installers for Microsoft Windows and Apple Computer, Inc., Macintosh systems. Linux and UNIX systems are supported, and software is available on the Web. For information about specific system installers, drivers, and components, see the section that corresponds to that system.

This chapter contains information about the following topics:

- [Supported operating systems](#)
- [Technology background information](#)

Supported operating systems

The support for Windows operating systems (OSs) offers a full-featured configuration of the HP LaserJet 2410, 2420, and 2430 printers; support for OSs that are not described in this document offer varying levels of functionality. The HP LaserJet 2410, 2420, and 2430 printing-system software, including HP PCL 5e, PCL 6, and PS emulation drivers, supports the following OSs:

- Windows 98
- Windows Millennium Edition (Windows Me)
- Windows NT 4.0 (Service packs 3 through 6)
- Windows 2000 (Service packs 1 and 2)
- Windows XP Home Edition
- Windows XP Professional (Service pack 1 and greater)
- Windows Server 2003



NOTE Throughout this manual, Windows XP is used to denote Windows XP Home Edition, Windows XP Professional, and Windows Server 2003 unless noted otherwise.

The HP LaserJet 2410, 2420, and 2430 printing system software also supports the following operating environments:

- Mac OS 9 and Mac OS X (10.1 or later)
- Linux (available at www.hp.com/go/linuxprinting)
- UNIX (available at www.hp.com/go/jetdirectunix_software)
- Windows Terminal Server
- Citrix Terminal Server
- Windows Cluster Server 8
- HP OpenVMS (available at h71000.www7.hp.com/openvms/print/)
- Tru64 UNIX printing. For further information, go to h30097.www3.hp.com/printing/
- SAP printing. For further information, go to www.hp.com/go/sap/print
- OS/2

For more information about the HP LaserJet 2410, 2420, and 2430 printers, go to www.hp.com/support/lj2410 for the HP LaserJet 2410 printer, www.hp.com/support/lj2420 for the HP LaserJet 2420 printer, or www.hp.com/support/lj2430 for the HP LaserJet 2430 printer.

Technology background information

This section contains information about the following topics:

- [Driver Configuration](#)
- [HP Driver Preconfiguration](#)
- [Euro character](#)
- [HP Embedded Web Server](#)
- [HP Toolbox](#)
- [HP Web Jetadmin](#)
- [Bluetooth](#)
- [Remote firmware update](#)
- [Printing print-ready documents from a command line](#)
- [Driver-feature comparison in various operating systems](#)

Driver Configuration

The HP LaserJet 2410, 2420, and 2430 print drivers feature bidirectional communication technology which, in supported environments, provides automatic discovery and driver configuration for product accessories. Accessories that are automatically discovered and configured include the optional 500-sheet paper tray assembly (Tray 3), the duplexing unit for automatic two-sided printing, the printer memory, and the job-storage features.

Automatic discovery and driver configuration through bidirectional communication occurs in the following circumstances:

- Upon every installation of a print driver, when using Enterprise Autoconfiguration (EAC)
- When using the **Update Now** feature for a driver that is already installed

Bidirectional communication

In environments that support bidirectional communication, the computer communicates with the product during installation, determines the physical configuration, and then configures the driver accordingly.

Bidirectional communication is the capability of the product to respond to data inquiries from the computer and report back information, such as what type of print media is available or what accessories are connected to the product. If the connection does not have this capability (that is, if it has no bidirectional mode), it can only accept commands from the host and cannot report information back to the host computer.

Bidirectional communication depends on your network operating system and on the type of connection you have between your computer and the HP LaserJet 2410, 2420, and 2430 printers.

When you install the HP Toolbox, bidirectional communication is always enabled. Installing the HP Toolbox activates the HP Network Registry Agent (HPNRA) to ensure constant communication between your computer and the printer. When you install a driver without installing the HP Toolbox at

the same time, bidirectional communication is enabled only to configure the driver, and is then disabled unless the driver's **Update Now** feature is used to update the driver.

Enterprise AutoConfiguration

Enterprise AutoConfiguration (EAC) uses bidirectional communication to provide autoconfiguration functionality for installation of the print driver over a network, whether you use the installer on your printing-system software CD or the Add Printer wizard to install the driver. Driver installation that includes EAC is configured with the same settings as the physical configuration of the device. Configuration occurs without user interaction. If bidirectional-communication software has been installed previously, EAC is not activated, and the pre-existing bidirectional-communication software is used to configure the print driver.

If bidirectional communication software has not been installed, EAC installs bidirectional-communication software that allows it to communicate with the product and automatically match the print driver with the actual product configuration. EAC is activated during installation of the driver or whenever the Update Now feature is used.

If the configuration of the HP LaserJet 2410, 2420, and 2430 printer changes after installation, the driver can be automatically updated with the new configuration in environments that support bidirectional communication by using the Update Now feature. For example, if the HP LaserJet 2410, 2420, and 2430 printer is installed and an optional paper-handling accessory is added later, you can use the Update Now feature to query the product and update the settings to match the product's configuration.

The Update Now feature triggers the driver to recheck the registry for new information. The feature automatically updates the registry and changes the configuration information that appears on the **Configure** tab if you are using an HP traditional PCL 6 or PCL 5e driver, and on the **Device Settings** tab if you are using an HP PCL 6, HP PCL 5e, or HP PS emulation unidriver.



NOTE If you are using an HP PCL or PS Emulation Unidriver, you must select **Update Now** through the **Automatic Configuration** setting on **Device Settings** tab in the **Properties** section of the driver. If you are using an HP traditional PCL 6 or PCL 5e driver, you must click the **Update Now** button on the **Configure** tab in the **Properties** section of the driver. The Update Now feature is not available with the PS Emulation Driver.

The following tables show the availability of EAC for various operating systems and network environments that support bidirectional communication.

Table 2-1 EAC availability in Microsoft Windows and Microsoft Share

Method	Connection type		Microsoft Windows					Microsoft Share ¹	
			98	Me	NT 4.0	2000	XP	2000/XP host with 2000/XP client	NT 4.0 host with NT 4.0 client
Installer	Direct connect	Parallel							
		USB							
	Network	Jetdirect	TCP/IP	x	x	x	x	x	x ²
			IPX/SPX	x	x	x	x	x	x ²

Table 2-1 EAC availability in Microsoft Windows and Microsoft Share (continued)

Method	Connection type		Microsoft Windows					Microsoft Share ¹		
			98	Me	NT 4.0	2000	XP	2000/XP host with 2000/XP client	NT 4.0 host with NT 4.0 client	
	Standard	TCP/IP (HP)	x	x	x	x	x	x	x ²	
		TCP/IP (MS)	x	x	x	x	x	x	x ²	
		IPX/SPX (HP)	x	x	x	x	x	x	x ²	
Add Printer	Direct connect	Parallel								
		USB								
	Network	Jetdirect	TCP/IP	x	x	x	x	x	x	
			IPX/SPX	x	x	x	x	x	x	x ²
		Standard	TCP/IP (HP)	x	x	x	x	x	x	x ²
			TCP/IP (MS)				x	x	x	x ²
		IPX/SPX (HP)	x	x	x	x	x	x ²		

¹ This column represents the following Microsoft Share configurations: Windows 2000, Windows XP, or Windows Server 2003 host with Windows NT 4.0, Windows 98, or Windows Me client; Windows NT 4.0 host with Windows 2000, Windows XP, Windows 2003, Windows 98, or Windows Me client; Windows 98 or Windows Me host with any client.

² In this environment, client machines use Point and Print to download the configured driver from the host.

Table 2-2 EAC availability in Novell Netware environments

Method	Connection type		Novell				
			Netware 4.x		Netware 5.x		
			Bindery queue	NDS queue	Bindery queue	NT 4.0	
Installer	Direct connect	Parallel					
		USB					
	Network	Jetdirect	TCP/IP	x	x	x	x
			IPX/SPX				
		Standard	TCP/IP (HP)				
			TCP/IP (MS ¹)				
		IPX/SPX (HP)					

¹ Bidirectional functionality is supported only with the client software from Novell. It is not supported with Microsoft (MS) Client Service for NetWare.

HP Driver Preconfiguration

HP Driver Preconfiguration is a software architecture and set of tools that permits HP printing-system software to be customized and distributed in managed corporate printing environments. Using HP Driver Preconfiguration, information technology (IT) administrators in corporate and enterprise environments can preconfigure the printing and device defaults for HP print drivers before installing the drivers in the network environment.

HP Driver Preconfiguration is most beneficial when configuring print drivers for multiple workstations or print servers for print queues that share the same configuration. Two types of features can be configured: device settings and printing-preferences settings. The driver is configured to match the product hardware so that gaining access to all of the product accessories through the driver is enabled correctly (for example, for duplexing units and additional input trays). Most driver feature settings can also be configured.

HP Preconfiguration configures the driver to match the accessories installed on the product, or to match the settings that IT administrators make in the configuration (.CFG) file (for example, optional trays, total amount of memory, job-storage settings, or mopier settings).

The preconfiguration process consists of three basic steps: driver acquisition, driver preconfiguration, and driver installation and deployment. These steps can be accomplished in different ways, depending on the tool that is being used to define the configuration.

The configuration process for driver preconfiguration is supported through three distinct tools. All three are designed with the same basic user interface controls for interacting with the configuration (.CFG) file, but are packaged differently, either to support established product installation workflows or to leave the deployment and installation of the driver entirely up to the user. The following tools support driver preconfiguration:

- **HP Driver Configuration Editor.** The HP Driver Configuration Editor is a small, standalone Windows software program that the administrator can use to open the .CFG file that is associated with a particular driver and make modifications that are applied when that driver is installed on the target computer. It is intended for use in environments that have an established process for deploying drivers. This is the preconfiguration tool of choice to support any Novell or HP Print Server Appliance (PSA) Point and Print environments. It is used in the way that any ordinary Windows software program is used.

The HP Driver Configuration Editor is available from www.hp.com/go/hpdpc_sw.

- **The HP Web Jetadmin Driver Configuration Plugin.** HP Web Jetadmin provides a queue-creation program that can be used to create printer queues on any Windows NT 4.0, Windows 2000, Windows XP, or Windows 2003 server or workstation. The HP Web Jetadmin Driver Configuration Plugin adds a number of screens to the existing queue-creation workflow from which the drivers that are being installed for the queues can be customized as part of the process. The plug-in is limited to Internet Explorer browsers. Netscape Navigator™ is not supported.

The HP Web Jetadmin Driver Configuration Plugin is available from www.hp.com/sbso/tpm/web_jetadminplugin.html.

- **HP Customization Utility/Silent Installer.** The Customization Utility features an install-time mode of HP Driver Preconfiguration. IT administrators can use the utility to preconfigure the drivers for a printing-system software driver installation that uses the silent installer.

Detailed information about gaining access to and installing these tools can be found in the *HP Driver Preconfiguration User Guide*, which is available on the printing-system software CD.

Lockable features

The following driver features can be locked to prevent end-users from changing settings:

- **Print on Both Sides (Duplex)**
- **Media Type**
- **Paper Source**

When a feature is locked, the selected default option is the only option that is available to users. Generally, the feature is unavailable in the driver user interface after it has been installed.

Continuous export

The term "continuous export" refers to the ability of the driver to copy the latest driver settings back to the working copy of the preconfiguration file. Using this feature, the exported values can be transferred when a compatible version of the driver is used to upgrade the print driver. For instance, if orientation is set to **Landscape** in an installed version of the HP LaserJet 2410, 2420, and 2430 PCL 6 driver for Windows NT 4.0, then the orientation setting in the newly upgraded HP LaserJet 2410, 2420, and 2430 HP PCL 6 Unidriver or HP Traditional PCL 5e Driver for Windows XP and Windows Server 2003 is automatically set to "Landscape." The continuous export feature functions transparently from the user's perspective and works only between drivers of identical product models.



NOTE Not all of the driver parameters can be exported; however, the list is always the same for those that can be preconfigured.

The following table shows drivers and operating systems that support HP Driver Preconfiguration.

Table 2-3 Operating systems that support HP Driver Preconfiguration

Driver	Windows 98	Windows Me	Windows NT 4.0	Windows 2000	Windows XP ²
HP Traditional PCL 6 Driver	Yes	Yes	Yes	N/A ¹	N/A
HP Traditional PCL 5e Driver	Yes	Yes	Yes	Yes	Yes
PS Emulation Driver	No	No	No	N/A	N/A
HP PCL 6 Unidriver	N/A	N/A	N/A	Yes	Yes
HP PCL 5e Unidriver	Yes	Yes	Yes	Yes	Yes
PS Emulation Unidriver	N/A	N/A	N/A	Yes	Yes

¹ N/A: Not applicable; the driver is not supported in this operating system.

² This information also applies to Windows Server 2003.

HP Driver Diagnostic Printer Check tool



NOTE This tool will become available after product release.

The HP Driver Diagnostic Printer Check tool is a Web-based diagnostic software that enables you to determine whether you are using the correct and most current print driver for your HP LaserJet 2410, 2420, and 2430 printer. To access the HP Driver Diagnostic Printer Check tool, go to <http://www.hp.com/go/drivercheck>, or go to the HP Business Support Center (BSC) at <http://www.hp.com/go/bsc>, select the **self-help resources** link on the left navigation bar, and then select **automatic driver checker** to run the HP Driver Diagnostic Printer Check tool.

When you run the HP Driver Diagnostic Printer Check tool, you are presented with a list of products that are currently installed on your computer. Select the HP product that you would like to check and the HP Driver Diagnostic Printer Check tool gathers information about your product, drivers, and system setup. The data gathered is used for diagnosing your software driver configuration and for checking your print driver update needs. The tool will then verify whether you are using the latest driver, inform you if you are using an incorrect driver for your HP product, and let you know if there is an updated driver version available for your product. If there is an update available, the tool enables you to download and install the latest driver version by clicking on it.

The data gathered by the HP Driver Diagnostic Printer Check tool is stored anonymously for analysis and continuous improvement of HP diagnostic tools. No private data is needed or accessed on your computer.

HP Printer Access Tool



NOTE This tool will become available after product release.

The HP Printer Access Tool is a Web-based application that provides a single point of access to the embedded Web server pages for each networked product in the user's local print folder, making it easy to remotely manage the products in an unmanaged network environment without affecting performance or reliability. For more information about the HP Embedded Web Server, see the [HP Embedded Web Server](#) section of this guide.

To access the HP Printer Access Tool, follow these steps:



NOTE The HP Printer Access Tool must be selected during installation to be available.

- 1 Select **Start**.
- 2 Select **Programs**.
- 3 Select **HP LaserJet 2410, 2420, and 2430**, and then select **HP Printer Access Tool**.
- 4 Click on the appropriate product name to access the EWS pages for that product.

Euro character

The euro is the name for the currency of the European Union (EU). This unit was launched on January 1, 1999. The euro has changed the way business is conducted in Europe and has affected every company and industry in the world. It is vital that companies understand and prepare for the changes the euro brings.

The HP LaserJet 2410, 2420, and 2430 printer includes euro characters for each of the internal fonts. The product can print the euro character in the Windows 98, Windows Me, Windows NT 4.0, Windows 2000, Windows XP, and Windows Server 2003 operating systems. Hewlett-Packard is committed to maximizing document portability through supporting and promoting euro-symbol standards.

HP Embedded Web Server and HP Toolbox

HP embedded Web server (HP EWS) and HP Toolbox are both tools that can be used to remotely configure products on a network. Both HP EWS and HP Toolbox are used with a Web browser and they have a similar look and feel. Many of the pages in HP EWS are nearly identical to HP Toolbox pages. However, there are several key differences between the two utilities:

- HP Toolbox is used to manage the products that are installed on the client machine where HP Toolbox is installed. HP Toolbox gets the address of the printers from the registry entry of the port that the printer is using.
- HP Toolbox can also be used to manage locally connected products.
- To access HP EWS the user just needs to know the transmission control protocol/Internet protocol (TCP/IP) address of the product. No software needs to be installed on the user's computer.
- For most products, HP EWS can be directly accessed only when both product and computer are equipped with network cards (or some form of network connection). In these cases the Web browser directly accesses the product's TCP/IP address. The only Web pages available are those that are served from the product.
- HP Toolbox supports network and direct connect forms of printer connectivity. The browser directs itself to a locally hosted TCP/IP service that monitors the printing port (be it network or direct connect). HP Toolbox Web pages are generated through a combination of locally installed Web content and data that is retrieved from the product. These Web pages also facilitate product control. On some products, HP Toolbox provides a link to the printer's HP EWS page, but these are not accessed directly through the browser, but rather through the locally hosted TCP/IP service.
- Toolbox provides the **Select Device** page, which is used to choose which of the locally installed devices to manage (if more than one has been installed).

The HP EWS and HP Toolbox utilities are described in detail in the following sections.

HP Embedded Web Server

The HP EWS is a standard feature for the HP LaserJet 2420d, 2420n, 2420dn, 2430t, 2430tn, and 2430dtn printers. It is not supported for HP LaserJet 2410 and 2420 printers.

The HP EWS provides a simple, easy-to-use solution for one-to-one product management. In offices that have a limited number of products, remote management of printing devices can be accomplished without installing any management software, such as HP Web Jetadmin. The only requirement is that the management console have a supported Web browser.

In environments with a larger number of products, where one-to-one management is impractical, the HP EWS and HP Web Jetadmin work together to provide scalable remote product management. Use HP Web Jetadmin for consolidated management tasks, when you want to perform operations on a selected set of products instead of on individual products. For such environments, HP provides hooks between the HP EWS and HP Web Jetadmin so that you can configure HP EWS features on multiple products in one operation. For example, you can set the security password for the HP EWS simultaneously on a cluster of products.

For additional information and a copy of the *HP Embedded Web Server User Guide*, go to www.hp.com/support/lj2410 for the HP LaserJet 2410 printer, www.hp.com/support/lj2420 for the HP LaserJet 2420 printer, or www.hp.com/support/lj2430 for the HP LaserJet 2430 printer.

To view information about the product by using the HP EWS, open a supported Web browser and type in the product TCP/IP address or host name. To find the TCP/IP address, look for **IP Address** on the enhanced input/output (EIO) Jetdirect page, in the **TCP/IP** section. To find the host name of the product, look for **Host Name** in the **TCP/IP** section.

You also can view information about an installed HP Jetdirect print server by clicking the **Networking** tab in the HP EWS window.

To print a copy of the EIO Jetdirect page from the control-panel display, follow these steps:

- 1 Press the **SELECT** button (the one with the check mark) to open the menus.
- 2 Press the up and down buttons to scroll to **INFORMATION**, and then press the **SELECT** button.
- 3 Press the up and down buttons to scroll to **PRINT CONFIGURATION**.
- 4 Press the **SELECT** button to print the configuration page.
- 5 Look in the configuration page section marked "TCP/IP" for the TCP/IP address. (The EIO Jetdirect page is the second page of the configuration page printout.)

The HP EWS frame

Each screen in the HP EWS has a frame that contains a top banner, three category tabs, a left-aligned navigation menu bar, and a main-content area. Selecting one of the category tabs causes the corresponding left-aligned navigation bar to appear. The left-aligned navigation menu includes links to content that is appropriate for that tab. The main-content area shows information and opens options in response to navigation tab selections and menu bar selections.

See the following sections for more information about each tab or area:

- [Information tab](#)
- [Settings tab](#)
- [Networking tab](#)

Information tab

The following information is available on the HP EWS **Information** tab. To view the information, click the menu items on the left side of the HP EWS **Information** tab.



NOTE If an HP EWS password has been set, the **Information** tab is the only tab that is visible until the user logs in. See [Security](#) for more information.

Not all of the screens on the tab are shown in this document. For more information, see the *HP Embedded Web Server User Guide*.

- **Device Status screen.** This screen provides current status information about the product.
- **Configuration Page.** This screen provides information about the configuration of the product.
- **Supplies Status.** This screen provides information about the print cartridge and the total pages that have been printed, and the serial number of the product.
- **Event log.** This screen provides information about reported product errors.

- **Usage page.** This screen provides a page count for each size of media that has passed through the device, as well as the number of duplexed pages.
- **Device Information.** This screen shows device information, such as the product TCP/IP address and serial number.
- **Control Panel.** This screen shows the product control panel.
- **Print.** You can use this screen to print documents that are print-ready, such as those generated by a "print to file" driver option, .PCL documents, .PS documents, .PDF files, and text (.TXT) files.

Links to off-product solutions

Links on the HP EWS screens provide an easy way to locate information or complete tasks.

- **hp instant support.** This link connects you to a set of dynamic Web resources that help you solve specific problems and determine additional services that might be available for your device. Specific status and configuration information about the product is retained and directed to the "Solve a Problem" Web site. This site offers targeted support content and messages to help resolve problems as quickly as possible.
- **Order Supplies.** This link connects you to an HP product supplies screen from which you can order genuine HP supplies for your product.
- **Product Support.** This link connects to an HP product-support screen from which you can search for information, contact the HP customer care home page, or find additional resources for your product.

Device Status screen

Status information, such as whether the product is online or the toner is low, is available through your Web browser on a computer that is linked directly to the product. You can view this information without physically going to the product to identify the status. The following illustration shows how this information is presented on the product Web page.



Information

Settings

Networking

- Device Status
- Configuration Page
- Supplies Status
- Event Log
- Usage Page
- Device Information
- Control Panel
- Print

Other Links

- [hp instant support](#)
- [Order Supplies](#)
- [Product Support](#)
- [My Service Provider](#)
- [My Service Contract](#)

Device Status

Sleep mode on



Pause/Resume



Continue

Supplies

Toners: (% remaining)

Black Cartridge 98%
Q6511X



[Supplies Details](#)

Media

Input/Output

Tray 1
Tray 2

Status

Empty
 OK

Size

ANY SIZE
LETTER

Type

ANY TYPE
ANY TYPE

[Change Settings](#)

Capabilities

```

Printer Serial Number: XXXXXXXXXX
Firmware Datecode: 20040709 08.003.0
Duplex: OFF
Mopier: ON
1: TRAY 1, 100 Sheets
2: TRAY 2, 250 Sheets
RAM DISK Storage: 146 MB Capacity

```

Figure 2-1 Information tab – Device Status screen

Configuration Page

You can gain access to the HP LaserJet 2410, 2420, and 2430 printer configuration page remotely through the HP EWS. The HP EWS **Configuration Page** screen provides configuration information about the product in the same way as the configuration page that is printed from the product. The following illustration shows an example of a configuration page viewed remotely through the HP EWS.

hp LaserJet 2430 / 63.230.114.59
hp LaserJet 2430

Information Settings Networking

Configuration Page

Printer Information

Product Name:	hp LaserJet 2430
Printer Name:	hp LaserJet 2430
DC Controller:	7
Model Number:	CXXXXA
Printer Serial Number:	XXXXXXXXXX
Formatter Number:	S46XXXXXXXX
Firmware Datecode:	20040709 08.003.0
Service ID:	00000
PS Wait Time-out:	300 seconds
Page Count:	620

Installed Personalities and Options

PCL	(20010402)
PCLXL	(20010402)
POSTSCRIPT	(20010402)
PDF	(20021216)
DMM Slot 1:	Empty
DMM Slot 2:	256 MB DDR
Card Slot 1:	Empty
Card Slot 2:	Empty
EIO 1:	Empty
Embedded JetDirect	HP JetDirect J7949E
RAM DISK Storage:	146 MB Capacity

Memory

Total RAM:	256 MB
DWS:	115.00

Automatic Resource Saving Enabled

Security

Control Panel Lock:	NONE
Control Panel Password:	DISABLED
Device Type - RAM DISK:	Write Protect: DISABLED
File System Access:	
P.LJ:	ENABLED
P.M.L:	ENABLED
N.F.S:	ENABLED
PostScript:	ENABLED

Paper Trays and Options

Default Paper Size:	LETTER
Tray 1 Size:	ANY SIZE
Tray 1 Type:	ANY TYPE
Tray 2 Size:	LETTER
Duplex Unit:	

Internal

Input Trays:

- 1: TRAY 1, 100 Sheets
- 2: TRAY 2, 250 Sheets

Output Bins:

- 1: STANDARD TOP BIN, 125 Sheets, Face Down

Figure 2-2 Information tab – Configuration Page

Settings tab

The following information is available on the HP EWS **Settings** tab. To view the information, click the menu items on the left side of the HP EWS **Settings** tab. The **Settings** tab is shown in the [Configure device](#) section.

Not all of the screens on the tab are shown in this document. For more information, see the *HP Embedded Web Server User Guide*.

- **Configure Device.** Use the **Configure Device** screen to print product information pages and configure the product remotely.
- **E-mail Server.** Use the **E-mail Server** screen to configure e-mail settings for outgoing alert e-mail messages.
- **Alerts.** IT administrators can set up the product to send alerts to anyone through e-mail messages.
- **AutoSend.** Use the **AutoSend** screen to send product configuration and supplies-usage information periodically to your service provider.
- **Security.** Use the **Security** screen to manage security on the product.
- **Edit Other Links.** Use the **Edit Other Links** screen to add or customize up to five links to the Web sites of your choice.
- **Device Information.** Use the **Device Information** screen to provide a name of your choice for the product, assign an asset number, and configure the company name, the person to contact about the product, and the physical location of the product.
- **Language.** Use the **Language** screen to select the language in which the HP EWS screens appear.
- **Date & Time.** Use the **Date & Time** screen to set the correct date and time for the product.
- **Wake Time** Settings on the **Wake Time** screen can be set to wake the product up at a certain time on a daily basis. There can only be one wake time setting per day; however, each day can have a different wake time. The sleep mode delay can also be set on this page.

Configure device

You can obtain product configuration information through a Web browser by opening the HP EWS screen and changing the basic configuration information on the **Settings** tab. Security and password controls give management information system managers the level of control that they require within their network environments. The following illustration shows an example of product options that can be configured remotely.



Figure 2-3 Settings tab – Configure Device screen

Alerts

The product can automatically send e-mail alerts about printing problems or job status to specified e-mail addresses. For example, if toner is low, the product can notify the person who is responsible for ordering or changing the toner. If a product failure occurs, the product can send an e-mail alert directly to the person who is responsible for fixing the problem. These e-mail alerts can be configured to be sent to any device that can accept e-mail, such as digital phones, pagers, and personal digital assistants (PDAs). In large environments, administrators can route e-mail addresses to list-servers or uniform resource locators (URLs) for expanded notification.

hp LaserJet 2430 / 63.230.114.59
hp LaserJet 2430

Information Settings Networking

Configure Device
E-mail Server
Alerts
AutoSend
Security
Edit Other Links
Device Information
Language
Date & Time
Wake Time

Alerts - setup

Step 1: Type the alert destination

Type the alert destination in any of the following forms:
 An e-mail address (e.g., your-name@your-company.com)
 A mobile device (e.g., 208-555-5555@mobile-company.net)
 A posting to a website (e.g., <http://www.your-server.com>)

Alert Destination:

Step 2: Select Alerts

Select the alerts that you would like the alert destination to receive. The most common alerts are listed here.

Alert Name	Selected	Threshold*
Order Cartridge	<input type="checkbox"/>	20 (0-20) percent
Replace Cartridge	<input type="checkbox"/>	
Non-HP Supply Installed	<input type="checkbox"/>	
Remove Paper Jam	<input type="checkbox"/>	
Close Drawers, Doors And Covers	<input type="checkbox"/>	

* Changes to threshold values apply to all destinations for this device.

Additional Alerts

To view all of the alerts for this product, click the **Show All Alerts** button.

Note: Clicking this button saves your current changes and opens the page that lists all of the alerts options.

Step 3: Select e-mail attachments (optional)

Select the attachments that you want to include with each e-mail alert message. Go to the **Information** tab to see examples of these pages.

Supplies Status Page
 Usage Page
 Configuration Page
 Event Log Page

Select this option if the alert destination you have chosen to receive alerts is an automated computer system.

XML Data

Figure 2-4 Settings tab – Alerts screen

Security

The HP EWS screens that appear, and the settings on them, vary according to how you gain access to the HP EWS: as a general user, an IT administrator, or a service provider. To control access to the HP EWS screens, a password can be set on the **Security** page.



Figure 2-5 Settings tab – Security screen

In a password-protected HP EWS, only the **Information** tab is available to users who do not log in by using the password. If no password has been set (which is the default), all of the tabs are visible.

If a password has been set, you must log on as an IT administrator or a service provider to gain access to the protected HP EWS tabs (**Settings**, **Digital Sending**, and **Networking**).

Networking tab

The following options are available on the HP EWS **Networking** tab.

Not all of the screens on the tab are shown in this document. For more information, see the *HP Embedded Web Server User Guide*.

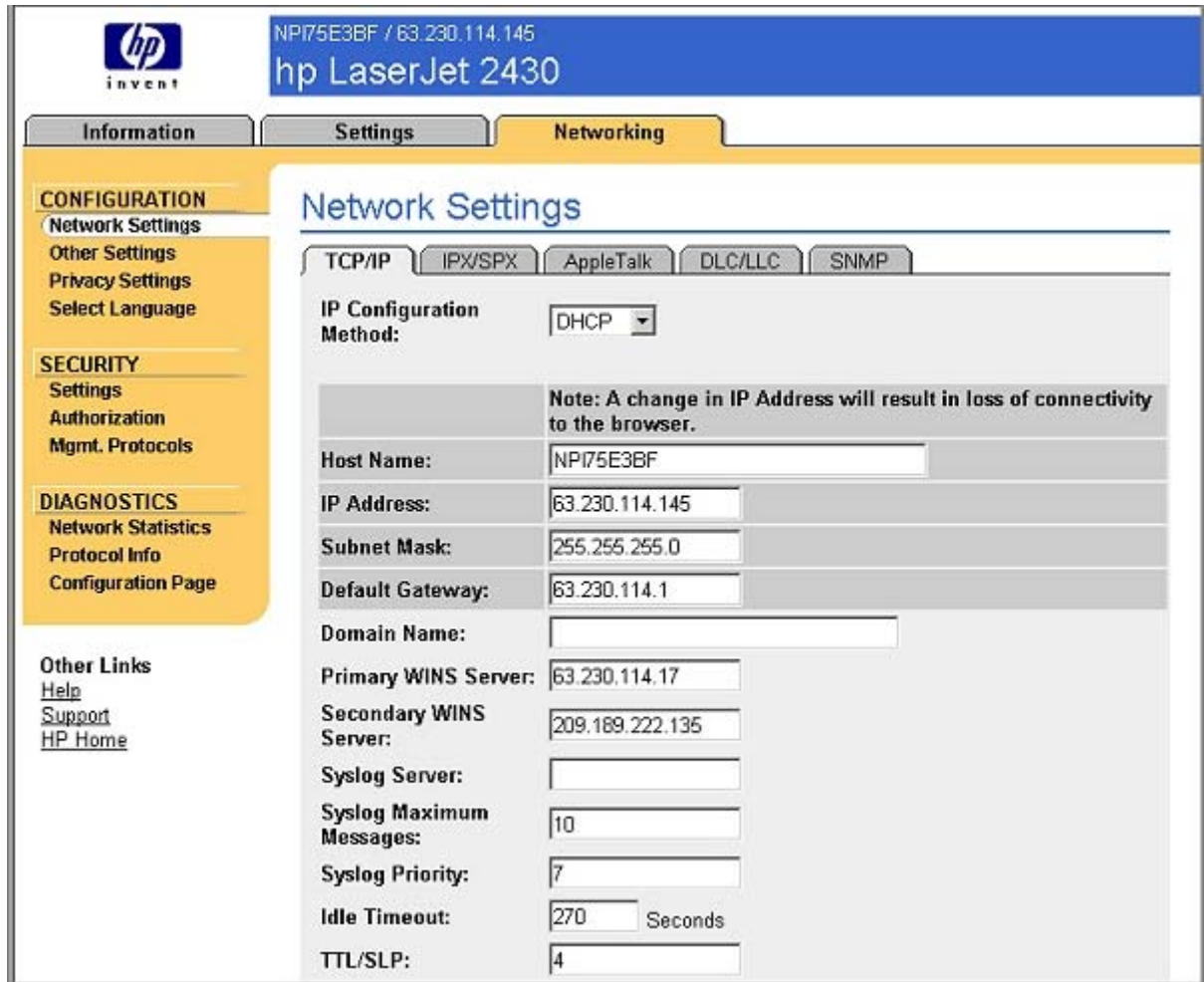


Figure 2-6 Networking tab - Configuration section

The menu on the left side of the screen contains other networking options under three categories: configuration, security, and diagnostics. For more information, see the *HP Jetdirect Administrator's Guide*.

Configuration section

- Network Settings
- Other Settings
- Privacy Settings
- Select Language

Security section

- Settings
- Authorization
- Mgmt. Protocols

Diagnostics section

- Network Statistics
- Protocol Info
- Configuration Page

Network settings

From the **Networking** tab, you can enable and configure the following network protocols:

- TCP/IP
- Internetwork packet exchange/Sequenced packet exchange (IPX/SPX)
- AppleTalk
- Data link control/logical link control (DLC/LLC)
- Simple network management protocol (SNMP)

HP Toolbox

The HP Toolbox is a series of Web pages and supporting software tools that provide access to the HP LaserJet 2410, 2420, and 2430 printer embedded Web servers and other firmware functions, making them available on a browser-driven user interface where product properties can be viewed and manipulated.

The HP Toolbox provides links to product status information, help information, and tools for diagnosing and solving problems. The HP Toolbox also provides product status and settings information from the embedded Web server, by clicking the **Device Settings** button in the upper-right corner of each of the four tabs.



NOTE Because HP EWS is not supported for HP LaserJet 2410 and 2420 (base model) printers, the link to the embedded Web server will not be functional for these printer models.

HP Toolbox requirements

HP Toolbox requires one of these recent Internet browsers in order to show embedded Web server pages:

- Microsoft Internet Explorer 5.5 or later (Internet Explorer 5.1 or later for Macintosh)
- Netscape Navigator 7.0 or later (Netscape Navigator 7.0 or later for Macintosh)
- Opera Software ASA Opera 7.0 for Windows
- Safari 1.0 software for Macintosh

These browser requirements are not necessarily minimum standards, but they are the minimum tested environments. Other, untested browsers might also provide access to the HP Toolbox screens.

The HP Toolbox is supported only for Windows 98 and later operating systems (Windows Me, Windows 2000, Windows XP, and Windows Server 2003). You must have performed a complete software installation in order to use the HP Toolbox.

When the HP LaserJet 2410, 2420, and 2430 printer is connected both through a network using an HP Jetdirect card and through a local parallel or USB connection, the network connection takes precedence. On a network connection, bidirectional communication is supported through a TCP/IP connection. When the product is connected using both a parallel and a USB connection, the parallel connection takes precedence, and the USB connection is disconnected.

Installing HP Toolbox

To install HP Toolbox, perform a custom installation and select **hp LaserJet toolbox** from the Setup dialog.



NOTE It is necessary to install HP Toolbox for each product, even when HP Toolbox is currently in use for other products.

Uninstalling HP Toolbox



NOTE This feature will become available after product introduction.

You can uninstall HP Toolbox without uninstalling the rest of the HP LaserJet 2410, 2420, and 2430 print driver software. To uninstall HP Toolbox, follow these steps:

- 1 Click **Start**.
- 2 Click **Programs**.
- 3 Click **HP LaserJet 2410, 2420, and 2430** and select **Uninstall hp LaserJet Toolbox**. The uninstall dialog will appear.

To view the HP Toolbox

To open the HP LaserJet 2410, 2420, and 2430 Toolbox, on the **Start** menu, point to **Programs**, point to **hp LaserJet 2410 2420 2430**, and then click **hp LaserJet toolbox**.

The HP Toolbox opens in your Web browser. The HP Toolbox software contains four tabs:

- the **Status** tab
- the **Troubleshooting** tab
- the **Alerts** tab
- the **Documentation** tab

These tabs are on local browser screens that are installed when you install the HP Toolbox, and you do not need an Internet service provider to view them.

The HP Toolbox also contains an area with links to the HP Web site. While you do not need to have Internet access to open and use the HP Toolbox, you must have Internet access in order to gain access to the sites that are associated with the links in the Other Links area.

If your computer is connected to the HP LaserJet 2410, 2420, and 2430 printer through a network, you can bookmark the URL of the HP Toolbox so that you can return to it quickly in the future.

The HP Toolbox Frame

Each screen in the HP Toolbox has a frame that contains a top banner, four category tabs, a left-aligned navigation menu bar, and a main-content area. Selecting one of the category tabs causes the corresponding left-aligned navigation bar to appear. The left-aligned navigation menu includes links to the content that is appropriate for that tab. The main-content area shows information and options in response to selections that you make on an HP Toolbox screen.

See the following sections for more information about each tab or area:

- [Top banner](#)
- [Status tab](#)
- [Troubleshooting tab](#)
- [Alerts tab](#)
- [Documentation tab](#)
- [Other Links](#)

Top banner

The top banner has an HP logo. Next to the HP logo, the title of the page appears followed by the product name and a copyright notice. The top banner is the same for all of the HP Toolbox Web pages. The HP logo contains a link to the HP Web site (www.hp.com).

Status tab

The **Status** tab, with the **Device Status** setting selected, is shown in the following illustration.



NOTE Because HP EWS is not supported for HP LaserJet 2410 and 2420 (base model) printers, the Toolbox **Status** tabs is also not available for these printers. Only the **Troubleshooting**, **Alerts**, and **Documentation** tabs will appear.

HP LaserJet 2410/20/30 - 63.230.114.59 - HP LaserJet 2430 PCL 6
toolbox Device Settings

About toolbox

Status Troubleshooting Alerts Documentation

Device Status

Device Status
 Supplies Status
 Print Info Pages

toolbox Links
[Select a device](#)
[View current alerts](#)
[Text only page](#)

Other Links
[hp instant support](#)
[Product Registration](#)
[Order Supplies](#)
[Product Support](#)

Device Status

Sleep mode on

Pause/Resume Continue

Supplies

Toners: (% remaining)

Black Cartridge 98%
 06511X

[Supplies Details](#)

Media

Input/Output	Status	Size	Type
Tray 1	Empty	ANY SIZE	ANY TYPE
Tray 2	OK	LETTER	ANY TYPE

Figure 2-7 Toolbox **Status** tab

The **Status** tab provides the following options:

- **Device Status.** This screen shows the percentage of life remaining for each consumable, the status and configuration information for the input trays and output bins, and the accessories that are installed on the product.
- **Supplies Status.** This screen shows the levels remaining for all consumables and the HP part numbers for each consumable. It is helpful to have the part numbers available when it is time to order supplies.
- **Print Info Pages.** Print the configuration page and various other information pages that are available for the product, such as the configuration page, the Supplies Status page, and the Menu Map.
- **toolbox Links.** Select a device, view current alerts, or view the HP Toolbox Web site in text-only format (without graphics).
- **Other Links.** For information about these links, see [Links to off-product solutions](#) in the [HP Embedded Web Server](#) section of this guide.

Troubleshooting tab

The navigation bar on the **Troubleshooting** tab contains links to the information pages of the product. (Some of these pages are also available from other sources, such as the HP Embedded Web Server or the product itself.) From the **Troubleshooting** tab, you can view the following screens:

- **Print Quality Tools**
- **Maintenance**
- **Error Messages**
- **Paper Jams**
- **Supported Media**
- **Printer Pages**



NOTE Netscape users must download a plug-in so that product management features can operate correctly. A link and instructions are provided in the Other Links section. After you click a link, a pop-up window appears that provides information and instructions about how to locate this plug-in.

Print Quality Tools

The **Print Quality Tools** screen, shown in the following illustration, provides options for general troubleshooting and Print Quality Troubleshooting Pages.

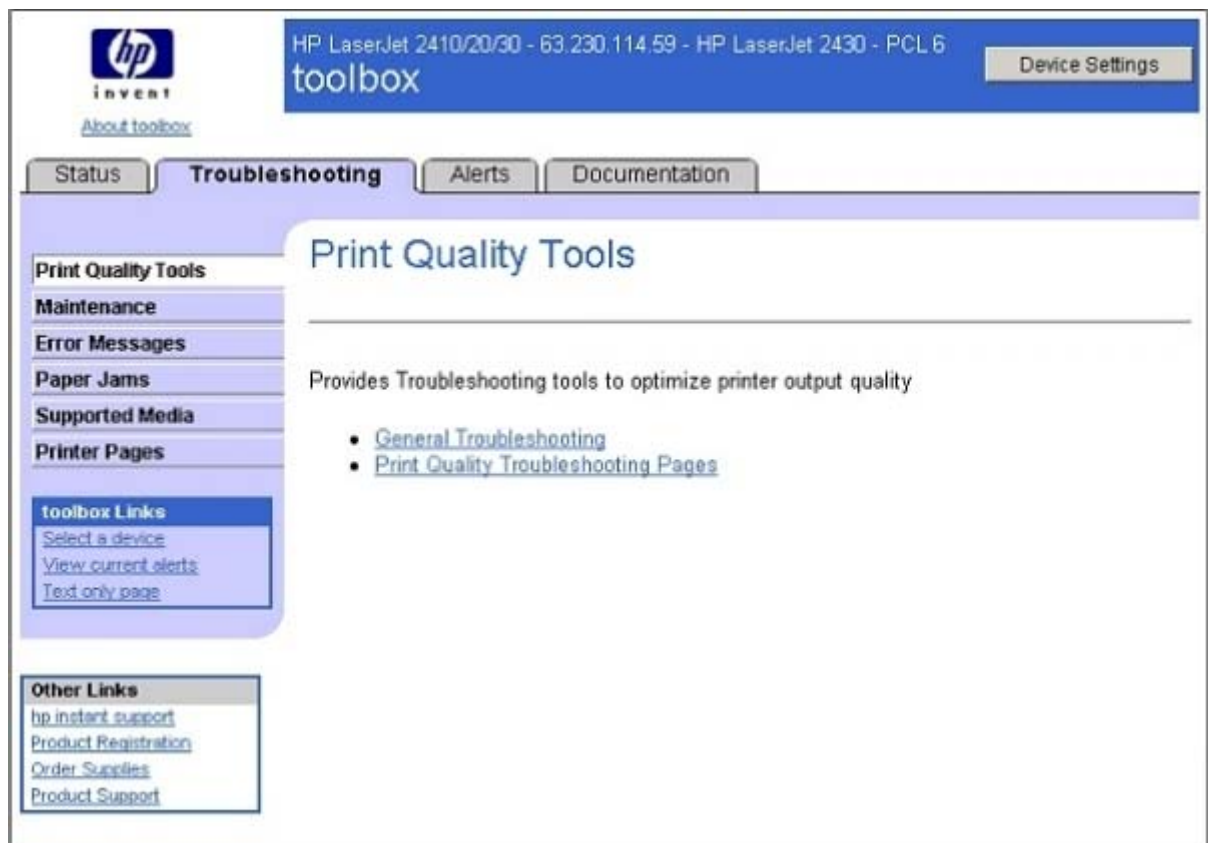


Figure 2-8 Troubleshooting tab – Print Quality Tools

Maintenance

The **Maintenance** tab is shown in the following illustration.



Figure 2-9 Troubleshooting tab – Maintenance page

The **Maintenance** screen contains information about managing and replacing print cartridges.

Error Messages

The **Interpreting control panel message** screen, which appears when you click **Error Messages** and then select **Interpreting control-panel messages**, is shown in the following illustration.



Figure 2-10 Troubleshooting tab – Interpreting control-panel messages

The **Interpreting control panel messages** screen lists messages that might appear in the control panel on the product or in the toolbox.



NOTE This illustration is provided as an example only. The complete screen is not shown.

Paper Jams

The **Paper jams** screen is shown in the following illustration.



Figure 2-11 Troubleshooting tab – Paper Jams page

Click the **Typical jam locations** on the **Paper Jam Option** screen to see the internal paper path and potential jam locations.

Supported Media

The **Supported Media** screen is shown in the following illustration.

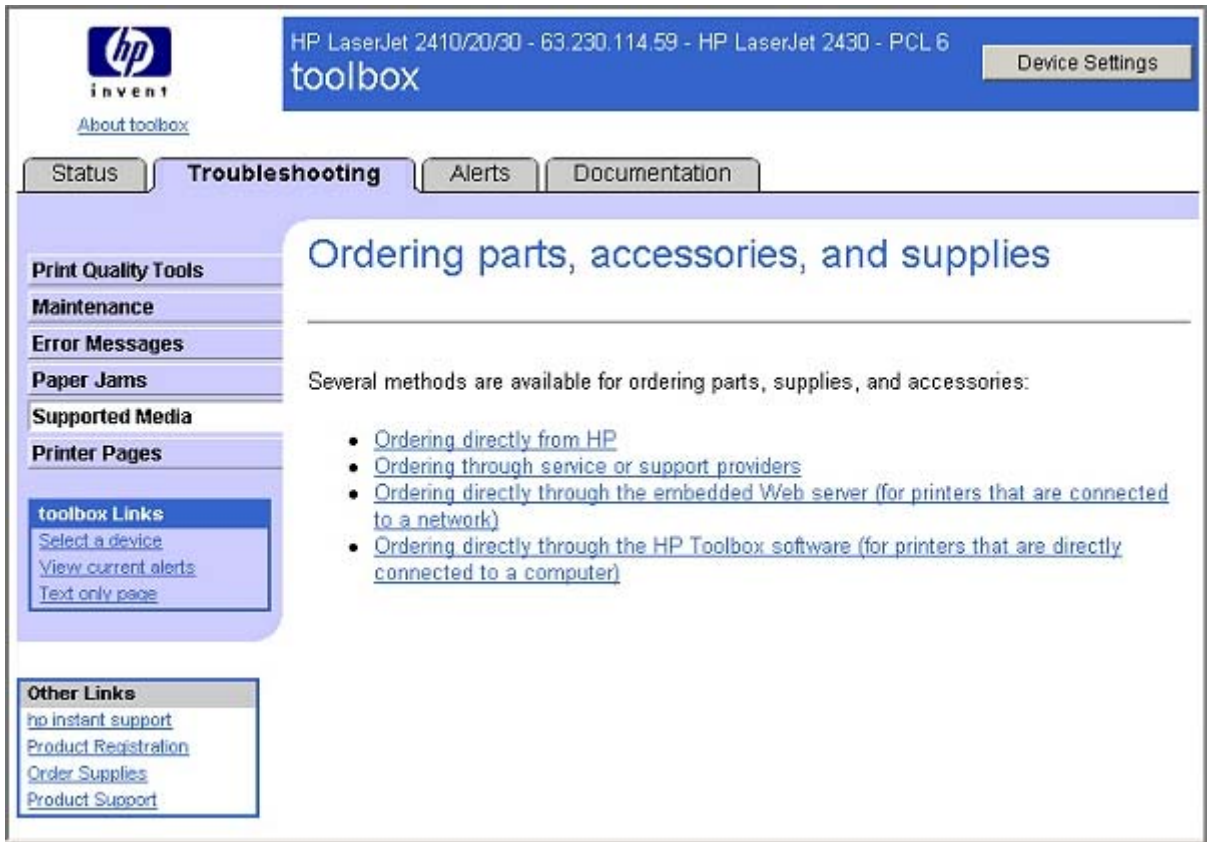


Figure 2-12 Troubleshooting tab – Supported Media page

The **Supported Media** screen has instructions for ordering product parts, accessories and supplies.

Printer Pages

The **Printer Pages** screen is shown in the following illustration.

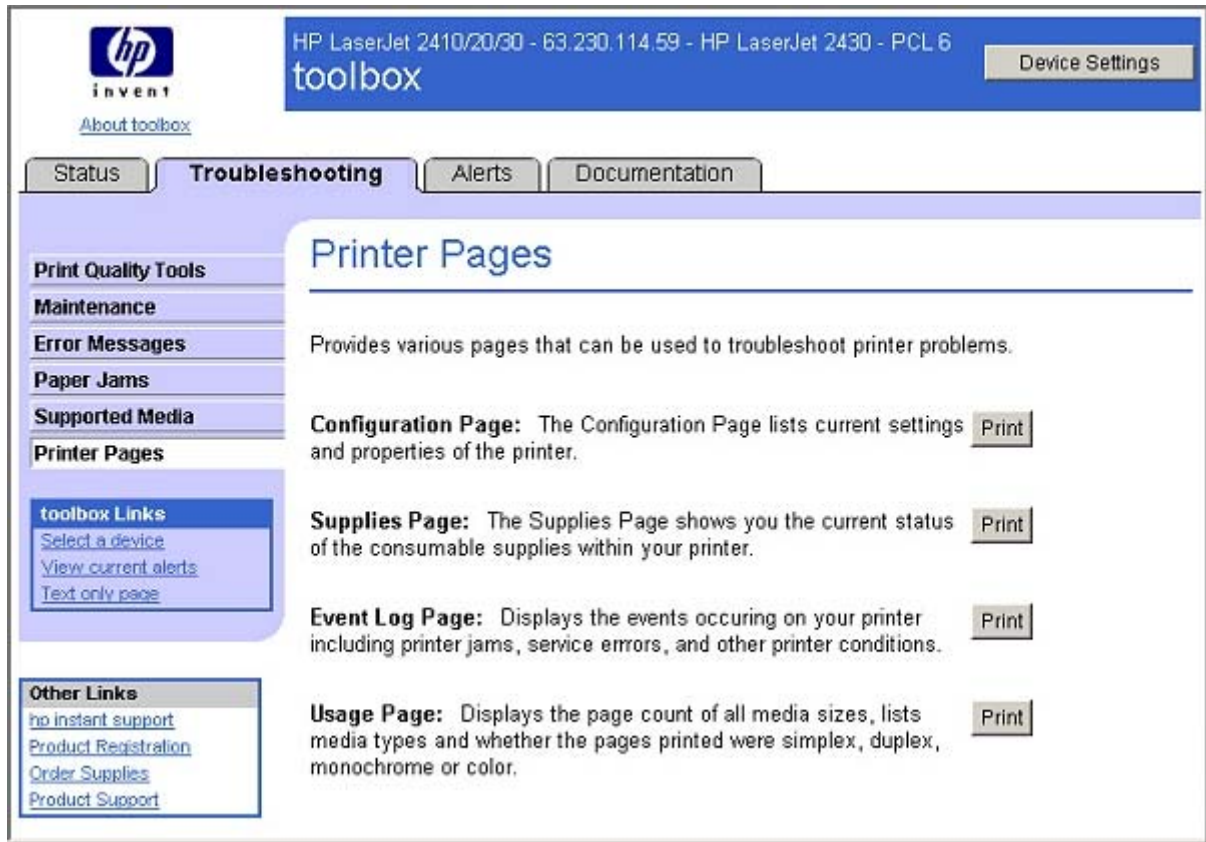


Figure 2-13 Troubleshooting tab – Printer Pages

The **Printer Pages** screen shows a list of useful information pages that the product generates, with a description of the purpose of each page. You can also print the pages directly from this screen.

Alerts tab

The **Alerts** tab is shown in the following illustration.

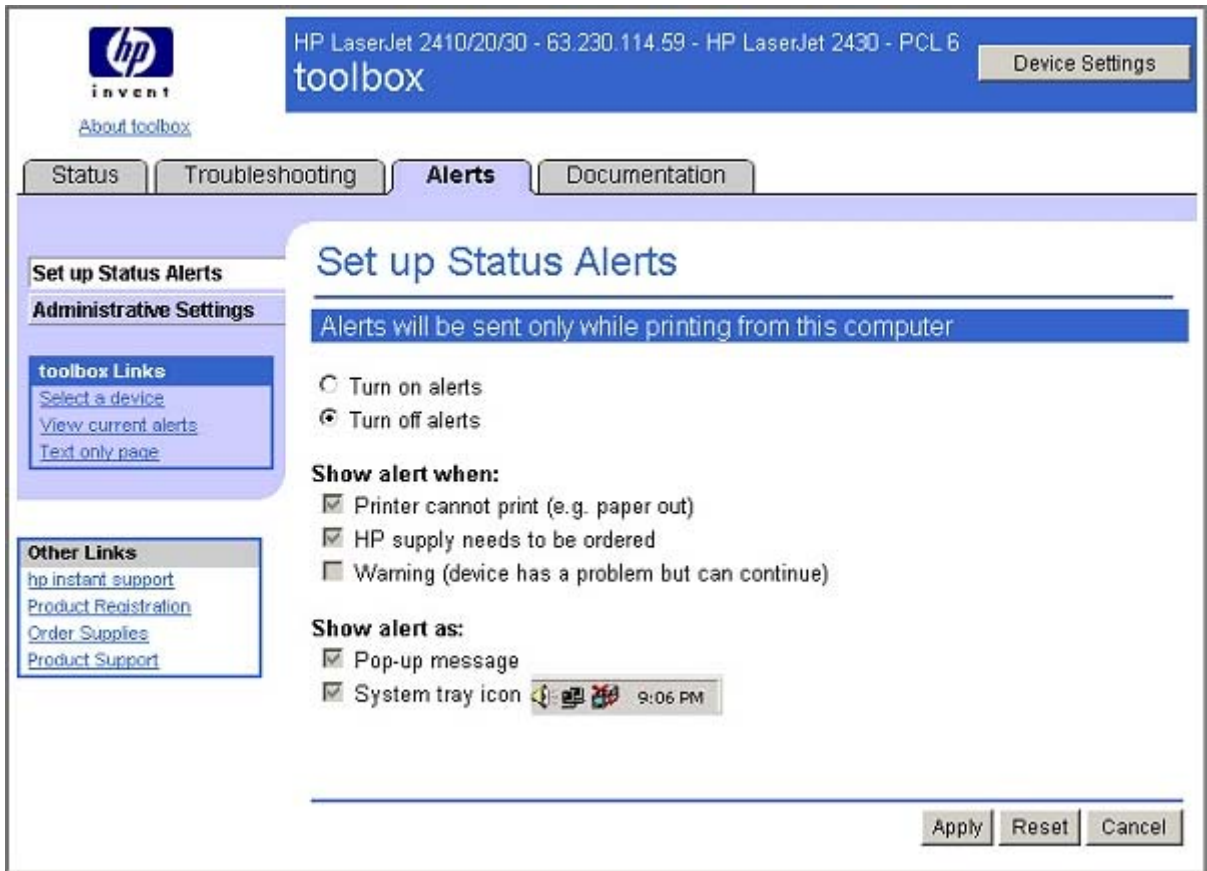


Figure 2-14 Alerts tab

The navigation bar on the **Alerts** tab contains links to the information pages for the product. Some of these pages are also available from other sources, such as the embedded Web server or the product itself. From this section, you can view the following screens:

- **Set up Status Alerts**
- **Administrative Settings**

The **Set up Status Alerts** page allows you to turn on or off alert messages, which will notify you when the product has a problem printing.

When any of these alert messages appears on the user's screen, it includes a check box that allows the user to turn off that particular type of alert message. For example, if a supply alert is displayed, the user can check the check box to disable all future supply alerts. If the user later wants to turn these alerts back on, they will need to come to the **Alerts** tab to do so.

The **Administrative Settings** screen, allows you to change the rate at which the product is checked for alerts.

Documentation tab

The **Documentation** tab is shown in the following illustration.

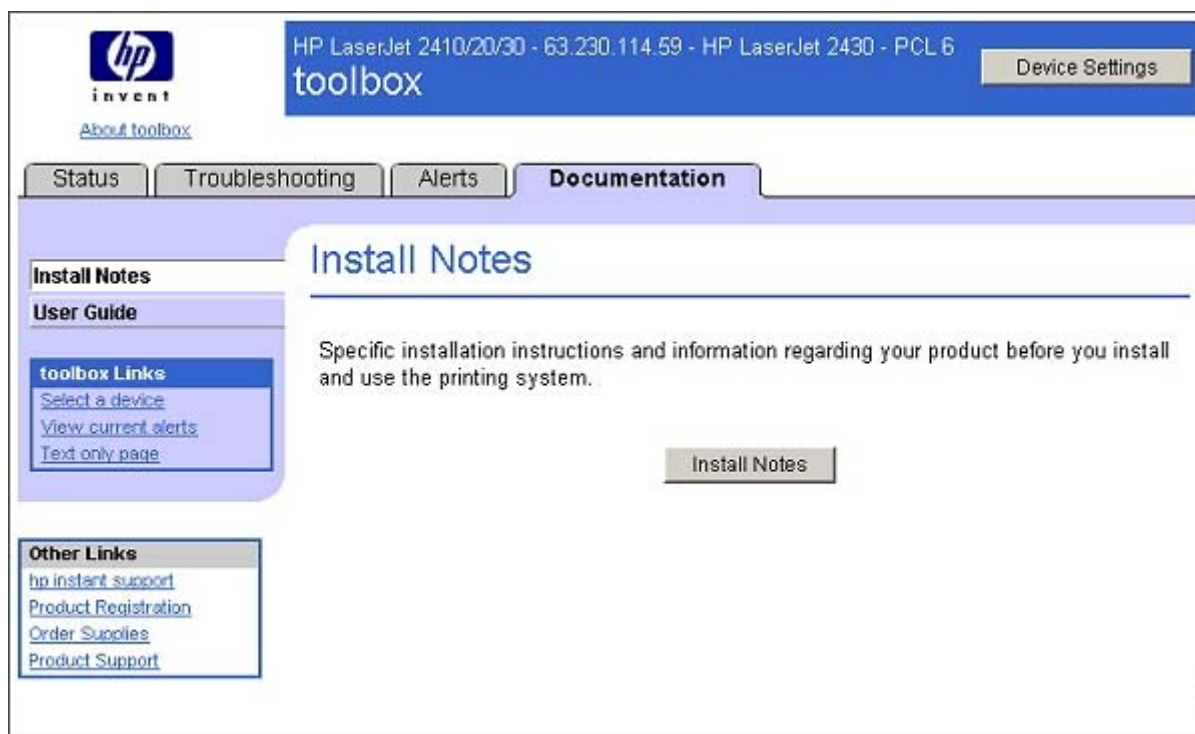


Figure 2-15 Documentation tab – Install Notes page

The navigation bar on the **Documentation** tab contains links to these information sources:

- **Install Notes.** Contains specific installation instructions and information regarding your product.
- **User Guide.** Contains information about product usage, warranty, specifications, and support. The HTML format (for Windows-based computers only) allows you to search easily for specific topics and jump between topics.

The User Guide is also available in .PDF file format, which can be printed by page or by chapter, or you can print the entire document. The printed document is formatted as a traditional book.

Linking to the HP Embedded Web Server

To gain access to the HP Embedded Web Server, click the **Device Settings** button in the upper right of any HP Toolbox screen. You can also open a browser window and type in the HP Jetdirect IP address.



NOTE Because HP EWS is not supported for HP LaserJet 2410 and 2420 (base model) printers, the link to the embedded Web server will not be functional for these printer models.

The HP Toolbox **Device Status** option on the **Status** tab is shown in the following illustration.

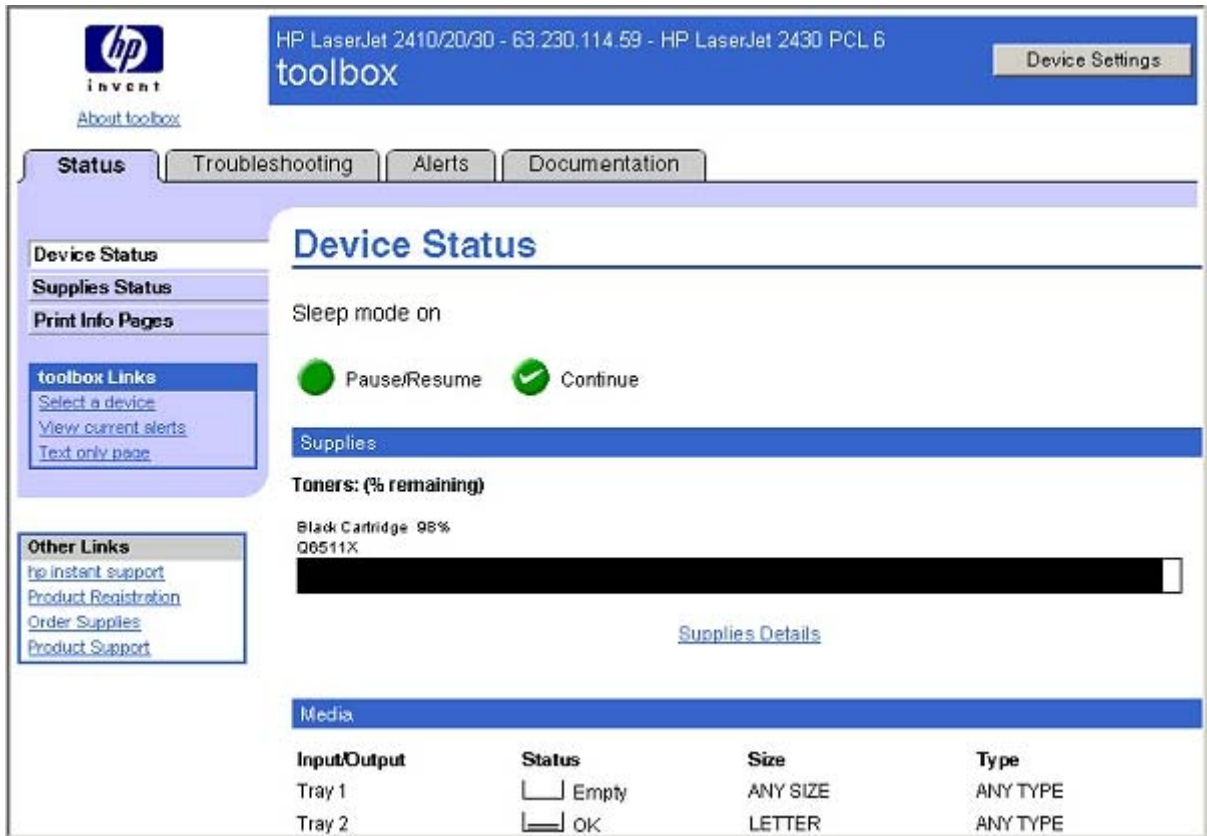


Figure 2-16 Status tab with **Device Settings** button

For additional information and a copy of the *HP Embedded Web Server User Guide*, go to www.hp.com/support/lj2410 for the HP LaserJet 2410 printer, www.hp.com/support/lj2420 for the HP LaserJet 2420 printer, or www.hp.com/support/lj2430 for the HP LaserJet 2430 printer

Other Links

This section contains links that connect you to the Internet. These links appear on the left navigational bar throughout the HP Toolbox screens. You must have Internet access in order to use any of these links. If you use a dial-up connection and did not connect when you first opened the HP Toolbox, you must connect before you can visit these Web sites. Connecting might require that you close the HP Toolbox and reopen it.

HP Instant Support. This link connects you to a set of dynamic Web resources that you can use to solve specific problems and determine additional services that might be available for your product. Specific status and configuration information about the product is retained and directed to the Solve a Problem Web site, which offers targeted support content and messages to help resolve problems as quickly as possible.

Product Registration. Click this link to connect to a screen where you can register your HP LaserJet 2410, 2420, and 2430 printer.

Order Supplies. Click this link to connect to an ordering screen where you can order genuine HP supplies, such as print cartridges and print media.

Product Support. This link connects you with an HP product-support screen from which you can search for information, contact the HP customer care home page, or find additional resources for your product.

HP Web Jetadmin

Use HP Web Jetadmin and a Web browser to manage HP Jetdirect connected products within your intranet. HP Web Jetadmin is a browser-based management tool, and should be installed only on a single network-administration server. It can be installed and run on Red Hat Linux; SuSE Linux; Windows NT 4.0 Server and Workstation; Windows 2000 Professional, Server, and Advanced Server; Windows XP Professional, and Windows Server 2003 systems.

To download a current version of HP Web Jetadmin and for the latest list of supported host systems, go to www.hp.com/go/webjetadmin

When installed on a host server, any client can use HP Web Jetadmin through a supported Web browser (such as Microsoft Internet Explorer 5.5 and 6.0 or Netscape Navigator 7.0).

HP Web Jetadmin has the following features:

- Task-oriented user interface that provides configurable views for network managers
- User profiles that can be customized to let network administrators include only the function that is being viewed or used
- Routing of instant e-mail notification of hardware failure, low supplies, and other product problems to different people
- Remote installation and management from anywhere, using only a standard Web browser
- Advanced automatic discovery of peripherals on the network without manually typing information about each product into a database
- Simple integration into enterprise-management packages
- Capacity to find peripherals based on parameters such as the Internet protocol (IP) address, color capability, and model name
- Capacity to organize peripherals into logical groups, with an option that provides virtual office maps for easy navigation
- Capacity to manage and configure multiple products at one time.

The following table lists the availability of HP LaserJet 2410, 2420, and 2430 printer remote management and status tools by operating system.



NOTE In the following table, "98/Me" refers to Windows 98 and Windows Me; "4.0" refers to Windows NT 4.0; "2000" refers to Windows 2000; "XP" refers to Windows XP; and "XP 64" refers to 64-bit drivers for Windows XP.

Table 2-4 Availability of remote management and status tools

Component	98/Me	4.0	2000/XP	XP 64	OS/2	Mac	UNIX	Linux
HP LaserJet 2410, 2420, and 2430 plug-in for Web		x	x					x
Device Storage Manager for Web		x	x	x				x
Preconfiguration plug-in for Web		x	x	x				x

The HP LaserJet 2410, 2420, and 2430 printing-system software CD provides the following link to download the latest version of the HP Web Jetadmin software: www.hp.com/go/webjetadmin.

Click **support** on the main screen in the installer CD Browser, and then click **hp web jetadmin**. The following table shows the supporting operating systems and hardware for HP Web Jetadmin.

Table 2-5 HP Web Jetadmin support

Protocols	<ul style="list-style-type: none"> ■ TCP/IP ■ IPX/SPX
Compatible operating systems	<ul style="list-style-type: none"> ■ Microsoft Windows 2000 Professional, Windows Server, and Windows Advanced Server ■ Microsoft Windows XP Professional with service pack 1 and Windows Server 2003 ■ Microsoft Windows NT Server and Workstation with service pack 3 or later ■ Red Hat Linux 9.0 ■ SuSE Linux v. 9.0 <p>Shared print queue creation support</p> <ul style="list-style-type: none"> ■ Microsoft Windows 2000 Professional, Server and Advanced Server ■ Microsoft Windows XP Professional and Windows Server 2003 ■ Microsoft Windows NT 4.0 Server and Workstation ■ HP-UX® 11.0 ■ Red Hat Linux 9.0 ■ Solaris 7 and 8 ■ SuSE Linux 9.0 ■ Novell NetWare 5.1 and 6.0 (IPX only) that uses Netware Client 4.9 (or that uses HP Web Jetadmin only on a Microsoft Windows NT 4.0, Windows 2000, Windows XP, or Windows Server 2003 system)
Supported products	All HP and non-HP products that are connected through HP Jetdirect print servers, and standard Management Information Base-compliant (MIB-compliant) third-party network-connected products
Supported browsers	<ul style="list-style-type: none"> ■ Microsoft Internet Explorer 6.0, for Windows only ■ Netscape 7.1 (English) for Linux only

Bluetooth

Bluetooth®* wireless technology is a low-power, short-range radio technology that can be used to wirelessly connect computers, printers, personal digital assistants (PDAs), cell phones, and other devices.

* Bluetooth is a trademark owned by its proprietor and used by Hewlett-Packard Company under license.

Because Bluetooth wireless technology uses radio signals, devices do not have to be in the same room, office, or cubicle and do not require an unobstructed line of sight in order to communicate. This wireless technology increases portability and efficiency within business networks.

The HP LaserJet 2410, 2420, and 2430 printer can use a Bluetooth adapter (hp bt1300) to incorporate Bluetooth wireless technology. The adapter is available for either USB or parallel connections. The adapter has a 10-meter line-of-site operation range in the 2.5 GHz ISM band and can achieve data transfer rates up to 723 Kbps. The device supports the following Bluetooth profiles:

- Hardcopy Cable Replacement Profile (HCRP)
- Serial Port Profile (SPP)
- Object Push Profile (OPP)
- Basic Imaging Profile (BIP)
- Basic Printing Profile (BPP) with XHTML-Print

Remote firmware update

The HP LaserJet 2410, 2420, and 2430 printers feature remote firmware update (RFU) capability. The method for downloading remote firmware updates from the Web site is similar to that used to download the latest printing-system software and print drivers.

The process for remotely upgrading firmware involves three steps:

- 1 Determine the current level of firmware that is installed on the printer.
- 2 Go to the HP Web site and download the latest firmware to your computer.
- 3 Download the new firmware to the product.

Determining the current level of firmware

To determine the current level of firmware, view the configuration page. To print a configuration page, follow these instructions.

- 1 Press the **SELECT** button (the one with the check mark) to open the menus.
- 2 Press the up and down buttons to scroll to **INFORMATION**, and then press the **SELECT** button.
- 3 Press the up and down buttons to scroll to **PRINT CONFIGURATION**.
- 4 Press the **SELECT** button to print the configuration page.
- 5 Look in the "Printer Information" section on the configuration page for the firmware date code. The firmware date code looks something like this: 20031002 07.000.0.

Downloading the new firmware from the HP Web site

For support information about downloading new firmware from the Web, go to www.hp.com/go/lj2410_firmware for the HP LaserJet 2410 printer, www.hp.com/go/lj2420_firmware for the HP LaserJet 2420 printer, or www.hp.com/go/lj2430_firmware for the HP LaserJet 2430 printer.

The product can receive an .RFU update to the firmware when the product is in a **READY** state. The product waits for all of the I/O channels to become idle before performing the update.



NOTE If the firmware update involves a change in the format of nonvolatile random-access memory (NVRAM), any menu settings that are changed from the default settings will return to default settings. The settings must be changed again if you want them to be different from the defaults. Examples of settings that are affected in this way are tray types, default symbol sets, and Web-access alerts.

The elapsed time for an update depends on the I/O transfer time, as well as the time that it takes for the product to reinitialize. The I/O transfer time depends on a number of things, including the speed of the host computer that is sending the update and the I/O method (parallel or network). The reinitialization time depends on the specific hardware configuration of the product, such as the number of EIO devices installed, the presence of external paper-handling devices, and the amount of memory that is installed.

If the remote firmware update process is interrupted before the firmware is downloaded (while **RECEIVING UPGRADE** appears on the control-panel display), the firmware file must be sent again. If power is lost during the flash dual inline memory module (DIMM) update (while **PERFORMING UPGRADE** appears on the control-panel display), the update is interrupted and the message **RESEND UPGRADE** appears (in English only) on the control-panel display. The update must now be sent only by a computer that is attached to the parallel port of the product.

Finally, any print jobs that are ahead of the .RFU job in the queue are printed before the update is processed.

Use one of the following methods to update your product firmware.

Remote firmware update by using FTP through a browser

Complete the following steps to update the product firmware by using file transfer protocol (FTP) through a browser.



NOTE The following instructions can be used on Windows or Macintosh operating systems.

- 1 Take note of the TCP/IP address on the EIO-Jetdirect page. The EIO-Jetdirect page is the second page of the configuration page printout. To print a configuration page, see [Determining the current level of firmware](#).
- 2 Open a browser window.
- 3 In the address line of the browser, type `ftp://<IPADDRESS>`, where <IPADDRESS> is the TCP/IP address of your product. For example, if the TCP/IP address is 192.168.0.90, type `FTP://192.168.0.90`
- 4 Locate the downloaded .RFU file for the product.
- 5 Drag and drop the .RFU file onto the **PORT1** icon in the browser window.



NOTE The product automatically restarts the firmware to activate the update. At the end of the update process, the **READY** message appears on the control panel.

Remote firmware update by using FTP on a direct network connection

If the product uses a direct network connection, use file transfer protocol (FTP) to update your firmware. Complete the following steps for your operating system.

Windows operating systems

- 1 Take note of the TCP/IP address on the EIO Jetdirect page. The HP Jetdirect page is the second page of the configuration page printout. To print a configuration page, see [Determining the current level of firmware](#).



NOTE Before connecting to the product, make sure that the product is not in Sleep mode. Also make sure that any error messages are cleared from the control-panel display.

- 2 Open a command window on your computer.
- 3 Type ftp <TCP/IP printer ADDRESS>. For example, if the TCP/IP address is 192.168.0.90, type ftp 192.168.0.90.
- 4 Press **Enter** on the keyboard.
- 5 When prompted for the user name, press **Enter**.
- 6 When prompted for the password, press **Enter**.
- 7 Type bin at the command prompt.
- 8 Press **Enter**. The message **200 Type set to I, Using binary mode to transfer files** appears in the command window.
- 9 Type put <FILENAME>, where <FILENAME> is the name of the .RFU file that was downloaded from the Web, including the path. For example, type put C:\LJ\2410FW.RFU and then press **Enter**.



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type put "c:\My Documents\LJ\2410fw.rfu" .

The following series of messages appears in the command window:

- **200 PORT command successful**
- **150 Opening BINARY mode data connection**
- **226 Ready**
- **226 Processing Job**
- **226 Transfer complete**

After these messages appear, a message containing transfer-speed information appears.

- 10 The download process begins and the firmware is updated on the product. This can take about five minutes. Let the process finish without further interaction with the product or the computer.



NOTE The product automatically restarts the firmware to activate the update. At the end of the update process, the **READY** message appears on the control panel.

- 11 At the command prompt, type `bye` to exit the FTP command.
- 12 At the command prompt, type `exit` to return to the Windows interface.

Macintosh operating systems

- 1 Take note of the TCP/IP address on the EIO-Jetdirect page. The EIO-Jetdirect page is the second page of the configuration page printout. To print a configuration page, see [Determining the current level of firmware](#).
- 2 Open a Terminal window on your Macintosh. You can find the Terminal application on the computer hard drive in the Applications/Utilities folder.
- 3 Type `FTP <TCP/IP printer ADDRESS>` For example, if the TCP/IP address is 192.168.0.90, type `FTP 192.168.0.90`
- 4 Press **Enter** on the keyboard.
- 5 When prompted for a user name and password, press **Enter**.
- 6 Type `put <path>`, where `<path>` is the location where the .RFU file was downloaded from the Web, including the path. For example, type `put /username/desktop/2410fw.rfu` and then press **Enter**.



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type `put "/user name/desktop/2410FW.RFU"`.

To ensure that the entire path to the .RFU file is placed in the `put` command, type `put` and a space, and then drag and drop the .RFU file onto the terminal window. The complete path to the file is automatically placed after the `put` command.

- 7 The download process begins and the firmware is updated. This can take about five minutes. Let the process finish without further interaction with the product or the computer.



NOTE The product automatically restarts the firmware to activate the update. At the end of the update process, the **READY** message appears on the control panel.

Remote firmware update through a local Windows port

If the product is connected through a local port (parallel), then you can send the .RFU file directly to the product by using a `COPY` command from a command prompt or an MS-DOS window. At the command prompt, perform the following steps for your operating system.

Windows 98 or Windows Me

- 1 From a command prompt or in an MS-DOS window, type:

Mode lpt1 :,,p



NOTE If the product is attached to a parallel port other than LPT1, then substitute the correct LPT port number in the **mode** command.

- 2 Press **Enter** on the keyboard. The response you receive should be similar to these examples:

> **LPT1 Not Rerouted**

> **Resident portion of MODE loaded**

> **Infinite retry on parallel printer time-out**

- 3 At a command prompt, type `copy /b <FILENAME> <PORTNAME>`, where <FILENAME> is the name of the .RFU file (including the path) and <PORTNAME> is the name of the appropriate product port (such as LPT1). For example, type `C:\>copy /b c:\2410fw.rfu lpt1`



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type `C:\>copy /b "c:\My Documents\2410fw.rfu" lpt1`

- 4 Press **Enter** on the keyboard. The messages that are described in [Printer messages during the firmware update](#) appear on the control panel.



NOTE The product automatically restarts the firmware to activate the update. At the end of the update process, the **READY** message appears on the control panel.

- 5 Print a configuration page and verify that the firmware revision number matches the revision of the current update.
- 6 Type `exit` at the command prompt to close the command window.

Windows NT 4.0, Windows 2000, Windows XP, or Windows Server 2003

The .RFU file can be sent directly to the product by typing a **copy** command at a command prompt or in an MS-DOS window.

- 1 At a command prompt, type `copy /b <FILENAME> <PORTNAME>`, where `<FILENAME>` is the name of the .RFU file (including the path) and `<PORTNAME>` is the name of the appropriate printer port (such as LPT1). For example, type `C:\>copy /b c:\2410fw.rfu lpt1`



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type `C:\>copy /b "c:\My Documents\2410fw.rfu" lpt1`

- 2 Press **Enter** on the keyboard. The messages described in the section [Printer messages during the firmware update](#) appear on the control panel.



NOTE The product automatically restarts the firmware to activate the update. At the end of the update process, the **READY** message appears on the control panel.

- 3 At the command prompt, type `exit` to close the command window.

Remote firmware update through a Windows network

If the product is shared on a Windows network, follow these instructions.

- 1 From a command prompt or in an MS-DOS window, type `copy /b <FILENAME> \ <COMPUTERNAME> \ <SHARENAME>`, where `<FILENAME>` is the name of the .RFU file (including the path), `<COMPUTERNAME>` is the name of the computer from which the product is being shared, and `<SHARENAME>` is the product share name. For example, type `C:\>copy /b c:\2410fw.rfu \\your_server\your_computer`



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type `C:\>copy /b "c:\My Documents\2410fw.rfu" \ <your_server>\<your_computer>`

- 2 Press **Enter** on the keyboard. The messages that are described in [Printer messages during the firmware update](#) appear on the control panel. The message **1 file(s) copied** appears on the computer screen.



NOTE The product automatically restarts the firmware to activate the update. At the end of the update process, the **READY** message appears on the control panel.

Remote firmware update for UNIX systems

For UNIX systems, any command method that delivers the .RFU file to the product is acceptable, including the following:

At the command prompt, type `cp /home/yourmachine/FILENAME /dev/parallel>`, where `</home/yourmachine/FILENAME>` is the location of the .RFU file.



NOTE The product automatically restarts the firmware to activate the update. At the end of the update process, the **READY** message appears on the control panel.

Remote firmware update by using Fetch (Mac OS 9.x only)

For Mac OS 9.x, a shareware program called Fetch provides FTP control for a put command. Download and install the program from download.com.com/3000-2151-10182446.html.

Complete the following steps to update the product firmware by using Fetch.

- 1 Start the program by clicking on the **Fetch** icon.
- 2 Type the IP address of the product in the **Host:** box.
- 3 Click the **Put Files** button and browse to the location of the .RFU file.
- 4 Double-click the file to select it and download it to the product. A confirmation message appears in the main window.
- 5 Click **OK**.



NOTE The product automatically restarts the firmware to activate the update. At the end of the update process, the **READY** message appears on the control panel.

Remote firmware update by using the HP LaserJet Utility (Mac OS 9.x only)

Complete the following steps to update the firmware by using the HP LaserJet Utility.

- 1 Make sure that you have the tools and files that are necessary for the update. You will need the HP LaserJet Utility and the .RFU file, which is the firmware file for the product.

The HP LaserJet Utility can be found on the HP LaserJet 2410, 2420, and 2430 printing-system software CD-ROM that came with the product. If you do not have the CD-ROM, you can obtain the HP LaserJet Utility by downloading the latest product installer from www.hp.com.

The firmware file (.RFU file) can be downloaded from www.hp.com/go/lj2410_firmware for the HP LaserJet 2410 printer, www.hp.com/go/lj2420_firmware for the HP LaserJet 2420 printer, or www.hp.com/go/lj2430_firmware for the HP LaserJet 2430 printer.

See [Downloading the new firmware from the HP Web site](#) for more information.

After you have the firmware file and the HP LaserJet Utility, you are ready to begin the update process.

- 2 Open the HP LaserJet Utility.
- 3 Click **Select Printer** and locate the product that you would like to update on the network. Select the product on the right side of the dialog box, and click **OK**. An information dialog box for the HP LaserJet 2410, 2420, and 2430 printer appears.
- 4 On the left side of the information dialog box, click **Files**. A dialog box appears where you can select a file to be downloaded to the product.
- 5 Click **Select File**.

- 6 Locate the .RFU file on your hard disk, and click the file name to highlight it. Click **Select**. The **Files** dialog boxes update to show the .RFU file under **File to download**.
- 7 Click **Download**. The HP LaserJet Utility starts downloading the file to the product. A progress bar shows how much of the file has been downloaded. While the file is downloading, the **RECEIVING UPGRADE** message appears on the control-panel display on the product. After the file has downloaded to the product, the **PERFORMING UPGRADE** message appears on the control-panel display.



NOTE The product automatically restarts the firmware to activate the update. At the end of the update process, the **READY** message appears on the control panel.

Remote firmware update by using the LPR command



NOTE This remote firmware update method is for use in Windows NT 4.0, Windows 2000, Windows XP, and Windows Server 2003.

Complete the following steps to update the firmware by using the LPR command.

- 1 From a command window, type `lpr -P <IPADDRESS> -S <IPADDRESS> -o l <FILENAME> -` OR- `lpr -S <IPADDRESS> -Pbins <FILENAME>`, where `<IPADDRESS>` can be either the TCP/IP address or the hostname of the product, and where `<FILENAME>` is the filename of the .RFU file.



NOTE The parameter `(-o l)` consists of a lowercase "O", not a zero, and a lowercase "L", not the numeral 1. This parameter sets the transport protocol to binary mode.

- 2 Press **Enter** on the keyboard. The messages described in the section [Printer messages during the firmware update](#) appear on the control panel.



NOTE The product automatically restarts the firmware to activate the update. At the end of the update process, the **READY** message appears on the control panel.

- 3 Type `exit` at the command prompt to close the command window.

Remote firmware update through HP Web Jetadmin

This procedure requires that you install HP Web Jetadmin V7.8 or later on your computer. Complete the following steps to update a single product through HP Web Jetadmin after downloading the .RFU file from the HP Web site.

- 1 Start HP Web Jetadmin.
- 2 Type the TCP/IP address or IP host name of the product in the **Quick Device Find** field, and then click **Go**. The product Status window opens.
- 3 Open the **Device Management** folder in the drop-down list in the Navigation panel. Navigate to the **Device Lists** folder.
- 4 Expand the **Device Lists** folder and select **All Devices**. Locate the product that you want to update in the list of products, and click to select it.
- 5 Locate the drop-down box for **Device Tools** in the upper-right corner of the window. Select **Update Printer Firmware** from the **choose action** list.

- 6 If the name of the .RFU file is not listed in the **All Available Images** dialog box, click **Browse** in the **Upload New Firmware Image** dialog box and navigate to the location of the .RFU file that you downloaded from the Web at the start of this procedure. If the filename is listed, select it.
- 7 Click **Upload** to move the .RFU file from your hard drive to the HP Web Jetadmin server.
- 8 Refresh the browser.
- 9 Select the .RFU file from the **Printer Firmware Update** drop-down menu.
- 10 Click **Update Firmware**. HP Web Jetadmin sends the selected .RFU file to the product. The messages that are described in [Printer messages during the firmware update](#) appear on the control panel.



NOTE The product automatically restarts the firmware to activate the update. At the end of the update process, the **READY** message appears on the control panel.

HP Web Jetadmin V7.8 and later can also be used to perform multiple or unattended installations. Complete the following steps for multiple or unattended installations.

- 1 Start HP Web Jetadmin.
- 2 Create a device group. A simple way to do this is to follow these steps:
 - a. Click **Device Management**, and then click **All Devices**.

-or-

 - b. Shift-click to select products that you want to be included in the group, and then click **OK**.

-or-

 - c. When prompted, type a name for the new device group, and then click **OK**.
- 3 To modify several products in a group, click the group name, and then click **Open**.
- 4 The drop-down menu for **Device Group Tools** appears on the right side of the window. Scroll if necessary to view it.
- 5 In the **Device Group Tools** drop-down box, select an action. Type in the appropriate information. Click **Return to Device Group** when finished.

Printer messages during the firmware update

Three messages appear during a normal update process.

Table 2-6 Update messages

Printer message	Explanation
RECEIVING UPGRADE	This message appears from the time the product recognizes the beginning of an .RFU update until the time the product has verified the validity and integrity of the .RFU update.
PERFORMING UPGRADE	This message appears while the product is actually reprogramming the firmware.
INITIALIZING	This message appears from the time the product has finished reprogramming the DIMM until the product reinitializes.



NOTE To verify that the firmware update succeeded, print a new configuration page from the control panel and verify that the firmware date code on the configuration page has changed.

Troubleshooting a firmware update

The following table lists the causes and results of possible interruptions to the firmware update.

Table 2-7 Troubleshooting a firmware update

Cause	Result
The job was cancelled from the control panel.	No update has occurred.
A break in the I/O stream occurred during send (for example, the parallel cable was removed).	No update has occurred.
A power cycle occurred during the RECEIVING UPGRADE process.	No update has occurred.
A power cycle occurred during the PERFORMING UPGRADE process.	No update has occurred. Resend the update through a parallel port.
A power cycle occurred during the INITIALIZING process.	The update has been completed.

Print jobs that are sent to the product while an update is in process do not interrupt the update.

The following table lists possible reasons for the failure of a remote firmware update and the corrective action that is required for each situation.

Table 2-8 Troubleshooting a firmware update failure

Reason for firmware update failure	Corrective action
The .RFU file is corrupted.	The product recognizes that the file is corrupted and rejects the update. Download the file again and send the new file to the product. Download the file from www.hp.com/go/lj2410_firmware for the HP LaserJet 2410 printer, www.hp.com/go/lj2420_firmware for the HP LaserJet 2420 printer, or www.hp.com/go/lj2430_firmware for the HP LaserJet 2430 printer.
The wrong product is contained in the .RFU file.	The product recognizes the printer mismatch and rejects the update. Download the correct file and send it to the product. Download the file from www.hp.com/go/lj2410_firmware for the HP LaserJet 2410 printer, www.hp.com/go/lj2420_firmware for the HP LaserJet 2420 printer, or www.hp.com/go/lj2430_firmware for the HP LaserJet 2430 printer.
The upgrade was interrupted.	See Troubleshooting a firmware update .
A flash hardware failure occurred.	Although it is extremely unlikely, the product might have a hardware failure. Call technical support to address the problem (see the flyer that came with the product for a local telephone support list).



NOTE All HP LaserJet products leave the factory with the most recent firmware version installed. If a remote firmware update fails, the .RFU file must be sent over a parallel port connection.

Printing print-ready documents from a command line

Documents in the following file formats can be printed by using a command line. That is, they do not need to be opened in a software program that supports the file format (such as the Adobe Acrobat or Acrobat Reader programs for .PDF files), but can be sent directly to the product using a command line.

- HP LaserJet Printer Control Language (.PCL)
- Portable Document Format (.PDF)
- Postscript (.PS)
- Text (.TXT)

Use one of the following methods to send print-ready files to your product.



NOTE The examples that are used in this section are for printing .PDF documents. However, any print-ready file type can be substituted.

Print-ready file printing by using FTP through a browser

Complete the following steps to print print-ready files from a command line by using FTP through a browser.



NOTE The following instructions can be used on Windows or Macintosh operating systems.

- 1 Take note of the TCP/IP address on the EIO Jetdirect page. The Jetdirect page is the second page of the configuration page printout. To print a configuration page, see [Determining the current level of firmware](#).
- 2 Open a browser window.
- 3 In the address line of the browser, type ftp://<IPADDRESS>. For example, if the TCP/IP address of your product is 192.168.0.90, type FTP 192.168.0.90
- 4 Locate the print-ready file for the product.
- 5 Drag and drop the print-ready file onto the **PORT1** icon in the browser window.

Print-ready file printing by using FTP on a direct network connection

If the HP LaserJet 2410, 2420, and 2430 printer uses a direct network connection, use file transfer protocol (FTP) to print a print-ready file. Complete the following steps for the operating system.

Windows operating systems

- 1 Take note of the TCP/IP address on the EIO Jetdirect page. The Jetdirect page is the second page of the configuration page printout. To print a configuration page, see [Determining the current level of firmware](#).
- 2 Open a command window on your computer.

- 3 Type ftp <TCP/IP printer ADDRESS>. For example, if the TCP/IP address is 192.168.0.90, type ftp 192.168.0.90
- 4 Press **Enter** on the keyboard.
- 5 When prompted for the user name, press **Enter**.
- 6 When prompted for the password, press **Enter**.
- 7 Type bin at the command prompt.
- 8 Press **Enter**. The message **200 Types set to I, Using binary mode to transfer files** appears in the command window.
- 9 Type put <FILENAME>, where <FILENAME> is the name of the print-ready file to be printed, including the path. For example, type put C:\LJ\SAMPLE_DOC.PDF, and then press **Enter**.



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type put "C:\MY DOCUMENTS\LJ\SAMPLE_DOC.PDF"

The following series of messages appears in the command window:

200 PORT command successful

150 Opening BINARY mode data connection

226 Ready

226 Processing Job

- 10 Your print-ready file prints.

Macintosh operating systems

- 1 Take note of the TCP/IP address on the EIO Jetdirect page. The Jetdirect page is the second page of the configuration page printout. To print a configuration page, see [Determining the current level of firmware](#).
- 2 Open a Terminal window on your Macintosh. You can find the Terminal application on the computer hard drive in the Applications/Utilities folder.
- 3 Type FTP <TCP/IP printer ADDRESS>. For example, if the TCP/IP address is 192.168.0.90, type FTP 192.168.0.90
- 4 Press **Enter** on the keyboard.
- 5 When prompted for a user name and password, press **Enter**.
- 6 Type put <path>, where <path> is the location where the print-ready file was downloaded from the Web. For example, type put /username/desktop/SAMPLE_DOC.PDF, and then press **Enter**.



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type `put "/user name/desktop/SAMPLE_DOC.PDF"`

To ensure that the entire path to the print-ready file is placed in the `put` command, type `put` and a space and then click and drag the print-ready file onto the terminal window. The complete path to the file is automatically placed after the `put` command.

- 7 Your print-ready file prints.

Print-ready printing by using a local Windows port

To print from the command line by using a local Windows port, follow the instructions in this section for your operating system.

Windows 98 or Windows Me

- 1 From a command prompt or in an MS-DOS window, type `Mode lpt1 :.,p`



NOTE If the product is attached to a parallel port other than LPT1, then substitute the proper LPT port number in the mode command.

- 2 Press **Enter** on the keyboard. The response you receive should be similar to these examples:

> **LPT1 Not Rerouted**

> **Resident portion of MODE loaded**

> **Infinite retry on parallel printer time-out**

- 3 At a command prompt, type `copy /b <FILENAME> <PORTNAME>`, where `<FILENAME>` is the name of the print-ready file (including the path) and `<PORTNAME>` is the name of the appropriate printer port (such as LPT1). For example, at the `c:\>` command prompt, type `copy /b c:\SAMPLE_DOC.pdf lpt1`



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type `C:\>copy /b "c:\My Documents \SAMPLE_DOC.pdf"`

- 4 Press **Enter** on the keyboard. The message **PROCESSING JOB** appears on the control panel, and the job prints.
- 5 At the command prompt, type `exit` to close the command window.

Windows NT 4.0, Windows 2000, Windows XP, or Windows Server 2003

The print-ready file can be sent directly to the product by typing a copy command at a command prompt or in an MS-DOS window.

- 1 At a command prompt, type `copy /b <FILENAME> <PORTNAME>`, where `<FILENAME>` is the name of the print-ready file (including the path) and `<PORTNAME>` is the name of the appropriate printer port (such as LPT1). For example, type `C:\>copy /b c:\SAMPLE_DOC.pdf lpt1`
- 2 Press **Enter** on the keyboard.



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type `C:\>copy /b "c:\My Documents \SAMPLE_DOC.pdf"`. The message **PROCESSING JOB** appears on the control panel, and the job prints.

- 3 At the command prompt, type `exit` to close the command window.

Print-ready file printing in a Windows network

If the product is shared on a Windows network, complete the following steps.

- 1 From a command prompt or in an MS-DOS window, type `copy /b <FILENAME> \ \<COMPUTERNAME>\<SHARENAME>`, where `<FILENAME>` is the name of the print-ready file (including the path), `<COMPUTERNAME>` is the name of the computer from which the product is being shared, and `<SHARENAME>` is the product share name. For example, type `C:\>copy /b c:\SAMPLE_DOC.pdf \\your_server\sharename`



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type `C:\>copy /b "c:\My Documents \SAMPLE_DOC.pdf" \\your_server\sharename`

- 2 Press **Enter** on the keyboard. The message **PROCESSING JOB** appears on the control panel, and the job prints. The message **1 file(s) copied** appears on the computer screen.

Print-ready file printing in UNIX systems

For UNIX systems, any command method that delivers the print-ready file to the product is acceptable, including the following:

At the command prompt, type `cp </home/yourmachine/FILENAME/ dev/parallel>`, where `</home/yourmachine/FILENAME>` is the location of the print-ready file.

Print-ready file printing by using Fetch (Mac OS 9.x only)

For Mac OS 9.x, a shareware program called Fetch provides FTP control for a put command. Download and install the program from download.com.com/3000-2151-10182446.html.

Complete the following steps to print print-ready files by using Fetch.

- 1 Start the program by clicking the **Fetch** icon.
- 2 Enter the IP address of the product in the **Host:** box.
- 3 Click the **Put Files** button and browse to the location of the print-ready file.
- 4 Double-click the file to select it and download it to the product. A confirmation message appears in the main window.
- 5 Click **OK**.

File printing by using the HP LaserJet Utility (Mac OS 9.x only)

Complete the following steps to print a print-ready file by using the HP LaserJet Utility.

- 1 Make sure that you have the tools and files necessary for the update. You will need the HP LaserJet Utility and the print-ready file that you want to print.

The HP LaserJet Utility can be found on the HP LaserJet 2410, 2420, and 2430 printing-system software CD that came with the product. If you do not have the CD, you can obtain the HP LaserJet Utility by downloading the latest product installer from www.hp.com.

After you have the HP LaserJet Utility and you know the location of the print-ready file that you want to print, you are ready to begin the command-line printing process.

- 2 Open the HP LaserJet Utility.
- 3 Click **Select Printer** and locate the product that you would like to upgrade on the network.
- 4 Select the product on the right side of the dialog box, and click **OK**. An information dialog box for the HP LaserJet 2410, 2420, and 2430 printer appears.
- 5 On the left side of the information dialog box, click **Files**. A dialog box appears where you can select a file to be downloaded to the product.
- 6 Click **Select File**.
- 7 On your hard disk, locate the print-ready file that you want to print, and click the file name to highlight it. Then click **Select**. The **Files** dialog box updates showing the .print-ready file that you want to print under **File to download**.
- 8 Click **Download**.

The HP LaserJet Utility starts downloading the file to the product. A progress bar keeps you updated on how much of the file has been downloaded. While the file is downloading, the PROCESSING JOB message appears on the control-panel display on the product, and the print-ready file prints.

Print-ready file printing by using the LPR command



NOTE This command-line printing method is for use in Windows NT 4.0, Windows 2000, Windows XP, and Windows Server 2003.

Complete the following steps to print a print-ready file by using the LPR command.

- 1 Take note of the TCP/IP address on the EIO Jetdirect page. The Jetdirect page is the second page of the configuration page printout. To print a configuration page, see [Determining the current level of firmware](#).
- 2 From a command window, type `lpr -P IPADDRESS -S IPADDRESS -o l FILENAME`

`lpr -S <IPADDRESS> -Pbins <FILENAME>`, where IPADDRESS can be either the TCP/IP address or the host name of the product, and where FILENAME is the file name of the print-ready file.



NOTE The parameter (-o l) consists of a lowercase "O", not a zero, and a lowercase "L", not the numeral 1. This parameter sets the transport protocol to binary mode.

- 3 The file prints, but no further messages appear in the command prompt window.
- 4 Type exit at the command prompt to close the command window.

Driver-feature comparison in various operating systems

The following tables detail the software features that are available for each driver type and for each supported operating system that the HP LaserJet 2410, 2420, and 2430 printer supports. The printing-system drivers for Windows 98, Windows 98, and Windows NT 4.0 are the HP Traditional PCL 5e Driver, HP Traditional PCL 6 Driver, and PS Emulation Driver. The printing-system drivers for Windows 2000, Windows XP, and Windows Server 2003 are the new HP unidrivers, with a user interface look and feel that is consistent across the HP PCL 6 Unidriver, HP PCL 5e Unidriver, and PS Emulation Unidriver.

For more information about the HP traditional PCL 6, PCL 5e, and PS emulation drivers, see [HP traditional print drivers for Windows](#). For more information about the HP PCL 6, PCL 5e, and PS emulation unidrivers, see [HP PCL 6, HP PCL 5e, and HP PS 3 emulation unidrivers for Windows](#).

Job stream output

Table 2-9 Driver support for job stream output feature

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
PCL 6 support	x			x			x			
PCL 5e pass-through support	x			x			x			
PS 3 emulation			x			x			x	
PS 1, 2 emulation			x			x			x	x

PJL/PJL Encoding

Table 2-10 Printer Job Language (PJL) and PJL encoding

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
PJL support	x	x	x	x	x	x	x	x	x	
7-bit Encoding for PJL (a-z, A-Z, 0-9)	x	x	x	x	x	x	x	x	x	
8-bit Encoding for PJL (chars 32-255)	x	x	x	x	x	x	x	x	x	
UTF-8 encoding for PJL (Unicode to 8-bit)	x	x	x	x	x	x	x	x	x	

Job tracking

Table 2-11 Driver support for job tracking

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
PRN file driver identification	x	x	x	x	x		x	x		x
Job accounting information	x	x	x	x	x		x	x		
Job accounting enhancements (UUID)				x	x		x	x		
Reliable Time - born on date (PJL DMINFO)	x	x	x	x	x		x	x		
Born on Date (PJL TIMESTAMP)	x	x	x	x	x		x	x		
Sending user name with every job	x	x	x	x	x		x	x		

Connectivity

Table 2-12 Driver support for connectivity features

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Parallel (direct connect)	x	x	x	x	x	x	x	x	x	
Network – TCP/IP	x	x	x	x	x	x	x	x	x	x
Network - AppleTalk PAP										x
USB (direct connect)	x	x	x				x	x		
USB (direct connect) via 1284.4 (HP DOT4/7.1.3)	x	x	x							x
USB (direct connect) via 7.1.2 (Apple USB Print)										x
Wireless 802.11										x
Rendezvous										x

Bidirectional communication

Table 2-13 Driver support for bidirectional communication features

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
EAC	x	x	x	x	x		x	x		x
Status messages	x	x	x	x	x		x	x		x
Parallel (direct connect)	x	x	x	x	x		x	x		
Network - TCP/IP	x	x	x	x	x		x	x		x
Network - AppleTalk PAP										x
USB (direct connect)	x	x	x				x	x		x
Update Now	x	x	x	x	x		x	x		x

Table 2-13 Driver support for bidirectional communication features (continued)

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Language Monitor ¹	x	x	x	x	x		x	x		

¹ MasterMon, a pseudo-language monitor that is used for all HP LaserJet products for the duplex communication channel with bidirectional communication products and to insert PJI commands into the job stream. It loads TCPMON for TCP/IP ports.

HP Driver Preconfiguration

Table 2-14 Driver support for HP Driver Preconfiguration

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
HP Driver Preconfiguration	x	x	x	x	x		x	x		
Feature lockout	x	x	x	x	x		x	x		
Enterprise Autoconfiguration (EAC)	x	x	x	x	x		x	x		x
Continuous export	x	x	x	x	x		x	x		
DMC macro automation	x	x	x	x	x		x	x		

Bundle support

Table 2-15 Bundle support

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Assign Bundle support in Installer	x	x	x	x	x		x	x		
Printer bundle in UI				x	x		x	x		x

Tray and paper assignment

Table 2-16 Tray and paper assignment

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Assign paper size to tray	x	x	x	x	x	x			x	
Assign paper type to tray				x	x					

Installable options

Table 2-17 Driver support for installable options

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Duplexing unit	x	x	x	x	x	x	x	x	x	x
Manual duplex enable	x	x	x	x	x		x	x		
Total memory	x	x	x	x	x	x	x	x	x	x
DWS (available memory)				x	x	x	x	x	x	
Additional source trays	x	x	x	x	x	x	x	x	x	x
Font DIMM Installer	x	x		x	x		x	x		
Mopier enabled	x	x	x	x	x	x	x	x	x	x
Job storage enabled	x	x	x	x	x	x	x	x	x	x

UI features

Table 2-18 Driver support for UI features

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
UI tabs ("panels" in Macintosh)	x	x	x	x	x	x	x	x	x	x
UI extensions	x	x	x			x				x
Page preview images	x	x	x	x	x		x	x		x
Printer image bitmaps with hot spots				x	x		x	x		
Paper size dimensions	x	x	x	x	x		x	x		x
About . . .	x	x	x	x	x		x	x		x
Accessibility/Disability (JAWS)	x	x	x	x	x		x	x		x
Accessibility architecture	x	x	x	x	x		x	x		

Help features

Table 2-19 Driver support for Help features

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
What's this Help (F1)	x	x	x	x	x	x	x	x	x	
Help button	x	x	x	x	x		x	x		
Bubble Help				x	x		x	x		
MS Windows "?" Help	x	x	x	x	x	x	x	x	x	
Constraint Help	x	x	x	x	x	x	x	x	x	

Quick Sets

Table 2-20 Driver support for quick sets

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Print Task Quick Sets	x	x	x	x	x		x	x		
User Defined Quick Sets	x	x	x	x	x		x	x		x

Paper Sizes

Table 2-21 Driver support for paper sizes

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Paper Sizes	x	x	x	x	x	x	x	x	x	x
User Defined Custom Paper	x	x	x	x	x	x	x	x	x	x
Edg-to-Edge Laser										

Media Types

Table 2-22 Driver support for media types

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
User Defined Media Types	x	x	x	x	x		x	x		
Combined Media Types & Sources in program (always NO driver UI switch)	x	x	x			x			x	
Combined Media Types & Sources in program				x	x		x	x		

Table 2-22 Driver support for media types (continued)

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
(optional driver UI switch)										
Combined Media Types & Sources in program (in driver UI)						x			x	x

Job storage

Table 2-23 Driver support for job storage features

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh ¹
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Proof and hold	x	x	x	x	x	x	x	x	x	x
Private job	x	x	x	x	x	x	x	x	x	x
Quick Copy										
Stored Job										
Job name	x	x	x	x	x	x	x	x		x
User name	x	x	x	x	x	x	x	x	x	x
PIN	x	x	x	x	x	x	x	x	x	x
Job storage pop-up	x	x	x	x	x		x	x		
Automatic job and user name	x	x	x	x	x	x	x	x		x
Job storage override	x	x	x	x	x		x	x		

¹ Job Storage features are available only in Mac OS 9.x. They are not available for Mac OS X.

Print-quality and resolution

Table 2-24 Print-quality and resolution features

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Print-quality options	x	x	x	x	x		x	x		x
Print quality - custom options recall				x	x		x	x		
Economode	x	x	x	x	x	x	x	x	x	x
Print optimizations	x	x								
Halftoning	x	x	x							
Halftoning - Custom	x	x	x							
Rendering mode (automatic)					x			x		
Send graphics as vector		x			x			x		
Send graphics as raster		x			x			x		
Send page as raster					x			x		
Use HP MEt / Use More Memory										
Manually Print on 2nd Side / Print on										
REt (Laser)	x	x	x	x	x		x	x		x
Scale patterns (WYSIWYG)				x	x		x	x		

Reordering Options

Table 2-25 Driver support for reordering options

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Page Order (reordering for job)	x	x	x							
Correct Order for Rear Bin	x	x	x	x	x		x	x		

Table 2-25 Driver support for reordering options (continued)

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Correct Order for Straight Paper Path										
Correct Order for Rear Output										
Correct Order for Front Output										

Resizing options

Table 2-26 Resizing options

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Print Document On	x	x	x	x	x		x	x		
Scale to Fit	x	x	x	x	x		x	x		
Allow Scaling from Large Paper	x	x	x	x	x		x	x		
% of Normal Size	x	x	x	x	x		x	x		

Other document options

Table 2-27 Other document options

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Orientation (Portrait/ Landscape)	x	x	x	x	x	x	x	x	x	x
Rotate by 180 degrees	x	x	x	x	x		x	x		
Number of copies	x	x	x	x	x	x	x	x	x	x

Table 2-27 Other document options (continued)

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Ignore Application Collation				x	x		x	x		
Collate	x	x	x	x	x	x	x	x	x	x
Collate - feature in driver UI						x			x	x
Collate through mopy	x	x	x	x	x	x	x	x	x	x
Mirror image / mirrored output			x			x			x	

Watermarks

Table 2-28 Driver support for watermarks feature

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh ¹
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Watermarks on/off	x	x	x	x	x	x	x	x	x	x
First page only	x	x	x	x	x	x	x	x	x	x
Custom watermark definition	x	x	x	x	x	x	x	x	x	x
Watermark angle	x	x	x	x	x	x	x	x	x	x
Watermark font name	x	x	x	x	x	x	x	x	x	x
Watermark font color	x	x	x	x	x	x	x	x	x	x
Watermark font shading	x	x	x	x	x	x	x	x	x	x
Watermark font size	x	x	x	x	x	x	x	x	x	x
Watermark font style	x	x	x	x	x	x	x	x	x	x
Locally defined watermarks	x	x	x	x	x		x	x		

¹ Mac OS 8.5 through 9.x only; not supported by Mac X or later.

Alternative source/paper type

Table 2-29 Driver support for alternate source/paper type feature

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
All pages the same	x	x	x	x	x	x	x	x	x	x
Front cover (blank front cover inserted)	x	x	x	x	x		x	x		
First page	x	x	x	x	x		x	x		x
Other pages	x	x	x	x	x		x	x		x
Last page	x	x	x	x	x		x	x		
Back cover (blank back cover inserted)	x	x	x	x	x		x	x		
Front cover form feeder (PI Front Cover)										
Back cover form feeder (PI Back Cover)										

Printing destination

Table 2-30 Driver support for printing destination feature

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Main bin	x	x	x	x	x	x	x	x	x	x

Finishing Options

Table 2-31 Driver support for finishing options

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
Auto Duplex / Print on Both Sides	x	x	x	x	x	x	x	x	x	x
Manual Duplex	x	x	x	x	x		x	x		
Long Edge / Short Edge (Flip On)	x	x	x	x	x	x	x	x	x	x
Smart Duplexing - Single Page Jobs										
Smart Duplexing - Odd Page Jobs										
Mixed Duplex and Simplex in single job	x	x	x	x	x	x	x	x		
Pages per Sheet (N-up)	x	x	x	x	x	x	x	x	x	x
Page Borders On/Off	x	x	x	x	x		x	x		x
Page Order (N-Up)	x	x	x	x	x		x	x		x
Booklet Printing (Layout in SW)	x	x	x	x	x		x	x		
Booklet Target Size	x	x	x	x	x		x	x		

Font support

Table 2-32 Font support

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
General device font support			x	x	x	x	x	x	x	x
Font substitution	x	x	x			x			x	x
Arabic, Cyrillic, Hebrew, Greek device			x	x	x	x	x	x	x	
Send TrueType as Bitmap	x	x		x	x		x	x		

Table 2-32 Font support (continued)

Operating system	Windows XP (32-bit), Windows 2000, Windows Server 2003			Windows NT 4.0			Windows 98, Me			Macintosh
Driver type	HP unidriver			HP traditional driver			HP traditional driver			Macintosh
Driver	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	PCL 6	PCL 5e	PS emulation	Postscript
TrueType Fonts (UI option)			x			x			x	
Print Text as Black	x	x	x	x	x		x	x		

Postscript-specific features

Table 2-33 Driver support for postscript-specific features

Operating system	Windows XP	Windows NT 4.0	Windows 98, Me	Macintosh
	HP unidriver	HP traditional driver		Postscript
Driver	PS emulation	PS emulation	PS emulation	Postscript
Postscript memory	x	x	x	
Output protocol	x	x	x	
Send CTRL-D before each job	x	x	x	
Send CTRL-D after each job	x	x	x	
Convert gray text to postscript gray	x			
Convert gray graphics to postscript gray	x			
Add euro currency symbol	x			
Job timeout	x	x	x	
Wait timeout	x	x	x	
Minimum font size to download as outline	x	x		
Minimum font size to download as bitmap	x	x		
Postscript language level	x	x	x	x
Send postscript error handler	x	x	x	
Negative output	x	x	x	
Printing Preferences				
Postscript language level	x	x	x	x
Send postscript error handler	x	x	x	
Mirrored output				
Negative output	x	x	x	
Output options				
Optimize for speed	x	x	x	

Table 2-33 Driver support for postscript-specific features (continued)

Operating system	Windows XP	Windows NT 4.0	Windows 98, Me	Macintosh
	HP unidriver	HP traditional driver		Postscript
Driver	PS emulation	PS emulation	PS emulation	Postscript
Optimize for portability	x	x	x	
Encapsulated postscript (EPS)	x	x	x	x
Archive format	x	x	x	
Levels of gray	x	x	x	
Fit to page	x	x	x	
TrueType font download option				
Outline	x	x	x	
Bitmap	x	x	x	
Native TrueType	x	x	x	

3 HP traditional print drivers for Windows

Introduction

This chapter describes the features of the HP LaserJet 2410, 2420, and 2430 traditional print drivers. The chapter contains the following sections:

- HP Traditional PCL 6 Driver and HP Traditional PCL 5e Driver features. This section describes the HP traditional PCL 6 and PCL 5e drivers for Windows 98, Windows Me, and Windows NT 4.0.
- HP Traditional Postscript 3 Emulation Driver (PS Emulation Driver) features. This section describes the PS Emulation Driver for Windows 98, Windows Me, and Windows NT 4.0.

You can control print jobs from several places: the product control panel, the software program, and the driver user interface. Generally, for features that are common to two or more of these places (for instance, you can select the media input tray from any of them), settings that are established in the software program take precedence over print-driver settings. Print-driver settings override product control-panel settings.

This chapter contains information about the following topics:

- [HP traditional PCL 6 and PCL 5e driver features](#)
- [HP Traditional Postscript 3 Emulation Driver features](#)

HP traditional PCL 6 and PCL 5e driver features

When you install the print drivers by using the printing-system installer in Windows 98 or Windows Me, the HP Traditional PCL 6 Driver is installed by default. The HP Traditional PCL 5e Driver can be installed by using the Add Printer wizard. When you install the print drivers in Windows NT 4.0, you must use the Add Printer installation method to install the HP Traditional PCL 6 Driver or the HP Traditional PCL 5e Driver.

This section describes the options that are available on each tab of the HP traditional PCL 6 and PCL 5e driver **Document Default** print-driver interface and on some of the tabs of the HP Traditional PCL 6 Driver and HP Traditional PCL 5e Driver **Properties** print-driver interface.

This section also describes differences between the HP Traditional PCL 6 Driver and the HP Traditional PCL 5e Driver

Access to print drivers

Depending on the operating system on which you are installing the print drivers, several different ways are available to gain access to the print drivers and different print-driver interfaces.

To gain access to the print-driver settings from within most software programs, click **File**, click **Print**, and then click **Properties**. These driver settings apply only while that software program is open.

Access to print drivers in Windows NT 4.0

In Windows NT 4.0, you can gain access to the **Document Defaults...** driver tabs and the **Properties** driver tabs. The settings that you make on these driver tabs control print-job output.

Document Defaults... driver tabs

In Windows NT 4.0, click **Start**, select **Settings**, and then click **Printers**. Right-click the product name, and then click **Document Defaults...** to gain access to all of the **Document Default...** print-driver tabs, which are the same set of driver tabs that the software program controls. These driver settings change the default settings that are used across all software programs.

The following **Document Defaults...** print-driver tabs are available in Windows NT 4.0:

- **Finishing** tab
- **Effects** tab
- **Paper** tab
- **Job Storage** tab
- **Basics** tab

The HP driver tabs are indicated by the HP logo appearing in the lower-left corner of the driver tab. Only HP tabs are documented in this STR.

Properties driver tabs

In Windows NT 4.0, click **Start**, select **Settings**, and then click **Printers**. Right-click the product name, and then click **Properties** to gain access to all Properties print-driver tabs. The following Properties driver tabs are available in Windows NT 4.0:

- **General**
- **Ports**
- **Scheduling**
- **Sharing**
- **Security**
- **NT Forms**
- **Configure**



NOTE Only the **NT Forms** tab and the **Configure** tab are described in this guide. See the [Properties tabs](#) section in this chapter.

Access to print drivers in Windows 98 and Windows Me

In Windows 98 and Windows Me, click **Start**, click **Settings**, and then click **Printers**. Right-click the product name, and then click **Properties** to gain access to all print-driver tabs. The settings that you make on these driver tabs control print-job output. The following print-driver tabs are available in Windows 98 and Windows Me:

- **General**
- **Details**
- **Color Management**
- **Sharing**
- **Finishing**
- **Effects**
- **Paper**
- **Job Storage**
- **Basics**
- **Configure**

Help system

The HP Traditional PCL 6 Driver and the HP Traditional PCL 5e Driver include a full-featured Help system to provide assistance with printing and configuration options.

What's this? Help

What's this? Help is supported in Windows 98, Windows Me, and Windows NT 4.0. You can gain access to What's this? Help messages in any of the following ways:

- Right-click a control and then click **What's this?**. A pop-up Help window appears.
- Click the ? button at the upper-right corner of the frame, next to the X, to change the cursor to an arrow with a question mark. When you use this special cursor to select a control, the pop-up Help window for that feature appears.
- Press the **F1** key, and the Help window for the currently selected control appears.

Context-sensitive Help

When you press the **Help** button on a driver tab or in a dialog box, a context-sensitive Help message appears.

Incompatible Options messages

Incompatible Options settings (constraint) messages are unsolicited messages that appear in response to specific actions that you take. These messages alert you to selections that are illogical or impossible given the capabilities of the product or the current settings of other controls. For example, if you click **Print on Both Sides** and then change the media type to **Transparency**, a message appears asking you to resolve this conflict.

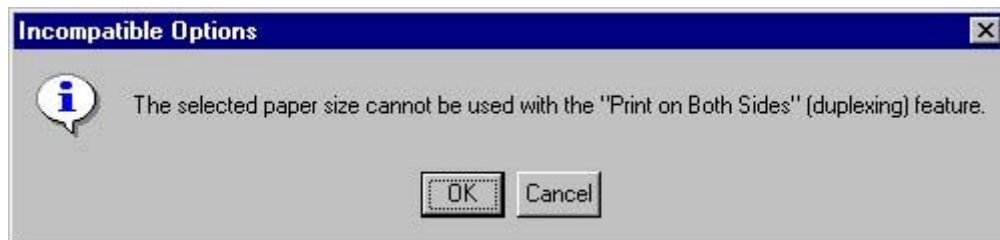


Figure 3-1 A typical constraint message with an OK button

Whenever a constraint message appears with the **OK** or **Cancel** button, the interpretation of the button is as follows:

- Clicking **OK** accepts the change that was just made, and the driver then resets the conflicting control to a setting that is compatible with the new value.
- Clicking **Cancel** rejects the change that was just made, and the control returns to its previous value.

Bubble Help

Bubble Help features a graphical icon that resembles a cartoon speech bubble with a lowercase "i" in it, representing the international symbol for information. The following illustration shows a Bubble Help icon on a driver tab.

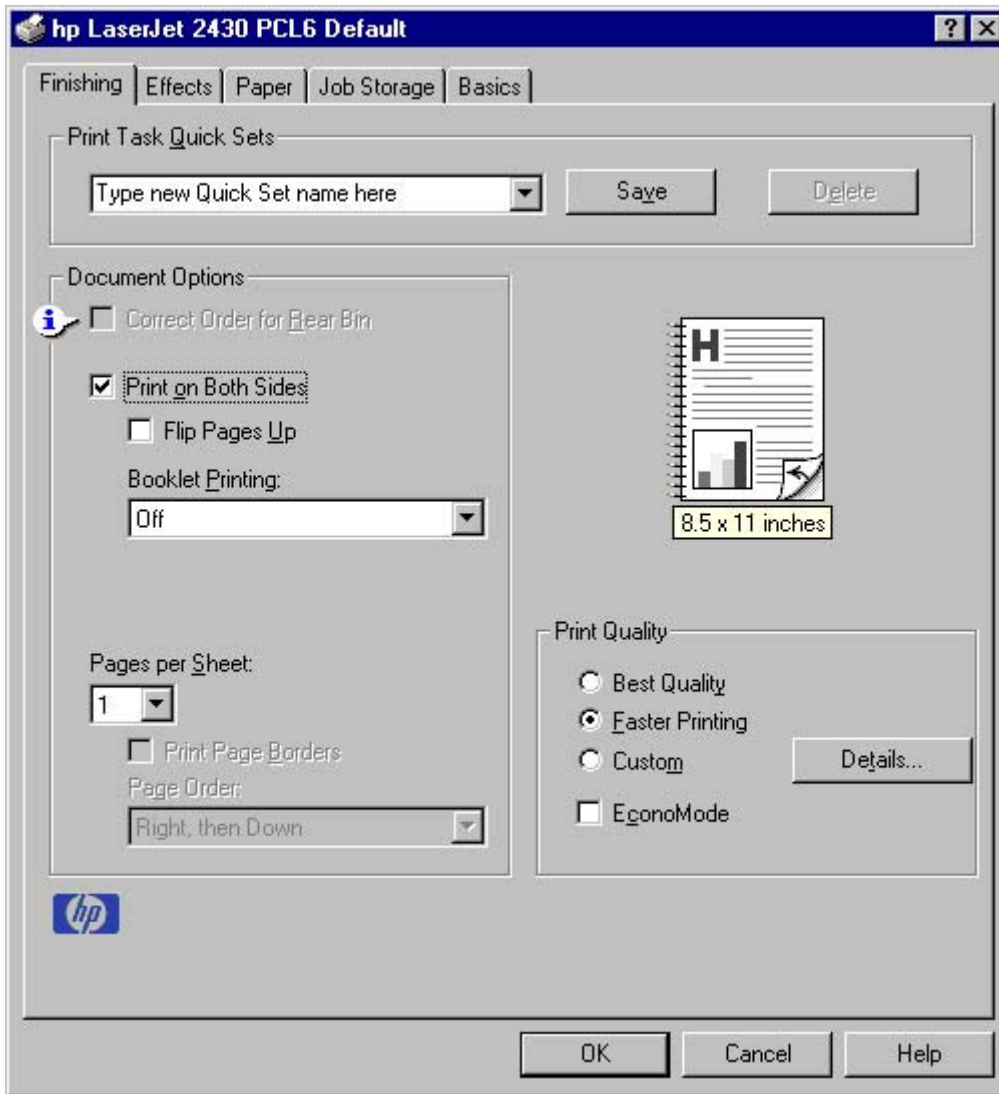


Figure 3-2 A property page with a Bubble Help icon

The bubble typically appears next to a control that is unavailable, although it can also accompany an available control if an important note concerning its use is available within the Help. Moving the pointer over the bubble changes the arrow to a gloved hand, which indicates that the area underneath the pointer is selectable. When the bubble is selected by using either the mouse or the keyboard, a message box appears that contains a brief explanation about why the control is disabled and what can be done to enable it. If the control is not disabled, the message is a tip or a precaution that you should be aware of when using that particular feature.

Finishing tab features

Use the **Finishing** tab to print booklets and control the media output. The following illustration shows the **Finishing** tab.

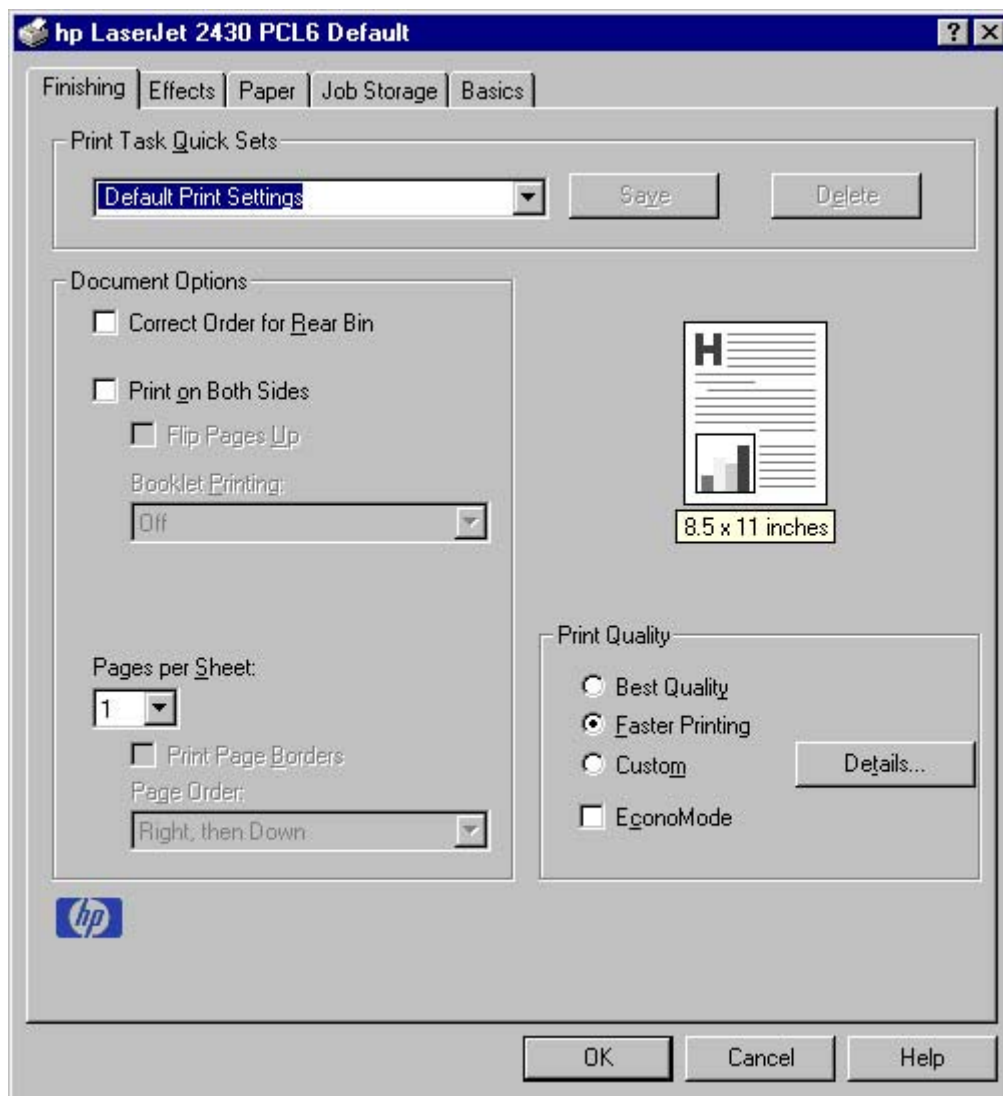


Figure 3-3 The default appearance of the **Finishing** tab

The **Finishing** tab contains the following controls:

- **Print Task Quick Sets** group box
- **Document Options** group box
- Document preview image
- **Print Quality** group box

Print Task Quick Sets

The first group box in the upper portion of the **Finishing** tab is **Print Task Quick Sets**. Any change to the **Print Task Quick Sets** group box that is made on the **Finishing** tab affects the **Print Task Quick Sets** group boxes on all of the **Document Defaults** driver tabs (the **Effects** tab, **Paper** tab, **Job Storage**, **Basics** tab) because they are all the same control.

Use the **Print Task Quick Sets** setting to store the current combination of driver settings that appear on all of the other print driver tabs. **Print Task Quick Sets** are either preset by network-administrator

settings or user-defined printing specifications (such as media size, pages per sheet, and so on). The **Print Task Quick Sets** control does *not* appear on the driver **Properties** tabs.

By default, the **Print Task Quick Sets** menu is set to **Type new Quick Set name here**. When you change any of the default settings on any of the **Document Defaults** driver tabs and you want to save the configuration as a print task quick set, highlight the words **Type new Quick Set name here**, type the name that you want for your new print task quick set, and then click **Save**. The print task quick sets are saved in the system registry. To delete a print task quick set, select it in the drop-down menu and click **Delete**.



NOTE Administrators can predefine print task quick sets for their users. These administrator print task quick sets are defined on the server and are available to users, but usually cannot be modified by users. Users can also define print task quick sets for their own use. User-defined print task quick sets are described later in this section.

You can store a maximum of 25 print task quick sets on a particular system. If you attempt to save too many, a message box appears that reads, "There are too many Print Task Quick Sets defined. Please delete some before adding new ones."

The following settings are available in the **Print Task Quick Sets** drop-down menu:

- **Default Print Settings**
- **User Guide Print Settings**

Default Print Settings

When you select **Default Print Settings**, nearly all of the settings are restored to the combination that existed after the driver was installed (the original settings). However, if the attribute combinations that are associated with watermark definitions, custom media sizes, or the other quick sets have been changed or deleted, the original settings for those items are not restored.

The following table shows the default settings for **Print Task Quick Sets**. See [HP Driver Preconfiguration](#) for information about preconfigurable driver settings.

Table 3-1 Print Task Quick Set default values for the HP LaserJet 2410, 2420, and 2430 printer

Driver feature	Feature setting location	Default values for U.S. English Print Task Quick Sets	Preconfigurable ¹
Print on Both Sides	Finishing tab, Document Options group box	Off	Yes
Flip Pages Up	Finishing tab, Document Options group box	Unavailable; Off when first activated	Yes
Booklet Printing	Finishing tab, Document Options group box	Unavailable; Off when first activated	Yes
Pages per sheet	Finishing tab, Document Options group box	1	Yes
Print page borders	Finishing tab, Document Options group box	Unavailable; Off when first activated	Yes
Page order	Finishing tab, Document Options group box	Unavailable; Right then Down when first activated	Yes
Print Quality	Finishing tab, Print Quality group box	Faster Printing	Yes

Table 3-1 Print Task Quick Set default values for the HP LaserJet 2410, 2420, and 2430 printer (continued)

Driver feature	Feature setting location	Default values for U.S. English Print Task Quick Sets	Preconfigurable ¹
Print document on	Effects tab, Fit to Page group box	Off - print on the size that is specified on the Paper tab	Yes
% of normal size	Effects tab, Fit to Page group box	100	Yes ²
Scale to fit	Effects tab, Fit to Page group box	Unavailable; On when first activated	Yes
Watermarks	Effects tab, Watermarks group box	(none)	Yes
First Page Only check box	Effects tab, Watermarks group box	Unavailable; Off when first activated	Yes
Current watermarks	Effects tab, Watermark Details dialog box (Click Edit for Watermark Details .)	(none)	Yes ²
Watermark message	Effects tab, Watermark Details dialog box (Click Edit for Watermark Details .)	(none)	Yes ²
Watermark message angle	Effects tab, Watermark Details dialog box (Click Edit for Watermark Details .)	Diagonal	Yes ²
Watermark message angle (angle)	Effects tab, Watermark Details dialog box (Click Edit for Watermark Details .)	Unavailable unless Angle option is selected; 52 (degrees) when activated	Yes
Watermark font name	Effects tab, Watermark Details dialog box, Font Attributes group box	Arial	Yes ²
Watermark font color	Effects tab, Watermark Details dialog box, Font Attributes group box	Gray	Yes
Watermark font shading	Effects tab, Watermark Details dialog box, Font Attributes group box	Very Light	Yes ²
Watermark font size	Effects tab, Watermark Details dialog box, Font Attributes group box	80	No
Watermark font style	Effects tab, Watermark Details dialog box, Font Attributes group box	Regular	Yes
Use different paper/covers	Paper tab, Paper Options group box	Off - all of the pages use the same media	No
Size is:	Paper tab, Paper Options group box	Letter	Yes
Source is:	Paper tab, Paper Options group box	Automatically Select	Yes
Type is:	Paper tab, Paper Options group box	Unspecified	Yes
Unlabeled group box	Job Storage tab	Status message about the destination of the job	No
Job storage mode	Job Storage tab, Job Storage Mode group box	Off	No
Proof and Hold	Job Storage tab, Job Storage Mode group box	Available, not selected	No
Private Job	Job Storage tab, Job Storage Mode group box	Available, not selected	No
PIN to print	Job Storage tab, PIN group box	Unavailable unless Private Job is selected	No

Table 3-1 Print Task Quick Set default values for the HP LaserJet 2410, 2420, and 2430 printer (continued)

Driver feature	Feature setting location	Default values for U.S. English Print Task Quick Sets	Preconfigurable ¹
Windows user name	Job Storage tab, User Name group box	Unavailable unless a Job Storage option has been selected; selected when activated	No
Job name	Job Storage tab, Job Name group box	Unavailable unless a Job Storage option has been selected; Automatic selected when activated	No
Display Job ID when printing	Job Storage tab, Job Notification Options group box	Unavailable unless a Job Storage option has been selected; selected when activated	No
Copy	Basics tab, Copies group box	1	Yes
Portrait	Basics tab, Orientation group box	On	Yes
Landscape	Basics tab, Orientation group box	Off	Yes
Rotate by 180 degrees	Basics tab, Orientation group box	Off	Yes
About	Basics tab		No

¹ Preconfigurable by using one of the HP Preconfiguration tools. For more information, see [HP Driver Preconfiguration](#), or go to www.hp.com/support/lj2410 for the HP LaserJet 2410 printer, www.hp.com/support/lj2420 for the HP LaserJet 2420 printer, or www.hp.com/support/lj2430 for the HP LaserJet 2430 printer.

² Not supported in Windows 98 and Windows Me.

User Guide Print Settings

The **User Guide Print Settings** option provides a Print Task Quick Set for optimal printing of the *HP LaserJet 2400 Series User Guide*.

When you select **User Guide Print Settings**, all of the settings are restored to the default settings, except for the following settings:

- **Print on Both Sides** is set to **ON**
- **Flip Pages Up** is set to **ON**
- **Pages per Sheet** is set to **2**
- **Page Order** is set to **Right then Down**

Document Options

The **Document Options** group box contains the following controls:

- **Correct Order for Rear Bin** check box
- **Print on Both Sides** check box

- **Flip Pages Up** check box
- **Booklet Printing** drop-down menu
- **Pages Per Sheet** drop-down menu
- **Print Page Borders** check box
- **Page Order** drop-down menu

Correct Order for Rear Bin

The HP LaserJet 2410, 2420, and 2430 printers have a door in the back that can be opened to allow the paper to go straight out the back of the printer. This bin can be used to minimize curl and avoid jams with heavier paper, such as cardstock. This check box orders the pages correctly for this rear bin so that they come out in the right order. This feature is disabled if automatic duplexing is enabled.

Print on Both Sides

The default setting for the **Print on Both Sides** option is off (not selected). **Print on Both Sides** is available when the following conditions exist:

- **Type is:** on the **Paper** tab is set to any type except **Labels, Transparency, or Envelope**.



NOTE **Print on Both Sides (Manually)** is available for **Cardstock 164 x 200 g/m²**.

- **Size is:** is set to any size except **Envelope #10, Envelope #DL, Envelope #C5, Envelope Monarch, or Envelope B5**.

When **Paper Size** is set to **Letter, Legal, or A4**, selecting **Print on Both Sides** makes the **Booklet Printing** option available.

Automatically printing on both sides

The duplexing unit in the product prints on two sides of a sheet when the **Print on Both Sides** option is specified in the print job. The HP LaserJet 2420d, 2420dn, and 2430dtn printer models come with a duplexing unit installed.

To achieve the best print quality when printing on the second side of the page, the product needs to make adjustments to its print modes. When you select a media type, you are, in effect, instructing the product to use a group of settings, such as fuser temperature and print speed, to produce the best possible quality. This group of settings is known as a mode or print mode, and a different print mode is used with each media type. Print-mode adjustments are automatic when the duplexing unit is used.

Manually printing on both sides

Select the **Print on Both Sides (Manually)** check box to print on the second side of the media for the HP LaserJet 2410, 2420n, 2430t and 2430tn printer models, which do not have a duplexing unit installed. Also select **Print on Both Sides (Manually)** on the other HP LaserJet 2410, 2420, and 2430 printer models for media types that are not available when using the automatic duplexing unit, such as cardstock and thick media.



NOTE To make the **Print on Both Sides (Manually)** check box available in the document options, select the **Allow Manual Duplexing** check box on the **Configure** tab in the Properties print-driver tabs. See [Paper Handling Options](#) in this chapter.

Manually printing on the second side of a page is available when you are using the HP Traditional PCL 6 Driver or the HP Traditional PCL 5e Driver. The PS Emulation Driver does not support the manual duplexing feature. If a duplexing unit is installed and manual duplexing is enabled in the driver, the printer automatically duplexes media types that are supported by automatic duplexing (Letter, A4, Legal, 8.5 x 13, and Executive (JIS) only), and forces manual printing on both sides for media types that are not supported.

It is important to select the media type that corresponds to the media you are using for the print job. The following media types have different print modes when you manually print on the second side:

- Plain
- Preprinted
- Letterhead
- Prepunched
- Bond
- Recycled
- Colored
- Rough

Cardstock media can be manually printed on the second side, but there is no change to the print mode. Transparencies and labels should not be manually printed on the second side.

To print a multiple-page document, follow these steps:

- 1 Select the **Print on Both Sides (Manually)** check box.
- 2 Click **OK**. The even-number pages of the document print.
- 3 When the control panel shows the **MANUALLY FEED OUTPUT STACK** message, insert the stack of media (on which the even-number pages have been printed) as indicated in the following figure.

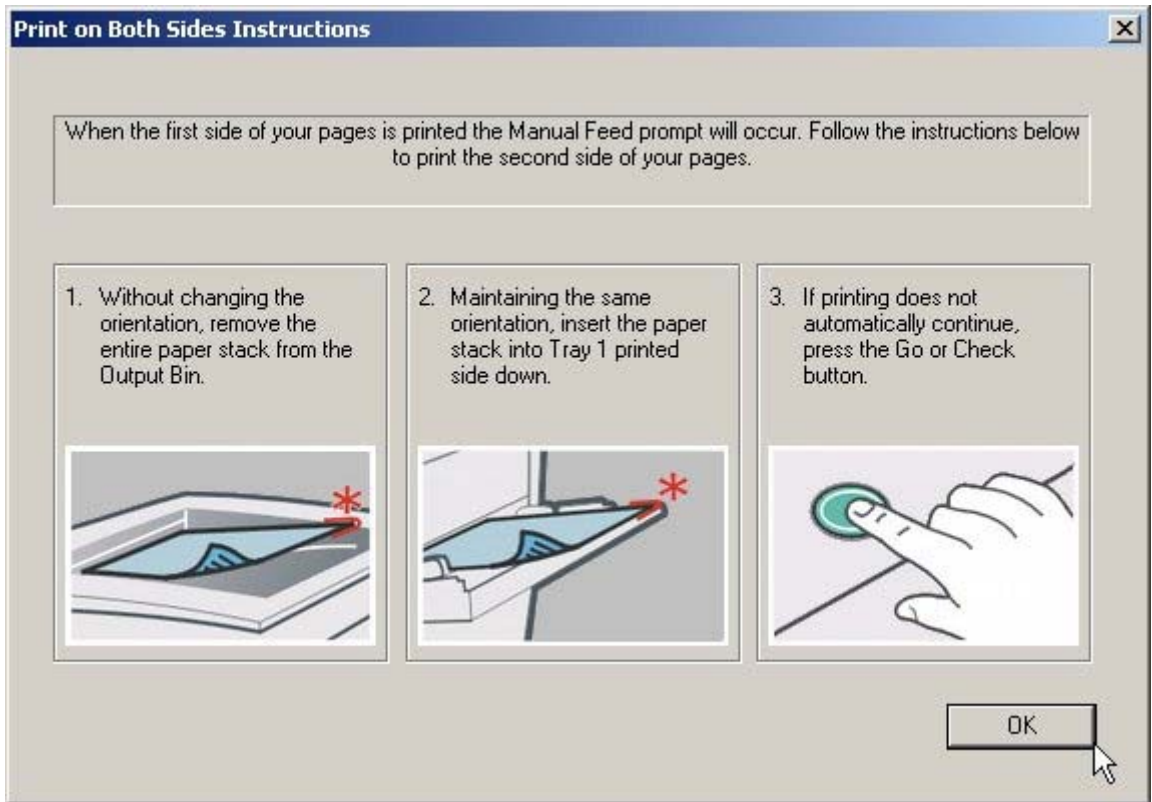


Figure 3-4 Print on Both Sides Instructions

When you have completed the steps that appear in the dialog box, the second half of the print job prints on the back side of the stack of media. The driver does not require the application to specifically support odd- and even-page printing, because the driver coordinates this function.

Flip Pages Up

The **Flip Pages Up** check box, which is available only when **Print on Both Sides** is selected, is used to specify the duplex-binding option. By default, the **Flip Pages Up** check box is not available. The following table demonstrates the results of selecting this box, depending on the media orientation that is selected on the **Basics** tab.

Table 3-2 Page orientation

Orientation (Basics tab)	Flip Pages Up selected	Flip Pages Up not selected
Portrait	Short-edge binding	Long-edge binding
Landscape	Long-edge binding	Short-edge binding

When **Print on Both Sides** is selected, the document preview image changes to show a spiral binding along either the left edge or the top edge of the page. In addition, a folded-over corner appears in the lower-right portion of the preview image, indicating that printing occurs on the back side. An arrow on the folded-over corner points in the direction that the pages would be flipped if they were bound together.

Short-side binding is for print jobs with pages that read by flipping over like the pages of a note pad. Long-side binding is for print jobs with pages that read by turning like the pages of a book.

Booklet Printing

The **Booklet Printing** drop-down menu is visible when **Print on Both Sides** is selected and a supported media size is selected in the **Size is:** drop-down menu on the **Paper** tab. The **Booklet Printing** drop-down menu offers choices that are based on the current media size. The default setting is **Off**. The other settings have the following format, where **[paper size]** depends on the media size that is set on the **Paper** tab.

- **[paper size] (Left Binding)**
- **[paper size] (Right Binding)**

When you select **[paper size] (Left Binding)** or **[paper size] (Right Binding)**, the document preview image changes to show the location of the binding. If you change the **Pages per Sheet** setting manually to 4, 6, 9, or 16 pages per sheet, the booklet setting is disabled. See the [Pages per Sheet](#) section of this document for more information.

The **Booklet Printing** drop-down menu appears only when the following conditions exist:

- **Print on Both Sides** (on the **Finishing** tab) is selected.
- **% of Normal Size** (on the **Effects** tab) is 100.
- **Pages per Sheet** (on the **Finishing** tab) is 1.
- **Size is** (on the **Paper** tab) is set to Letter, Legal, or A4.

If any of these conditions is not met (except the first), a Bubble Help appears next to **Booklet Printing** to tell you why it is disabled.

Book and Booklet Printing

The HP LaserJet 2410, 2420, and 2430 printer supports both book and booklet printing.

A book is a print job that consists of at least two pages and that can have a different media type for the front cover, first page, other pages, last page, or back cover. Use the **Front Cover**, **First Page**, **Other Pages**, **Last Page**, or **Back Cover** settings on the **Paper** tab (available when you select the **Use Different Paper/Covers** check box) to select different printing options for the book.

A booklet is a print job that places two pages on each side of a sheet that can be folded into a booklet that is half the size of the media type. Use the **Booklet Printing** drop-down menu on the **Finishing** tab to control booklet settings.

Printing a Booklet

Complete the following steps to print a booklet in most software programs.

- 1 In the software program, click **File**, click **Print**, and then click **Properties**.
- 2 Click the **Finishing** tab.
- 3 Select the **Print on Both Sides** check box.
- 4 In the **Booklet Printing** drop-down menu, select the type of booklet printing that you want. The booklet printing type consists of the media size and the location of the binding (for example, **Letter [Left binding]**).

- 5 Click **OK** in the print driver.
- 6 Click **OK** in the print dialog box to print.

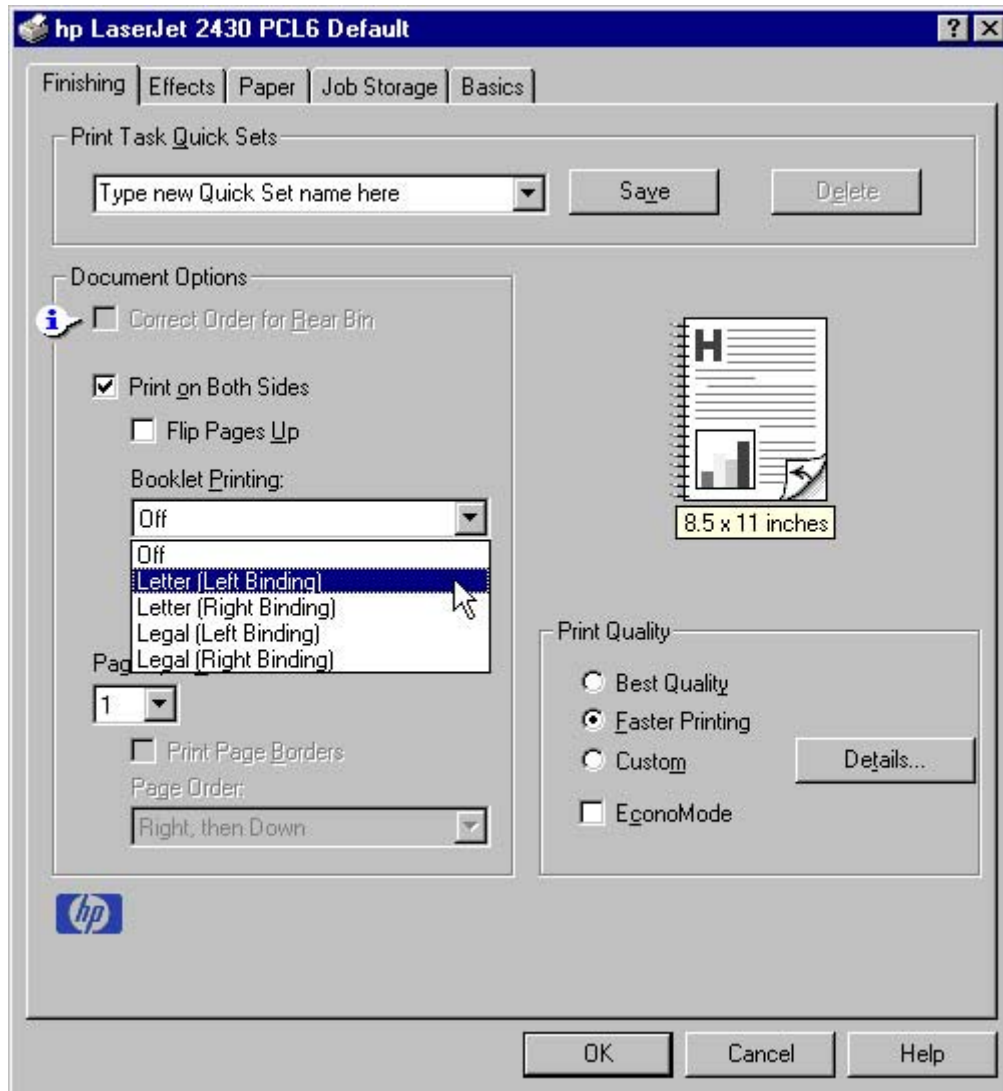


Figure 3-5 Printing a booklet

Printing a Book

You can print a book in which the front cover, first page, other pages, last page, and back cover have different media types. For more information, see [Paper tab features](#) in this chapter.

Pages per Sheet

Use the **Pages per Sheet** option to select the number of pages that you want to print on a single sheet. If you choose to print more than one page per sheet, the pages appear smaller and are arranged on the sheet in the order that they would otherwise be printed. The **Pages per Sheet** drop-down menu provides six settings:

- **1 page per sheet** (this is the default)
- **2 pages per sheet**

- 4 pages per sheet
- 6 pages per sheet
- 9 pages per sheet
- 16 pages per sheet

When you select an option other than **1 page per sheet**, booklet printing is unavailable.

Print Page Borders

Related controls that are indented beneath the **Pages per Sheet** edit box are **Print Page Borders** and **Page Order**, which become active when **Pages per Sheet** is greater than 1.

Print Page Borders sets a line around each page image on a printed sheet to help visually define the borders of each logical page.

Page Order

The **Page Order** drop-down menu contains four selections:

- **Right, then Down**
- **Down, then Right**
- **Left, then Down**
- **Down, then Left**

The document preview image changes to reflect alterations in these settings, as shown by the examples in the following illustration.

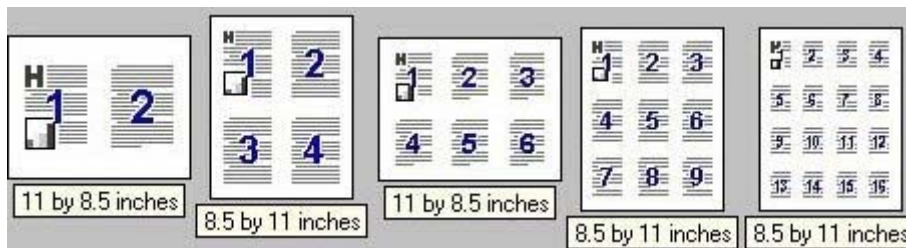


Figure 3-6 Page-order images

- 2 pages per sheet
- 4 pages per sheet
- 6 pages per sheet
- 9 pages per sheet
- 16 pages per sheet

Document preview image

The document preview image is a line-drawn image of a page that represents graphics and text. The document preview image is always oriented so that the contents of the page are right-side-up. The

document preview image appears in the upper-right corner of the **Finishing**, **Effects**, **Paper**, and **Basics** tabs.

Switching between tabs does not change the location or appearance of the document preview image. When you move the mouse over the document preview image, the mouse cursor changes from an arrow to a gloved hand. You can toggle between portrait and landscape page orientation by clicking on the image. The dimensions label that appears below the preview image reflects the selected page size. The horizontal dimension is always first, so the order of the numbers reverses when the orientation changes. Click the dimensions label to toggle between English and metric units.

Print Quality group box

The HP LaserJet 2410, 2420, and 2430 print driver **Print Quality** group box on the **Finishing** tab provides options that control output settings and font settings.

The default setting for **Print Quality** is **Faster Printing**. This is the fastest printing option, but prints with slightly lower quality than the **Best Quality** option. The **Faster Printing** setting uses a resolution of 300 dpi for the HP Traditional PCL 5e Driver and 600 dpi for the HP Traditional PCL 6 Driver.

Select the **Best Quality** option to print documents at the optimal resolution for your product. This option provides the best print quality but will print slightly slower than the **Faster Printing** option.

To use the **Custom** print quality setting, click the **Details** button. Clicking the **Details** button opens the **Print Quality Details** dialog box. The **Print Quality Details** dialog box has different options depending on the driver that you are using. After you have made changes in the **Print Quality Details** dialog box, the **Custom** option is selected in the **Print Quality** group box.

The **EconoMode** check box can be selected in conjunction with any of the print quality settings. When you select EconoMode, the product uses less toner on each page. Using this option might extend the life of your print cartridge and can lower the cost per page, but the option also reduces print quality. Using the EconoMode feature with non-HP print cartridges can result in spillage or product damage.

Print Quality Details for the HP Traditional PCL 6 Driver

The **Print Quality Details** dialog box provides the options for print-quality settings in the HP Traditional PCL 6 Driver as shown in the following illustration.

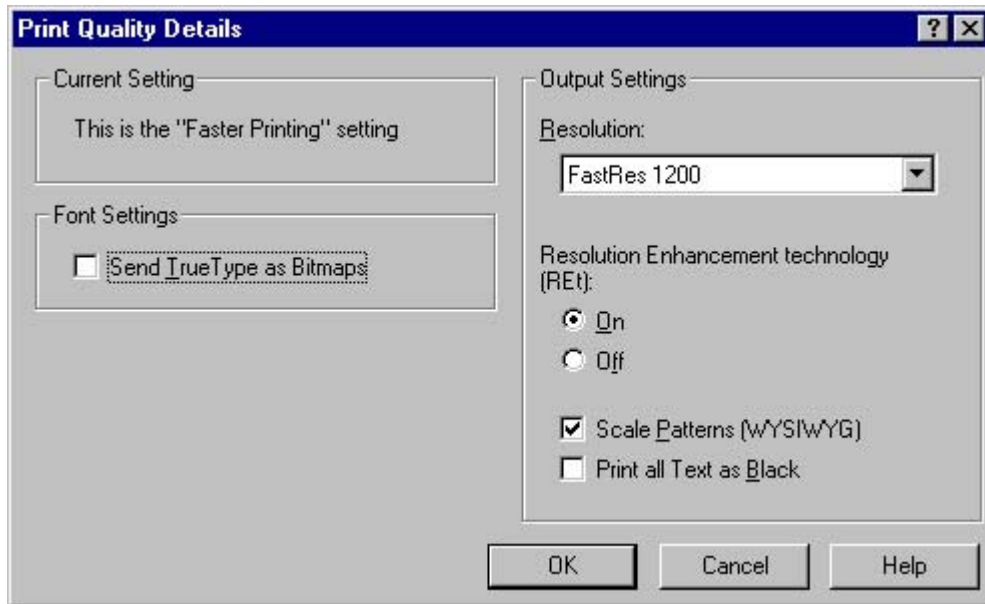


Figure 3-7 Print Quality Details dialog box for the HP Traditional PCL 6 Driver

The following options are available:

- **Current Setting** group box
- **Font Settings** group box
- **Output Settings** group box

Current Setting

The **Current Setting** group box contains a status message indicating which print quality setting is currently in use. When you make a change in the **Print Quality Details** dialog box, the setting changes from **This is the "Faster Printing" setting** (or **This is the "Best Quality" setting**) to **This is a "Custom" setting**.

Font Settings

In the **Font Settings** group box, the only available option is **Send TrueType as Bitmaps**, which provides an alternative for software programs that cannot easily use TrueType fonts for special graphic purposes, such as shading, rotation, or slanting. The **Send TrueType as Bitmaps** check box is not selected (clear) by default. If you select this option, the driver sends TrueType fonts to the product as outlines, which retains the standard format (outlines) of the fonts.

Output Settings

The **Output Settings** group box contains controls for resolution and pattern scaling, and to print all text as black.

The following are the default values for the **Output Settings**:

- **Resolution: FastRes 1200** is selected
- **Resolution Enhancement Technology (REt)** is **On**

- **Scale Patterns (WYSIWYG)** is selected
- **Print all Text as Black** is *not* selected

Resolution

Resolution refers to the number of dots per inch (dpi) used to print the page. As resolution is increased, the quality (clarity and visual appeal) of print on the page is improved. However, higher resolution can also result in longer printing times. The following resolution options are available for the HP LaserJet 2410, 2420, and 2430 printers:

- **ProRes 1200 (180 lpi)**: Prints using a resolution of 1200 x 1200 with 180 lines per inch (lpi). This prints slower than other resolutions, but has the best print quality.
- **ProRes 1200 (141 lpi)**: Prints using a resolution of 1200 x 1200 with 141 lines per inch (lpi). It prints slower than other resolutions, but has the best print quality.
- **FastRes 1200**: Prints using a resolution of 1200 x 600. It is faster than full 1200 x 1200 resolution, but has a slightly lower print quality.
- **600 dpi**: Prints using standard 600 dpi resolution.

Resolution Enhancement technology (REt)

REt refines the print quality of characters by smoothing out jagged edges that can occur on the angles and curves of a printed image. It is **On** by default. Select **Off** if graphics, particularly scanned images, are not printing clearly.

Scale Patterns (WYSIWYG)

Use the **Scale Patterns (WYSIWYG)** feature to address the moiré effect that is created when certain programs encounter certain patterns. Use this feature to turn off the pattern scaling. What you lose is WYSIWYG with patterns, but the printed result might look better. The feature works only with programs that use vector hatch patterns. This option is selected by default.

Print all Text as Black

The **Print All Text as Black** feature is not selected by default. When the feature is selected, the driver prints all text as black regardless of the original document text color. Color text is printed as black, except for white text, which remains white. (White text is a reliable method of printing reverse typeface against a dark background.) This setting does not affect graphic images on the page, nor does it affect any text that is part of a graphic.

Print Quality Details for the HP Traditional PCL 5e Driver

The default print quality setting for the HP Traditional PCL 5e Driver is “Best Quality” rather than “Faster Printing.” The **Print Quality Details** dialog box for the HP Traditional PCL 5e Driver provides the options for print-quality settings in as shown in the following illustration.

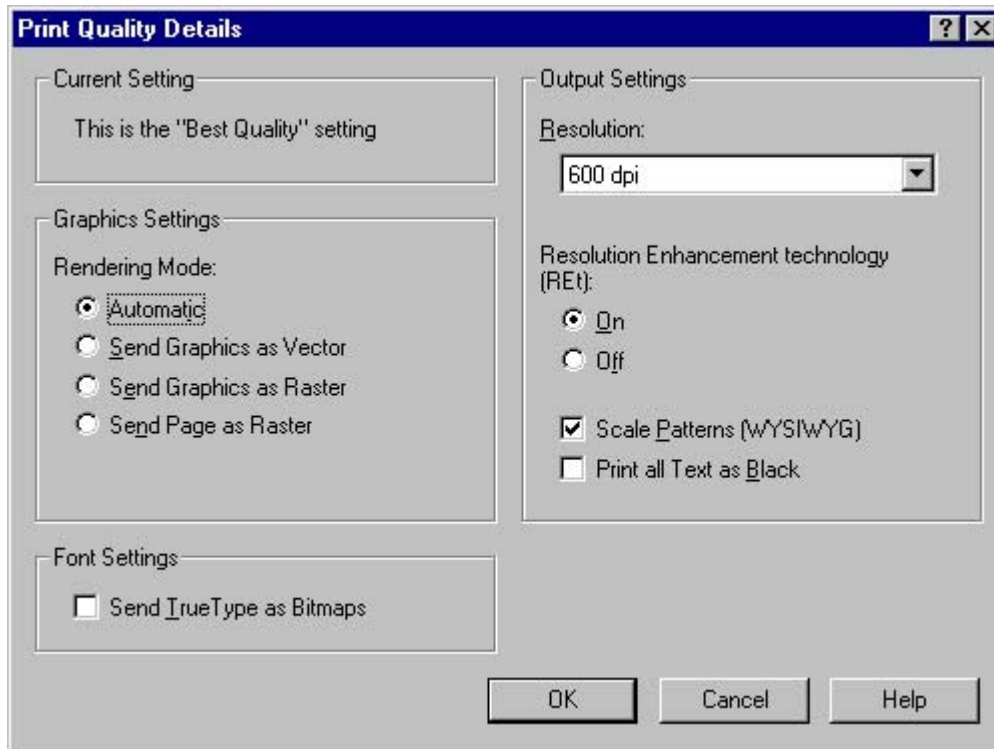


Figure 3-8 Print Quality Details dialog box for the HP Traditional PCL 5e Driver

The following options are available:

- **Current Setting** group box
- **Graphics Settings** group box
- **Font Settings** group box
- **Output Settings** group box

Current Setting

The **Current Setting** group box contains a status message indicating which print quality setting is currently in use. When you make a change in the **Print Quality Details** dialog box, the setting changes from **This is the "Best Quality" setting** (or **This is the "Faster Printing" setting**) to **This is a "Custom" setting**.

Graphics Settings

The **Graphics Settings** group box in the HP Traditional PCL 5e Driver has settings for the graphics-rendering mode. The following **Rendering Mode:** option buttons are available:

- **Automatic.** This is the default setting.
- **Send Graphics as Vector.** Select this setting to send graphics to the product as a combination of HP Graphics Language, V2 (HP-GL/2) and raster images. This setting might produce higher-quality output.
- **Send Graphics as Raster.** Select this setting to send all graphics to the product as images composed of individual dots. This setting might improve printing speed in some cases.

- **Send Page as Raster.** Select this setting to send all graphics and text (TrueType fonts) to the product as images composed of individual dots. Use **Send Page as Raster** if you are experiencing problems with overlapping text and graphics. With this setting, the **Send TrueType as Bitmaps** option has no effect.

Font Settings

In the **Font Settings** group box, the only available option is **Send TrueType as Bitmaps**, which provides an alternative for software programs that cannot easily use TrueType fonts for special graphic purposes, such as shading, rotation, or slanting. The **Send TrueType as Bitmaps** check box is not selected (clear) by default. If you select this option, the driver sends TrueType fonts to the product as outlines, which retains the standard format (outlines) of the fonts.

Output Settings

The **Output Settings** group box contains controls for resolution, pattern scaling, and printing all text as black.

The default values for the **Output Settings** are as follows:

- **Resolution: 600 dpi** is selected
- **Resolution Enhancement Technology (REt)** is **On**
- **Scale Patterns (WYSIWYG)** is selected
- **Print all Text as Black** is *not* selected

Resolution

Resolution refers to the number of dots per inch (dpi) used to print the page. As resolution is increased, the quality (clarity and visual appeal) of print on the page is improved. However, higher resolution may also result in longer printing times. The following resolution options are available in the HP Traditional PCL 5e Driver:

- **300 dpi**
- **600 dpi**

Resolution Enhancement technology (REt)

REt refines the print quality of characters by smoothing out jagged edges that can occur on the angles and curves of a printed image. It is **On** by default. Select **Off** if graphics, particularly scanned images, are not printing clearly.

Scale Patterns (WYSIWYG)

Use the **Scale Patterns (WYSIWYG)** feature to address the moiré effect that is created when certain programs encounter certain patterns. Use this feature to turn off the pattern scaling. What you lose is WYSIWYG with patterns, but the printed result might look better. The feature works only with programs that use vector hatch patterns. This option is selected by default.

Print all Text as Black

The **Print All Text as Black** feature is not selected by default. When the feature is selected, the driver prints all text as black regardless of the original document text color. Color text is printed as black, except for white text, which remains white. (White text is a reliable method of printing reverse typeface against a dark background.) This setting does not affect graphic images on the page, nor does it affect any text that is part of a graphic.

Effects tab features

The **Effects** tab is used to create unique media effects such as scaling and watermarks. The following illustration shows the **Effects** tab.

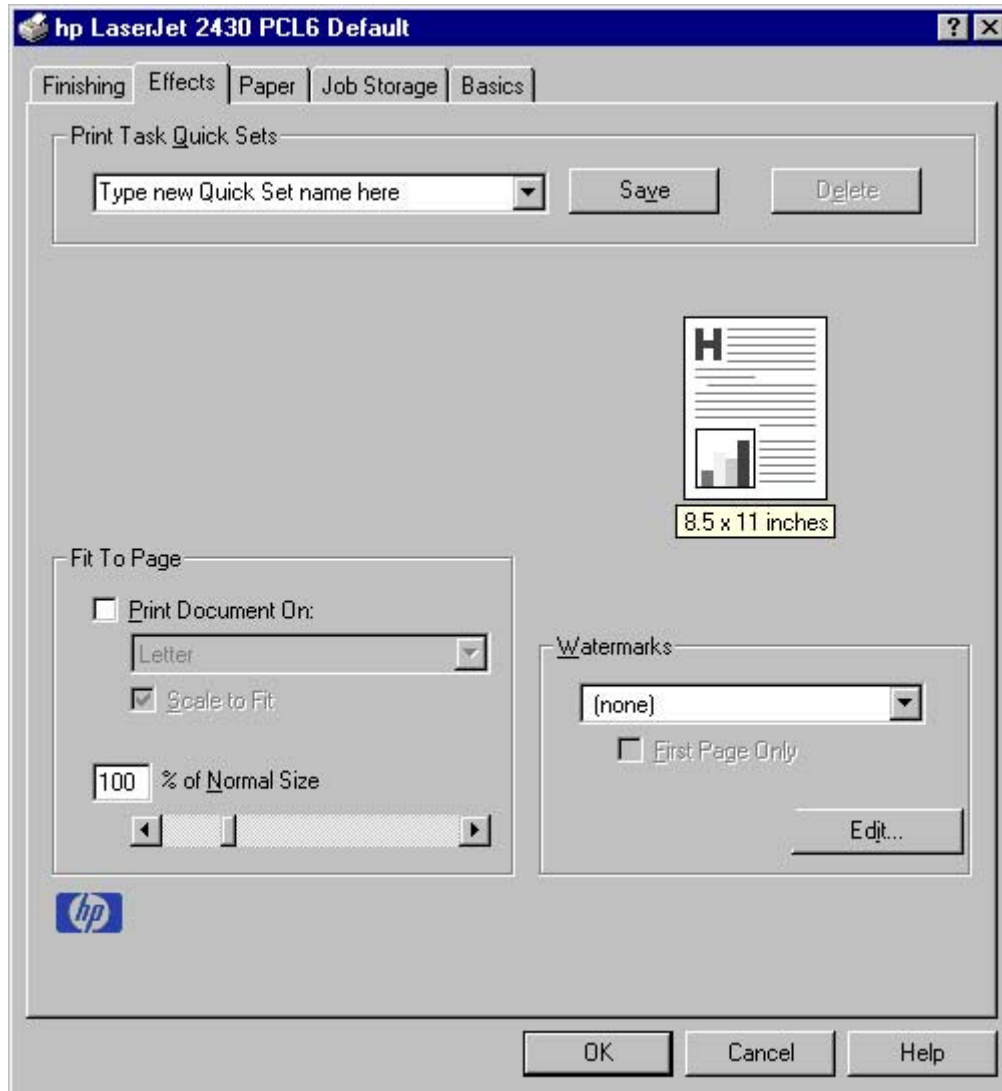


Figure 3-9 Effects tab

The **Effects** tab contains the following controls:

- **Print Task Quick Sets** group box
- **Fit to Page** group box

- Document preview image
- **Watermarks** group box

Print Task Quick Sets

The **Print Task Quick Sets** control is used to store the current combination of driver settings that are found on all of the other **Document Defaults** driver tabs. Print Task Quick Sets are either preset (by the administrator) or user-defined printing specifications, such as media size and pages per sheet. For more information, see [Finishing tab features](#).

Fit To Page group box

The **Fit To Page** group box contains the following controls:

- **Print Document On** setting
- **Scale to Fit** check box
- **% of Normal Size** setting

Print Document On

Use **Print Document On** to format the document for one media size, and then print the document on a different media size, with or without scaling the page image to fit the new media size.

The **Print Document On** control is disabled by either of the following conditions:

- **% of Normal Size** is not 100.
- **Pages per Sheet** (on the **Finishing** tab) is not 1.

When **Print Document On** is selected, the drop-down menu shows the media sizes on which you can print. The list contains all of the standard media sizes that are supported by the selected media source, and any custom size that you have created. When **Print Document On** is selected, **Scale to Fit** is automatically selected. Clear this check box if you do not want your document reduced or enlarged to fit on the selected media size.

Scale to Fit

The **Scale to Fit** option specifies whether each formatted document page image is scaled to fit the target media size. By default, **Scale to Fit** is selected when **Print Document On** is selected. If the setting is turned off, then the document page images will not be scaled, and are instead centered at full size on the target media. If the document size is larger than the target media size, then the document image is clipped. If the document size is smaller, then it is centered within the target media. The following illustration shows preview images for a document formatted for Legal-size media with the **Print Document On** option selected, and the target size specified as **Letter**.

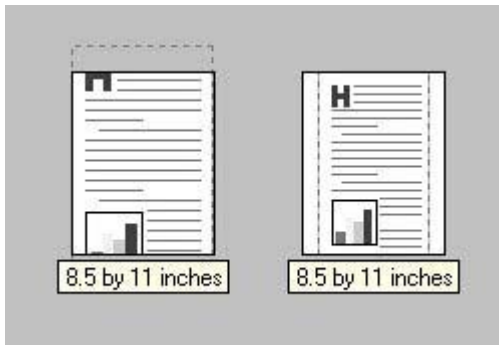


Figure 3-10 Preview images - Legal on Letter; Scale to Fit off (left) and on (right)

When the size for which the document is formatted (that is, the logical size) differs from the target size, the document preview image uses a dashed gray line to show the boundaries of the logical page in relation to the target page size.

% of Normal Size

The **% of Normal Size** option provides a slider bar for scaling the percentage setting. The default setting in the entry box is 100 percent of the normal size. The normal size is defined as the media size that is selected within the driver or what the driver receives from the software program (if the software program does not negotiate the media size with the driver). The driver scales the page by the appropriate factor and sends it to the printer.

The limits of the range are from 25 percent to 400 percent, and any values outside the range are adjusted to those limits as soon as the focus is removed from the control (that is, when the **Tab** key is pressed or another control is selected).

Any change to the scale also changes the document preview image, which increases or decreases from the upper-left corner of the preview.

The slider bar controls the scale directly. The value in the edit box changes as the scroll bar indicator is dragged, and the document preview image is updated to the new image scale. Each click on the scroll bar arrows increases or decreases the scale by one percent. Each click on the slider bar affects the scale by 10 percent.

You cannot achieve an exact value by dragging the scroll bar indicator at the default Windows resolution; use the scroll bar indicator to approximate the value that you want, and then use the scroll bar arrows to refine the value. Or, type the value into the entry box.

The following settings disable **% of Normal Size**:

- **Print Document On** (on the **Effects** tab) is selected.
- **Pages per Sheet** (on the **Finishing** tab) is not 1.

Watermarks

Use the **Watermarks** feature to select a watermark, create your own custom watermarks (text only), or edit an existing watermark.

The **Watermarks** group box contains the following controls:

- **Watermarks** drop-down menu
- **First Page Only** check box
- **Edit** button (opens the **Watermark Details** dialog box)

Watermarks drop-down menu

The following watermarks are preset in the driver:

- **(None)**
- **Confidential**
- **Draft**
- **SAMPLE**

The drop-down menu shows alphabetically-sorted watermarks that are currently available on the system, plus the string "(none)", which indicates that no watermark is selected. This is the default setting. Any watermark that is selected from this list appears in the document preview image.

First Page Only

When **First Page Only** is selected, the watermark is printed only on the first page of the document. The **First Page Only** check box is not available when the current watermark selection is "(none)".

Watermarks are applied to logical pages. For example, when **Pages per Sheet** is set to "4" and **First Page Only** is turned off, four watermarks appear on the physical page (one on each logical page).

Edit

Click **Edit**, and the **Watermark Details** dialog box appears. The following illustration shows the **Watermark Details** dialog box.

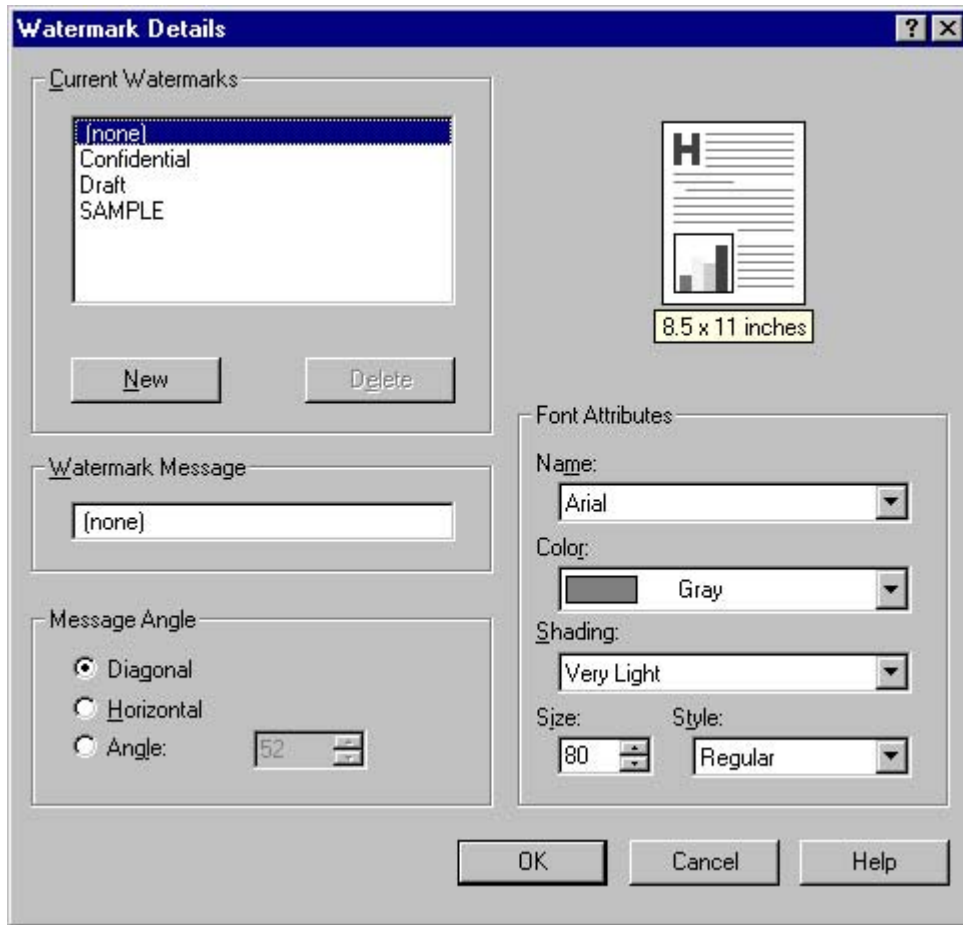


Figure 3-11 Watermark Details dialog box

The dialog box shows a document preview image and provides options for creating a new watermark and controlling the message angle and the font attributes.

The **Watermark Details** dialog box contains the following controls:

- **Current Watermarks**
- **Watermark Message**
- **Message Angle**
- Document preview image
- **Font Attributes**

Current Watermarks

The **Current Watermarks** group box contains a list of available watermarks, both predefined watermarks that are available in the driver and any new watermarks that you have created.

To create a new watermark, click **New**. The new watermark appears in the **Current Watermarks** list and in the **Watermark Message** edit box as **Untitled** until you name it.

To name the new watermark, type the selected watermark text in the **Watermark Message** edit box.

To delete a watermark, select the watermark in the **Current Watermarks** list and click **Delete**.



NOTE You can have no more than 30 watermarks in the **Current Watermarks** list at one time. When you reach the limit of 30 watermarks, the **New** button is disabled, and a Bubble Help message appears that explains why the button is disabled and how to make it available.

To edit an existing watermark, select the watermark in the **Current Watermarks** list. If you change the **Watermark Message** for that watermark, you are, in effect, creating a new watermark.

Watermark Message

The **Watermark Message** is also the name that identifies the watermark in the **Current Watermarks** list, except when more than one watermark has the same message. For example, you might want several different watermarks with the message DRAFT, each in a different font or size. When this occurs, the string is appended with a space, a pound sign, and a number (for example, **Draft #2**). When a number is added, the number two is used first, but if the resulting name is also in the list, then the number increases until the name is unique.

Message Angle

Use the controls in the **Message Angle** group box to print the watermark in a diagonal, horizontal, or angle (custom) orientation to the text on the page. The default is **Diagonal**. All three settings automatically center the watermark string within the page; the selection of a particular setting affects only the angle of the string placement. **Diagonal** places the text along a line that spans the lower-left to upper-right corners of the page.

Document preview image

The document preview image is a line-drawn image of a page that represents graphics and text. The document preview image appears in the upper-right corner of the **Watermark Details** dialog box. The document preview image changes to reflect the modifications that you make in the **Watermark Details** dialog box.

Font Attributes

Use the controls in the **Font Attributes** group box to change the font and the shading, size, and style of the font.

The **Font Attributes** group box contains the following controls:

- **Name**
- **Color**
- **Shading**
- **Size**
- **Style**

Name

The **Name** drop-down menu lists TrueType fonts that are currently installed on the system. The default is language-dependent.

Color

The **Color** drop-down menu contains a single setting: **Gray**.

Shading

The default **Shading** setting for new and preset watermarks is **Very Light**. The following range of shades is available from the **Shading** drop-down menu:

- **Lightest**
- **Very Light** (default)
- **Light**
- **Medium Light**
- **Medium**
- **Medium Dark**
- **Dark**
- **Very Dark**
- **Darkest**

Size

Font sizes from 1 to 999 points are available from the **Size** menu. The default point size is language-dependent. The default point size for preset watermarks is language-dependent.

Style

The choice of **Regular**, **Bold**, **Italic**, and **Bold Italic** is available from the **Style** drop-down menu. The default **Style** setting for new and current watermarks is **Regular**.

Default settings

The default settings for new watermarks are **Arial** font, **Gray** color, **Very Light** shading, **80** points, and **Regular** style. The default settings for preset watermarks are **Arial** font, **Gray** color, **Very Light** shading, and **Bold** style. The default font name and point size for preset watermarks are language-dependent, and vary.

Click **OK** to accept all of the changes that have been made in the **Watermark Details** dialog box. Clicking **Cancel** does not cancel all of the changes. If you make changes to a watermark, and then select a different watermark or click **New**, all of the changes made to the previous watermark are saved, and only the current, unsaved changes can be canceled.

Paper tab features

Use the **Paper** tab to specify the size, type, and source of the media. You can also use this tab to indicate different paper-selection choices for the front cover, first page, other pages, last page, and back cover of the document. The following illustration shows the **Paper** tab.

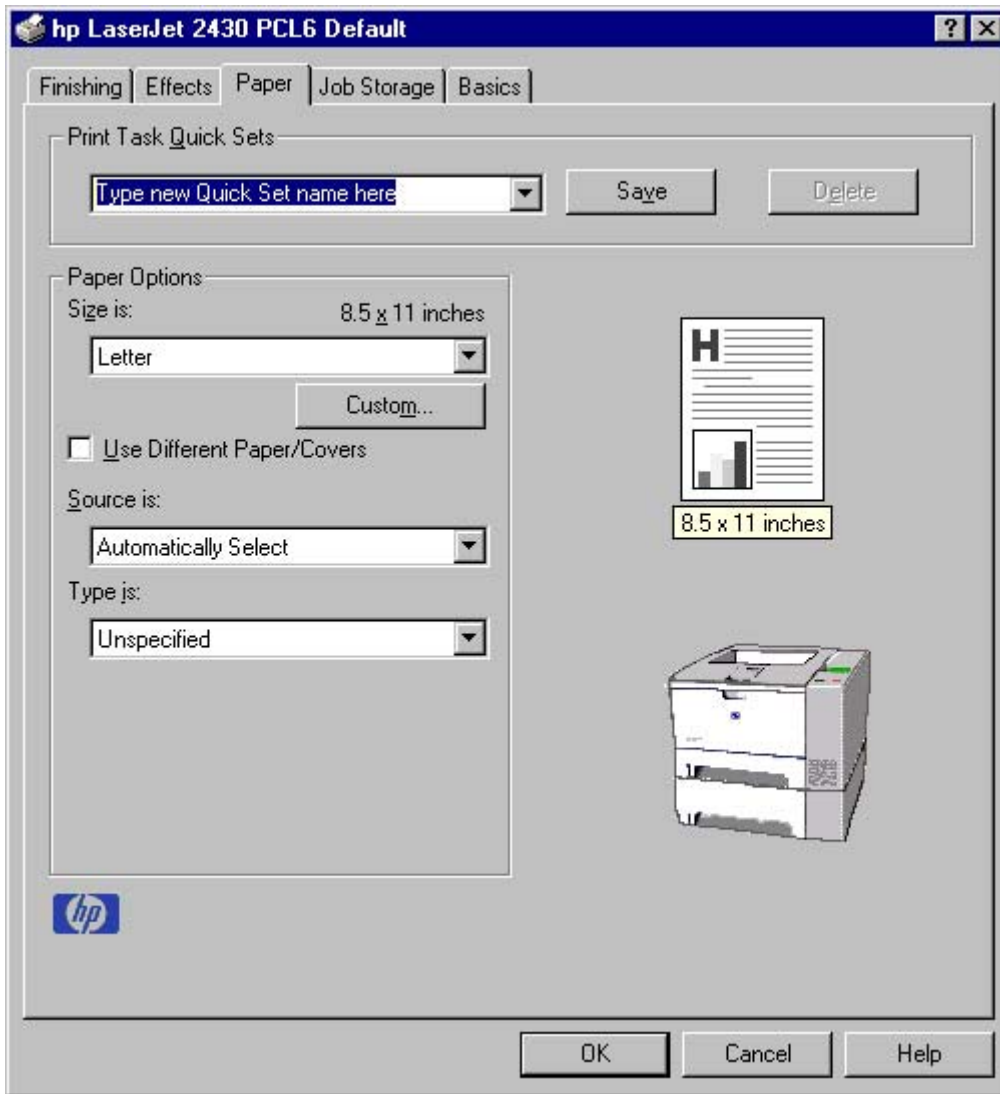


Figure 3-12 Paper tab

The **Paper** tab contains the following controls:

- **Print Task Quick Sets** group box
- **Paper Options** group box
- Document preview image
- printer image

Print Task Quick Sets

The **Print Task Quick Sets** control is used to store the current combination of driver settings that appear on all of the other **Document Defaults** driver tabs. Print task quick sets are either preset (by the administrator) or user-defined printing specifications, such as media size and pages per sheet. For more information, see [Finishing tab features](#).

Paper Options

The settings that are specified in the **Paper Options** group box on the **Paper** tab apply to all of the pages of the document. The following illustration shows the **Paper Options** group box and the selections that are available by default.

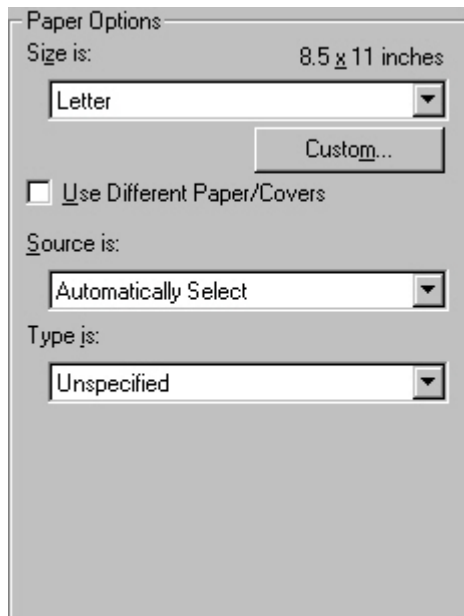


Figure 3-13 Paper Options group box (default)

The appearance of the Paper Options group box changes when the **Use Different Paper/Covers** check box is selected. For convenience, the settings in the **Paper Options** group box are described in the following order:

- [Size is](#)
- [Source is](#)
- [Type is](#)
- [Custom](#)
- [Use Different Paper/Covers](#)

Size is

The **Size is:** setting is a drop-down menu that lists all of the supported media sizes.



NOTE When you move the mouse over the dimensions label, the mouse cursor changes from an arrow to a gloved hand. Click the dimensions label to toggle between English and metric units.

You can specify size for all of the settings in the **Paper Options** group box. When you set the media size in the driver, the entire print-job output uses that media size. That is, if the print job uses Letter-size media, any option that you select from the available **Use Different Paper/Covers** options must also use Letter-size media.

Because driver settings are overridden by media-size settings in most software programs, it is generally best to use the driver to set media size only for software programs that lack a media-size setting, such as NotePad, or when you are producing a book or a booklet that does not require different media sizes.



NOTE Certain software programs can override the size command and specify different media sizes within a single document.

For information about media sizes, see the [Media attributes](#) section of this guide.

Use Different Paper/Covers

When the **Use Different Paper/Covers** check box is selected and different options are configured, the **Size is:**, **Source is:**, and **Type is:** drop-down menus change, offering a variety of options. For more information, see [Use Different Paper/Covers](#).

Source Is

The **Source is:** setting specifies the source tray to use for printing a document. The list of source trays depends on the product accessories. Any optional source trays that are installed through the **Configure** tab also appear here.

The **Source is:** drop-down menu can contain the following options:

- **Automatically select**
- **Manual Feed in Tray 1**
- **Tray 1** (100-sheet multipurpose tray)
- **Tray 2** (250-sheet tray)
- **Tray 3** (500-sheet tray)

The default setting is **Automatically Select**. When this setting is selected, the HP LaserJet 2410, 2420, and 2430 printer uses the source tray that supports the media size that you have selected. If you select a source tray other than **Automatically select**, make sure that the correct media size is loaded in the source tray. For more information about media sources, see the [Media attributes](#) section of this guide.

Type is

The **Type is:** drop-down menu shows all of the media types that the HP LaserJet 2410, 2420, and 2430 printer supports. When you use the default setting, **Unspecified**, the product uses the default media type, which is usually **Plain**.

The following standard types appear in the lists:

- Unspecified
- Plain
- Preprinted
- Letterhead
- Transparency

- Prepunched
- Labels
- Bond
- Recycled
- Color
- Cardstock (164 to 200 g/m² or 43 to 53 lb.)
- Envelope
- Light (60 to 75 g/m² or 16 to 20 lb.)
- Rough

The default setting is **Unspecified**, and the program selects the media type. If you select a different setting, make sure that the correct media type is loaded in the tray that you selected in the **Source is:** setting. For more information about media types, see the [Media attributes](#) section of this guide.

Custom

The **Custom Paper Size** dialog box appears when you click the **Custom** button on the **Paper** tab. The following illustration shows the initial appearance of the **Custom Paper Size** dialog box.



NOTE The **Custom** button is not available when **Use Different Paper/Covers** is selected *and* any setting other than **First Page** is also selected.

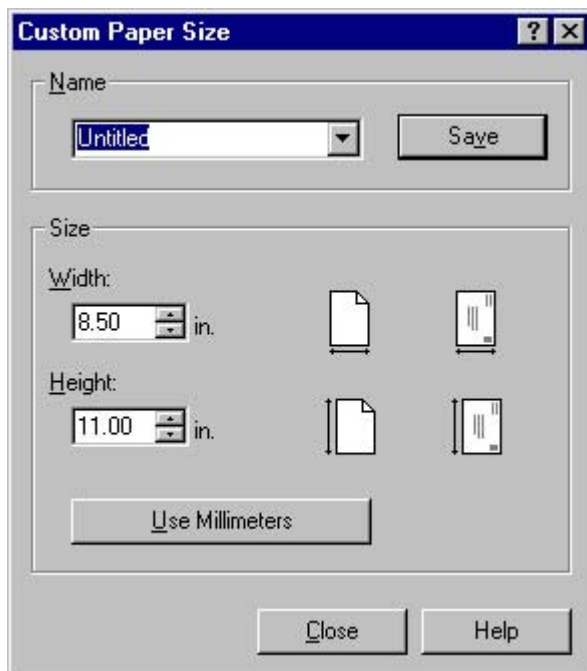


Figure 3-14 Custom Paper Size dialog box

When the **Custom Paper Size** dialog box appears, the drop-down menu in the **Name** group contains one of two things, depending on the current paper-size selection on the **Paper** tab:

- If the paper-size selection is a previously defined custom size, then the drop-down menu contains the name of that custom size.
- If the paper-size selection is a standard media size, then the drop-down menu shows the default name **Untitled** for a custom media size.



NOTE In Windows 98 and Windows Me, two names for the same size media can coexist (for example, "big" and "BIG" can both be used as names for custom-size media measuring 8.4 inches by 11 inches). In Windows NT 4.0, Windows 2000, and Windows XP, both uppercase and lowercase names can be used, but they cannot be used to name the same media size.

The new name is compared only against the list of user-defined custom media-size names, and not against the standard media-size names.

The complete set of titles for this button and the specific characteristics that determine its title and capabilities are discussed in the [Save, Delete, or Rename](#) section.

Name

The **Name** drop-down menu shows the name of the custom media size that was selected most recently. Use the **Name** drop-down menu to select from the list of currently defined custom media sizes, or to type a new name for a custom media size.

The name that appears in the **Name** drop-down menu is one of three things, depending on the following conditions:

- If a saved custom media size has been selected from the drop-down menu and the other controls in the dialog box have not been changed since, then the **Name** drop-down menu shows the name of the last selected custom media size.
- If the width or height controls have been changed since a custom size was selected or saved, or if a saved media size has just been deleted, then the **Name** drop-down menu shows the default name of "Untitled."
- If a new name has been typed into the **Name** drop-down menu for the purpose of saving a new size or renaming an existing size, then that new name will remain in the drop-down menu until a saved custom media size has been selected from the drop-down menu.

If you type a new name into the **Name** drop-down menu, but then do not click the **Save** button, you should be able to change the width and height values without losing the name. However, if a saved media-size name is selected from the drop-down menu, any unsaved name or size values are lost without warning, and replaced by the values of the selected custom media size.

Save, Delete, or Rename

The dynamic command button located next to the **Name** drop-down menu has three possible labels: **Save**, **Delete**, and **Rename**.

- **Save** is the button title whenever the height and width values have been changed since the most recent save action or since the selection of an existing custom media size. Clicking the button causes the name in the **Name** drop-down menu to be compared against each of the saved names. If a duplicate is found, a dialog box appears, asking if it is okay to replace the existing item. If you click **Yes**, the old item is updated with the new values. If you click **No**, the driver returns to the **Custom Paper Size** dialog box, where you can type a different name. The new name is compared only against the list of user-defined custom media names, and not against the standard media-size names. Whenever the command button has the **Save** title, it is the default button.
- **Delete** is the button title whenever the name of an existing (previously saved) custom media size appears in the **Name** drop-down menu, such as immediately after selecting an item from the drop-down menu or clicking the **Save** button. Clicking the **Delete** button causes the saved custom media size to be deleted, after which the **Name** drop-down menu changes to **Untitled**, the height and width controls are unchanged, and the button title changes to **Save**.
- **Rename** is the button title when you type something into the **Name** drop-down menu after selecting an existing custom media size from the drop-down menu. If no duplicate is found, then the name of the stored custom media size changes to match the contents of the **Name** drop-down menu.

The following table illustrates the relationships between the **Name** drop-down menu, the command button, and the actions that take users from one state to another.

Table 3-3 Name drop-down menu text strings

State	Drop-down menu contents	Button label	Action	Next state
1	Untitled	Save	Click Save .	3
			Type something into the Name drop-down menu.	2
			Change the width or height values.	1
			Select a saved item from the drop-down menu.	3
2	<user-typed text>	Save	Click Save .	3
			Type something into the Name drop-down menu.	2
			Change the width or height values.	2
			Select a saved item from the drop-down menu.	3
3	<name of saved item>	Delete	Click Delete .	1
			Type something into the Name drop-down menu.	4
			Change the width or height values.	1
			Select a saved item from the drop-down menu.	3
4	<user-typed text>	Rename	Click Rename (when the name is unique).	3
			Click Rename (when the name is a duplicate).	4
			Type something into the Name drop-down menu.	4

Table 3-3 Name drop-down menu text strings (continued)

State	Drop-down menu contents	Button label	Action	Next state
			Change the width or height values.	2
			Select a saved item from the drop-down menu.	3

Custom size (width and height controls)

The width and height values can be changed either by typing numeric strings into the edit boxes, or by using the up and down arrows.

Any entry that is greater than the maximum limits of the width and height control is rounded down to the maximum valid entry, while any entry that is smaller than the minimum limits of the width and height control is rounded up to the minimum valid entry. See [Custom width and height control limits](#).

If units are in millimeters, the custom media-size range minimum is the limit rounded up to the nearest whole millimeter. The custom media-size range maximum is the limit rounded down to the nearest whole millimeter. Any non-numerical entry reverts to the last valid entry. Width and height entries are validated when the focus has changed.

The resolution of each control is one millimeter or one-tenth of an inch, depending on the current measurement units. Clicking the up and down arrows increases or decreases the current value by the increment amount (within the allowed range of values). The computer determines the rate at which the values change.

Unit indicator labels change dynamically to indicate inches or millimeters, depending on the measurement units the driver is currently using. To change measurement units, click the dynamic measurement-units button (either **Use Inches** or **Use Metric**).

Custom width and height control limits

The minimum media size for the HP LaserJet 2410, 2420, and 2430 printer is 76.2 x 127 mm (3 x 5 inches) and the maximum is 215.9 x 355.6 mm (8.5 x 14 inches). The following table summarizes media size limits for each media-handling device.

Table 3-4 PCL 6 custom media sizes

Tray	Dimensions	Minimum	Maximum
Tray 1 (multipurpose)	Width	76.2 mm (3 inches)	215.9 mm (8.5 inches)
	Height	127.0 mm (5 inches)	355.6 mm (14 inches)
Tray 2 (250-sheet)	Width	Custom sizes not supported	Custom sizes not supported
	Height	Custom sizes not supported	Custom sizes not supported
Tray 3 (500-sheet)	Width	Custom sizes not supported	Custom sizes not supported
	Height	Custom sizes not supported	Custom sizes not supported
Duplexing unit	Width	Custom sizes not supported	Custom sizes not supported
	Height	Custom sizes not supported	Custom sizes not supported

Paper and envelope icons

The paper and envelope icons visually define width and height.

Dynamic measurement units

Use the dynamic measurement-units button to toggle the unit of measurement between standard (inches) and metric (millimeters) units of measurement. The label on this button is dynamic, depending on the measurement units that are in use. If the custom size currently shows the measurements in inches, the button is labeled **Use Millimeters**. If the custom size currently shows the measurements in millimeters, the button is labeled **Use Inches**. Click the button to switch measurement-unit types.

Close

The **Close** button closes the **Custom Paper Size** dialog box according to the logic in the following table. In all cases, any custom media sizes that are successfully saved (and not renamed or deleted) while the dialog box is open will remain in the **Size is:** drop-down menu on the **Paper** tab. The following table lists options that appear when you click the **Close** button.

Table 3-5 Close dialog box text strings

If the drop-down menu contains	And the button says	Then this happens when the Close button is clicked
Untitled	Save	The dialog box closes, but you lose the changes that were not saved. The current media size remains the same as it was when the Custom button was clicked.
<user-typed text>	Save	The dialog box closes, but you lose the changes that were not saved. The current media size remains the same as it was when the Custom button was clicked.
<name of saved item>	Delete	The dialog box closes, and the current media size is set to that which was last shown in the drop-down menu.
<user-typed text>	Rename	The dialog box closes, but you lose the changes that were not saved. The current media size remains the same as it was when the Custom button was clicked.

Use Different Paper/Covers

You can print books that are comprised of different media types using the **Use Different Paper/Covers** options.

When you select the **Use Different Paper/Covers** check box, the following settings can appear in the group box, along with associated options:

- **Front Cover**
- **First Page**
- **Other Pages**
- **Last Page**
- **Back Cover**



NOTE You must use the same size of media for the entire print job. All **Use Different Paper/Covers** options use the size that you selected in the First Page settings and the **Size is:** driver setting becomes unavailable for all of the other **Use Different Paper/Covers** options. Therefore, the First Page settings are described first in the following sections.

When you change the type and source of the media and covers, the settings that you select remain configured until you close the software program.

Each option for the **Use Different Paper/Covers** setting is described in the following sections.

First Page

Use the **First Page** option to select an alternative media size, type, or source for the first page of a document. The following illustration shows the appearance of the Paper Options group box when you select the Use Different Paper/Covers check box. The **First Page** setting is selected by default.

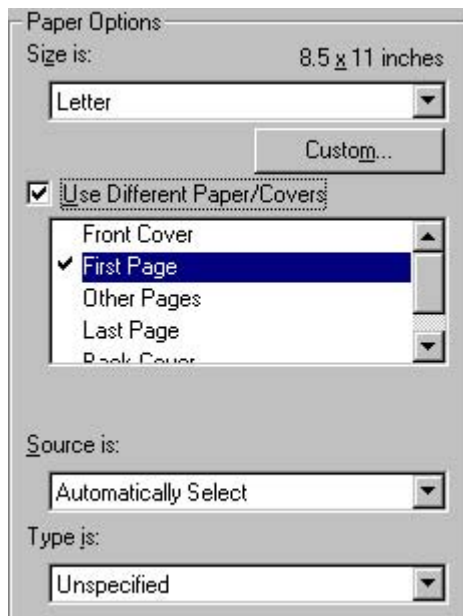


Figure 3-15 First Page options

The following are the **First Page** options:

- **Size is:** drop-down menu
- **Source is:** drop-down menu
- **Type is:** drop-down menu

The **Size is:** driver setting for the first page applies to the entire print job. When this is set, the setting becomes unavailable for all the other **Use Different Paper/Covers** options.

The **Source is:** setting specifies the source tray to use for printing a document. The list of source trays depends on the product accessories. Any optional media trays that are installed through the **Configure** tab also appear here. For more information about the **Source is:** setting, see the [Source is](#) section of this chapter.

The **Type is:** drop-down menu shows all of the media types that the product supports. For more information about the **Type is:** drop-down menu settings, see the description for **Type is:** in the [Type is](#) section of this chapter.

Front Cover

Use the **Front Cover** options to include a blank or preprinted front cover on a document, or to include a front cover from a source tray that is different from the one that is used for the remainder of the document.

The following illustration shows the **Front Cover** setting and options.

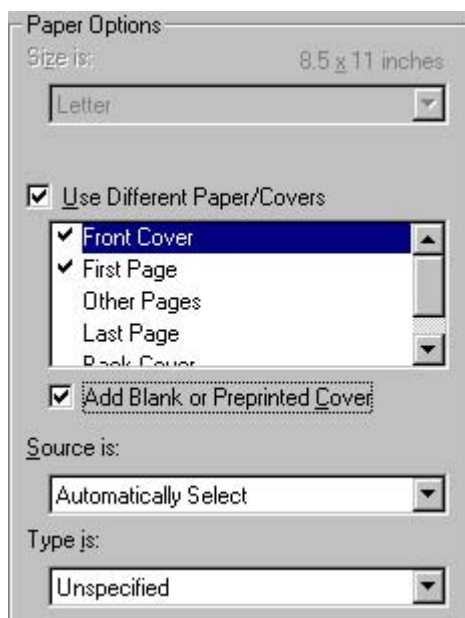


Figure 3-16 Front Cover options

The following are the **Front Cover** options:

- **Add a Blank or Preprinted Cover** check box
- **Source is:** drop-down menu
- **Type is:** drop-down menu

When you select **Front Cover**, you must also select the **Add a Blank or Preprinted Cover** check box to enable the setting. When you select this check box, the **Source is:** and **Type is:** drop-down menus become available and a check mark appears next to the **Front Cover** option.

The **Source is:** setting specifies the source tray to use for adding a front cover to the document. The list of source trays depends on the product accessories. Any optional media trays that are installed through the **Configure** tab also appear here. For more information about the **Source is:** setting, see the [Source Is](#) section of this chapter.

The **Type is:** drop-down menu shows all of the media types that the product supports. For more information about the **Type is:** drop-down menu settings, see the **Type is:** in the [Type is](#) section of this chapter.

Other Pages

Use the **Other Pages** options to select an alternative media source (or the same source as **First Page**) for the other pages of the document.

The **Other Pages** setting and options are shown in the following illustration.

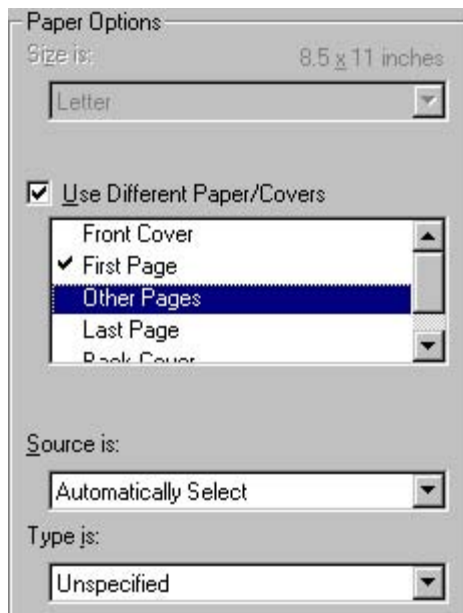


Figure 3-17 Other Pages options

The following are the **Other Pages** options:

- **Source is:** drop-down menu
- **Type is:** drop-down menu

The **Source is:** setting specifies the source tray to use for printing a document. The list of source trays depends on the product accessories. Any optional media trays that are installed through the **Configure** tab also appear here. For more information about the **Source is:** setting, see the [Source Is](#) section of this chapter.

The **Type is:** drop-down menu shows all of the media types that the product supports. For more information about the **Type is:** drop-down menu settings, see the description for **Type is:** in the [Type is](#) section of this chapter.

Last Page

Use the **Last Page** options to select an alternative media type or source for the last page of a document. The following illustration shows the appearance of the Paper Options group box when you select the **Use Different Paper/Covers** check box.

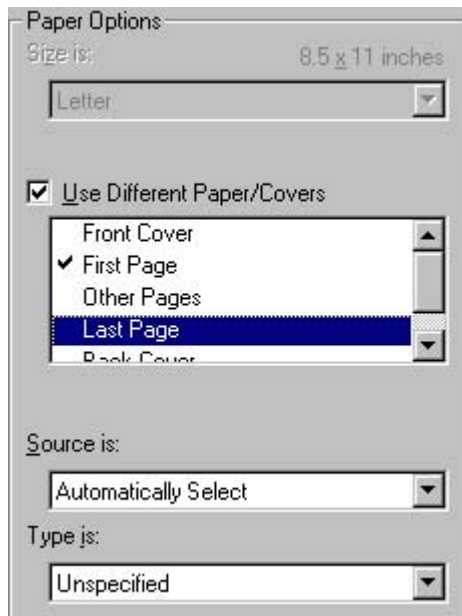


Figure 3-18 Last Page options

The following are the **Last Page** options:

- **Source is:** drop-down menu
- **Type is:** drop-down menu

The **Source is:** setting specifies the source tray to use for printing a document. The list of source trays depends on the product accessories. Any optional media trays that are installed through the **Configure** tab also appear here. For more information about the **Source is:** setting, see the [Source is](#) section of this chapter.

The **Type is:** drop-down menu shows all of the media types that the product supports. For more information about the **Type is:** drop-down menu settings, see the description for **Type is:** in the [Type is](#) section of this chapter.

Back Cover

Use the **Back Cover** options to include a blank or preprinted back cover on a document.

The following illustration shows the **Back Cover** setting and options.

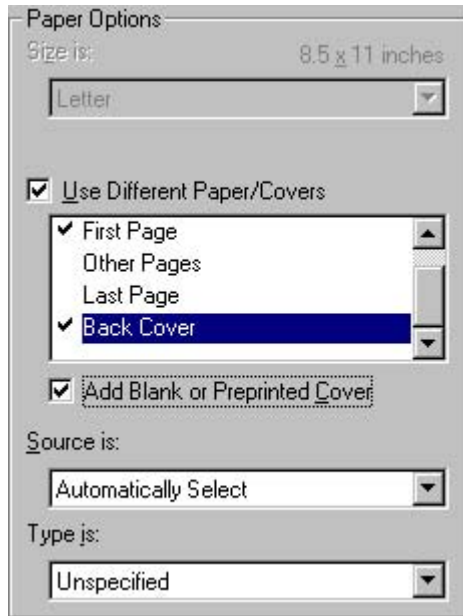


Figure 3-19 Back Cover setting

The following are the **Back Cover** options:

- **Add a Blank or Preprinted Cover** check box
- **Source is:** drop-down menu
- **Type is:** drop-down menu

When you select **Back Cover**, you must also select the **Add a Blank or Preprinted Cover** check box to enable the setting. When you select this check box, the **Source is:** and **Type is:** drop-down menus become available and a check mark appears next to the **Back Cover** option.



NOTE The **Back Cover** options are not available when the **Booklet Printing Layout** setting is enabled on the **Finishing** tab. The back cover setting is unavailable, because this page would otherwise be printed in the middle of a booklet.

The **Source is:** setting specifies the source tray to use for adding a back cover to the document. The list of source trays depends on the product accessories. Any optional media trays that are installed through the **Configure** tab also appear here. For more information about the **Source is:** setting, see the [Source Is](#) section of this chapter.

The **Type is:** drop-down menu shows all of the media types that the product supports. For more information about the **Type is:** drop-down menu settings, see the **Type is:** in the [Type is](#) section of this chapter.

Document preview image

The document preview image is a line-drawn image of a page that represents graphics and text. The document preview image appears in the upper-right corner of all of the **Document Defaults** driver tabs except the **Job Storage** tab. For more information about the document preview image, see the [Finishing tab features](#) section of this chapter.

Product image

The bitmap image in the lower-right portion of the **Paper** tab represents the current physical configuration of the product and corresponds to its configuration data. It should look the same as the image that appears in the same location on the **Configure** tab in the printer **Properties** dialog.

On the **Paper** tab, the product image contains hot spots where you can select a media source. When you use the mouse to move the pointer over a hot spot, the arrow reverts to a gloved hand. The current media source tray, whether selected from the drop-down menu or from a product image hot spot, is highlighted on the product image. The following points are worth noting:

- The **Automatically Select** setting in the **Source is:** drop-down menu does not have a corresponding area to highlight in the product image. Selecting other settings in this menu highlights the corresponding part in the product image.
- Selecting the area that represents a tray in the image always selects the corresponding tray in the **Source is:** option. **Manual Feed in Tray 1**, which is available from the **Source is:** drop-down menu, cannot be selected by selecting the image.
- On the **Paper** tab, only source trays have product image hot spots and can be highlighted.

Job Storage tab features

You can store print jobs in the HP LaserJet 2410, 2420, and 2430 printer memory for printing at a later time. These job-storage features are described in the following sections.

The Job Storage tab appears among the driver tabs *only* if Job Storage is enabled. To support job-storage features for complex jobs, or if you often print complex graphics, print postscript (.PS) documents, or use many downloaded fonts, HP recommends that you install additional memory. Added memory also gives you more flexibility in supporting job storage features. A minimum total memory of 80 MB is required to use Job Storage features.

After additional memory is installed, the driver must be configured to reflect the changes in the product. If bidirectional communication is enabled in your environment, the Update Now feature can be used to update the drivers. For more information, see the [Configure tab features](#) in this chapter.

To configure the drivers manually after installing additional memory, follow these steps:

- 1 Click **Start**, select **Settings**, and then click **Printers**.
- 2 Right-click the product name, click **Properties**, and then click the **Configure** tab.
- 3 Under **Other Options**, click **More...**
- 4 If additional memory has been installed, change the setting in the **Total Memory:** drop-down menu. If you select a minimum of 80 MB, this also selects the **Job Storage Enabled** check box.
- 5 Click **OK** to make the job-storage features available.



NOTE To disable Job Storage, click **Start**, select **Settings**, and then click **Printers**. Right-click the product name, click **Properties**, click the **Configure** tab, click **More...**, and then click to clear the **Job Storage Enabled** check box in the **More Configuration Options** box. When **Job Storage** is disabled, the **Job Storage** tab is not visible.

If Job Storage is enabled, two **Job Storage Mode** settings are available on the **Job Storage** tab:

- **Proof and Hold**
- **Private Job**

Job Storage tab

The following illustration shows the **Job Storage** tab.

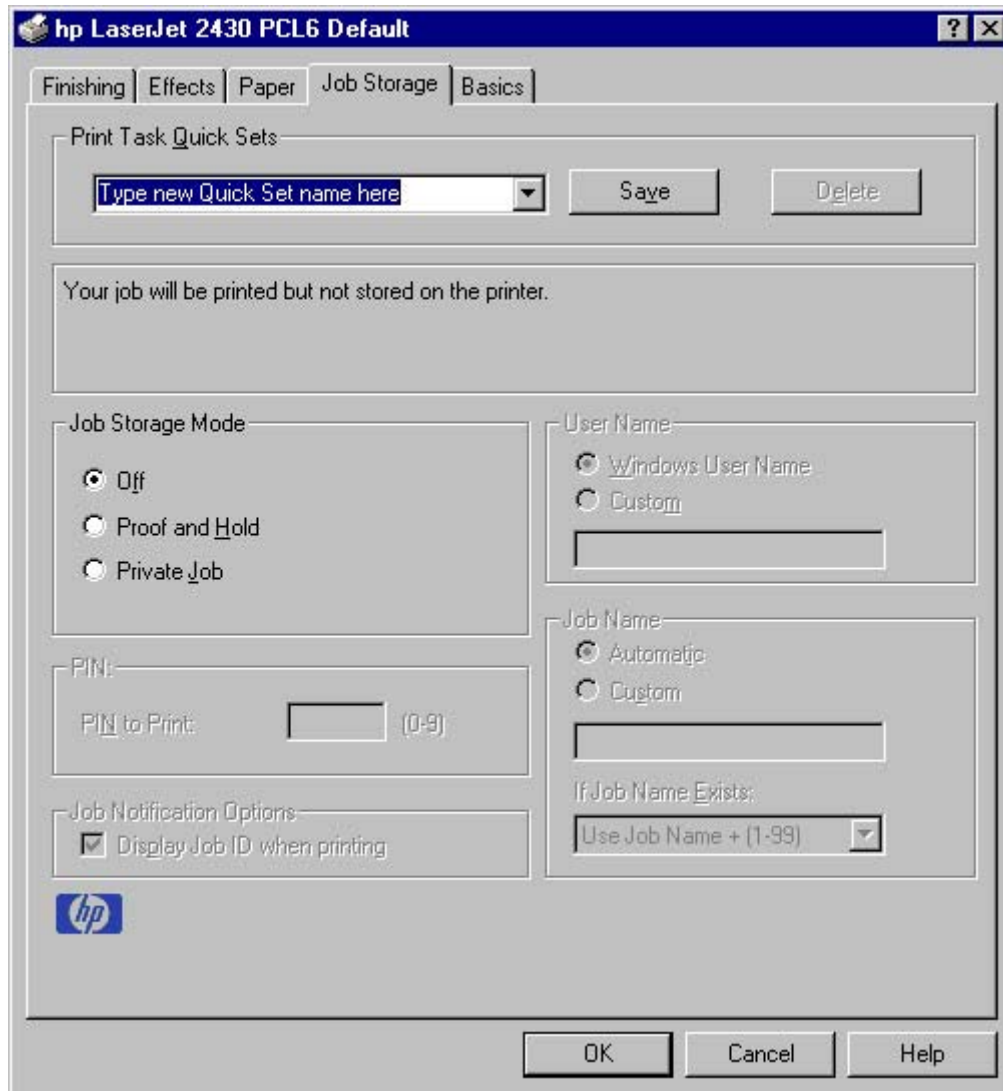


Figure 3-20 Job Storage tab

The **Job Storage** tab contains the following controls:

- **Print Task Quick Sets** group box
- Status group box (unlabeled)
- **Job Storage Mode** group box

- **PIN** group box
- **Job Notification Options** group box
- **User Name** group box
- **Job Name** group box

Print Task Quick Sets

Use the **Print Task Quick Sets** control to store the current combination of driver settings that appear on all other **Document Defaults** driver tabs. Print Task Quick Sets are either preset (by the administrator) or user-defined printing specifications, such as media size and pages per sheet. For more information, see [Finishing tab features](#).

Status group box

The unlabeled group box on the **Job Storage** tab contains a status message about the destination of a print job. The status information changes depending on the selections that are made on the **Job Storage** tab.

Job Storage Mode

Use the **Job Storage Mode** options on the HP LaserJet 2410, 2420, and 2430 printer to store documents at the product and then control their printing at the product control panel.

The HP LaserJet 2410, 2420, and 2430 printers offer the following **Job Storage Mode** options:

- **Off**
- **Proof and Hold**
- **Private Job**

These options and the settings that control them are described in the following sections.

Off

When selected, this option turns the **Job Storage** feature off (it is disabled), which means that the print job will not be stored in the product.

Proof and Hold

To use the **Proof and Hold** option, Job Storage must be enabled, and the product must have a minimum total memory of 80 MB.

When selected, this option stores the print job in memory and prints only the first copy of the job, allowing you to check the first copy. If the document prints correctly, you can print the remaining copies of the print job at the product control panel. You can set the number of proof-and-hold print jobs that can be stored in the product at the control panel.

After it is released for printing, the proof-and-hold job is immediately deleted from the product. If more copies are needed, you must reprint the job from the software program. Proof-and-hold jobs are deleted if you turn off the product.



NOTE The product configuration can be set to hold a maximum of 50 proof-and-hold jobs. The number is set at the product control panel in the **CONFIGURATION** menu, and the default is 32. When this preset limit is reached, the new document overwrites the oldest held document.

Private Job

To use the **Private Job** option, Job Storage must be enabled, and the product must have a minimum total memory of 80 MB.

When you select **Private Job**, the print job is sent to the product, but is not printed until you request the job at the product control panel. Selecting **Private Job** activates the **PIN** group box. The print job can be printed only after you type the correct PIN at the control panel. After the job is printed, the job is deleted from the product. This feature is useful when you are printing sensitive or confidential documents that you do not want to leave in an output bin after printing.

After it is released for printing, the private job is immediately deleted from the product. If more copies are needed, you must reprint the job from the software program. Private jobs are deleted if you turn off the product.

Using a PIN for Private Job

The **Private Job** option can be secured by a four-digit personal identification number (PIN). You must type in this number at the product control panel before the product can print the job.

The group box labeled **PIN** is usually inactive. It becomes active when you select the **Private Job** option.

The Private Job/PIN coupling has a PIN restriction of four ASCII numeric characters (0 through 9). If you type non-numeric characters, they are removed immediately. The text field does not allow you to type in more than four characters. The field temporarily accepts fewer than four digits in the string, but when the edit field loses focus, the zeroes pad the left end until the PIN contains exactly four digits. The default initialized value for the PIN is 0000 for **Private Job**.

PIN

The **PIN** group box is usually inactive. The option within the PIN group box, **PIN to Print**, is activated if you select **Private Job**. If selected, you must type in the PIN number at the product control panel in order to print the job. For more information, see [Using a PIN for Private Job](#).

Job notification

Clicking a job storage mode selection causes the **Job Notification Options** group box to become available. The **Display Job ID when printing** check box is selected by default. The **Display Job ID when printing** option causes a pop-up dialog box to appear when the job-storage print job is printed. The dialog box shows the user name and job name that are associated with the stored print job, as well as the product name, port, and location.

User Name

Use the **User Name** settings to help identify the job at the product control panel. The following are the **User Name** settings:

- **Windows User Name.** This option associates your Windows user name with the stored print job. The Windows user name automatically appears in the text field below the **User Name** options.
- **Custom.** Use this option to type a custom name for the stored print job. When you click the **Custom** radio button, the text field below the option becomes available. The **User Name** field can contain no more than 16 characters.

Job Name

Use the text box in the **Job Name** group box to specify a name to identify the job at the product control panel. The **Automatic** option is the default selection. It uses a default job name for the stored print job. The file name of the print job is used if it is available to the print driver. Otherwise, the software program name or a time stamp is used for the job name. If you would like to enter a custom name, select **Custom** and type the custom job name in the text box. The **Job Name** text box can contain no more than 16 characters.

If **Custom** is selected but no job name is specified, as soon as the focus is removed from the control (that is, when the **Tab** key is pressed or another control is selected), the empty string is replaced with **<Automatic>**. In those languages for which **<Automatic>** cannot be translated without the use of invalid characters, the driver uses a string of three dashes. The acceptable characters for job name and user name vary for each operating system. The string must be of a length and type that can appear on the product control-panel display.

Use the **If Job Name Exists** drop-down box to choose whether a duplicate job name should have a number appended to it, or whether it should overwrite an existing job with the same name that has already been sent to the printer.

Using Job Storage features when printing

To use Job Storage features when printing, follow these steps:

- 1 Click **File** and then click **Print** from the software program. The **Print** dialog box appears.



NOTE Clicking the print icon in the software program toolbar prints the job without Job Storage features.

- 2 Click **Properties**. The **Properties** dialog box appears.
- 3 Click the **Job Storage** tab.
- 4 Select one of the job-storage options (described previously) by clicking the appropriate option button, and then complete any required fields.
- 5 Click **OK**.

Releasing a Job Storage print job

After you send a print job that uses the **Job Storage** feature, you can release the job to print from the product control panel.

- 1 Press the **SELECT** button (the one with the check mark) to open the menus. **RETRIEVE JOB** is highlighted.
- 2 Press the **SELECT** button.
- 3 Press the up and down buttons to scroll to your User Name, and then press the **SELECT** button.
- 4 Press the up and down buttons to scroll to the Job Name, and then press the **SELECT** button. **PRINT** is highlighted.
- 5 Press the **SELECT** button.
- 6 If a PIN number is assigned to the job, press the up and down buttons to select the first digit of the PIN, and then press the **SELECT** button. The number in the product control-panel display changes to an asterisk. Repeat this step for each of the remaining three digits of the PIN number.

If no PIN number is assigned to the job, continue with step 7.
- 7 Press the up and down buttons to select the number of copies to print.
- 8 Press the **SELECT** button to print the job.

Deleting a Job Storage print job

Sometimes it is necessary to delete a print job from the product hard disk. You can do this from the product control panel.

- 1 Press the **SELECT** button (the one with the check mark) to open the menus. **RETRIEVE JOB** is highlighted.
- 2 Press the **SELECT** button.
- 3 Press the up and down buttons to scroll to your User Name, and then press the **SELECT** button.
- 4 Press the up and down buttons to scroll to the Job Name, and then press the **SELECT** button.
- 5 Press the up and down buttons to select **DELETE**.
- 6 If a PIN number is assigned to the job, press the up and down buttons to select the first digit of the PIN, and then press the **SELECT** button. The number in the product control-panel display changes to an asterisk. Repeat this step for each of the remaining three digits of the PIN number.

If no PIN number is assigned to the job, continue with step 7.
- 7 Press the **SELECT** button to delete the job.

The stored print job is deleted and the product returns to the **READY** state.

Basics tab features

The **Basics** tab provides options for setting the number of copies to be printed and for the orientation of the print job. You can also use it to retrieve information about the driver.

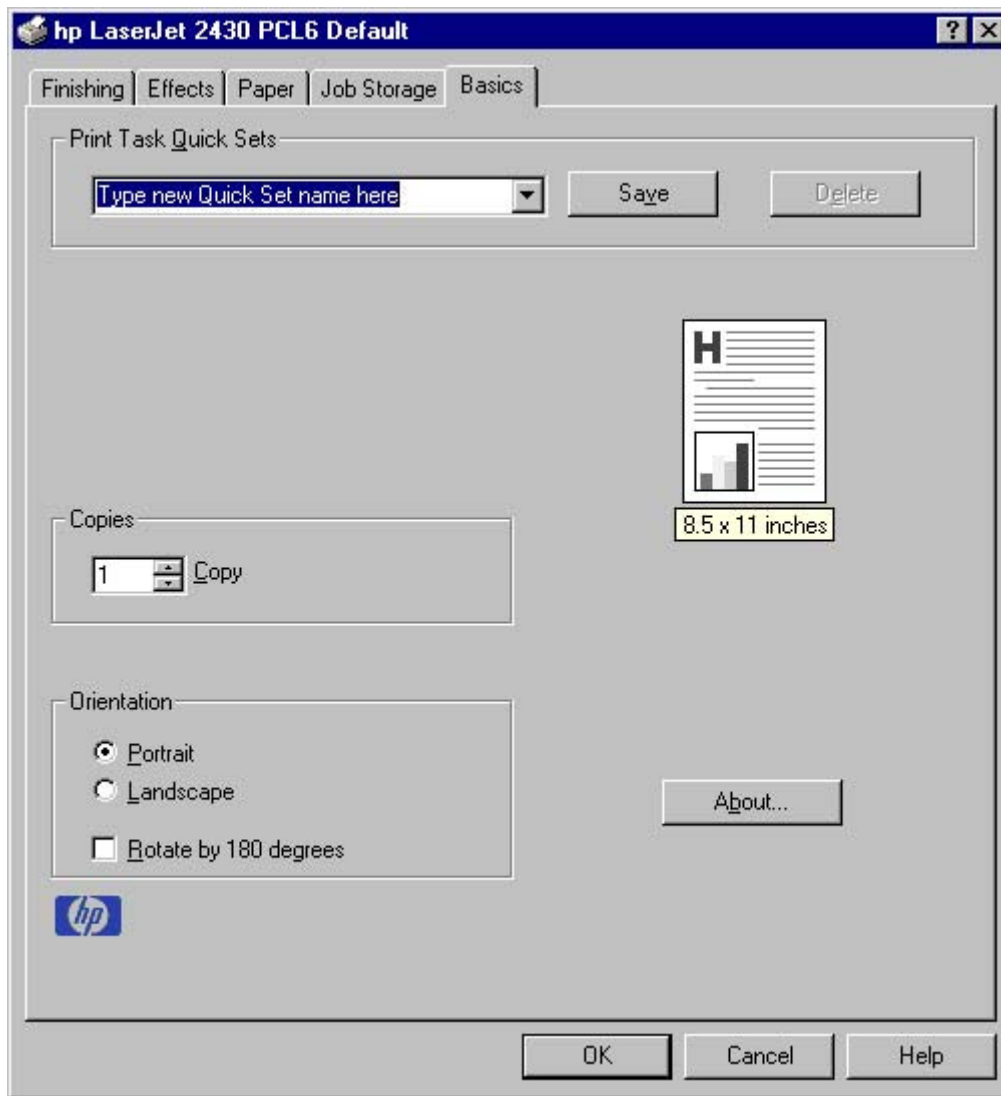


Figure 3-21 Basics tab

The **Basics** tab contains the following controls:

- **Print Task Quick Sets** group box
- **Copies** group box
- **Orientation** group box
- Document preview image
- **About** button

Print Task Quick Sets

The **Print Task Quick Sets** control is available on all of the **Document Default** driver tabs (the **Finishing**, **Effects**, **Paper**, **Job Storage**, and **Basics** tabs). The feature is used to store the current combination of driver settings that appear on all other tabs. Print Task Quick Sets are either preset (by the administrator) or user-defined printing specifications, such as media size and pages per sheet. For more information, see the [Finishing tab features](#) section of this chapter.

Copies

Use the **Copies** option to specify the number of copies to print.

The number of copies that you request appears in the **Copies** group box. You can select the number by typing in the box or by using the up and down arrows to the right of the text box. Valid entries are numbers from 1 to 9999 for the HP LaserJet 2410, 2420, and 2430 printer. The copies value will not advance from the maximum number (9999) to 1 when the up arrow is used, or change from 1 to the maximum number (9999) when the down arrow is used. When you click another group box or leave the **Basics** tab, invalid entries into the edit box (such as non-numerical input, numbers less than 1, or numbers greater than the maximum allowed) are changed to the last valid value that appeared in the box. The default number of copies is 1.

Because you can set the number of copies that you want from some software programs, conflicts between the software program you are using and the driver can arise. In most cases, the software program and the driver communicate, so that the number of copies set in one location (such as the program) will appear in the other (such as the driver). For some programs, this communication does not take place, and the copies values are treated independently. For these programs, setting 10 copies in the program and then setting 10 copies in the driver will result in 100 copies (10 x 10) being printed. It is recommended that you set the number of copies in the program, wherever possible.

Orientation

Orientation refers to the layout of the image on the page, and does not affect the manner in which media is fed into the product. You can specify the orientation of the print job. The three available orientations are portrait, landscape, and rotated. The default orientation is **Portrait**.



NOTE Nearly all software programs establish the orientation for the printed page, so the page orientation in the driver is useful only for the few software programs that do not set an orientation.

The **Orientation** group box contains three options:

- **Portrait.** The top edge of the document is the shorter edge of the media.
- **Landscape.** The top edge of the document is the longer edge of the media.
- **Rotate by 180 degrees.** This creates a landscape or portrait orientation in which the image is rotated 180 degrees. This setting is useful for printing prepunched media.

You can toggle orientation between portrait and landscape by clicking the document preview image. If you select the **Rotate by 180 degrees** check box, no change occurs in the document preview image.

Document preview image

The document preview image is a line-drawn image of a page that represents graphics and text. The document preview image appears in the upper-right corner of all of the **Document Defaults** driver tabs except **Job Storage**. For more information about the document preview image, see [Finishing tab features](#).

About

When you click the **About** button on the **Basics** tab, or you click the HP logo on any of the driver **Document Defaults** tabs, the **About This Driver** dialog box appears. To close the **About** box, click

OK, press **Esc**, press **Alt + F4**, or press **Enter**. The following figure shows the **About This Driver** dialog box. The information it contains varies according to driver, date, and version.

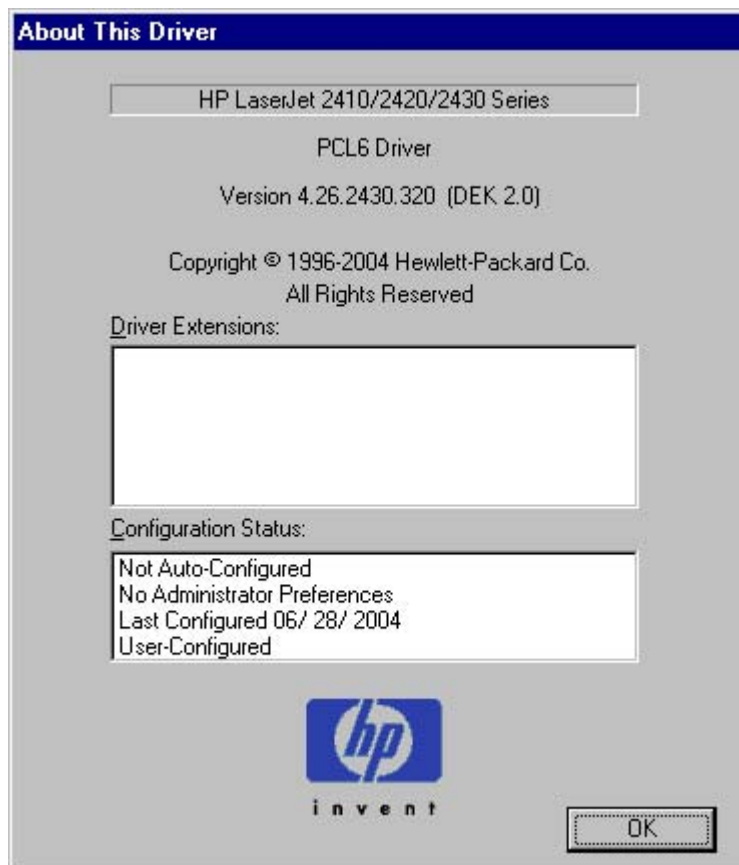


Figure 3-22 About This Driver dialog box

The **About This Driver** dialog box provides the following information:

- Printer name
- Driver name
- Print driver version number
- Copyright information
- Driver Extensions (if any)
- Configuration Status

The product name, the driver name, the print-driver version number, and the copyright information appear at the top of the **About This Driver** dialog box.

The **Driver Extensions** group box lists the driver extensions, if any.

The **Configuration Status** group box indicates whether the driver was autoconfigured, whether administrator preferences were set, the date the driver was last configured, and whether the configuration is default or user-defined.

Properties tabs

The **Properties** tabs contain information about and options for configuring the product.

NT Forms tab features



NOTE The **NT Forms** tab is in the **Properties** dialog for the print driver.

To gain access to the **Properties** tabs, click **Start** on the Window task bar, click **Settings**, and then click **Printers**. Right-click the product name, and then click **Properties**.

The **NT Forms** tab appears only in the Microsoft Windows NT 4.0 operating environment. The **NT Forms** tab (like the **Configure** tab) can be viewed only from the Properties window. The following illustration shows the **NT Forms** tab.

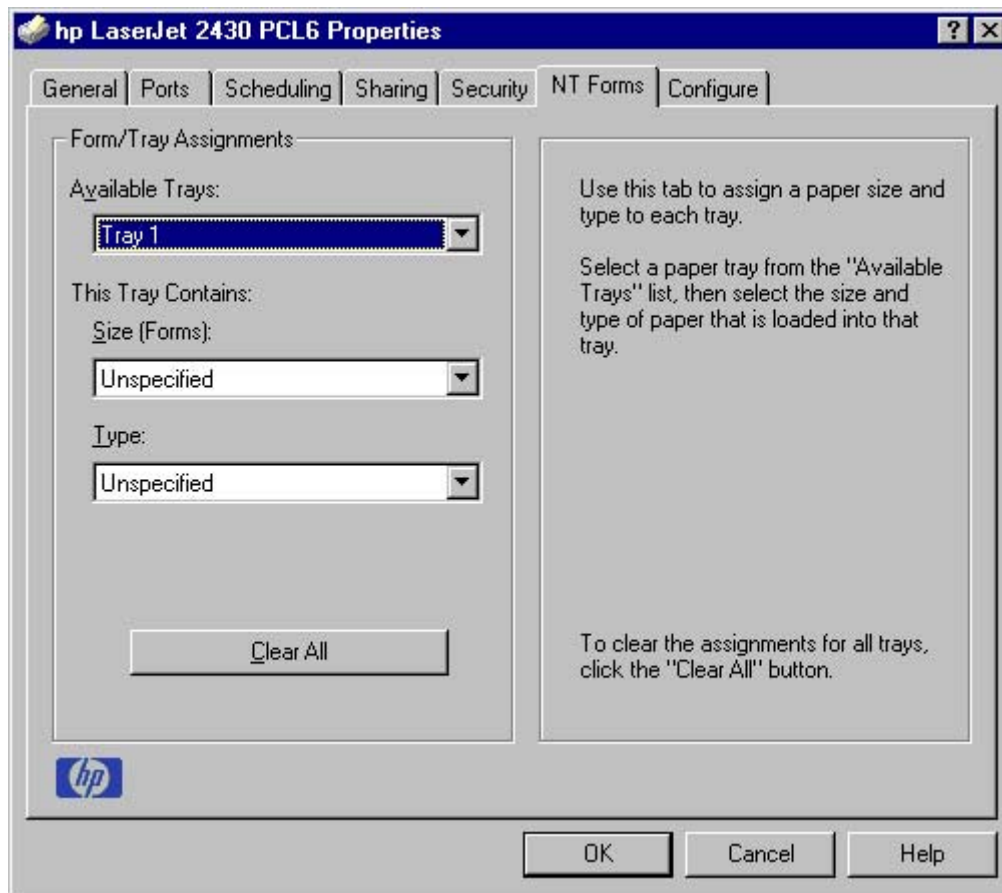


Figure 3-23 NT Forms tab

Use the **NT Forms** tab to specify which media sizes and types are loaded in each of the available source trays. This constrains the choices that are available in the **Size** and **Type** lists on the **Paper** tab in the **Document Defaults** section of the driver.

The **NT Forms** tab contains a single group box (the **Form/Tray Assignments** group box), which contains the following controls:

- The **Available Trays** drop-down menu contains all the trays that are specified on the **Configure** tab.
- The **This Tray Contains/Size (Forms)** drop-down menu contains a list of standard media sizes that the HP LaserJet 2410, 2420, and 2430 printers support, as well as any custom forms that are defined in the **Paper** tab.
- The **This Tray Contains/Type** drop-down menu lists all of the media types that the HP LaserJet 2410, 2420, and 2430 printers support.
- The **Clear All** button removes all the size and type constraints on the **Paper** tab in the **Document Defaults** section of the driver.

Configuring the trays

- 1 Select the appropriate tray from the **Available Trays** drop-down menu.
- 2 Use the **This Tray Contains/Size (Forms)** drop-down menu to select the media size (or form) that is loaded in that tray.
- 3 Use the **This Tray Contains/Type** drop-down menu to select the media type that is configured for the tray.
- 4 Repeat steps 1 through 3 for the remaining trays.
- 5 Click **OK** to enable your settings, or, if necessary, click the **Clear All** button to reconfigure all of the trays and remove the size and type constraints that have been imposed on the **Paper** tab.

Configure tab features

The **Configure** tab is in the **Properties** section of the print driver.

To gain access to the **Properties** tabs, click **Start** on the Window task bar, click **Settings**, and then click **Printers**. Right-click the product name, and then click **Properties**.

The **Configure** tab is also available when the driver is opened from the **Printers** folder by clicking **Properties**. When you open the driver from within a program, the **Configure** tab is not visible (with a few exceptions, such as when using Excel 5.0 or Corel® Chart 4.0).

Use the **Configure** tab to tell the driver about the product hardware configuration. If bidirectional communication is enabled in a supported environment, configure the settings on this tab by clicking the **Update Now** button. If your environment does not support bidirectional communication, the **Update Now** button is unavailable, so you must manually configure the options on this tab.

When opened from the **Printers** folder, the **Configure** tab appears as shown in the following illustration.

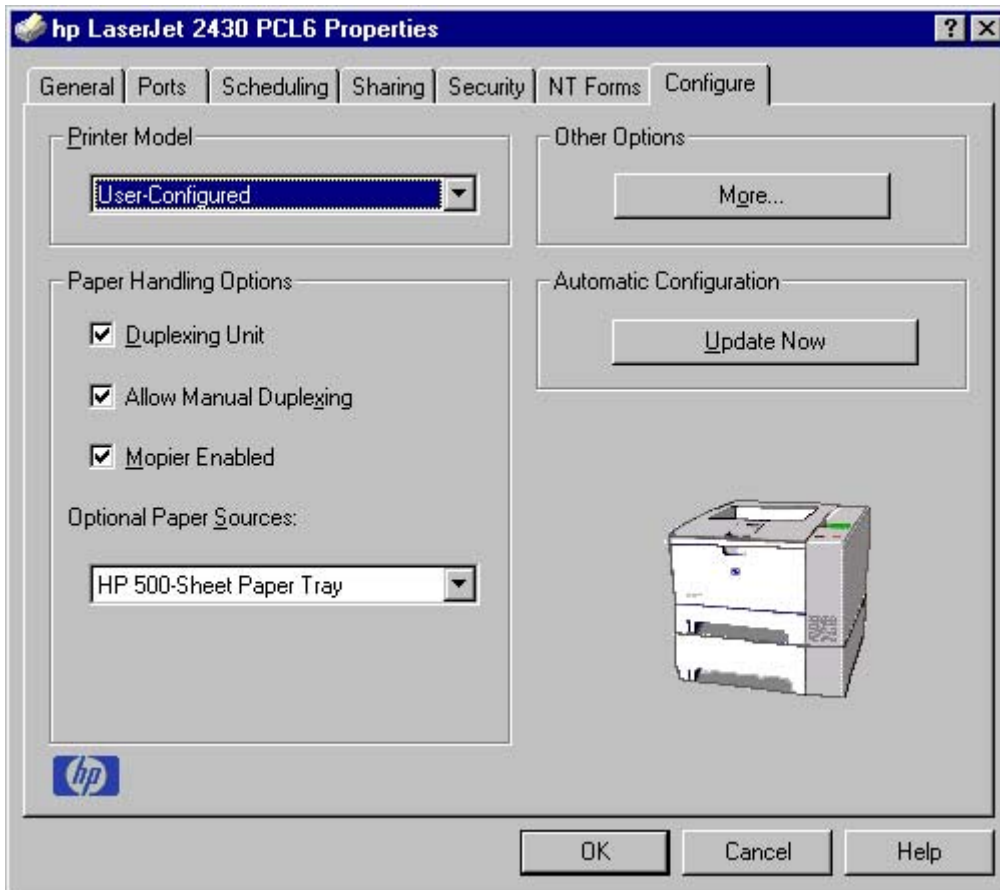


Figure 3-24 Configure tab

The **Configure** tab contains the following controls:

- **Printer Model** group box
- **Paper Handling Options** group box
- **Other Options** group box
- **Automatic Configuration** group box
- Product image

Printer Model

In the **Printer Model** group box, the driver title depends on the product model being used. Selection of any model from the **Printer Model** drop-down menu makes the appropriate changes to other configuration options on the tab.

The **Printer-Model** setting automatically changes to **User-Configured** whenever you manually change any of the device **Configure** tab settings.

The list of models and the changes they produce are described in the table below.

Table 3-6 Printer model bundles

Model	Paper Handling Options			Other Options (in the More Configuration Options dialog box)		
	Duplexer	Mopier Enabled	500-Sheet Paper Tray	Job Storage	DWS	Total Memory
HP LaserJet 2410 or HP LaserJet 2420 printer					3.0	32 MB
HP LaserJet 2420d printer	x			x	3.0	48 MB
HP LaserJet 2420n printer				x	6.0	64 MB
HP LaserJet 2420dn printer	x			x	6.0	64 MB
HP LaserJet 2430t printer			x	x	3.0	48 MB
HP LaserJet 2430tn printer			x	x	3.0	64 MB
HP LaserJet 2430dtn printer	x		x	x	14.0	64 MB

If it is installed and working, the bidirectional mechanism will detect the correct model and update the configuration accordingly, either during installation or when you select **Update Now** on the **Configure** tab. However, the product model name shown in the **Printer Model** text box does not change.

Paper Handling Options

The **Paper Handling Options** group box contains the following controls:

- **Duplexing Unit** check box
- **Allow Manual Duplexing** check box
- **Mopier Enabled** check box
- **Optional Paper Sources** drop-down menu

Duplexing Unit

The HP LaserJet 2420d, 2420dn, and 2430dtn printer models are equipped with automatic 2-sided printing (duplexing), which allows you to print on both sides of supported media. Automatic two-sided printing is not supported for certain media types, including transparencies, labels, envelopes, and cardstock.



NOTE The HP LaserJet 2410, 2420, and 2430 printer supports smart duplexing. The product uses the smart duplexing feature to detect information on both sides of the print job pages and only runs the pages through the duplexing unit if printable information appears on the second side of the page.

Allow Manual Duplexing

Select **Allow Manual Duplexing** to print on both sides of any size and most types of media (except transparencies, envelopes, and labels). To use this feature, you must reinsert the media stack into the input tray to print the second side. The product pauses while you make this adjustment.

Mopier Enabled

The multiple-original print (mopy) function is an HP-designed feature that produces multiple, collated copies from a single print job. Multiple-original printing (mopying) increases performance and reduces network traffic by transmitting the job to the product once, and then storing it. The remainder of the copies are printed at the fastest speed. All documents that are printed in mopier mode can be created, controlled, managed, and finished from the computer, which eliminates the extra step of using a photocopier.

The HP LaserJet 2410, 2420, and 2430 printers support the transmit-once mopying feature when the product has a minimum total memory of 80 MB, and the **Mopier Enabled** setting on the **Configure** tab is on.

Mopier mode and collation

Mopying and collating print jobs are independent but closely related functions. The print driver performs mopying, which is the ability to send multiple original print jobs to the product. Collating is controlled by using either the print driver or the document software program. The mopying mode is selected by default in the driver, and can be disabled by clearing the **Mopier Enabled** selection on the **Configure** tab to disable the feature.

You can control collation through the print driver by selecting or clearing the **Ignore Application Collation** check box in the **More Configuration Options** dialog box that appears when you click the **More...** button on the **Configure** tab. You can clear the check box, which is available only when the **Mopier Enabled** setting on the **Configure** tab is selected, to allow the software program to control collation.

To receive uncollated multiple copies of a print job with the mopier enabled, you must clear the **Ignore Application Collation** check box *and* make sure that the software program collation feature is not selected.

The following table shows the relation between **Mopier Enabled** settings and collation settings in the software program and the driver. The first three columns show the settings; the last column, "Expected result" shows how a three-page print job would appear.

Table 3-7 Driver Mopier mode and collation settings

Mopier Enabled	Application collation	Ignore Application Collation	Expected result
Not selected	Not selected	Not available	3 copies uncollated
Not selected	Selected	Not available	3 copies collated
Selected	Not selected	Not selected	3 copies uncollated

Table 3-7 Driver Mopier mode and collation settings (continued)

Mopier Enabled	Application collation	Ignore Application Collation	Expected result
Selected	Not selected	Selected	3 copies uncollated
Selected	Selected	Not selected	3 copies collated by printer
Selected	Selected	Selected	3 copies collated by printer

Optional Paper Sources

The **Optional Paper Sources** drop-down menu lists optional media source trays. The list of available source trays varies depending on your product , its input accessories, and the product configuration settings on the **Configure** tab.

For the HP LaserJet 2410, 2420, and 2430 printer, the following settings are available in the **Optional Paper Sources** drop-down menu:

- **(None)**. This is the default setting.
- **HP 500-Sheet Input tray**

Other Options

The **Other Options** group box contains a single **More...** command button. Clicking the **More...** button opens the **More Configuration Options** dialog box.

More configuration options

When you click the **More...** button under **Other Options**, more configuration options are available. The **More Configuration Options** dialog box is shown in the following illustration.

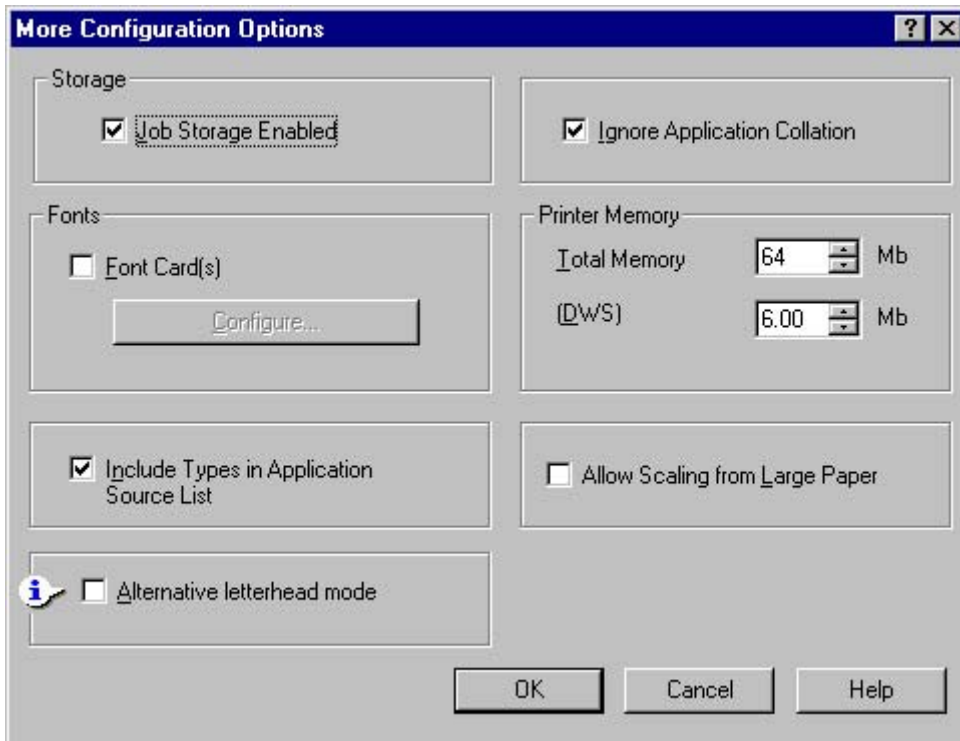


Figure 3-25 More Configuration Options dialog box

The **More Configuration Options** dialog box contains the following controls:

- **Storage** group box
- **Fonts** group box
- **Include Types in Application Source List** check box
- **Alternative letterhead mode** check box
- **Ignore Application Collation** check box
- **Printer Memory** group box
- **Allow Scaling from Large Paper** check box

Storage

The **Storage** group box contains the **Job Storage Enabled** check box. If your product has a minimum of 80 MB of memory, limited job-storage options are available. When job storage is enabled, the product can store print jobs so that you can gain access to those print jobs later at the product control panel.

Fonts

The **Fonts** group box contains a **Font Card(s)** check box and a corresponding **Configure** button. Selecting the **Font Card(s)** check box tells the driver that a Font card is installed, and that stored data about the fonts on the card is available. When the check box is selected, the **Configure** button is enabled. Click the **Configure** button to open the **Configure Font Card(s)** dialog box. If the **Font**

Card(s) check box was not selected when you opened the **More Configuration Options** dialog box, selecting that check box automatically opens the **Configure Font Cards** dialog box.

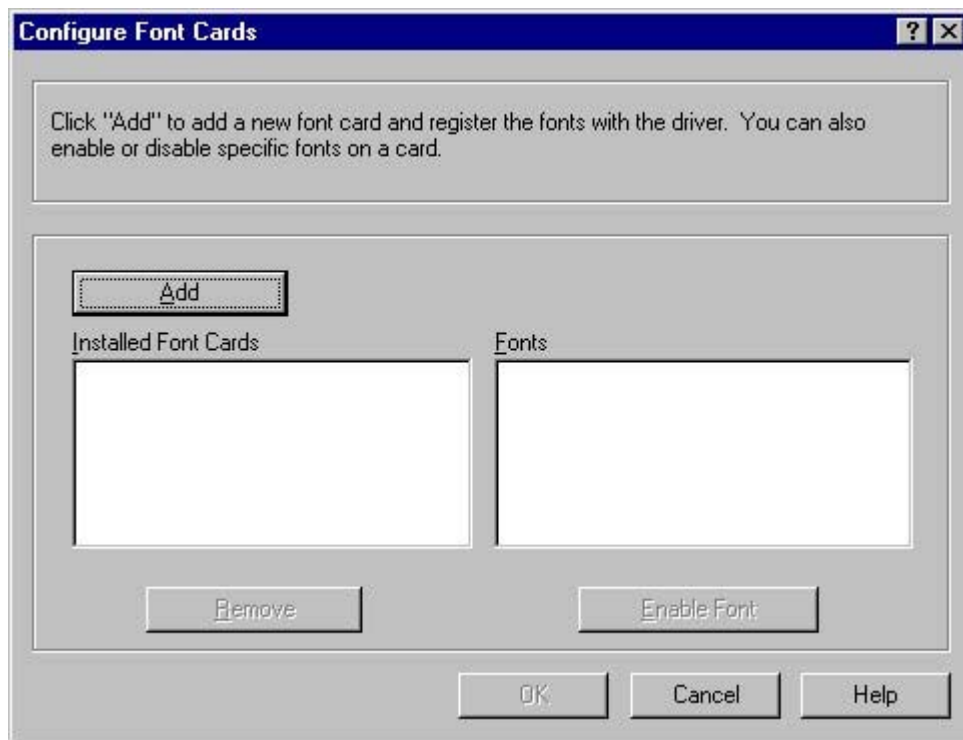


Figure 3-26 Configure Font Cards dialog box

Use the **Configure Font Cards** dialog box to perform the following tasks:

- Add up to two font cards by clicking the **Add** button.
- Specify a unique font-card name.
- Select specific font card data files that contain lists of fonts on specified cards.
- Select one or more installed cards in the **Installed Font Cards** list. The list to the right (**Fonts**) shows all of the fonts that are available on the selected card(s).
- Enable or disable one or more of the selected font(s).

Complete the following steps to configure a font card:

- 1 Make sure that the font card is installed correctly.
- 2 Click **Add**. The **Add Font Card** dialog box appears.
- 3 Click **Browse**. The **Font Card Files** dialog box appears.
- 4 Find and select the appropriate Printer Cartridge Metrics (PCM) file that came with the font card.
- 5 Click **OK**.
- 6 If you want to, you can specify a Font Card Name in the **Add Font Card** dialog box.

- 7 Click **OK**. The selected .PCM file appears in the **Installed Font Cards** list. Select the .PCM file to see a list of available fonts in the **Fonts** list.
- 8 Click **OK** to close the **Add Font Card** dialog box. The fonts on the card should now be available on the system.



NOTE When using font cards with the HP traditional PCL 6 and PCL 5e drivers: To install screen fonts that match the font card, use the .HPB file that is specifically designed to work with that card. If no screen fonts exist for the card, use the .PCM file that is specifically designed to work with that card.

Include types in application source list

When the **Include types in application source list** check box is selected, all media types (such as light media and transparencies) are available from the **Source is:** list on the **Paper** tab. When you are in a software program, you can open the **Paper** tab by clicking **Print** from the **File** menu, and then clicking **Properties**.

Alternative letterhead mode

Under normal operation, the product prints duplex jobs with a different orientation than single-sided jobs. This becomes a problem when printing on letterhead, because the user has to switch the orientation of the letterhead media if they need to go back and forth between duplex and single-sided jobs. Alternative letterhead mode solves this problem.

When selected, this option enables you to always load letterhead or pre-printed paper in the same way for all print jobs, whether you are printing duplex or single-sided jobs. To use it, load the paper as you would for a *duplex* letterhead job. (This is the exact opposite of how you would load the paper for a single-sided letterhead job. See the User Guide for details.) If the printer tray has an icon that indicates to load the paper either face-up or face-down, load the paper the opposite of the orientation shown. When **Alternative Letterhead Mode** is on, both single-sided and double-sided jobs will print the correct way, without having to change the orientation of the letterhead or pre-printed media.

Ignore Application Collation

This setting overrides collation options that are selected in a software program print options. When **Ignore Application Collation** is selected, the print driver collates in the most appropriate way for the print job. The performance of this feature depends on the software program that you are using.

Printer memory

The **Total Memory** group box shows the total amount of memory that is physically installed in the product. The default values for total product memory are based on the product you have installed. Total product memory is updated through a successful bidirectional query, or can be set manually. In environments where bidirectional communication is unavailable, you can verify that the **Total Memory** setting is correct by printing a configuration page. To print a configuration page, see [Determining the current level of firmware](#).

The Driver Work Space (**DWS**) value shows the amount of memory that is available for keeping track of fonts that are downloaded from the driver. The driver deletes downloaded fonts if it has exceeded the available memory value. The (**DWS**) value is a dynamic value that varies depending on the specific configuration of the product. An accurate (**DWS**) value optimizes driver performance.

The HP traditional PCL 6 and PCL 5e drivers automatically configure the (**DWS**) value in Windows 98, Windows Me, and Windows NT 4.0 environments that support bidirectional communication. Use the (**DWS**) option to specify the amount of work-space memory that is available

to the product. To manually set the **(DWS)** value, print a configuration page and find the DWS value in the Memory section of the page. Then, click the **More...** button on the **Configure** tab, and type the DWS value in the **(DWS)** field of the **More Configuration Options** dialog box.

To print a configuration page, see [Determining the current level of firmware](#).

Allow Scaling from Large Paper

Use the **Allow Scaling from Large Paper** check box to print from media sizes that are larger than those that the product supports. When this check box is selected, you can select these larger paper sizes from the **Size Is:** drop-down menu on the **Paper** tab, and the print jobs are automatically scaled to a size that the product does support.

Automatic configuration

If you have modified the configuration of the HP LaserJet 2410, 2420, and 2430 printer since installation, click the **Update Now** button to automatically reflect the new configuration in the driver. For more information about the print driver's automatic configuration feature, see the [Driver Configuration](#) section of this guide.

If the **Update Now** button is not available, select the appropriate configuration options on the **Configure** tab.

Printer image

The bitmap image in the lower-right portion of the **Configure** tab represents the current physical configuration of the product according to the driver configuration data. It should have the same appearance as the image in the same location on the **Paper** tab.



NOTE The product image shown on the **Configure** tab might differ from your HP LaserJet 2410, 2420, and 2430 printer, depending on the installed accessory devices.

HP Traditional Postscript 3 Emulation Driver features

When you install the printing-system software in Windows 98 or Windows Me, the HP Traditional PCL 6 Driver is installed by default. The HP Traditional PCL 5e Driver and the PS Emulation Driver can be installed by performing a Custom Installation. When you install the print drivers in Windows NT 4.0, you must use the Add Printer install method to install the PS Emulation Driver.

Depending on the operating system that you are using when you install the print drivers, different methods are available to gain access to the print drivers and different print-driver interfaces.

This section describes the options that are available on each tab of the PS Emulation Driver **Document Default** interface and on one of the tabs of the PS Emulation Driver **Properties** interface. It also shows the tabs that are available on the PS Emulation Driver interface for Windows 98 and Windows Me.



NOTE The information and illustrations in this section reflect the PS Emulation Driver when the computer is running Windows NT 4.0. The PS Emulation Driver looks significantly different for computers that are running Windows 98 and Windows Me.

Access to print drivers

Depending on the operating system that you are installing the print drivers on, there are different ways to gain access to the print drivers and different print-driver interfaces.

To gain access to the print-driver settings from within most software programs, click **File**, click **Print**, and then click **Properties**. These driver settings apply only while the software program is open.

Access to print drivers in Windows NT 4.0

In Windows NT 4.0, you can gain access to the **Document Default** driver tabs and the **Properties** driver tabs. The settings that you make on these driver tabs control print job output.

To gain access to the print-driver settings from within most software programs, click **File**, click **Print**, and then click **Properties**. These driver settings apply only while the software program is open.

You can also control the **Document Default** print drivers directly from the **Printers** folder. In Windows NT 4.0, click **Start**, select **Settings**, click **Printers**, right-click the product name, and then click **Document Defaults...** to gain access to the same set of driver tabs that the software program controls. These driver settings change the default settings used across all software programs.

The following **Document Default** print driver tabs are available in Windows NT 4.0:

- **Page Setup** tab
- **Advanced** tab
- **Job Storage** tab



NOTE If your product has a minimum of 80 MB of memory, the **Proof and Hold** and **Private Job** options are available.

Properties driver tabs

In Windows NT 4.0, click **Start**, select **Settings**, and then click **Printers**. Right-click the product name, and then click **Properties** to gain access to all **Properties** print-driver tabs. The following **Properties** print-driver tabs are available in Windows NT 4.0:

- **General**
- **Ports**
- **Scheduling**
- **Sharing**
- **Security**
- **Device Setting**



NOTE Only the **Device Setting** tab is described in this guide.

Access to print-driver settings in Windows 98 and Windows Me

In Windows 98 and Windows Me, click **Start**, click **Settings**, and then click **Printers**. Right-click the product name, and then click **Properties** to gain access to all print-driver tabs.

PS 3 emulation support for the HP LaserJet 2410, 2420, and 2430 printer

A set of 92 postscript soft fonts is included with the printing-system software. If you want to permanently install the fonts in the product, postscript fonts are also available from HP in an optional font DIMM. The PS emulation maintains full compatibility with Adobe PostScript when postscript fonts are purchased from Adobe.

Users of Adobe-licensed programs might also have the right to use the Adobe PostScript print drivers from Adobe with the HP LaserJet PostScript 3 emulation PPD, which is available on the HP LaserJet 2410, 2420, and 2430 printer software CD or from the HP Web site. When using the Adobe PostScript print driver, users must comply with all Adobe licensing agreements, as stated on the Adobe Web site at www.adobe.com/support/downloads/license.html.

See the [Font support](#) section of this guide for a list of the additional fonts.

Help system

The PS Emulation Driver includes the following Help systems to provide assistance with printing and configuration options.



NOTE Bubble Help, a feature of HP traditional PCL drivers, is not available in the PS Emulation Driver.

What's this Help

In Windows 98, Windows Me, and Windows NT 4.0, What's this? Help is supported. You can gain access to What's this? Help messages in any of the following ways:

- Right-click a control and then click **What's this?**. A pop-up Help window appears.
- Click the ? button at the upper-right corner of the frame, next to the X, to change the cursor to an arrow with a question mark. When you use this special cursor to select a control, the pop-up Help window for that feature appears.
- Press the **F1** key, and the Help window for the currently selected control appears.

Context-sensitive Help

When you press the **Help** button on a driver tab or in a dialog box, a context-sensitive Help message appears.

Page Setup tab features

The **Page Setup** tab controls media and finishing options for the HP PS Emulation Driver. The following illustration shows the **Page Setup** tab.

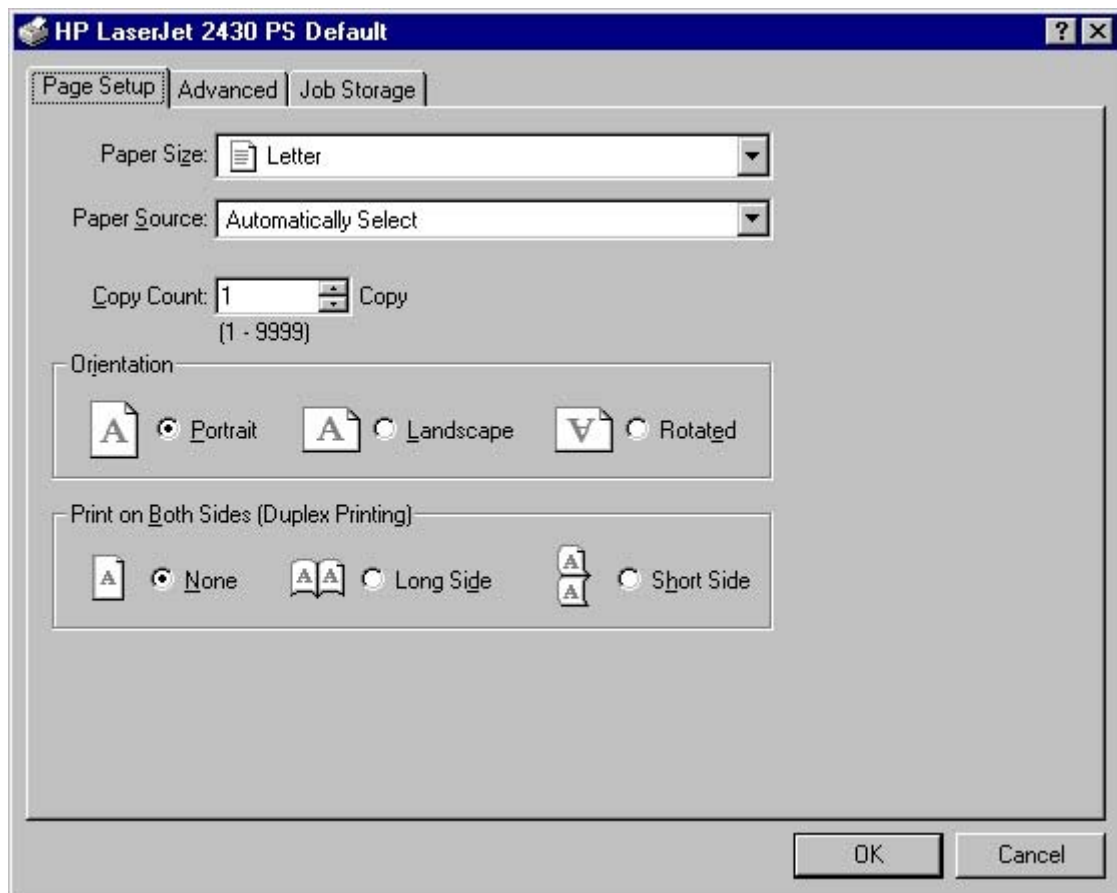


Figure 3-27 Page Setup tab

The **Page Setup** tab contains the following controls:

- **Paper Size** drop-down menu. Click this to specify the media size (form). The list of available forms matches those that the product supports.
- **Paper Source** drop-down menu. Use these settings to select a tray. The default setting is **Automatically Select**.
- **Copy Count** spin box. Use this box to specify the number of copies.
- **Orientation** group box. The settings in this group box specify how the document is positioned on the page.
- **Print on Both Sides (Duplex Printing)** group box. The settings in this group box specify whether or not the print job is double-sided. It only appears if the duplexer is installed.

Advanced tab features

The **Advanced** tab controls the settings for output, graphics, and product features. The following illustration shows the **Advanced** tab.

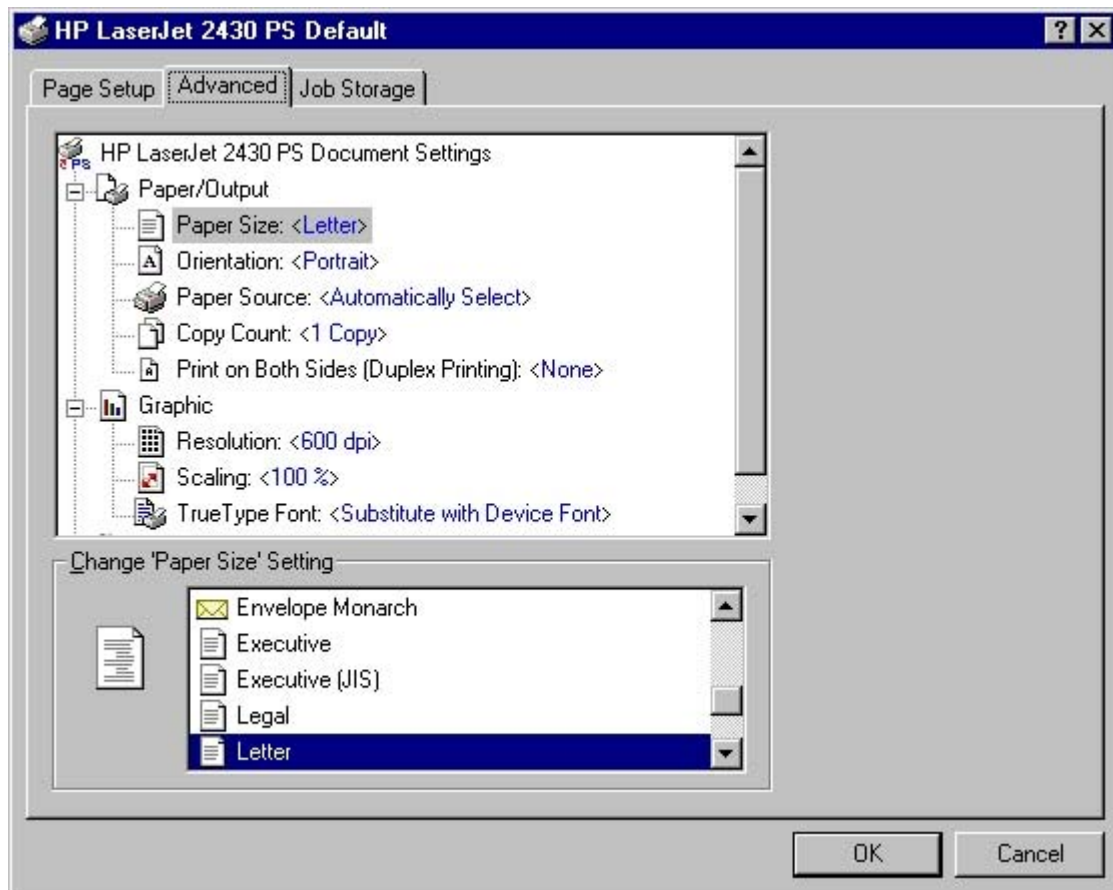


Figure 3-28 Advanced tab

The **Advanced** tab contains the following controls:

- **Paper/Output** settings (advanced control over the options that are available on the **Page Setup** tab)
- **Graphic** settings (including resolution, scaling, and TrueType font controls)
- **Document Options** settings (including product features and postscript options)

Paper/Output

The following **Paper/Output** settings are available:

- **Paper Size**
- **Orientation**
- **Paper Source**
- **Copy Count**
- **Print on Both Sides (Duplex Printing)**

These settings are also available on the **Page Setup** tab. For more information, see [Page Setup tab features](#).

Graphic

The following **Graphic** settings are available:

- **Resolution.** Resolution refers to the number of dots per inch (dpi) used to print the page. As resolution is increased, the quality (clarity and visual appeal) of print on the page is improved. The default setting is **600 dpi**.
- **Scaling.** Use this setting to reduce or enlarge documents by a specified percentage. When you enlarge a document, only the portion of the document that fits on the page will print. The default setting is **100%**.
- **TrueType Font.** The default setting is **Substitute with Device Font**. The other available setting is **Download as Softfont**. Use this setting when your document has overlapping text and graphics.

Document Options

The following **Document Options** settings are available:

- **Page Layout (N-up) Option**
- **PostScript Options**
- **Printer Features**

Page Layout Option

The **Page Layout (N-up) Option** specifies whether the N-up printing feature is enabled. The following settings are available:

- **Normal (One-up)**. This is the default setting.
- **Two-up (1x2)**. The print job prints two pages per sheet.
- **Four-up (2x2)**. The print job prints four pages per sheet.
- **Six-up (2x3)**. The print job prints six pages per sheet.
- **Nine-up (3x3)**. The print job prints nine pages per sheet.
- **Sixteen-up (4x4)**. The print job prints 16 pages per sheet.

PostScript Options

The following are the settings for **PostScript Options**:

- **PostScript Output Options** offers the following settings:
 - **Optimize for Speed**. This is the default setting.
 - **Optimize for Portability**. Use this setting to create a file that conforms to the Adobe Document Structuring Conventions (ADSC). Each page of the document will be a self-contained object. This is useful, for instance, if you want to create a PostScript file and print it on a different product.
 - **Encapsulated PostScript (EPS)**. Use this setting to include the file as an image in another document that is to be printed from a different program.
 - **Archive Format**. Use this setting to create a PostScript file that you can use later.
- **TrueType Font Download Option** offers the following settings:
 - **Automatic (default)**
 - **Outline**
 - **Bitmap**
 - **Native TrueType**
- The **PostScript Language Level** specifies which PostScript language level to use, from 1 to the highest level that your product supports. Some products support multiple levels. It is usually best to select the highest level that is available, because a higher language-level provides more features. In some instances, however, you would still use level 1. For example, if you are printing a file to disk and that file will be printed by someone who has a level-1 printer, you would need to select level 1. The **PostScript Language Level** spin box offers settings **1** through **3**.
- **Send PostScript Error Handler** specifies whether a PostScript error handler message is sent. If you want the product to print an error page when an error occurs in the print job, click **Yes**.
- **Mirrored Output** specifies mirrored print output. Click **Yes** to print a mirror image of your document by reversing the horizontal coordinates.

- **Negative Output** specifies negative output. Click **Yes** to print a negative of the image by reversing the values for black and white.

Printer Features

The following **Printer Features** options are available:

- **Collate**
 - On (turn off in application)
 - Off (default)
- **EconoMode**
 - True
 - False (default)
- **Fit to Page**
 - Prompt User (default)
 - Nearest Size and Scale
 - Nearest Size and Crop
 - Letter
 - A4
- **Levels of Gray**
 - Printer's current settings
 - Enhanced
 - Standard
- **Watermark**. The following settings are available:
 - None (default)
 - Draft
 - Company Confidential
 - Company Proprietary
 - Company Private
 - Confidential
 - Copy
 - Copyright
 - File Copy
 - Final

- For Internal Use Only
- Preliminary
- Proof
- Review Copy
- Sample
- Top Secret
- Urgent
- Custom
- **Watermark (pages per sheet)**
 - 1
 - ≥ 2
- **Watermark Font**
 - Courier Bold
 - Helvetica Bold (default)
 - Times Bold
- **Watermark Size.** Settings for the watermark size range from 24 points to 90 points. 48 points is the default.
- **Watermark Angle.** Settings for the watermark angle range from 90 degrees to -90 degrees in 15-degree intervals. A 45-degree angle is the default.
- **Watermark Style**
 - Narrow Outline
 - Medium Outline (default)
 - Wide Outline
 - Wide Halo Outline
 - Filled
- **Watermark Intensity**
 - Darkest
 - Darker
 - Dark
 - Medium Dark
 - Medium (default)
 - Medium Light

- Light
- Lighter
- Lightest
- **Print Watermark**
 - No (default)
 - All Pages
 - First Page Only

Job Storage tab features

Use the job storage feature to store print jobs in the HP LaserJet 2410, 2420, and 2430 printer memory for printing at a later time. These job-storage features are described in the following sections.

The **Job Storage** tab appears among the driver tabs *only* if Job Storage is enabled. To support job-storage features for complex jobs, or if you often print complex graphics, print postscript (.PS) documents, or use many downloaded fonts, HP recommends that you install additional memory. Added memory also gives you more flexibility in supporting job storage features. A minimum total memory of 80 MB is required to use Job Storage features.

After additional memory is installed, the driver must be configured to reflect the changes in the product.

Bidirectional communication is not supported in Windows 98, Windows Me, or Windows NT 4.0, the operating environments that support the PS Emulation Driver. The driver must therefore be updated manually.

To configure the driver manually after installing additional memory, follow these steps:

- 1 Click **Start**, select **Settings**, and then click **Printers**.
- 2 Right-click the product name, click **Properties**, and then click the **Device Settings** tab.
- 3 If additional memory has been installed, select **Printer Memory:** under **Installable Options**, and then select the option that matches the amount of memory installed.
- 4 Click **OK** to make the printer job-storage features available.



NOTE To disable Job Storage, click **Start**, select **Settings**, and then click **Printers**. Right-click the product name, click **Properties**, click the **Device Settings** tab, select **Job Storage:**, and then select **Disabled** in the **Change 'Job Storage' Setting** dialog box that appears. When Job Storage is disabled, the **Job Storage** driver tab is not visible.

Job Storage tab

The following illustration shows the **Job Storage** tab.

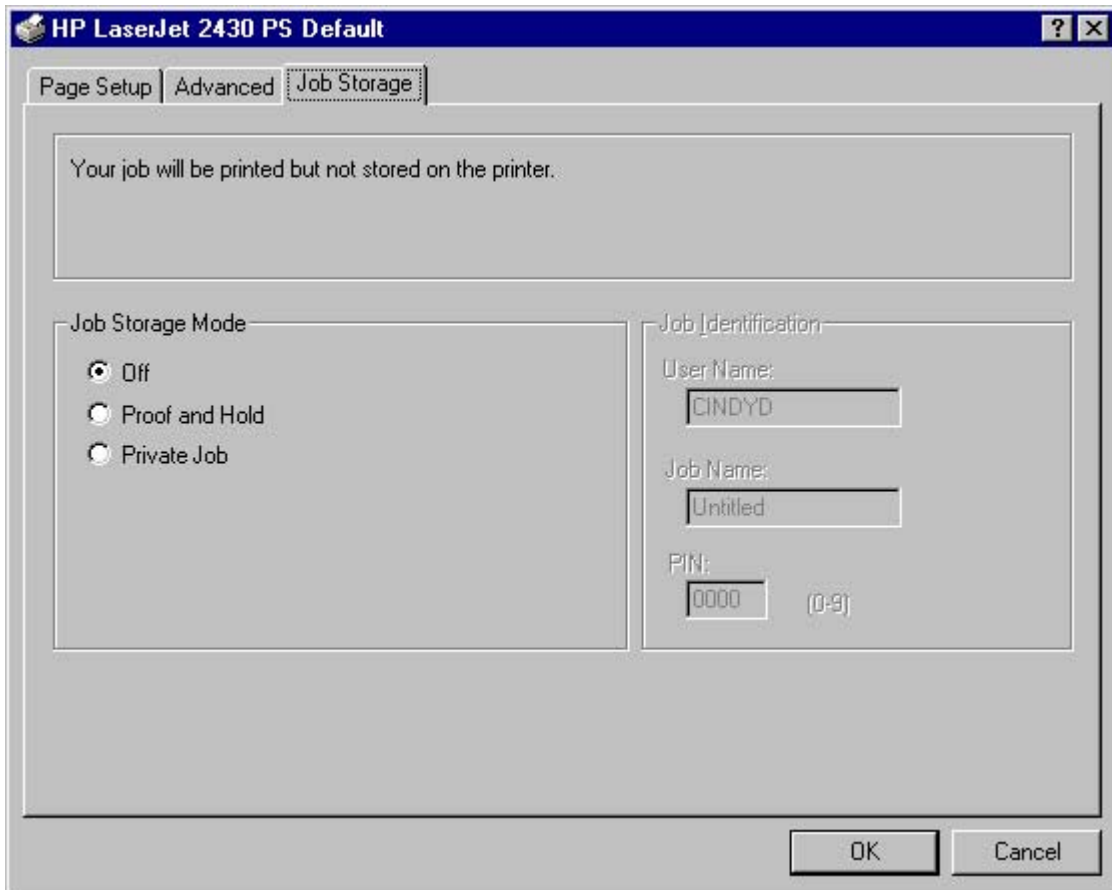


Figure 3-29 Job Storage tab

The **Job Storage** tab contains the following controls:

- Status group box (unlabeled)
- **Job Storage Mode** group box
- **Job Identification** group box

Status group box

The unlabeled group box on the **Job Storage** tab contains a status message about the destination of a print job. The status information changes depending on the selections that are made on the **Job Storage** tab.

Job Storage Mode

Use the **Job Storage Mode** options on the HP LaserJet 2410, 2420, and 2430 printers to store documents at the product and then control their printing at the product control panel. This feature is intended to provide greater flexibility, convenience, security, and cost savings.

The HP LaserJet 2410, 2420, and 2430 printers offer the following **Job Storage Mode** options:

- **Off**
- **Proof and Hold**
- **Private Job**

These options and the settings that control them are described below.

Off

When selected, this option turns the **Job Storage** feature off (it is disabled), which means that the print job will not be stored in the product.

Proof and Hold

To use the **Proof and Hold** option, Job Storage must be enabled, and the product must have a minimum total memory of 80 MB.

When selected, this option stores the print job in memory and prints only the first copy of the job, allowing you to check the first copy. If the document prints correctly, you can print the remaining copies of the print job at the control panel. You can set the number of proof-and-hold print jobs that can be stored in the product at the control panel.

After it is released for printing, the proof-and-hold job is immediately deleted from the product. If more copies are needed, you must reprint the job from the software program. If you send a second proof-and-hold job to the product with the same user name and job name as an existing proof-and-hold job (and you have not released the original job for printing), the job will overwrite the existing job. Proof-and-hold jobs are deleted if you turn off the product.



NOTE The product configuration can be set to hold a maximum of 50 quick-copy or proof-and-hold jobs. The number is set at the product control panel in the **CONFIGURATION** menu, and the default is 32. When this preset limit is reached, the new document overwrites the oldest held document. Also, a document that has the same user and job name as one that is already stored on the hard disk will overwrite the existing document.

Private Job

To use the **Private Job** option, Job Storage must be enabled, and the product must have a minimum total memory of 80 MB.

When you select **Private Job**, the print job is sent to the product, but is not printed until you request the job at the product control panel. Selecting **Private Job** activates the **Job Identification** group box. The print job can be printed only after you type the correct PIN at the control panel. After the job is printed, the job is deleted from the product. This feature is useful when you are printing sensitive or confidential documents that you do not want to leave in an output bin after printing.

After it is released for printing, the private job is immediately deleted from the product. If more copies are needed, you must reprint the job from the software program. If you send a second private job that has the same user name and job name as an existing private job (and you have not released the original job for printing), the job will overwrite the existing job, regardless of the PIN. Private jobs are deleted if you turn off the product.

Using a PIN for Private Job

The **Private Job** option can be secured by a four-digit personal identification number (PIN). You must type in this number at the product control panel before the product can print the job.

The group box labeled **Job Identification** is usually inactive. It becomes active when you select the **Private Job** option.

The Private Job/PIN coupling has a PIN restriction of four ASCII numeric characters (0 through 9). If you type non-numeric characters, they are removed immediately. The text field does not allow you to type in more than four characters. The field temporarily accepts fewer than four digits in the string, but when the edit field loses focus, the zeroes pad the left end until the PIN contains exactly four digits. The default initialized value for the PIN is 0000 for **Private Job**.

Job Identification

The **Job Identification** group box contains the following controls:

- **User Name** text box
- **Job Name** text box
- **PIN** text box

User Name

Use the **User Name** text box to help identify the job at the product control panel. The Windows user name automatically appears in the **User Name** text box. To enter a custom user name, type the custom user name in the text box. The **User Name** text box can contain no more than 16 characters.

Job Name

Use the **Job Name** text box to specify a name to identify the job at the product control panel. This text box uses **Untitled** as the default job name associated with the stored print job. The file name of the print job is used if it is available to the print driver. Otherwise, the software program name or a time stamp is used for the job name. To enter a custom name, type the custom job name in the text box. The **Job Name** text box can contain no more than 16 characters.

When the dialog box is closed, or as soon as the focus is removed from the control (that is, when the **Tab** key is pressed or another control is selected), an empty string is replaced with **UNTITLED**. In those languages for which **UNTITLED** cannot be translated without the use of invalid characters, the driver uses a string of three dashes. The acceptable characters for job name and user name vary for each operating system. The string must be of a length and type that can appear on the product control-panel display.

PIN

The box labeled **PIN** is usually inactive.

After selecting the **Private Job** option, you must type in the PIN number at the product control panel in order to make the job print. For more information, see [Using a PIN for Private Job](#).

Using Job Storage features when printing

To use Job Storage features when printing, follow these steps:

- 1 Click **File** and then click **Print** from the software program. The **Print** dialog box appears.



NOTE Clicking the print icon in the software program toolbar prints the job without Job Storage features.

- 2 Click **Properties**. The **Properties** dialog box appears.
- 3 Click the **Job Storage** tab.
- 4 Select one of the job-storage options (described previously) by clicking the appropriate option button, and then complete any required fields.
- 5 Click **OK**.

Releasing a Job Storage print job

After you send a print job that uses the **Job Storage** feature, you can release the job to print from the product control panel.

- 1 Press the **SELECT** button (the one with the check mark) to open the menus. **RETRIEVE JOB** is highlighted.
- 2 Press the **SELECT** button.
- 3 Press the up and down buttons to scroll to your User Name, and then press the **SELECT** button.
- 4 Press the up and down buttons to scroll to the Job Name, and then press the **SELECT** button. **PRINT** is highlighted.
- 5 Press the **SELECT** button.
- 6 If a PIN number is assigned to the job, press the up and down buttons to select the first digit of the PIN, and then press the **SELECT** button. The number in the product control-panel display changes to an asterisk. Repeat this step for each of the remaining three digits of the PIN number.

If no PIN number is assigned to the job, continue with step 7.

- 7 Press the up and down buttons to select the number of copies to print.
- 8 Press the **SELECT** button to print the job.

Deleting a Job Storage print job

Sometimes it is necessary to delete a print job from the product. You can do this from the product control panel.

- 1 Press the **SELECT** button (the one with the check mark) to open the menus. **RETRIEVE JOB** is highlighted.
- 2 Press the **SELECT** button.
- 3 Press the up and down buttons to scroll to your User Name, and then press the **SELECT** button.
- 4 Press the up and down buttons to scroll to the Job Name, and then press the **SELECT** button.

- 5 Press the up and down buttons to select **DELETE**.
- 6 If a PIN number is assigned to the job, press the up and down buttons to select the first digit of the PIN, and then press the **SELECT** button. The number in the product control-panel display changes to an asterisk. Repeat this step for each of the remaining three digits of the PIN number.

If no PIN number is assigned to the job, continue with step 7.

- 7 Press the **SELECT** button to delete the job.

The stored print job is deleted and the product returns to the **READY** state.

Device Settings tab

The **Device Settings** tab is in the **Properties** for the print driver in Windows NT 4.0. In Windows 98 and Windows Me, a tab with similar options and settings is called the **Device Options** tab.

To gain access to the print driver **Properties**, click **Start** on the Window task bar, select **Settings**, and then click **Printers**. Right-click the product name, and then click **Properties**.

The **Device Settings** tab communicates information about the hardware configuration to the print driver. The **Device Settings** tab appears when you open the driver from the **Printers** folder by selecting and right-clicking the printer, and then clicking **Properties** for the driver. When the driver is opened from within a software program, the **Configure** tab is usually not visible.

When opened from the **Printers** folder, the **Device Settings** tab appears, as shown in the following illustration.



NOTE The illustration below shows the **Device Settings** tab in Windows NT 4.0. The appearance of the equivalent tab in Windows 98 follows this illustration.

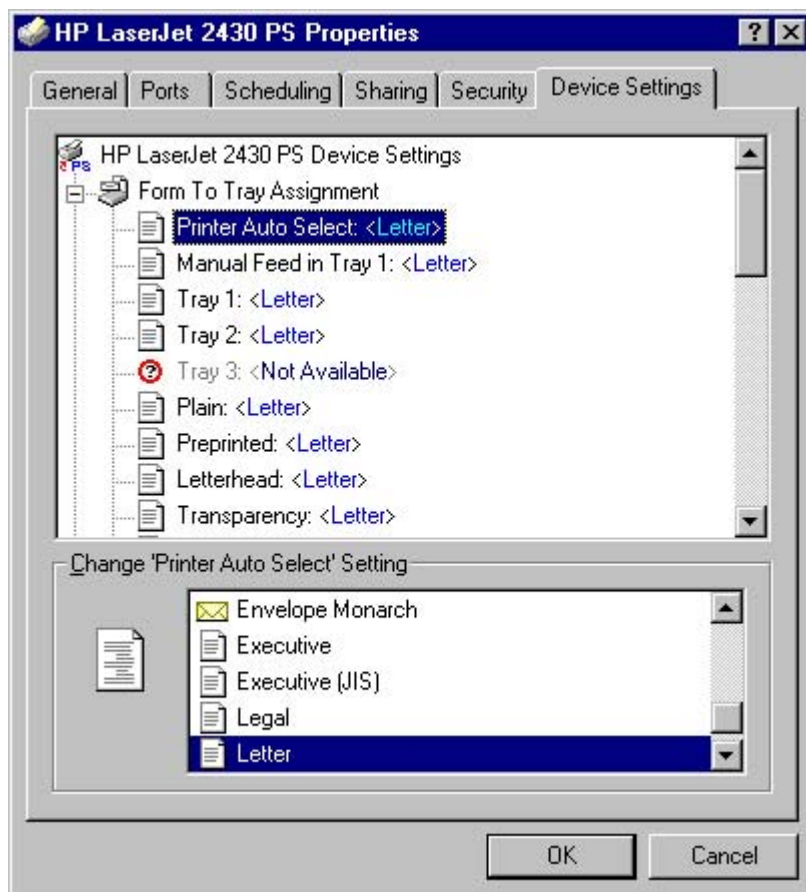


Figure 3-30 Device Settings tab in Windows NT 4.0

The following illustration shows the **Device Options** tab in Windows 98.

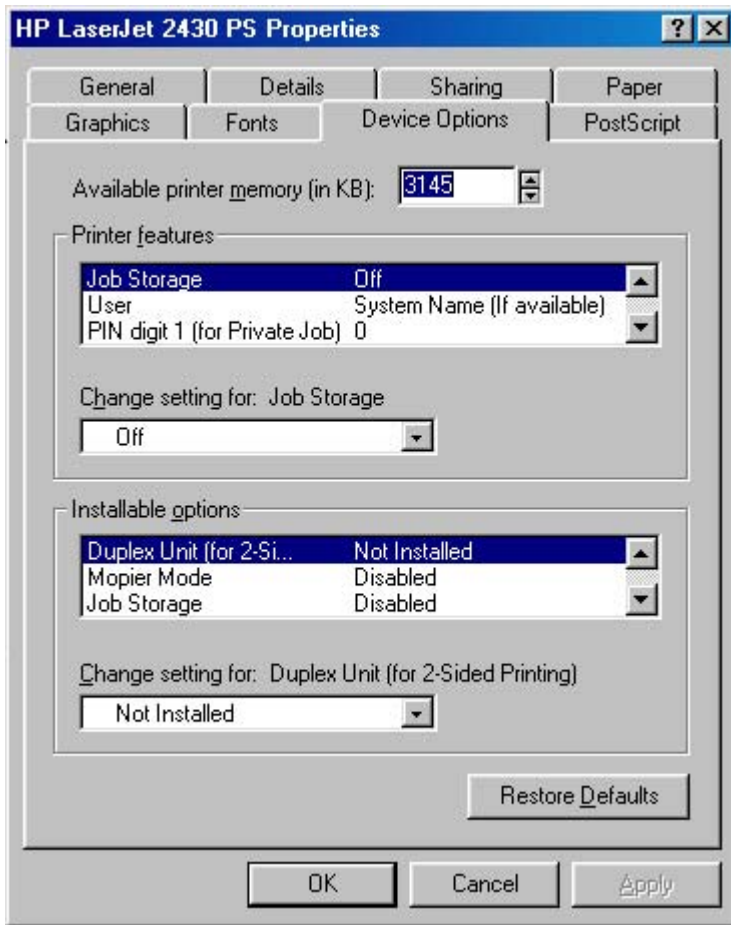


Figure 3-31 Device Options tab in Windows 98



NOTE Changes that you make to the **Device Settings** tab are not reflected in the **Document Defaults** settings until the modified device settings have been applied. For example, the duplexing unit will not appear until you modify the **Configure** tab, apply the settings, and then re-open **Document Defaults**.

The **Device Settings** tab contains the following options:

- **Form to Tray Assignment**
- **Font Substitution Table**
- **PostScript Configure**
- **Installable Options**

Form to Tray Assignment

Many products support more than one source of media, such as upper and lower trays. You can assign a form (which defines the media size and margins) to each of your product media sources. When a form is matched to a source, you can select the form when you print from your software programs. The product prints from the tray to which that form is assigned.

Network administrators can use the **Form to Tray Assignment** setting to specify, in the driver, the media size that is loaded into each available input tray. The use of forms constrains the choices that are available in the media-size list on the **Advanced** tab in the **Document Defaults** driver tabs. This constraint prevents (or reduces the likelihood of) tying up the product with media-mount messages that occur when users request sizes or types that are not available.

The trays listed in the **Form to Tray Assignment** setting include standard trays and optional accessory trays. Generally, items that are installed separately have a separate **Installable Options** setting. For example, for the HP LaserJet 2430t printer, tray 3 is listed in both the **Form to Tray Assignment** setting and the **Installable Options** setting.

The input trays listed here are also listed as media sources on the **Page Setup** tab.

Font Substitution Table

Clicking this option opens the font substitution table and makes available the options for changing the TrueType-to-PostScript font mapping.

Postscript Configure

The following controls are available in the Postscript section of the PS Emulation Driver **Device Settings** tab.

Available PostScript Memory

This control specifies the amount of available postscript memory and provides a spin box for changing this value. The available postscript memory is a subset of the product total physical memory. It is usually best to set the postscript memory to match what is shown on the configuration page. To print a configuration page, follow these steps:

- 1 Press the **SELECT** button (the one with the check mark) to open the menus.
- 2 Press the up and down buttons to scroll to **INFORMATION**, and then press the **SELECT** button.
- 3 Press the up and down buttons to scroll to **PRINT CONFIGURATION**.
- 4 Press the **SELECT** button to print the configuration page.

Output Protocol

This control specifies the protocol that the product uses for print jobs. The following options are available:

- **ASCII** (default)
- **TBCP**
- **Binary**

When you click **ASCII**, data is sent in ASCII format (7-bit), which might take longer to print but can be sent through any I/O channel, such as a serial, parallel, or network port.

When you click **TBCP** (Tagged Binary Communications Protocol), all data except special control characters is sent in binary (8-bit) format. The binary formats can be sent over parallel or serial communications ports and are faster than sending data in ASCII format.

When you click **Binary**, all data except special control characters is sent in binary (8-bit) format. The binary formats can be sent over parallel or serial communications ports and are faster than sending data in ASCII format.

Send Ctrl-D Before Each Job

This control specifies whether the product will be reset at the beginning of every postscript document. The default setting is **No**. Ctrl-D resets the product to its default setting to ensure that previous print jobs do not affect the current print job. Ctrl-D might cause a print job to fail if the product is connected through a network. If your document fails to print when sent to a product connected through parallel or serial ports, change **No** to **Yes**.

Send Ctrl-D After Each Job

This control specifies whether the product will be reset at the end of every postscript document. The default setting is **Yes**. Ctrl-D resets the product to its default setting to ensure that future print jobs are not affected by the current print job. Ctrl-D might cause a print job to fail if the product is connected through a network. If your document fails to print when sent to a network printer, change **Yes** to **No**.

Job Timeout

This control specifies how long the document can take to get from the computer to the product before the product stops trying to print the document. If you specify **0 seconds**, the product continues trying to print indefinitely. The default setting is **0 seconds**. You can use the spin box to change this value to a maximum of **32,767 seconds**.

Wait Timeout

This control specifies how long the product waits to get more postscript information from the computer. After the specified time passes, the product stops trying to print the document and prints an error message. If you are trying to print a very complicated document, you might want to increase this value. If you specify **0 seconds**, the product waits indefinitely. The default setting is **300 seconds**. You can use the spin box to change this value to a maximum of **32,767 seconds**.

Minimum Font Size to Download as Outline

This control specifies the minimum font size (in pixels) for which the driver downloads TrueType fonts as outline (Type 1) fonts. A font smaller than the minimum setting is downloaded as a bitmap (Type 3) font. Use this option to fine-tune the **Automatic** setting for the **TrueType Font Download** option on the **Advanced** tab in **Document Defaults**. The default setting is **100** pixels. You can use the spin box to change this value to a maximum of **32,767** pixels.

Maximum Font Size to Download as Outline

This control specifies the maximum font size (in pixels) for which the driver will download TrueType fonts as bitmap (Type 3) fonts. A font larger than the maximum setting will be downloaded as an outline (Type 1) font. Use this option to fine-tune the **Automatic** setting or override the **Send TrueType as Bitmap** setting for the **TrueType Font Download** option on the **Advanced** tab in **Document Defaults**. The default setting is **600** pixels. You can use the spin box to change this value to a maximum of **32,767** pixels.

Installable Options

This section provides information to configure the printing options that you can install for the HP LaserJet 2410, 2420, and 2430 printer. The following controls are available:

- **Duplex Unit** (for 2-sided Printing)
- **Mopier Mode**
- **Job Storage**
- **Tray 3**
- **Printer Memory**

Duplex Unit (for 2-sided Printing)

The HP LaserJet 2420d, 2420dn, and 2430dtn printer models are equipped with automatic 2-sided printing (duplexing), which allows you to print on both sides of supported media. Automatic 2-sided printing is not supported for certain media types, including transparencies, labels, envelopes, heavy, extra heavy, cardstock, and glossy film.



NOTE The HP LaserJet 2410, 2420, and 2430 printer supports smart duplexing. The product uses the smart duplexing feature to detect information on both sides of the print job pages and only runs the pages through the duplexing unit if printable information appears on the second side of the page.

Mopier Mode

The multiple-original print (mopy) function is an HP-designed feature that produces multiple, collated copies from a single print job. Multiple-original printing (mopying) increases performance and reduces network traffic by transmitting the job to the product once, and then storing it on the hard disk. The remainder of the copies are printed at the fastest speed. All documents that are printed in mopier mode can be created, controlled, managed, and finished from the computer, which eliminates the extra step of using a photocopier.

The HP LaserJet 2410, 2420, and 2430 printer supports the transmit-once mopying feature when the product has a minimum total memory of 80 MB, and the **Mopier Mode**: setting on the **Device Settings** tab is **Enabled**.

Job Storage

If your HP LaserJet 2410, 2420, and 2430 printer has a minimum of 80 MB of memory, limited job-storage options are available. When job storage is enabled, the product can store print jobs so that you can gain access to those print jobs later at the control panel.

Tray 3

This control specifies whether you have **Tray 3**, an additional 500-sheet media tray, installed on your product. The default setting is **Not Installed**. In order to use **Tray 3**, you must change this setting to **Installed**.

Printer Memory

This option matches the setting to the amount of memory that is installed in the product. The driver generates ranges of memory that can be selected, up to the maximum that the product can accept. The driver can use this information to manage how the print driver uses the product memory.

When a minimum total memory of 80 MB is installed, the **Job Storage** option and the **Mopier Mode** are enabled in the print driver. The **Job Storage** option allows you to store print jobs, and then print them later from the control panel. The multiple-original print (mopy) function is an HP-designed feature that produces multiple, collated copies from a single print job.

4 HP PCL 6, HP PCL 5e, and HP PS 3 emulation unidrivers for Windows

Introduction

This chapter describes the features of the HP LaserJet 2410, 2420, and 2430 printer unidrivers. The unidrivers include the HP PCL 6 Unidriver, the HP PCL 5e Unidriver, and the HP Postscript 3 Emulation Unidriver (the PS Emulation Unidriver) for Windows 2000, Windows XP, and Windows Server 2003.

You can control print jobs from several places: the product control panel, the software program's **Print** dialog, and the driver user interface. Generally, for features that are duplicated in more than one location (for instance, you can select the media input tray from any of them), settings that are established in the software program take precedence over print-driver settings. Print-driver settings, in turn, override product control-panel settings.

HP PCL 6, HP PCL 5e, and PS emulation unidriver features



NOTE For a comparison of features between the HP unidrivers and HP traditional print drivers in various operating systems, see the [Driver-feature comparison in various operating systems](#) section of this guide.

When you install the print-system software in Windows 2000, Windows XP, and Windows Server 2003, the HP PCL 6 Unidriver is installed by default. The HP PCL 5e Unidriver and the PS Emulation Unidriver can be installed by performing a Custom Installation.

The following sections describe the options that are available on each tab of the HP PCL 6, PCL 5e, and the PS emulation unidriver interface.

The sections also describe differences among the HP PCL 6, PCL 5e, and the PS emulation unidrivers.

Access to print drivers

To gain access to driver settings from within most software programs, click **File**, click **Print**, and then click **Properties**. The appearance and names of the driver tabs can vary, depending on the operating system. These settings apply only while that software program is open.

You can also control the drivers directly from the Printers folder. These settings change the default settings that are used across all software programs. To gain access to the Printers folder, click **Start**, select **Settings**, and then click **Printers** (Windows 2000) or **Printers and Faxes** (Windows XP Professional and Windows Server 2003) or **Printers and Other Hardware Devices** (Windows XP Home). Right-click the product name, and then click **Printing Preferences** to gain access to the same set of driver tabs that the software program controls.



NOTE If your printer has a minimum of 80 MB of memory, the **Proof and Hold** and **Private Job** job-storage options are available.

If, after right-clicking the product name, you click **Properties**, you gain access to a different set of tabs that control the driver behavior and driver connections.

Help system

The HP PCL 6 Unidriver, the HP PCL 5e Unidriver, and the PS Emulation Unidriver include a full-featured Help system to provide assistance with printing and configuration options.



NOTE Bubble Help, a feature of HP traditional PCL 6 and PCL 5e drivers, is not available in the HP PCL 6, PCL 5e, and PS emulation unidrivers.

What's this? Help

Windows 2000, Windows XP, and Windows Server 2003 support "What's this?" Help. You can gain access to "What's this?" Help messages in any of the following ways:

- Right-click a control and then click **What's this?**. A pop-up Help window appears.
- Click the ? button in the upper-right corner of the frame, next to the X, to change the cursor to an arrow with a question mark. When you use this special cursor to select a control, the pop-up Help window for that feature appears.
- Press the F1 key, and the Help window for the currently selected control appears.

Context-sensitive Help

When you click the **Help** button on a driver tab or in a dialog box, a context-sensitive Help message appears.

Incompatible Print Settings messages

Incompatible print settings (constraint) messages are unsolicited messages that appear in response to specific actions that you take. These messages alert you that the selections are illogical or impossible given the capabilities of the product or the current settings of other controls.



NOTE Constraint messages are limited for HP unidrivers. The HP unidrivers accept some settings that are illogical or impossible for the product to perform. If you try to print with incompatible settings, the printed documents might have unexpected results because the print driver did not provide feedback that the settings were incompatible. If print jobs do not print as expected, check the product documentation for the product capabilities.

In Windows 2000, Windows XP, and Windows Server 2003 operating environments, some technically invalid print-driver configurations result in the appearance of warning messages. Duplexing, for instance, is not possible when the Transparency media type is selected. The following illustration shows an **Incompatible Print Settings** message.

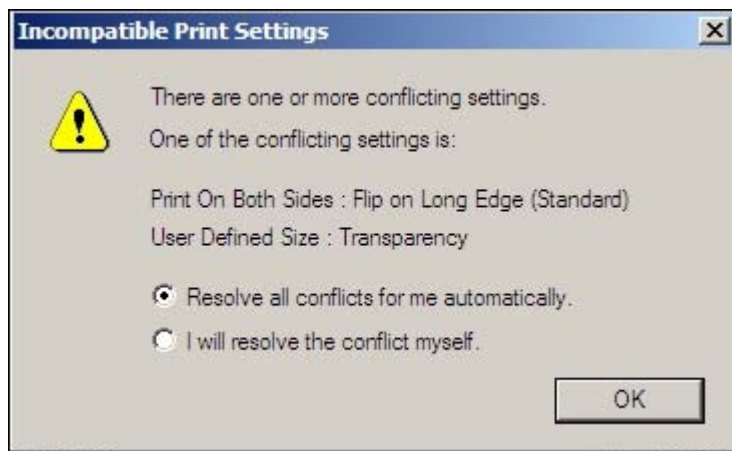


Figure 4-1 An **Incompatible Print Settings** message

Clicking the **Resolve all conflicts for me automatically** option button and then clicking **OK** accepts the change that was just made. The driver then resets the conflicting control to a setting that is

compatible with the new value. If you want to keep the conflicting setting, click **I will resolve the conflict myself** and then click **OK**.



NOTE If you select the **Resolve all conflicts for me automatically** option, the settings that are selected by the driver to resolve the conflict may not correctly reflect the settings you intended to use, and so may have unexpected results. It is best if you try to resolve the conflict yourself.

Advanced tab features

You can use the **Advanced** tab to change the layout of printed pages. Use this tab to configure special controls that are not commonly used, as well as to control features such as media size and copies in the driver (although most current software programs support these features in the print dialog box or through the software-program page settings). The following illustration shows the **Advanced** tab.

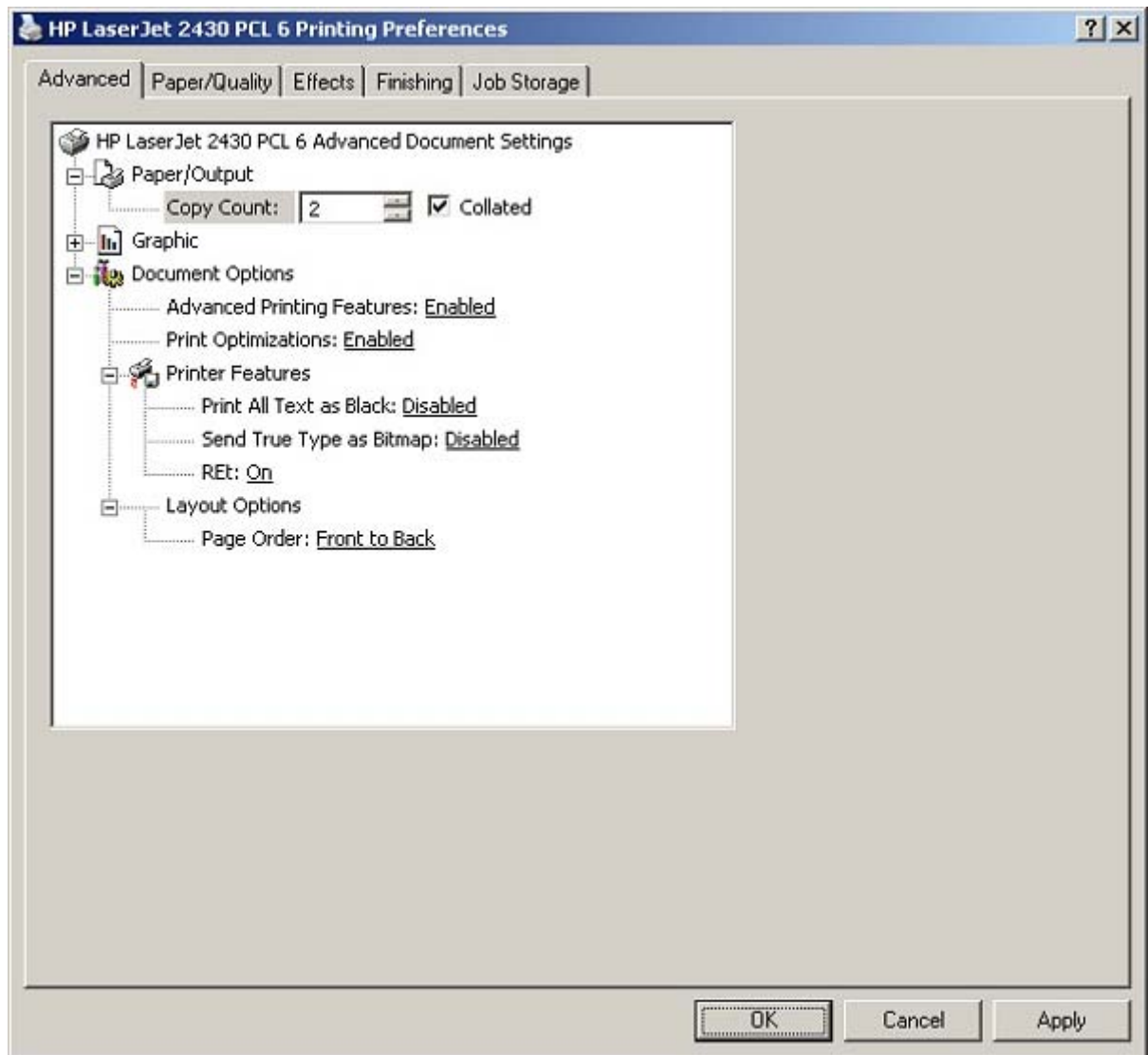


Figure 4-2 The default appearance of the **Advanced** tab

The **Advanced** tab contains the following controls:

- **Paper/Output** settings
- **Graphic** settings
- **Document Options** settings

Paper/Output

The **Paper/Output** settings contain the following controls:

- **Copy Count** setting
- **Collated** check box (appears when you select **Copy Count**)

Copy Count

This driver setting is useful for software programs that do not provide a copy count. If a copy count is available in the software program, set the copy count in the software program. **Copy Count** specifies the number of copies to print.

The number of copies that you request appears in the **Copy Count** option. You can enter the number by typing in the box or by using the up and down arrows to the right of the text box. Valid entries are numbers from 1 to 9999 for the HP LaserJet 2410, 2420, and 2430 printer. The copies value will not advance from the maximum number (9999) to 1 when the up arrow is used, or change from 1 to the maximum number (9999) when the down arrow is used. When you click another group box or leave the **Advanced** tab, invalid entries into the edit box (such as non-numerical input, numbers less than 1, or numbers greater than the maximum allowed) are changed to the last valid value that appeared in the box. The default number of copies is 1.

Because you can set the number of copies that you want from some software programs, conflicts between the software program you are using and the driver can arise. In most cases, the software program and the driver communicate, so that the number of copies set in one location (such as the program) will appear in the other (such as the driver). For some programs, this communication does not take place, and the copies values are treated independently. For these programs, setting 10 copies in the program and then setting 10 copies in the driver will result in 100 copies (10 x 10) being printed. It is recommended that you set the number of copies in the program, wherever possible.

Collated

The **Collated** check box appears next to the **Copy Count** setting. The check box is selected, but is not available. It becomes available and can be changed when the **Copy Count** setting is greater than 1.

When collated, pages print consecutively for each copy of the document. When not collated, copies of each page print together.

This setting is not synchronized with the collate setting in the software-program **Print** dialog box. Settings in the software program override settings in the print driver. For instance, when using Microsoft Word, the **Collate** check box in the **Print** dialog box is selected by default. However, in the print driver, the **Collated** check box in the **Advanced** tab is not selected by default. The software program setting takes precedence over the driver setting, and the printed output is collated by default. To obtain uncollated printed output, clear the **Collate** setting in both the driver and the software program. Similarly, if the **Collated** check box is selected in the driver, but the **Collate** setting is not enabled in the software program, the printed output is uncollated.

Graphic options

The **Graphic** section on the **Advanced** tab contains the **True Type Font** setting. The options for this setting are **Substitute with Device Font** and **Download as Soffont**. Select **Substitute with Device Font** (the default) to use equivalent printer fonts for printing documents that contain True Type fonts. This will permit faster printing; however, you might lose special characters that the printer font does not support. Select **Download as Soffont** to download True Type fonts for printing instead of using printer fonts.

Document Options

The **Document Options** settings contain the following controls:

- **Advanced Printing Features**
- **Print Optimizations**
- **Printer Features**
- **Layout Options**

Advanced Printing Features

When the **Advanced Printing Features** setting is **Enabled**, metafile spooling is turned on and **Finishing** tab options such as **Page Order**, **Booklet Layout**, and **Pages per Sheet** are available, depending on your product. For normal printing, leave the **Advanced Printing Features** setting at the default (**Enabled**). If compatibility problems occur, you can disable the feature. However, some advanced printing features might still be available in the print driver, even though they have been disabled. If you select an advanced printing feature in the print driver that has been disabled on the **Advanced** tab, the feature is automatically re-enabled.

Print Optimizations



NOTE Print Optimization settings are available only in the HP PCL 6 and PCL 5e unidrivers. They are not available in the PS Emulation Unidriver.

The default setting for **Print Optimizations** is **Enabled**. When this feature is enabled and your document contains overlapping text and graphics, text placed on top of a graphic might not print correctly. If the printed output is not correct, you can disable this feature. When disabled, print optimization features, such as substituting device fonts for TrueType fonts and scanning for horizontal and vertical rules, are turned off.

Printer Features

The following **Printer Features** are available:

- **Print All Text as Black**
- **Send True Type as Bitmap** (HP PCL 6 and PCL 5e unidrivers only)
- **REt**
- **Alternative Letterhead Mode**

Print All Text as Black

The **Print All Text as Black** feature is **Disabled** by default. When **Enabled** is selected, the driver prints all text as black regardless of the original document text color. Color text is printed as black, except for white text, which remains white. (White text is a reliable method of printing reverse typeface against a dark background.) This setting does not affect graphic images on the page, nor does it affect any text that is part of a graphic.

Send TrueType as Bitmap



NOTE The **Send TrueType as Bitmap** option is available only in the HP PCL 6 and PCL 5e unidrivers. It is not available in the PS Emulation Unidriver.

Send True Type as Bitmap provides an alternative for those software programs that have trouble using TrueType fonts for special graphic purposes such as shading, rotation, or slanting. The setting is **Disabled** (off) by default. The TrueType fonts are first converted to bitmap soft fonts before downloading. The **Enabled** setting causes the driver to send TrueType fonts to the product as outlines, which retains the standard format (outline) of the fonts.

REt

Resolution Enhancement technology (REt) refines the print quality of characters by smoothing out jagged edges that can occur on the angles and curves of a printed image. It is **On** by default. Select **Off** if graphics, particularly scanned images, are not printing clearly.

Alternative Letterhead Mode

Under normal operation, the product prints duplex jobs with a different orientation than single-sided jobs. This becomes a problem when printing on letterhead, because the user has to switch the orientation of the letterhead media if they need to go back and forth between duplex and single-sided jobs. Alternative letterhead mode solves this problem.

When this feature is selected, this you can always load letterhead or pre-printed paper in the same way for all print jobs, whether you are printing duplex or single-sided jobs. To use it, load the paper as you would for a *duplex* letterhead job. (This is the exact opposite of how you would load the paper for a single-sided letterhead job. See the User Guide for details.) If the printer tray has an icon that indicates to load the paper either face-up or face-down, load the paper in the opposite direction from the orientation shown. When **Alternative Letterhead Mode** is on, both single-sided and double-sided jobs will print the correct way, without having to change the orientation of the letterhead or pre-printed media.



NOTE Alternative Letterhead Mode is only necessary if the product has a duplexer installed.

Graphics Mode



NOTE The **Graphics Mode** option is available only in the HP PCL 5e Unidriver. It is not available in the HP PCL 6 and HP PS emulation unidrivers.

Use the **Graphics Mode** feature to select one of the following settings:

- **Send Graphics as Vector.** Select this setting to send graphics to the product as a combination of HP Graphics Language, V2 (HP-GL/2) and raster images. This setting might produce higher-quality output.
- **Send Graphics as Raster.** Select this setting to send all graphics to the product as images composed of individual dots. This setting might improve printing speed in some cases. It is the default setting.

Layout Options

The **Layout Option** section contains the **Page Order** setting.

Page Order

Page Order specifies the order in which the pages of your document are printed. **Front to Back** prints the document so that page 1 prints first. **Back to Front** prints the document so that page 1 prints last. The **Back to Front** setting is useful if you are printing to a face-up output bin to achieve output in the correct order.



NOTE The page-ordering operation works on whole sheets of media rather than on individual logical pages. Accordingly, if you set **Pages per Sheet** (on the **Finishing** tab) to be greater than one, the ordering of logical pages on a physical sheet does not change.

Paper/Quality tab features

Use the **Paper/Quality** tab to specify the size, type, and source of the media. You can also use this tab to indicate different media-selection choices for the front cover, first page, other pages, last page, and back cover of the document. The following illustration shows the **Paper/Quality** tab.

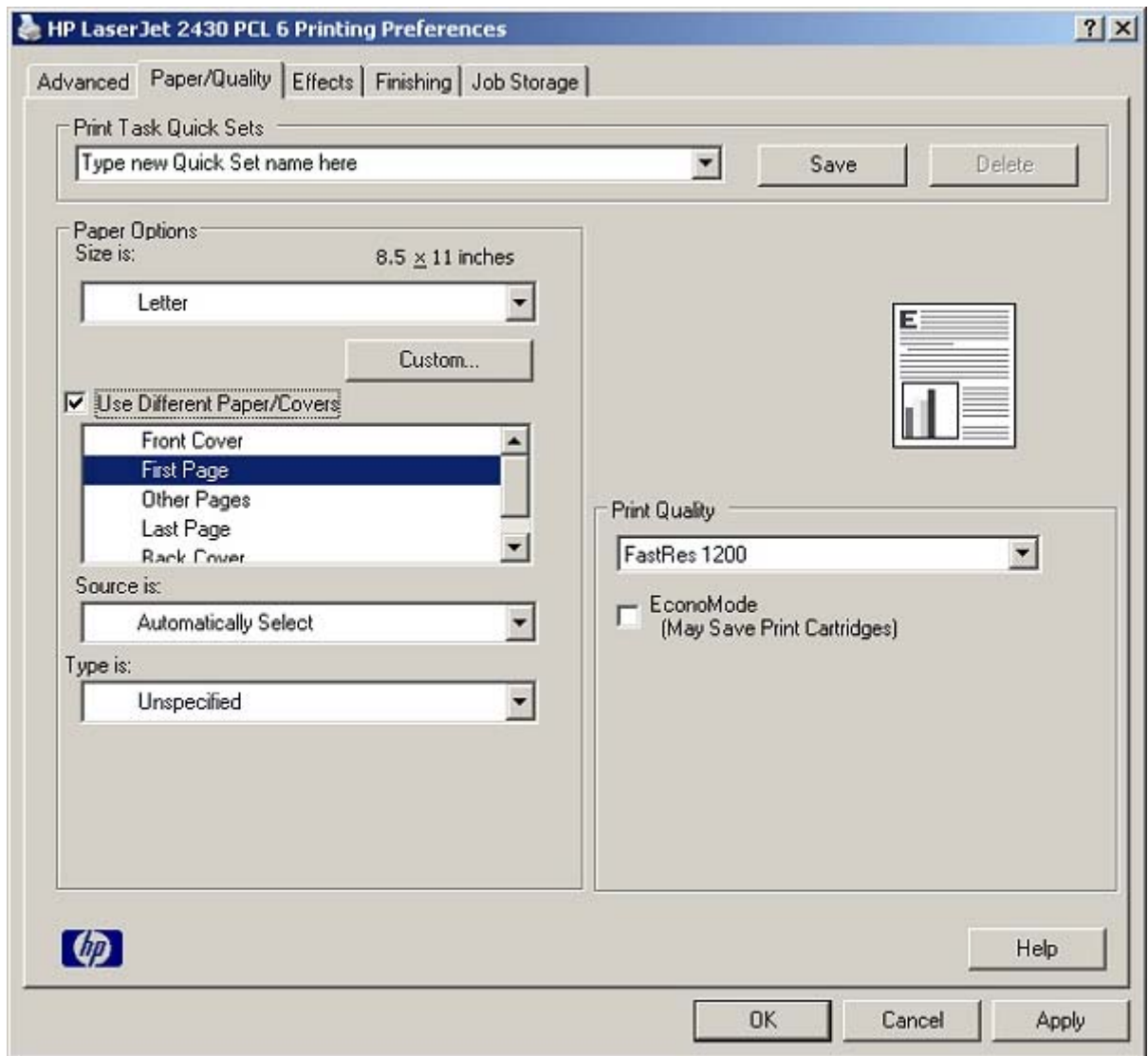


Figure 4-3 Paper/Quality tab

The **Paper/Quality** tab contains the following controls:

- **Print Task Quick Sets** group box
- **Paper Options** group box
- Document preview image
- **Print Quality** group box

Print Task Quick Sets

The first group box in the upper portion of the **Paper/Quality** tab is **Print Task Quick Sets**. Any change to the **Print Task Quick Sets** group box that is made on the **Paper/Quality** tab affects most of the **Printing Preferences** driver tabs (the **Paper/Quality**, **Effects**, **Finishing**, and **Job Storage** tabs) because they are all the same control.

Use the **Print Task Quick Sets** setting to store the current combination of driver settings that appear on all of the other print driver tabs (except the **Advanced** tab, where the setting is not available).

Print Task Quick Sets are either preset by network-administrator settings or user-defined printing specifications (such as media size, pages per sheet, and so on). The **Print Task Quick Sets** control does *not* appear on the driver **Properties** tabs.



NOTE Administrators can predefine print task quick sets for their users. These administrator print task quick sets are defined on the server and are available to users, but usually cannot be modified by users. Users can also define print task quick sets for their own use. User-defined print task quick sets are described later in this section.

The following selections are available in the **Print Task Quick Sets** drop-down menu:

- **Default Print Settings**
- **User Guide Print Settings**

Default Print Settings

When you select **Default Print Settings**, nearly all of the settings are restored to the combination that existed after the driver was installed (the original settings). However, if the attribute combinations that are associated with watermark definitions, custom media sizes, or the other quick sets have been changed or deleted, the original settings for those items are not restored.

Type a new Quick Set name here appears in the **Print Task Quick Sets** menu automatically if no other driver settings have been changed since the driver was installed, or if all of the driver settings match the original settings. Otherwise, the setting in the **Print Task Quick Sets** menu is the same label that appeared when you last closed the printing **Properties** dialog box by clicking **OK**.

The following table shows the default settings for **Print Task Quick Sets**. See the [HP Driver Preconfiguration](#) section for information about preconfigurable driver settings.

Table 4-1 Print Task Quick Set default values for the HP LaserJet 2410, 2420, and 2430 printer

Driver feature	Feature setting location	Default values for U.S. English Print Task Quick Sets	Default setting for other languages (if different)	Preconfigurable ¹
Correct Order for Rear Bin	Finishing tab, Document Options group box	Off		Yes
Print on Both Sides	Finishing tab, Document Options group box	Off		Yes
Flip Pages Up	Finishing tab, Document Options group box	Unavailable; Off when activated		Yes
Booklet Layout	Finishing tab, Document Options group box	Unavailable; Off when activated		Yes
Pages per Sheet	Finishing tab, Document Options group box	1		Yes
Print Page Borders	Finishing tab, Document Options group box	Unavailable; Off when activated		Yes
Page Order	Finishing tab, Document Options group box	Unavailable; Right then		Yes

Table 4-1 Print Task Quick Set default values for the HP LaserJet 2410, 2420, and 2430 printer (continued)

Driver feature	Feature setting location	Default values for U.S. English Print Task Quick Sets	Default setting for other languages (if different)	Preconfigurable ¹
		Down when activated		
Orientation	Finishing tab, Orientation group box	Portrait		Yes
Rotate by 180 degrees	Finishing tab, Orientation group box	Off		Yes
Resizing Options	Effects tab, Resizing Options group box	Actual Size		Yes
Print document on	Effects tab, Resizing Options group box	Off - print on the size specified in the Paper/Quality tab		Yes
Size to print on	Effects tab, Resizing Options group box	Actual Size	The default value depends on regional media size.	Yes
Scale to Fit	Effects tab, Resizing Options group box	Unavailable; Off when activated		Yes
% of Normal Size	Effects tab, Resizing Options group box	Off		Yes
Watermarks	Effects tab	(none)		Yes
Watermarks First Page Only	Effects tab, Watermarks group box	Unavailable; Off when activated		Yes
Current watermarks	Effects tab, Watermark Details dialog box (Click Edit for Watermark Details .)	(none)		Yes ²
Watermark Message	Effects tab, Watermark Details dialog box (Click Edit for Watermark Details .)	(none)		Yes ²
Watermark Message Angle	Effects tab, Watermark Details dialog box (Click Edit for Watermark Details .)	Diagonal		Yes ²
Watermark Message Angle (angle)	Effects tab, Watermark Details dialog box (Click Edit for Watermark Details .)	Unavailable unless the Angle option is selected; 52 (degrees) when activated		Yes
Watermark Font Name	Effects tab, Watermark Details dialog box, Font Attributes group box	Arial	Language-dependent	Yes ²
Watermark Font Color	Effects tab, Watermark Details dialog box, Font Attributes group box	Gray		Yes
Watermark Font Shading	Effects tab, Watermark Details dialog box, Font Attributes group box	Very Light		Yes ²

Table 4-1 Print Task Quick Set default values for the HP LaserJet 2410, 2420, and 2430 printer (continued)

Driver feature	Feature setting location	Default values for U.S. English Print Task Quick Sets	Default setting for other languages (if different)	Preconfigurable ¹
Watermark Font Size	Effects tab, Watermark Details dialog box, Font Attributes group box	80		No
Watermark Font Style	Effects tab, Watermark Details dialog box, Font Attributes group box	Regular		Yes ²
Size is:	Paper/Quality tab, Paper Options group box	Letter	The default value depends on regional media size.	Yes
Use Different Paper/Covers	Paper/Quality tab, Paper Options group box	Off - all of the pages use the same media		No
Source is:	Paper/Quality tab, Paper Options group box	Automatically Select		Yes
Type is:	Paper/Quality tab, Paper Options group box	Unspecified		Yes
Print Quality	Paper/Quality tab, Print Quality group box	FastRes 1200		Yes
EconoMode (can save Print Cartridges)	Paper/Quality tab, Print Quality group box	Off		Yes
Unlabeled group box	Job Storage tab	Status message about the destination of the job		No
Job Storage Mode	Job Storage tab, Job Storage Mode group box	Off is selected		No
Proof and Hold	Job Storage tab, Job Storage Mode group box	Available, not selected		No
Private Job	Job Storage tab, Job Storage Mode group box	Available, not selected		No
Windows User Name	Job Storage tab, User Name group box	Unavailable unless a Job Storage option is selected		No
Job Name	Job Storage tab, Job Name group box	Unavailable unless a Job Storage option is selected		No
PIN to Print	Job Storage tab, Require PIN group box	Unavailable unless a Job Storage option is selected		No
Display Job ID when printing	Job Storage tab, Job Notification Options group box	Unavailable unless a Job		No

Table 4-1 Print Task Quick Set default values for the HP LaserJet 2410, 2420, and 2430 printer (continued)

Driver feature	Feature setting location	Default values for U.S. English Print Task Quick Sets	Default setting for other languages (if different)	Preconfigurable ¹
		Storage option is selected; On when activated		
If Job Name Exists	Job Storage tab, Job Name group box	Unavailable unless a Job Storage option is selected		No

¹ Preconfigurable by using one of the HP Preconfiguration tools. For more information, See [HP Driver Preconfiguration](#), or go to www.hp.com/support/lj2410 for the HP LaserJet 2410 printer, www.hp.com/support/lj2420 for the HP LaserJet 2420 printer, or www.hp.com/support/lj2430 for the HP LaserJet 2430 printer.

² Not supported in Windows 98 and Windows Me.

User Guide Print Settings

The **User Guide Print Settings** option provides a Print Task Quick Set for optimal printing of the *HP LaserJet 2400 Series User Guide*.

When you select **User Guide Print Settings**, all of the settings are restored to the default settings, except for the following settings:

- **Print on Both Sides** is set to **ON**
- **Flip Pages Up** is set to **ON**
- **Pages per Sheet** is set to **2**
- **Page Order** is set to **Right then Down**

Type new Quick Set name here

By default, the **Print Task Quick Sets** menu is set to **Type new Quick Set name here**. When you change any of the default settings on any of the **Printing Preferences** driver tabs and you want to save the configuration as a print task quick set, highlight the words **Type new Quick Set name here**, type the name you want for your new print task quick set, and then click **Save**. Print task quick sets are saved in the system registry. To delete a print task quick set, select it from the drop-down menu and click **Delete**.



NOTE Administrators can predefine print task quick sets for their users. These administrator print task quick sets are defined on the server and are available to users, but usually cannot be modified by users. Users can also define print task quick sets for their own use. User-defined print task quick sets are described later in this section.

You can store a maximum of 25 print task quick sets on a particular system. If you attempt to save too many, a message box appears that reads, "There are too many Print Task Quick Sets defined. Please delete some before adding new ones."

Paper Options

The settings specified in the **Paper Options** group box on the **Paper/Quality** tab apply to all of the pages of the document. The following illustration shows the **Paper Options** group box and the selections that are available by default.

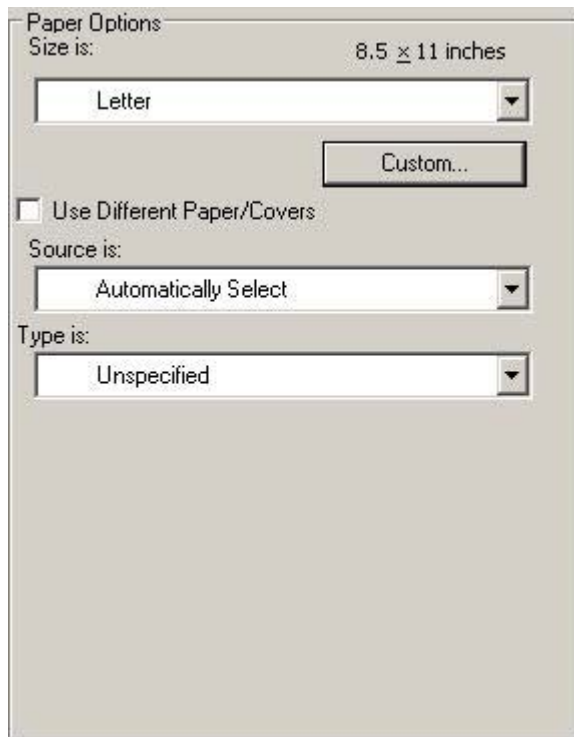


Figure 4-4 Paper Options group box

The appearance of the **Paper Options** group box changes when the **Use Different Paper/Covers** check box is selected. For convenience, in this section the settings in the **Paper Options** group box are described below in the following order.

- [Size is](#)
- [Source is](#)
- [Type is](#)
- [Use Different Paper/Covers](#)

Size is

The **Size is:** setting is a drop-down menu that lists all of the supported media sizes.

When you move the mouse over the dimensions label, the mouse cursor changes from an arrow to a gloved hand. Click the dimensions label to toggle between English and metric units.

Because driver settings are overridden by media-size settings in most software programs, it is generally best to use the driver to set media size only when you are printing from software programs that lack a media-size setting, such as NotePad, or when you are producing a book or a booklet that does not require different media sizes.



NOTE Certain software programs can override the size command and specify different media sizes within a single document.

For information about media sizes, see the [Media attributes](#) section of this guide.

Custom

The **Custom Paper Size** dialog box appears when you click the **Custom** button on the **Paper/Quality** tab. The following illustration shows the initial appearance of the **Custom Paper Size** dialog box.

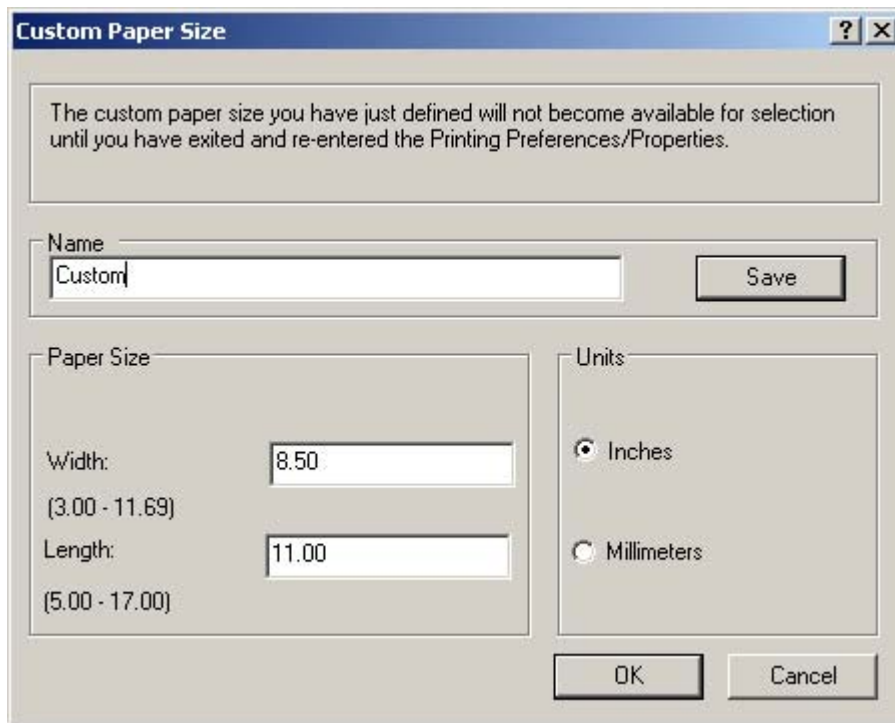


Figure 4-5 Custom Paper Size dialog box

Name

Use the **Name** text box to type a new name for a custom media size.

The name that appears in the **Name** text box is one of three things, depending on the following conditions:

- If a saved custom media size has been selected from the drop-down menu on the **Paper/Quality** tab, then the **Name** drop-down menu shows the name of the selected custom media size.
- If a standard media size has been selected on the **Paper/Quality** tab, then the **Name** drop-down menu shows the default name of "Custom."
- If a new name has been typed into the **Name** text box for the purpose of saving a new size or renaming an existing size, then that new name will remain in the text box until the new size is saved or the dialog box is closed.

If you type a new name into the **Name** text box, but then do not click the **Save** button, you should be able to change the width and height values without losing the name. However, if you close the dialog box without clicking the **Save** button, any unsaved name or size values are lost without warning.

Paper size

The width and height values can be changed by typing numeric strings into the edit boxes in the **Paper Size** group box.

Any entry that is greater than the maximum limits of the width and height control is rounded down to the maximum valid entry, while any entry that is smaller than the minimum limits of the width and height control is rounded up to the minimum valid entry.

Any non-numerical entry reverts to the last valid entry. Width and height entries are validated when the focus has changed.

The resolution of the control is two decimal places for both millimeters and inches.

Units

To change measurement units, select one of the radio buttons in the **Units** group box (either **Inches** or **Millimeters**).

Custom width and height control limits

The minimum media size for the HP LaserJet 2410, 2420, and 2430 printer is 76.2 x 127 mm (3 x 5 inches) and the maximum is 215.9 x 355.6 mm (8.5 x 14 inches). The following table summarizes media size limits for each media-handling device.

Table 4-2 PCL 6 custom media sizes

Tray	Dimensions	Minimum	Maximum
Tray 1 (multipurpose)	Width	76.2 mm (3 inches)	215.9 mm (8.5 inches)
	Height	127.0 mm (5 inches)	355.6 mm (14 inches)
Tray 2 (250-sheet)	Width	Custom sizes not supported	Custom sizes not supported
	Height	Custom sizes not supported	Custom sizes not supported
Tray 3 (500-sheet)	Width	Custom sizes not supported	Custom sizes not supported
	Height	Custom sizes not supported	Custom sizes not supported
Duplexing unit	Width	Custom sizes not supported	Custom sizes not supported
	Height	Custom sizes not supported	Custom sizes not supported

Use Different Paper/Covers

When the **Use Different Paper/Covers** check box is selected and different options are configured, the **Size is:**, **Source is:**, and **Type is:** menus change, offering a variety of options. For more information, see the [Use Different Paper/Covers](#) section in this chapter of the guide.

Source Is

The **Source is:** setting specifies the source tray to use for printing a document. The list of source trays depends on the product accessories. Any optional source trays that are installed through the **Device Settings** tab also appear here.

The **Source is:** drop-down menu can contain the following options:

- **Automatically select**
- **Printer Auto Select**
- **Manual Feed in Tray 1**
- **Tray 1** (100-sheet multipurpose tray)
- **Tray 2** (250-sheet tray)
- **Tray 3** (500-sheet tray)

The default setting is **Automatically Select**. When this setting is selected, the HP LaserJet 2410, 2420, and 2430 printers use the source tray that supports the media size that you have selected. If you select a source tray other than **Automatically select**, make sure that the correct media size is loaded in the source tray. For information about media sources, see the [Media attributes](#) section of this guide.

Type is

The **Type is:** drop-down menu shows all the media types that the HP LaserJet 2410, 2420, and 2430 printers support. When you use the default setting, **Unspecified**, the printer uses the default media type, which is usually **Plain**.

The following standard types appear in the lists:

- Unspecified
- Plain
- Preprinted
- Letterhead
- Transparency
- Prepunched
- Labels
- Bond
- Recycled
- Color
- Cardstock (164 to 200 g/m² or 43 to 53 lb)
- Envelope
- Light (60 to 75 g/m²)
- Rough

The default setting is **Unspecified**, and the program selects the media type. If you select a different setting, make sure the correct media type is loaded in the tray you selected in the **Source is:** setting. For more information about media types, see the [Media attributes](#) section of this guide.

Use Different Paper/Covers

You can print books with different media types using the **Use Different Paper/Covers** options.

When you select the **Use Different Paper/Covers** check box, the following settings can appear in the group box, along with the associated options:

- **Front Cover**
- **First Page**
- **Other Pages**
- **Last Page**
- **Back Cover**



NOTE You must use the same size of media for the entire print job. All **Use Different Paper/Covers** options use the last **Size is:** setting that you select in *any one* of the **Use Different Paper/Covers** options.

When you change the type and source of the media and covers, the settings that you select remain configured until you close the software program.

Each option for the **Use Different Paper/Covers** setting is described in the following sections.

Front Cover

Use the **Front Cover** options to include a blank or preprinted front cover on a document, or to include a front cover from a source tray that is different from the one that is used for the remainder of the document.

The following illustration shows the **Front Cover** setting and options.

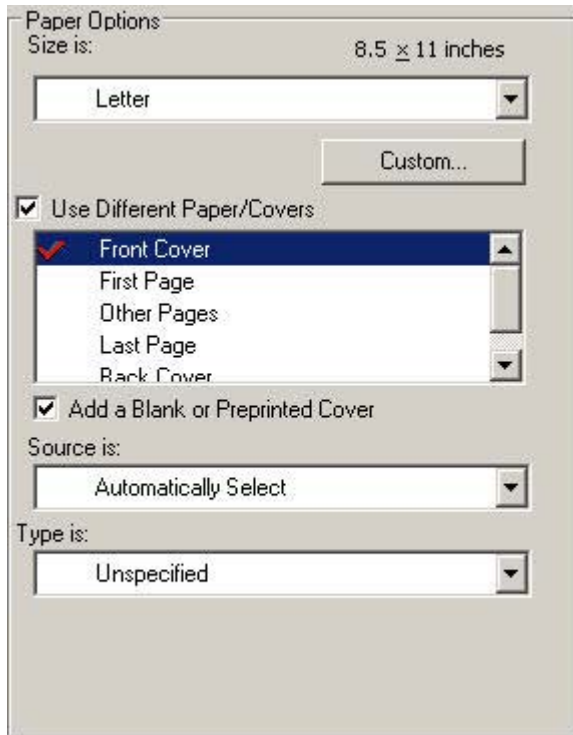


Figure 4-6 Front Cover options

The following **Front Cover** options are available:

- **Size is:** drop-down menu
- **Add a Blank or Preprinted Cover** check box
- **Source is:** drop-down menu
- **Type is:** drop-down menu

The **Size is:** setting specifies the media size to use for the entire print job. Changes that you make to the **Size is:** setting here override any previous **Size is:** settings made in other **Use Different Paper/Covers** options.

When you select **Front Cover**, you must also select the **Add a Blank or Preprinted Cover** check box to enable the setting. When you select this check box, the **Source is:** and **Type is:** drop-down menus become available and a check mark appears next to the **Front Cover** option.

The **Source is:** setting specifies the source tray to use for adding a front cover to the document. The list of source trays depends on the product accessories. Any optional media trays that are installed through the **Device Settings** tab also appear here. For more information about the **Source is:** setting, see the [Source Is](#) section of this chapter.

The **Type is:** drop-down menu shows all of the media types that the product supports. For more information about the **Type is:** drop-down menu settings, see the **Type is:** in the [Type is](#) section of this chapter.



NOTE You must use the same size of media for the entire print job. All **Use Different Paper/Covers** options use the last **Size is:** setting that you select in *any one* of the **Use Different Paper/Covers** options.

When you change the type and source of the media and covers, the settings you select remain configured until you close the software program.

First Page

Use the **First Page** options to select an alternative media size, type, or source for the first page of a document. The following illustration shows the appearance of the Paper Options group box when you select the Use Different Paper/Covers check box.

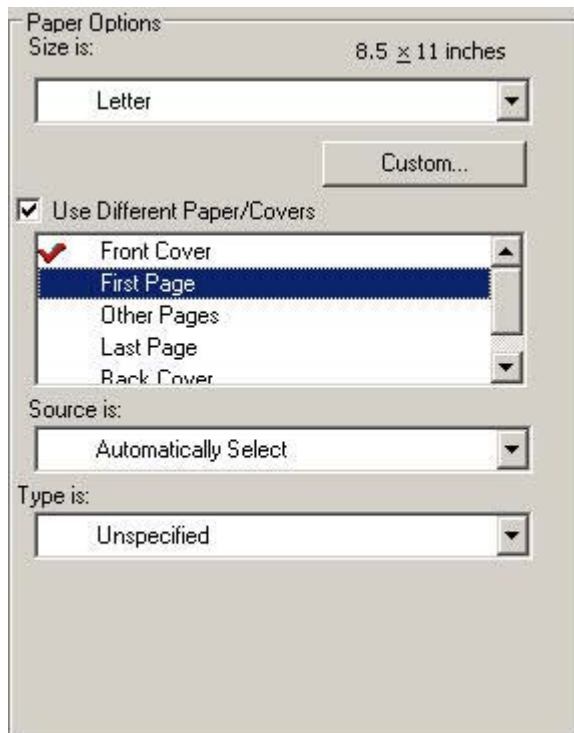


Figure 4-7 First Page options

The following **First Page** options are available:

- **Size is:** drop-down menu
- **Source is:** drop-down menu
- **Type is:** drop-down menu

The **Size is:** setting specifies the media size to use for the entire print job. Changes that you make to the **Size is:** setting here override any previous **Size is:** settings that you made in other **Use Different Paper/Covers** options.

The **Source is:** setting specifies the source tray to use for printing a document. The list of source trays depends on the product accessories. Any optional media trays that are installed through the **Device Settings** tab also appear here. For more information about the **Source is:** setting, see the [Source Is](#) section of this chapter.

The **Type is:** drop-down menu shows all of the media types that the product supports. For more information about the **Type is:** drop-down menu settings, see the description for **Type is:** in the [Type is](#) section of this chapter.



NOTE You must use the same size of media for the entire print job. All **Use Different Paper/Covers** options use the last **Size is:** setting that you select in *any one* of the **Use Different Paper/Covers** options.

When you change the type and source of the media and covers, the settings you select remain configured until you close the software program.

Other Pages

Use the **Other Pages** options to select an alternative media size, type, or source for the other pages of the document.

The following illustration shows the appearance of the **Paper Options** group box when you select the **Use Different Paper/Covers** check box.

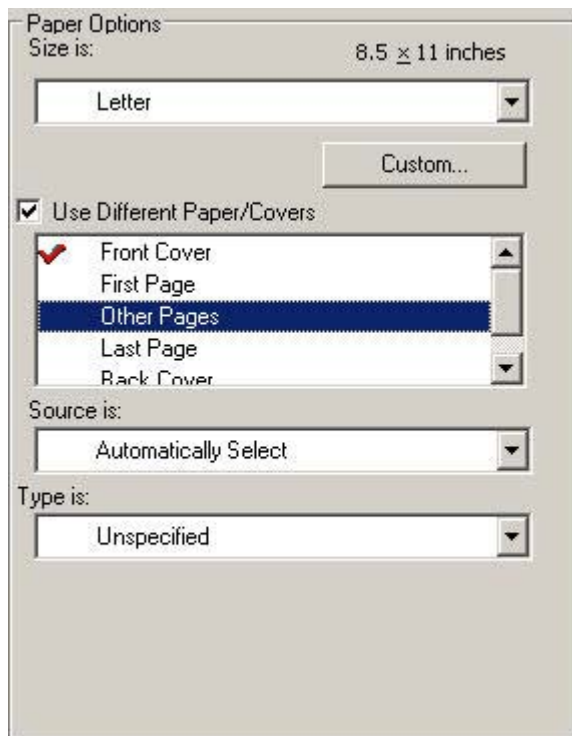


Figure 4-8 Other Pages options

The following **Other Pages** options are available:

- **Size is:** drop-down menu
- **Source is:** drop-down menu
- **Type is:** drop-down menu

The **Size is:** setting specifies the media size to use for the entire print job. Changes that you make to the **Size is:** setting here override any previous **Size is:** settings that you made in other **Use Different Paper/Covers** options.

The **Source is:** setting specifies the source tray to use for printing a document. The list of source trays depends on the product accessories. Any optional media trays that are installed through the **Device Settings** tab also appear here. For more information about the **Source is:** setting, see the [Source Is](#) section of this chapter.

The **Type is:** drop-down menu shows all of the media types that the product supports. For more information about the **Type is:** drop-down menu settings, see the description for **Type is:** in the [Type is](#) section of this chapter.



NOTE You must use the same size of media for the entire print job. All **Use Different Paper/Covers** options use the last **Size is:** setting that you select in *any one* of the **Use Different Paper/Covers** options.

When you change the type and source of the media and covers, the settings you select remain configured until you close the software program.

Last Page

Use the **Last Page** options to select an alternative media size, type, or source for the last page of a document. The following illustration shows the appearance of the Paper Options group box when you select the Use Different Paper/Covers check box.

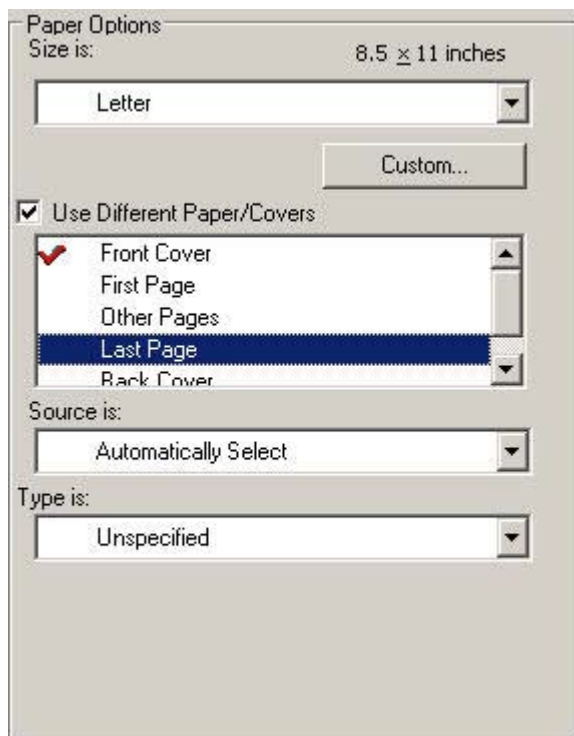


Figure 4-9 Last Page options

The following **Last Page** options are available:

- **Size is:** drop-down menu
- **Source is:** drop-down menu
- **Type is:** drop-down menu

The **Size is:** setting specifies the media size to use for the entire print job. Changes that you make to the **Size is:** setting here override any previous **Size is:** settings that you made in other **Use Different Paper/Covers** options.

The **Type is:** drop-down menu shows all of the media types that the product supports. For more information about the **Type is:** drop-down menu settings, see the description for **Type is:** in the [Type is](#) section of this chapter.



NOTE You must use the same size of media for the entire print job. All **Use Different Paper/Covers** options use the last **Size is:** setting that you select in *any one* of the **Use Different Paper/Covers** options.

When you change the type and source of the media and covers, the settings you select remain configured until you close the software program.

Back Cover

Use the **Back Cover** options to include a blank or preprinted back cover on a document, or to include a back cover from a source tray that is different from the one used for the remainder of the document.

The following illustration shows the **Back Cover** setting and options.

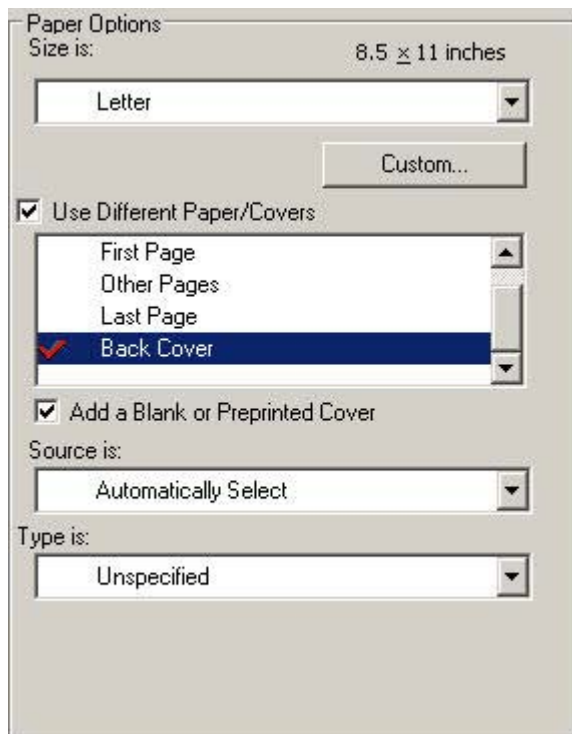


Figure 4-10 Back Cover setting

The following **Back Cover** options are available:

- **Size is:** drop-down menu
- **Add a Blank or Preprinted Cover** check box
- **Source is:** drop-down menu
- **Type is:** drop-down menu

The **Size is:** setting specifies the media size to use for the entire print job. Changes that you make to the **Size is:** setting here override any previous **Size is:** settings that you made in other **Use Different Paper/Covers** options.

When you select **Back Cover**, you must also select the **Add a Blank or Preprinted Cover** check box to enable the setting. When you select this check box, the **Source is:** and **Type is:** drop-down menus become available and a check mark appears next to the **Back Cover** option.



NOTE The **Back Cover** options are not available when the **Booklet Printing Layout** setting is enabled on the **Finishing** tab. The back cover setting is unavailable, because this page would otherwise be printed in the middle of a booklet.

The **Source is:** setting specifies the source tray to use for adding a back cover to the document. The list of source trays depends on the product accessories. Any optional media trays that are installed through the **Device Settings** tab also appear here. For more information about the **Source is:** setting, see the [Source Is](#) section of this chapter.

The **Type is:** drop-down menu shows all of the media types that the product supports. For more information about the **Type is:** drop-down menu settings, see the **Type is:** in the [Type is](#) section of this chapter.



NOTE You must use the same size of media for the entire print job. All **Use Different Paper/Covers** options use the last **Size is:** setting that you select in *any one* of the **Use Different Paper/Covers** options.

When you change the type and source of the media and covers, the settings you select remain configured until you close the software program.

Document preview image

The document preview image is a line-drawn image of a page that represents graphics and text. The document preview image is always oriented so that the contents of the page are right-side-up. The document preview image appears in the upper-right corner of the **Paper/Quality**, **Effects**, and **Finishing** tabs.

Switching between tabs does not change the location or appearance of the document preview image. When you move the mouse over the document preview image, the mouse cursor changes from an arrow to a gloved hand. You can toggle between portrait and landscape page orientation by clicking on the image.

Print Quality

The **Print Quality** group box contains the **Print Quality** drop-down box and the **EconoMode** check box.

The default setting for **Print Quality** is **FastRes 1200** for the HP PCL 6 print driver or **600 dpi** for the PCL 5e and PS emulation print drivers.

This setting controls resolution, which refers to the number of dots per inch (dpi) used to print the page. As resolution is increased, the quality (clarity and visual appeal) of print on the page is improved. However, higher resolution may also result in longer printing times. The following options are available in the **Print Quality** drop-down box:

- **ProRes 1200 (180 lpi)**: Prints using a resolution of 1200 x 1200 with 180 lines per inch (lpi). This prints slower than other resolutions, but has the best print quality.
- **ProRes 1200 (141 lpi)**: Prints using a resolution of 1200 x 1200 with 141 lines per inch (lpi). It prints slower than other resolutions, but has the best print quality.
- **FastRes 1200**: Prints using a resolution of 1200 x 600. It is faster than full 1200 x 1200 resolution, but has a slightly lower print quality.
- **600 dpi**: Prints using standard 600 dpi resolution.

The **EconoMode** check box can be selected in conjunction with any of the print quality settings. When you select EconoMode, the product uses less toner on each page. Using this option might extend the life of your print cartridge and can lower the cost per page, but the option also reduces print quality. Using the EconoMode feature with non-HP print cartridges can result in spillage or printer damage.

Effects tab features

Use the **Effects** tab to create unique media effects such as scaling and watermarks. The following illustration shows the **Effects** tab.

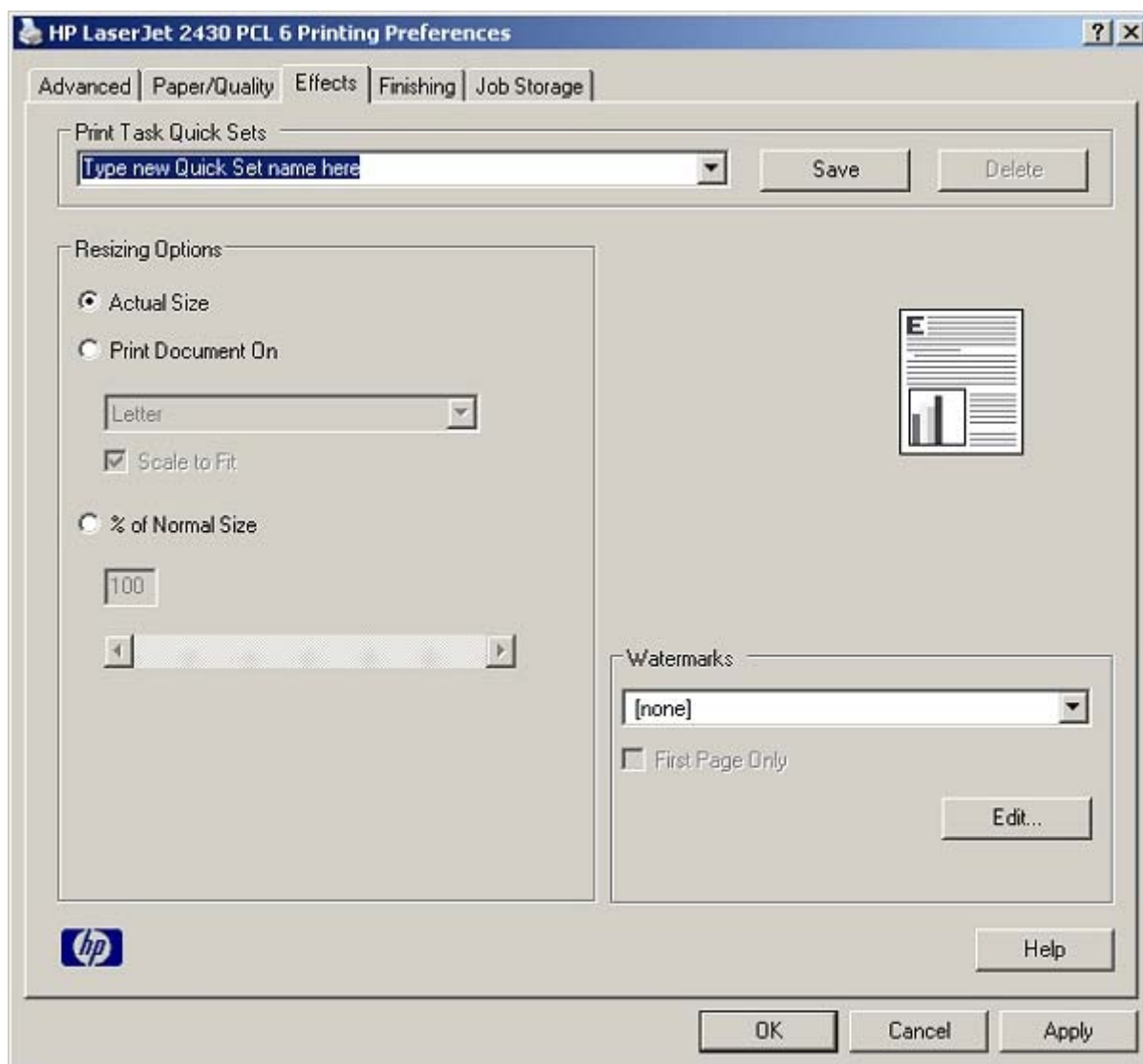


Figure 4-11 Effects tab

The **Effects** tab contains the following controls:

- **Print Task Quick Sets** group box
- **Resizing Options** group box
- Document preview image
- **Watermarks** group box

Print Task Quick Sets

Use the **Print Task Quick Sets** control to store the current combination of driver settings that appear on all other **Printing Preferences** driver tabs. Print task quick sets are either preset or user-defined printing specifications, such as media size and pages per sheet. For more information, see the [Paper/Quality tab features](#) section of this guide.

Resizing options

The **Resizing Options** group box consists of the following controls:

- **Actual Size** (default)
- **Print Document On** setting
- **Scale to Fit** check box
- **% of Normal Size** setting

Actual Size

Actual Size is the default setting. It prints the document without changing the document size.

Print Document On

Select the **Print Document On** radio button to format the document for one media size and then print the document on a different media size, with or without scaling the image to fit the new media size.

The **Print Document On** control is disabled by either of the following conditions:

- The **% of Normal Size** value is not 100.
- The **Pages per Sheet** value (on the **Finishing** tab) is not 1.

When **Print Document On** is selected, the drop-down menu shows the media sizes on which you can print. The list contains all of the standard media sizes that are supported by the selected media source and any custom sizes that you have created. When **Print Document On** is selected, **Scale to Fit** is automatically selected. Clear this check box if you do not want your document reduced or enlarged to fit on the selected media size.

Scale to Fit

The **Scale to Fit** check box specifies whether each formatted document-page image is scaled to fit the target media size. By default, **Scale to Fit** is selected when **Print Document On** is selected. If the setting is turned off, then the document page images will not be scaled, and are instead centered at full size on the target media. If the document size is larger than the target media size, then the document image is clipped. If it is smaller, then it is centered within the target media. The following illustration shows preview images for a document formatted for Legal-size media with the **Print Document On** check box selected, and the target size specified as **Letter**.

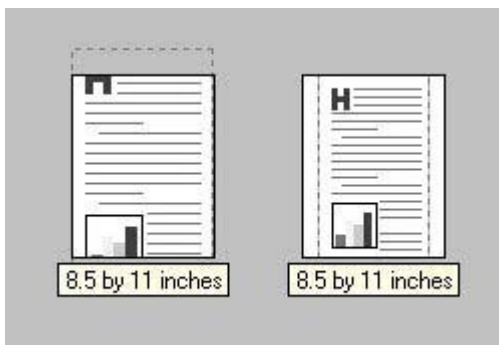


Figure 4-12 Preview images - Legal on Letter; Scale to Fit off (left) and on (right)

When the size for which the document is formatted (that is, the logical size) differs from the target size, the preview image uses a dashed gray line to show the boundaries of the logical page in relation to the target page size.

% of Normal Size

The **% of Normal Size** option provides a slider bar to use for scaling the percentage setting. The default setting in the entry box is 100 percent of normal size. Normal size is defined as the media size that is selected within the driver or what the driver receives from the software program (if the software program does not negotiate the media size with the driver). The driver scales the page by the appropriate factor and sends it to the printer.

The limits of the range are from 25 percent to 400 percent, and any values outside the range are adjusted to those limits as soon as the focus is removed from the control (that is, when the **Tab** key is pressed or another control is selected).

Any change to the scale also changes the page preview, which increases or decreases from the upper-left corner of the preview.

The slider bar controls the scale directly. The value in the edit box changes as the scroll bar indicator is dragged, and the preview image is updated to the new image scale. Each click on the scroll bar arrows increases or decreases the scale by one percent. Each click on the slider bar affects the scale by 10 percent.

You cannot achieve an exact value by dragging the scroll bar indicator at the default Windows resolution; use the scroll bar indicator to approximate the desired value, and then use the scroll bar arrows to refine the value.

The following settings disable **% of Normal Size**:

- **Print Document On** (on the **Effects** tab) is selected
- **Pages per Sheet** (on the **Finishing** tab) is not 1

Document preview image

The document preview image is a line-drawn image of a page that represents graphics and text. The document preview image is always oriented so that the contents of the page are right-side-up. The document preview image appears in the upper-right corner of most **Printing Preferences** driver tabs (the **Paper/Quality**, **Effects**, and **Finishing** tabs).

Switching between tabs does not change the location or appearance of the document preview image. When you move the mouse over the document preview image, the mouse cursor changes from an arrow to a gloved hand. You can toggle between portrait and landscape page orientation by clicking the document preview image.

Watermarks

Use the **Watermarks** feature to choose a watermark, create your own custom watermarks (text only), or edit an existing watermark. The following watermarks are preset in the driver:

- **(none)**
- **Confidential**
- **Draft**

■ SAMPLE

The drop-down menu shows alphabetically sorted watermarks that are currently available on the system, plus the string "(none)", which indicates that no watermark is selected. This is the default setting. Any watermark that is selected from this list appears in the preview image.

When the **First Page Only** check box is selected, the watermark is printed only on the first page of the document. The **First Page Only** check box is disabled when the current watermark selection is "(none)".

Watermarks are applied to logical pages. For example, when **Pages per Sheet** is set to "4" and **First Page Only** is turned off, four watermarks appear on the physical page (one on each logical page).

Click **Edit**, and the **Watermark Details** dialog box appears.

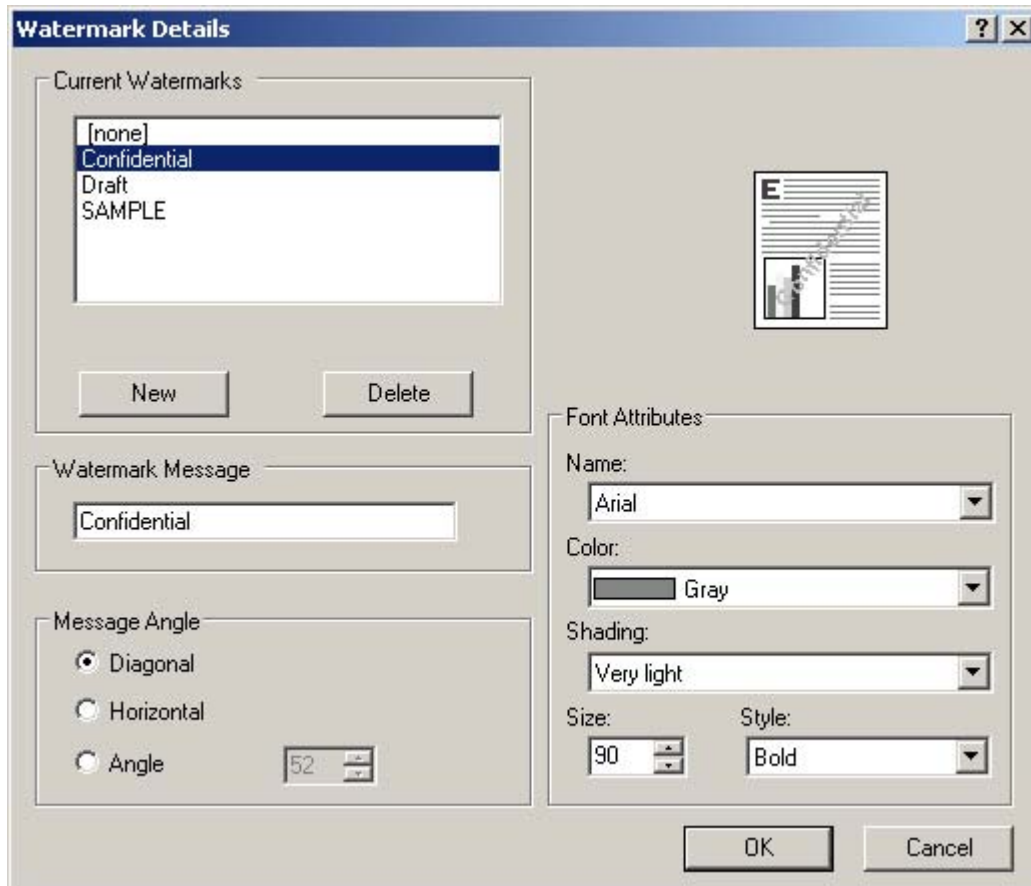


Figure 4-13 Watermark Details dialog box

The dialog box shows a preview image and provides options for creating a new watermark and controlling the message angle and font attributes.

Click **OK** to accept all of the changes that are made in the **Watermark Details** dialog box. However, clicking **Cancel** does not cancel all of the changes. If you make changes to a watermark, and then select a different watermark or click **New**, all of the changes made to the previous watermark are saved, and only the current, unsaved changes can be canceled.

Current watermarks

The **Current Watermarks** group box contains a list of available watermarks, both predefined watermarks that are available in the driver and any new watermarks you have created.

To create a new watermark, click **New**. The new watermark appears in the **Current Watermarks** list and in the **Watermark Message** edit box as **Untitled** until you name it. The name that you type in the **Watermark Message** field appears in the **Current Watermarks** group box in the **Watermark Details** dialog box and in the **Watermarks** group box on the **Effects** tab.

To name the new watermark, type the selected watermark text in the **Watermark Message** edit box.

To delete a watermark, select the watermark in the **Current Watermarks** list and click **Delete**. A warning appears asking whether you are sure you want to delete the selected item. Click **Cancel** if you want to keep the watermark. Click **OK** to delete the selected watermark.



NOTE You can have no more than 30 watermarks in the **Current Watermarks** list at one time. When you reach the limit of 30 watermarks, the **New** button is disabled.

To edit an existing watermark, select the watermark in the **Current Watermarks** list. If you change the **Watermark Message** for that watermark, you are, in effect, creating a new watermark.

Watermark Message

The **Watermark Message** is also the name that identifies the watermark in the **Current Watermarks** list, except when more than one watermark has the same message. For example, you might want several different watermarks with the message **DRAFT**, each with a different typeface or font size. When this occurs, the string is appended with a space, a pound sign, and a number (for example, **Draft #2**). When a number is added, the number two is used first, but if the resulting name is also in the list, then the number increases until the name is unique (**Draft #3**, **Draft #4**, and so on).

Message Angle

Use the controls in the **Message Angle** group box to print the watermark in different orientations on the page. The settings are **Diagonal**, **Horizontal**, or **Angle** (custom). The default is **Diagonal**. All three settings automatically center the watermark string within the page; the selection of a particular setting affects only the angle of the string placement. **Diagonal** places the text along a line that spans the lower-left to upper-right corners of the page. **Horizontal** places the text along a line that spans the mid-left and mid-right edges of the page. **Angle** places the text at the specified angle across the page.

Font Attributes

Use the controls in the **Font Attributes** group box to change the font and the shading, size, and style of the font.

The **Font Attributes** group box contains the following controls.

- **Name** drop-down menu
- **Color** drop-down menu
- **Shading** drop-down menu
- **Size** spin box
- **Style** drop-down menu

Name

The **Name** drop-down menu lists fonts that are currently installed on the system. The default is language-dependent.

Color

The **Color** drop-down menu contains a single setting: **Gray**.

Shading

The default **Shading** setting for new and preset watermarks is **Very Light**. The following range of shades is available from the **Shading** drop-down menu.

- **Lightest**
- **Very Light** (default)
- **Light**
- **Medium Light**
- **Medium**
- **Medium Dark**
- **Dark**
- **Very Dark**
- **Darkest**

These values represent the intensity of the gray that is used. A choice of **Light** produces a lightly saturated gray watermark. A choice of **Lightest** produces the lightest shade of watermark; **Darkest** produces a black watermark.

Size

Font sizes from 1 to 999 points are available from the **Size** menu. The default point size is language-dependent.

Style

The choice of **Regular**, **Bold**, **Italic**, and **Bold Italic** is available from the **Style** drop-down menu. The default **Style** setting for new and preset watermarks is **Regular**.

Default settings

The default settings for new watermarks are **Arial** font, **Gray** color, **Very Light** shading, **80** points, and **Regular** style. The default settings for preset watermarks are **Arial** font, **Gray** color, **Very Light** shading, and **Bold** style. The default point size for preset watermarks is language-dependent, and varies.

Finishing tab features

Use the **Finishing** tab to print booklets and control the media output. The following illustration shows the **Finishing** tab.

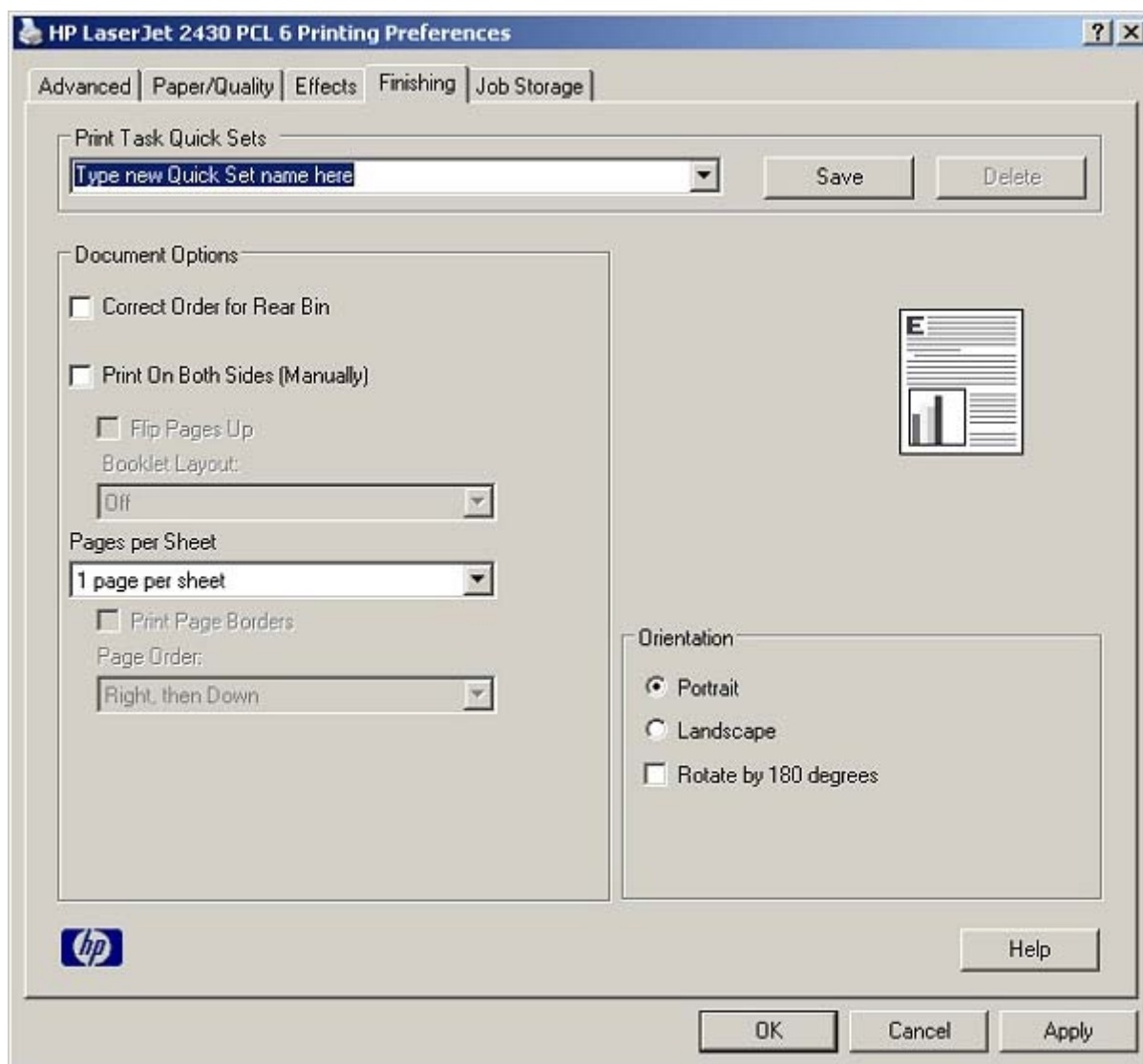


Figure 4-14 Finishing tab

The **Finishing** tab contains the following controls:

- **Print Task Quick Sets** group box
- **Document Options** group box
- Document preview image
- **Orientation** group box

Print Task Quick Sets

Use the **Print Task Quick Sets** control to store the current combination of driver settings that appear on all other **Printing Preferences** driver tabs. Print task quick sets are either preset or user-defined printing specifications, such as media size and pages per sheet. For more information, see the [Paper/Quality tab features](#) section of this guide.

Document Options

The **Document Options** group box contains the following controls:

- **Correct Order for Rear Bin** check box
- **Print on Both Sides** check box
- **Flip Pages Up** check box
- **Booklet Layout** drop-down menu
- **Pages per Sheet** drop-down menu
- **Print Page Borders** check box
- **Page Order** drop-down menu

Correct Order for Rear Bin

The HP LaserJet 2410, 2420, and 2430 printers have a door in the back that can be opened to allow the paper to go straight out the back of the printer. This bin can be used to minimize curl and avoid jams with heavier paper, such as cardstock. This check box orders the pages correctly for this rear bin so that they come out in the right order.

Print on Both Sides

The default setting for the **Print on Both Sides** option is off (not selected). The **Print on Both Sides** check box is always available, but selecting **Print on Both Sides** with the following media types or sizes will cause the driver to display an **Incompatible Print Settings** message when the print job is sent:

- Media types: **Labels**, **Transparency**, or **Envelope**.
- Media sizes: **Envelope #10**, **Envelope B5**, **Envelope C5**, **Envelope DL**, or **Envelope Monarch**.

When the **Print on Both Sides** option is selected, a small warning icon will appear next to these media types and sizes in the drop-down menus on the **Paper/Quality** tab, indicating the incompatibility.

Selecting **Print on Both Sides** also makes the **Flip Pages Up** and **Booklet Layout** options available.

Automatically printing on both sides

The duplexing unit in the product prints on two sides of a sheet when the **Print on Both Sides** option is specified in the print job. The HP LaserJet 2420d, 2420dn, and 2430dtn printer models come with a duplexing unit installed.

The HP LaserJet 2410, 2420, and 2430 printer supports smart duplexing. The smart duplexing feature increases printing performance by not sending one-page print jobs or single-sided pages of a duplexed print job through the duplexing unit even when the duplexing feature has been enabled in the driver.

All media types support the smart duplexing feature, except for media types that cannot be printed on both sides, such as labels and transparencies, and the following media types:

- Prepunched
- Preprinted
- Letterhead

When the media type is set to **Unspecified**, the smart duplexing feature is disabled.

To achieve the best print quality when printing on the second side of the page, the product needs to make adjustments to its print modes. When you select a media type, you are, in effect, instructing the product to use a group of settings (such as fuser temperature and print speed) to print the media with the best possible quality. This group of settings is known as a mode or print mode, and a different print mode is used with each media type. Print-mode adjustments are automatic when the duplexing unit is used.

Manually printing on both sides

Select the **Print on Both Sides (Manually)** check box to print on the second side of the media for the HP LaserJet 2410, 2420 and 2430 printers that do not have a duplexing unit installed. Also select **Print on Both Sides (Manually)** on the other HP LaserJet 2410, 2420, and 2430 printer models for media types that are not available when using the automatic duplexing unit, such as cardstock and thick media.



NOTE To make the **Print on Both Sides (Manually)** check box available in the document options, enable the **Allow Manual Duplexing** option on the **Device Settings** tab in the Properties print driver tabs. See [Installable Options](#) in this chapter.

Manually printing on the second side of a page is available when you are using the HP PCL 6, PCL 5e, or the PS emulation unidriver. If a duplexing unit is installed and manual duplexing is enabled in the driver, the product automatically duplexes media types that are supported by automatic duplexing (Letter, A4, Legal, 8.5 x 13, and Executive (JIS) only), and forces manual printing on both sides for media types that are not supported.

It is important to select the media type that corresponds to the media you are using for the print job. The following media types have a different print modes when you manually print on the second side:

- Plain
- Preprinted
- Letterhead
- Prepunched
- Bond
- Recycled
- Colored
- Rough

Cardstock media can be manually printed on the second side, but there is no change to the print mode. Transparencies and labels should not be manually printed on the second side.

To print a multiple-page document, follow these steps:

- 1 Select the **Print on Both Sides (Manually)** check box.
- 2 Click **OK**. The even-number pages of the document print.
- 3 When the control panel shows the **MANUALLY FEED OUTPUT STACK** message, insert the stack of media (on which the even-number pages have been printed) as indicated in the following figure.

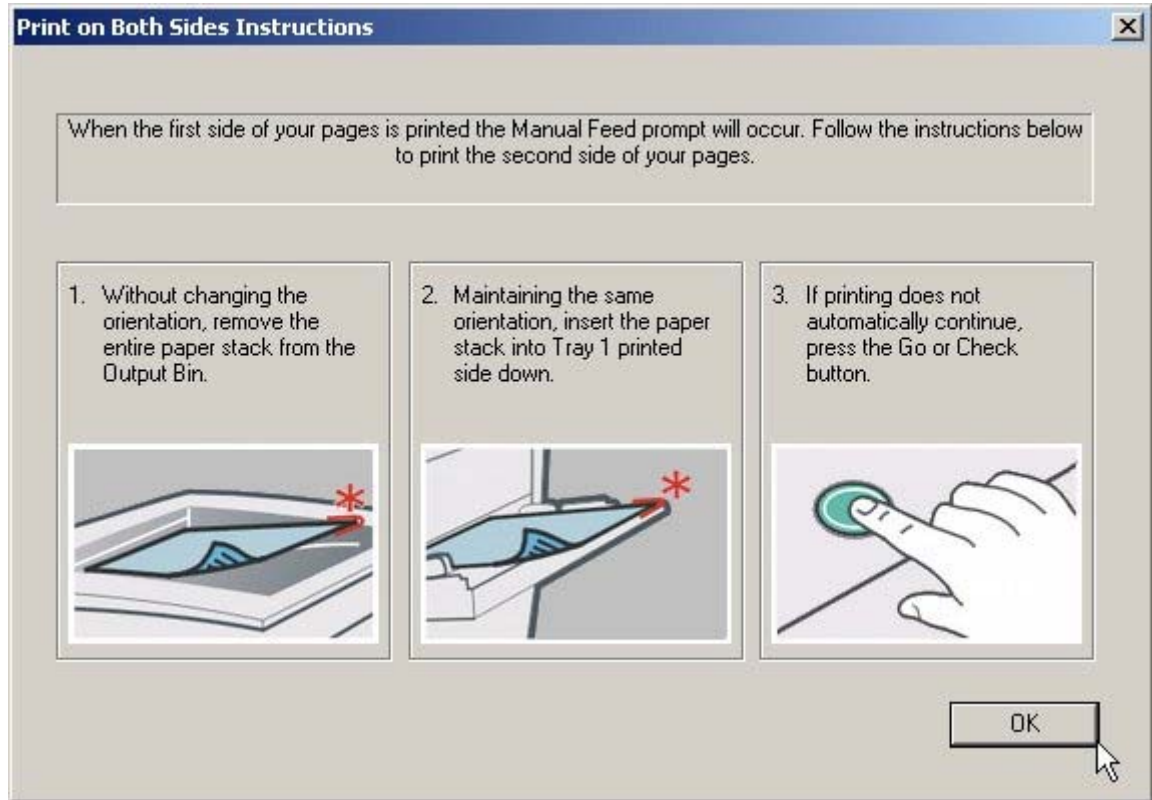


Figure 4-15 Print on Both Sides Instructions

When you have completed the steps that appear in the dialog box, the second half of the print job prints on the back side of the stack of media. The driver does not require the application to specifically support odd- and even-page printing, because the driver coordinates this function.

Flip Pages Up

The **Flip Pages Up** check box, enabled only when **Print on Both Sides** is selected, is used to specify the duplex-binding option. By default, the **Flip Pages Up** check box is not selected. The following table demonstrates the results of selecting this box, depending on the media orientation selected on the **Finishing** tab.

Table 4-3 Page orientation

Orientation (Finishing tab)	Flip Pages Up selected	Flip Pages Up not selected
Portrait	Short-edge binding	Long-edge binding
Landscape	Long-edge binding	Short-edge binding

When **Print on Both Sides** is selected, the document preview image changes to show a spiral binding along either the left edge or the top edge of the page. In addition, a folded-over corner appears in the lower-right portion of the preview image, indicating that printing occurs on the back side. An arrow on the folded-over corner points in the direction that the pages would be flipped if they were bound together.

Short-side binding is for print jobs with pages that read by flipping over like the pages of a note pad. Long-side binding is for print jobs with pages that read by turning like the pages of a book.

Booklet layout

The **Booklet Layout** drop-down menu, visible when **Print on Both Sides** is selected, offers choices that are based on the current media size. The default setting for the **Booklet Printing** drop-down menu is **Off**. The following options are available in the **Booklet Layout** drop-down menu:

- **Left Edge Binding**
- **Right Edge Binding**

When you select **Left Edge Binding** or **Right Edge Binding**, the document preview image changes to show the location of the binding. If the **Pages per Sheet** setting is on the default setting of 1, it automatically changes to **2 pages per sheet**. If you change the **Pages per Sheet** setting manually to 4, 6, 9, or 16 pages per sheet, the booklet setting is disabled. See the [Printing a Booklet](#) section of this chapter for more information.

Book and Booklet Printing

The HP LaserJet 2410, 2420, and 2430 printer supports book and booklet printing.

A book is a print job consisting of at least two pages that can have a different media type for the front cover, first page, other pages, last page, or back cover. Use the **Front Cover**, **First Page**, **Other Pages**, **Last Page**, and **Back Cover** settings on the **Paper/Quality** tab (available when you select the **Use Different Paper** check box) to select different media for the front cover, first page, other pages, and back cover.

A booklet is a print job that places two pages on each side of a sheet that can be folded into a booklet that is half the size of the media. Use the **Booklet Layout** drop-down menu on the **Finishing** tab to control booklet settings.

Printing a Booklet

Complete the following steps to print a booklet in most software programs.

- 1 Click **File**, click **Print**, and then click **Properties**.
- 2 Click the **Finishing** tab and select the **Print on Both Sides** check box.

- 3 In the **Booklet Layout** drop-down menu, select the type of booklet printing that you want (for example, **Right Edge Binding**).
- 4 Click **OK** in the print driver.
- 5 Click **OK** in the print dialog box to print.

Printing a Book

You can print a book in which the front cover, first page, other pages, last page, and back cover have different media types. For more information, see [Paper/Quality tab features](#) of this chapter.

Pages per Sheet

Use the **Pages per Sheet** option to select the number of pages that you want to print on a single sheet. If you choose to print more than one page per sheet, the pages appear smaller and are arranged on the sheet in the order that they would otherwise be printed. The **Pages per Sheet** drop-down menu provides six settings:

- **1 page per sheet** (this is the default)
- **2 pages per sheet**
- **4 pages per sheet**
- **6 pages per sheet**
- **9 pages per sheet**
- **16 pages per sheet**



NOTE When you select an option other than **2 pages per sheet**, booklet printing is unavailable.

Print Page Borders

Related controls indented beneath the **Pages per Sheet** edit box are **Print Page Borders** and **Page Order**, which become active when **Pages per Sheet** is greater than 1.

Print Page Borders sets a line around each page image on a printed sheet to help visually define the borders of each logical page.

Page Order

The **Page Order** drop-down menu contains four selections:

- **Right, then Down**
- **Down, then Right**
- **Left, then Down**
- **Down, then Left**

The preview document image changes to reflect alterations in these settings, as shown by the examples in the following illustration.

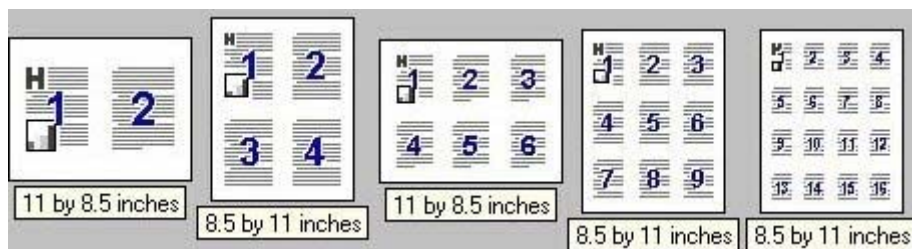


Figure 4-16 Page-order preview images

- 2 pages per sheet
- 4 pages per sheet
- 6 pages per sheet
- 9 pages per sheet
- 16 pages per sheet

Document preview image

The document preview image is a line-drawn image of a page that represents graphics and text. The document preview image is always oriented so that the contents of the page are right-side-up. The document preview image appears in the upper-right corner of most **Printing Preferences** driver tabs (the **Paper/Quality**, **Effects**, and **Finishing** tabs).

Switching between tabs does not change the location or appearance of the document preview image. When you move the mouse over the document preview image, the mouse cursor changes from an arrow to a gloved hand. You can toggle between portrait and landscape page orientation by clicking the document preview image.

Orientation

Orientation refers to the layout of the image on the page, and does not affect the manner in which media is fed into the printer. You can specify the orientation of the print job. The three available orientations are portrait, landscape, and rotated. The default orientation is **Portrait**.



NOTE Nearly all software programs establish the orientation for the printed page, so the page orientation in the driver is useful only for the few software programs that do not set an orientation.

The **Orientation** group box contains three options:

- **Portrait.** The top edge of the document is the shorter edge of the media.
- **Landscape.** The top edge of the document is the longer edge of the media.
- **Rotate by 180 degrees.** This creates a landscape or portrait orientation in which the image is rotated 180 degrees. This setting is useful for printing prepunched media.



NOTE You can toggle orientation between portrait and landscape by clicking the document preview image. If you select the **Rotate by 180 degrees** check box, no change occurs in the document preview image.

Job Storage tab features

Use the job storage feature to store print jobs in the HP LaserJet 2410, 2420, and 2430 printer memory for printing at a later time. These job-storage features are described in the following sections.

The **Job Storage** tab appears among the driver tabs *only* if Job Storage is enabled. To support job-storage features for complex jobs, or if you often print complex graphics, print postscript (.PS) documents, or use many downloaded fonts, HP recommends that you install additional memory. Added memory also gives you more flexibility in supporting job storage features. A minimum total memory of 80 MB is required to use Job Storage features.

After additional memory is installed, the driver must be configured to reflect the changes in the product. If bidirectional communication is enabled in your environment, the Update Now feature can be used to update the drivers. For more information, see the [Automatic Configuration](#) in this chapter.

To configure the drivers manually after installing additional memory, follow these steps:

- 1 Click **Settings**, and then click **Printers** (Windows 2000) or **Printers and Faxes** (Windows XP Professional) or **Printers and Other Hardware Devices** (Windows XP Home).
- 2 Right-click the product name, click **Properties**, and then click the **Device Settings** tab.
- 3 If additional memory has been installed, select **Printer Memory:** under **Installable Options**, and then select the new total amount of memory installed.
- 4 Click **OK** to make the printer job-storage features available.



NOTE To disable Job Storage, click **Start**, select **Settings**, and then click **Printers** (Windows 2000) or **Printers and Faxes** (Windows XP Professional and Windows Server 2003) or **Printers and Other Hardware Devices** (Windows XP Home). Right-click the product name, click **Properties**, click the **Device Settings** tab, select **Job Storage:**, and then select **Disabled** in the **Change 'Job Storage' Setting** dialog box that appears. When **Job Storage** is disabled, the **Job Storage** driver tab is not visible.

Job Storage tab

The following illustration shows the **Job Storage** tab.

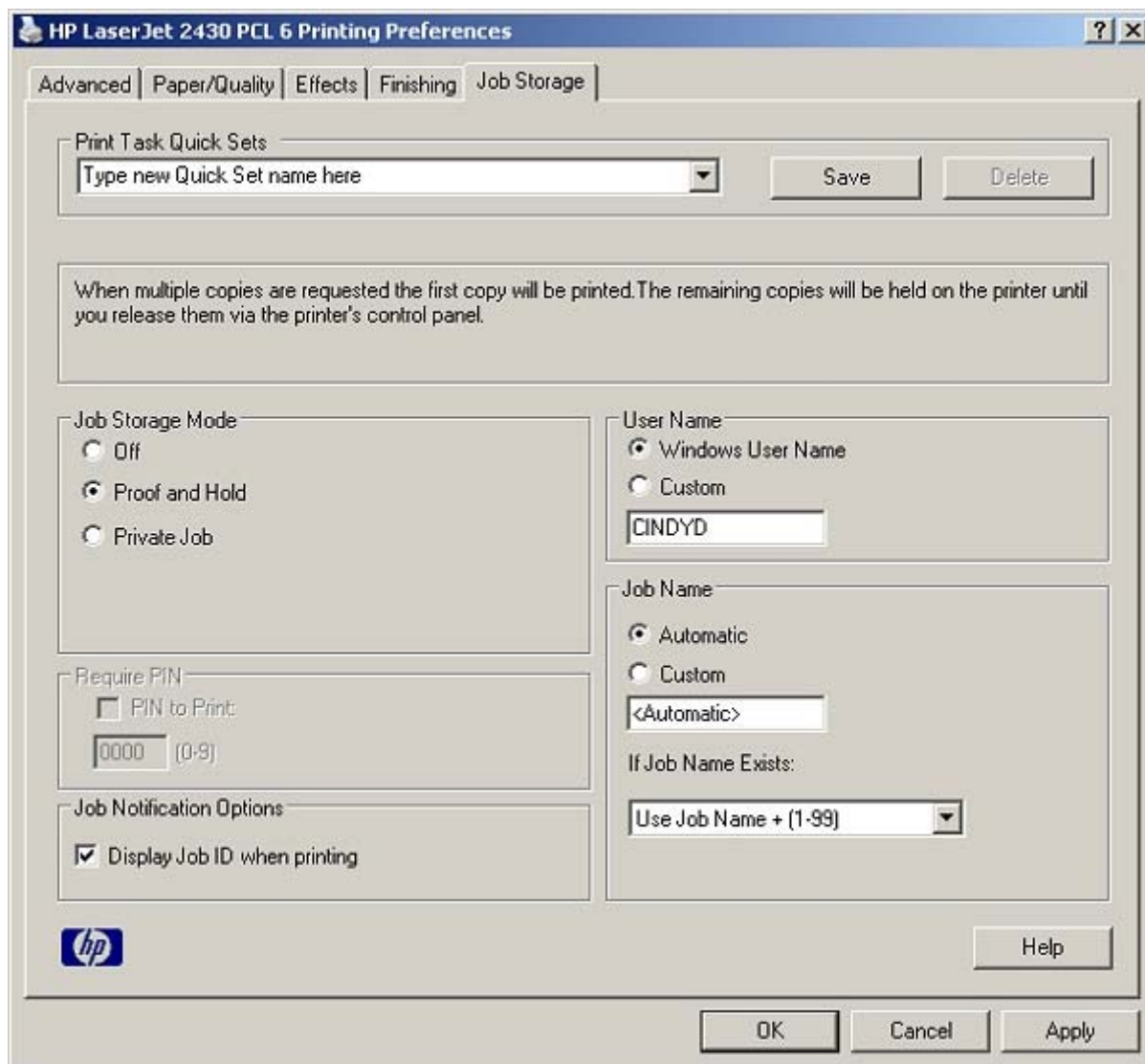


Figure 4-17 Job Storage tab

The **Job Storage** tab contains the following controls:

- **Print Task Quick Sets** group box
- Status group box (unlabeled)
- **Job Storage Mode** group box
- **Require PIN** group box
- **Job Notification Options** group box
- **User Name** group box
- **Job Name** group box

Print Task Quick Sets

Use the **Print Task Quick Sets** control to store the current combination of driver settings that appear on all other **Printing Preferences** driver tabs. Print task quick sets are either preset or user-defined printing specifications, such as media size and pages per sheet. For more information, see the [Paper/Quality tab features](#) section of this guide.

Status group box

The unlabeled group box on the **Job Storage** tab contains a status message about the destination of a print job. The status information changes depending on the selections that are made on the **Job Storage** tab.

Job Storage Mode

Use the **Job Storage Mode** options on the HP LaserJet 2410, 2420, and 2430 printer to store documents at the product and then control their printing at the product control panel. This feature is intended to provide greater flexibility, convenience, security, and cost savings.

The HP LaserJet 2410, 2420, and 2430 printer offers the following **Job Storage Mode** options:

- **Off**
- **Proof and Hold**
- **Private Job**

These options and the settings that control them are described below.

Off

When selected, this option turns the **Job Storage** feature off (it is disabled), which means that the print job will not be stored in the product.

Proof and Hold

To use the **Proof and Hold** option, Job Storage must be enabled, and the product must have a minimum total memory of 80 MB.

When selected, this option stores the print job in memory and prints only the first copy of the job, allowing you to check the first copy. If the document prints correctly, you can print the remaining copies of the print job at the control panel. You can set the number of proof-and-hold print jobs that can be stored in the product at the control panel.

After it is released for printing, the proof-and-hold job is immediately deleted from the product. If more copies are needed, you must reprint the job from the software program. Proof-and-hold jobs are deleted if you turn off the product.



NOTE The product configuration can be set to hold a maximum of 50 proof-and-hold jobs. The number is set at the product control panel in the **CONFIGURATION** menu, and the default is 32. When this preset limit is reached, the new document overwrites the oldest held document.

Private Job

To use the **Private Job** option, Job Storage must be enabled, and the product must have a minimum total memory of 80 MB.

When you select **Private Job**, the print job is sent to the product, but is not printed until you request the job at the product control panel. Selecting **Private Job** activates the **Require PIN** group box. The print job can be printed only after you type the correct PIN at the control panel. After the job is printed, the job is deleted from the product. This feature is useful when you are printing sensitive or confidential documents that you do not want to leave in an output bin after printing.

After it is released for printing, the private job is immediately deleted from the product. If more copies are needed, you must reprint the job from the software program. Private jobs are deleted if you turn off the product.

Using a PIN for Private Job

The **Private Job** option can be secured by a four-digit personal identification number (PIN). You must type in this number at the product control panel before the product can print the job.

The group box labeled **Require PIN** is usually inactive. It becomes active when you select the **Private Job** option.

The Private Job/PIN coupling has a PIN restriction of four ASCII numeric characters (0 through 9). If you type non-numeric characters, they are removed immediately. The text field does not allow you to type in more than four characters. The field temporarily accepts fewer than four digits in the string, but when the edit field loses focus, the zeroes pad the left end until the PIN contains exactly four digits. The default initialized value for the PIN is 0000 for **Private Job**.

Require PIN

The **Require PIN** group box is usually inactive. The option within the **Require PIN** group box, **PIN to Print**, is activated if you select **Private Job**. If selected, you must type in the PIN number at the product control panel in order to make the job print. For more information, see [Using a PIN for Private Job](#).

Job notification

Clicking a job storage mode selection causes the **Job Notification Options** group box to become available. The **Display Job ID when printing** check box is selected by default. The **Display Job ID when printing** option causes a pop-up dialog box to appear when the job-storage print job is printed. The dialog box shows the user name and job name that are associated with the stored print job, as well as the product name, port, and location.

User Name

Selecting a Job Storage option causes the **User Name** group box to become available. Use the **User Name** settings to help identify the job at the product control panel. The following are the **User Name** settings:

- **Windows User Name.** This option associates your Windows user name with the stored print job. The Windows user name is automatically displayed in the User Name text field.
- **Custom.** Use this option to type a custom name for the stored print job. When you click the **Custom** option button, the text field below the option becomes available. The text field can contain no more than 16 characters.

Job Name

Selecting a Job Storage option causes the **Job Name** group box to become available. Use the **Job Name** options to specify a name to identify the job at the control panel. The following are the **Job Name** settings:

- **Automatic.** This option automatically generates the job name associated with the stored print job. The file name of the print job is used if it is available to the print driver. Otherwise, the software program name or a time stamp is used for the job name.
- **Custom.** Use this to type a custom job name for the stored print job. When you click the **Custom** option button, the text field below the option becomes available.
- **If Job Name Exists.** Use this drop-down menu to choose whether a duplicate job name should have a number appended to it, or whether it should overwrite the existing job with the same name.

The **Job Name** field can contain no more than 16 characters.

If **Custom** is selected, but no job name is specified, as soon as the focus is removed from the control (that is, when the **Tab** key is pressed or another control is selected), the empty string is replaced with **<Automatic>**. In those languages for which **<Automatic>** cannot be translated without the use of invalid characters, the driver uses a string of three dashes. The acceptable characters for job name and user name vary for each operating system. The string must be of a length and type that can appear on the product control-panel display.

Using Job Storage features when printing

To use Job Storage features when printing, follow these steps:

- 1 Click **File** and then click **Print** from the software program. The **Print** dialog box appears.



NOTE Clicking the print icon in the software program toolbar prints the job without Job Storage features.

- 2 Click **Properties**. The **Properties** dialog box appears.
- 3 Click the **Job Storage** tab.
- 4 Select the job-storage options (described previously) by clicking the appropriate option button, and then complete any required fields.
- 5 Click **OK**.

Releasing a Job Storage print job

After you send a print job that uses the **Job Storage** feature, you can release the job to print by using the product control panel.

- 1 Press the **SELECT** button (the one with the check mark) to open the menus. **RETRIEVE JOB** is highlighted.
- 2 Press the **SELECT** button.
- 3 Press the up and down buttons to scroll to your User Name, and then press the **SELECT** button.
- 4 Press the up and down buttons to scroll to the Job Name, and then press the **SELECT** button. **PRINT** is highlighted.

- 5 Press the **SELECT** button.
- 6 If a PIN number is assigned to the job, press the up and down buttons to select the first digit of the PIN, and then press the **SELECT** button. The number in the product control-panel display changes to an asterisk. Repeat this step for each of the remaining three digits of the PIN number.
If no PIN number is assigned to the job, continue with step 7.
- 7 Press the up and down buttons to select the number of copies to print.
- 8 Press the **SELECT** button to print the job.

Deleting a Job Storage print job

Sometimes it is necessary to delete a print job from the product hard disk. You can do this from the product control panel.

- 1 Press the **SELECT** button (the one with the check mark) to open the menus. **RETRIEVE JOB** is highlighted.
- 2 Press the **SELECT** button.
- 3 Press the up and down buttons to scroll to your User Name, and then press the **SELECT** button.
- 4 Press the up and down buttons to scroll to the Job Name, and then press the **SELECT** button.
- 5 Press the up and down buttons to select **DELETE**.
- 6 If a PIN number is assigned to the job, press the up and down buttons to select the first digit of the PIN, and then press the **SELECT** button. The number in the product control-panel display changes to an asterisk. Repeat this step for each of the remaining three digits of the PIN number.
If no PIN number is assigned to the job, continue with step 7.
- 7 Press the **SELECT** button to delete the job.

The stored print job is deleted and the product returns to the **READY** state.

Properties tabs

The **Properties** tabs contain information about and options for configuring the product.

Device Settings



NOTE The **Device Settings** tab is in the **Properties** for the print driver. To gain access to the print driver **Properties**, click **Start** on the Window task bar, select **Settings**, and then click **Printers** (Windows 2000) or **Printers and Faxes** (Windows XP Professional and Windows Server 2003) or **Printers and Other Hardware Devices** (Windows XP Home). Right-click the product name, and then click **Properties**.

Available options depend on the feature. The following illustration shows the **Device Settings** tab.

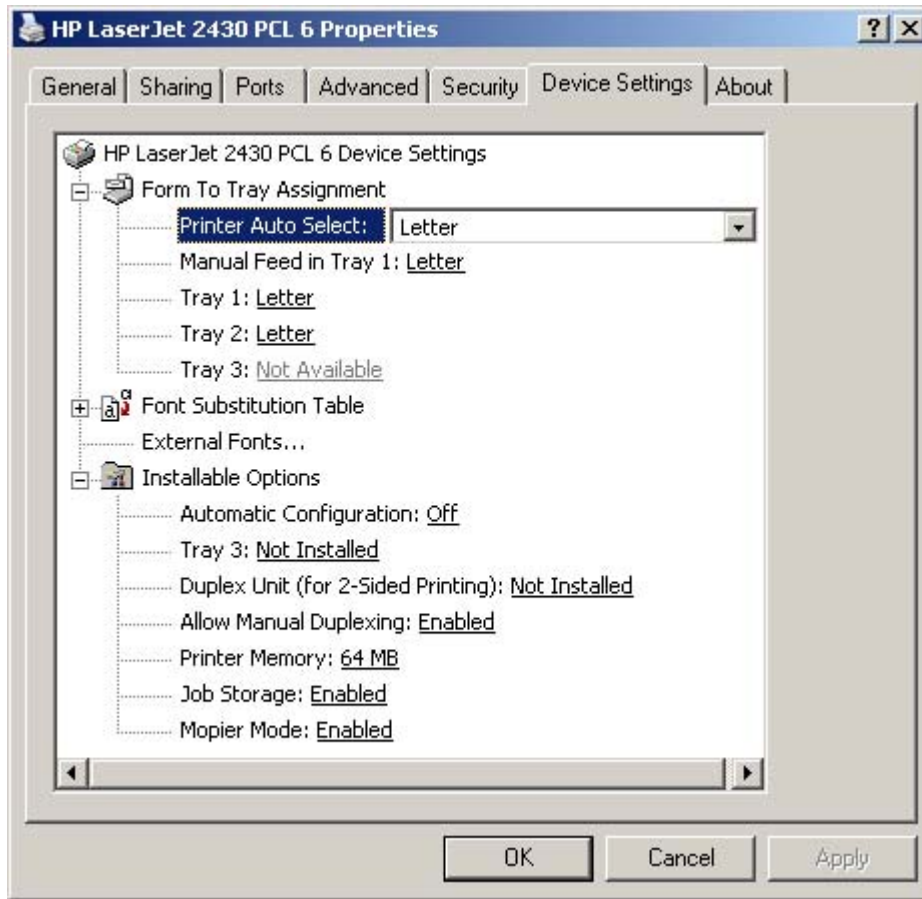


Figure 4-18 Device Settings tab

The **Device Settings** tab contains controls for media-handling devices and controls for managing the HP LaserJet 2410, 2420, and 2430 printers.

The **Device Settings** tab contains the following controls:

- **Form to Tray Assignment** options
- **Font Substitution Table** and **External Fonts** option
- Postscript options (for the HP PS emulation driver only)
- **Installable Options** options

Form to Tray Assignment

A network administrator can use **Form to Tray Assignment** to specify the media size in each input tray.

The HP LaserJet 2410, 2420, and 2430 printers support more than one source of media. You can assign a form (which defines the media size and margins) to each of your printer media sources. When a form is matched to a source, you can select the form when you print. The product prints from the tray to which that form is assigned.

Network administrators can use the **Form to Tray Assignment** setting to specify, in the driver, the media size that is loaded into each available input tray. The use of forms constrains the choices that

are available in the media-size list on the **Advanced** tab in the **Document Defaults** driver tabs. This constraint prevents (or reduces the likelihood of) tying up the product with media-mount messages that occur when users request sizes or types that are not available.

The trays listed in the **Form to Tray Assignment** setting include standard trays and optional accessory trays. Generally, items that are installed separately have a separate **Installable Options** setting. For example, for the HP LaserJet 2410, 2420, and 2430 printers, tray 3 is listed in both the **Form to Tray Assignment** setting and the **Installable Options** setting.

The input trays listed here are also listed as media sources on the **Paper/Quality** tab.

Configuring the trays

- 1 Select the appropriate tray in the **Form to Tray Assignment** list.
- 2 Use the drop-down menu to select the media size (or form) that is loaded in that tray.
- 3 Repeat steps 1 and 2 for the remaining trays.
- 4 Click **OK** to enable your settings, or, if necessary, click the **Cancel** button to reconfigure all of the trays, and remove the size and type constraints that have been imposed on the **Paper/Quality** tab.

Font Substitution Table

Use the **Font Substitution Table** settings to install and remove external fonts for the product. External fonts can be soft fonts or DIMM fonts.

Expanding the **Font Substitution Table** option causes a list of fonts to appear, as show in the following illustration. Use the settings to change the TrueType-to-printer font mappings.

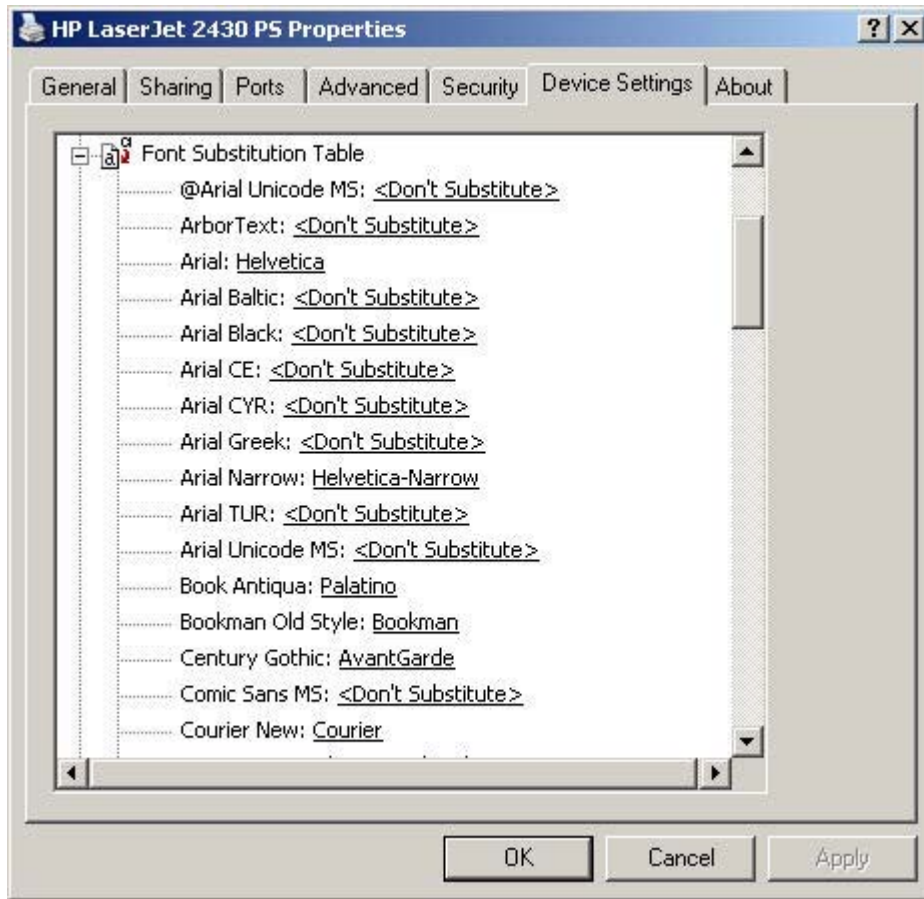


Figure 4-19 Font Substitution Table

External Fonts



NOTE The **External Fonts** option is available only in the HP PCL 6 and PCL 5e unidrivers. It is not available in the PS Emulation Unidriver.

Use the **External Fonts** option to install and remove external fonts for the product. External fonts can be soft fonts or DIMM fonts.

Clicking the **External Fonts** option causes the **Properties** button to appear. Clicking the **Properties** button opens the **Font Installer** dialog box, which is shown in the following illustration.

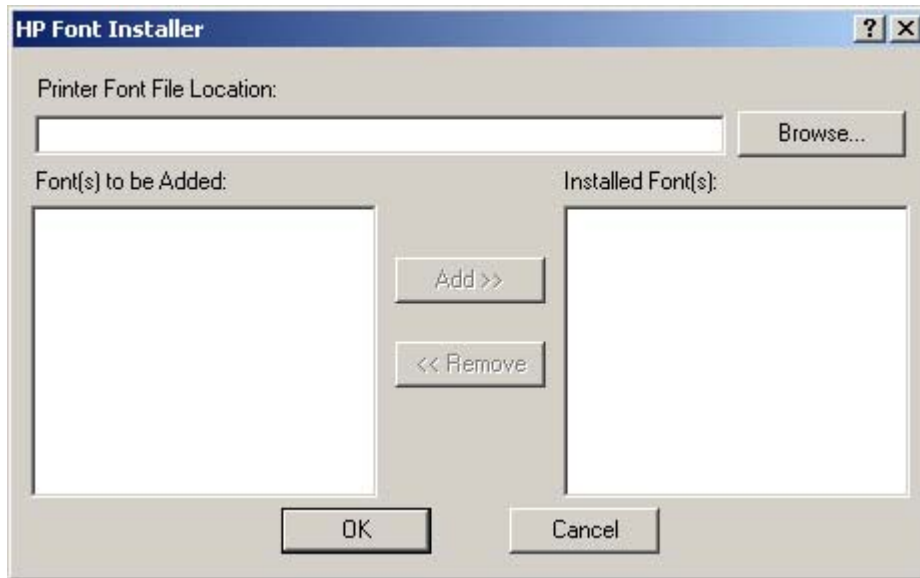


Figure 4-20 HP Font Installer dialog box

Installing external fonts

Follow these steps to install external fonts.

- 1 Click **Start**, select **Settings**, and then click **Printers** (Windows 2000) or **Printers and Faxes** (Windows XP Professional and Windows Server 2003) or **Printers and Other Hardware Devices** (Windows XP Home).
- 2 Right-click the name of the product, and then click **Properties**.
- 3 Click the **Device Settings** tab.
- 4 Click the **External Fonts** option. The **Properties** button appears.
- 5 Click the **Properties** button. The **HP Font Installer** dialog box appears.
- 6 Type the name and path of the font metric file in the **Printer Font File Location** text box, or click **Browse** to locate the file on your computer. The font file names appear in the **Font(s) to be Added** window.
- 7 Select the fonts that you want to add, and then click **Add**. The fonts are installed and the file names appear in the **Installed Font(s)** window.
- 8 Click **OK** to close the **HP Font Installer** dialog box.

Removing external fonts

- 1 Click **Start**, select **Settings**, and then click **Printers** (Windows 2000) or **Printers and Faxes** (Windows XP Professional and Windows Server 2003) or **Printers and Other Hardware Devices** (Windows XP Home).
- 2 Right-click the name of the product, and then click **Properties**.
- 3 Click the **Device Settings** tab.

- 4 Click the **External Fonts** option. The **Properties** button appears.
- 5 Click the **Properties** button. The **HP Font Installer** dialog box appears.
- 6 The external fonts that are installed appear in the **Installed Fonts** window. Select the fonts that you want to remove, and then click **Remove**. The fonts are removed.
- 7 Click **OK** to close the **Font Installer** dialog box.

Postscript options

On the HP PS Emulation Unidriver **Device Settings** tab you will see some additional postscript configuration options. These are shown in the following illustration.

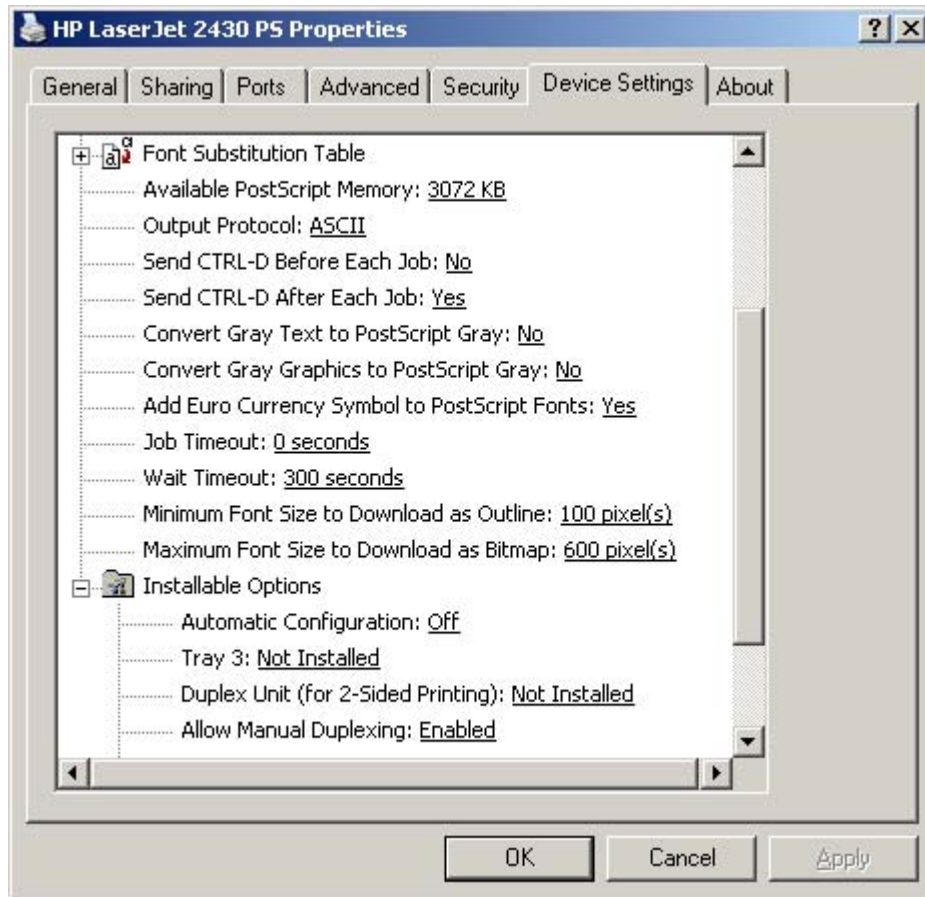


Figure 4-21 Device Settings tab for the HP PS Emulation Unidriver

The postscript configuration options are described in the following sections.

Available PostScript Memory

This control specifies the amount of available postscript memory and provides a spin box for changing this value. The available postscript memory is a subset of the product total physical memory. It is usually best to set the postscript memory to match what is shown on the configuration page. To print a configuration page from the control panel, press the **Select** button (the one with the check mark) to open the menus. Next, press the up and down buttons to scroll to **INFORMATION**, and then press the **SELECT** button. Next, press the up and down buttons to scroll to **PRINT CONFIGURATION**, and then press the **SELECT** button.

Output Protocol

This control specifies the protocol that the product uses for print jobs. The following options are available:

- **ASCII** (default)
- **TBCP**
- **Binary**

When you click **ASCII**, data is sent in ASCII format (7-bit), which might take longer to print but can be sent through any I/O channel, such as a serial, parallel, or network port.

When you click **TBCP** (Tagged Binary Communications Protocol), all data except special control characters is sent in binary (8-bit) format. The binary formats can be sent over parallel or serial communications ports and are faster than sending data in ASCII format.

When you click **Binary**, all data except special control characters is sent in binary (8-bit) format. The binary formats can be sent over parallel or serial communications ports and are faster than sending data in ASCII format.

Send Ctrl-D Before Each Job

This control specifies whether the product will be reset at the beginning of every postscript document. The default setting is **No**. Ctrl-D resets the product to its default setting to ensure that previous print jobs do not affect the current print job. Ctrl-D might cause a print job to fail if the product is connected through a network. If your document fails to print when sent to a product connected through parallel or serial ports, change **No** to **Yes**.

Send Ctrl-D After Each Job

This control specifies whether the product will be reset at the end of every postscript document. The default setting is **Yes**. Ctrl-D resets the product to its default setting to ensure that future print jobs are not affected by the current print job. Ctrl-D might cause a print job to fail if the product is connected through a network. If your document fails to print when sent to a network printer, change **Yes** to **No**.

Convert Gray Text to PostScript Gray

This control specifies whether to convert the true gray (RGB value) in text to the gray that the postscript driver provides. It is set to **No** by default.

Convert Gray Graphics to PostScript Gray

This control specifies whether to convert the true gray (RGB value) in graphics to the gray that the postscript driver provides. It is set to **No** by default.

Add Euro Currency Symbol to PostScript Fonts

This control specifies whether to augment the device fonts with the Euro currency character. It is set to **Yes** by default.

Job Timeout

This control specifies how long the document can take to get from the computer to the product before the product stops trying to print the document. If you specify **0 seconds**, the product continues trying

to print indefinitely. The default setting is **0 seconds**. You can use the spin box to change this value to a maximum of **32,767 seconds**.

Wait Timeout

This control specifies how long the product waits to get more postscript information from the computer. After the specified time passes, the product stops trying to print the document and prints an error message. If you are trying to print a very complicated document, you might want to increase this value. If you specify **0 seconds**, the product waits indefinitely. The default setting is **300 seconds**. You can use the spin box to change this value to a maximum of **32,767 seconds**.

Minimum Font Size to Download as Outline

This control specifies the minimum font size (in pixels) for which the driver downloads TrueType fonts as outline (Type 1) fonts. A font smaller than the minimum setting is downloaded as a bitmap (Type 3) font. Use this option to fine-tune the **Automatic** setting for the **TrueType Font Download** option on the **Advanced** tab in **Document Defaults**. The default setting is **100** pixels. You can use the spin box to change this value to a maximum of **32,767** pixels.

Maximum Font Size to Download as Outline

This control specifies the maximum font size (in pixels) for which the driver will download TrueType fonts as bitmap (Type 3) fonts. A font larger than the maximum setting will be downloaded as an outline (Type 1) font. Use this option to fine-tune the **Automatic** setting or override the **Send TrueType as Bitmap** setting for the **TrueType Font Download** option on the **Advanced** tab in **Document Defaults**. The default setting is **600** pixels. You can use the spin box to change this value to a maximum of **32,767** pixels.

Installable Options

This section provides information to configure the printing options that you can install for the HP LaserJet 2410, 2420, and 2430 printers. The following controls are available:

- **Automatic Configuration**
- **Tray 3**
- **Duplex Unit (for 2-Sided Printing)**
- **Allow Manual Duplexing**
- **Printer Memory**
- **Job Storage**
- **Mopier Mode**
- **Postscript Passthrough** (PS Emulation Unidriver only)

Automatic Configuration

Use the **Device Settings** tab to tell the driver about the hardware configuration of the product. If bidirectional communication is enabled in a supported environment, set up this tab by selecting the **Update Now** option under **Automatic Configuration**. The default setting is **Off**. After an automatic configuration, the setting returns to **Off** after the changes are made.

If your environment does not support bidirectional communication, the **Update Now** setting is unavailable, so you must manually configure the options on this tab.

Tray 3

This control specifies whether you have **Tray 3**, an additional 500-sheet media tray, installed on your product. The default setting is **Not Installed**. In order to use **Tray 3**, you must change this setting to **Installed**.

Duplex Unit (for 2-Sided Printing)

The HP LaserJet 2420d, 2420dn, and 2430dtn printers come with a duplex unit installed. This setting is enabled (**Installed**) by default for these three models.



NOTE The HP LaserJet 2410, 2420, and 2430 printers support smart duplexing. The product uses the smart duplexing feature to detect information on both sides of the print job pages and only runs the pages through the duplexing unit if printable information appears on the second side of the page.

Allow Manual Duplexing

Some printer models do not support automatic 2-sided printing. However, you can print on both sides of a page using manual 2-sided printing when this option is enabled. This option is enabled by default.

Printer Memory

This option matches the setting to the amount of memory that is installed in the product. The driver generates ranges of memory that can be selected, up to the maximum that the product can accept. The driver can use this information to manage how the print driver uses the product memory.

When a minimum total memory of 80 MB is installed, the **Job Storage** option and the **Mopier Mode** are enabled in the print driver. The **Job Storage** option allows you to store print jobs, and then print them later from the control panel. The multiple-original print (mopy) function is an HP-designed feature that produces multiple, collated copies from a single print job.

Job Storage

If your HP LaserJet 2410, 2420, and 2430 printer has a minimum of 80 MB of memory, limited job-storage options are available. When job storage is enabled, the product can store print jobs so that you can gain access to those print jobs later at the control panel.

Mopier Mode

The multiple-original print (mopy) function is an HP-designed feature that produces multiple, collated copies from a single print job. Multiple-original printing (mopying) increases performance and reduces network traffic by transmitting the job to the product once, and then storing it in the product hard disk. The remainder of the copies are printed at the fastest speed. All documents that are printed in mopier mode can be created, controlled, managed, and finished from the computer, which eliminates the extra step of using a photocopier.

The HP LaserJet 2410, 2420, and 2430 printer supports the transmit-once mopying feature when the product has a minimum total memory of 80 MB, and the **Mopier Mode**: setting on the **Device Settings** tab is **Enabled**.

When you use the HP PCL 6, PCL 5e, or PS emulation unidriver, mopying is performed in one of two ways: either through the software or through the product hardware. When the mopier is enabled,

mopying takes place through the product hardware by default. One copy of a multiple-page print job is transmitted once through the network to the product, together with a printer job language (PJL) command that directs the product to make the specified number of copies.

When you disable the mopier, you are not necessarily disabling mopying, which the driver can still be performed through the software rather than through the product hardware (the mopying path that is disabled when you change the **Mopy Mode** setting to **Disabled**). However, a multiple-copy print job that you send with the mopier disabled loses the advantage of transmitting the print job once, because the print job is sent through the network the same number of times as the number of copies selected.

Mopier mode and collation

Mopying and collating print jobs are independent but closely related functions. The print driver performs mopying, which is the ability to send original print jobs to the product. Collating is controlled by either the print driver or the document software program. The mopying mode is selected by default in the driver, and can be disabled by changing the **Mopier Mode** setting on the **Device Settings** tab to **Disabled**.

You can control collation through the print driver by selecting or clearing the **Collated** check box on the **Advanced** tab. You can clear the check box, which is available only when the **Copy Count** option is set to more than 1 copy, to allow the software program to control collation.

To receive uncollated multiple copies of a print job, you must clear the **Collated** check box *and* make sure that the software program collation feature is not selected.

The following table shows the relation between mopier mode settings and collation settings in the software program and the driver. The first three columns show the settings; the last column, "Expected result," shows how a three-page print job would appear.

Table 4-4 Driver Mopier mode and collation settings

Mopier mode	Application collation	Driver collation	Expected result
Disabled	Not selected	Not selected	3 copies uncollated
Disabled	Not selected	Selected	3 copies uncollated
Disabled	Selected	Not selected	3 copies collated
Disabled	Selected	Selected	3 copies collated
Enabled	Not selected	Not selected	3 copies uncollated
Enabled	Not selected	Selected	3 copies uncollated
Enabled	Selected	Not selected	3 copies collated
Enabled	Selected	Selected	3 copies collated

Postscript Passthrough

Postscript Passthrough is only available in the PS Emulation Unidriver. It is enabled by default, and must be enabled for most print jobs. **Postscript Passthrough** provides additional capabilities for some software programs when printing to a Postscript driver.

Options such as Watermarks, N-up, and booklet printing might not print correctly from some programs with Postscript Passthrough enabled, because such programs send Postscript information

to the printer that the driver cannot control. Other programs might print while using these options without problems.

Select **Disabled** and print your document again if you encounter problems.



NOTE In some cases, disabling **Postscript Passthrough** may cause unexpected application behavior.

About tab



NOTE To gain access to the print driver Properties, click **Start**, select **Settings**, and then click **Printers** (Windows 2000) or **Printers and Faxes** (Windows XP Professional and Windows Server 2003) or **Printers and Other Hardware Devices** (Windows XP Home).

The **About** tab provides detailed information about the driver. It contains an overall build number (in parentheses after the model name) together with specific information about each of the components. The information varies according to the HP LaserJet 2410, 2420, and 2430 printer model number, driver, date, and versions. The **About** tab is shown in the following illustration.

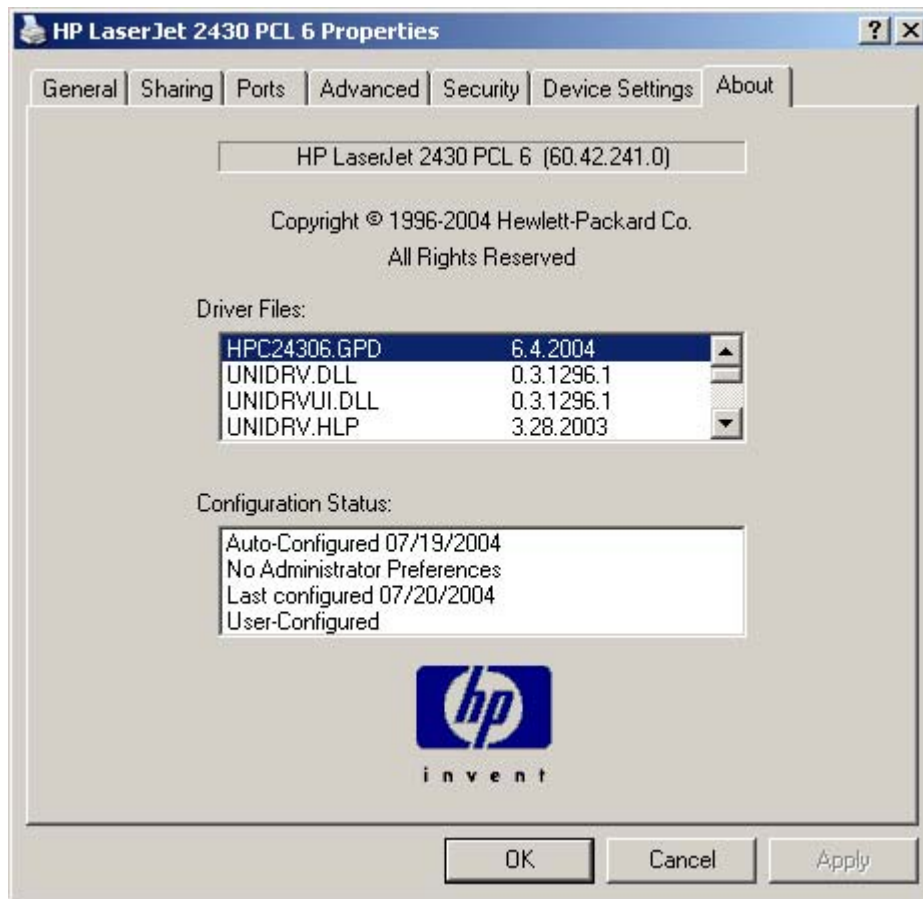


Figure 4-22 About tab

The **About** lists driver installation file names and their version numbers. The **About** tab also indicates whether the driver was auto-configured, whether administrator preferences were set, the date the driver was last configured, and whether the configuration is default or user-defined.

5 Installing the Windows printing-system components

This chapter contains information about the following topics:

- [Supported Windows operating systems](#)
- [System requirements](#)
- [Font support](#)
- [Installation instructions](#)

Supported Windows operating systems

The HP LaserJet 2410, 2420, and 2430 printing-system software supports the following Windows operating systems:

- Windows 98
- Windows Me
- Windows NT 4.0 (parallel and networked only)
- Windows 2000 (32-bit)
- Windows XP Home Edition (32-bit)
- Windows XP Professional (32-bit and 64-bit)
- Windows Server 2003 (32-bit and 64-bit)

If your computer is running a 64-bit Windows OS, you must install the corresponding 64-bit print driver. For instructions, see [Installing print drivers by using the Add Printer feature](#).



NOTE The HP LaserJet 2410, 2420, and 2430 printer has not been tested with and does not support the Windows 3.1x or Windows 95 operating systems.

System requirements

The following are the system requirements for installing and using the HP LaserJet 2410, 2420, and 2430 printing-system software on each of the supported operating systems:

- Pentium® or compatible processor
- Minimum 16-color/grayscale display with 640-by-480 pixel resolution (video graphics array [VGA])
- Same amount of RAM as the minimum requirements for the operating system
- 93 MB of available hard-disk space (on the same partition as the operating system) for full installation
- Onboard parallel port or network connection

Font support

The following sections list the fonts that are included with Microsoft Windows software, and the fonts that are available on the CD that came with the product.

Basic fonts

Microsoft Windows software includes these basic fonts, which can be used with any HP printing product:

- Arial
- Times New Roman Italic
- Arial Italic
- Times New Roman Bold
- Arial Bold
- Courier New Bold Italic
- Times New Roman Bold Italic
- Arial Bold Italic
- Symbol
- Wingdings
- Courier New
- Times New Roman

Default fonts

The following default fonts are installed through a typical installation of the HP LaserJet 2410, 2420, and 2430 printing-system software.

Table 5-1 Default fonts

File name	Font name
ALBR85W.TTF	Albertus Extra Bold
ALBR55W.TTF	Albertus Medium
OLVR55W.TTF	Antique Olive
OLVR75W.TTF	Antique Olive Bold
OLVR56W.TTF	Antique Olive Italic
CGOR45W.TTF	CG Omega
CGOR65W.TTF	CG Omega Bold
CGOR66W.TTF	CG Omega Bold Italic
CGOR46W.TTF	CG Omega Italic

Table 5-1 Default fonts (continued)

File name	Font name
CGTR45W.TTF	CG Times
CGTR65W.TTF	CG Times Bold
CGTR66W.TTF	CG Times Bold Italic
CGTR46W.TTF	CG Times Italic
CLAR67W.TTF	Clarendon Condensed Bold
CORONET.TTF	Coronet
CPSR45W.TTF	CourierPS
CPSR65W.TTF	CourierPS Bold
CPSR66W.TTF	CourierPS Bold Oblique
CPSR46W.TTF	CourierPS Oblique
GARR45W.TTF	Garamond
GARR65W.TTF	Garamond Bold
GARR46W.TTF	Garamond Italic
GARR66W.TTF	Garamond Kursiv Halbfett
HELR45W.TTF	Helvetica
HELR65W.TTF	Helvetica Bold
HELR66W.TTF	Helvetica Bold Oblique
HELR47W.TTF	Helvetica Narrow
HELR67W.TTF	Helvetica Narrow Bold
HELR68W.TTF	Helvetica Narrow Bold Oblique
HELR48W.TTF	Helvetica Narrow Oblique
HELR46W.TTF	Helvetica Oblique
AVGR45W.TTF	ITC Avant Garde Gothic Book
AVGR46W.TTF	ITC Avant Garde Gothic Book Oblique
AVGR65W.TTF	ITC Avant Garde Gothic Demi
AVGR66W.TTF	ITC Avant Garde Gothic Demi Oblique
BOKR75W.TTF	ITC Bookman Demi
BOKR76W.TTF	ITC Bookman Demi Italic
BOKR35W.TTF	ITC Bookman Light
BOKR36W.TTF	ITC Bookman Light Italic
CHANC___.TTF	ITC Zapf Chancery Medium Italic
DINGS___.TTF	ITC Zapf Dingbats
LETR45W.TTF	Letter Gothic
LETR65W.TTF	Letter Gothic Bold

Table 5-1 Default fonts (continued)

File name	Font name
LETR46W.TTF	Letter Gothic Italic
MARIGOLD.TTF	Marigold
NCSR75W.TTF	New Century Schoolbook Bold
NCSR76W.TTF	New Century Schoolbook Bold Italic
NCSR56W.TTF	New Century Schoolbook Italic
NCSR55W.TTF	New Century Schoolbook Roman
PALR65W.TTF	Palatino Bold
PALR66W.TTF	Palatino Bold Italic
PALR46W.TTF	Palatino Italic
PALR45W.TTF	Palatino Roman
SYMPS__.TTF	SymbolPS
TIMR65W.TTF	Times* Bold
TIMR66W.TTF	Times Bold Italic
TIMR46W.TTF	Times Italic
TIMR45W.TTF	Times Roman
UNVR65W.TTF	Univers Bold
UNVR66W.TTF	Univers Bold Italic
UNVR67W.TTF	Univers Condensed Bold
UNVR68W.TTF	Univers Condensed Bold Italic
UNVR57W.TTF	Univers Condensed Medium
UNVR58W.TTF	Univers Condensed Medium Italic
UNVR55W.TTF	Univers Medium
UNVR56W.TTF	Univers Medium Italic

Ninety-two additional PS emulation fonts are also available on the CD.

Table 5-2 Additional PS emulation fonts

File name	Font name
PS_12639.TTF	Albertus MT
PS_12640.TTF	Albertus MT Italic
PS_14530.TTF	Albertus MT Light
PS-11120.TTF	Antique Olive CompactPS
PS_11119.TTF	Antique Olive Roman
PS_11118.TTF	Antique Olive Roman Bold

Table 5-2 Additional PS emulation fonts (continued)

File name	Font name
PS_11846.TTF	Antique Olive Roman Italic
PS_24516.TTF	Apple Chancery Italic
PS_12704.TTF	Bodoni Poster
PS_14508.TTF	Bodoni PosterCompressed
PS_12581.TTF	BodoniPS
PS_12585.TTF	BodoniPS Bold
PS_12586.TTF	BodoniPS Bold Italic
PS_12582.TTF	BodoniPS Italic
PS_24517.TTF	Candid
PS_24518.TTF	Chicago
PS_14513.TTF	Clarendon Light
PS_10269.TTF	ClarendonPS
PS_12968.TTF	ClarendonPS Bold
PS_10369.TTF	Cooper Black
PS_10370.TTF	Cooper Black Italic
PS_14514.TTF	Copperplate32bc
PS_14515.TTF	Copperplate33bc
PS_10249.TTF	Coronet
PS_10267.TTF	Eurostile
PS_10268.TTF	Eurostile Bold
PS_14512.TTF	Eurostile Bold ExtendedTwo
PS_14511.TTF	Eurostile ExtendedTwo
PS_24509.TTF	Geneva
PS_13872.TTF	GillSans
PS_13874.TTF	GillSans Bold
PS_13875.TTF	GillSans Bold Italic
PS_14053.TTF	GillSans Condensed
PS_14054.TTF	GillSans Condensed Bold
PS_14051.TTF	GillSans ExtraBold
PS_13873.TTF	GillSans Italic
PS_13870.TTF	GillSans Light
PS_13871.TTF	GillSans Light Italic
PS_12542.TTF	Goudy
PS_12544.TTF	Goudy Bold

Table 5-2 Additional PS emulation fonts (continued)

File name	Font name
PS_10695.TTF	Goudy Bold Italic
PS_12545.TTF	Goudy ExtraBold
PS_12543.TTF	Goudy Italic
PS_14526.TTF	Helvetica Condensed
PS_14528.TTF	Helvetica Condensed Bold
PS_14529.TTF	Helvetica Condensed Bold Italic
PS_14527.TTF	Helvetica Condensed Italic
PS_24519.TTF	Hoefler Text
PS_24521.TTF	Hoefler Text Black
PS_24522.TTF	Hoefler Text Black Italic
PS_24520.TTF	Hoefler Text Italic
PS_24523.TTF	Hoefler Text Ornaments
PS_14503.TTF	Joanna MT
PS_14505.TTF	Joanna MT Bold
PS_14506.TTF	Joanna MT Bold Italic
PS_14504.TTF	Joanna MT Italic
PS_13778.TTF	Letter Gothic Italic
PS_13777.TTF	Letter GothicPS
PS_13779.TTF	Letter GothicPS Bold
PS_13780.TTF	Letter GothicPS Bold Italic
PS_12675.TTF	Lubalin Graph
PS_12677.TTF	Lubalin Graph Bold
PS_12625.TTF	Lubalin Graph Bold Italic
PS_12623.TTF	Lubalin Graph Italic
PS_94073.TTF	Marigold
PS_14525.TTF	Mona Lisa Recut
PS_24524.TTF	Monaco
PS_24510.TTF	New York
PS_12506.TTF	Optima
PS_12510.TTF	Optima Bold
PS_12511.TTF	Optima Bold Italic
PS_12507.TTF	Optima Italic
PS_14072.TTF	Oxford Italic
PS_11546.TTF	Stempel Garamond Roman Italic

Table 5-2 Additional PS emulation fonts (continued)

File name	Font name
PS_11545.TTF	StempelGaramond Roman
PS_11547.TTF	StempelGaramond Roman Bold
PS_11548.TTF	StempelGaramond Roman Bold Italic
PS_14507.TTF	Taffy
PS_13501.TTF	Univers 45 Light
PS_14023.TTF	Univers 45 Light Bold
PS_14024.TTF	Univers 45 Light Bold Italic
PS_13502.TTF	Univers 45 Light Italic
PS_14030.TTF	Univers 47 Condensed Light Bold
PS_14040.TTF	Univers 47 Condensed Light Bold Italic
PS_14021.TTF	Univers 55
PS_14022.TTF	Univers 55 Italic
PS_14029.TTF	Univers 57 Condensed
PS_14039.TTF	Univers 57 Condensed Italic
PS_13548.TTF	Univers Extended Italic
PS_13547.TTF	Univers ExtendedPS
PS_14481.TTF	Univers ExtendedPS Bold Italic
PS_14480.TTF	Univers ExtendedPS Italic

Installation instructions

The following sections provide instructions for installing the print drivers on various Windows operating systems.

General installation for Windows 98, Me, 2000, and XP operating systems

General installation instructions are similar for the Windows 98, Windows Me, Windows 2000, and Windows XP operating systems.



NOTE For the Windows NT 4.0 operating system, the print drivers can be installed only by using the Add Printer installation method. These print drivers, the HP Traditional PCL 6 Driver, the HP Traditional PCL 5e Driver, and the PS Emulation Driver are available on the printing-system software CD. For more information, see the [Installing print drivers by using the Add Printer feature](#) section in this chapter.

NOTE The HP PCL 5 drivers also can only be installed using the Add Printer installation method. They are included on the printing-system software CD, but are not included in the printing-system installer.

If the HP LaserJet 2410, 2420, and 2430 printer is connected through a file or print server, the printing-system software must first be installed on the server before being installed on any client systems. If the HP LaserJet printing-system software is not first installed on the server, then bidirectional communication, some driver autoconfiguration methods, and the HP Toolbox are not available to the client systems.

For Windows NT 4.0, Windows 2000, and Windows XP, administrator rights on the system are necessary in order to install the software.

When the HP LaserJet 2410, 2420, and 2430 printing-system installer runs, the HP LaserJet uninstaller is always added to the system.

Installing from the printing-system CD

Follow these instructions to install the HP LaserJet 2410, 2420, and 2430 printing system from the printing-system software CD that came with your product.

- 1 Close all programs that are open on your computer.
- 2 Insert the printing-system software CD in the CD-ROM drive.



NOTE If your CD does not start automatically, click **Start**, click **Run**, and then browse to and double-click the SETUP.EXE file in the root directory of the CD.

- 3 Click **Install Printer** and follow the onscreen prompts.

Installing from a network or from downloaded files

Follow these instructions if you downloaded the files from the Web, or if you are installing the printing-system files from a network. You might need to see your network administrator for the location of the printing-system software file.

- 1 Browse to the location of the SETUP.EXE file.
- 2 Double-click the SETUP.EXE file.
- 3 Click **Install Printer** and continue to follow the instructions until the product is installed. For detailed installation instructions, see [Detailed Windows installation](#).

Detailed Windows installation

This section provides information about the installation dialog box sequence for installing the HP LaserJet 2410, 2420, and 2430 printing-system software in Microsoft Windows environments. You can choose to install the software by using a typical installation, a minimum installation, or a custom installation.

Using the Back and Cancel buttons

Clicking the Back button on any installation dialog box returns you to the previous dialog box. The specific dialog box depends on your previous selections.

To exit the installation sequence without installing the product, click the **Cancel** button in any installation dialog box.

- 1 Clicking the **Cancel** button opens a dialog box, prompting you with this question: “Are you sure you want to cancel the installation?”
- 2 Clicking **Yes** opens a dialog box, stating that the setup was interrupted.
- 3 Clicking the **Finish** button opens the **Cancel** dialog box.
- 4 Clicking the **Finish** button closes the installation screens.

Other buttons appear on the installation dialog boxes:

- **Help**
- **Next**
- **Space**

The result of clicking these buttons is explained in context below.

Modifying a pre-existing installation

If an HP LaserJet 2410, 2420, and 2430 printer has been installed previously on your system, the appearance of the main install screen changes on the CD Browser, and the install printer setting changes to modify installation. A pre-existing installation also changes the sequence of installation screens that are presented, depending on selections made.

Typical Installation dialog box sequence



NOTE The dialog boxes shown in this chapter appear in the Windows XP Pro installation sequence. The order and appearance of dialog boxes can vary among operating systems.

The typical installation includes the following components:

- HP LaserJet 2410, 2420, and 2430 PCL 6 driver
- Screen fonts
- *Hewlett Packard LaserJet 2410/2420/2430 series Printing System Install Notes*
- *HP LaserJet 2400 Series User Guide*

The following illustration represents an overall path through the installation process. It is intended as a reference only; selections and setups will vary.

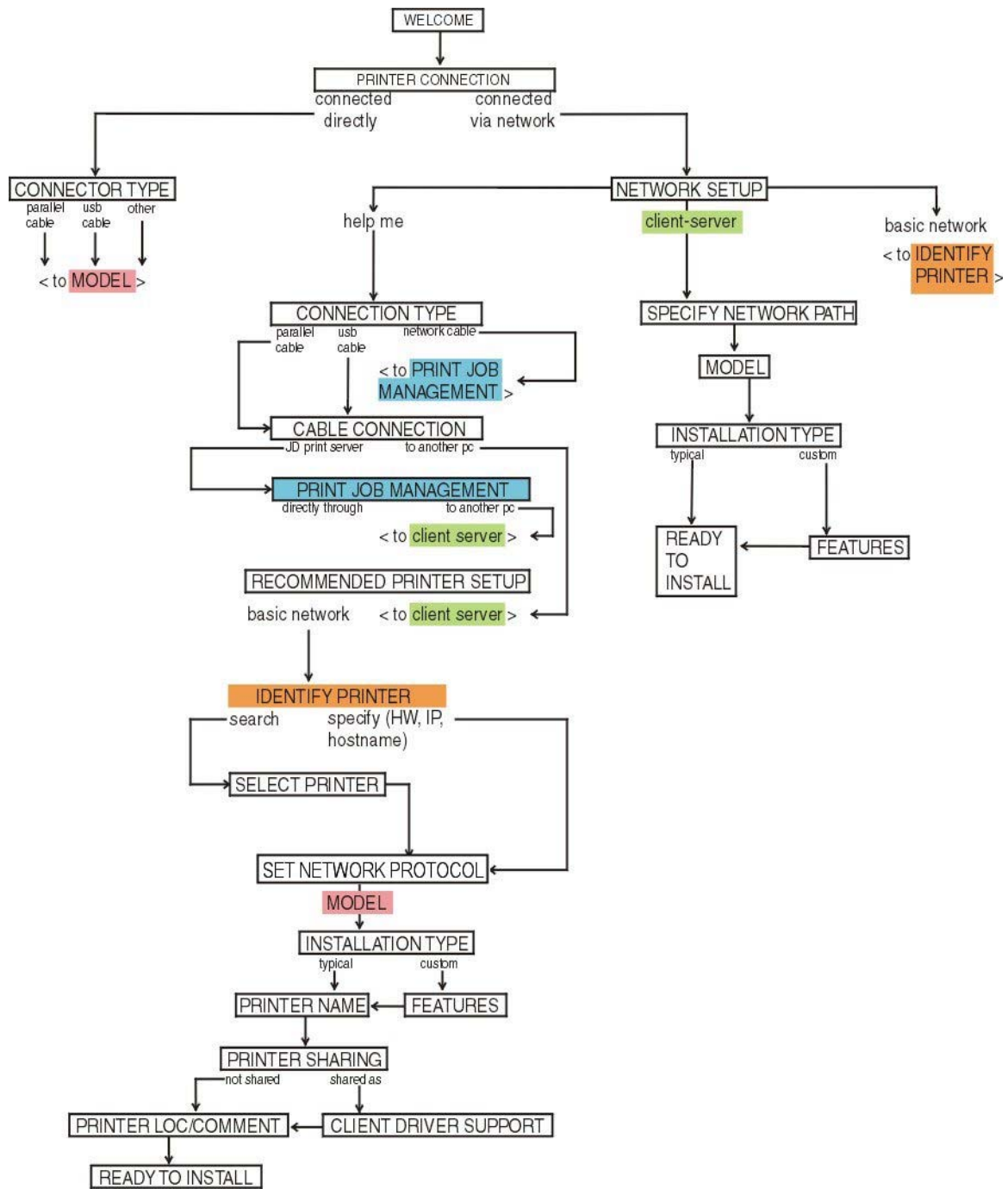


Figure 5-1 Installation path



NOTE The components of a typical installation might vary from product to product.

When you select the **Install Printer** option from the HP LaserJet 2410, 2420, and 2430 printer software CD, the **Choose Setup Language** dialog box appears.



Figure 5-2 Choose Setup Language dialog box



NOTE The **Choose Setup Language** dialog box lists only the languages that are available on the HP LaserJet 2410, 2420, and 2430 printing-system software CD.

The installer automatically detects the language that your computer system uses and presents this selection as the default.

You can select another language that is available on the CD by clicking the down arrow in the drop-down menu.

Clicking **OK** initiates the printing system setup, and the **Preparing to Install** dialog box appears.



NOTE While the **Preparing to Install** dialog box appears, the installer is decompressing files into the system TEMP directory. The elapsed time to complete this action depends upon the performance of your system.

Clicking **Cancel** at this point takes you to a **Setup Error** dialog box. Clicking the **Finish** button on this dialog box closes the installation screens. This sequence of screens differs from that seen when you click the **Cancel** button in subsequent dialog boxes, but the result is the same; the installation sequence is canceled.

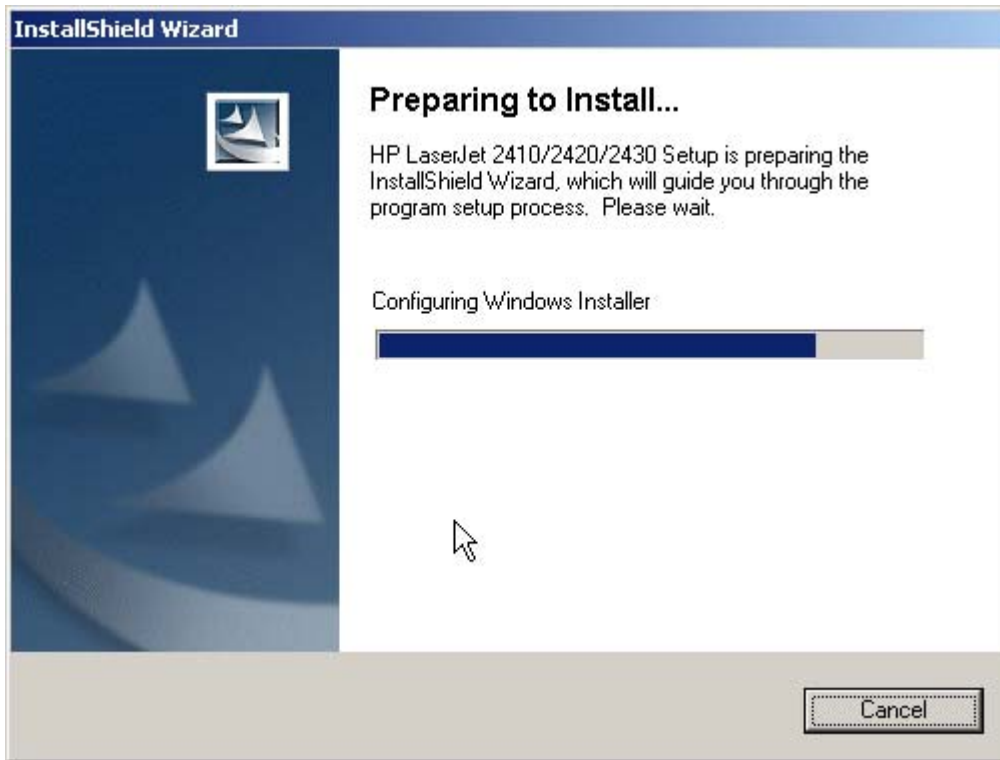


Figure 5-3 Preparing to Install dialog box

Clicking **Cancel** takes you to the **Exit Setup** dialog box.



NOTE If your computer uses the Windows NT 4.0 operating system, you must use the Add Printer installation method to install the HP Traditional PCL 6 Driver, the HP Traditional PCL 5e Driver, and the PS Emulation Driver for the HP LaserJet 2410, 2420, and 2430 printer. If you try using the regular installation method in a Windows NT 4.0 operating environment, the following screen appears:



Figure 5-4 Use the Add Printer Wizard

For information about using the Add Printer install method, see the [Installing print drivers by using the Add Printer feature](#) section.



Figure 5-5 Welcome dialog box

Clicking **Software License Agreement** takes you to the **HP Software License Agreement** dialog box.

Clicking **Installation Notes** opens the file LJ24X0_INSTALL-NOTE_ENWW.HTM

Clicking **Next** takes you to the **Printer Connection** dialog box.



Figure 5-6 HP Software License Agreement dialog box

Clicking **OK** returns you to the **Welcome** dialog box.

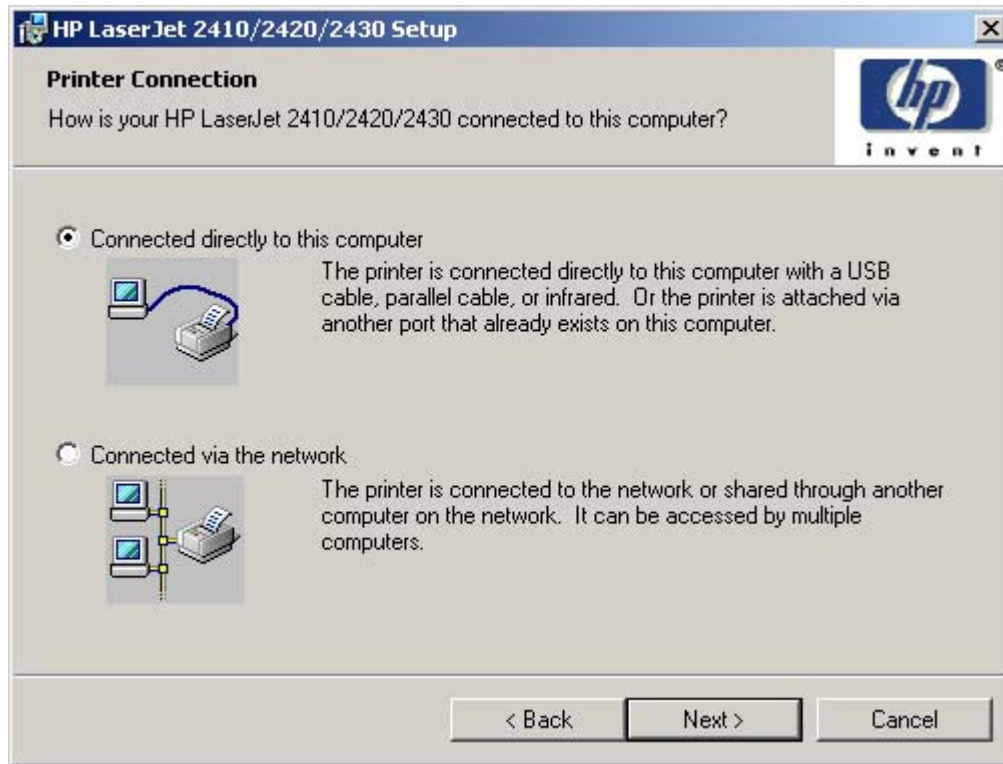


Figure 5-7 Printer Connection dialog box



NOTE This product does not support infrared connections.

If you select **Connected directly to this computer** (a direct connection that uses a parallel cable or universal serial bus cable), clicking **Next** takes you to the **Connector Type** dialog box, and then to the **Model** dialog box. This is the default option.

The **Model** dialog box is shown in the following illustration.

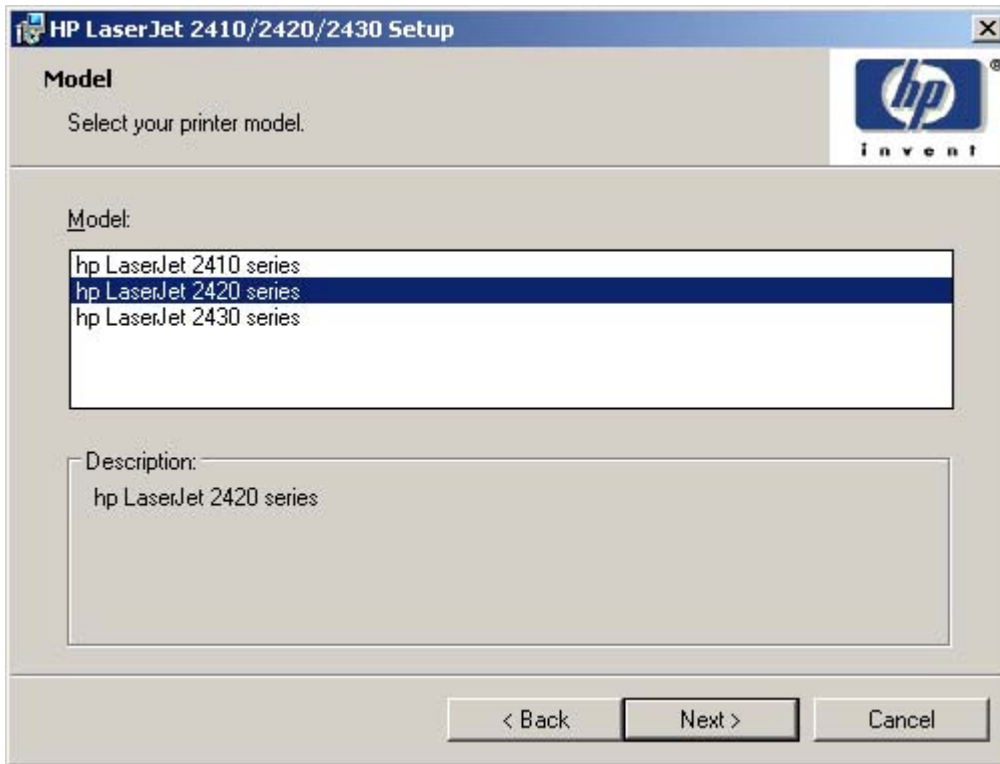


Figure 5-8 Model dialog box

Clicking **Next** takes you to the Installation Type dialog box. To continue with the default installation sequence, see [Figure 5-19 Installation Type dialog box](#)

If you select **Connected via the network** in the **Printer Connection** dialog box, clicking **Next** takes you to the **Network Setup** dialog box.

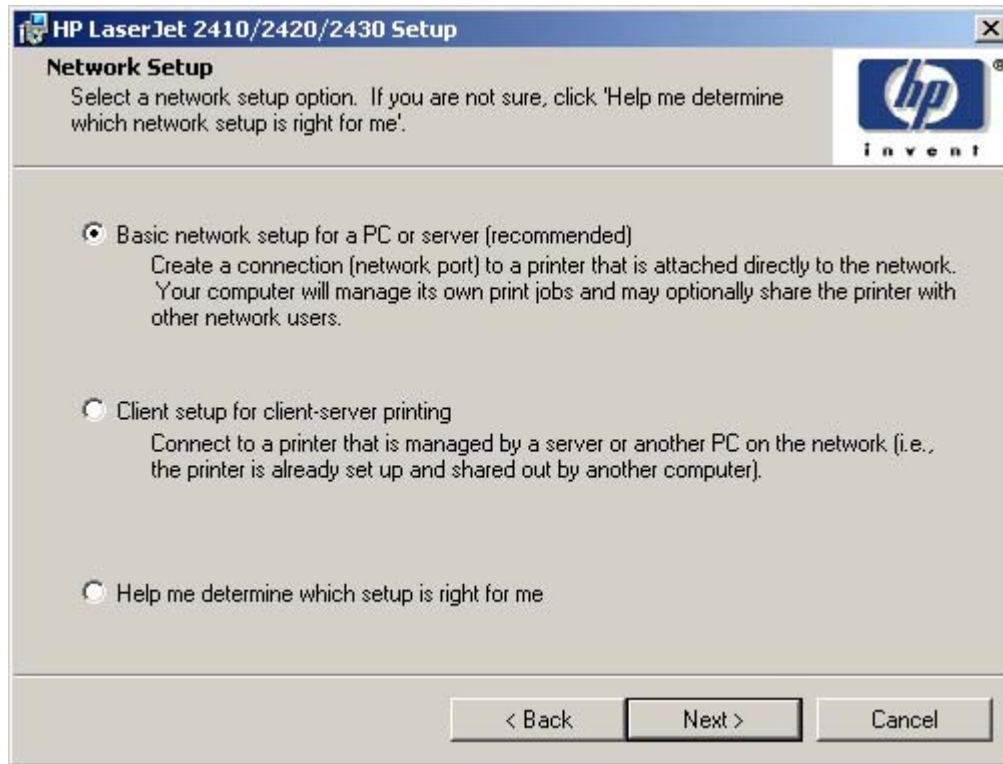


Figure 5-9 Network Setup dialog box

If you select **Basic network setup for a PC or server**, clicking **Next** takes you to the **Identify Printer** dialog box. This is the default selection.

If you select **Client setup for client-server printing**, clicking **Next** initiates a series of question dialog boxes that help you determine the best connection-type option to use. This series begins with the **Specify Network** dialog box.

If you select **Help me determine which setup is right for me**, clicking **Next** takes you to the **Connection Type** dialog box.

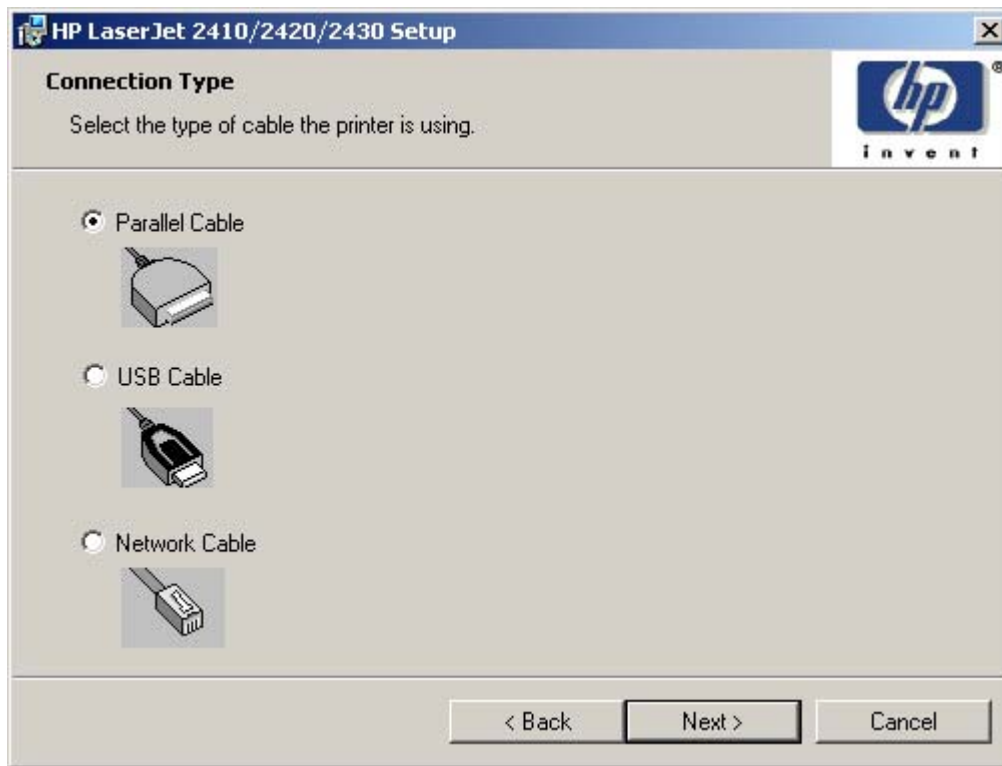


Figure 5-10 Connection Type dialog box

Clicking **Parallel Cable** and then clicking **Next** takes you to the **Cable Connection** dialog box.

Clicking **USB Cable** and then clicking **Next** takes you to the **Cable Connection** dialog box.

Clicking **Network Cable** and then clicking **Next** takes you to the **Print Job Management** dialog box.

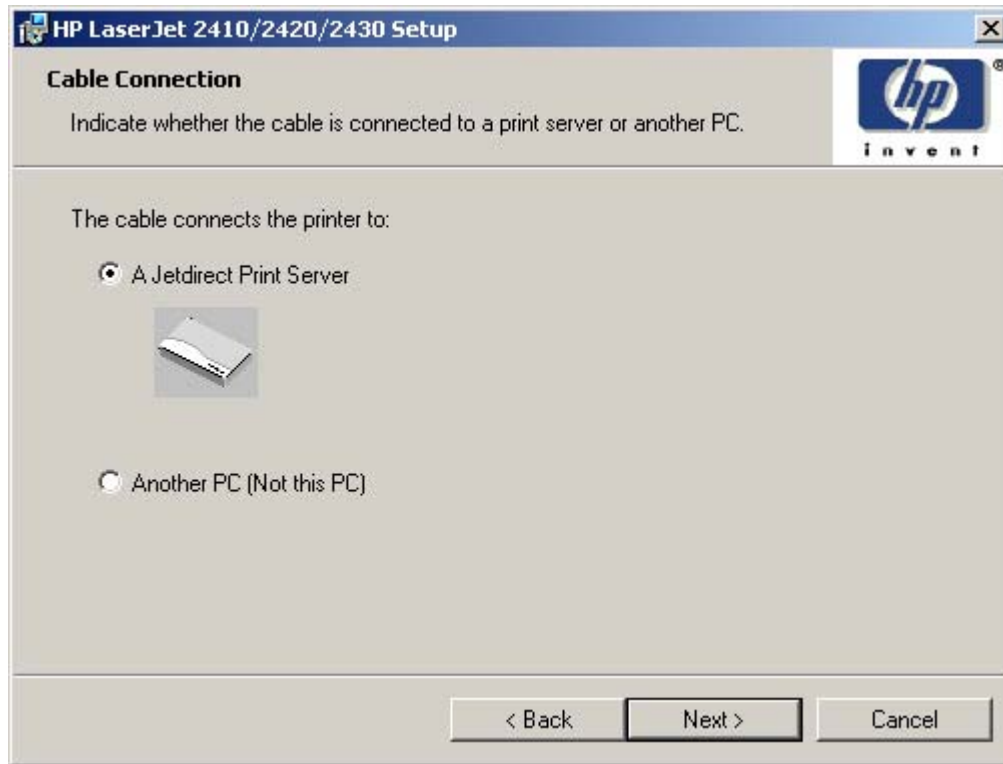


Figure 5-11 Cable Connection dialog box

Clicking **A Jetdirect Print Server**, and then clicking **Next** takes you to the **Print Job Management** dialog box.

Clicking **Another PC (not this PC)**, and then **Next** takes you to the **Recommended Network Setup** dialog box.

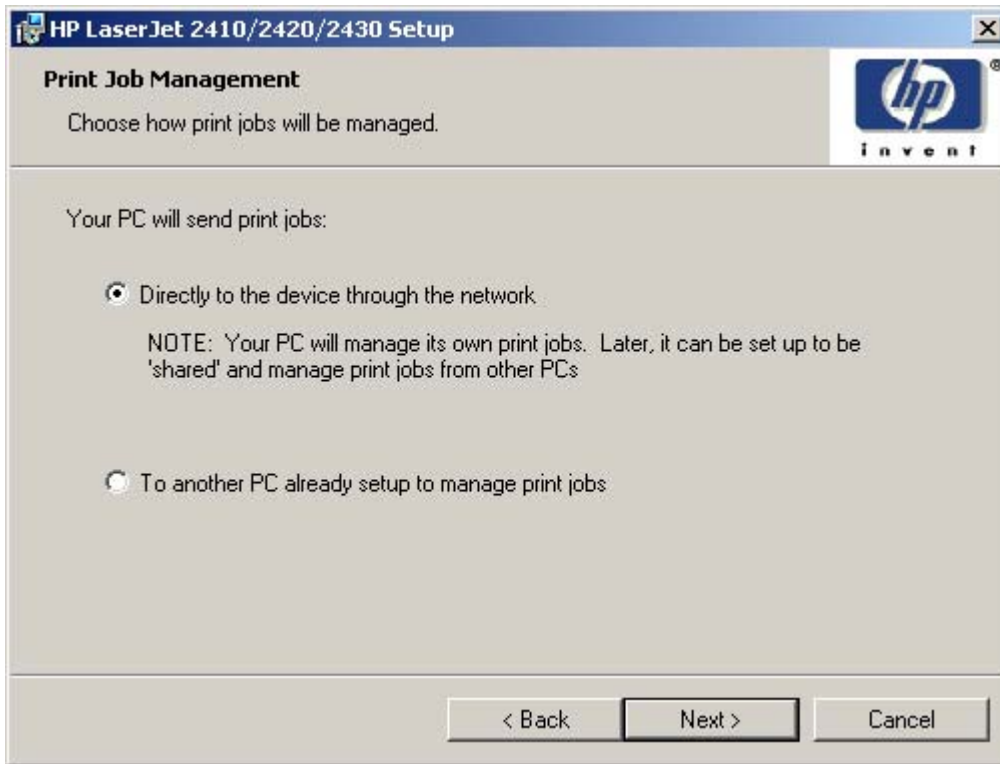


Figure 5-12 Print Job Management dialog box

Clicking either selection takes you to the **Recommended Network Setup** dialog box.

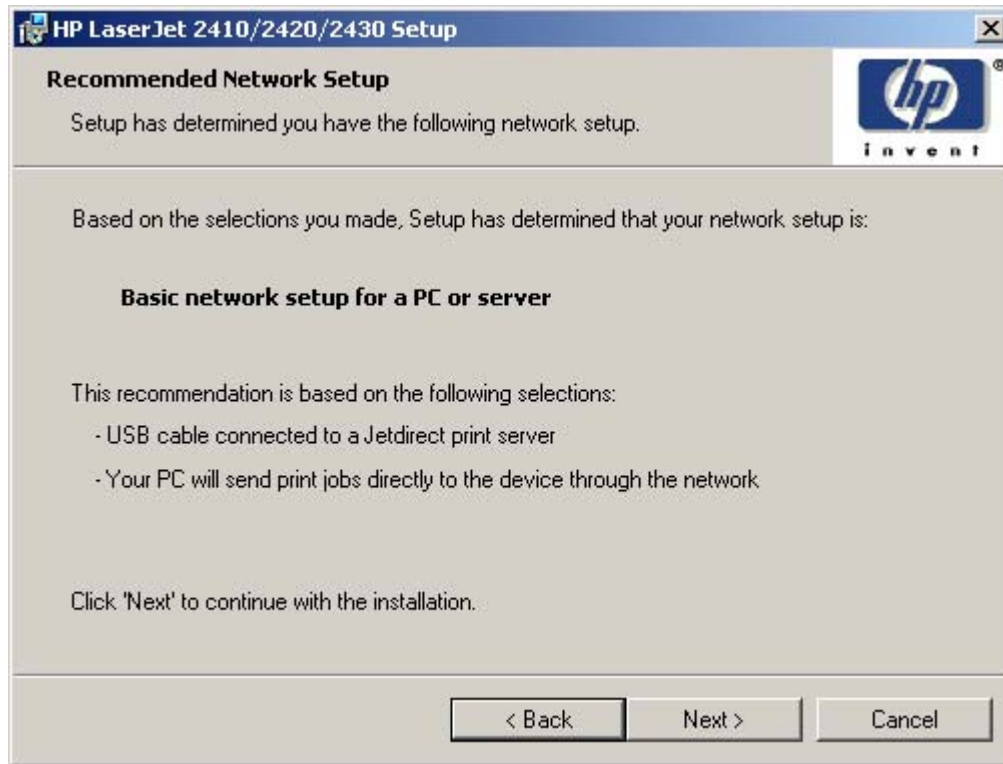


Figure 5-13 Recommended Network Setup dialog box

Clicking **Next** takes you to the **Identify Printer** dialog box.

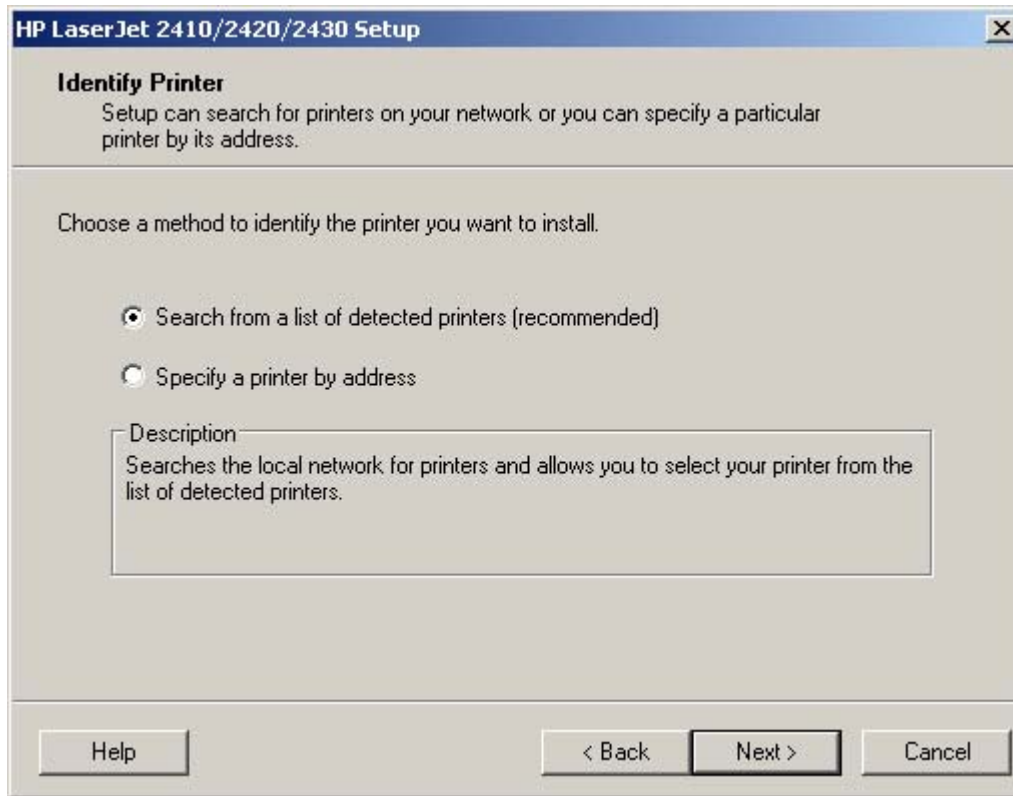


Figure 5-14 Identify Printer dialog box

Clicking **Search from a list of detected printers (recommended)**, and then clicking **Next** opens a screen that states that the installer is searching the network for available products to install.

If you are performing a network installation, and no printer is found, the **Check Cable Connection** dialog box appears, advising you to make sure the cable is properly connected, and giving you the option of searching again or specifying a printer by address.

If a printer is found, the **Printer Found** dialog box appears, with a list of matching products that have been found on the network.

Clicking **Specify a printer by address** and then clicking **Next** takes you to the **Specify Printer** dialog box.

Clicking **Help** takes you to context-sensitive HTML help.

The **Specify Printer** dialog box is shown in the following illustration.

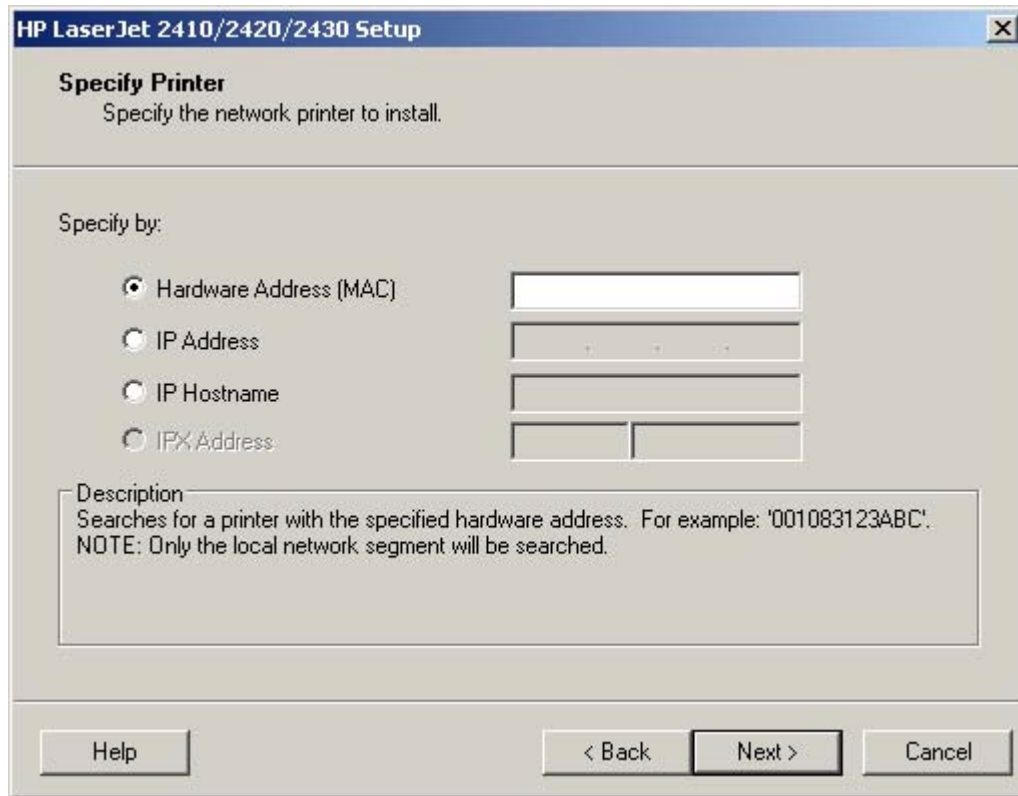


Figure 5-15 Specify Printer dialog box

You can specify a printer by selecting of the following options and typing in the required information:

- **Hardware Address (MAC)**
- **IP Address**
- **IP Hostname**
- **IPX Address**

Clicking **Help** takes you to context-sensitive HTML help.

Clicking **Next** takes you to the **Printer Found** dialog box.

The **Printer Found** dialog box is shown in the following illustration.

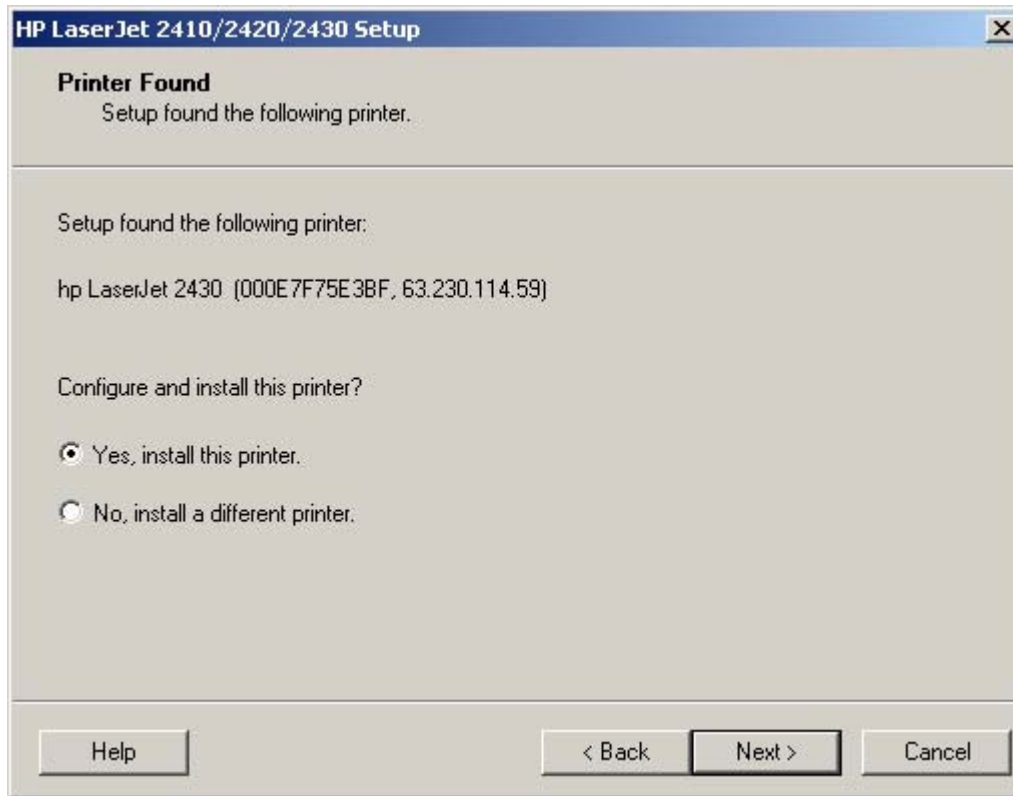


Figure 5-16 Printer Found dialog box

Clicking **Help** takes you to context-sensitive HTML help.

Clicking **Yes, install this printer** and clicking **Next** takes you to the **Confirm Settings** dialog box.

Clicking **No, install a different printer** takes you to the **Check Cable Connection** dialog box, advising you to make sure the cable is properly connected, and giving you the option of searching again for a network printer or specifying a printer by address.

The **Confirm Settings** dialog box is shown in the following illustration.

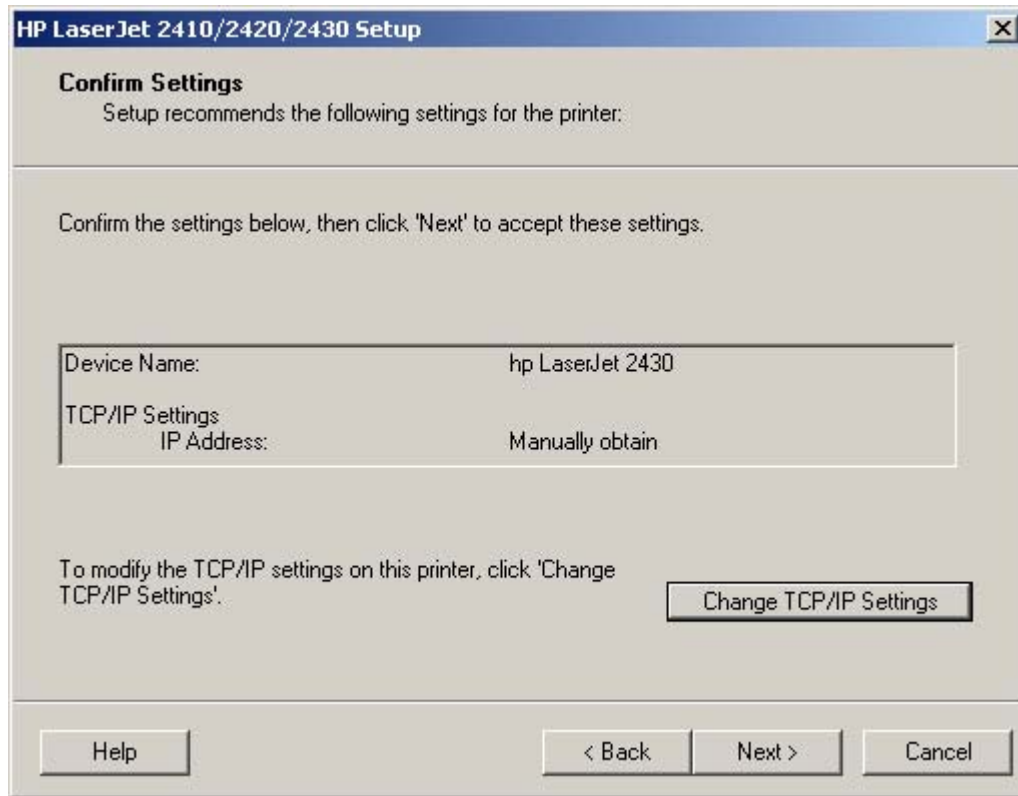


Figure 5-17 Confirm Settings dialog box

Clicking **Change TCP/IP Settings** takes you to the **Confirm Changing Setting** dialog box and then on to the **Set Network Protocol** dialog box.

Clicking **Help** takes you to context-sensitive HTML help.

Clicking **Next** takes you to the **Installation Type** dialog box .

Clicking **Cancel** takes you to the **Exit Setup** dialog box.



Figure 5-18 Set Network Protocol dialog box

Clicking **Change Settings...** makes the text boxes active so that you can type a different IP Address, Subnet Mask, or Gateway address.

Clicking **Next** takes you to the **Confirm Settings** dialog box and then to the **Installation Type** dialog box.

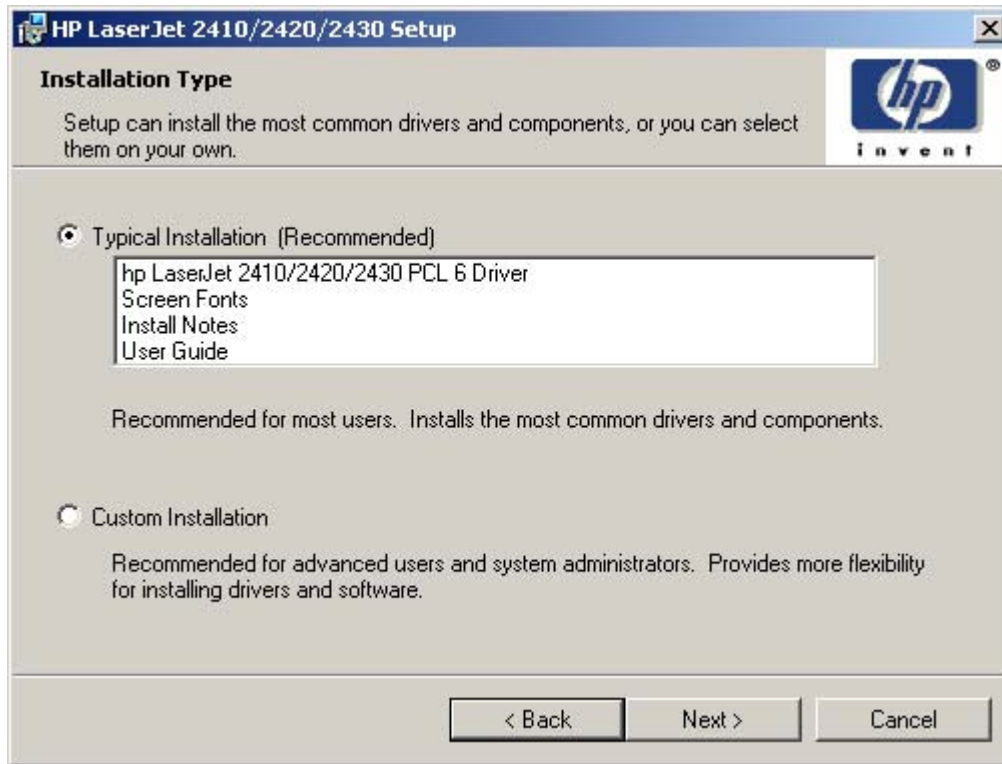


Figure 5-19 Installation Type dialog box



NOTE The components of a Typical Installation might vary from product to product.

Clicking **Typical Installation (Recommended)** and then clicking **Next**, takes you to the **Printer Name** dialog box.

Clicking **Minimum Installation** and then clicking **Next** takes you to the **Printer Name** dialog box.



NOTE The Minimum Installation option installs only those components necessary for basic printing. It will become available after product release.

Clicking **Custom Installation** and then clicking **Next**, opens the **Features** dialog box.

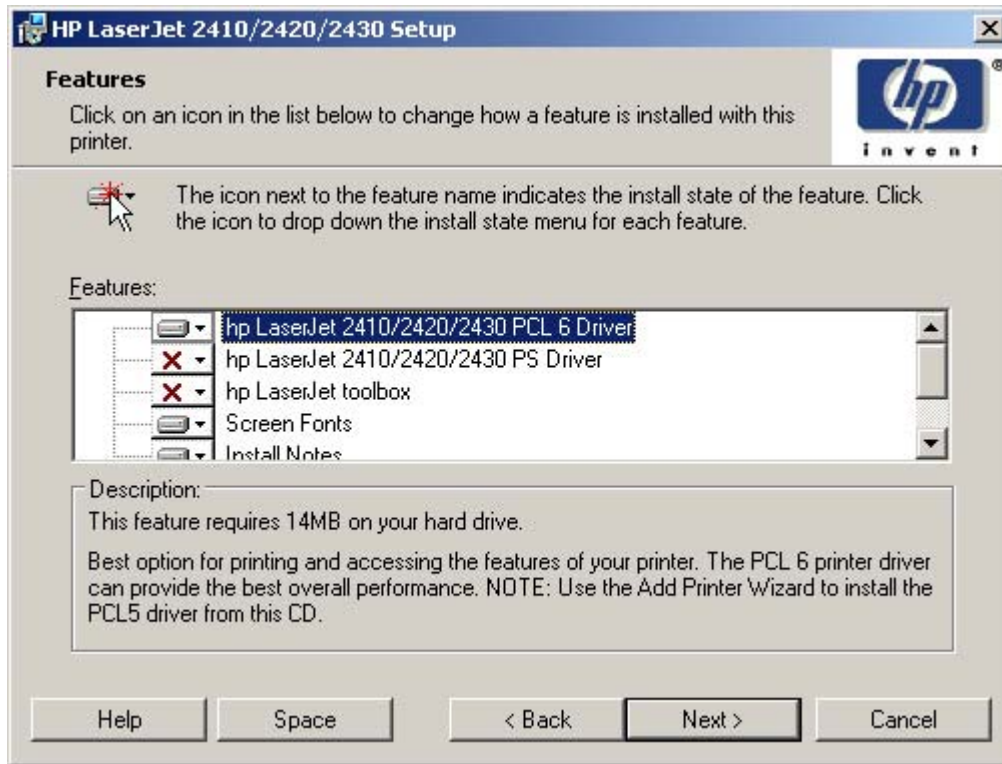


Figure 5-20 Features dialog box

A red X in the icon indicates that the feature is not installed. The installed icon appears when you select an installation state for that feature.



NOTE As shown in this screen shot, the PCL 5 driver is not an available option in this installation program. HP PCL 5 drivers must be installed using the Add Printer wizard.

Clicking the **Space** button opens the **Disk Space Requirements** dialog box, which shows the amount of available space on your hard drive and advises you if there is not enough space for the features you have selected.

Clicking **Next** opens the **Printer Name** dialog box.

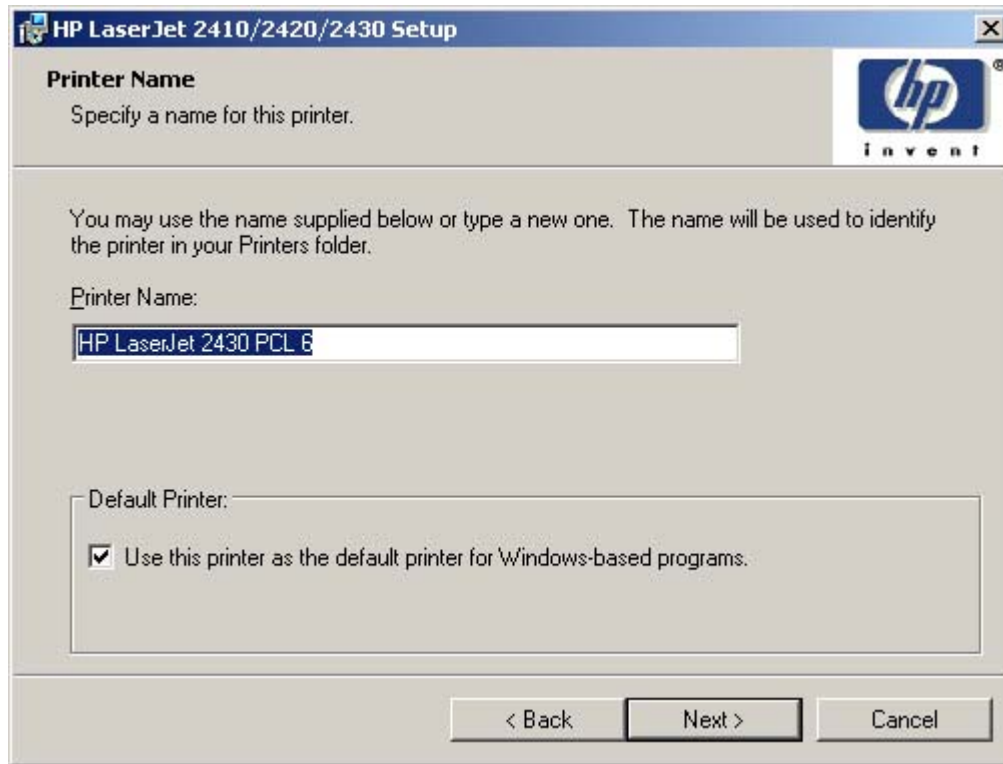


Figure 5-21 Printer Name dialog box

Selecting the **Use this printer as the default printer for Windows-based programs** check box sets the HP LaserJet 2410, 2420, and 2430 printer as your default printer.

Clicking **Next** takes you to the **Printer Sharing** dialog box.

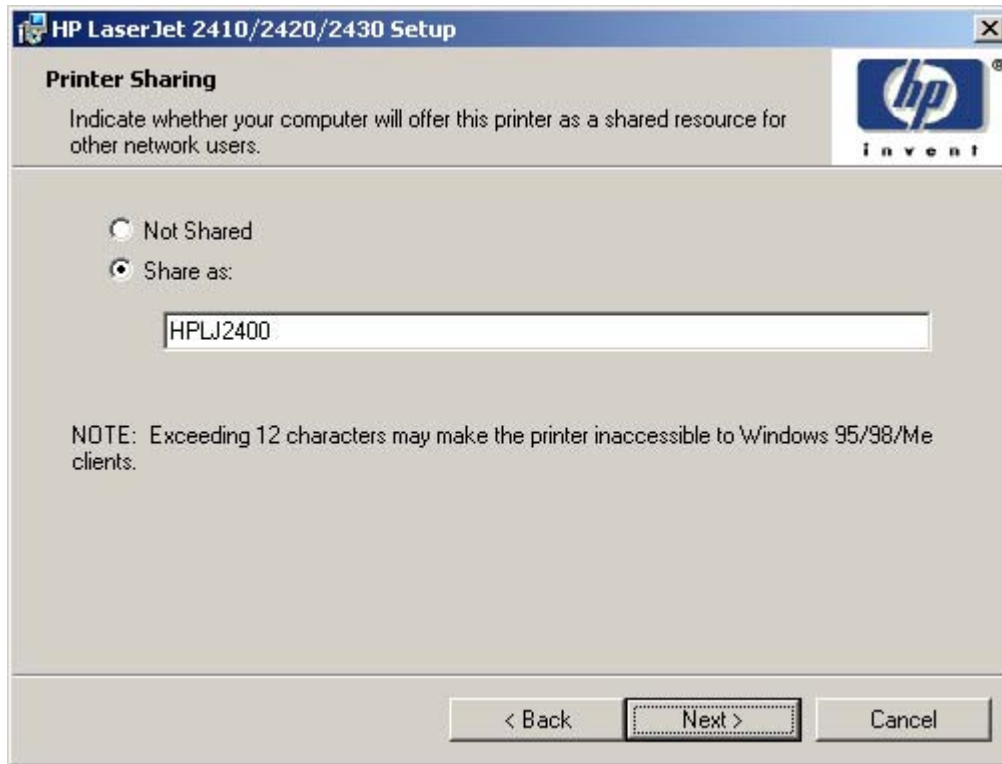


Figure 5-22 Printer Sharing dialog box



NOTE The **Printer Sharing** dialog box does not appear if your computer is running Windows 98 or Windows Me.

Clicking **Not shared** and then clicking **Next** takes you to the **Printer Location and Comment** dialog box.

Clicking **Share as:** causes the text box to become active. Typing the share name and then clicking **Next** takes you to the **Client Driver Support** dialog box.



NOTE When you do not share the printer, additional driver support is not available. If you share the printer on Windows NT 4.0, Windows 2000, Windows XP, or Windows Server 2003 operating systems by selecting **Share as**, you must type a name. You can also provide additional print driver support for other operating systems.



Figure 5-23 Client Driver Support dialog box

The **Client Driver Support** dialog box does not appear if the computer is running Windows 98 or Windows Me. The **Windows 95/98/Me** check box allows you to share this printer with Windows 95, 98 or Me systems. When selected, the installation program installs the driver for those systems onto your computer. When users on those other systems select this shared printer, the correct driver is downloaded to them.

Clicking **Next** takes you to the **Printer Location and Comment** dialog box.

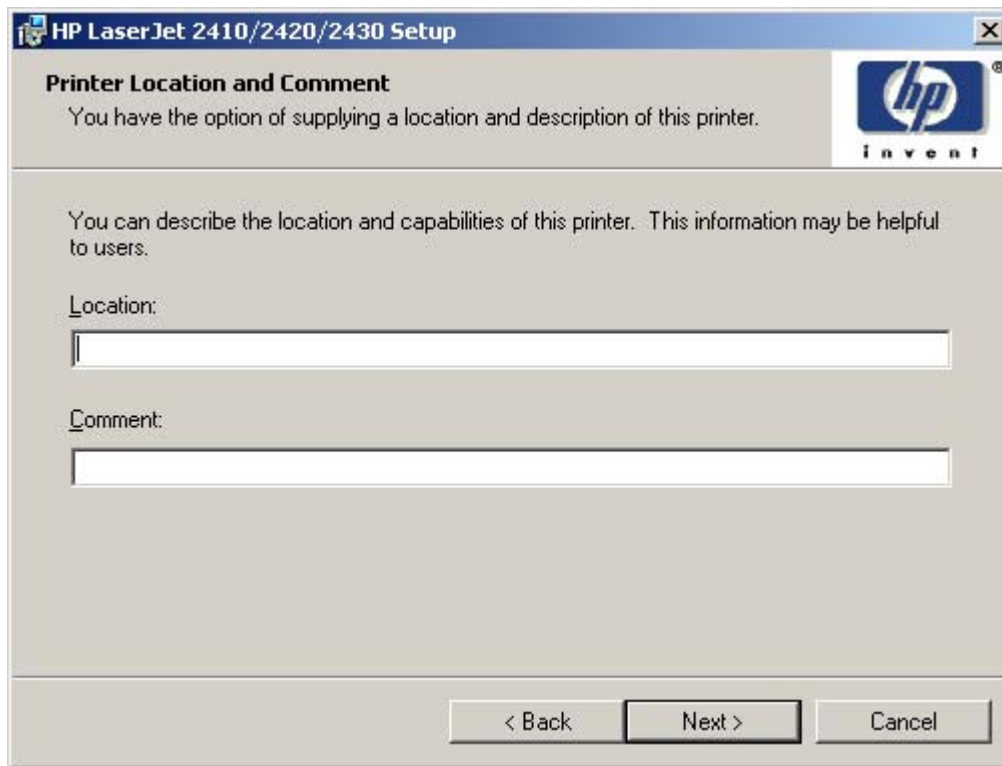


Figure 5-24 Printer Location and Comment dialog box

In the **Location** text box, you can type the physical location of the printer. In the **Comment** text box, you can type any additional information that might be helpful to users.

Clicking **Next** takes you to the **Ready to Install** dialog box.

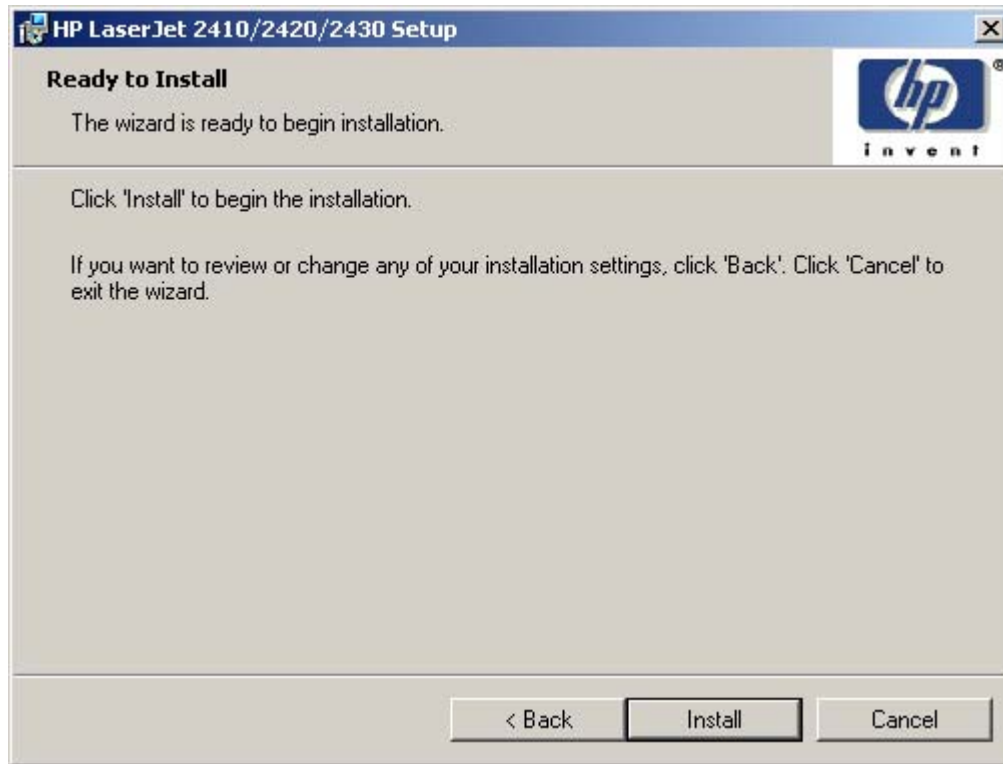


Figure 5-25 Ready to Install dialog box

Clicking **Install** starts the installation process.

When installation is complete, the **Finish** dialog box appears, as shown in the following illustration.

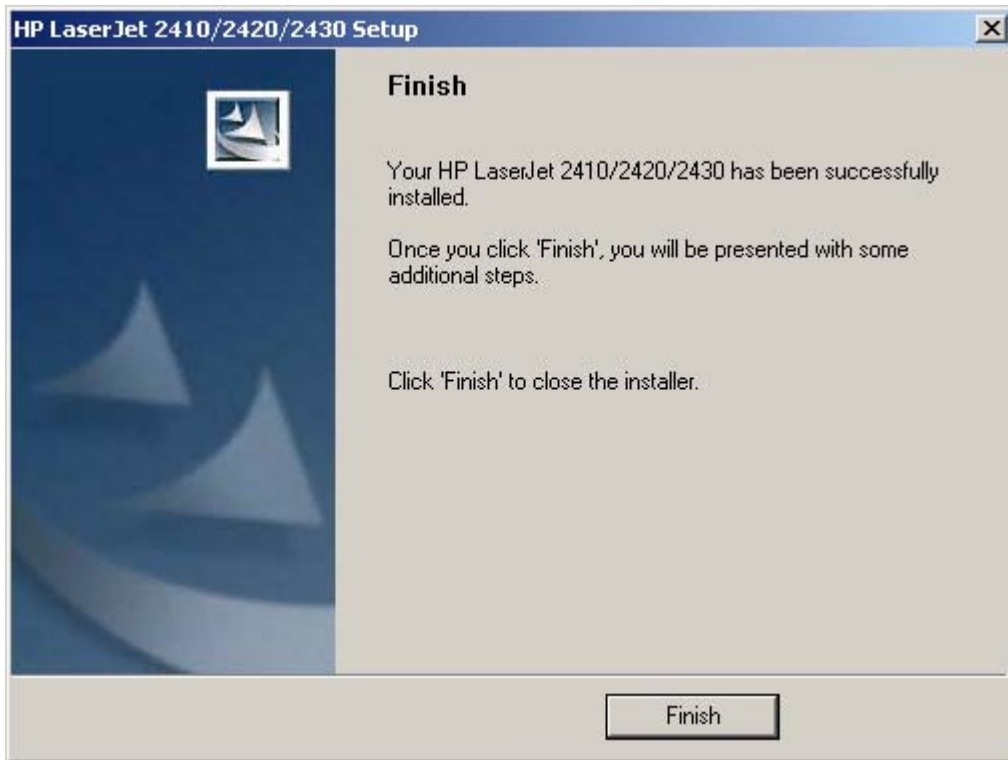


Figure 5-26 Finish dialog box

Custom Installation

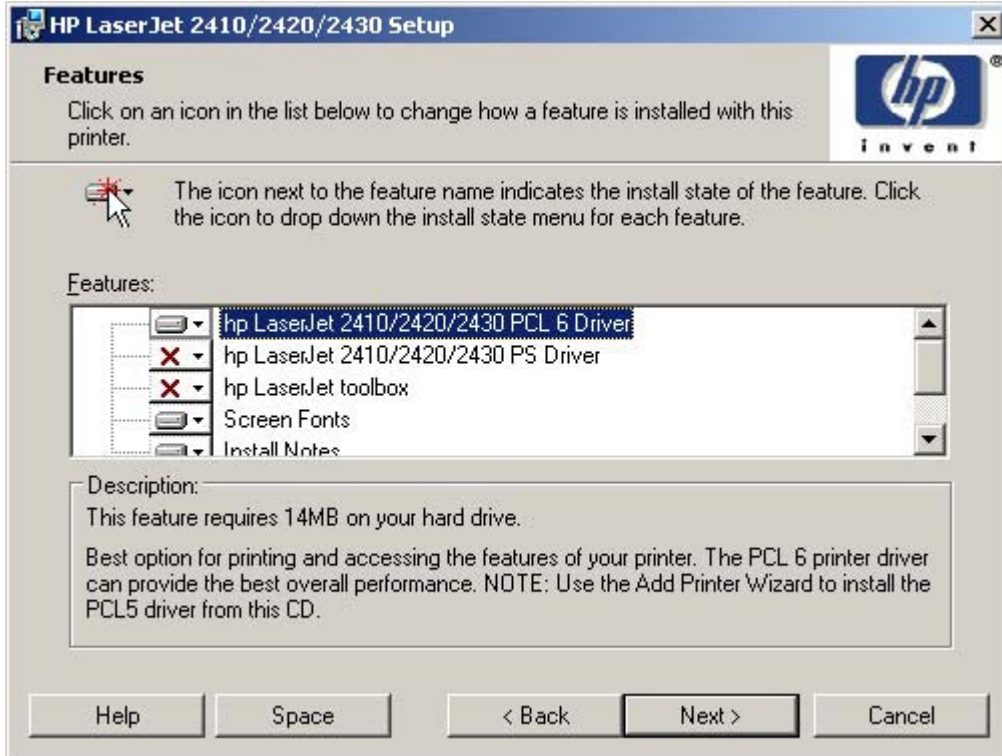


Figure 5-27 Features dialog box, Custom Installation



NOTE The features available in a custom installation might vary from product to product.

Windows NT 4.0, Windows 2000, Windows XP, and Windows Server 2003 computers running a terminal server might not support the HP Toolbox option.

The appearance of the **Features** dialog box might vary, depending on the product and the connection type.

The custom installation gives you the option of installing the following components:

- HP LaserJet 2410, 2420, and 2430 PCL 6 Driver (for direct-connect and network installations)
- HP LaserJet 2410, 2420, and 2430 PS Driver (for direct-connect and network installations)
- HP Toolbox
- Screen Fonts
- Install Notes
- User Guide

Installing print drivers by using the Add Printer feature

Use the following steps to install the print drivers by using the Add Printer feature of Windows:

- 1 Insert the CD in the CD-ROM drive.
- 2 Go to the **Add a printer** feature in Windows.

In Windows XP, click **Start** on the desktop, and then click **Printers and Faxes**. The **Printers and Faxes** window appears. Click **Add a printer**. The **Add a printer** wizard screen appears.

In Windows NT 4.0, Windows 98, Windows Me, and Windows 2000, click **Start** on the desktop, click **Settings**, click **Printers** and then click **Add a printer**. The **Add a printer** wizard screen appears.

- 3 Use the **Add a printer** wizard to find and connect to the printer. The print drivers are loaded as a part of this process.

If your computer is running a 64-bit Windows operating system, you must install the corresponding 64-bit print driver. The 64-bit print drivers are included on the printing-system software CD-ROM. Use the following steps to install a print driver by using the Add Printer feature.

- 1 Insert the printing-system software CD in the CD-ROM drive.
- 2 Click **Start** on the desktop, click **Settings**, click **Printers and Faxes** and then click **Add a printer**. The **Add a printer** wizard screen appears.
- 3 Use the **Add a printer** wizard to find and connect to the product. The print drivers are loaded as a part of this process.
- 4 Select the **Have disk** option and navigate to one of the following files on the software CD:

To install the PCL 6 driver, select \<language>\Drivers\<your operating system>\PCL6
\hp24x0p6.inf (or hpc24X0c.inf for Windows 2000, Windows XP, or Windows Server 2003).

To install the PCL 5e driver, select \<language>\Drivers\<your operating system>\PCL5\hpb24x0p5.inf (or hpc24X0b.inf for Windows 2000, Windows XP, or Windows Server 2003).

To install the PS driver, select \<language>\Drivers\<your operating system>\PS\hpb24x0f.inf or hpb24x0g.inf (or hpc24X0d.inf for Windows 2000, Windows XP, or Windows Server 2003)

- 5 Complete the wizard steps. The print driver will be installed as part of the wizard process.

Installer Customization Wizard for Windows

Administrators can use the **Installer Customization Wizard** option to customize the HP LaserJet 2410, 2420, and 2430 printer installer by pre-setting the installation options in a response file. To start the utility, click **installer customization wizard** on the main menu of the software CD browser. Using this option, administrators can create a silent (unattended) installer that is customized with any of the following selections:

- Language
- Operating system
- Print drivers
- Components



NOTE For detailed information about the Installer Customization Wizard, see the *HP Device Installer Customization Wizard*. This document (CUSTOMIZATION_README_ENWW.HTM) is available on the printing-system software CD in the <language>\MANUALS folder.

Running the installer customization wizard

Running the Installer Customization Wizard produces one installation package and a response file (RESPONSE.INI) for a single system installation. The installation package might work for multiple systems that have the same response information, or the RESPONSE.INI file can be edited for system configuration differences directly in the RESPONSE.INI file. The Installer *HP Device Installer Customization Wizard*, available on the printing-system software CD in the <language>\MANUALS folder, provides the exact text for replacing entries in the RESPONSE.INI file.

To run the installer customization wizard

- 1 Insert the HP LaserJet 2410, 2420, and 2430 printer software CD in the CD-ROM drive.
- 2 In the CD browser main screen, click **installer customization wizard**.
- 3 Choose the setup language you wish to use. The installer automatically detects the language that your computer system uses and presents this selection as the default. Click **OK** to continue.

You can select another language that is available on the CD by clicking the down arrow in the drop-down menu.

The Installer Customization Wizard starts automatically. To complete the installation, follow the instructions in the dialog boxes, as described in the following section.

Dialogs

The Installer Customization Wizard runs from the CD. It can be launched from the CD browser, depending on product-specific instantiation. It runs separately from MSI with its own interface.

The **Choose Setup Language** dialog box, the **InstallShield Wizard** dialog box, and the **Preparing to Install** dialog box appear the same as they appear in the standard installer. After these dialog boxes, the **Installer Customization Wizard Welcome** dialog box appears.



Figure 5-28 Installer Customization Wizard **Welcome** dialog box

Clicking **Next** takes you to the **Language** dialog box.

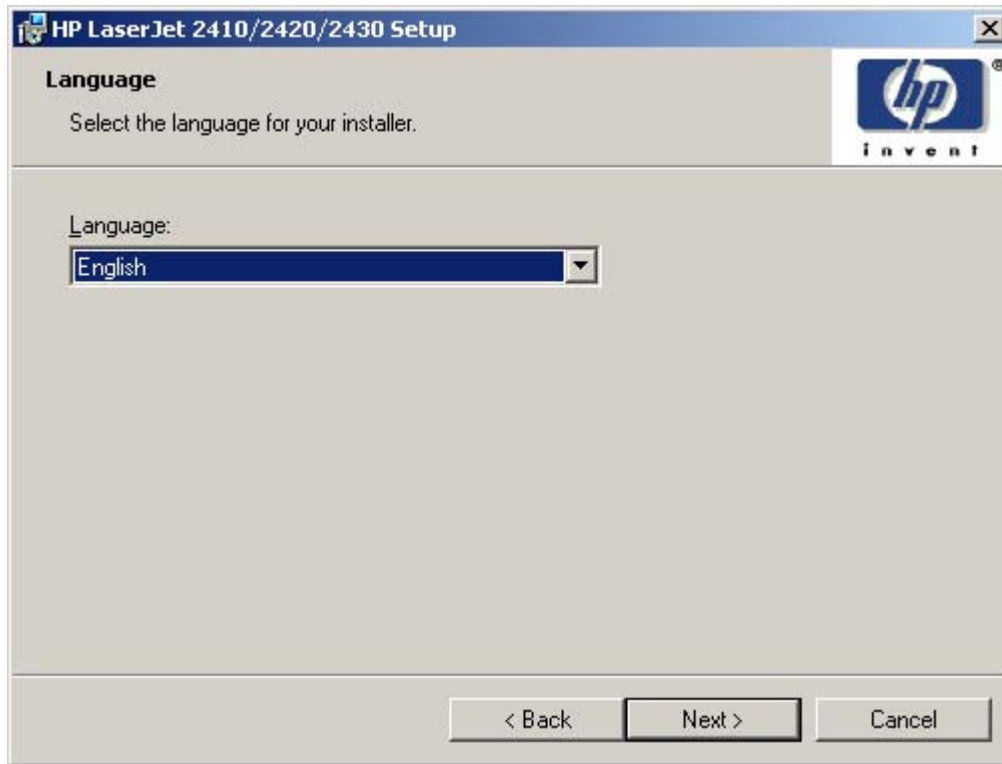


Figure 5-29 Language dialog box



NOTE The customized installer limits all system installations of the product to the language that is selected in the **Language** dialog box. The maintenance mode on systems where installation has been completed by using the customized installer does not provide options for changing the language. To change the language on a system that used an Installer Customization Wizard installation, the customized installation must be uninstalled, and a new product must be installed to restore the option to install other languages.

The language that you selected is installed on users' computers regardless of the language of the text in the dialog boxes (as specified in the **Choose a language** dialog box earlier). The **Language** dialog box defaults to the language that was selected in the **Choose a language** dialog box, but any language (that is available on the CD) can be chosen for the customized installer. The language choice is recorded in the response file.

Clicking **Next** takes you to the **Printer Port** dialog box.

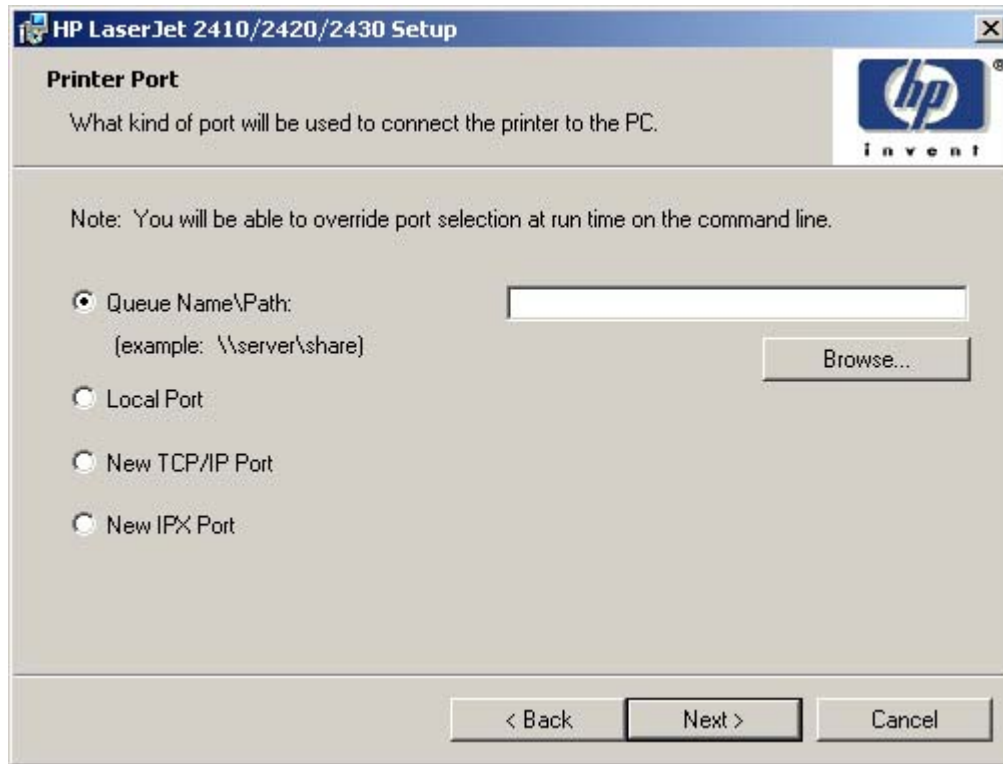


Figure 5-30 Printer Port dialog box

Clicking **Queue Name\Path** makes a text field available for a Queue entry. Click the **Browse** button to navigate to a printer to record the path.

Clicking **Local Port** and then clicking **Next** takes you to the **Connector Type** dialog box, which is similar to the **Connection Type** dialog box that appears during a standard installation. However, the **Connector Type** dialog box includes all types of local ports regardless of local support. It also includes all custom network ports that are available on the local system. To use any custom network port for the customized installer, the port must be created identically on the system where the port will be used.

Clicking **New TCP/IP Port** or **New IPX Port** and then clicking **Next** takes you to the **Specify Printer** dialog box.

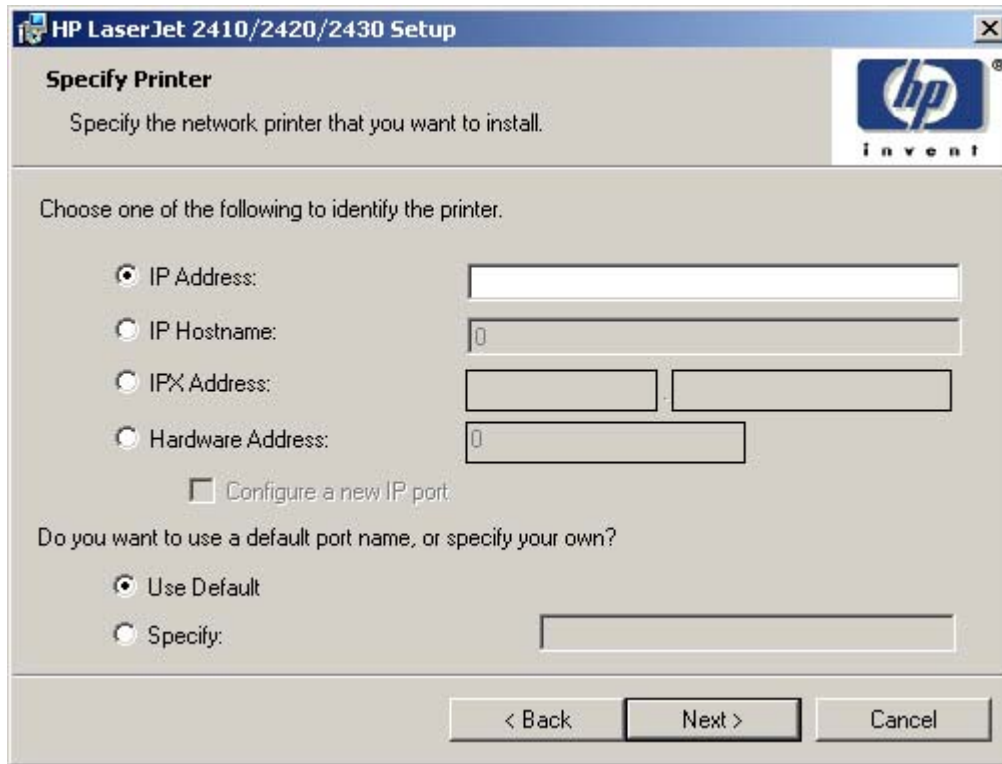


Figure 5-31 Specify Printer dialog box

Clicking **IP Address**: makes a field available for typing the IP address for the printer. You can only use numerals in this field. If this option is selected, at least one digit must be typed in the IP Address field to prevent an error message from appearing, asking for a valid IP address.

Clicking **IP Hostname**: makes a field available for typing the IP hostname for the printer. You can use any characters in this field, but an error message appears if spaces are included in the field. If this option is selected, at least one character must be typed in the IP Hostname field to prevent an error message from appearing, asking for a valid IP hostname.

Clicking **IPX Address**: makes a field available for typing the IPX address of the printer.

Clicking **Hardware Address**: makes a field available for typing the hardware address of the printer. It accepts any characters but limits the entry to 13 characters.

The **Hardware Address**: option also creates an option to configure a new port. If you type a hardware address and click **Next** in the **Specify Printer** dialog box with **Configure a new IP port** selected, the **IP Settings** dialog box opens and you can set up the new port.

Clicking any of the options and then clicking **Next** takes you to either the **IP Settings** dialog box or the **Model** dialog box, depending on your selection.

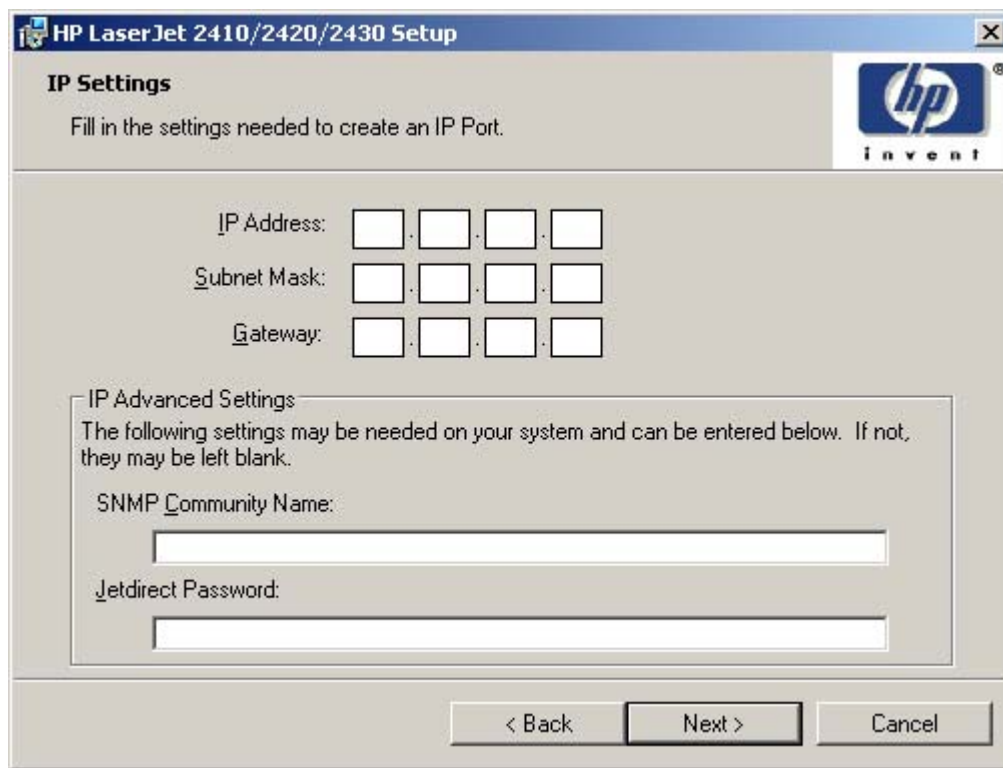


Figure 5-32 IP Settings dialog box



NOTE The Installer Customization Wizard does not validate that the printer or any of the printer identification entries actually exists on the network, because the customized installer can be used on a separate network.

Typing the appropriate information and then clicking **Next** takes you to the **New IPX Port** dialog box.

The **New IPX Port** selection in the **Printer Port** dialog box behaves the same way that the **New TCP/IP Port** selection behaves: the **Specify Printer** dialog box opens with the same options, each with the same results.

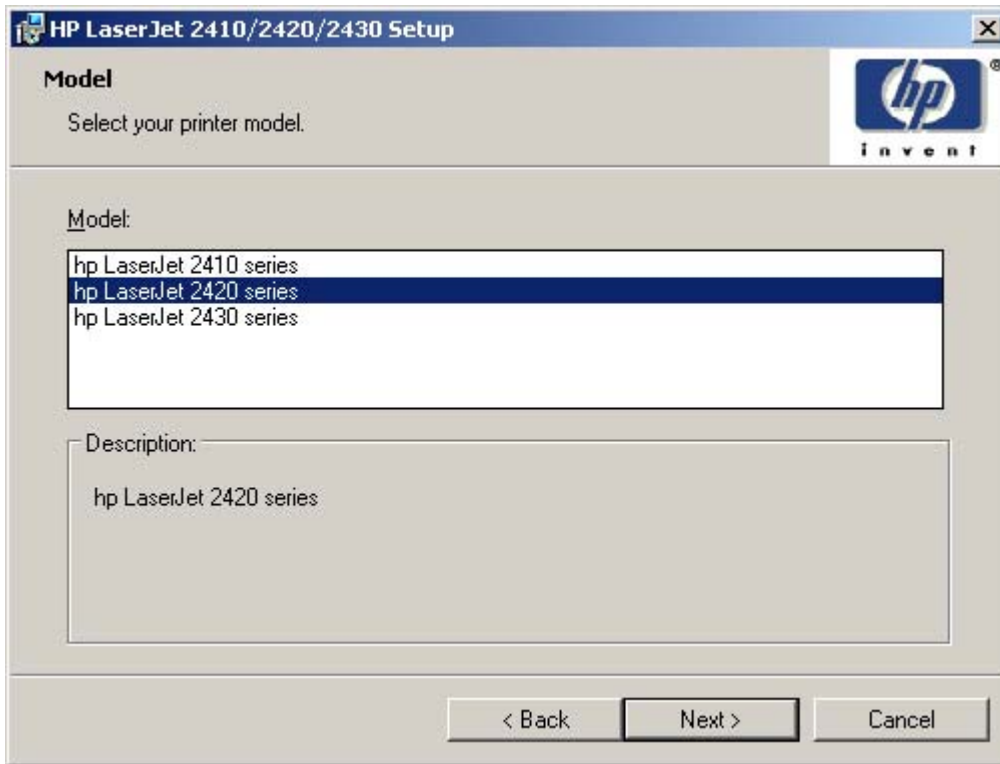


Figure 5-33 Model dialog box

After the options in the identification or port setup dialog boxes are completed, the **Model** dialog box appears.

The model selection can affect which features are available for the installation. It can also affect driver defaults, depending on the product-specific instantiation.

Clicking **Next** takes you to the **Features** dialog box.

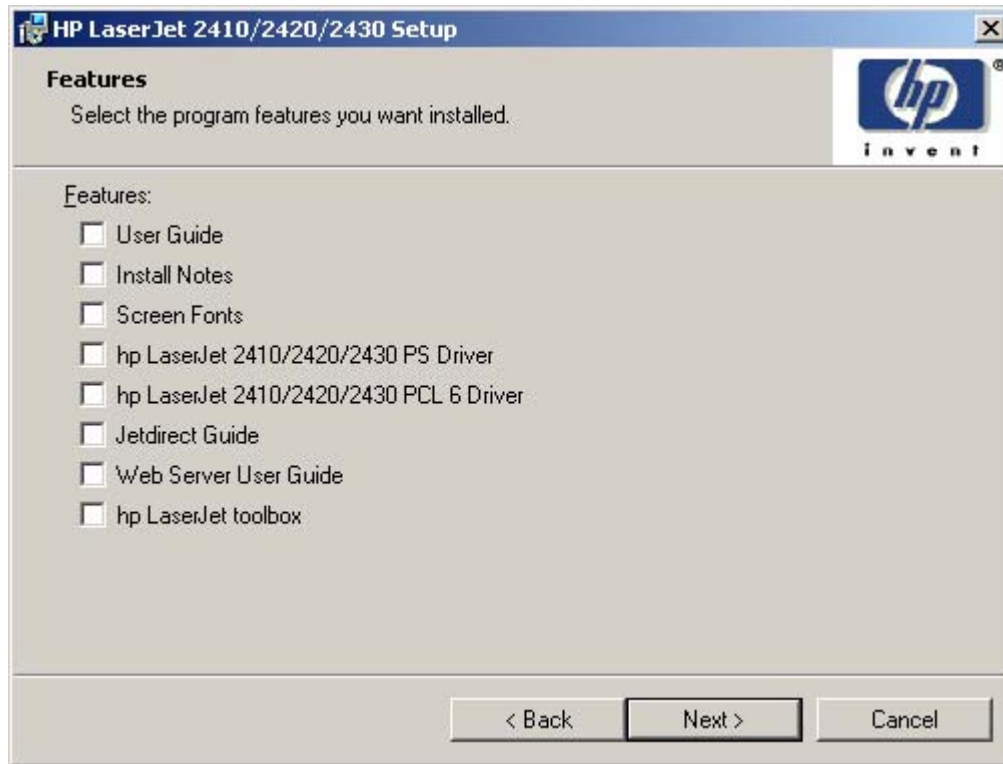


Figure 5-34 Features dialog box

Any combination of features can be selected for the installer, and none depends on any other feature selection. It is possible to create a custom installer that installs features without including a print driver.

Clicking **Next** takes you to the **Driver Configuration** dialog box.

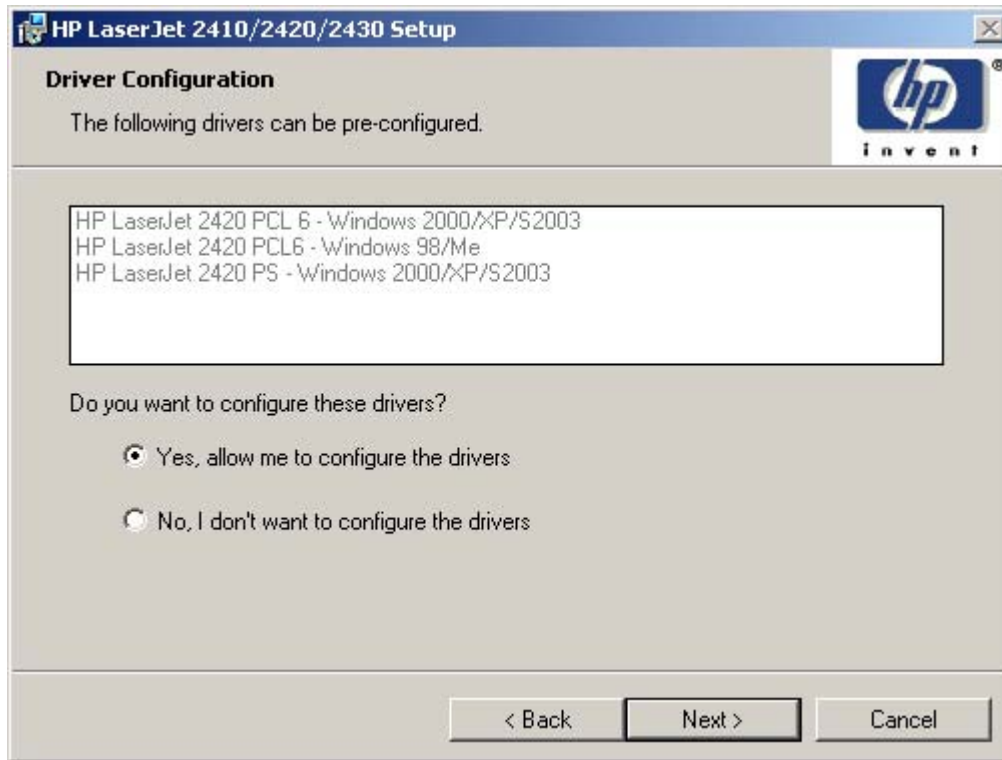


Figure 5-35 Driver Configuration preconfigure dialog box

It is possible to supply a preconfigured driver in the customized installer if the driver supports it. You can use the preconfigured driver to place default settings on the printer that is installed. If a driver that supports this feature is selected in the **Features** dialog box, the **Driver Configuration** dialog box appears.

Clicking **Yes, allow me to configure the drivers** and then clicking **Next** opens a list of all printing preferences and device options for the product.

Clicking **No, I don't want to configure the drivers** and then clicking **Next** takes you to the **Printer Name** dialog box.

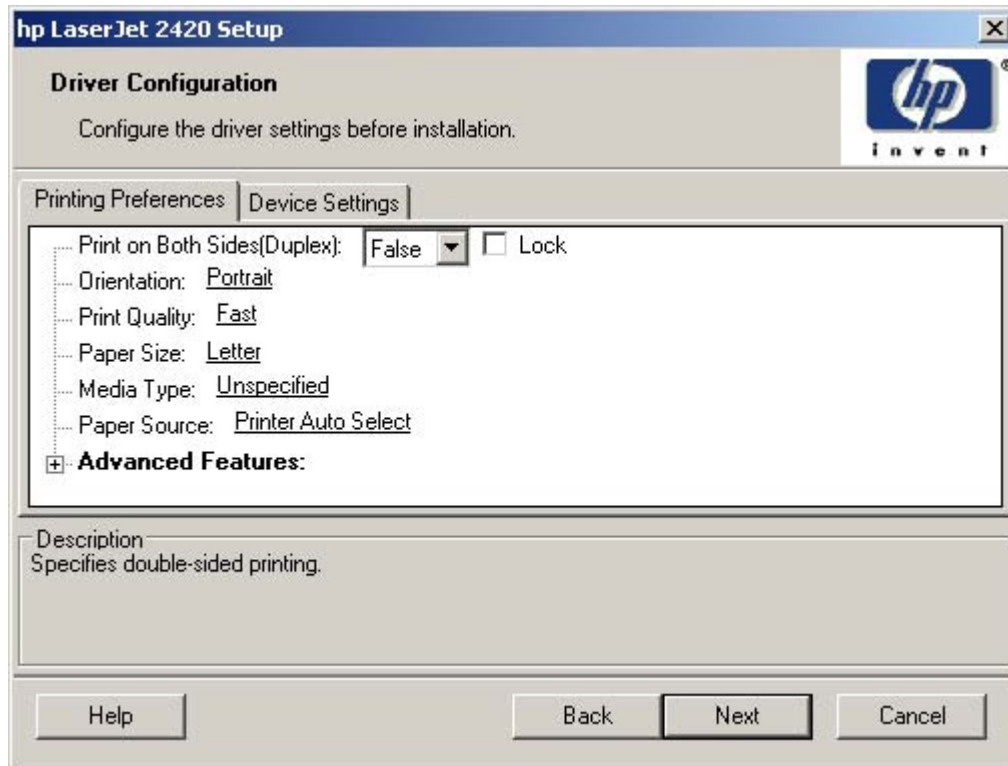


Figure 5-36 Driver Configuration dialog box

Any setting in this dialog box, including those on the **Device Settings** tab, can be preset before the printer is installed (subject to the normal driver constraints).

Clicking **Next** opens either the **Preconfigure Printer** dialog box for another driver that supports preconfiguration (if any), or the **Printer Name** dialog box.

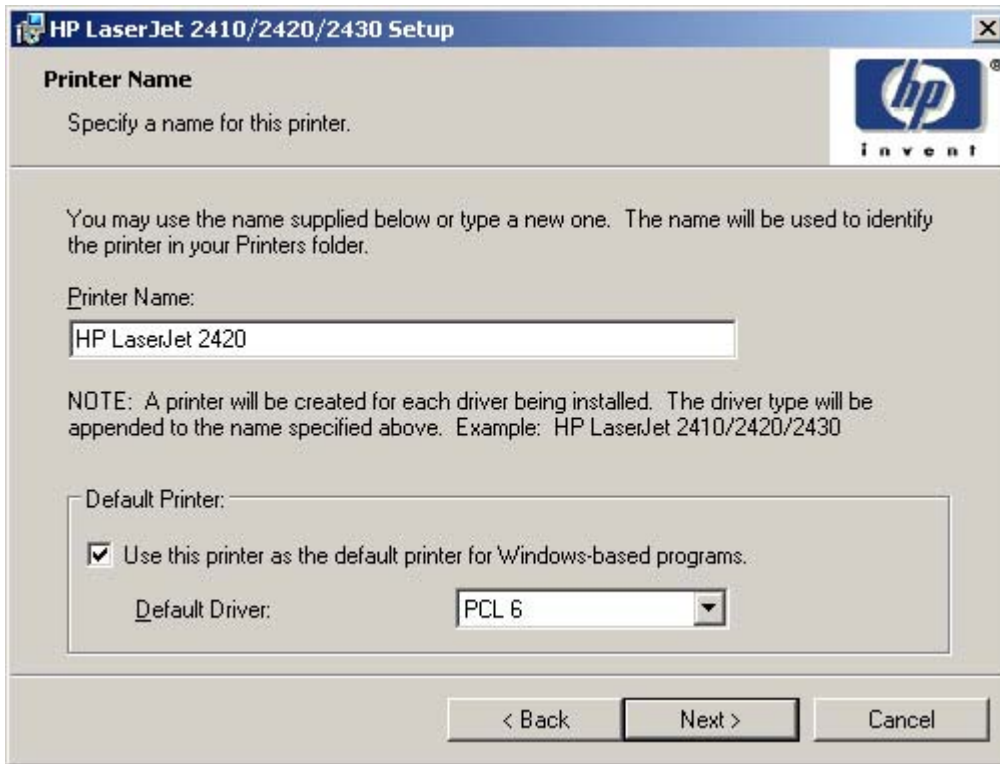


Figure 5-37 Printer Name dialog box

Use the **Printer Name** text box to specify a name for the printer. If more than one driver is being installed, the driver type will be appended to the printer name.

The check box in the **Default Printer** group box specifies whether this will be the default printer. You can also choose which driver should be the default driver, if more than one is installed, by using the **Default Driver** drop-down menu.

Clicking **Next** opens the **Printer Sharing** dialog box.

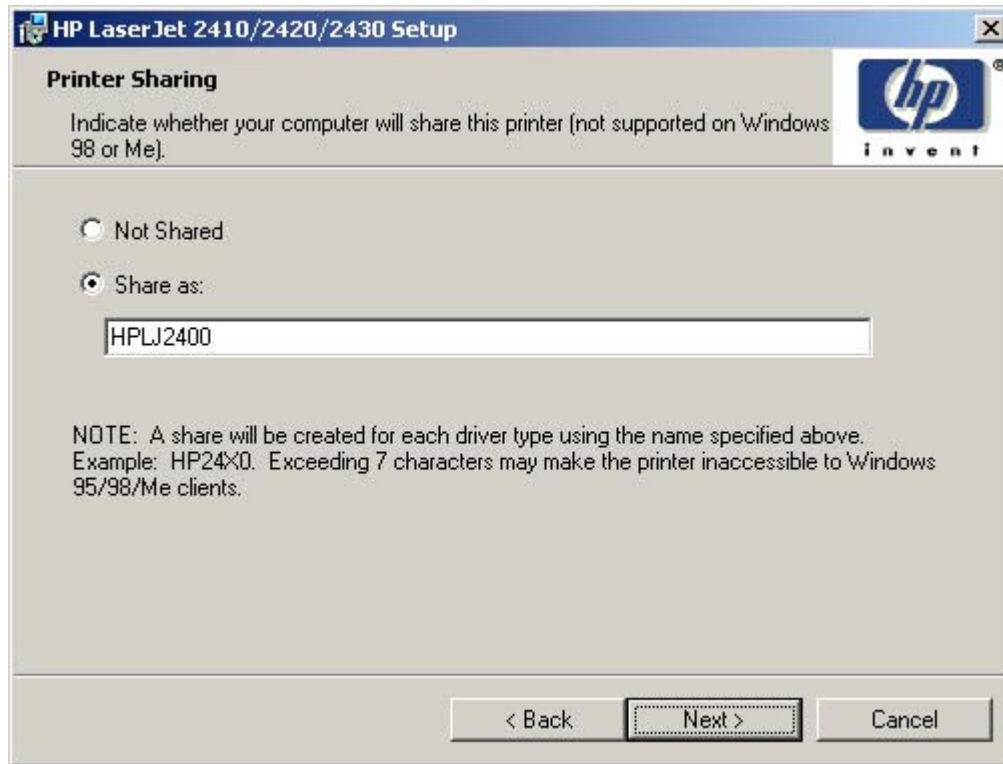


Figure 5-38 Printer Sharing dialog box

Clicking **Share as:** opens a field for naming the product as it will appear on the network.

Clicking **Next** with **Not Shared** selected takes you to the **Printer Location and Comment** dialog box.

Clicking **Share as:** and then clicking **Next** takes you to the **Client Driver Support** dialog box.



Figure 5-39 Client Driver Support dialog box



NOTE This dialog box provides options for selecting OS-specific drivers to add to the installation to provide for Point and Print driver vending on the system. Either or both optional drivers can be selected.

Clicking **Next** takes you to the **Printer Location and Comment** dialog box.

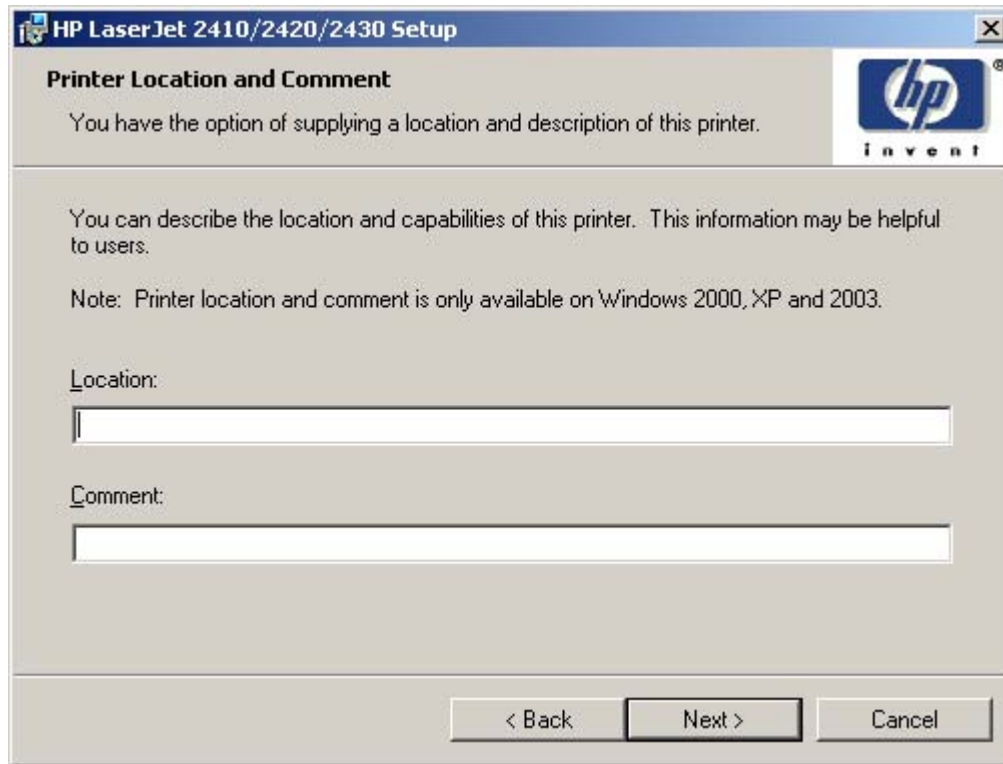


Figure 5-40 Printer Location and Comment dialog box

Use the **Location:** text field to type a description of the physical location of the printer. The field is limited to 241 characters.

Use the **Comment:** text field to type any other helpful text such as the capabilities of the printer. The field is limited to 241 characters.

Clicking **Next** takes you to the **Custom Installer Location** dialog box.

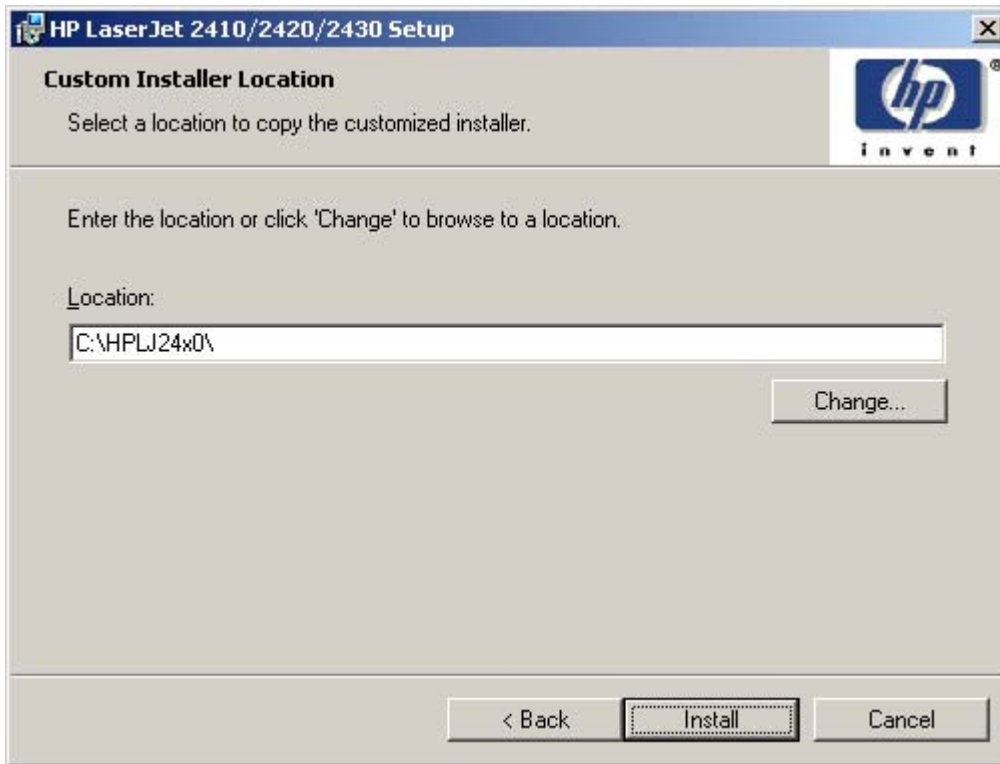


Figure 5-41 Custom Installer Location dialog box



NOTE The location for the installer package defaults to the drive that the system user opened last.

Clicking **Change** opens the **Change Current Destination Folder** dialog box to navigate to the drive that you want.

Clicking **Back** takes you to the **Printer Location and Comment** dialog box.

Clicking **Install** after you have specified a location (or browsed to a location) starts the file copy process and takes you to the **Installing** dialog box.

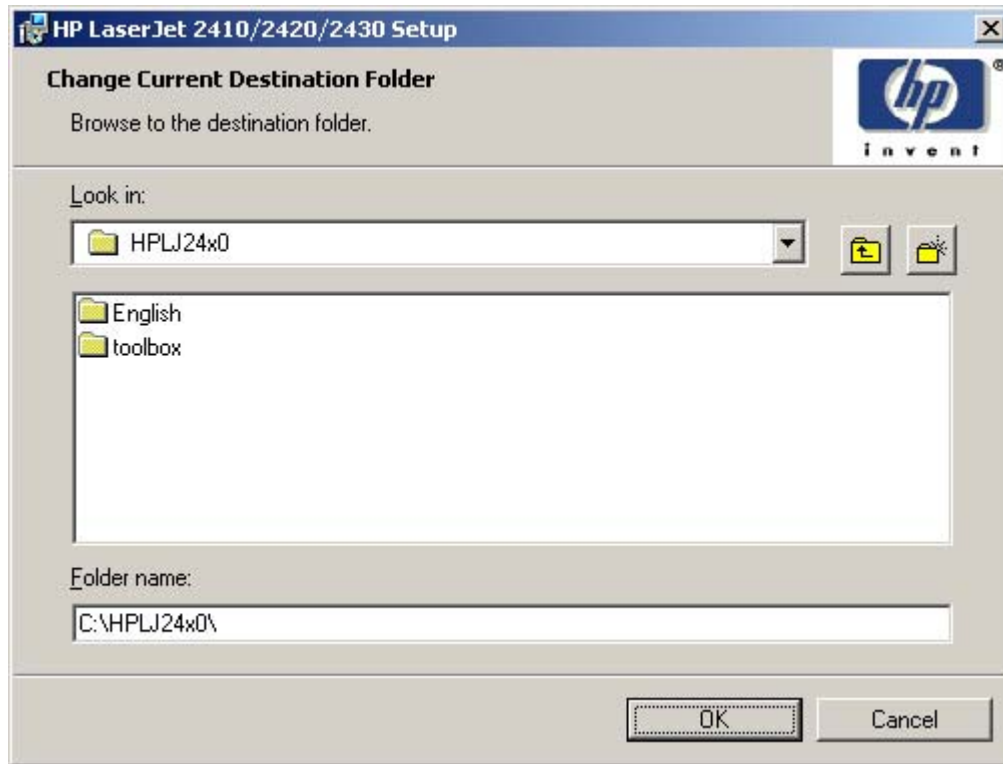


Figure 5-42 Change Current Destination Folder dialog box



NOTE Several files, including system files, are placed at the root of the directory that appears in the **Folder Name** field. These files collectively occupy approximately 37 MB on the directory. Be sure that enough space is available on the directory before continuing.

After you select a location, click **OK** to return to the **Custom Installer Location** dialog box. The location appears in the **Folder name** field.

Click the **New Folder** button to create a new folder.

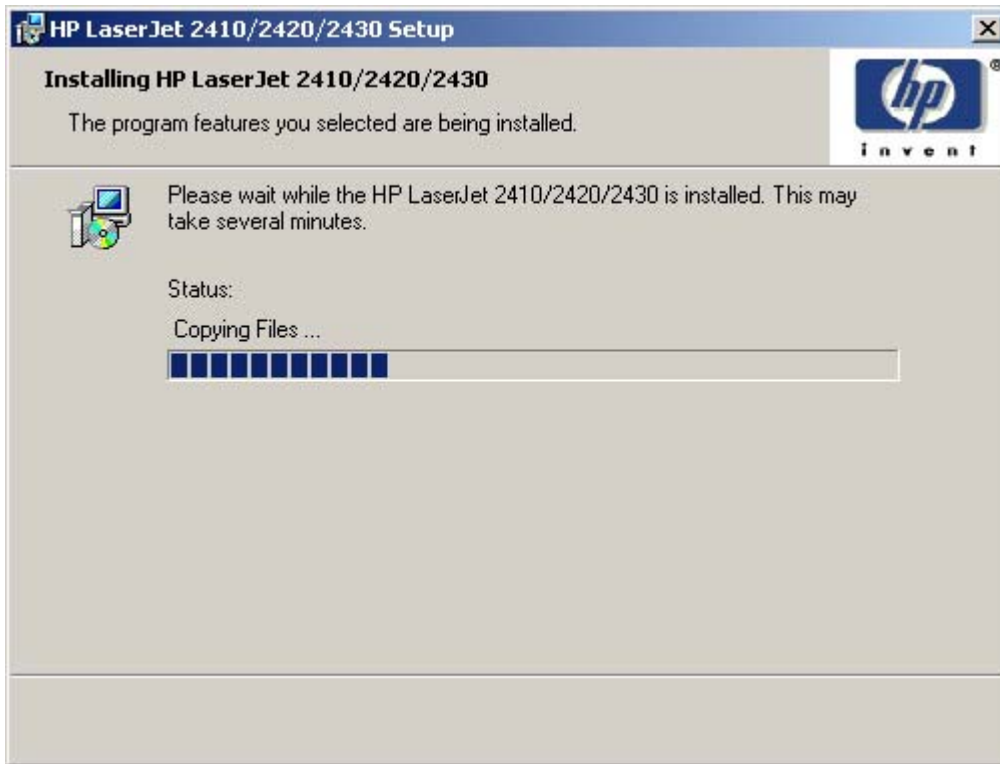


Figure 5-43 Installing dialog box

This dialog box remains on the screen until the install is complete.

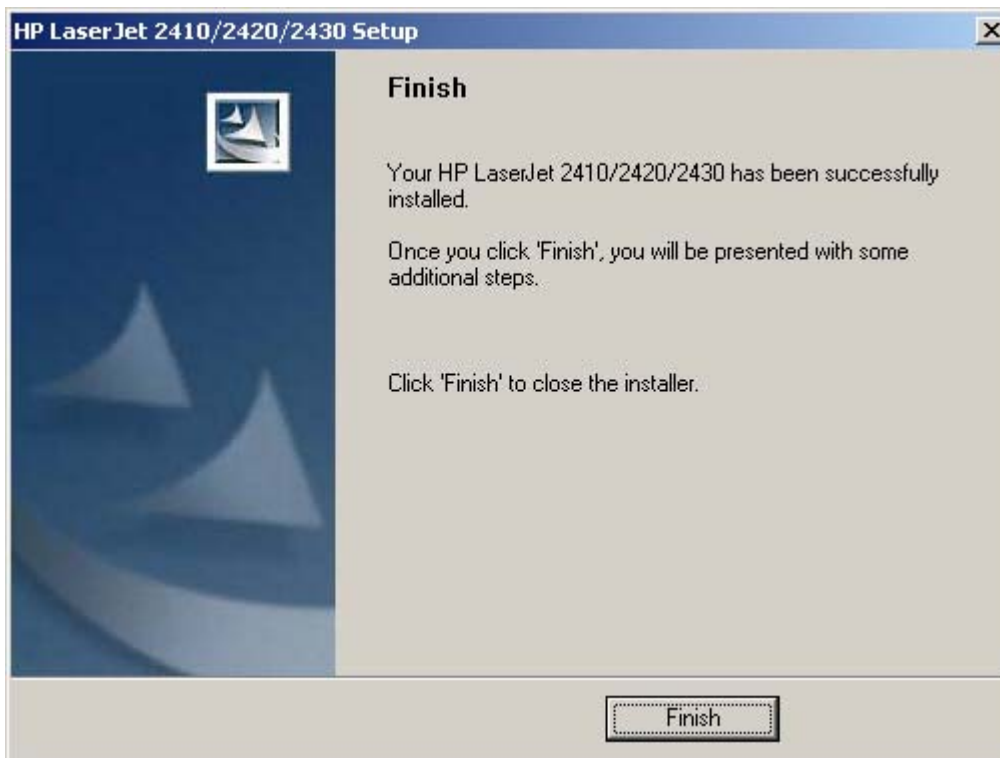


Figure 5-44 Finish dialog box

Clicking **Finish** closes the **Finish** dialog box and exits the Installer Customization Wizard.



NOTE Depending on the type of installation and the options that you select, you either will or will *not* be presented with some additional steps after you click **Finish**.

Distribution

The installation package is now ready for distribution. It is the same as the package on the CD, except that it is limited to one language, and it contains the features and options that you selected. The installation package is run silently so that it requires no user interaction. This installation method is useful when you want to use the default selections that the installer provides or when you want to run the installation without being prompted.

You can perform the silent installation in two ways:

- customized silent installer
- command-line silent installer

The response file can be renamed, but it must be in the root directory of the installer package. The name cannot contain spaces; spaces prevent the SETUP.EXE file from passing to the installer package.

End users cannot customize the command-line silent installer. The silent installer installs only the printing-system components that are included in the typical Installation. For more information, see the *HP Device Installer Customization Wizard*. This document (CUSTOMIZATION_README_ENWW.HTM) is available on the printing-system software CD in the **<language>\MANUALS** folder.

Point and Print installation for Windows 98, Me, NT 4.0, 2000, XP, and Server 2003

Point and Print is a Microsoft term that describes a two-step driver installation process. The first step is to install a shared driver on a network print server. The second step is to "point" to the print server from a network client so that the client can use the print driver.

Hewlett-Packard provides drivers that are compatible with the Point and Print feature, but this is a function of the Microsoft operating systems, not of HP print drivers. Windows NT 4.0, Windows 2000, Windows XP, and Windows Server 2003 drivers from HP are supported only on Intel® X86 processor types. Any other processor types must use Windows NT 4.0 drivers from Microsoft.

To install the print driver on a Windows NT 4.0, Windows 2000, Windows XP, Windows Server 2003 server, you must have administrator privileges. To completely install the Windows NT 4.0 print driver on the Windows NT 4.0 server (or the Windows 2000 print driver on the Windows 2000 server), you must have administrator privileges on the server. The Windows NT 4.0 Printer .INF file (or the Windows 2000 Printer .INF file) must contain the same product name as the Windows 98 or Windows Me printer .INF file.

Point and Print installation of a postscript driver is supported only with a Microsoft Windows 98 or Windows Me PS driver V4.0 or later.

In a homogenous operating system environment (one in which all of the clients and servers running the same operating system), the same print-driver version that is vended from the server to the clients in a Point and Print environment also runs and controls the print queue configuration on the server.

However, in a mixed operating system environment (one in which servers and clients might run on different operating systems), conflicts can occur when client computers run a version of the print driver that is different from the one on the print server.

With Windows NT 4.0, print drivers are executed in *kernel* mode. A kernel mode process runs in a specially privileged part of the operating system that gives the process access to all of the system resources. Consequently, a misbehaving driver can cause serious system stability problems, including operating system crashes.

In an effort to increase operating system stability, Microsoft determined that, starting with Windows 2000 and continuing with all future operating systems, print drivers would run as *user-mode* processes. User-mode drivers execute in a protected part of the operating system just like all of the normal end-user processes and software programs. A user-mode print driver that misbehaves is capable of crashing only the process in which it is running, and cannot crash the whole operating system. Because access to critical system resources is restricted, overall operating system stability is increased.

Setting a default printer

This section applies to the Windows 98, Windows Me, Windows NT 4.0, Windows 2000, Windows XP, and Windows Server 2003 operating systems.

- 1 In Windows 98, Windows Me, Windows NT 4.0, and Windows 2000 OSs, click **Start**, click **Settings**, and then click **Printers**. In Windows XP and Windows Server 2003, click **Start**, click **Control Panel**, click **Printers and Faxes** (Windows XP Professional) or **Printers and other hardware devices** (Windows XP Home).
- 2 Right-click the product that you want to set as the default printer.
- 3 Click **Set As Default**. A check mark appears next to the menu option.

6 Installation for Macintosh, Linux, and UNIX operating systems

This section provides system requirements and procedures for installing and removing the HP LaserJet 2410, 2420, and 2430 printing-system software for supported operating systems other than Windows. It also provides information about font support and system modifications. The following operating systems are supported:

- Macintosh
- Linux
- UNIX

This chapter contains information about the following topics:

- [System requirements](#)
- [Macintosh](#)

System requirements

The following are system requirements for installing and using the HP LaserJet 2410, 2420, and 2430 printing-system software on each of the supported operating systems listed below.

Macintosh

The following are the requirements for installing the HP LaserJet 2410, 2420, and 2430 printer on a Macintosh system.

- PowerPC processor
- Macintosh OS 9.x or later or Mac OS X (10.1 or later)
- 256 MB RAM
- 110 MB available disk space

Linux

For information about Linux support for the product, see the HP Linux Web site:

- www.hp.com/go/linux.

UNIX

For information about UNIX support for the HP LaserJet 2410, 2420, and 2430 printer, see the following Web site:

- www.hp.com/go/jetdirectunix_software

Macintosh

The following sections contain information about using HP LaserJet 2410, 2420, and 2430 printing software for the Macintosh OS.

Macintosh component descriptions

The product includes the following software for Macintosh computers:

- PPDs for Mac OS 9.x and Mac OS X (10.1 and later)
- PDEs for Mac OS X only (10.1 and later)

HP LaserJet PPDs

In Mac OS 9.x, postscript printer definition (PPD) files for the HP LaserJet 2410, 2420, and 2430 printer are installed to the **Printer Descriptions** folder, which is in the **Extensions** folder within the **System** folder. In Mac OS X, the PPDs are installed in **Library/Printers/PPDs/Contents/Resources:<lang>.lproj**, where **<lang>** is the appropriate localized folder.

PPDs, in combination with the driver, provide access to the product features and allow the computer to communicate with the product. An installation program for the PPDs is provided on the printing-system software CD.

For Mac OS 9.x, the Apple LaserWriter 8 driver must be installed to use the PPD file. Use the Apple LaserWriter 8 driver that came with your Macintosh. For Mac OS X, use **Print Center** to print.

PDEs

Printer Dialog Extensions (PDEs) are code plug-ins (for Mac OS X only, 10.1 and later) that provide access to product features, such as number of copies, duplexing, and quality settings.

HP Toolbox

The HP Toolbox is a series of Web pages and supporting Windows-based and Macintosh-based software programs (for Mac OS X only, V10.2 and later). The HP Toolbox provides links to product status information and enables you to receive alerts for product events.

For more information about the HP Toolbox, see the [HP Toolbox](#) section of this guide.

HP Embedded Web Server

Macintosh OS 9.x operating systems support the HP Embedded Web Server (HP EWS). Use the HP LaserJet Utility to control features that are not available in the driver. Use the HP EWS to perform the following tasks:

- Name the product, assign it to a zone on the network, and change product settings.
- Set a password for the product.
- From the computer, lock out functions on the control panel to prevent unauthorized access (see the printing software help).

Install notes

This text file contains important information about product features, instructions for installing the printing-system software, and technical assistance.

Online help

This HTML-based help system replaces the Apple Guide help system that was provided with Mac OS 9.x HP products. The help system is in English only, and can be viewed through a browser or in the Macintosh OS Help Center.

Screen fonts

These screen fonts are available only for Macintosh computers and Macintosh-compatible computers (Mac OS classic only). Because the screen fonts match your printing fonts, you can see onscreen how your printed page looks.

Font support

To ensure that you can use all of the installed fonts with the HP LaserJet 2410, 2420, and 2430 printer, the Macintosh printing system includes the standard 35 screen fonts in 11 families:

- Avant Garde
- Helvetica Narrow
- Times
- Bookman
- New Century Schoolbook
- Zapf Chancery
- Courier
- Palatino
- Zapf Dingbats
- Helvetica
- Symbol

The Macintosh printing system also includes the HP 45 XPS font families:

- Clarendon Condensed Bold
- Symbol
- Albertus Medium
- Coronet
- Times New Roman
- Antique Olive
- Courier

- Univers
- Arial
- Garamond
- Univers Condensed
- CG Omega
- Letter Gothic
- Wingdings
- CG Times
- Marigold

The following bitmap screen fonts reside on the HP LaserJet 2410, 2420, and 2430 printers:

- ITC Avant Garde Gothic Book
- Helvetica
- Palatino
- ITC Avant Garde Gothic Book Oblique
- Helvetica Bold
- Palatino Bold
- ITC Avant Garde Gothic Demi
- Helvetica Bold Oblique
- Palatino Bold Italic
- ITC Avant Garde Gothic Demi Oblique
- Helvetica Oblique
- Palatino Italic
- ITC Bookman Demi
- Helvetica Narrow
- Symbol
- ITC Bookman Demi Italic
- Helvetica Narrow Bold
- Times Bold
- ITC Bookman Light
- Helvetica Narrow Bold Oblique
- Times Bold Italic

- ITC Bookman Light Italic
- Helvetica Narrow Oblique
- Times Italic
- Courier
- New Century Schoolbook Bold
- Times Roman
- Courier Bold
- New Century Schoolbook Bold Italic
- ITC Zapf Chancery Medium Italic
- Courier Bold Oblique
- New Century Schoolbook Italic
- ITC Zapf Dingbats
- Courier Oblique
- New Century Schoolbook Roman

The following fonts reside on the HP LaserJet 2410, 2420, and 2430 printers, but can be used by Macintosh platforms only if you install additional screen fonts. You can either use these screen fonts directly from the HP LaserJet 2410, 2420, and 2430 printer software CD or obtain them from www.hp.com/support/lj2410 for the HP LaserJet 2410 printer, www.hp.com/support/lj2420 for the HP LaserJet 2420 printer, or www.hp.com/support/lj2430 for the HP LaserJet 2430 printer.

- Albertus Extra Bold
- CG Times Italic
- Marigold
- Albertus Medium
- Clarendon Condensed Bold
- Symbol
- Antique Olive
- Coronet
- Times New Roman
- Antique Olive Bold
- Courier
- Times New Roman Bold
- Antique Olive Italic
- Courier Bold

- Times New Roman Bold Italic
- Arial Courier Bold Oblique
- Times New Roman Italic
- Arial Bold
- Courier Italic
- Univers Bold
- Arial Bold Italic
- Garamond Antiqua
- Univers Bold Italic
- Arial Italic
- Garamond Halbfett
- Univers Condensed Bold Italic
- CG Omega
- Garamond Kursiv
- Univers Condensed Medium
- CG Omega Bold
- Garamond Kursiv Halbfett
- Univers Condensed Medium Italic
- CG Omega Bold Italic
- Letter Gothic
- Univers Medium
- CG Omega Italic
- Letter Gothic Bold
- Univers Medium Italic
- CG Times
- Letter Gothic Italic
- Univers Italic
- CG Times Bold
- CG Times Bold Italic
- Wingdings
- CG Times Bold Italic

Installing the Macintosh printing system

On a Macintosh-compatible computer, the installation procedures are the same for a network administrator, a network client, and a single user. Install the software on any computer that has access rights to the printer.



NOTE If the computer is connected to the printer by a LocalTalk (printer port) or EtherTalk connection, you must configure the AppleTalk (or network) control panel for the correct connection to communicate with the product. You must set up the HP LaserJet 2410, 2420, and 2430 printer, connect it to the computer or network, and turn it on before the software is installed. Macintosh OS systems do not support parallel connections. You can use a cross-over Ethernet cable for a direct connection to a computer running the Macintosh OS.

The Macintosh partition contains an installer program for each language. Find the appropriate language for the operating system that is being used, and then use the installer program for that language.



NOTE Detailed installation steps can be found in [Mac OS Classic installation](#) or [Mac OS X installation](#).

To install the HP LaserJet printing-system software for the Macintosh OS

- 1 Insert the CD that came with the Macintosh printing-system software into the CD-ROM drive.



NOTE If the CD screen does not open automatically, double-click the **hp LaserJet 24X0** CD-ROM icon on the desktop to open the CD-ROM window.

- 2 Open the **HP LaserJet Installers** folder. Find the **Installer** icon for the appropriate language. Double-click the **Installer** icon to launch the Installer. In the opening dialog, click **Continue**.



NOTE The **Continue** button appears only after you type the "Admin" password in the **Authenticate** dialog box (OS X, V10.1 and later only).

- 3 The main **Installer** dialog box appears. Click **Install** and then follow the onscreen instructions to complete the software installation.



NOTE If you are installing the printing-system software on a Macintosh OS X system, please be patient. The installer must perform an initial search of the computer for up to 1 minute. During this time the installer might appear to be stalled.

- 4 When software installation is complete, click **Quit**. Select one of the following options to finish setting up your product:

- Set up an AppleTalk networked printer with Mac OS 9.x
- Set up a printer with Mac OS X

To set up an AppleTalk networked Printer with Mac OS 9.x

- 1 Open the **Chooser** from within the **Apple Menu**.
- 2 Click **LaserWriter 8** on the left side of the **Chooser** dialog box.

- 3 Click the appropriate **Zone** to select it, if required.
- 4 Click your product name from the list that appears on the right side of the **Chooser** dialog box, and then click **Create**.

To set up a Printer with Mac OS X

- 1 In the **Applications** folder, open the **Utilities** folder, and then run the **Print Center**.
- 2 Click **Add** (in Mac OS X 10.2) or **Add Printer** (in Mac OS X 10.1).
- 3 From the top pop-up menu, select the appropriate connection type for your product.
- 4 Select or type in any other information as indicated for the type of connection for your product. For example, if you are using an AppleTalk connection, select your product zone; or if you are using IP Printing, type in an IP address.



NOTE If the automatic selection fails, or if you want to manually select a PPD file, click the **Printer Model** pop-up menu, select **HP**, and then select the PPD file you want to add.

- 5 Click **Add**.
- 6 To configure installable options in Mac OS X 10.2 and later, such as a duplexing unit or optional paper trays, click the appropriate product icon in the **Print Center Printer List** window. Select **Show Info** from the **Printers** menu, and then select the appropriate options from the **Installable Options** popup menu.
- 7 Configure the options, and then click **Apply Changes**.

To set up an IP/LPR networked Printer with Mac OS 9.x

- 1 Run the Apple Desktop Printer utility.
- 2 Click **Printer (LPR)**, and then click **OK**.
- 3 Click **Change** in the LPR Printer Selection area.
- 4 Click the appropriate IP address and Queue, and then click **OK**.
- 5 Click **Change** and scroll through the list of products.
- 6 Click the correct product, and then click **Select**.
- 7 Click **Create**.

Uninstalling the Macintosh printing system

To uninstall the Macintosh Printing System, drag the PPDs and the unwanted component(s) to **Trash**.

In-box disk layout

The Macintosh Printing System consists of two files: the HP LaserJet Installer - Integrated installer program and a Toolbox installer program.

Mac OS Classic installation

This section provides information about the various installation dialog box sequences for the Mac OS Classic.

Main Install dialog box sequence

This subsection provides information about the Macintosh installation dialog box sequence for the Easy Install (the typical installation option).



Figure 6-1 HP LaserJet for Macintosh installer splash screen dialog box

Click **Continue** to open the **HP LaserJet Installer** dialog box.



Figure 6-2 HP LaserJet Installer dialog box (easy install)

If you want to install the files in a location other than the default "Macintosh HD," click **Install Location:** to specify a location.

You can also select the **Custom Install** option from the drop-down menu at the upper left (shown in the following illustration). **Easy Install** is the default.

Click **Install** to start the installation on the selected disk.

Click **Quit** to quit the Installer without making changes to the system.



Figure 6-3 HP LaserJet Installer dialog box (custom install)

If you want to install the files in a location other than the default "Macintosh HD," click **Install Location:** to specify a location.

Select which of the available components to install by using the check boxes in the list.

Click **Read Me** to open the Installer readme file.

Click **Install** to start the installation on the selected disk.

Click **Quit** to quit the Installer without making any changes to the system.

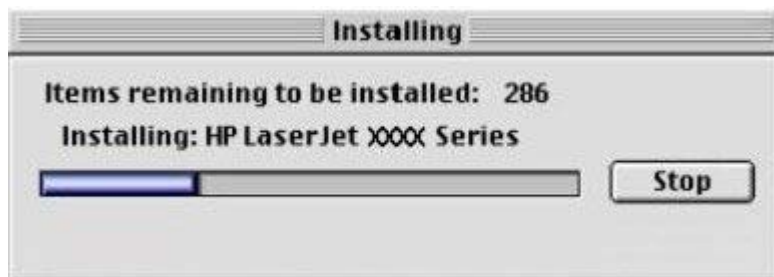


Figure 6-4 Installing dialog box

This dialog box shows installation progress. No action is required unless you want to stop the installation. Click **Stop** to interrupt the installation-file copy process.



Figure 6-5 Installation was successful dialog box

Click **Quit** to exit the Installer. The Printer Setup Assistant opens.

Click **Continue** to return to the HP LaserJet Installer.

HP LaserJet Screen Fonts Installer dialog box sequence

This section provides information about the installation dialog box sequence for the HP Screen Font Installer.



Figure 6-6 HP LaserJet Screen Fonts splash screen dialog box

Click **Continue** to open the **HP LaserJet Screen Fonts** dialog box.

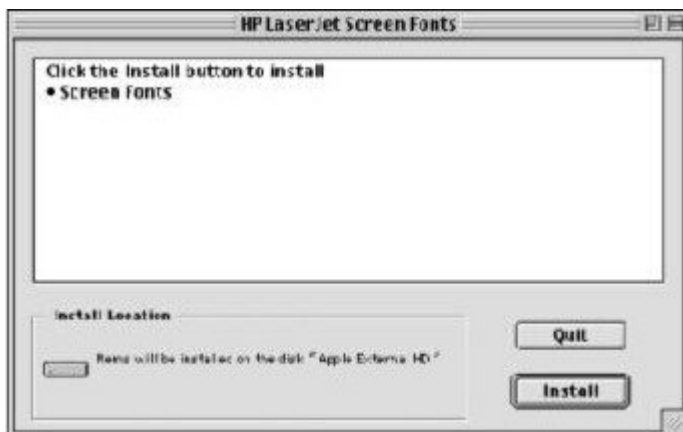


Figure 6-7 HP LaserJet Screen Fonts installer dialog box (1 of 2)

Click **Install** to start the installation.

Click **Quit** to quit the Installer without making changes to the system.

When you click **Install**, an installation progress bar dialog box appears briefly. Click **Stop** to interrupt the installation-file copy process.

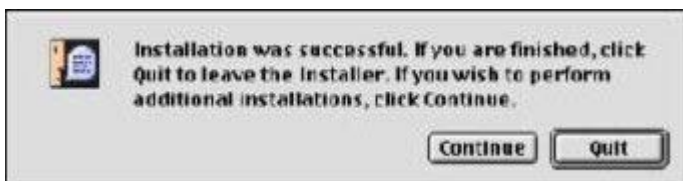


Figure 6-8 Installation was successful dialog box

Click **Quit** to exit the Installer.

Click **Continue** to return to the HP LaserJet Screen Fonts installer.

Mac OS X installation

This section provides information about the various installation dialog box sequences for the Mac OS X operating system.

Main Install dialog box sequence

This section provides information about the Macintosh installation dialog box sequence for the Easy Install (the typical installation option).



Figure 6-9 Installer CD-ROM icon

If the CD screen does not open automatically when the CD is put into the CD-ROM drive, double-click the **hp LaserJet 24X0** CD-ROM icon on the desktop to open the installer folder.

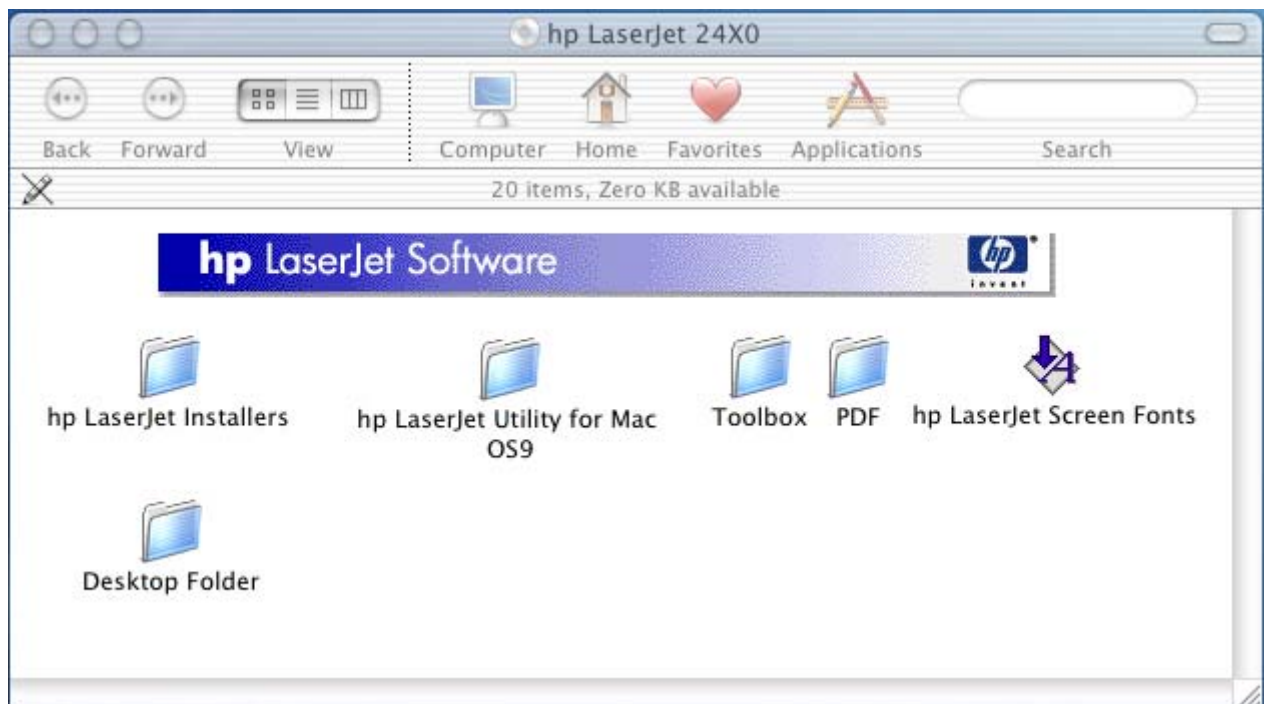


Figure 6-10 hp LaserJet 24X0 folder

In the **hp LaserJet 4X50** folder, double click the **hp LaserJet Installers** folder to open it.



Figure 6-11 hp LaserJet Installers folder

In the **hp LaserJet Installers** folder, double-click the installer icon for the language you want to use. This begins the install process.

When you run the installer you might first see the **Authenticate** dialog box (OS X V10.1 and later only).



Figure 6-12 Authenticate dialog box

Enter the correct password and click **OK** to continue. The install splash screen appears.

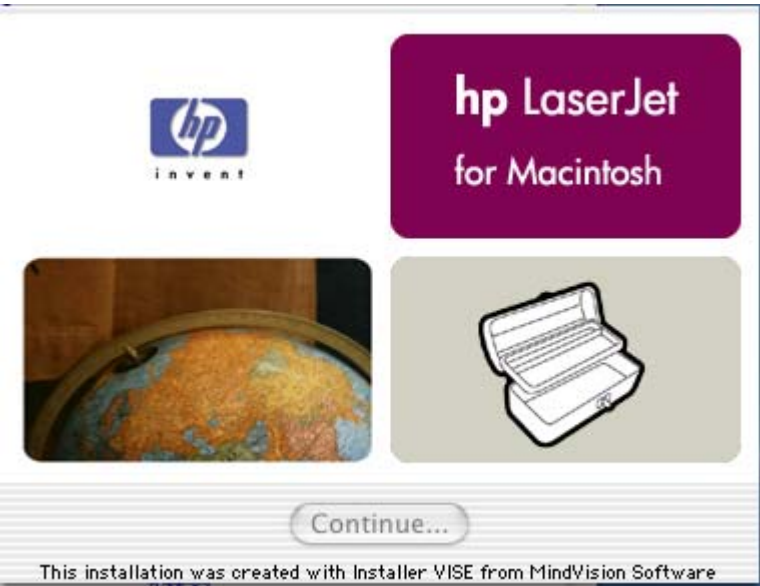


Figure 6-13 HP LaserJet for Macintosh installer splash screen dialog box

Click **Continue**. The software **License** dialog box appears.

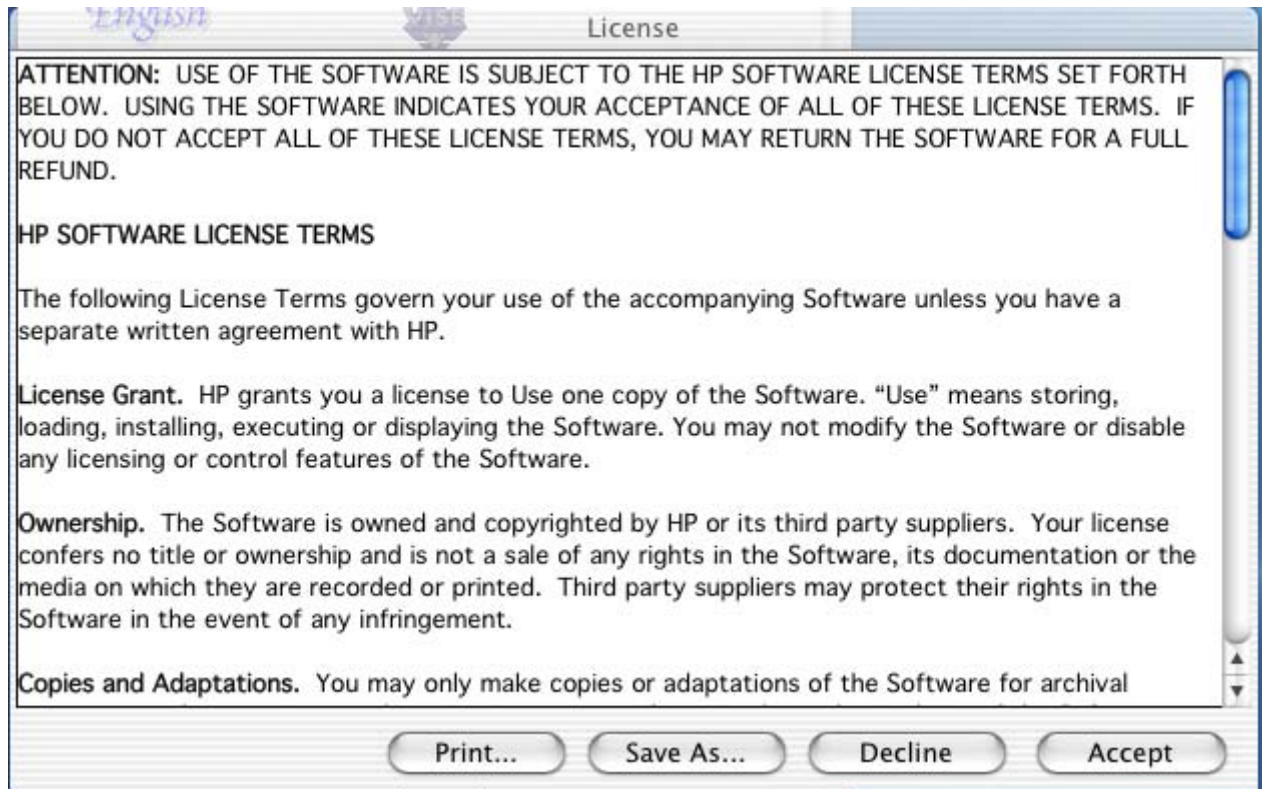


Figure 6-14 License dialog box

Click **Print...** to open the **Page Setup** dialog box for your default printer and print a copy of the license agreement.

Click **Save As...** to open the system **Save** dialog box and save the license agreement to disk.

Click **Decline** to end the installation process and close the installer.

Click **Accept** to continue the installation. The **hp LaserJet Installer** dialog box appears.



Figure 6-15 HP LaserJet Installer dialog box (easy install)

If you want to install the files in a location other than the default "Macintosh HD," click the **Install Location** drop-down menu to specify a location.

You can also select a **Custom Install** option from the drop-down menu at upper left (shown in the following illustration).

Click **Install** to start the installation on the selected disk.

Click **Quit** to quit the Installer without making changes to the system.



Figure 6-16 HP LaserJet Installer dialog box (custom install)

Select the install location by using the **Install Location** drop-down menu (if the desired location is different from "Macintosh HD").

Select the components that you want to install by using the check boxes in the list.

Click **Install** to start the installation on the selected disk.

Click **Quit** to quit the Installer without making any changes to the system.

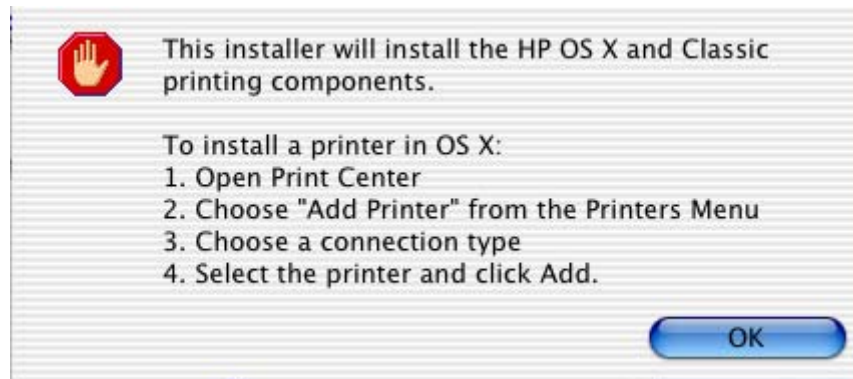


Figure 6-17 Install verification dialog box

Before the installation begins, a verification screen appears. It verifies what will be installed and lists the additional steps that will need to be taken to install the product. Click **OK** to continue.



Figure 6-18 Installing dialog box

This dialog box shows installation progress. No action is required unless you want to stop the installation. Click **Stop** to interrupt the installation-file copy process.

When installation is complete, a popup message appears stating that the installation was successful.



Figure 6-19 Installation success message

Click **Quit** to exit the installer.

Click **Continue** to return to the HP LaserJet Installer.

7 Engineering Detail

Introduction

This chapter contains information about the following topics:

- [Media attributes](#)
- [HP Toolbox](#)

Media attributes

This section includes the following information about media attributes:

- [Paper sources and destinations](#)
- [Paper-tray configurations](#)
- [Paper-source commands](#)
- [Media types and sizes](#)

Paper sources and destinations

The following table indicates the standard and optional paper sources and destinations for the HP LaserJet 2410, 2420, and 2430 printers:

Table 7-1 HP LaserJet 2410, 2420, and 2430 printer paper sources and destinations

Paper sources	Multipurpose tray (tray 1)	Standard
	250-sheet paper tray (tray 2)	Standard
	500-sheet paper tray (tray 3)	Optional
Paper destinations	main output bin	Standard

Paper-tray configurations

The HP LaserJet 2410 and the HP LaserJet 2420 printer models come with a 100-sheet standard multipurpose tray (tray 1) and a 250-sheet paper tray (tray 2). The HP LaserJet 2430 printer models come with an additional 500-sheet paper tray (tray 3).

The following table indicates the possible paper tray configurations for the HP LaserJet 2410, 2420, and 2430 printers:

Table 7-2 Media tray configurations for the HP LaserJet 2410, 2420, and 2430 printer

Product	Tray number	Tray type	Standard/optional
HP LaserJet 2410 printer	Tray 1	Multipurpose tray	Standard
	Tray 2	250-sheet tray	Standard
	Tray 3	500-sheet tray	Optional
HP LaserJet 2420 printer	Tray 1	Multipurpose tray	Standard
	Tray 2	250-sheet tray	Standard
	Tray 3	500-sheet tray	Optional
HP LaserJet 2420d printer	Tray 1	Multipurpose tray	Standard
	Tray 2	250-sheet tray	Standard
	Tray 3	500-sheet tray	Optional
HP LaserJet 2420n printer	Tray 1	Multipurpose tray	Standard
	Tray 2	250-sheet tray	Standard
	Tray 3	500-sheet tray	Optional
HP LaserJet 2420dn printer	Tray 1	Multipurpose tray	Standard
	Tray 2	250-sheet tray	Standard
	Tray 3	500-sheet tray	Optional
HP LaserJet 2430t printer	Tray 1	Multipurpose tray	Standard
	Tray 2	250-sheet tray	Standard
	Tray 3	500-sheet tray	Standard
HP LaserJet 2430tn printer	Tray 1	Multipurpose tray	Standard
	Tray 2	250-sheet tray	Standard
	Tray 3	500-sheet tray	Standard
HP LaserJet 2430dtn printer	Tray 1	Multipurpose tray	Standard
	Tray 2	250-sheet tray	Standard
	Tray 3	500-sheet tray	Standard



NOTE A duplexing unit is standard for the HP LaserJet 2420d, 2420dn, and 2430dtn printers.

Paper-source commands

The PCL 6 attribute for paper source is `ubyte # MediaSource` or `ubyte_array "string" MediaSource`. See the following table for values of #. For example, `"ubyte 4 MediaSource"` is the command for tray 2.

The PCL 5 escape sequence for paper source is Esc&l#H (the "l" is a lowercase "L" rather than the numeral "1"). See the following table for values of #. For example, Esc&l5H is the command for tray 3.

The PostScript command for paper source is /MediaPosition # /ManualFeed true | false.

Table 7-3 Paper-source commands

Paper source	PCL 6 ubyte # MediaSource or ubyte_array "string" MediaSource ¹	PCL 5 Esc&l#H	PostScript /MediaPosition # / ManualFeed true false or null
Tray 1	3	4	3
Tray 2 (250-sheet)	4	1	0
Tray 3 (500-sheet) ²	5	5	1
Auto Select	1	7	null
Manual feed in tray 1	2	2	3

¹ For the string value, you must use include the quotation marks around the variable. For example, ubyte_array "TRAY5" MediaSource is the PCL 6 command for Tray 5.

² Tray 3 is optional for the 2410 and 2420 model printers.

Media types and sizes

The tables in this section provide information about media features, media attributes, and paper-handling constraints for the HP LaserJet 2410, 2420, and 2430 printers.

Driver features and attributes

The following table lists the features and attributes of various media listed under the **Size Is:** drop-down menu on the **Paper** tab. The list order for the drop-down menu can vary, depending on the product and operating system. The list contains all of the following sizes, and might contain sizes from other drivers.

Table 7-4 Supported features and attributes by driver

Paper sizes ¹	Width	Height	PCL 6 ²
Letter	216 mm (8.5 inches)	279 mm (11.0 inches)	"Letter"
16K	197 mm (7.75 inches)	273 mm (10.75 inches)	"16K"
8.5 x 13	216 mm (8.5 inches)	330 mm (13 inches)	"8.5x13"
A4	210 mm (8.27 inches)	297 mm (11.69 inches)	"A4"
A5	148 mm	210 mm	"A5"

Table 7-4 Supported features and attributes by driver (continued)

Paper sizes ¹	Width	Height	PCL 6 ²
	(5.83 inches)	(8.27 inches)	
B5 (JIS)	182 mm (7.17 inches)	257 mm (10.12 inches)	"B5 (JIS)"
Double Japan Postcard Rotated	148 mm (5.83 inches)	200 mm (7.87 inches)	"Double Japan Postcard Rotated"
Envelope #10	105 mm (4.13 inches)	241 mm (9.5 inches)	"Envelope #10"
Envelope B5	176 mm (6.93 inches)	250 mm (9.84 inches)	"Envelope B5"
Envelope C5	162 mm (6.38 inches)	229 mm (9.02 inches)	"Envelope C5"
Envelope DL	110 mm (4.33 inches)	220 mm (8.66 inches)	"Envelope DL"
Envelope Monarch	99 mm (3.88 inches)	190 mm (7.5 inches)	"Envelope Monarch"
Executive	185 mm (7.25 inches)	266 mm (10.5 inches)	"Executive"
Executive (JIS)	216 mm (8.5 inches)	330 mm (12.99 inches)	"Executive (JIS)"
Legal	216 mm (8.5 inches)	355 mm (14.0 inches)	"Legal"
Statement	215.9 mm (8.5 inches)	139.7 mm (5.5 inches)	"Statement"
Custom	Minimum: 76.2 mm (3.0 inches) Maximum: 215.9 mm (8.5 inches)	Minimum: 127 mm (5.0 inches) Maximum: 355.6 mm (14.0 inches)	³

¹ For all paper sizes, the PCL 6 margins are 100 dots at 600 dots-per-inch.

² The PCL 6 command for paper size is `ubyte_array "String" MediaSize`. The values in this column are the values for "String."

³ For custom sizes, the PCL 6 Driver specifies actual dimensions (for example, for 8 by 9 inch custom size, `real32_xy 8.0 9.0 CustomMediaSize ubyte elnch CustomMediaSizeUnits`).

Table 7-5 Supported input media types

Media types (command string)	Tray 1	Tray 2 (250-sheet)	Tray 3 (500-sheet)	Duplexing unit	Manual duplex
Plain	Y	Y	Y	Y	Y
Preprinted	Y	Y	Y	Y	Y
Letterhead	Y	Y	Y	Y	Y
Transparency	Y	N	N	N	N
Prepunched	Y	Y	Y	Y	Y
Labels	Y	N	N	N	N
Bond	Y	Y	Y	Y	Y
Recycled	Y	Y	Y	Y	Y
Color	Y	Y	Y	Y	Y
Cardstock ¹	Y	N	N	N	Y
Envelope	Y	N	N	N	N
Light ²	Y	Y	Y	Y	Y
Rough	Y	Y	Y	Y	Y

¹ Tray 1 accepts cardstock between 164 g/m² (45 lb.) and 200 g/m² (53 lb.).

² Light paper is between 60 g/m² (16 lb.) and 75 g/m² (20 lb.).

Custom paper size support

The following table shows custom paper sizes that are available for the HP LaserJet 2410, 2420, and 2430 printer:

Table 7-6 Custom paper size support

Tray	Dimensions	Minimum	Maximum
Tray 1 (multipurpose)	Width	76.2 mm (3 inches)	215.9 mm (8.5 inches)
	Height	127.0 mm (5 inches)	355.6 mm (14 inches)
Tray 2 (250-sheet)	Width	Custom sizes not supported	Custom sizes not supported
	Height	Custom sizes not supported	Custom sizes not supported
Tray 3 (500-sheet)	Width	Custom sizes not supported	Custom sizes not supported
	Height	Custom sizes not supported	Custom sizes not supported
Duplexing unit	Width	Custom sizes not supported	Custom sizes not supported
	Height	Custom sizes not supported	Custom sizes not supported

Media-type commands

The PCL 5e escape sequence for media type is "Esc&n#Wdpapertype", where "n#" is the number of characters in the paper type plus 1. For example, in the sequence "Esc&n6WdPlain", "Plain" has 5 letters plus 1, for a total of 6.

Table 7-7 Media-type commands

Esc&	n#	Wd	Paper type
Esc&	6	Wd	Plain
Esc&	11	Wd	Preprinted
Esc&	11	Wd	Letterhead
Esc&	13	Wd	Transparency ¹
Esc&	11	Wd	Prepunched
Esc&	7	Wd	Labels
Esc&	5	Wd	Bond
Esc&	9	Wd	Recycled
Esc&	6	Wd	Color
Esc&	11	Wd	Cardstock ²
Esc&	7	Wd	Rough
Esc&	9	Wd	Envelope
Esc&	6	Wd	Light

¹ You must spell out the word "Transparency" in the string, although it is abbreviated as TRNSPRNCY on the control panel.

² The correct command for cardstock is "Esc&n11WdCard Stock", with a space between the "d" and the "S", and with an uppercase "S".

HP Toolbox

This section presents engineering detail for the following topics:

- [Enabling or disabling HP Toolbox support](#)
- [Manually uninstalling HP Toolbox in Macintosh Operating Systems](#)

Enabling or disabling HP Toolbox support

The registry entry HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Run, with the value HP Status controls the HP Toolbox. This entry runs HPSTATUS.EXE every time that the system is started. When you close the HP Toolbox by right-clicking the **Toolbox** tray icon and selecting **Exit**, you are prompted to restart the HP Toolbox on startup. If you select **No, don't start automatically**, this entry is removed.

To start status manually, select the **Start|Run** menu, and type HPSTATUS.

Manually uninstalling HP Toolbox in Macintosh Operating Systems

HP Toolbox must be uninstalled manually in a Macintosh OS. To uninstall HP Toolbox manually, follow these instructions:

- 1 Delete the following program:

Library/Startup Items/hp ToolboxStartup



NOTE HP Toolbox cannot be uninstalled when it is in use. Because HP Toolbox runs at startup time, either quit the program before deleting it, or move it into the trash bin and restart the computer.

- 2 Delete the following file:

Applications/Utilities/hp toolbox.webloc 3

- 3 Navigate to the Library/Printers/hp/Utilities/folder, and delete all files that have "Toolbox" in the name.

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