

hp color LaserJet
4550 • 4550n • 4550dn • 4550hdn



software
technical
reference

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HP Color LaserJet 4550/4550N/4550DN/4550HDN Software Technical Reference

Purpose and scope

This technical reference provides information about and troubleshooting tips for the software of the HP Color LaserJet 4550/4550N/4550DN/4550HDN Printer series. The following information is included in this technical reference:

- Driver and platform Descriptions with system modifications
- Procedures for installing and removing HP Color LaserJet 4550/4550N/4550DN/4550HDN software components
- Descriptions of problems that might arise while using the printer and known solutions to those problems
- Descriptions of known software bugs and workarounds
- Each printer model is slightly different, as explained below. The system software is written to accommodate these differences:
- The HP Color LaserJet 4550 printer is the base model. It is PCL and PS ready, includes 64 MB RAM and features Memory Enhancement Technology (MEt). Memory can expand to 192 MB.
- The HP Color LaserJet 4550N Printer is similar to the base model. In addition to the base model, it includes an HP Jet Direct Card, and can expand memory to 192 MB.
- The HP Color LaserJet 4550DN Printer is similar to the 4550N. IN addition to the 4550N, it includes 128 MB of RAM, the HP LaserJet Duplex Printing Accessory and the HP 500-Sheet Paper Feeder.
- The HP Color LaserJet 4550HDN Printer is the same as the 4550DN with the addition of the HP LaserJet Hard Drive Accessory.

This reference is prepared in an electronic format to serve as a quick reference tool for Customer Care Center (CCC) agents, support engineers, system administrators, MIS personnel, Help desks, and HP Color LaserJet 4550/4550N/4550DN/4550HDN end users.

Software description

The printer comes with software and installers for Windows, Windows NT, and Macintosh systems. The OS/2 system is supported but is available only through Internet download. For particular information about a system's installer, drivers, and components, locate the section that corresponds to that system.

Platforms (operating systems) supported

The following systems support a full-feature configuration of the HP printer software, which includes HP PCL 5c, HP PCL 6 and PS drivers:

- Windows 2000
- Windows 95, Windows 98, and Windows Millennium
- Windows NT Workstation 4.0
- Windows 2000
- IBM OS/2 2.0 or greater

The following systems support a limited configuration of the HP printer software, which includes HP PCL 5c and PS drivers:

- Windows 3.1x (includes Windows 3.1)

- Windows NT Workstation 3.51

The following systems support a PS emulation configuration of the printer software:

- Macintosh OS System 7.5.3 and later

Printing system components

Printing system and installer

Printing system

HP Color LaserJet 4550 Printing System version 1.0

Installer

HP Color LaserJet 4550 Installer version 1.0

Unattended install

Silent Install allows you to configure Setup to run without user interaction. This installation method is useful when you want to use the default selections provided by Setup or when you want to run the installation without being prompted. A system administrator can also create a custom disk image containing specific drivers and utilities, allowing you to run Setup without further interaction.

Silent installation can be performed in two ways:

Customized silent install

This method lets you create a customized silent installer allowing the selection of operating system, language, printer models, drivers, and utilities. Network administrators can create a customized silent installer to be used by their clients without any intervention.

Command line silent install

This method cannot be customized and only installs the components in the Typical Install option without any user intervention.

NOTE: Values that follow equal signs (=) in a command line must not contain intervening spaces.

Method 1: Command line:

```
<CD-ROOT>/SETUP/SETUP.EXE /U /PORT=XXXX /PRINTER=N /PD=N
```

Method 2: Setup.lst

Use the SETUP.1ST file to specify command line arguments to the installer for an unattended installation. You can send command line arguments in one of the following ways:

- Send the command directly to the installer.
- Send the command using the SETUP.1ST file.
- Use a combination of the two.

For example, this file contains two options: /port and /printer. The installer operates as normal because the /u option has not been specified. If you use setup /u for the installer, it operates in unattended mode and uses the two values specified in the Defaults section of the SETUP.1ST file. If you use setup /u /printer=1 for the installer, it operates in unattended mode and chooses the second printer from the list below. (The options specified on the command line override the options specified in the SETUP.1ST file.) The options available (see below) can also include the /u option. Using this option key makes the installer always operate as unattended.

The following Descriptions explain the available options:

- **/u** Signals the installer to use the specified port and printer given on the command line (or in this file), and use all default selections. Installation then proceeds without prompting the user.
- **/port=xxxx** Used to specify the default port when doing an unattended install. The value specified by xxxx should be a valid port and should contain no spaces.
- **/printer=n** Used to specify the default printer when doing an unattended install. The value specified by n is an integer that references the list of available printers. For example, the following printers are available for the HP Color LaserJet 4550 installation:

0 = HP Color LaserJet 4550
 1 = HP Color LaserJet 4550N
 2 = HP Color LaserJet 4550DN
 3 = HP Color LaserJet 4550HDN

- **/pd=n** Used to specify whether the selected printer is the default printer, when you have multiple printers connected to your network. The value specified by n is an integer (i.e., 0 or 1). For this argument, entering 1 sets the selected printer as the default printer. Entering zero sets the printer as a non-default printer.

You can preset these options in the SETUP.1ST file located on in the root directory of the CD-ROM. In the [Defaults] section, add the following syntax:

```
[Defaults]
Options= /port=<value> /printer=<number> /pd=<number>
```

Installer software components

The common installer, shown in Figures 1-3, is designed to provide a simple and consistent method of installing printers across the product line. This new installer offers several improvements over the Color LaserJet 4500 series:

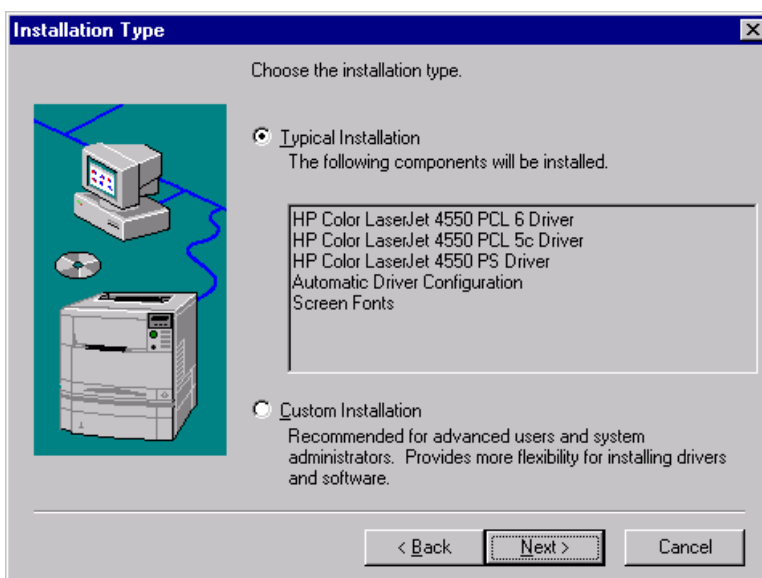
- Less interaction is required during the simplified installation using the Typical installation.
- The installer is Web enabled, so the user has the option to compare the CD-ROM contents to the HP web site and load the most current driver version.
- Network Connection is integrated so that users will be able to install drivers and connect to a network printer as part of a single process.

In addition to these new features, the common installer offers:

- Auto-sensing of the user's Windows operating system environment and language. (Windows 95/98, Windows NT 4.0, Windows 2000, Windows Millennium only) in all 18 CLJ 4550 languages.
- Full localization and enabling for two-byte fonts.
- Customization utility for copying drivers to other locations.
- Robust de-installer utility.
- Web Registration site launching.

Figure 1: Installer Main Screen



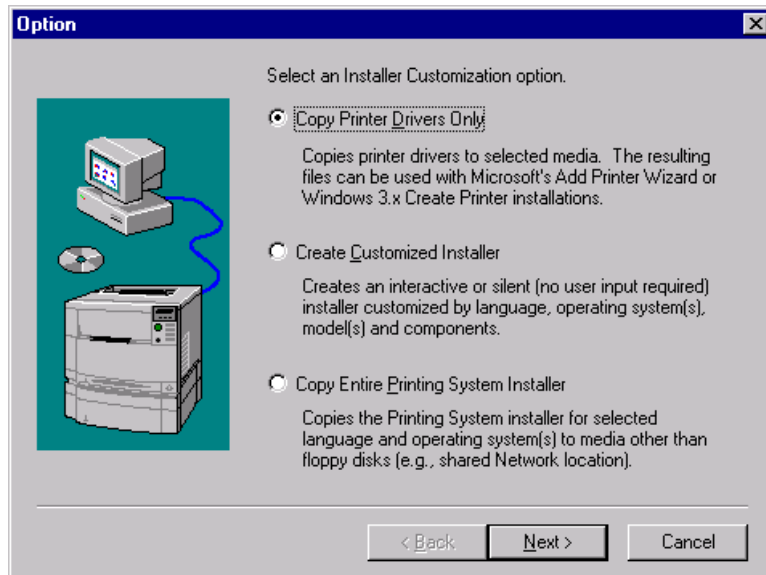
Figure 2: Installation Type dialog box

Install Printer – This wizard guides you through the installation of your HP color LaserJet 4550 Printing System. Only the necessary software will be installed.

- Register Product: Register your HP Color LaserJet 4550 through the Internet.
- View Documentation: View the HP Color LaserJet 4550 Documentation.
- Customization Utility: Create a custom software Installer for the HP color LaserJet 4550 that can be copied to other media like floppy disks, a local hard drive, or a network drive.
- Optional Software: To increase the productivity and get the most out of your HP color LaserJet 4550 printer, view a list of Optional Software available for Installation.

The Customization Utility options are shown below.

Figure 3: Typical Install options



Bidirectional (Bidi) Communication for the PCL 6 and PCL 5c Windows Drivers

Automatic Driver Configuration and Job Status and Alerts use bidirectional communications software. The Typical Installation installs all of the above components which includes Automatic Driver Configuration, which contain the bi-directional software. These features can be unselected in the Custom Installation.

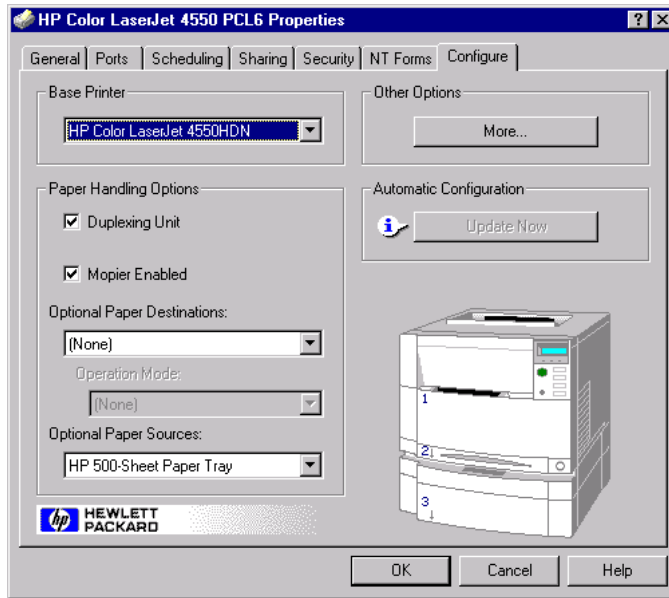
Automatic Driver Configuration

The Hewlett-Packard Color LaserJet 4550 PCL 6 and PCL 5c drivers for Windows feature bidirectional capability that provides automatic discovery and driver configuration for printer accessories at the time of installation and later if needed. For example, if the printer has a duplexer, that choice will automatically be made available in the driver. Other accessories the driver will sense are tray three, font DIMMs, and the hard drive.

NOTE: The Mopier Enabled (multiple original prints) function will be enabled only when the hard drive is enabled.

To use the Automatic Driver Configuration feature, select the button under "Automatic Configuration" on the Configure tab on the PCL 6/5c drivers. If Automatic Driver Configuration is not installed, the button will be grayed out like the screen shot below. You can also configure the accessories can by selecting the printer model number under "Base Printer" if the Automatic Driver Configuration feature was not installed.

Figure 4: PCL 6 driver Configuration tab

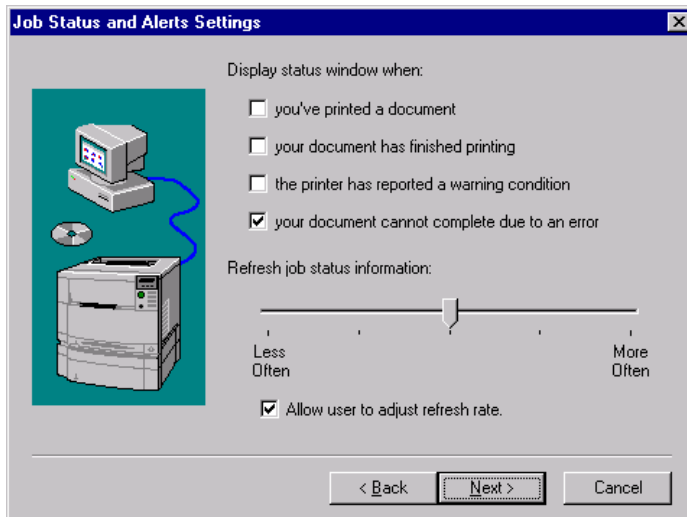


Job Status and Alerts

This feature will notify users with a pop-up message when their active print job is interrupted or completed. Interrupt conditions could include paper jam, toner out, paper out, etc. Pop-up messages will appear regardless of the application the user is in. Users can choose which alerts to deliver, or to turn them all off.

The default setting upon installation is to notify the user only when their job was unable to complete. This means that users will be unaware of the feature until they have job fail and are notified.

Figure 5: Job Status and Alerts dialog box



Example messages are:

- Toner Out: Job Stopped. Replace: (Black, Cyan, Magenta, Yellow).
- Media Out: Job Stopped. Load: (transparencies, letter paper, etc.).
- No printer response (either not connected or not functioning properly).
- Job Complete.

Pull Status

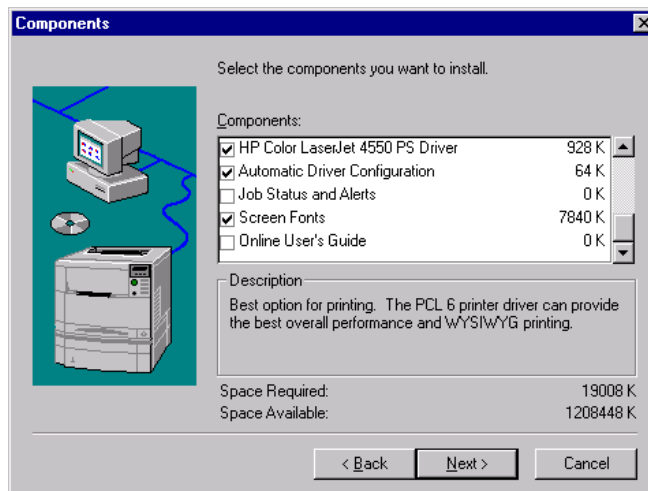
In addition to the pop-up status alerts, Job Status and Alerts allows the user to remotely view the printer status. Available information includes consumables status and any control panel messages. This information is presented in the same format as when using the embedded web server. Users will also be able to order consumables through the web.

NOTE: These features are available for a network connected printers only. Parallel connection is not supported at this time of this writing.

Custom Installation

The Custom Installation includes every option the Typical Installation includes with the addition of “Job Status and Alerts” and the “Online User’s Guide.” The Custom Installation allows the choice of what is installed.

Figure 6: Custom Installation component selection dialog box



Uninstaller

After a successful printing system installation, the Uninstall icon in the HP Color LaserJet 4550 program group allows you to select and remove any or all of the HP printing system components. To uninstall some or all HP printer software components, select the **HP Color LaserJet 4550 Uninstaller** icon from the HP Color LaserJet 4550 program group. Click **Next** and follow the prompts to continue the uninstall process.

NOTE: No uninstaller is available for driver-only installation using Windows "Add Printer" or Print Manager. For driver-only installations, delete the printer icon from the Printers folder (Windows 95/98, NT 4.0, and 2000) or Print Manager (Windows 3.x).

End-user software components

Drivers

The printing system for the HP Color LaserJet 4550 printer family includes the following printer drivers: Windows drivers

<u>Operating System</u>	<u>Driver Description</u>
Windows 2000	<ul style="list-style-type: none"> HP Color LaserJet 4550 PCL 6, PCL 5c HP Color LaserJet 4550 PS PPD for use with Microsoft PSCRIPT driver, version 5.00.1234
Windows 95, Windows 98, and Windows Millennium	<ul style="list-style-type: none"> HP Color LaserJet 4550 PCL 6, PCL 5c HP Color LaserJet 4550 PS PPD for use with Microsoft PSCRIPT driver, version 4.0
Windows NT 4.0	<ul style="list-style-type: none"> HP Color LaserJet 4550 PCL 6, PCL 5c HP Color LaserJet 4550 PS PPD for use with Microsoft PSCRIPT driver, version 4.5
Windows NT 3.51	<ul style="list-style-type: none"> HP Color LaserJet 4550 PCL 5c (available via Web only) Microsoft Unidriver, version 3.51 HP Color LaserJet 4550 PS PPD and WPD for use with Microsoft PSCRIPT driver, version 3.51
Windows 3.1x	<ul style="list-style-type: none"> HP Color LaserJet 4550 HP PCL 5c HP Color LaserJet 4550 PS WPD for use with Microsoft PSCRIPT driver, version 3.58

Postscript Printer Description for Apple Macintosh and compatible systems

<u>Driver</u>	<u>Description</u>
HP LaserJet PS PPD	<ul style="list-style-type: none"> Includes PS Printer Description files (PPDs), which are used by the driver and applications to determine the features and PS commands supported in the printer.

NOTE: HP recommends the Apple LaserWriter driver present on the Mac OS.

Additional components and features

The HP Color LaserJet 4550/4550N/4550DN/4550HDN Printing System (version 1.00) includes the following components for Windows and Macintosh environments. Following the table are descriptions of each component.

Component	Version
HP Installer	1.0
HP Online User Guide	2.0
Macintosh LaserJet Utility (Mac OS 8.0 and later)	3.5.6
Macintosh Font Installer	
Online Utility Help (HTML)	
Online Printing Help (HTML)	

Additional driver availability

Additional drivers available from the HP Web site <http://www.hp.com/support/lj4550> are:

- IBM OS/2 Drivers
- UNIX/HP-UX/LINUX driver scripts

Additional end-user software components

Installer/Uninstaller

The uninstaller easily and safely uninstalls printing system components and their related files without affecting other system components or shared system files. Removing printer files without the use of the uninstaller is not recommended and can affect the integrity of the your system files.

Screen Fonts

Eighty Latin True Type fonts are printer resident and available for PCL5, PCL6, and PostScript jobs. All 80 fonts are also available for Unix/DOS applications. When you install any driver, the Installer will include all 80 of these as screen fonts in the user OS in Windows. This ensures that the fonts displayed in the host applications have identical appearance and metrics to the fonts in the printer. Screen fonts are installed by default in the "Typical" path of the installer and are optional in the "Custom" path of the installer.

NOTE: The **FontSmart utility** is not included in the print system CD-ROM.

ICC color profiles

HP provides CMYK (hp4550c.icm) and sRGB (hp4550r.icm) ICC profiles with its Color LaserJet 4550 printers. The CMYK profile can only be used with the PostScript driver while the sRGB profile can be used with any of the HP4550 drivers. The profiles are in the ICM directory of the driver CD-ROM 1 or on the HP Web site. These profiles describe the way color will be

interpreted in the default CMYK and RGB modes. The sRGB profile matches the default RGB mode (sRGB) which is enabled with the Screen Match or Automatic Color Smart II setting in either the PCL or PostScript driver. The CMYK profile is based on the default mode, which is a SWOP simulation with a CMYK Inkset setting of FAST in the PostScript driver. These profiles can be used for color conversions in a color-managed workflow.

PANTONE®* color profiles

Automatic PANTONE®* Calibration is the default setting for HP Color LaserJet printers. This feature automatically converts PANTONE®* colors to optimal color values for the printer by recognizing the PANTONE®* color name or number in the data stream sent to the printer. The feature is activated when printing colors that were chosen using the PANTONE®* Color picker in supported graphics applications.

Applications known to generate PostScript files with graphic objects preserving the PANTONE®* name are listed below:

- Adobe Illustrator 7 & 8
- Adobe PageMaker 6.5
- CorelDraw 7, 8 & 9
- Deneba Canvas 5 (see note below)
- Macromedia Freehand 7 & 8
- Micrografx Designer
- Quark Xpress 3 & 4

NOTE: Deneba Canvas versions 6 and 7 are not compatible with the Automatic PANTONE®* Calibration feature.

The Automatic PANTONE Calibration feature only applies to graphic objects, not picture (raster) data such as scanned images and TIFF files. Adobe PhotoShop, for example, being a raster image editor, is not on the above list of applications that support the Automatic PANTONE®* calibration feature.

Some applications substitute CMYK values to the printer if they cannot provide PANTONE®* names. If your application does not pass the PANTONE®* names to the printer, the application will substitute default CMYK values to be printed for each color. In this case, the accuracy of color matching will depend on the ink emulation selected - FAST, SWOP, Euro standard, or DIC (Dainippon). If your application does not pass the PANTONE®* names to the printer, the custom CMYK values created by PANTONE®* for this printer are available in the manual PANTONE®* palettes.

PANTONE®* Application Palettes are available on the web for:

- Adobe Illustrator 4–8
- PageMaker 5, 6, and 6.5
- PhotoShop 3–5.5
- CorelDRAW 6–9
- Micrographics Designer 6–7
- Macromedia Freehand 4–8
- QuarkXpress (as EPS files) 3.3–4.04
- Deneba Canvas 3.5–6.1

- Fractal Design Painter 2–5.5
- EPSF Charts
- TIFF Charts
- PANTONE® * Color Drive
- Text Format (ASCII)
- Raw PostScript File
- Adobe Acrobat

Vector graphics such as company logos created in one of the above applications (using palettes or applications preserving the PANTONE ® * name) can be imported into Microsoft Word, PowerPoint or other MS Office applications. To do this, the color application must create an Encapsulated PostScript (EPS) file of the image for insertion as a file into the Office document using the insert file function.

NOTE: Cutting and pasting from the clipboard will not work. These tasks do not preserve the PANTONE ® * name or the CMYK palette value.

Printing System Documentation

Documentation includes a color Readme file (color.wri), printing system Readme file (readme.wri), User Guide, AcroRead, hp JetDirect Guide, hp FIR Guide, and English only Release Notes.

The Hewlett-Packard Color LaserJet 4550 color Readme file, printing system Readme file, and User Guide is localized for 18 languages: English, French, Italian, German, Spanish, Portuguese, Swedish, Dutch, Danish, Finnish, Norwegian, Polish, Czechoslovakian, Russian, Traditional Chinese (Taiwan), Simplified Chinese (China), Korean, and Japanese.

Software CD-ROMs in the printer box

Each Hewlett-Packard Color LaserJet 4550 will be shipped with the appropriate CD-ROMs in the box based on the language of the region where the printer is shipped. There are a total of three CD-ROMs.

- CD-ROM one: Printing Systems Software CD for English and Western Europe.
- CD-ROM two: Printing Systems Software and documentation for English and Northern Europe and Eastern Europe.
- CD-ROM three: Printing Systems Software and documentation CD for English and Asia.

Additional Drivers not included with the Printing System Components

OS/2

IBM provides OS/2 drivers. Available OS/2 drivers are listed on the web at <http://www.hp.com/support/lj4550> in “downloads and drivers.”

Network Administrator Software Management Tools

Network printer solutions for The CLJ 4550 use two tools:

- Web JetAdmin
- Printer embedded web server / JetDirect card embedded web server

Both tools are targeted at MIS or network administrators, although some end users will use the tools. Both tools are described in the following sections.

NOTE: Hewlett-Packard supports JetAdmin for existing products, but does not provide applets for new products released after Spring, 2000. The HP Color LaserJet 4550 series can use JetAdmin with basic functionality, but Trays and the Paper tab will not be available for configuration.

Web JetAdmin

A link to download Web JetAdmin over the web is under **Optional Software** in the Installer.

Web JetAdmin will support the key environments for the CLJ 4550 as listed in the table below.

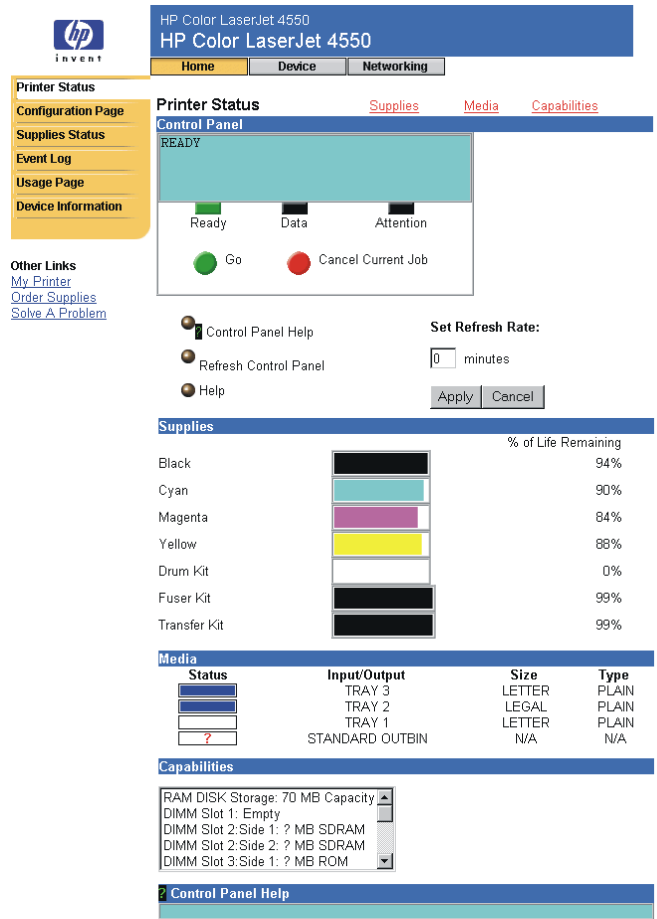
Network utility	Available from
Web JetAdmin	
Web JetAdmin for NT (all versions)	Web Only
Web JetAdmin for HP-UX	Web Only
Web JetAdmin for Solaris	Web Only
Web JetAdmin for OS/2	Web Only
LaserJet Utility for the Mac	CD-ROM, Web
Other Network Printing Tools	
JetPrint for Unix	Web Only

For complete details on Web JetAdmin functionality refer to the *Web JetAdmin User Guide*.

Embedded Web Server

The HP Color LaserJet 4550 series is the first HP LaserJet printer to include embedded Web Server functionality. This tool will allow direct access to printer configuration and diagnostics via the most popular standard browsers (such as Netscape and Explorer). These features are primarily intended for use in remote diagnostics and troubleshooting by MIS and help desks. They work on a printer-by-printer basis only, providing no "batch" or group management functions.

Figure 7: Embedded Web Server home page



JetDirect Web Server Requirement

The embedded web server is available only when using a JetDirect network card released Spring 2000 or later. Previous versions and third party cards are not supported. The JetDirect card has its own embedded web server that allows remote configuration of the JetDirect card. When the printer Web server is supported the interface between the two web servers is seamless; they will appear to be different pages on the same server.

Menus and features of the embedded web server include:

Home Pages

- Printer Status - Shows control panel messages, including help. Provides remote Go and Job Cancel functions. Shows consumables levels. Shows installed accessories.
- Configuration Page: Shows all printer configuration settings.
- Event Log - Shows all printer events and errors.
- Supplies Page - Shows consumables levels and assists with consumables ordering.
- Usage Page - Shows a complete list of all pages printed. Divides by size type, etc.
- Device ID Page - Shows the network address and identification of the printer.

Device Pages

- Configure Printer - Lets you change any printer configuration setting
- Alerts - Lets you set up the printer to send problem and status alerts to anyone you choose via e-mail (See detailed description below).
- Order Supplies - Lets you automatically order supplies over the web.
- Security - Lets you set up passwords to control who can remotely cancel jobs or access the Device Pages.
- Language - Lets you select the language in which to display the embedded web pages.

Networking Pages

- Provides the capability to display and control JetDirect card settings

Embedded Web Server (EWS) Printer Alerts

With Alerts enabled, the printer can send e-mail notices on problems or required maintenance to specified individuals. Alert events range from toner low, to paper jams, to fuser life low, to more serious problems such as a formatter failure.

The printer manager chooses what alerts to send, and who to send them to. More than one individual can receive alerts, with each person receiving only the alerts they desire. For example, an administrative assistant might be responsible for keeping toner loaded in a printer, while an external service provider is responsible for major consumables. Alerts could be set up so the administrator gets advanced warning on toner low situations, and the external service provider gets alerts on fusers, OPCs, and ITBs.

Expanded EWS Functionality

Some of the EWS features require non-volatile RAM in order to allow users to set up and retain specific information on a permanent basis. This applies to the Alerts feature and the Printer Owner field. The user has the ability to save two e-mail addresses to which to send alerts. Similarly, the user has a limited space in which to save the name, phone number, etc., of the individual in charge of the printer.

In the N and DN bundles a flash DIMM can be added to provide additional non-volatile memory in which to store information. The HDN bundle relies on the hard drive for non-volatile storage. This allows users to enter more addresses to which to send alerts, and also allows more detailed printer owner information.

Embedded Virtual Machine (EVM) for Java Applications

The CLJ 4550 is the first HP Laser Jet printer to include an embedded virtual machine for Java applications. The Hewlett-Packard trade name for this functionality is "ChaiVM virtual machine." The ChaiVM has two primary functions:

1. Internet "send and respond." The ChaiVM virtual machine is able to receive e-mails, Java applications, and send results back to the originator. A typical use of this would be to remotely run diagnostics.

NOTE: The EVM has no specific implementation in the Color LaserJet 4550 series printer.

2. Third party accessible architecture. The ChaiVM virtual machine offers a consistent platform (or "virtual machine") on which to run applications. A Java™ application that can run on a ChaiVM virtual machine in a Win 98 PC can also run on a ChaiVM virtual machine in a WIN NT PC, a MAC PC... or on a printer ChaiVM virtual

machine. This means that third parties will be able to develop custom printer capabilities much more easily, and that those capabilities will apply to all printers with a ChaiVM virtual machine.

HP Resource Manager

This network administration software utility allows you to control the hard disk and flash memory features that are not found in the software drivers. Use HP Resource Manager to do the following:

- Initialize the hard disk
- Initialize flash memory
- Download, delete, and manage fonts and macros across networks

NOTE: To download Type 1 fonts, you must have Adobe® Type Manager installed and turned on. HP Resource Manager is included on CD-ROM with the HP Color LaserJet 4550HDN printer under Optional Software in the Installer. However, if you order the hard disk as an optional accessory, you can download the HP Resource Manager utility from the Web. The HP Resource Manager utility is not available for the Macintosh.

Download the HP Resource Manager utility from <http://www.hp.com/cposupport>, and type **HP Resource Manager** in the Quick Find box.

Other Communications

HP JetSend Communications

HP JetSend is a technology from Hewlett-Packard that allows devices to communicate with each other simply and directly. HP JetSend is built into your printer, allowing it to receive information from any HP JetSend-enabled sending device anywhere on your network, whether it is in the same office or at a remote location. When you use the HP InfraRed Receiver accessory, your printer also can receive information from any HP JetSend-enabled infrared device.

Examples of HP JetSend sending devices include digital cameras, computers or laptops running HP JetSend software, or scanners with HP JetSend built in. HP JetSend uses simple IP addressing between networked devices and cableless communication between infrared devices.

To enable HP JetSend on your computer or laptop, visit the HP JetSend website at <http://www.jetsend.hp.com/products>.

With the software, you will be able to exchange intra-company documents directly between two or more computers and between any HP JetSend-enabled printers, without the problems of incompatible software applications or versions. HP JetSend software will allow your colleagues to create documents on their computers and send copies directly to this printer without any device-specific drivers or configuration difficulties. You can visit the HP JetSend website to learn which other devices are available to communicate easily and directly with your HP JetSend-enabled printer.

NOTE: HP JetSend software is not supported for Traditional Chinese, Simplified Chinese, Korean, and Japanese.

Online user guide

The online user guide is supplied as a portable document format (PDF) file. You can install the online user guide while installing the printer software (choose Custom installation), or you can install it later. The online user guide installs in the HP LaserJet folder.

Viewing the online user guide, in PDF format, requires either Adobe Acrobat Reader or another PDF reader. During user-guide installation, the installer scans for a PDF reader currently residing on the system, and installs Adobe Acrobat Reader if no reader is found. To install the online user guide while you are installing the printer software, follow the instructions that appear on your screen.

PCL 6 and PCL 5c driver features

Finishing tab features

The Finishing tab is the first tab you will see when they go to the driver through a program. Figures 8 and 9 shows this tab as it appears in the default configuration.

Figure 8: The default appearance of the Finishing tab (PCL 6 version)

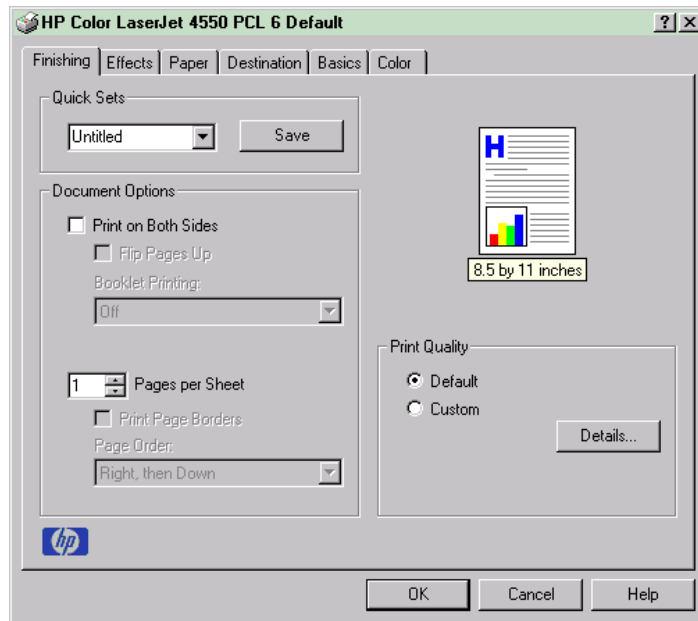
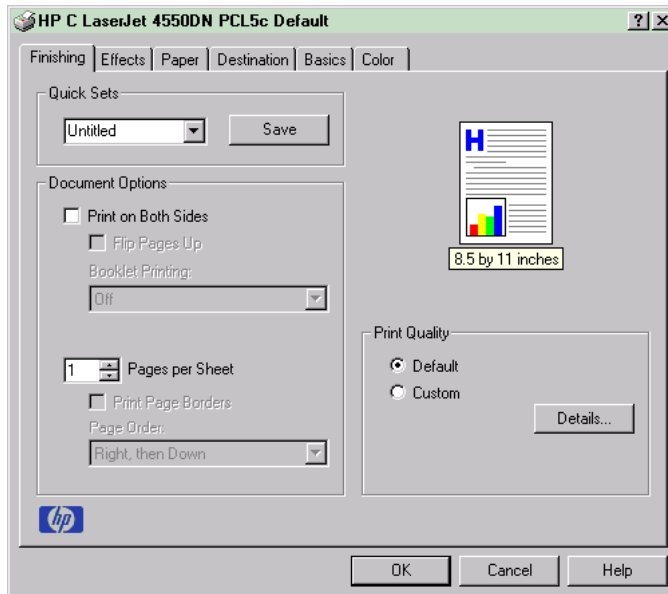


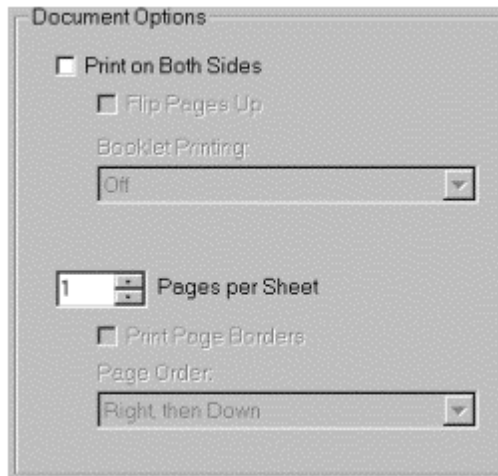
Figure 9: The default appearance of the Finishing tab (PCL 5c version)



Document Options

The Document Options group box dynamically sizes itself and positions its controls according to the configuration of optional devices that affect its appearance. For the HP Color LaserJet 4550 printer, the only device that affects the appearance of the Finishing tab is the duplex unit. The group box with the duplex unit is shown below in Figure 10.

Figure 10: The Document Options group box (all PCLdrivers)



Print on Both Sides

The Print on Both Sides command for duplex printing is available only if a duplexer is installed (indicated in the Configure tab). The default setting is off (not selected). Print on Both Sides does not function when:

- Paper Type is set to Transparency, Cardstock, or Labels.
- Paper Size is not one of the following: Letter, Legal, A4, B5 (JIS), Executive and Custom sizes greater than or equal to 127 mm by 190.5 mm (5.0 inches by 7.5 inches).

Flip Pages Up

Selecting Print on Both Sides activates the Flip Pages Up and Booklet Printing options when Paper Size is set to: Letter, Legal, or A4. The default for both of these controls is off.

The Flip Pages Up checkbox, visible only when the Print on Both Sides is visible, is used to specify the duplex-binding option. The following table demonstrates the results of selecting this box, depending on the orientation of paper.

<u>Orientation</u>	<u>Flip Pages Up Selected</u>	<u>Flip Pages Up Not Selected</u>
Portrait	Short-edge binding	Long-edge binding
Landscape	Long-edge binding	Short-edge binding

The preview image will show a spiral binding along either the left or the top edge of the page to indicate the edge of the document across which the pages is flipped when Print on Both Sides is on. Also, a turned up corner appears in the lower right of the preview image with an arrow that points in the direction that the pages is flipped.

Booklet Printing

The Booklet Printing drop-down list, visible when Print on Both Sides is visible, contains five choices, four of which are based on the current paper size. The list contains the following items based on the current paper size:

<u>Paper Size = Letter</u>	<u>Paper Size = A4</u>	<u>Paper Size = Legal</u>
Off	Off	Off
Letter (Left Binding)	A4 (Left Binding)	Legal (Left Binding)
Letter (Right Binding)		
Legal (Left Binding)	A4 (Right Binding)	Legal (Right Binding)
Legal (Right Binding)		

The Booklet Printing drop-down list appears only when:

- Print on Both Sides is selected.
- % of Normal Size (on the Effects tab) is 100 percent.
- Pages per Sheet is 1.
- Paper size is Letter, A4, or Legal.
- Print Document On: (on the Effects tab) is not selected.
- A “scaled from large sizes” paper size is not selected (Paper tab).

If any but the first of these conditions is not met, a help bubble appears next to Booklet Printing to tell you why it is disabled.

Pages per Sheet

The Pages per Sheet feature, also known and referred to as n-up, has six settings: 1 (default), 2, 4, 6, 9 and 16. An entry typed into the edit box other than these values will

round to the nearest valid value. Related controls indented beneath the edit box are Print Page Borders and Page Order, which become active when When Pages Per Sheet is greater than 1. Print Page Borders sets a line around each page image to help visually define the borders of each logical page.

The Page Order drop-down list contains four items:

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

The paper preview image will change to reflect the various combinations of these settings.

The Pages Per Sheet feature might be disabled if you select Allow Scaling from Large paper as a paper size on the Paper tab. Some examples are shown in Figure 11.

Figure 11: Preview image



1 - 2 Pages per sheet (2-up)

2 - 4-up

3 - 6-up

4 - 9-up with Print Page Borders

5 - 9-up with Page Order (Down, then Right)

6 - 16-up

Print Quality settings

The HP Color LaserJet 4550 driver's Print Quality group box (refer back to Figures 8 and 9) includes one predefined Print Quality (PQ) setting and one custom setting. A Details button invokes a dialog where the settings can be customized. The specific PQ choices defined by these settings are as follows:

Default

For PCL 6 and PCL 5c, the Default mode is as follows:

- 600 dots per inch (dpi)
- Rendering Mode is automatic (PCL 5c only)
- Scale Patterns is on
- Print all Text as Black is off
- Gloss Print Finish is off
- Send TrueType as Bitmap is not selected

Custom

The default custom setting for PCL6 and PCL 5c does not have Scale Patterns selected.

Details

The Details button displays the Print Quality Details dialog box (Figures 12 and 13). The driver leaves the Details button enabled regardless of which PQ setting is selected.

The Custom setting will include any combination of settings in this dialog box that differ from the Default settings when you click the **OK** button. If you make choices that correspond to the Default settings, then the PQ setting on the Finishing tab is changed from Custom to the default.

Figures 12 and 13 show the Print Quality Details dialog box for the PCL 6 and PCL 5c drivers.

Figure 12: Features controlled within the dialog box (PCL 6)

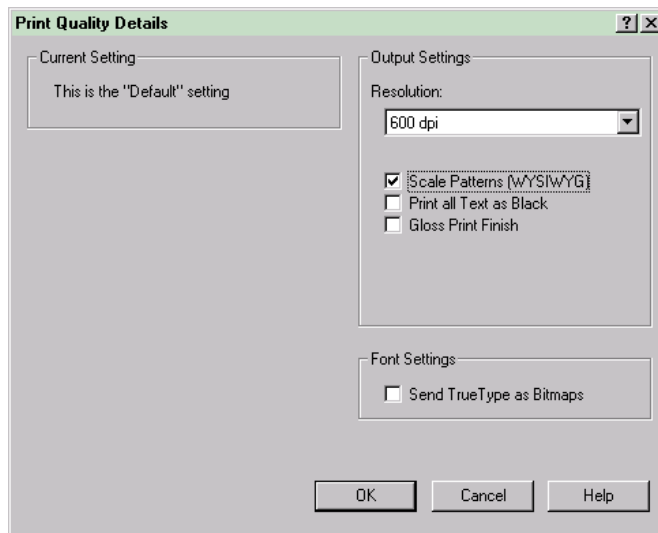
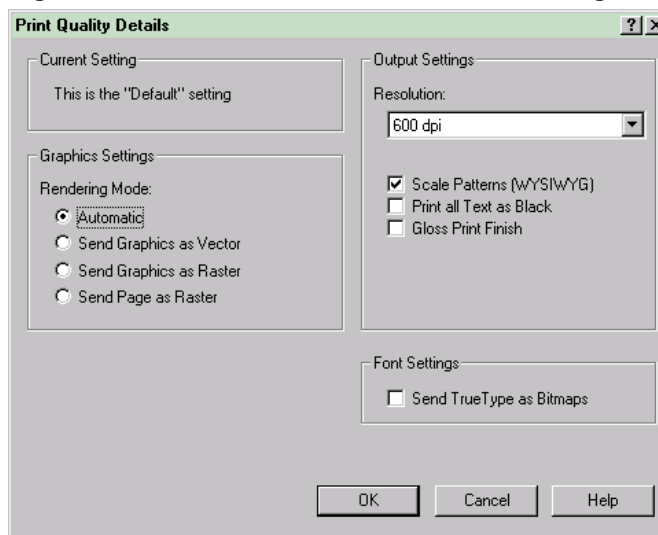


Figure 13: Features controlled within the dialog box (PCL 5c)



Current setting

The Current Setting sentence dynamically changes the word in quotation marks to reflect the current PQ setting based upon the current choices in this dialog. The default is "Custom" but can change to "Default" whenever the selections match those settings (defined above).

Graphics settings

In the PCL 5c driver, there are four settings under Rendering Mode that control the way in which the driver expresses a page:

- Automatic (Auto Mode), the default, will send pages as HP GL/2 unless you are currently in an application which is found in one of the exception lists. In this case, the rendering mode will depend on which exception list the application is found.
- Send Graphics as Vector uses HP GL/2 as the imaging model.
- Send Graphics as Raster uses PCL 5c raster mode as the imaging model.
- Send Page as Raster uses PCL 5c raster mode as the imaging model and images all text as raster graphics without using downloaded or resident fonts.

Output Settings

Resolution

For PCL 6 and PCL 5c drivers, there is one setting: 600 dpi.

Ret

HP Color LaserJet 4550 printer does not support Resolution Enhancement Technology (RET).

Scale Patterns (WYSIWYG)

This is implemented to address the moiré effect some applications can encounter with certain types of patterns. This feature will allow you to turn off the pattern scaling that the driver performs. What you will lose is WYSIWYG with patterns, but the printed result might look better. This feature works only with programs that use vector hatch patterns. This option is on by default.

Print all Text as Black

This is not selected by default. When selected, this option will cause the driver to image all text as black regardless of the document's text color settings except for white text, which will remain white.

Gloss Print Finish

This is not selected by default. When selected this option applies a glossy finish to documents that are printed on non-glossy paper. The gloss print option also improves print quality when you are printing on rough or heavy media.

Font Settings

Send TrueType as Bitmaps is the only setting available and provides you a safety net for applications that have trouble using TrueType fonts for special graphic purposes, such as shading, rotation or slanting. This feature is also in place for backward compatibility purposes. When Send Page as Raster is selected (in the PCL 5c driver only), Send TrueType as Bitmaps is not available. Using this feature allows TrueType fonts to be converted to bitmap soft fonts before downloading.

When True Type as Bitmaps is unchecked, the driver sends True Type fonts to the printer as outlines, which retain the standard format (Outline) of the fonts.

Effects tab features

The Effects tab is intended for unique paper effects such as scaling and watermarks. Figures 14 and 15 show this tab.

Figure 14: The Effects tab (PCL 6)

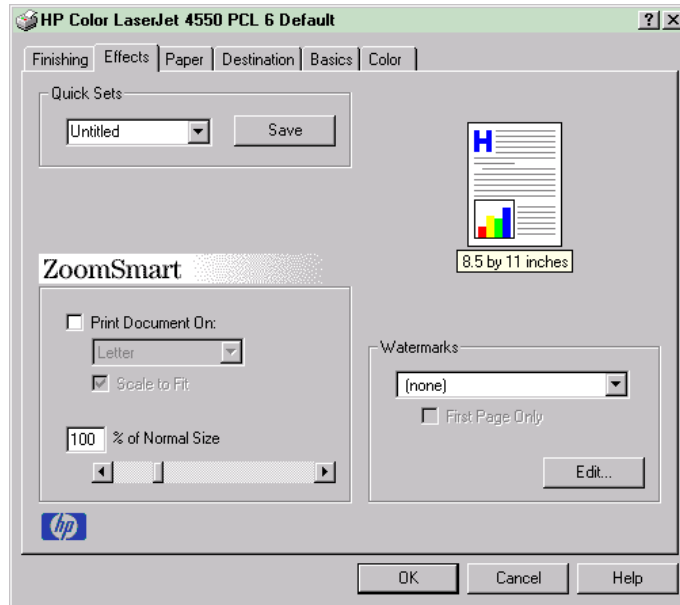
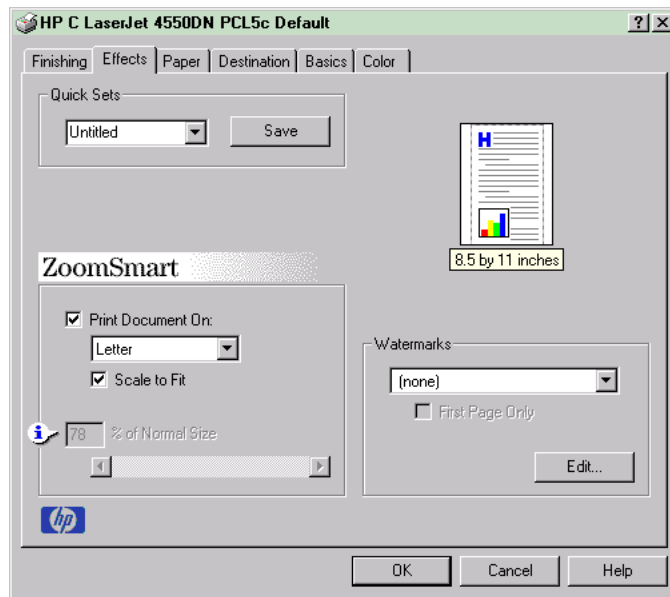


Figure 15: The Effects tab (PCL 5c)



ZoomSmart

The ZoomSmart group box is for features that scale the page image, either by a numeric percentage or by specifying a scale change to a different paper size. ZoomSmart handles scale transformations.

Print Document On:

This feature allows you to format the document for one paper size but print the document on a different paper size, with or without scaling the page image to fit the new paper size.

The Print Document On: control is disabled by any of the following:

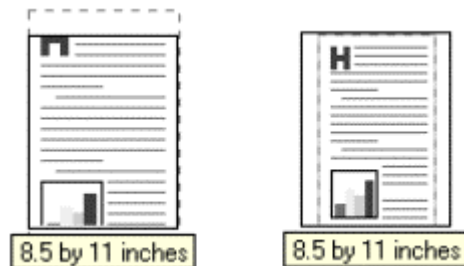
- % of Normal Size is not 100 percent
- Pages per Sheet is not 1
- Booklet Printing is not off

When the control is selected, the drop-down list will specify the target paper size on which to print. The list contains all standard paper sizes supported by the currently selected paper source and any custom paper sizes that you have created (if the currently selected paper source is Manual, Auto, or any Tray). When the Print Document On: box is selected, the Scale to Fit option is enabled.

Scale to Fit

The Scale to Fit option specifies whether each formatted document page image is scaled to fit the target paper size. The default setting is selected. If the setting is turned off, then the document page images will not be scaled, but instead is centered at full size on the target paper. If the document size is larger than the target paper size, then the document image is clipped. If it is smaller, then it is centered within the target paper. Figure 16 shows preview images for a document formatted for Legal paper with the Print Document On: option selected, and the target size specified as Letter.

Figure 16: Preview images - legal on letter; Scale to Fit off (left) and on (right)



Whenever 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.

Percent of normal size (Scaling)

The default setting in the entry box is 100 percent of Normal Size. Normal Size is defined as the paper size selected within the driver or what the driver receives from the application (if the application does not negotiate paper size with the driver). The driver will scale the page by the appropriate factor and send it to the printer.

The limits of the range are from 25 percent to 400 percent and any values outside of the range is clipped 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).

When this control is not selected, its value is 100 except when the Scale to Fit option is selected. In this case, the dimmed value represents the percentage of normal size to which the page image is scaled to fit the specified target paper size. For example, when

Print Document On: is checked, the formatted size is Letter, the target size is set to Executive, and the Scale to Fit option is checked, the edit box will indicate 85 percent of Normal Size. If Scale to Fit is not selected, this value will return to 100.

If there is any change to the scale, the page preview will also change; increasing or decreasing from the top 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 updates to the new image scale. Each click on the scroll bar arrows will increment or decrement the scale by 1 percent. Each click on the page up/down region of the scroll bar will affect the scale by 10 percent.

You cannot get an exact value by dragging the scroll bar indicator at the default Windows resolution; use the scroll bar indicator to approximate the desired value, then use the scroll bar arrows to refine it.

The following settings will disable % of Normal Size:

- Print Document On: is selected.
- Pages per Sheet is not 1.
- Booklet Printing is on.
- A “scaled from large sizes” paper size is selected on the Paper tab.

Watermarks

The Watermarks feature allows you to choose a watermark, create your own custom watermarks (text only), or edit an existing watermark. The following watermarks are preset in the driver:

- Confidential
- Draft
- SAMPLE

The drop-down list contains the name of watermarks that are currently available on the system (sorted alphabetically), plus the string “none,” which represents no watermark at all and is the default setting. Any other watermark selected from this list is displayed in the preview image.

Watermarks are applied to logical pages. So, for example, when Page per Sheet is set to 4 and First Page Only is turned off, there are four watermarks on the physical page (one on each logical page).

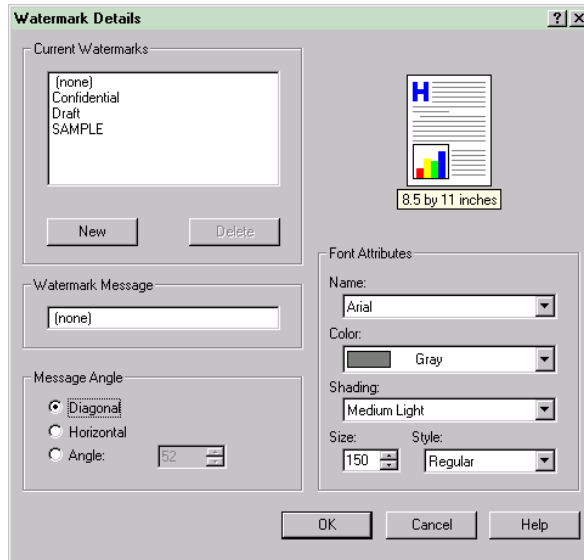
First Page Only

When First Page Only is checked, the watermark is printed only on the first page of the document. When not checked, the watermark will appear on every page of the document. First Page Only is not checked by default.

The First Page Only checkbox is disabled only when the watermark list is set to “none.”

Edit ...

Selecting the Edit button will display the Watermark Details dialog box shown in Figure 17.

Figure 17: Watermark Details dialog

The dialog box shows a preview image and controls the current set of watermarks, including editing, coloring, shading, sizing or styling watermark text.

Click **OK** to accept all changes made in the Watermark details dialog box; however, selecting **Cancel** does not cancel all changes. If you make changes to a watermark, then select a different watermark or by select the New, all changes made to the previous watermark are saved, and only the most recent (current) unsaved changes can be canceled. For example, if you select Draft from the Effects tab, select Edit, and then change the font, then select SAMPLE from the Current Watermarks list and click **Cancel**, only the switch to the SAMPLE watermark is canceled.

Current Watermarks and Watermark Message

This list box displays the preset watermarks and any custom watermarks that have been created. The driver has a limit of 30 watermarks. When the list is too lengthy to display all the watermarks, a vertical scroll bar appears on the right side of the list box. Selecting one of the watermarks enables the Delete button and the page preview. When the limit of 30 watermarks is reached, the New button is disabled and a help bubble appears next to it that explains why the button is disabled and how to enable it.

Selecting the New button selects the Watermark Message box where the default message “Untitled” appears. Begin typing to create a custom watermark and automatically display the text across the page preview. Other watermark characteristics are inherited from current settings at the time you create the new watermark. Click **OK** to save a new watermark.

To edit an existing watermark, select it so that it appears in the Watermark Message box. Once selected, the watermark message (the actual text that will appear over each page of the document) can be changed.

The message string is also the name used to identify the watermark in the list, except when more than one watermark has the same message. For example, you might want several different watermarks whose message is “Draft,” but whose font or size is different for each one. When this occurs, the string is appended with a space, a pound sign, and a

number. The number 2 is used first, but if the resulting name is also in the list, then the number is incremented until the name is unique.

Message angle

This feature will allow you to print the watermark in a Diagonal, Horizontal, or Angle (custom) orientation to the Page's text. The default is Diagonal. While all three settings automatically center the watermark string within the page, these settings affect only the angle of the string placement. Diagonal places the text along a line that spans the lower-left and upper-right corners of the page.

Font attributes

The controls in this group box allow you to change the font style and appearance of the watermark.

The Name selection is a Windows list that shows TrueType fonts currently installed on the system. The Style setting offers a choice of Regular, Bold, Italic, and Bold Italic. The sizes allowed are from 1 to 999 points.

The Color selection combo box provides a fixed, unalterable set of color choices, in palette/color name pair form, for the watermark. Below are the triplets for these colors:

Setting	Red	Yellow	Green	Cyan	Blue	Magenta	Gray
Lightest	255, 232, 232	255, 255, 232	232, 255, 232	232, 255, 255	232, 232, 255	255, 232, 255	255, 255, 255
Very Light	255, 224, 224	255, 255, 224	224, 255, 224	224, 255, 255	224, 224, 255	255, 224, 255	224, 224, 224
Light	255, 192, 192	255, 255, 192	192, 255, 192	192, 255, 255	192, 192, 255	255, 192, 255	192, 192, 192
Med Light	255, 160, 160	255, 255, 160	160, 255, 160	160, 255, 255	160, 160, 255	255, 160, 255	160, 160, 160
Medium	255, 128, 128	255, 255, 128	128, 255, 128	128, 255, 255	128, 128, 255	255, 128, 255	128, 128, 128
Med Dark	255, 96, 96	255, 255, 96	96, 255, 96	96, 255, 255	96, 96, 255	255, 96, 255	96, 96, 96
Dark	255, 64, 64	255, 255, 64	64, 255, 64	64, 255, 255	64, 64, 255	255, 64, 255	64, 64, 64

Very Dark	255, 32, 32	255, 255, 32	32, 255, 32	32, 255, 255	32, 32, 255	255, 32, 255	32, 32, 32
Darkest	255, 0, 0	255, 255, 0	0, 255, 0	0, 255, 255	0, 0, 255	255, 0, 255	0, 0, 0

The Shading attribute provides the following choices: lightest, very light, light, medium light, medium, medium dark, dark, very dark, and darkest. These values represent the intensity of the color chosen in the Color attribute.

For example, a choice of “Light” plus “Yellow” (from the Color attribute) would produce a lightly saturated yellow watermark. “Very Dark” plus “Yellow” would produce a strongly saturated, deep-yellow watermark. Likewise, the various shading choices from “Lightest” to “Darkest” plus “Gray” color would produce shades of gray from white to black.

The default attributes for watermarks on the HP Color LaserJet 4550 printer are Arial, Regular Style, 150 point, Gray, and Medium Light shading.

Paper tab features

The Paper tab allows you to specify the size, type, and source of the medium on which to print. You can also use the Paper tab to define a custom paper size. If desired, you can also indicate paper selection choices for the first page and back cover of the document that are different from the choices for the other pages. The Paper tab sheet is shown in Figures 18 and 19 with the graphic of the HP Color LaserJet 4550 printer.

Figure 18: The Paper tab (PCL 6)

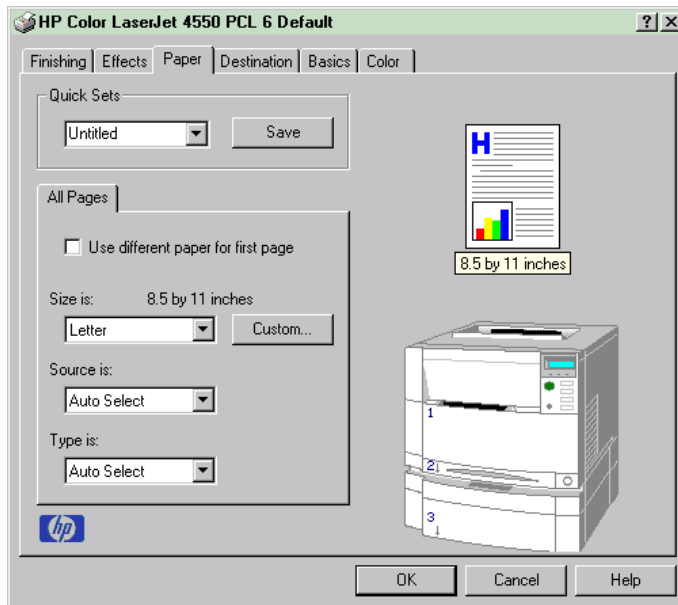
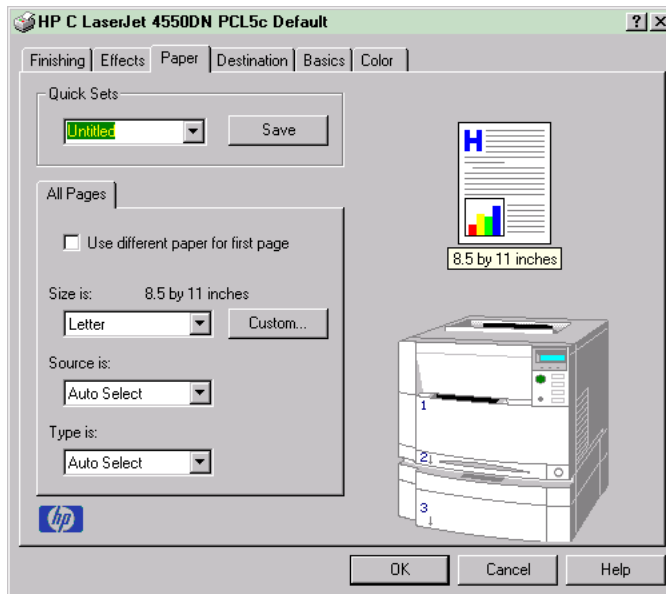


Figure 19: The Paper tab (PCL 5c)

All Pages or First Page/Other Pages/Back Cover

The controls on this tab are contained in a mini-tab named All Pages. As the name implies, this means that the settings specified on that tab apply to all pages of the document. Its three parts (activated by the checkbox described in Use Different Paper for First Page) are as follows:

- First Page contains the same controls as All Pages
- Other Pages contains different controls, as noted in the following sections
- Back Cover contains different controls, as noted in the following sections

Use Different Paper for First Page

This checkbox allows you to specify a different paper for the first page of the document or a blank cover page. When selected, it shows three tabs above it: First Page, Other Pages, and Back Cover. Whenever Use Different Paper for First Page is selected, the settings for the Other Pages are reset to match the settings for the First Page. For the desired effect, you must then select a different source or type from either of the other two tabs.

Other pages

The Other Pages mini-tab allows you to select an alternate paper type or source for the pages of a document after the first page. The choices and defaults of the two controls (Source is: and Type is:) are the same as First Page.

Back cover

The Back Cover mini-tab allows you to select an alternate paper source or the same source as First Page, from which a blank page is drawn and placed after the last page of a document. There are three radio buttons and a drop-down box. No Back Cover is selected as the default, with the drop-down source selection box disabled. Selecting Use an Alternate Source activates the drop-down selection box. The drop-down box value defaults to the same source as on the First Page tab. Selecting Use the First Page Source changes the drop-down value to match the first page, if necessary, but the drop-down box remains inactive.

When the Back Cover tab is active, selecting “No back cover” de-activates the drop-down box, but does not change the value of the drop-down box. No bubble help is available for the inactive drop-down box. The settings will revert to their defaults when Use Different Paper for First Page is selected again.

Figure 20: Other pages (left) and back cover (right) (PCL 6)

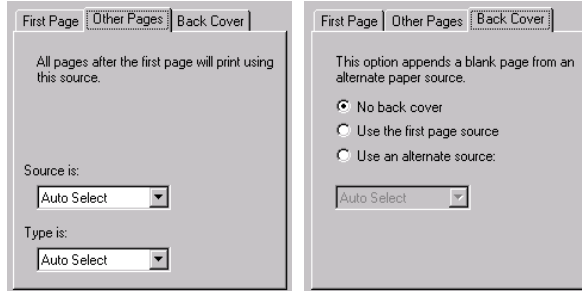
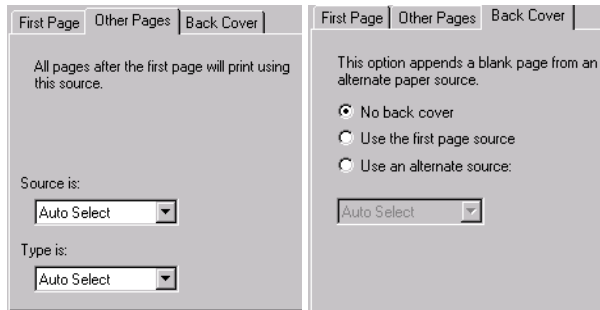


Figure 21: Other Pages (left) and Back Cover (right) (PCL 5c)



Size is:

This feature is actually two controls: a drop-down list containing all the supported paper sizes (including any user-defined custom sizes) and a text label that indicates the dimensions of the selected size.

Moving the mouse pointer over the text label causes the pointer to change to a gloved hand image, which indicates that the area underneath the pointer is selectable. Selecting here toggles the units of measure between inches and millimeters, the same as selecting on the dimensions label in the preview image. Selecting a new size from the drop-down list updates the paper dimensions text label as well as the preview image. Changing the orientation also update the dimensions text label.

The Size can be specified only for the First Page (or All Pages). On the Other Pages and Back Cover tabs, the Size drop-down list does not appear because the paper size must be consistent for all pages of the job. (Certain applications can override this command and specify different paper sizes within a single document.) Any change in the paper size selection causes the Booklet Printing feature to be turned off.

The drivers' standard paper sizes are (as they appear in the list) in the table below. User-defined Custom sizes appear at the end of the list.

NOTE: The following table lists the paper size order for Windows 95, Windows 98, and Windows Millennium. The order can be different for Windows NT 4.0 and Windows 2000. The list will contain all the sizes shown below, and may contain sizes from other drivers.

Paper Name	Width	Height	PCL 5 margin x,y portrait	PCL 5 margin x,y landscape	PCL6 margins
Letter	216 mm (8.5 inches)	279 mm (11.0 inches)	150,100	120,100	100,100
Legal	216 mm (8.5 inches)	356 mm (14.0 inches)	150,100	120,100	100,100
Executive	184 mm (7.25 inches)	267 mm (10.5 inches)	150,100	120,100	100,100
A5	148.0 mm (5.83 inches)	210.0 mm (8.27 inches)	150,100	120,100	100,100
A4	210.0 mm (8.27 inches)	297.0 mm (11.69" inches)	142,100	118,100	100,100
Envelope #10	105 mm (4.12 inches)	241 mm (9.5 inches)	150,100	120,100	100,100
Envelope DL	110 mm (4.33 inches)	220 mm (8.66 inches)	142,100	118,100	100,100
Envelope C5	162 mm (6.38 inches)	229 mm (9.01 inches)	142,100	118,100	100,100
Envelope B5	176 mm (6.93 inches)	250 mm (9.84 inches)	142,100	118,100	100,100
Envelope Monarch	98 mm (3.87 inches)	190 mm (7.5 inches)	150,100	120,100	100,100
B5 ISO *	176.0 mm (6.93 inches)	250 mm (9.84 inches)	142,100	118,100	100,100
B5 (JIS)	182.0 mm (7.16 inches)	257.0 mm (10.12 inches)	150,100	118,100	100,100

* Windows NT4.0 and Windows 2000 treat unrecognized paper sizes as custom lists them as Custom, not standard. For the HP Color LaserJet 4550, this affects B5 ISO.

Selecting Allow Scaling from Large Paper on the Config tab's More button dialog box lists additional large paper sizes in the Paper tab's Size is: box and in the application. The additional paper sizes are larger than the printer can normally handle, to allow printing, without reflow (reformatting of text into more pages), of documents that are formatted for other larger format laser printers.

The table below lists the paper sizes added to the bottom of the paper size list while the Allow Scaling from Large Paper checkbox is selected on the Configure (More) tab:

Paper Name	Width	Height	Scales to (Default)
A3	297.0 mm (11.69 inches)	420.0 mm (16.53 inches)	A4
11 x 17	279 mm (11.0 inches)	432 mm (17.0 inches)	Letter
B4 (JIS)	257.0 mm (10.12 inches)	364.0 mm (14.33 inches)	A4
8K	273 mm (10.75 inches)	394 mm (15.5 inches)	16K

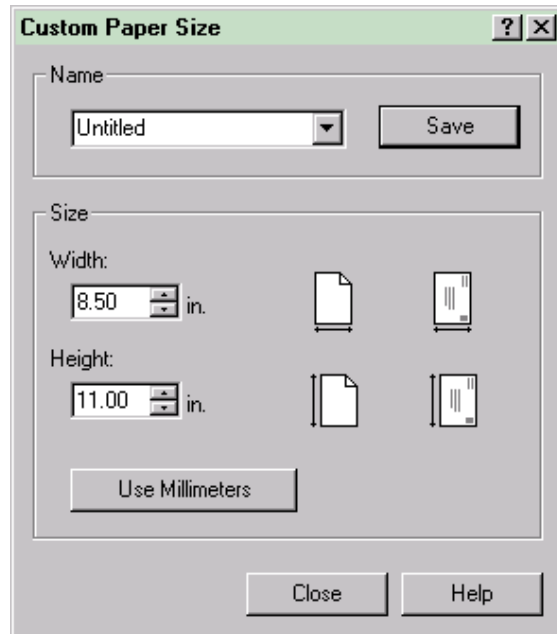
If you select a simulated size without selecting a Print Document On: size, the scaled size will default as noted in the table above.

After selecting a larger paper size, the following actions occur:

- N-up and Booklet (Finishing tab) and % of Normal Size (Effects tab) options are unavailable, with bubble help available
- Print Document On (Effects tab) is selected, along with the appropriate default for paper size
- Bubble help appears next to the Paper Size control, indicating that this size is scaled according to the Effects tab settings.

Custom ...

The Custom Paper Size dialog appears when you click the Custom... button on the paper tab. Figure 21 shows the initial appearance of the Custom Paper Size dialog.

Figure 21: The Custom Paper Size dialog box (all drivers)**Initial settings**

When the dialog appears, the combo box in the Name group contains one of two things depending on the current paper size selection in the Paper tab:

- If the paper size selection is a custom size defined previously, then the combo box contains the name of that custom size.
- If the paper size selection is a standard paper size, then the combo box shows the default name for a custom paper size, Untitled.

The complete set of titles for this button and the specific characteristics that determine its title and behavior are discussed in “Dynamic Command Button.”

Combo box

The combo box displays the name of the last selected custom paper size, allows you to enter new names for custom paper sizes, and allows you to select from the list of currently defined custom paper sizes.

The name displayed in the Quick Sets combo box is one of three things, depending on the following conditions:

- If a saved custom paper size has been selected from the drop-down list and the other controls in the dialog have not been changed since then, the combo box displays the name of the last selected custom paper size.
- If the Width and/or Height controls have been changed since a custom size was selected or saved, or if a saved paper size has just been deleted, then the combo box displays the default name (Untitled).
- If a new name has been typed into the combo box for the purpose of saving a new size or renaming an existing size, then that new name will remain in the combo box display until a saved custom paper size has been selected from the drop-down list.

If a new name is typed into the combo box but the **Save** button is not selected, then you should be able to change the Width and Height values without losing the name. However, if a saved paper size name is selected from the drop-down list, any unsaved name or size values is lost without warning, and replaced by the values of the selected custom paper size.

Dynamic command button

The command button located to the right of the combo box has three possible labels: **Save**, **Delete**, and **Rename**.

- **Save** is the button title whenever the Height and Width values have been changed since the last save or the selection of an existing custom paper size. Selecting the button causes the name in the combo box to be compared against each of the saved names. If a duplicate is found, a dialog appears asking you if it is okay to replace the existing item. If you select yes, the old item is updated with the new values. If you select no, the driver returns to the Custom Paper Size dialog box for you to type a different name. Whenever the command button has the Save title, it is the default button.

NOTE:

In Windows 9x, the custom paper size entry and storage are case sensitive; Big and BIG can co-exist. However, in Windows NT 4.0 and 2000, the custom paper size entry is case sensitive but storage is not; so Big and BIG cannot co-exist.

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

- **Delete** is the button title whenever the name of an existing (previously saved) custom paper size appears in the combo box, such as immediately after selecting an item from the drop-down list or selecting the Save button. Selecting the Delete button causes the saved custom paper size to be deleted, after which the combo box changes to Untitled, the Height and Width controls are unchanged, and the button title changes to Save.
- **Rename** is the button title when the you type something into the combo box after selecting an existing custom paper size from the drop-down list. If no duplicate is found, the name of the stored custom paper size changes to match the contents of the combo box. Whenever the command button has the Rename title, it is also the default button.

The following state table illustrates the relationships between the combo box, the command button, and the actions that take users from one state to another.

<u>State</u>	<u>Combo Box Contents</u>	<u>Button Label</u>	<u>Action</u>	<u>Next State</u>
1	Untitled	Save	Click Save .	3
			Type something into combo box.	2
			Change the Width or Height values.	1
	HP Color LaserJet 4550 Software	Technical Reference		41

<u>State</u>	<u>Combo Box Contents</u>	<u>Button Label</u>	<u>Action</u>	<u>Next State</u>
			Select a saved item from the drop-down list.	3
2	<user-typed text>	Save	Click Save .	3
			Type something into combo box.	2
			Change the Width or Height values.	2
			Select a saved item from the drop-down list.	3
3	<name of saved item>	Delete	Click Delete .	1
			Type something into combo box.	4
			Change the Width or Height values.	1
			Select a saved item from the drop-down list.	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 combo box.	4
			Change the Width or Height values.	2
			Select a saved item from the drop-down list.	3

Width and height controls

The Width and Height values can be changed either by typing numeric strings into the edit boxes, or by selecting the up and down arrows.

Any entry that is greater than the width and height control maximum limits (see below) will round down to the maximum valid entry while any entry that is smaller than the Width and Height control minimum limits (see below) will round up to the minimum valid entry.

NOTE: If units are in millimeters, the custom paper size range minimum is the limit rounded up to the nearest whole millimeter. Custom paper size range maximum is the limit rounded down to the nearest whole millimeter. Any non-numerical entry will revert to the last valid entry. Width and Height entries are validated when the focus has changed.

The resolution of each control is one tenth of an inch or one millimeter, depending on the current measurement units. Clicking the up and down arrows increments or decrements 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 in. or mm., depending on the measurement units the driver is currently using. To change measurement units, click the Measurement Units Button.

Width and Height control limits

The minimum paper size for the HP Color LaserJet printer is 76.2 mm by 127 mm (3 inches by 5 inches) and the maximum is 216 mm by 356 mm (8.5 inches by 14 inches). The following table summarizes custom paper constraints:

Media Source or Paper Handling Accessory	Minimum Size - Width by Height	Maximum Size - Width by Height
Tray 1 (multi-purpose)	76 mm x 127 mm (3.0 inches x 5.0 inches)	216 mm x 356 mm (8.5 inches x 14.0 inches)
Tray 2 (250-Sheet)	148.0 mm x 210.0 mm (5.83 inches x 8.27 inches) A5	216 mm x 356 mm (8.5 inches x 14.0 inches)
Tray 3 (500-Sheet)	182.0 mm x 257.0 mm (7.2 inches x 10.1 inches) B5	216 mm x 356 mm (8.5 inches x 14.0 inches)
Duplexer	148.0 mm x 210.0 mm (5.83 inches x 8.27 inches) A5	216 mm x 356 mm (8.5 inches x 14.0 inches)

Imageable area

The imageable area for custom paper sizes specifies how much space around the outer edge of the page cannot be printed on because of the printer's hardware restrictions. The hardware margins for custom paper are 100 pixels (at 600 dpi) from each edge, or 1/6 inch.

Icons

The paper and envelope icons visually define Width and Height.

Measurement units button

Like the Dynamic Command button described above, the measurement units button is also multi-titled, although its function is always to change from English to metric and vice versa.

Close button

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

<u>If the Combo Box contains ...</u>	<u>And the Button says ...</u>	<u>Then it will do this when the Close button is selected</u>
Untitled	Save	<ul style="list-style-type: none"> • Close the dialog box, but lose the changes that were not saved. • Leave the current paper size the way it was when the Custom button was selected.
<user-typed text>	Save	<ul style="list-style-type: none"> • Close the dialog box, but lose the changes that were not saved. • Leave the current paper size the way it was when the Custom button was selected.
<name of saved item>	Delete	<ul style="list-style-type: none"> • Close the dialog box, and set the current paper size to the one that was last displayed in the combo box.
<user-typed text>	Rename	<ul style="list-style-type: none"> • Close the dialog box, but lose the changes that were not saved. • Leave the current paper size the way it was when the Custom button was selected.

Source is:

This drop-down list shows the input trays available according to Configure tab settings. The minimum list contains Auto Select, Manual Feed, Tray 1, and Tray 2. The default setting is Auto Select, which allows the printer firmware to select the media source. When fully configured, the driver offers the additional choice of Tray 3.

Some media source trays are constrained from using certain media types or sizes. If you attempt to select a media source that is incompatible with the current size or type (from Optimize for), the driver will display a message box explaining the conflict.

The following constraints exist among the media source, size, and type:

- Tray 1 (150-sheet multi-purpose tray): All types and sizes supported; Custom from 76.2 mm by 127 mm (3 inches by 5 inches) to 216 mm by 356 mm (8.5 inches by 14 inches).
- Tray 2 (250-sheet cassette tray): Type cannot be Labels or Cardstock; size must be Letter, Executive, Legal, A4, A5, B5 (JIS), or B5 ISO.
- Tray 3 (Optional 500-sheet tray): Type cannot be Labels or Cardstock; size must be Letter, Executive, Legal, A4, B5 (JIS), or B5 ISO.

If there is a conflict among paper source, size, or type, and you choose to keep the conflicting size or type setting, then the paper source must be Tray 1, the multipurpose tray, which can handle any supported paper size or type.

Paper source commands

The PCL 5c escape sequence for paper source is Esc<#>. The table below shows values of #.

<u>Paper source</u>	<u>PCL 5c</u>
Tray 1	4
Tray 2	1
Tray 3	5
Auto Select	7
Manual Feed	2

NOTE: The commands above assume that Deferred Media Selection (DMS) is false. If DMS is true, the printer selects paper by itself based on media dimensions.

Type is:

This drop-down list shows all the paper types supported by the HP Color LaserJet 4550 printer, as well as any user-defined types created by a printer administrator. The default setting is Auto Select, which allows the printer's firmware to select the paper source.

There is no mechanism for manually adding custom paper types from the driver; these can be added only via the bidirectional communication mechanism (bidi), so they must already exist in the printer when the bidirectional query occurs. If bidi is working, then the information returned is an updated list of paper types. If bidi is not working, then the driver looks for custom paper types saved from a previous bidi query, and uses those (if any). Otherwise, no custom paper types is accessible through the driver.

The standard types that appear in the lists are:

- Auto Select
- Bond
- Cardstock
- Color
- Labels
- Letterhead
- Plain
- Preprinted
- Prepunched
- Recycled

- Rough
- Transparency

Paper Type commands

The PCL 5c escape sequence for paper type is Esc&n#W [operation][string], where operation byte 100 and string ('d') as follows. The table below shows values of #.

<u>Paper type</u>	<u>#</u>
Bond	5
Cardstock	10
Color	6
Labels	7
Letterhead	11
Plain	6
Preprinted	11
Prepunched	11
Recycled	9
Rough	6
Transparency	13

Printer image

The bitmap image in the lower-right portion of the Paper tab screen represents the current physical configuration of the printer and corresponds to its configuration data, obtained either automatically through bidi, or from manual configuration. It should look the same as the image that appears in the same location on the Destination tab and the Configure tab.

On the Paper tab, the printer image contains hot spots where you can select a paper source. When the mouse pointer moves over a hot spot, the arrow cursor reverts to the gloved hand cursor used in the Bubble Help, the preview image, and other areas. The current paper source, whether selected from the drop-down list or by selecting a hot spot, is highlighted in bright green on the printer bitmap. The following points are worth noting:

- The Auto Select does not have a corresponding area to highlight on the bitmap.
- Selecting Manual Feed or Tray 1 highlights the same part of the bitmap.
- Selecting on the area that represents Tray 1 in the bitmap will always select Tray 1; Manual Feed cannot be selected by selecting the bitmap.
- On the Paper tab, only input trays have hot spots and can be highlighted; output bins must be selected from the Destination tab.

Destination tab features

The Destination tab supports Job Retention. Figures 22 and 23 show the Destination tab.

Figure 22: The Destination tab (PCL 6)

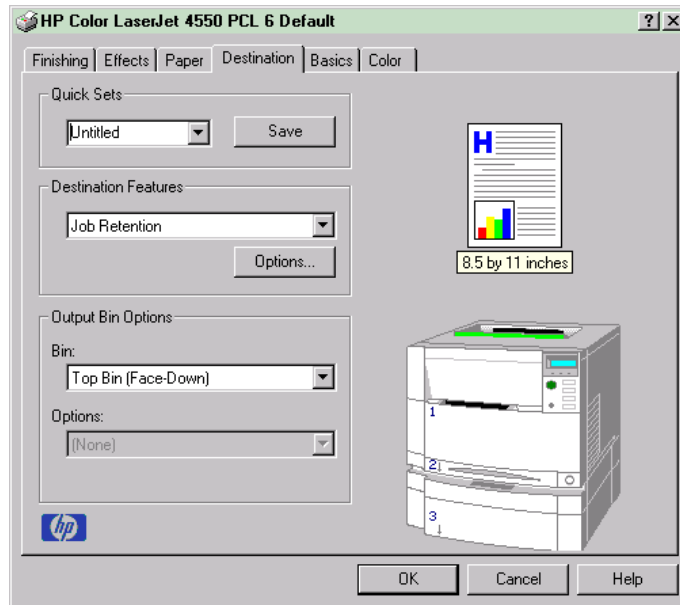
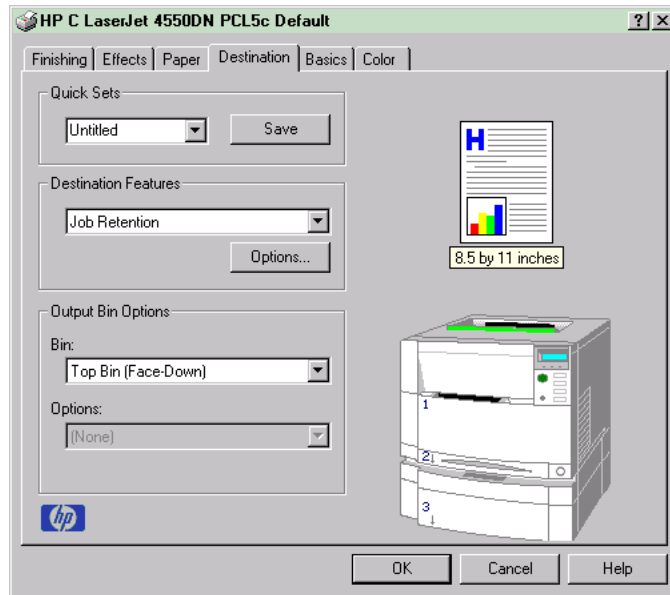


Figure 23: The Destination tab (PCL 5c)



Destination features

Destination tab features are controlled through the Destination Features group box. The group box includes a drop-down list and an Options button. For the HP Color LaserJet 4550 printer, this drop-down list will either be blank, or contain Job Retention.

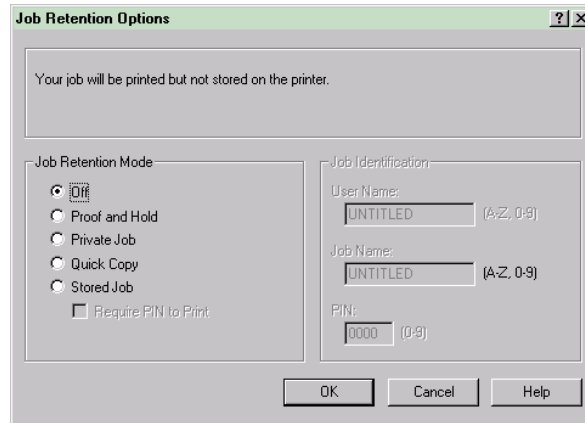
The Job Retention feature requires a printer hard disk and a minimum of 64 MB RAM.

To activate the group box from the Configure tab, see page 57.

Assuming the controls are visible (that is, the hardware conditions are met and the Job Retention Enabled box is selected), selecting **Options** displays the Job Retention Options dialog box shown in Figure 24.

NOTE: This screen shot appears this way because the Printer Hard Disk option is selected. If it were not selected, the Quick Copy and Stored Job (and Require PIN to Print) options would not be available.

Figure 24: Job Retention options as seen with Printer Hard Disk configured



Job retention modes

Five radio buttons activate the modes of job retention.

- Off turns Job Retention off, which means the print job will not be stored on the hard disk.
- Proof and Hold will store the print job on the hard disk and print only the first copy of the job. You must release subsequent copies from the front panel.
- Private Job will store the print job on the hard disk and will release it only after you type in the personal identification number (PIN) on the printer's front panel. Selection of Private Job activates the PIN field, and a PIN number must be entered to complete the selection.
- Quick Copy allows you to print additional copies of a print job using the front panel. This option is available only when the Printer Hard Disk is checked on the More dialog of the Configure tab.
- Stored Job stores the print job on the hard disk and prints only when you release it using the front panel. This storage and release can be handled in two ways: as private or public. Private mode is initiated by selecting the Require PIN to Print checkbox. In this mode, a PIN entry at the front panel is required to release the job. This option is available only when the Printer Hard Disk is checked on the More dialog of the Configure tab.
- Require PIN to Print activates if you select Stored Job. If selected, you must enter a PIN to make the Stored Job private. This generates the commands `@PJL SET HOLDTYPE=PRIVATE` and `@PJL SET HOLDKEY="xxxx"` in addition to the stored job commands.

Figure 25: "Proof and Hold" Job Retention Option

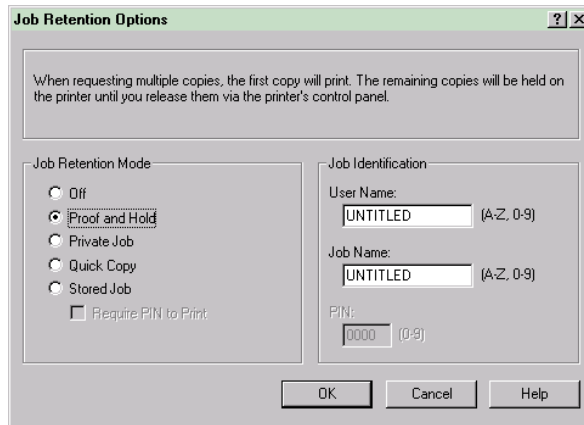


Figure 26: "Private Job" Job Retention Option

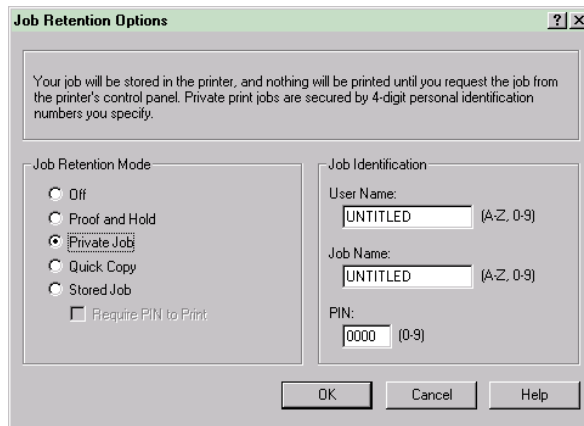


Figure 27: "Quick Copy" Job Retention Option

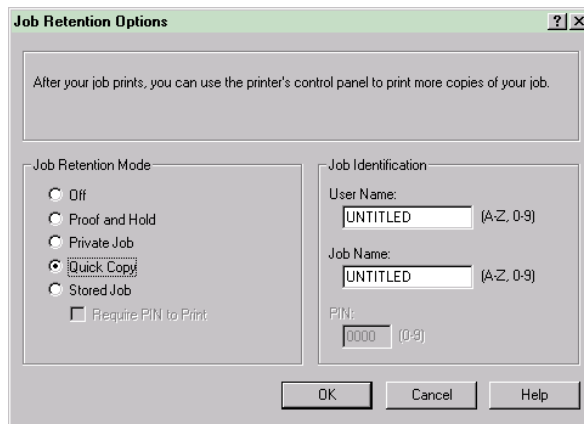
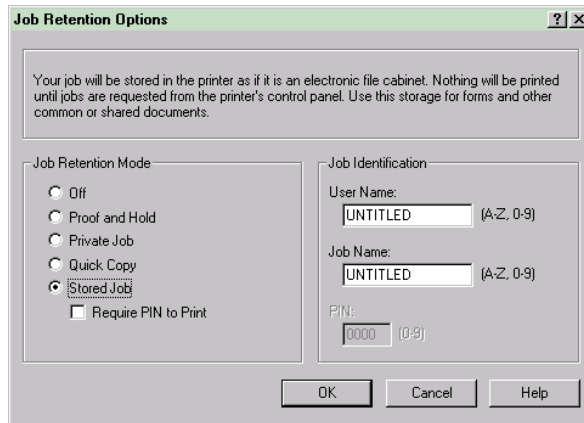


Figure 28: "Stored Job" Job Retention Option**User Name**

The User Name edit box allows you to identify the job at the printer's control panel. The restrictions for the User Name field are identical to those of the Job Name field as described below. When the driver is first installed (or when the Factory Defaults Quick Set is selected), this string initializes to the empty string (""), but the dialog box detects this condition and replace the string with your logon name in Windows 98, Windows NT 4.0, and Windows 2000. It replaces it with UNTITLED Windows 95 and 3.x.

Job Name

The Job Name is used for specifying a name to identify the job on the printer's control panel. When the driver is first installed (or when the "Factory Defaults" Quick Set is selected), this string is initialized to the empty string (""), but the dialog box will detect this condition and replace the string with UNTITLED.

The Job Name field can contain no more than 16 characters, and is limited to A-Z and 0-9, because the name is displayed on the printer control panel. If you try to enter a lower-case character, it automatically shifts to upper case. If you try to enter a character with an ASCII code of less than 32 or greater than 126, the character is removed from the edit field, along with all characters that follow it. If you try to enter more than 16 characters, any characters beyond the 16th is truncated.

When the dialog is closed, or the edit box loses focus, an empty string is replaced with UNTITLED. In those languages for which UNTITLED cannot be translated without the use of invalid characters, the driver will use a string of three dashes. The acceptable characters for Job Name and User Name vary for each operating system. The string must be displayable on the printer's control panel.

PIN

The box labeled PIN: is usually inactive. Select Private Job or Stored Job together with Require PIN to Print to activate it. The Stored Job/PIN coupling has a PIN restriction of four ASCII numeric characters (ASCII 0x30 through 0x39).

If you enter non-numeric characters, they are removed immediately. If you enter more than four characters, the characters past the fourth one are truncated. The field temporarily allows fewer than four digits in the string, but when edit field loses focus, the zeroes pad the left end until there are exactly four digits. The default initialized value for PIN is 0000 for Private Job and Stored Job with Require PIN to Print checked.

Output bin options

Bin

The HP Color LaserJet 4550 printer has one output bin that can be selected in the driver, so there is one item in the Bin list: Top Bin (Face-Down). There is also a rear face-up bin that can be manually set for a straight paper path.

- Top Bin (Face-Down) refers to the main output bin at the top of the printer and is the only setting for the HP Color LaserJet 4550 printer. Jobs sent to this bin are printed face-down. This option is always available and there are no paper size/type constraints.

Options

The Options drop-down list is inactive.

Printer image

The bitmap image in the lower-right portion of the Destination tab screen represents the current physical configuration of the printer according to the driver's configuration data (obtained automatically through bidi, or manually configured through the driver). It should have the same appearance as the image in the same location on the Paper tab and the Configure tab.

On the Destination tab, the printer image contains hot spots for selecting an output bin, but, since the HP Color LaserJet 4550 printer supports only one output bin in the driver, there is no other selection possible. When the mouse pointer moves over a hot spot, the arrow cursor reverts to the gloved hand cursor used in the Bubble Help, the preview image, and other areas. The current output bin is highlighted in a bright green color on the printer bitmap.

NOTE: On the Destination tab, only output bins have hot spots and can be highlighted; source trays must be selected from the Paper tab.

Basics tab features

Figures 29 and 30 display the Basics tab.

Figure 29: The Basics tab (PCL 6)

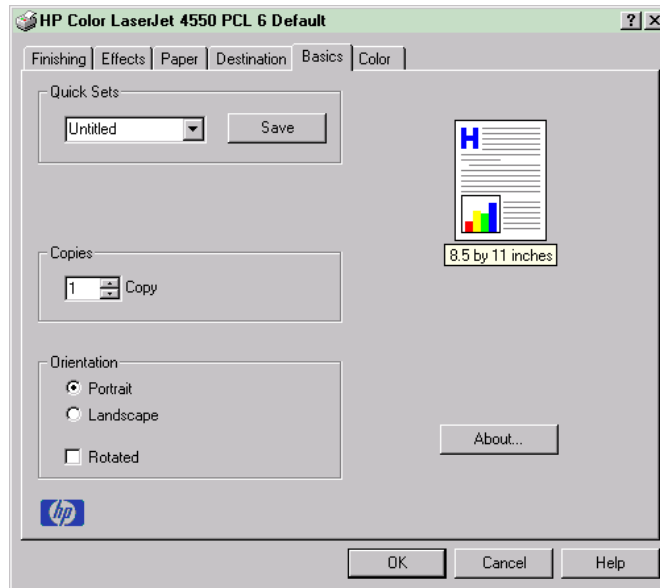
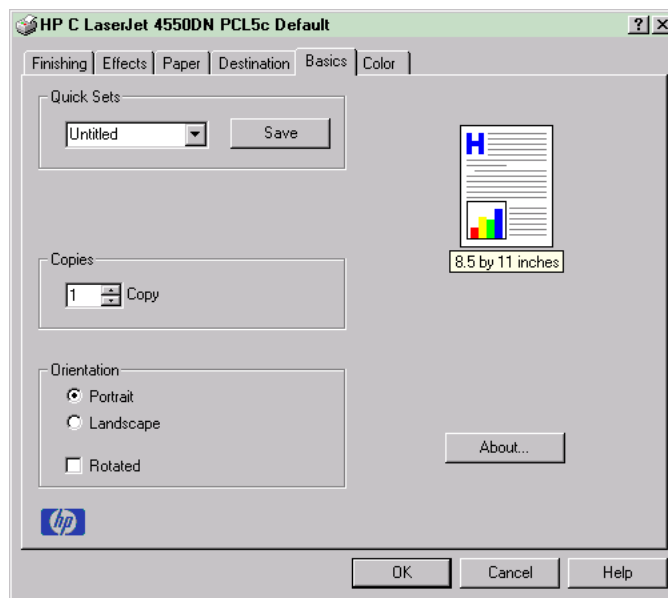


Figure 30: The Basics tab (PCL 5c)



Copies

The Copies feature allows you to specify the number of copies to print.

The number of copies you request appears in the box. You can change the number by typing in the box or using the up and down arrows to the right of the edit box to increase or decrease the value. Valid entries are numbers from one to 999. The Copies value will not wrap around from 999 to one or vice-versa. Invalid entries into the edit box (e.g., non-numerical input, numbers less than one or greater than 999) are changed to the default

last valid value when focus is removed from the control. The default number of copies is one.

Since applications can also be used to set the desired number of copies, conflicts between the application and the driver can arise. In most cases, the application and the driver communicate, so that the number of copies set in the application will appear in the driver and vice-versa. For some applications, this communication does not take place and the copies values are treated independently. For these applications, setting 10 copies in the application and then setting 10 copies in the driver will result in 100 copies (10 x 10) printed.

Orientation

You can specify the orientation of the printed output. The three available orientations are Portrait, Landscape, and Rotated. Orientation refers to the layout of the image on the page, and does not affect the manner in which media are fed into the printer. The default orientation is Portrait.

The three orientation options are have these configurations:

- Portrait - the top edge of the document is the shorter edge of the paper.
- Landscape - the top edge of the document is the longer edge of the paper.
- Rotated - Rotated is a form of Landscape or Portrait in which the image is rotated 180 degrees. This setting is useful for printing envelopes and pre-punched paper.

Orientation can toggle between Portrait and Landscape by left-clicking the preview image. If you check Rotation, there is no change in the preview image.

About

Selecting the **About** button on the Basics tab and selecting the HP logo on any of the driver property pages both display the About box. To close the About box, click **OK**, press ESC, press ALT + F4, or press ENTER. Figures 31 and 32 show the About box.

Figure 31: The About Box (PCL 6)

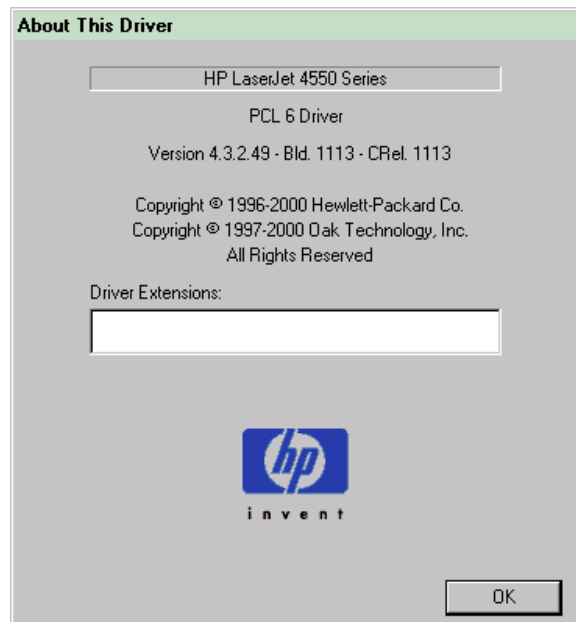
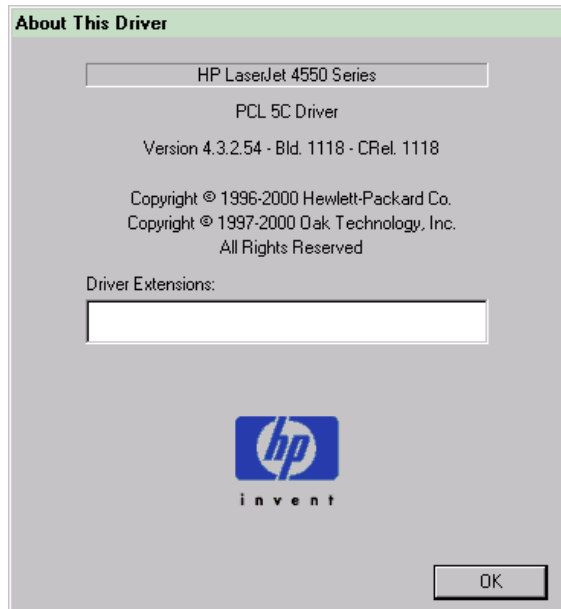


Figure 32: The About box (PCL 5c)



Driver extensions

This text box provides you with some visibility of any extended driver functionality. It can contain a brief description of the driver extension and a version number.

Color tab features

The Color tab allows you to use factory pre-defined ColorSmart II settings or to fine-tune color treatments and halftoning. Color output can also be converted to grayscale in this tab. Figures 33 and 34 show the appearance of the Color tab.

Figure 32: Color tab (PCL 6)

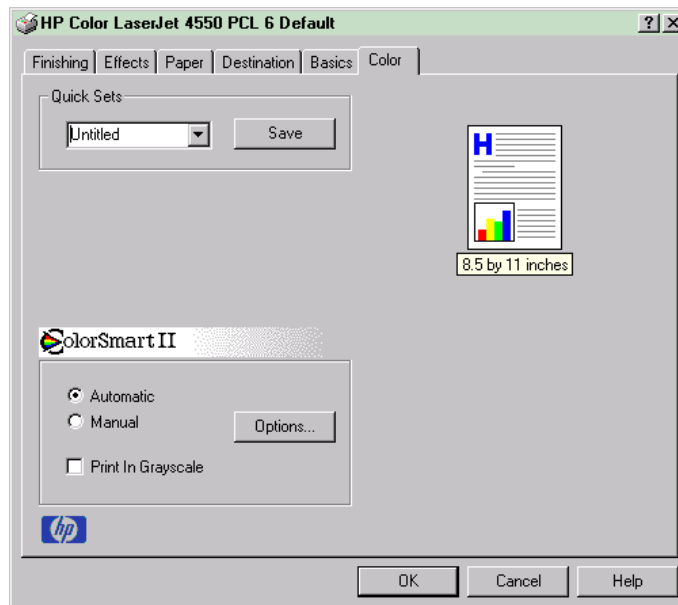
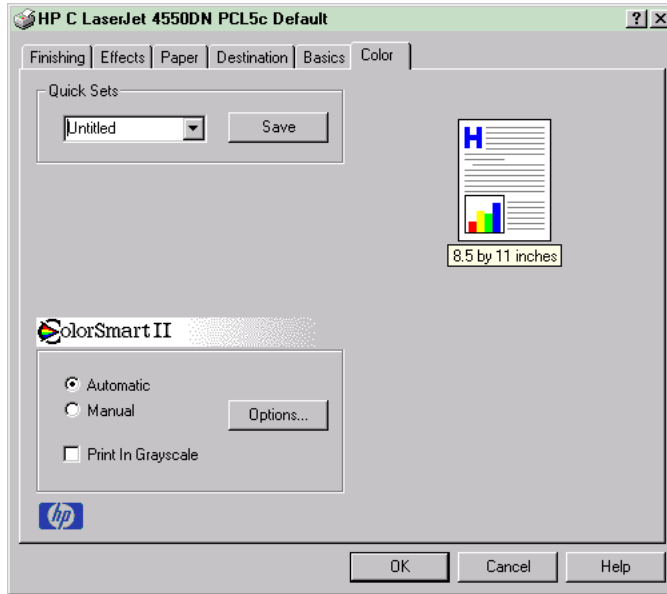


Figure 33: Color tab (PCL 5c)



HP ColorSmart II

The ColorSmart II group box controls printing coloration. It has two main modes, Automatic and Manual, that allows you to choose between factory default coloration settings and various manually set color controls. Other options allow for grayscale printing of colors.

Automatic

In this mode, factory defaults, shown below, control ColorSmart. The default values make up the Automatic setting.

<u>Setting</u>	<u>Text</u>	<u>Graphics</u>	<u>Photos</u>
Color Map	Screen Match	Screen Match	Screen Match
Halftone	Detail	Smooth	Smooth

NOTE: When the Automatic setting is selected, none of the individual settings is necessary for quick sets.

Manual

To use Manual color, you can make a manual color selection via the Manual Color Options dialog box (below) or select the "Manual" radio button. When you enter then exit the Manual Color Options dialog box, the driver compares the manual settings with the Automatic defaults, and selects the Automatic radio button if they match. If the manual settings do not match the Automatic setting, the Manual button is selected.

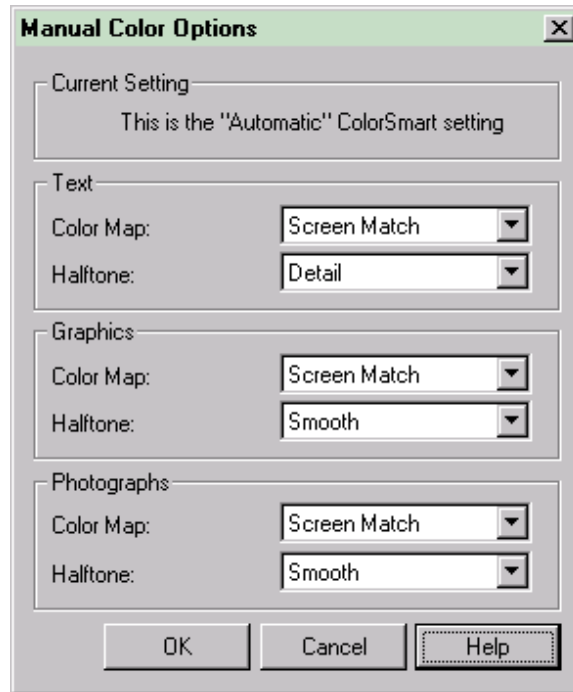
HP Color LaserJet 4550 manual quick sets

When Manual is selected, the individual settings for Halftone and Color Map should be saved or restored. When this option is selected, the Quick Set name changes to Untitled.

Options

The Options button displays the Manual Color Options dialog box (see below). Any combination of settings in this dialog that does not match the Automatic settings when the **OK** button is clicked is saved as a Custom setting. If choose settings that are the same as the Automatic settings, the driver changes the ColorSmart setting on the Color tab from Manual to the appropriate predefined setting.

Figure 35: Manual Color Options dialog



HP Color LaserJet 4550 printer manual color options quick sets

The setting of each of the six controls for this dialog box is stored within driver Quick Sets when you choose ColorSmart Manual.

Current setting

The Current Setting sentence changes dynamically to reflect the current ColorSmart setting, based upon the current choices in this dialog box. The default "This is the 'Automatic' ColorSmart setting" changes to "This is a 'Custom' setting" whenever nondefault selections are made. When the current setting is Manual and the selections match the settings for Automatic, the string changes appropriately.

Color map/halftone

The Manual Color Options dialog box allows you to separately control Color Map and Halftone for the three major page components: Text, Graphics, and Photos.

The Color Map control allows you to select a color mapping lookup table embedded in the firmware. The default setting for Color Map is Screen Match for Text, Graphics and Photos, which corresponds to sRGB output gamut selection.

The choices of Color Map under each are Screen Match and Vivid. The Halftone setting controls the selection of a halftone algorithm embedded in the firmware. The choices for Halftone under each are Detail (the default for Text) and Smooth (the default for Graphics and Photographs).

There is no requirement that the settings identified by a single string for color map or halftone select the same physical output characteristic, but similarly named selections create similar results. For example, Detail for text need not select the same halftone as Detail for graphics. The available settings for all object types (text, raster, and vector) are the same for both Color Map and Halftone. Those settings are listed below:

Setting	Specifications
Color Map	<ul style="list-style-type: none"> • Screen Match • Vivid
Halftone	<ul style="list-style-type: none"> • Smooth • Detail

NOTE: The settings for text, graphics, and photos are overridden in the PCL 5c driver if the Rendering Mode (Print Quality Details) is set to Page as Raster or Graphics as Raster.

Print in grayscale

When selected, this control causes all printed output to be printed in grayscale. The default setting is off. The driver communicates to the firmware to print in grayscale.

The halftone for grayscale printing follows the standard ColorSmart selections.

To test Print in Grayscale, print a color photograph in the default setting and then print it in Print in Grayscale. The photograph printed in grayscale should also print as a single color-plane (using only black, without spending time to render additional color planes on the paper).

Visually compare the two with a copy of the same image printed on a monochrome laser printer at the same resolution. Visible dithering will usually be present on the monochrome laser's output, more prominently in and around areas of highlights. This visible dithering should not be present on the grayscale output from the color device.

HP Color LaserJet 4550 printer quick sets

The state of this user-interface control is maintained via the existing HP Color LaserJet 4550 printer driver Quick Set. When this option is selected, the Quick Set name changes to Untitled.

Configure tab features

The Configure tab lets you tell the driver about the hardware configuration of the printer. To set up this page if bidi is enabled and working properly, click the "Update Now" button.

This tab is on top when you open the driver from the Printers folder by selecting Properties. When you open the driver from within a program, the Configure tab will not be visible, with a few

exceptions, such as Excel 5.0 and Corel Chart 4.0. When opened from the Printers folder, the Configure tab looks like Figure 36.

Figure 36: The Configure tab (PCL 6)

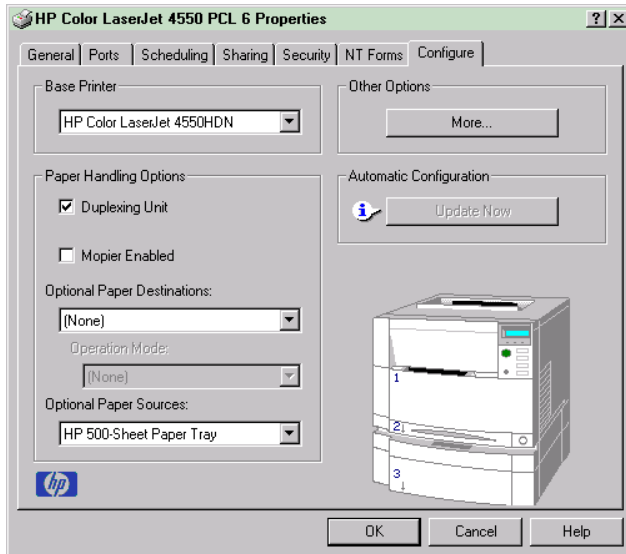
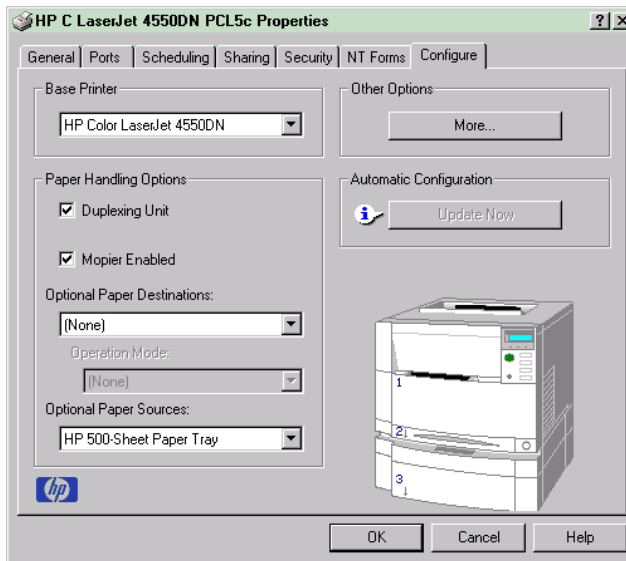


Figure 37: The Configure tab (PCL 5c)



Printer Model

In the Printer Model group box, the driver title remains 4550 for all models. Selection of a Printer Model makes the appropriate changes to other configuration options on the tab. The list of models and the changes they produce are as follows:

HP Color LaserJet 4550 resets all configuration settings to match the capabilities of a base HP Color LaserJet 4550 printer. Settings affected are:

- The Driver Work Space (DWS) (see page 62) value shown in the Other Options dialog box changes to 6.0. If you subsequently select a hard disk or Auto Config detects a hard disk, the DWS value changes to 7.0. If you manually select the base model, DWS resets to the non-hard disk value.
- The Total Printer Memory value is 64 MB.

- No optional paper destinations, paper sources, duplexer, or hard disk are selected.

HP LaserJet 4550N resets all configuration settings to match the capabilities of 4550N model. Settings affected are:

- The DWS value shown in the Other Options dialog box will change to 6.0. If you subsequently select a hard disk or Auto Config also detects a hard disk, the DWS value changes to 7.0. If you manually select the N Bundle, DWS resets to the non-hard disk value.
- The Total Printer Memory value is 64 MB.
- No optional paper destinations, paper sources, duplexer, or hard disk are selected.

HP LaserJet 4550DN resets all configuration settings to match the capabilities of 4550DN model. Settings affected are:

- The DWS value shown in the Other Options dialog box will change to 15.0. If you subsequently select a hard disk or Auto Config also detects a hard disk, the DWS value changes to 12.5. If you manually select the DN Bundle, DWS resets to the non-hard disk value.
- The Total Printer Memory value is 128 MB.
- Duplexing Unit is checked.
- Printer hard disk is not checked.
- 500-Sheet optional paper tray (tray 3) is selected.

HP LaserJet 4550HDN resets all configuration settings to match the capabilities of 4550HDN model. Settings affected are:

- The DWS value shown in the Other Options dialog changes to 15.0. If you subsequently deselect a hard disk or Auto Config also detects no hard disk, the DWS value changes to 12.5. If you manually select the HDN Bundle, DWS resets to the hard disk value.
- The Total Printer Memory value is 128 MB.
- Duplexing Unit is checked.
- Printer hard disk is checked.
- 500-Sheet optional paper tray (tray 3) is selected.

If installed and working, the bidi mechanism will detect the correct model and update the configuration accordingly.

Paper handling options

The Paper Handling Options group box is where the majority of the device options are configured.

Duplexing unit

Select this option if a duplexing unit is installed in the printer. When it is selected, additional controls appear in the Document Options group box in the Finishing tab. Unlike most other options in this group box, the Duplexing Unit option does not affect the printer image because the duplexer is contained inside the printer.

NOTE: This option is checked by default if the DN or HDN model is selected from the Printer Model drop-down list, or if detected by bidi.

Envelope feeder

There is no envelope feeder option for the HP Color LaserJet 4550 printer.

Mopier enabled

Multiple Original Printing (Mopying) increases printer performance and reduces network traffic by sending the job to the printer once, then storing it on the hard disk. The rest of the copies are printed at the printer's fastest speed.

When this Mopier Enabled is selected, the Collate at Printer PJI command SET QTY= (for example, @PJI SET QTY=3 where 3 is the number of collated copies to generate) is sent at the beginning of each print job. The Mopier Enabled option does not affect the printer image.

Mopier Enabled is enabled only when the Configure Tab settings indicate (whether set manually or via Auto Configure) that the printer has a hard disk and at least 64 MB of RAM installed. When the Mopier Enabled checkbox is disabled, a Bubble Help icon displays next to it, explaining that a printer hard disk and at least 64 MB of Total Printer Memory is required to enable this feature.

NOTE: All models of the HP Color LaserJet 4550 Series Printer ship with 64 MB or more memory installed.

Optional paper destinations

The Optional Paper Destinations drop-down list consists of "None," because no option paper devices exist for the HP Color LaserJet 4550 printer. The Operation Mode control cannot be enabled.

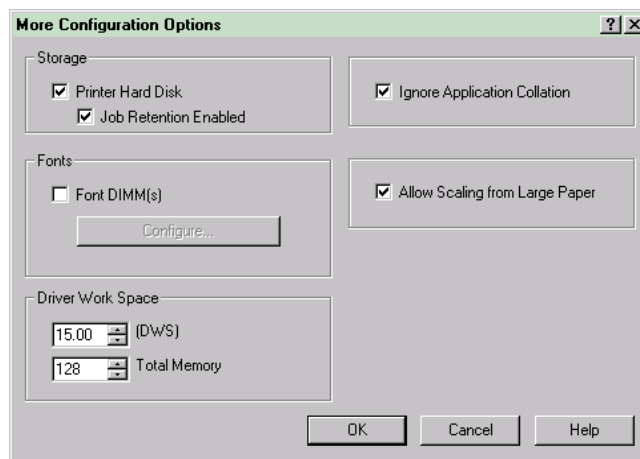
Operation mode

The Operation Mode drop-down list contains any supported modes for output devices. Because the HP Color LaserJet 4550 printer supports no optional output devices, this control is disabled.

Other options

The Other Options group box contains a single More... command button. Selecting the More... button opens the dialog shown in Figure 37.

Figure 37: More Configuration Options dialog



Storage

In Storage, you can specify whether a hard disk is installed and whether Job Retention is enabled. Job Retention is disabled by default. The printer hard disk control can be set manually and are updated by a successful bidi query. Job Retention Enabled determines whether Job Retention appears as a Destination Feature on the Destination tab. Because this is the only possible Destination Feature for the HP Color LaserJet 4550 printer, this also determines if the Destination Features group box appears on the Destination tab.

The Job Retention Enabled checkbox is disabled unless the More. . . dialog box of the Configure tab indicates the printer has a hard disk and at least 64 MB of RAM installed. When enabled, the Job Retention Enabled checkbox is not be checked by default.

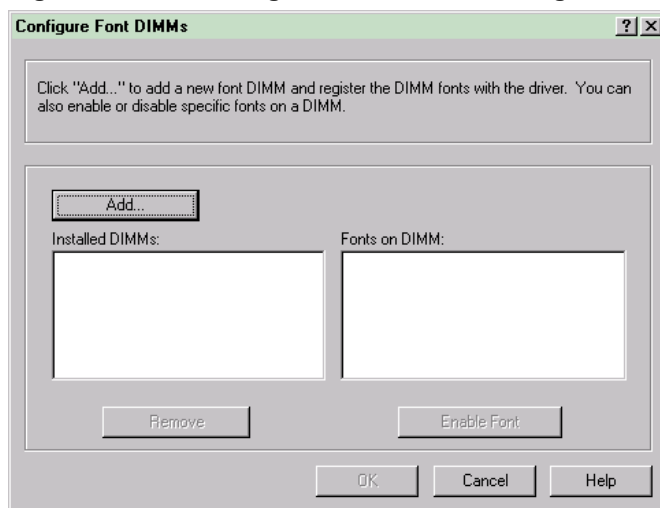
When the Mopier Enabled or Job Retention Enabled checkboxes are disabled, a Bubble Help icon appears next to the checkboxes, explaining that a printer hard disk and at least 64 MB of Total Printer Memory are required to enable these features.

Fonts

The second group box, Fonts, contains a Font DIMM checkbox and a corresponding Configure... button. Checking the Font DIMM control tells the driver that a Font DIMM is installed, and that stored data are available regarding which fonts are on the DIMM. When the box is selected, the Configure Font DIMMs dialog box comes up or the Configure button becomes enabled depending on the state of the Font DIMM checkbox upon entering the More Config box.

Selecting the Configure button will open a dialog entitled Configure Font DIMMs. This dialog is shown below in Figure 38.

Figure 38: The Configure Font DIMMs dialog



Additionally, you can do the following:

- Add up to two fonts DIMMs by clicking the **Add** button.
- Specify a unique font DIMM name.
- Select specific PFM files or HPD files. HPD files are predefined font DIMM data files that the driver knows how to read, which contains a list of fonts on a specified DIMM.
- Select one or more installed DIMMs in the Installed DIMM list, and based on the selected DIMM(s); the list to the right (Fonts on DIMM) will display all of the fonts available on the selected DIMM(s).

- Enable or disable one or more of the selected font(s).

Printer memory

Printer Memory allows you to set the amount of installed printer memory and driver work space.

The Total Printer Memory box indicates the total amount of installed RAM in megabytes. It can be directly edited or adjusted with the up and down arrows of the spin control. The only allowable values for this box are 64 and 128 (MB). If an invalid number is entered into the box, the value snaps to 64 if the value entered is 63 or less and 128 for all values greater than 128. The default numbers for Total Printer Memory are specified in the Printer Model Section of the Config tab and are based on the Printer Model.

Selecting 64 MB or greater and Hard Disk enables the Job Retention checkbox, but leaves it unchecked as the default. Selecting 64 MB or more and Hard Disk enables the Mopier Enabled checkbox, which is also unchecked by default. Total Printer Memory updates from a successful bidi query.

The Driver Work Space allows you to specify the amount of work space available in the printer for functions such as font downloading. To define Driver Work Space, print a self-test/configuration page and find the PCL DWS value; enter that value in Driver Work Space. An accurate DWS value optimizes driver performance.

Driver Work Space value also updates through a successful bidi query. Any custom values you may have entered are replaced with one of the two default values (based on your printer model) whenever the state of the Printer Hard Disk checkbox changes or when a bidi query detects such a change. It might change if you switch printer model settings.

Ignore application collation

Selecting Ignore Application Collation sets the driver as the only arbiter of how many copies to print. This option is checked by default. The Ignore Application Collation checkbox is disabled (grayed) and set to Off if the Mopier Enabled checkbox is off.

The table below shows the expected behavior for a two-page job when the number of copies is three.

<u>Hard disk on printer</u>	<u>Mopier Enabled checkbox</u>	<u>Ignore App Collation checkbox</u>	<u>App Collation checkbox in Print Dialog</u>	<u>Commands sent by driver</u>	<u>Pages sent to printer</u>	<u>Pages output from printer</u>
Yes	On	On	On Off None	QTY=3	1, 2	1, 2, 1, 2, 1, 2
Yes	On	Off	On	QTY=3	1, 2	1, 2, 1, 2, 1, 2
Yes	On	Off	Off	Copies=3	1, 2	1, 1, 1, 2, 2, 2

Yes/No	Off	[disabled] Off	On	Copies=1	1, 2, 1, 2, 1, 2	1, 2, 1, 2, 1, 2
Yes/No	Off	[disabled] Off	Off	Copies=3	1, 2	1, 1, 1, 2, 2, 2
Yes/No	Off	[disabled] Off	None (Collate*)	Copies=1	1, 2, 1, 2, 1, 2	1, 2, 1, 2, 1, 2
Yes/No	Off	[disabled] Off	None (Do not Collate**)	Copies=3	1, 2	1, 1, 1, 2, 2, 2
No	On	On	On Off None	QTY=3	1, 2	1, 2 plus page error
No	On	Off	On Off None	QTY=3	1, 2	1, 2 plus page error

*Behavior when there is no Collate checkbox and dmCollate default is Collate.

**Behavior when there is no Collate checkbox and dmCollate default is Do not Collate or an application sets dmCollate to Do not Collate.

Ignore Application Collation Notes

1. Placing the IgnoreAppCollate setting in the printer properties means that, on a Windows NT network, clients connecting to the printer through a network share cannot change its value; only the print queue administrator has the power to decide how the printer driver is set up. In the same way that form-to-tray linking is determined by an administrator, the handling of the dmCollate field can also be determined by the administrator.
2. The IgnoreAppCollate setting is not a means to print non-collated copies. If you want to print non-collated, disable mopying.

The Ignore Application Collate setting is disabled if Enable Mopying is not selected. If Enable Mopying is not selected, the dmCollate setting in the DEVMODE is irrelevant.

Allow Scaling from Large Paper

Select Allow Scaling from Large Paper to allow additional larger-than-supported paper sizes to appear in the Paper tab's Size Is: drop-down list. This checkbox is unselected by default in all drivers except in Asian variations, where the default is selected.

Automatic Configuration

The Automatic Configuration uses bidirectional communications to receive configuration information from the printer. If the software components needed for bidi are disabled or not installed, Update Now is disabled. The help bubble explains that the button is dimmed because bidi is not available.

If bidi is installed and enabled, the Update Now button is enabled. Selecting queries the printer for the latest configuration information. Because network communications are

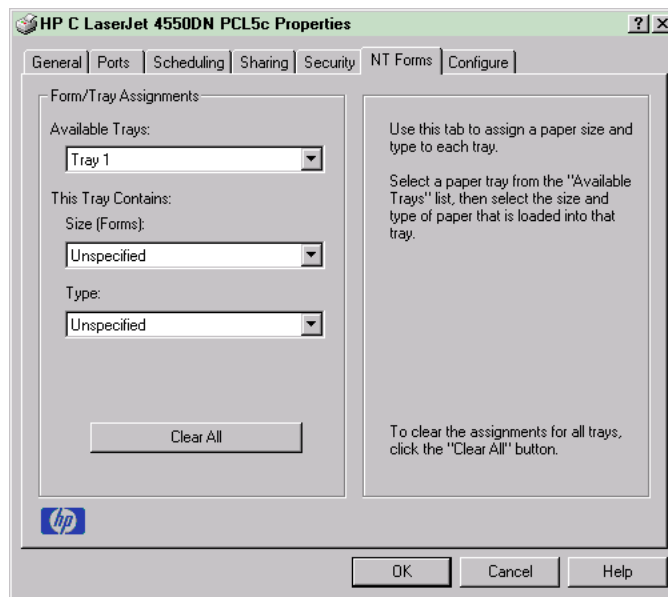
never guaranteed, this query attempt might or might not be successful. If not, then none of the configuration settings should change.

A successful bidi query updates all of the settings in the Printer Model, Paper Handling Options, and Other Options group boxes on the Configure tab, as well as any custom media type names. Automatic Configuration does not update configuration information Font DIMMs. Automatic Configuration can enable does not select Mopier Enabled or Job Retention Enabled.

NT Forms tab features

The NT Forms tab only appears in Windows NT. The NT Forms tab (like the Configure tab) can be viewed only from the Properties window within the Printers folder. Figure 39 illustrates NT Forms tab.

Figure 39: Driver NT Forms tab (all PCL drivers)



This tab allows you (or administrator) to specify which media sizes and types are loaded into each of the available paper trays. The advantage of doing this is that it constrains the choices available in the Size and Type lists on the Paper tab. This constraint prevents overwhelming the printer with paper mount messages if you request sizes or types that are not available.

Available Trays is a drop-down list containing all printer trays specified on the Configure tab. This Tray Contains/Size (Forms) contains standard HP Color LaserJet 4550 series-supported paper sizes, as well as any custom forms that have been defined in the Forms tab. This Tray Contains/Type lists all the media types supported by the HP Color LaserJet 4550 printer. The Clear All button removes all size and type constraints in the Paper tab.

To configure the trays

1. Select the tray to configure from the "Available Trays:" list.
2. In the "Size (Forms):" list, select the paper size (or form) that is loaded into that tray.
3. In the "Type:" list, select the paper type that is configured for that tray.
4. Repeat steps 1 through 3 for the remaining trays.

Click the **Clear All** button to un-configure all the trays and remove the size and type constraints imposed on the Paper tab.

Help system

What's this help

Windows 95 and NT 4.0 What's this? help is supported. To use What's this? Help:

- Click the right mouse button on a control to display a context-sensitive menu, then select What's this? to display a popup help window.
- Click the ? button located on the top-right corner of the frame next to the close (x) button to change the cursor to an arrow with a question mark. Selecting a control with this special cursor displays the popup help window for that feature.
- Press the F1 key to display the help window for the control that currently has focus.

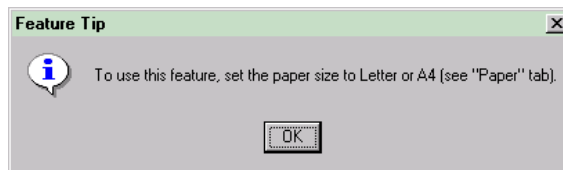
Page-sensitive help

Press the common Help button to open the driver help system to the contents that correspond to the active property page. There is also a Help button with dialog-sensitive help for the Custom Paper Size, Watermarks Details, Print Quality Details, and Job Retention Options dialog boxes.

Constraint messages

Constraint messages are any unsolicited messages that appear in response to specific actions you take. These messages alert you to selections that are illogical or impossible given the capabilities of the printer or the current settings of other controls. For example, if you select duplex printing and then changes the paper type to transparencies, a message appears asking you to resolve this conflict. (See below for a table of the constraint messages.) Figure 40 shows a typical constraint message.

Figure 40: A typical constraint message with an OK button



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

- Selecting **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.
- Selecting **Cancel** rejects the change that was just made, setting the control back to its previous value.

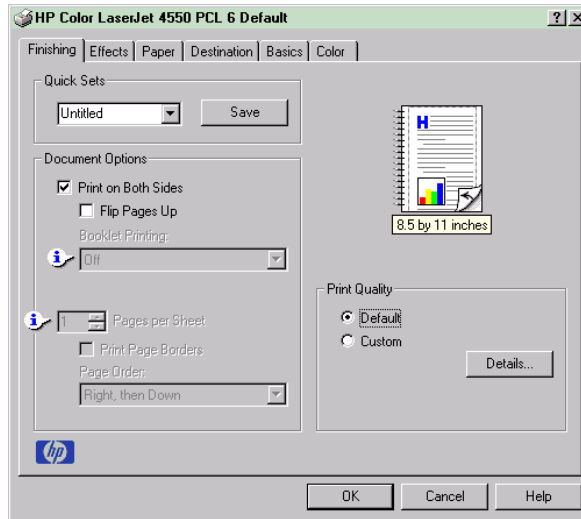
Constraint messages

<u>No.</u>	<u>Condition</u>	<u>Message</u>	<u>String ID</u>
1	Example: Type = Plain + Source = Manual Feed	The Paper Type chosen is not compatible with the source selected. Continue?	1414

Bubble help

Bubble Help features a graphical icon resembling a cartoon speech bubble with a small “i” in it, representing the international symbol for information. (See below for a list of the Bubble Help messages.) Figure 41 shows Bubble Help icons on a driver tab.

Figure 41: A property page with two Bubble Help icons



The bubble typically appears next to a disabled control, although it can also accompany an enabled control if there is an important note concerning its use. Moving the mouse pointer over the bubble changes the pointer to a gloved hand, which indicates that the area underneath the pointer is selectable. You can select the bubble using either the mouse or the keyboard, and a message box will appear with a brief explanation of 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 precaution to be aware of when using that particular feature. Figure 42 shows a typical bubble help message.

Figure 42: The typical format for Bubble Help messages



Bubble help messages

No.	Condition	Action	Message	String ID
1	Check Print Document On.	Disable % of Normal Size.	To use, turn off the Print Document On option (see Effects tab).	1798
2	Change % of Normal Size to anything but 100 percent.	Print Document On becomes disabled.	To use, set % of Normal Size to 100. (See Effects tab.)	

3	Allow Scaling from Large Paper checkbox on Configure tab us disabled by default.		Allows documents to be formatted for larger paper, but can be scaled and printed on smaller paper, such as 11x17 scaled to letter.	
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PCL 6 driver feature set

The following table presents supported PCL features for each operating system. Not all features are available with each operating system.

<u>Finishing tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
Document Options	Yes	Yes	Yes	Yes	Yes
Print on both sides	Yes	Yes	Yes	Yes	Yes
Pags per sheet	Yes	Yes	Yes	Yes	Yes
Print Quality Settings	Yes	Yes	Yes	Yes	Yes
Output Settings	Yes	Yes	Yes	Yes	Yes

<u>Effects tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
ZoomSmart	Yes	Yes	Yes	Yes	Yes
% of Normal Size	Yes	Yes	Yes	Yes	Yes
Watermarks	Yes	Yes	Yes	Yes	Yes

<u>Paper tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
All Pages or First Page/ Other Pages/ Back Cover	Yes	Yes	Yes	Yes	Yes
Size Is:	Yes	Yes	Yes	Yes	Yes
Custom....	Yes	Yes	Yes	Yes	Yes
Initial Settings	Yes	Yes	Yes	Yes	Yes
Combo Box	Yes	Yes	Yes	Yes	Yes

<u>Paper tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
Measurement Units button	Yes	Yes	Yes	Yes	Yes
Close button	Yes	Yes	Yes	Yes	Yes
Source Is:	Yes	Yes	Yes	Yes	Yes
Type Is:	Yes	Yes	Yes	Yes	Yes
Printer Image	Yes	Yes	Yes	Yes	Yes

<u>Destination tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
Destination Features	Yes	Yes	Yes	Yes	Yes
Output Bin Options and Accessible Architecture	Yes	Yes	Yes	Yes	Yes
Printer Image	Yes	Yes	Yes	Yes	Yes

<u>Basics tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
Copies	Yes	Yes	Yes	Yes	Yes
Orientation	Yes	Yes	Yes	Yes	Yes
About (driver extensions)	Yes	Yes	Yes	Yes	Yes
Quick Sets	Yes	Yes	Yes	Yes	Yes

<u>Color tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
ColorSmart II–Automatic, Manual	Yes	Yes	Yes	Yes	Yes
ColorSmart II– Color Map/ Halftone	Yes	Yes	Yes	Yes	Yes
ColorSmart II– Print in Grayscale	Yes	Yes	Yes	Yes	Yes

Quick Sets	Yes	Yes	Yes	Yes	Yes
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<u>Configure tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
Printer model	Yes	Yes	Yes	Yes	Yes
Paper Handling Options*	Yes	Yes	Yes	Yes	Yes
Other Options**	Yes	Yes	Yes	Yes	Yes
Automatic Configuration***	Yes	Yes	Yes	Yes	Yes

*Duplexer, envelope feeder, mopier enabled, optional paper destination, operation mode

**Storage, fonts, printer memory, Ignore Application Collation, allow scaling from larger paper

***Bidirectional communication must be functional, and printer friendly name must match printer device name.

<u>NT forms tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
Form/Tray Assignments	Yes	Yes	Yes	Yes	Yes

<u>Help system</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
What's This? Help	Yes	Yes	Yes	Yes	Yes
Page Sensitive Help	Yes	Yes	Yes	Yes	Yes
Constraint Messages	Yes	Yes	Yes	Yes	Yes
Bubble Help	Yes	Yes	Yes	Yes	Yes

<u>Localization</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
Western/Euro Languages	Yes	Yes	Yes	Yes	Yes
Asian (TKC&J)	Yes	Yes	Yes	Yes	Yes

PCL 5c driver feature set

The following table presents supported PCL features for each operating system. Not all features are available with each operating system.

<u>Finishing tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
Document Options	Yes	Yes	Yes	Yes	Yes
Print on both sides	Yes	Yes	Yes	Yes	Yes
Pags per sheet	Yes	Yes	Yes	Yes	Yes
Print Quality Settings	Yes	Yes	Yes	Yes	Yes
Output Settings	Yes	Yes	Yes	Yes	Yes

<u>Effects tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
ZoomSmart	Yes	Yes	Yes	Yes	Yes
% of Normal Size	Yes	Yes	Yes	Yes	Yes
Watermarks	Yes	Yes	Yes	Yes	Yes

<u>Paper tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
All Pages or First Page/ Other Pages/ Back Cover	Yes	Yes	Yes	Yes	Yes
Size Is:	Yes	Yes	Yes	Yes	Yes
Custom....	Yes	Yes	Yes	Yes	Yes
Initial Settings	Yes	Yes	Yes	Yes	Yes
Combo Box	Yes	Yes	Yes	Yes	Yes
Measurement Units button	Yes	Yes	Yes	Yes	Yes
Close button	Yes	Yes	Yes	Yes	Yes
Source Is:	Yes	Yes	Yes	Yes	Yes
Type Is:	Yes	Yes	Yes	Yes	Yes
Printer Image	Yes	Yes	Yes	Yes	Yes

<u>Destination tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
Destination Features	Yes	Yes	Yes	Yes	Yes
Output Bin Options and Accessible Architecture	Yes	Yes	Yes	Yes	Yes
Printer Image	Yes	Yes	Yes	Yes	Yes

<u>Basics tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
Copies	Yes	Yes	Yes	Yes	Yes
Orientation	Yes	Yes	Yes	Yes	Yes
About (driver extensions)	Yes	Yes	Yes	Yes	Yes
Quick Sets	Yes	Yes	Yes	Yes	Yes

<u>Color tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
ColorSmart II–Automatic, Manual	Yes	Yes	Yes	Yes	Yes
ColorSmart II– Color Map/ Halftone	Yes	Yes	Yes	Yes	Yes
ColorSmart II– Print in Grayscale	Yes	Yes	Yes	Yes	Yes
Quick Sets	Yes	Yes	Yes	Yes	Yes

<u>Configure tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
Printer model	Yes	Yes	Yes	Yes	Yes
Paper Handling Options*	Yes	Yes	Yes	Yes	Yes
Other Options**	Yes	Yes	Yes	Yes	Yes
Automatic Configuration***	Yes	Yes	Yes	Yes	Yes

*Duplexer, envelope feeder, mopier enabled, optional paper destination, operation mode
 **Storage, fonts, printer memory, Ignore Application Collation, allow scaling from larger paper
 ***Bidirectional communication must be functional, and printer friendly name must match printer device name.

<u>NT forms tab</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
Form/Tray Assignments	Yes	Yes	Yes	Yes	Yes

<u>Help system</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
What's This? Help	Yes	Yes	Yes	Yes	Yes
Page Sensitive Help	Yes	Yes	Yes	Yes	Yes
Constraint Messages	Yes	Yes	Yes	Yes	Yes
Bubble Help	Yes	Yes	Yes	Yes	Yes

<u>Localization</u>	<u>Win Me</u>	<u>Win 2000</u>	<u>Win 98</u>	<u>Win 95</u>	<u>NT 4.0</u>
Western/Euro Languages	Yes	Yes	Yes	Yes	Yes
Asian (TKC&J)	Yes	Yes	Yes	Yes	Yes

Background information

Bidirectional communication

Bidirectional communication (bidi) describes the printer's ability to respond to data inquiries from your computer and report back information, such as what type of paper is available or what accessories are connected to the printer. If a printer does not have this capability (no bidirectional mode), it can only accept commands for the host and cannot report information back.

Bidirectional communication depends on the network operating system you have and the way in which your printer is connected to the network.

Euro character

The Euro is the name for the currency of the European Union (EU). Use of this unit was launched on 1 January 1999. It has changed the way business is conducted in Europe and affected every company and industry on the continent. It is vital that companies understand and prepare for the changes the Euro has brought and will continue to bring.

HP has equipped the HP Color LaserJet 4550 printer series with the Euro characters designed for each of their internal fonts. The HP Color LaserJet 4550 printer series is currently enabled to print the Euro character in Windows 9x and Windows NT 4.0. HP is committed to maximizing document portability through supporting and promoting Euro symbol standards.

Year 2000 compliance

All printers in the HP Color LaserJet 4550 printer series are Year 2000 compliant.

Enhancements

The following enhancement was added to the LaserJet 4550 printing software to maximize printer performance.

HP ColorSmart II

ColorSmart II ensures the best printing results by automatically selecting the best half-toning and color treatment. The sRGB feature provides excellent color matching across a variety of input, display, and printing devices by defining an industry standard color space.

In-box file layout

The following directories are from the software CD-ROM English language PC partition. Localized files are located in similar directory structures for each language. Non-Windows drivers are not shipped on the software CD-ROM.

Autocad directory

<u>Directory Structure</u>	<u>Directories in this Directory</u>	
<drive>:\EN\AUTOCAD\	DOS WIN16 WIN32	<DIR> <DIR> <DIR>

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\AUTOCAD\DOS\	_INSTAL2.EXE HPADS12.EXE HPADS13.EXE HPCOMON.EXE HPDRV11.EXE	HPLOT.EXE HPREND.EXE INSTALL.EXE README.TXT

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\AUTOCAD\WIN16\	_INST16.EX_ _ISDEL.EXE _SETUP.DLL _SETUP.LIB ADISK1.ID R12DRV.Z R12SUP.Z	R13DRV.Z R13SUP.Z README.TXT SETUP.EXE SETUP.INS SETUP.PKG

<u>Directory Structure</u>	<u>Directories in this Directory</u>	
<drive>:\EN\AUTOCAD\WIN32	DISK1 DISK2	<DIR> <DIR>

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\AUTOCAD\WIN32\	_INST32I.EX_ _ISDEL.EXE	R14DRV.Z R14SUP.Z

DISK1\	_SETUP.DLL _SETUP.LIB DISK1.ID R13DRV.Z R13SUP.Z	README.TXT SETUP.EXE SETUP.INS SETUP.ISS SETUP.PKG
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<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\AUTOCAD\WIN32\ DISK2\	APDS.Z COMSUP.Z DISK2.ID	

Drivers directory

<u>Directory Structure</u>	<u>Directories in this Directory</u>	
<drive>:\EN\DRIVERS\ 	WIN2K WIN3X WIN9X WINNT	<DIR> <DIR> <DIR> <DIR>

<u>Directory Structure</u>	<u>Directories in this Directory</u>	
<drive>:\EN\DRIVERS\WIN2K	PS	<DIR>

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\DRIVERS\WIN2K\PS\ 	HP4550_6.PPD	HP4550PS.INF

<u>Directory Structure</u>	<u>Directories in this Directory</u>	
<drive>:\EN\DRIVERS\WIN3X	PCL5C PS	<DIR> <DIR>

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\DRIVERS\WIN3X\ PCL5C\ 	FINSTALL.DL_ FINSTALL.HL_ HPCLJDM.DL_ HPCLUI.DL_ HPPCLRF.DR_ HPPCL5F.HL_	HPPCL5F1.DL_ HPPCL5F2.DL_ HPPCL5F3.DL_ HPPCL5F4.DL_ OEMSETUP.INF

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\DRIVERS\WIN3X\PS\ 	HP4550_4.PP_ HP4550_6.WP_ OEMSETUP.INF	PSCRIPT.DR_ PSCRIPT.HEL_

Directory Structure	Directories in this Directory	
<drive>:\EN\DRIVERS\WIN9X	PCL5C PCL6 PS	<DIR> <DIR> <DIR>

Directory Structure	Files in this Directory	
<drive>:\EN\DRIVERS\WIN9X \PCL5C	HPBAFD16.DL_ HPBF4120.DR_ HPBF4120.HL_ HPBF4120.INF HPBF4120.PM_ HPBF4121.DL_	HPBFAB.DD_ HPBFAB16.DL_ HPBFAB32.DL_ HPBFTM16.DL_ HPBFTM32.DL_ HPDCMON.DL_

Directory Structure	Files in this Directory	
<drive>:\EN\DRIVERS\WIN9X\PCL6	HPBAFD16.DL_ HPBF4110.DR_ HPBF4110HL_ HPBF4110.INF HPBF4110.PM_ HPBF4111.DL_	HPBFAB.DD_ HPBFAB16.DL_ HPBFAB32.DL_ HPBFTM16.DL_ HPBFRM32.DL_ HPDCMON.DL_

Directory Structure	Files in this Directory	
<drive>:\EN\DRIVERS\WIN9X\PS	FONTS.MF_ HP4550_R.PP_ HP4550PS.INF HPDCMON.DL_	ICONLIB.DL_ PSCRIPT.DR_ PSCRIPT.HL_ PSCRIPT.IN_

Directory Structure	Directories in this Directory	
<drive>:\EN\DRIVERS\WINNT	PCL5C PCL6 PS	<DIR> <DIR> <DIR>

Directory Structure	Files in this Directory	
<drive>:\EN\DRIVERS\WINNT \PCL5C	HPBAFD32.DL_ HPBF4120.DL_ HPBF4121.DL_ HPBF4122.DL_ HPBF4123.DL_ HPBF4124.DL_ HPBF4124.HL_	HPBF4124.INF HPBF4124.PM_ HPBF4125.DL_ HPBF4126.DL_ HPBFTM32.DL_ HPDCMON.DL_>

Directory Structure	Files in this Directory	
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<drive>:\EN\DRIVERS\WINNT\PC_L6	HPBAFD32.DL_ HPBF4110.DL_ HPBF4111.DL_ HPBF4112.DL_ HPBF4113.DL_ HPBF4114.DL_ HPBF4114.HL_	HPBF4114.INF HPBF4114.PM_ HPBF4115.DL_ HPBF4116.DL_ HPBFTM32.DL_ HPDCMON.DL_
---------------------------------	--------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\DRIVERS\WINNT\PS	HP4550_6.PP_ HP4550PS.INF HPDCMON.DL_ PS4UI.DL_	PSCRIPT.NT_ PSCRIPT4.DL_ PSCRIPT4.HL_

Foninst directory

<u>Directory Structure</u>	<u>Directories in this Directory</u>	
<drive>:\EN\FONTINST\	WIN3X	<DIR>

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\FONTINST\WIN3X	FONTIN31.EXE FONTINST.DLL FONTS.INI	

ICM directory

<u>Directory Structure</u>	<u>Directories in this Directory</u>	
<drive>:\EN\ICM\	CMYK SRGB	<DIR> <DIR>

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\ICM\CMYK	HP4550C.ICM	

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\ICM\SRGB	HP4550R.ICM	

Manuals directory

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\MANUALS	COLOR.WRI HP4550EN.PDF IRDAEN.PDF	JDS99IEN.PDF REAT4550.WRI

PANTONE® directory

<u>Directory Structure</u>	<u>Directories and Files in this Directory</u>	
<drive>:\EN\PANTONE\	ACROBAT APPLICAT COLORSUP EPSCHART LUTTXT RAWPS TIFCHART HOWTOPAN.PDF	<DIR> <DIR> <DIR> <DIR> <DIR> <DIR> <DIR>

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\PANTONE\ACROBAT	HPCL4500.PDF	

<u>Directory Structure</u>	<u>Directories in this Directory</u>	
<drive>:\EN\PANTONE\APPLICAT	ADOBE CORELDRW DESIGNER FREEHAND QUARK	<DIR> <DIR> <DIR> <DIR> <DIR>

<u>Directory Structure</u>	<u>Directories in this Directory</u>	
<drive>:\EN\PANTONE\APPLICAT\ ADOBE	ILLUSTR PAGEMAKE PHOTOSHP	<DIR> <DIR> <DIR>

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\PANTONE\APPLICAT\ ADOBE\ ILLUSTR	HPCL4500.AI	

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\PANTONE\APPLICAT\ ADOBE\ PAGEMAKE	HPCL4500.ACF HPCL4500.BCF	

<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\PANTONE\APPLICAT\ ADOBE\ PHOTOSHP	HPCL4500.ACO	

<u>Directory Structure</u>	<u>Directories and Files in this Directory</u>	
<drive>:\EN\PANTONE\APPLICAT\ CORELDRW	HPCL4500.CPL HPCL4500.PAL	
<u>Directory Structure</u>	<u>Directories and Files in this Directory</u>	
<drive>:\EN\PANTONE\APPLICAT\ DESIGNER	HPCL4500PL4	
<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\PANTONE\APPLICAT\ FREEHAND	HPCL4500.ACF HPCL4500.BCF HPCL4500.CLB	
<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\PANTONE\APPLICAT\ QUARK	113-128.EPS 1-16.EPS 129-136.EPS 17-32.EPS 33-48.EPS	49-64.EPS 65-80.EPS 81-96.EPS 97-112.EPS
<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\PANTONE\COLORSUP	HPCL4500.PCD	
<u>Directory Structure</u>	<u>Files in this Directory</u>	
<drive>:\EN\PANTONE\EPSCHART	1-11.EPS 12-23.EPS 24-30.EPS 31-40.EPS 41-52.EPS	52-62.EPS 63-71.EPS 71-84.EPS 85-92.EPS
<u>Directory Structure</u>	<u>Directories and Files in this Directory</u>	
<drive>:\EN\PANTONE\LUTTXT	HPCL4500.TXT	
<u>Directory Structure</u>	<u>Directories and Files in this Directory</u>	
<drive>:\EN\PANTONE\RAWPS	HPCL4500.PS	

Directory Structure	Directories and Files in this Directory	
<drive>:\EM\PANTONE\TIFCHART	1-11.TIF 12-23.TIF 24-30.TIF 31-40.TIF 41-52.TIF	52-62.TIF 63-71.TIF 71-84.TIF 85-92.TIF

Resource manager directory

Directory Structure	Directories in this Directory	
<drive>:\EM\RESMGR	WIN9X WINNT	<DIR> <DIR>

Directory Structure	Directories in this Directory	
<drive>:\EM\RESMGR\WIN9X	DISK1	<DIR>

Directory Structure	Files in this Directory	
<drive>:\EM\RESMGR\WIN9X	SETUP32.DL_ BJRES.DL_ CABINET.DL_ CFGMGR32.DL_ COMCTL32.DL_ FINDPTRS.AV_ HPALERTS.DL_ HPALP.HP_ HPALPUI.HP_ HPBCOM.DL_ HPBLPT.VX_ HPBMLC.HP_ HPBNRACO.DL_ HPBPML.DL_ HPBPST.HL_ HPBST16.DL_ HPBSTJ.DL_ HPCOLA.DL_ HPDCMON.DL_ HPDMIP.HP_ HPDMIPX.HP_ HPECLUI.HP_ HPELKUI.HP_ HPEXPAND.DL_ HPFL.HP.HP_ HPFLASH.HL_ HPFLSH.HP_ HPGENAPP.DL_ HPHCO.HL_	HPIPXMI.B.DL_ HPIPXMON.DL_ HPIPXMON.IN_ HPIPXUI.DL_ HPIPXUI.HL_ HPJAHL.P.CN_ HPJCMN1.DL_ HPJCMN1U.DL_ HPJDCOM.HP_ HPJDNP.DL_ HPDJPP.DL_ HPJDUI.HP_ HPJDUND.HL_ HPMSUI.HP_ HPNETSRV.HP_ HPNPSNMP.DL_ HPNRA.EX_ HPNW416.DL_ HPNW432.DL_ HPNWPSRV.DL_HP NWSHIM.DL_ HPOBJ.HP_ HPPAL16.DL_ HPPAL416.DL_ HPPAL432.DL_ HPPDS.DL_ HPPELK.HP_ HPPJL.HP_ HPPRECL.HL_

Directory Structure	Files in this Directory	
	HPHCO.HP_ HPHCOUI.HP_ HPHUGOUI.HL_ HPJDUND.HP_ HPJIPX1U.DL_ HPJMON.DL_ HPJMON.HL_ HPIPRO1.DL_ HPIPTS1.DL_ HPJSI.DL_ HPJSI.HL_ HPJSIADP.DL_ HPJSIEXD.IN_ HPJSIME.IN_ HPJSIPM.IN_ HPJSIRA.EX_ HPJSIRES.DL_ HPJSIRES.HP_ HPJSNM1.DL_ HPKOAUI.HP_ HPLOCMON.DL_ HPLOCMON.HL_ HPLOCP.HP_ HPLOTUI.HP_ HPMNSNMP.DL_ HPMOBYUI.HP_ HPMS.HP_ HPMSTOR.HL_ HPHUGOUI.HP_	HPPRECL.HP_ HPPRELK.HL_ HPPRKO.A.HP_ HPPRMOBY.HL_ HPPRMOBY.HP_ HPPRNTR.HL_ HPPRNTR.HP_ HPPRUI.HP_ HPPTS.DL_ HPRESMGR.CN_ HPRESMGR.EX_ HPRESMGR.HL_ HPRRM.HP_ HPSETUP.HL_ HPSHELL.DL_ HPSNMP.DL_ HPTCPMIB.DL_ HPTCPMON.DL_ HPTCPMON.IN_ HPTCPMUI.DL_ HPTCPMUI.HL_ HPTRBIT.HL_ HPUNINST.EX_ LICENSE.TXT MFC42.DL_ MGMTAPI.DL_ MSVCIRT.DL_ MSVCRT.DL_

Directory Structure	Directories in this Directory	
<drive>:\EM\RESMGR\WINNT	DISK1	<DIR>

Directory Structure	Files in this Directory	
<drive>:\EM\RESMGR\WINNT	SETUP32.DL_ BJRES.DL_ CABINET.DL_ CFGMGR32.DL_ COMCTL32.DL_ FINDPTRS.AV_ HPALERTS.DL_ HPALP.HP_ HPALPUI.HP_ HPBECF00.SY_	HPMNSNMP.DL_ HPMOBYUI.HP_ HPMS.HP_ HPMSTOR.HL_ HPMSUI.HP_ HPNETSRV.HP_ HPNPSNMP.DL_ HPNRA.EX_ HPNWPSRV.DL_ HPNWSHIM.DL_

Directory Structure	Files in this Directory	
	HPBMLC.HP_ HPBNRACO.DL_ HPBPML.DL_ HPBPST.HL_ HPBSTT.DL_ HPBVCMMNT.DL_ HPCOLA.DL_ HPDCMON.DL_ HPDMIP.HP_ HPDMIPX.HP_ HPECLUI.HP_ HPELKUI.HP_ HPEXPAND.DL_ HPFL.HP_ HPFLASH.HL_ HPFLSH.HP_ HPGENAPP.DL_ HPHCO.HL_ HPHCO.HP_ HPHCOUI.HP_ HPHUGOUI.HL_ HPHUGOUI.HP_ HPIPXMIB.DL_ HPIPXMIB.DL_ HPIPXMIB.DL_ HPIPXMIB.DL_ HPIPXMIB.HL_ HPIPXMON.DL_ HPIPXMON.IN_ HPIPXMON.DL_ HPIPXMON.HL_ HPIPXMON.HL_ HPJAHLP.CN_ HPJCMN1.DL_ HPJCMN1U.DL_ HPJDCOM.HP_ HPJDUI.HP_ HPJDUND.HL_ HPJDUND.HP_ HPJIPX1U.DL_ HPJMON.DL_ HPJMON.HL_ HPIPRO1.DL_ HPIPTS1.DL_ HPJSI.DL_ HPJSI.HL_ HPJSIADP.DL_ HPJSIEXD.IN_ HPJSIME.IN_ HPJSIPM.IN_ HPJSIRA.EX_	HPOBJ.HP_ HPPDS.DL_ HPPELK.HP_ HPPJL.HP_HPPREC L.HL_ HPPRECL.HP_ HPPRELK.HL_ HPPRKO.A.HP_ HPPRMOBY.HL_ HPPRMOBY.HP_ HPPRNTR.HL_ HPPRNTR.HP_ HPPRUI.HP_ HPPTS.DL_ HPRESMGR.CN_ HPRESMGR.EX_ HPRESMGR.HL_ HPRRM.HP_ HPSETUP.HL_ HPSHELL.DL_ HPSNMP.DL_ HPTCPMIB.DL_ HPTCPMON.DL_ HPTCPMON.IN_ HPTCPMUI.DL_ HPTCPMUI.HL_ HPTRBIT.HL_ HPUNINST.EX_ LICENSE.TXT MFC42.DL_ MFC42U.DL_ MGMTAPI.DL_ MSVCIRT.DL_ MSVCRT.DL_ PFMMAKE.DL_ READRSMG.WRI RUNONCE.ST_ SETUP.EXE SETUP.IMG SETUP.LST SETUP.PID SETUP.STT SETUPRES.DLL SETUPUI.DL_ SNMP_PP.DL_ SNMPAPI.DL_

Directory Structure	Files in this Directory	
	HPJSIRES.DL_ HPJSIRES.HP_ HPJSNM1.DL_ HPKOAUI.HP_ HPLOCMON.DL_ HPLOCMON.HL_ HPLOTCP.HP_ HPLOTUI.HP_	TLS704D.DL_ UNINSTAL.ST_ UNINSTAL.UN_ WSNMP32.DL_ Z_BIDI.PE_ Z_COLA.PE_ Z_READ.PE_ Z_RESMGR.PE_

Availability

HP Color LaserJet 4550/4550N/4550DN/4550HDN printing software is available from the sources listed below.

In-box versions

The HP Color LaserJet 4550 printer family ships with:

- Windows printing system
- Print Server NLM utility
- Macintosh software

End-User Software

This section describes the software available to end-users of the HP Color LaserJet 4550/4550N/4550DN/4550HDN printing systems. Software is listed by operating system.

Windows 2000

NOTE: In the Descriptions that follow, the \$ symbol before a path name indicates that the path to that directory can change from system to system. The term **\$Path** indicates that the path and the subdirectory can change from system to system.

System requirements

The minimum system requirements for clients running Windows 2000 are:

- 133 MHz x86-based microprocessor (such as Intel Pentium or higher)
- VGA or higher resolution
- 2 GB of free hard disk space
- 64 GB RAM;

Components and features

The HP Color LaserJet 4550/4550N/4550DN/4550HDN Printing System (version 1.00) includes the following components for Windows. Following the table are Descriptions of each component.

Component	Version
HP Installer	
HP C LaserJet 4550 HP PCL 6 driver	
HP C LaserJet 4550 HP PCL 5c driver	
HP C LaserJet 4550 PS PPD for use with Microsoft PSCRIPT driver	5.00.1234
HP Online User Guide	2.0
Bidirectional Communication	
HP Resource Manager	

The printer drivers included in the HP Color LaserJet 4550/4550N/4550DN/4550HDN Printing System for Windows are HP PCL 6, HP PCL 5c, and PS. These printer drivers communicate with the printer to access the printer's features. Along with other standard components each driver for the printer is described in the following table.

Components	Features/Descriptions
HP PCL 6, HP PCL 5c	<ul style="list-style-type: none"> • PCL 6 and PCL 5c drivers feature a Graphical User Interface with a common "look and feel." • Provides access to the printer's paper handling and print quality features. • Job Status and Alerts provides job status messages at the host PC when printing problems occur (toner out, paper out, etc.) or when a print job is complete. It also allows you to proactively check the status of the printer. This utility can be configured to display only those messages you want. • Supplies Information and Reordering allows you to order the consumables and supplies needed for your HP printers directly from the Web. This feature is available during a custom install and requires Job Status and Alerts • Selected from the printer driver, Job Retention lets you store a print job on the printer's hard disk. This allows you to perform a number of advanced print job functions, including quick copying a job, proofing and holding a job, printing a private job, and storing a job. Job Retention is a standard feature of the HP Color LaserJet 4550HDN printer, and is optional on the 4550, 4550N, and 4550DN printers.
PS Driver	<ul style="list-style-type: none"> • Included as a component of the printing system. • Provides access to PS features of printer. • Print to PS or EPS file. • Set general printing options. • Automatic PANTONE* Calibration is the default setting for HP Color LaserJet printers. This feature automatically converts PANTONE* colors to optimal color values for the printer by recognizing the PANTONE* color name or number in the data stream sent to the printer. The feature is activated when printing colors that were chosen using the PANTONE* Color Picker in supported graphics applications. See the color.wri Readme file included on the printer CD-ROM for more information about PANTONE* and ICC color.

Background information

Online user guide installation

The online user guide for this printer is supplied in online format for viewing on your computer screen. You can install the online user guide while you are installing the printer software, or you can install it later. When you install the online user guide, both the guide and Adobe Acrobat Reader are installed in the HP LaserJet folder.

To install the online user guide while you are installing the printer software, follow the instructions that appear on your screen.

Font support

Microsoft Windows software includes these basic standard fonts that can be used with any HP printer:

Standard Fonts		
Arial	Courier New Italic	Times New Roman Italic
Arial Italic	Courier New Bold	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	

The following PCL device fonts reside in the HP Color LaserJet 4550 printers and can be accessed by all users:

PCL Device Fonts		
Antique Olive	Garamond Antiqua	New Century Schoolbook Bold
Antique Olive Bold	Garamond Halbfett	New Century Schoolbook Bold Italic
Antique Olive Italic	Garamond Kursiv	New Century Schoolbook Italic
Albertus Medium	Garamond Kursiv Halbfett	New Century Schoolbook Roman
Albertus Extra Bold	Helvetica	Palatino Bold
Arial	Helvetica Bold	Palatino Bold Italic
Arial Bold	Helvetica Bold Oblique	Palatino Italic
Arial Bold Italic	Helvetica Oblique	Palatino Roman

Arial Italic	Helvetica Narrow	Symbol
CG Times	Helvetica Narrow Bold	Symbol
CG Times Bold	Helvetica Narrow Bold Oblique	Times Bold
CG Times Bold Italic	Helvetica Narrow Oblique	Times Bold Italic
CG Times Italic	ITC Avant Garde Book	Times Italic
CG Omega	ITC Avant Garde Demi	Times New Bold
CG Omega Bold	ITC Avant Garde Book Oblique	Times New Bold Italic
CG Omega Bold Italic	ITC Avant Garde Demi Oblique	Times New Italic
CG Times Italic	ITC Bookman Demi	Times New Roman
Clarendon Condensed	ITC Bookman Demi Italic	Times Roman
Coronet	ITC Bookman Light	Wingdings
Courier	ITC Bookman Light Italic	Univers Bold
Courier Bold	ITC Zapf Chancery Italic	Univers Bold Condensed
Courier Bold Italic	ITC Zapf Dingbats	Univers Bold Condensed Italic
Courier Italic	Letter Gothic	Univers Bold Italic
Courier	Letter Gothic Bold	Univers Medium
Courier Bold	Letter Gothic Bold Italic	Univers Medium Condensed
Courier Bold Oblique	Line Printer	Univers Medium Condensed Italic
Courier Oblique	Marigold	Univers Medium Italic

The following PS device fonts reside in the HP Color LaserJet 4550 printers. Only those fonts with an (*) can be accessed by Windows users:

PS Device Fonts		
Antique Olive	Garamond Antiqua	(* New Century Schoolbook Bold Italic
Antique Olive Bold	Garamond Halbfett	(* New Century Schoolbook Italic
Antique Olive Italic	Garamond Kursiv	(* New Century Schoolbook Roman
Albertus Medium	Garamond Kursiv Halbfett	(* Palatino
Albertus Extra Bold	(* Helvetica	(* Palatino Bold
Arial	(* Helvetica Bold	(* Palatino Bold Italic
Arial Bold	(* Helvetica Bold Oblique	(* Palatino Italic
Arial Bold Italic	(* Helvetica Oblique	Palatino Roman
Arial Italic	(* Helvetica Narrow	(* Symbol
CG Times	(* Helvetica Narrow Bold	Symbol
CG Times Bold	(* Helvetica Narrow Bold Oblique	(* Times Bold
CG Times Bold Italic	(* Helvetica Narrow Oblique	(* Times Bold Italic
CG Times Italic	(* ITC Avant Garde Gothic Book	(* Times Italic
CG Omega	(* ITC Avant Garde Gothic Demi	Times New Bold
CG Omega Bold	(* ITC Avant Garde Gothic Book Oblique	Times New Bold Italic
CG Omega Bold Italic	(* ITC Avant Garde Gothic Demi Oblique	Times New Italic
CG Times Italic	(* ITC Bookman Demi	Times New Roman
Clarendon Condensed	(* ITC Bookman Demi Italic	(* Times Roman
Coronet	(* ITC Bookman Light	Wingdings

(*) Courier	(*) ITC Bookman Light Italic	Univers Bold
(*) Courier Bold	(*) ITC Zapf Chancery Medium Italic	Univers Bold Condensed
Courier Bold Italic	(*) ITC Zapf Dingbats	Univers Bold Condensed Italic
Courier Italic	Letter Gothic	Univers Bold Italic
Courier	Letter Gothic Bold	Univers Medium
Courier Bold	Letter Gothic Bold Italic	Univers Medium Condensed
(*) Courier Bold Oblique	Marigold	Univers Medium Condensed Italic
(*) Courier Oblique	(*) New Century Schoolbook Bold	Univers Medium Italic

Windows 2000 installation instructions

General installation

1. Close all applications, terminate-and-stay-resident (TSR) programs, and virus checkers. After installation, you can restart these programs.
2. If you are installing from the CD-ROM, insert the CD-ROM into the CD-ROM drive.
3. If the CD-ROM begins to auto-play, go to step 6.
4. If the installation CD-ROM does not begin to auto-play, select **Run** from the **Start** menu.
5. In the Run box, type the drive and path for the installation CD-ROM (usually **D:\Setup.exe**). If you are a network user installing from a shared Windows directory, see your network administrator for the correct drive and path.
6. Click **Install Printer** to begin installation, and then respond to each prompt that appears on the screen. Click **Next** to proceed to the next screen, or click **Back** to return to the previous screen.

NOTE: If you downloaded the Printing System electronically, you need to first run the downloaded .EXE file(s). If SETUP.EXE does not run automatically, browse to the root location of the downloaded SETUP.EXE file, double-select the file, and go to step 6.

Driver only installation

1. Close all applications.
2. Click **Start**, **Settings**, and **Printers**.
3. Double-click **Add Printer**.
4. Answer the questions in the Add Printer Wizard until you reach the screen with the printer manufacturer list.
5. Click **Have Disk**.
6. Browse to the driver location using one of the options in this step:

- a. **Inbox CD-ROM option:** Browse to the appropriate \<language>\Drivers\<os>\<pd> directory for your operating system and language.
 - b. **Internet download option:** Browse to the folder where the Web files were downloaded and decompressed.
7. Select the appropriate .INF file.
 8. Click **Open**, and then click **OK**.
 9. Select the appropriate printer.
 10. Follow the remaining instructions to complete the printer installation. At this point, the driver has been copied to your hard disk and added to the list of installed printers.

Setting a default printer

1. Click **Start**, click **Settings**, and then click **Printers**.
2. Select the printer you wish to set as the default printer.
3. From the **File** menu, select **Set As Default**.
A check appears next to the menu option.
4. Click **Close**.

Windows Installation Options	
Typical	Custom
Installs: <ul style="list-style-type: none"> • Printer drivers • Uninstaller • Readme files • Resource Manager • Bidirectional Communication 	Installs: <ul style="list-style-type: none"> • Uninstaller • Printer drivers • Readme files • Bidirectional Communication • Resource Manager Optional: <ul style="list-style-type: none"> • Online User Guide

Installation for network administrators

This installation process copies the installation disks to a network drive or hard disk drive. Anyone with access to that drive can run the installation.

1. Close all applications and turn off virus checkers and terminate stay resident (TSR) programs. After installation these programs can be turned back on.
2. Insert the installation CD-ROM for the appropriate language into the CD-ROM drive.
3. If AutoPlay is bypassed, select **Run** from the **Start** menu.

4. Type D:\SETUP.EXE and press **ENTER** (or click **OK**).
5. Click **Install Printer**.
6. To install printer software for the language and version of Windows being used to install from, click **Next**.
7. Click **Continue** until asked to select an installation option.
8. To install software for Windows on a peer-to-peer network, choose **Custom**. This option installs the following software components:
 - Uninstaller
 - Printer drivers
 - Readme files
 - Bidirectional communication
 - Resource Manager
 - Online User Guide

NOTE: When installing the software on a network that uses a shared version of Windows, install the software twice. During the first installation, install files on the shared Windows directory. Once the installation is complete, run the installation software again, and choose Typical or Custom to install the printer software onto the workstation used to install from.

9. Define the printer port to use for this printer. The options available are:
 - **Use an Existing Port** - select the port you wish to use.
 - **Add a Port** - select the port you wish to use.
 - **Connect to a Shared Network Printer** - browse the directory structure to locate the path and name of the shared network printer.
10. Once the installer has installed the chosen printer software, and Windows has been restarted, the installation is complete. Network administrators must now configure the printer on the network (refer to "Configuring the Printer on the Network").

Configuring the printer on the network

Before the printer can be used, configure it on the network. For more information, see the appropriate chapters on Windows 2000 networks in the *HP JetDirect Print Server Software Installation Guide*.

Distributing the installation software to network clients

Before a network client can print to the HP Color LaserJet 4550 Printer, the printer software must be installed on the client's workstation. Rather than distributing the CD-ROM to each client, place disk images of the installation software onto a public directory. The printer software's **Customization Utilities** option lets you copy disk images for Windows operating systems to a designated directory. To create disk images with the Customization Utility:

1. Insert the CD-ROM for the appropriate language into the CD-ROM drive.
2. Click the **Start** button, and then select **Run**.
3. If AutoPlay is bypassed, select **Run** from the **Start** menu.
4. Type D:\SETUP.EXE and press ENTER (or click **OK**).
5. Click **Install Printer**.

6. When you are prompted to choose the method of installation, click **Customization Utilities**.
7. Select the language and operating system versions for which the disk images are to be created, and choose the drivers to be included in the disk images.
8. Click the **Browse** button to assign a path to the drive and directory where the disk images are to be copied.
9. Click **Next** and follow the on-screen instructions to complete the disk copy.

NOTE: Use a file management tool such as Windows File Manager or XCOPY to copy disk images. If using an application or utility other than Disk Copy, browse the image directory on the CD-ROM to determine the location of the disk images.

If a disk copy utility other than Disk Copy (in the installer) is used to create disk images, the Online User Guide will not be included in the disk images.

Installing the printer software for network clients

Before a client can print to the HP Color LaserJet 4550 printer, the printer software must be installed on the client's workstation.

The procedures for installing end-user software on client workstations are similar to the installation procedures for network administrators. Install the end-user software on client workstations by running SETUP.EXE from the root directory of the CD-ROM.

To install end-user software, select **Typical** or **Custom**.

Windows Installation Options	
Typical	Custom
<p>Installs:</p> <ul style="list-style-type: none"> • Printer drivers • Uninstaller • Readme files • Resource Manager • Bidirectional Communication 	<p>Installs:</p> <ul style="list-style-type: none"> • Uninstaller • Printer drivers • Readme files • Bidirectional Communicatio • Resource Manager <p>Optional:</p> <ul style="list-style-type: none"> • Online User Guide

Do not install the PCL 5c Driver, PCL 6 Driver or PS Driver(s) onto Windows 2000 workstations when installing other end-user software. Clear the PCL and PS Driver checkboxes in the Components list during the Custom Installation. The driver(s) is installed from the server when connected to the network printer.

NOTE: To connect to the network printer on a Windows NT workstation, the installer must have ADMINISTRATOR PRIVILEGES on that workstation.

Users of a shared network version of Windows can install only those software components that the Network Administrator installed during the Network Administrator installation.

Connecting to the printer

After installing the end-user software on a client workstation, the user or the network administrator must connect the printer drivers to the printer on the proper port before the client can print to the printer. The procedures for connecting to a port vary, depending on which operating system is being used. Use the instructions below that apply to operating system is being used.

When connecting to the network printer on a Windows 2000 workstation, the printer driver is installed from the server. If the operating system is unable to install the driver from the server, use the CD_ROM to install the driver. If prompted for the driver, browse the HPPRINT.inf in the WINNT\

NOTE: To connect to the network printer on a Windows NT workstation, you must have ADMINISTRATOR PRIVILEGES on that workstation.

In Windows 2000, there are three options for connecting to the network printer:

- Open **Network Neighborhood** and locate the printer on the network. Drag the printer icon from the **Network Neighborhood** to the **Printers** folder.
- Open **Network Neighborhood** and double-click on the printer icon. Follow the instructions on the screen for connecting to a printer.
- Use the **Add Printer Wizard** in the **Printers** folder to connect to a network printer.

Online user guide installation

The online User Guide for this printer is supplied in online format for viewing on individual screens. The online User Guide can be installed while installing the printer software or it can be installed later. When installing the online User Guide, both the Guide and Adobe Acrobat Reader are installed in the HP LaserJet folder.

To install the online User Guide while you are installing the printer software, follow the instructions that appear on the screen.

Installation options and user prompts for Windows 2000

The following table assumes you are using the HP Color LaserJet installer CD.

Installation Option	Description	User Prompts
Typical Installation	Installs the printing system already configured for the average user. This includes the PCL 6 driver, PS driver, Readme files, bidirectional communication, Resource Manager and the uninstaller.	Select Port. Allows you to select the type of port the printer is to be connected to. <ul style="list-style-type: none"> • Use an existing port • Add a port • Connect to a shared network printer
Custom Installation	Installs the printing system, allowing you to customize the printing configuration.	Select Components. Choice is: <ul style="list-style-type: none"> • Printer Drivers (default selection). Shows space required and available for each. Default has all drivers selected. • PCL 6 • PCL 5c • PS • Bidirectional communication • Standalone Status • Resource Manager • User Guide. You can choose to install the online user guide.

Disk Image Copy	Copies the Installation disks to a network drive or hard drive. Anyone with access to that drive can run the installation.	<ul style="list-style-type: none"> • Language. Allows you to select the language the printer software is to be installed in. • Change directory option. • Prompts for disks during disk copy. • User Guide. You can choose to install the online User Guide into the public directory. • Operating System. Allows you to select the operating system and printer model.
Network Administrator	The installer will provide this option only if it detects that a user is running a shared copy of Windows and has read/write capabilities. It copies installation files to the shared Windows directory on the network.	<ul style="list-style-type: none"> • User Guide. You can choose to install the online User Guide. • Prompts for appropriate installation disks.

Uninstalling printing system components

CAUTION: Hewlett-Packard strongly recommends using the Uninstaller to remove printing system components. Removing printing system components and files manually can impact the operation of other installed components of this printing system, as well as components of other printing systems installed on this computer. System integrity can also be affected by removing files from the printing system. Before removing any files, perform a complete backup of the system.

1. From the **Start** Menu click **Programs**.
2. Select the **HP LaserJet** folder.
3. Select the **HP CLJ 4550 uninstall** icon.
4. Select a component to uninstall by checking the appropriate box. Then, click **Next**.

PCL 6 and PCL 5c driver modifications

Files added to the system for the PCL 6 and PCL 5c Driver

\$SYSTEM directory

The following files are added to the \$WINNT\SYSTEM directory upon installation of the PCL 5c driver:

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
HPC4C.DLL	PCL 5c driver	4550 Printing Systems
HPC4K.DLL	PCL 5c driver	4550 Printing Systems
HPC4L.DLL	PCL 5c driver	4550 Printing Systems
HPC4P.DLL	PCL 5c driver	4550 Printing Systems
HPC4PCL5.DLL	PCL 5c driver	4550 Printing Systems
HPC4U.DLL	PCL 5c driver	4550 Printing Systems
READ_HP.TXT	Readme file	

PS driver modifications

Files added to the system for the PS driver

\$SYSTEM directory

The following driver files are added to the \$SYSTEM directory upon installation of the PS driver:

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
PSCRIPT.DLL	PS driver	
PSCRIPTUI.DLL	PS UI driver	
PSCRIPT.HLP	PS help file	
HP4550-4.PPD	Printer description file	
READ_.WRI	PS Readme file	
UN.DLL	PS Uninstaller	

Windows 95, Windows 98 and Windows Millennium

NOTE: In the Descriptions that follow, the \$ symbol before a path name indicates that the path to that directory can change from system to system. The term **\$Path** indicates that the path and the subdirectory can change from system to system.

System requirements

The minimum system requirements for users running Windows 95, Windows 98, and Windows Millennium are:

- Windows 95, Windows 98, and Windows Millennium
- 386 processor or greater
- 8 MB RAM, 16 MB recommended
- 4 MB available disk space

Components and features

The HP Color LaserJet 4550/4550N/4550DN/4550HDN Printing System (version 1.00) includes the following components for Windows. Following the table is a description of each component.

Component	Version
HP Installer	
HP C LaserJet 4550 HP PCL 6 driver	
HP C LaserJet 4550 HP PCL 5c driver	
HP C LaserJet 4550 PS PPD for use with Microsoft PSCRIPT driver	5.00.1234
HP Online User Guide	2.0
Bidirectional Communication	
HP Resource Manager	

The printer drivers included in the HP Color LaserJet 4550/4550N/4550DN/4550HDN Printing System for Windows are HP PCL 6, HP PCL 5c, and PS. These printer drivers communicate with the printer to access the printer's features.

Each driver, along with other standard components for the HP Color LaserJet 4550/4550N/4550DN printer, is described in the following table.

Components	Features/Descriptions
HP PCL 6, HP PCL 5c	<ul style="list-style-type: none"> • PCL 6 and PCL 5c drivers feature a Graphical User Interface with a common "look and feel." • Provides access to the printer's paper handling and print quality features. • Job Status and Alerts provides job status messages at the host PC when printing problems occur (toner out, paper out, etc.) or when a print job is complete. It also allows you to proactively check the status of the printer. This utility can be configured to display only those messages you want. • Supplies Information and Reordering allows you to order the consumables and supplies needed for your HP printers directly from the Web. This feature is available during a custom install and requires Job Status and Alerts • Selected from the printer driver, Job Retention lets you store a print job on the printer's hard disk. This allows you to perform a number of advanced print job functions, including quick copying a job, proofing and holding a job, printing a private job, and storing a job. Job Retention is a standard feature of the HP Color LaserJet 4550HDN printer, and is optional on the 4550, 4550N, and 4550DN printers.
PS Driver	<ul style="list-style-type: none"> • Included as a component of the printing system. • Provides access to PS features of printer. • Print to PS or E file. • Set general printing options. • Automatic PANTONE®* Calibration is the default setting for HP Color LaserJet printers. This feature automatically converts PANTONE®* colors to optimal color values for the printer by recognizing the PANTONE®* color name or number in the data stream sent to the printer. The feature is activated when printing colors that were chosen using the PANTONE®* Color Picker in supported graphics applications. See the color.wri Readme file included on the printer CD-ROM for more information about PANTONE®* and ICC color.

Background information

Online user guide

The online user guide for this printer is supplied in online format for viewing on your computer screen. You can install the online user guide while you are installing the printer software or you can install it later. When you install the online user guide, both the guide and Adobe Acrobat Reader are installed in the HP LaserJet folder.

To install the online user guide while you are installing the printer software, follow the instructions that appear on your screen.

Plug and Play

The HP installer detects if the operating system has Plug and Play. Follow directions on the screen.

Font support

Microsoft Windows software includes these basic standard fonts that can be used with any HP printer:

Standard Fonts		
Arial	Courier New Italic	Times New Roman Italic
Arial Italic	Courier New Bold	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	

The following PCL device fonts reside in the HP Color LaserJet 4550 printers and can be accessed by all users:

PCL Device Fonts		
Antique Olive	Garamond Antiqua	New Century Schoolbook Bold
Antique Olive Bold	Garamond Halbfett	New Century Schoolbook Bold Italic
Antique Olive Italic	Garamond Kursiv	New Century Schoolbook Italic
Albertus Medium	Garamond Kursiv Halbfett	New Century Schoolbook Roman
Albertus Extra Bold	Helvetica	Palatino Bold

Arial	Helvetica Bold	Palatino Bold Italic
Arial Bold	Helvetica Bold Oblique	Palatino Italic
Arial Bold Italic	Helvetica Oblique	Palatino Roman
Arial Italic	Helvetica Narrow	Symbol
CG Times	Helvetica Narrow Bold	Symbol
CG Times Bold	Helvetica Narrow Bold Oblique	Times Bold
CG Times Bold Italic	Helvetica Narrow Oblique	Times Bold Italic
CG Times Italic	ITC Avant Garde Book	Times Italic
CG Omega	ITC Avant Garde Demi	Times New Bold
CG Omega Bold	ITC Avant Garde Book Oblique	Times New Bold Italic
CG Omega Bold Italic	ITC Avant Garde Demi Oblique	Times New Italic
CG Times Italic	ITC Bookman Demi	Times New Roman
Clarendon Condensed	ITC Bookman Demi Italic	Times Roman
Coronet	ITC Bookman Light	Wingdings
Courier	ITC Bookman Light Italic	Univers Bold
Courier Bold	ITC Zapf Chancery Italic	Univers Bold Condensed
Courier Bold Italic	ITC Zapf Dingbats	Univers Bold Condensed Italic
Courier Italic	Letter Gothic	Univers Bold Italic
Courier	Letter Gothic Bold	Univers Medium
Courier Bold	Letter Gothic Bold Italic	Univers Medium Condensed
Courier Bold Oblique	Line Printer	Univers Medium Condensed Italic
Courier Oblique	Marigold	Univers Medium Italic

The following PS device fonts reside in the HP Color LaserJet 4550 printers. Only those fonts with an (*) can be accessed by Windows users:

PS Device Fonts		
Antique Olive	Garamond Antiqua	(*) New Century Schoolbook Bold Italic
Antique Olive Bold	Garamond Halbfett	(*) New Century Schoolbook Italic
Antique Olive Italic	Garamond Kursiv	(*) New Century Schoolbook Roman
Albertus Medium	Garamond Kursiv Halbfett	(*) Palatino
Albertus Extra Bold	(*) Helvetica	(*) Palatino Bold
Arial	(*) Helvetica Bold	(*) Palatino Bold Italic
Arial Bold	(*) Helvetica Bold Oblique	(*) Palatino Italic
Arial Bold Italic	(*) Helvetica Oblique	Palatino Roman
Arial Italic	(*) Helvetica Narrow	(*) Symbol
CG Times	(*) Helvetica Narrow Bold	Symbol
CG Times Bold	(*) Helvetica Narrow Bold Oblique	(*) Times Bold
CG Times Bold Italic	(*) Helvetica Narrow Oblique	(*) Times Bold Italic
CG Times Italic	(*) ITC Avant Garde Gothic Book	(*) Times Italic
CG Omega	(*) ITC Avant Garde Gothic Demi	Times New Bold
CG Omega Bold	(*) ITC Avant Garde Gothic Book Oblique	Times New Bold Italic
CG Omega Bold Italic	(*) ITC Avant Garde Gothic Demi Oblique	Times New Italic
CG Times Italic	(*) ITC Bookman Demi	Times New Roman
Clarendon Condensed	(*) ITC Bookman Demi Italic	(*) Times Roman

Coronet	(*) ITC Bookman Light	Wingdings
(*) Courier	(*) ITC Bookman Light Italic	Univers Bold
(*) Courier Bold	(*) ITC Zapf Chancery Medium Italic	Univers Bold Condensed
Courier Bold Italic	(*) ITC Zapf Dingbats	Univers Bold Condensed Italic
Courier Italic	Letter Gothic	Univers Bold Italic
Courier	Letter Gothic Bold	Univers Medium
Courier Bold	Letter Gothic Bold Italic	Univers Medium Condensed
(*) Courier Bold Oblique	Marigold	Univers Medium Condensed Italic
(*) Courier Oblique	(*) New Century Schoolbook Bold	Univers Medium Italic

Windows 95, Windows 98, and Windows Millennium installation instructions

General installation

1. Connect the printer to the computer and turn the printer on.
2. Close the **MS Office** toolbar and all applications. Turn off virus checkers and terminate stay resident (TSR) programs. After installation, these programs can be turned back on.
3. Insert the installation CD-ROM for the appropriate language into the CD-ROM drive.
4. If AutoPlay is bypassed, select **Run** from the **Start** menu.
5. Type D:\SETUP.EXE and press ENTER (or click **OK**).
6. Click **Install Printer**.
7. To install printer software for the language and version of Windows being used to install from, click **Next**. To install printer software in another language, select the language you wish to install from the dropdown menu list.
8. Click **Continue** until you are asked to select an installation option.
9. Select an installation option, **Typical** or **Custom**, and follow the on-screen instructions to complete the installation.

Windows Installation Options	
Typical	Custom
<p>Installs:</p> <ul style="list-style-type: none"> • Printer drivers • Uninstaller • Readme files • Resource Manager • Bidirectional Communication 	<p>Installs:</p> <ul style="list-style-type: none"> • Uninstaller • Printer drivers • Readme files • Bidirectional Communicatio • Resource Manager <p>Optional:</p> <ul style="list-style-type: none"> • Online User Guide

10. Once the installer has installed the chosen printer software and Windows has been restarted, the installation is complete.

Installation for network administrators

This installation process copies the installation disks to a network drive or hard disk drive. Anyone with access to that drive can run the installation.

1. Close all applications and turn off virus checkers and terminate stay resident (TSR) programs. After installation these programs can be turned back on.

2. Insert the installation CD-ROM for the appropriate language into the CD-ROM drive.
3. If AutoPlay is bypassed, select **Run** from the **Start** menu.
4. Type D:\SETUP.EXE and press ENTER (or click **OK**).
5. Click **Install Printer**.
6. To install printer software for the language and version of Windows being used to install from, click **Next**.
7. Click **Continue** until asked to select an installation option.
8. To install software for Windows on a peer-to-peer network, choose **Custom**. This option installs the following software components:
 - Uninstaller
 - Printer drivers
 - Readme files
 - Bidirectional communication
 - Resource Manager
 - Online User Guide

NOTE:

When installing the software on a network that uses a shared version of Windows, install the software twice. During the first installation, install files on the shared Windows directory. Once the installation is complete, run the installation software again, and choose Typical or Custom to install the printer software onto the workstation used to install from.

9. Define the printer port to use for this printer. The options available are:
 - **Use an Existing Port** - select the port you wish to use.
 - **Add a Port** - select the port you wish to use.
 - **Connect to a Shared Network Printer** - browse the directory structure to locate the path and name of the shared network printer.
10. Once the installer has installed the chosen printer software, and Windows has been restarted, the installation is complete. Network administrators must now configure the printer on the network (refer to "Configuring the Printer on the Network").

Configuring the printer on the network

Before you can print to the network printer, you must configure the printer on the network. For more information, refer to the *HP JetDirect Print Server Software Installation Guide*.

Distributing the installation software to network clients

Before a network client can print to the HP Color LaserJet 4550 printer, the printer software must be installed on the client's workstation. Rather than distributing the CD-ROM to each client, the Network Administrator can place disk images of the installation software onto a public directory. The printer software's Customization Utilities option lets you copy disk images for Windows Operating Systems to a designated directory.

To create disk images with Customization Utilities:

1. Insert the CD-ROM for the appropriate language into the CD-ROM drive.
2. Click the **Start** button, and then select **Run**.
3. If AutoPlay is bypassed, select **Run** from the **Start** menu.

4. Type D:\SETUP.EXE and press ENTER (or click **OK**).
5. Click **Install Printer**.
6. When you are prompted to choose the method of installation, select **Customization Utilities**.
7. Select the language and operating system versions for which disk images to create and then choose the drivers to be included in the disk images.
8. Click the **Browse** button to assign a path to the drive and directory where the Network Administrator wants to copy the disk images.
9. Click **Next**, and then follow the on-screen instructions to complete the disk copy.

NOTE: Use a file management tool such as Windows File Manager or XCOPY to copy disk images. If using an application or utility other than Disk Copy, browse the image directory on the CD-ROM to determine the location of the disk images. For example, to copy disk images for Windows 3.1x in Spanish, the path on the CD-ROM is \image\win3x\sp\....

Installing the printer software for network clients

Before a client can print to the HP Color LaserJet 4550 printer, the printer software must be installed on the client's workstation. Procedures for installing the printer software vary depending on the operating system being used.

The procedures for installing end-user software on client workstations are similar to the installation procedures for Network Administrators. Install the end-user software on client workstations by running SETUP.EXE from the root directory of the CD-ROM or from the Disk 1 directory of the disk images.

To install end-user software, select **Typical** or **Custom**.

Windows Installation Options	
Typical	Custom
<p>Installs:</p> <ul style="list-style-type: none"> • Printer drivers • Uninstaller • Readme files • Resource Manager • Bidirectional Communication 	<p>Installs:</p> <ul style="list-style-type: none"> • Uninstaller • Printer drivers • Readme files • Bidirectional Communicatio • Resource Manager <p>Optional:</p> <ul style="list-style-type: none"> • Online User Guide

Users of a shared network version of Windows can install only those software components that the Network Administrator installed during the Network Administrator installation.

Connecting to the printer

After installing the end-user software on a client workstation, you or the network administrator must connect the printer drivers to the printer on the proper port before the client can print to the printer. The procedures for connecting to a port vary depending on which operating system is being used. Use the instructions below that apply to which operating system is used.

1. Select the printer in the **Printers** folder, and then open **Properties** from the **File** menu.
2. Select the correct port from the **Details** tab. If the port is not present, select the **Add Port** button and browse for the correct path to the printer.

Installation options and user prompts for Windows 95, Windows 98, and Windows Millennium

The following table assumes you are using the HP Color LaserJet Installation CD.

Installation Option	Description	User Prompts
Typical Installation	Installs the printing system already configured for the average user. This includes the PCL 6 driver, PS driver, Readme files, bidirectional communication, Resource Manager and the uninstaller.	Select Port. Allows you to select the type of port the printer is to be connected to. <ul style="list-style-type: none"> • Use an existing port • Add a port • Connect to a shared network printer

<p>Custom Installation</p>	<p>Installs the printing system, allowing you to customize the printing configuration.</p>	<p>Select Components. Choice is:</p> <ul style="list-style-type: none"> • Printer Drivers (default selection). Shows space required and available for each. Default has all drivers selected. • PCL 6 • PCL 5c • PS • Bidirectional communication • Standalone Status • Resource Manager • User Guide. You can choose to install the online user guide.
<p>Disk Image Copy</p>	<p>Copies the Installation disks to a network drive or hard drive. Anyone with access to that drive can run the installation.</p>	<ul style="list-style-type: none"> • Language. Allows you to select the language the printer software is to be installed in. • Change directory option. • Prompts for disks during disk copy. • User Guide. You can choose to install the online User Guide into the public directory. • Operating System. Allows you to select the operating system and printer model.

Network Administrator	The installer will provide this option only if it detects that a user is running a shared copy of Windows and has read/write capabilities. It copies installation files to the shared Windows directory on the network.	<ul style="list-style-type: none"> • User Guide. You can choose to install the online User Guide. • Prompts for appropriate installation disks.
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Uninstalling printing system components

CAUTION: HP developed the Uninstaller as a means to easily and safely uninstall printing system components and their related files without affecting other system components or shared system files. Hewlett-Packard strongly recommends the use of the Uninstaller as the primary means to uninstall printing system components. See the individual component sections.

1. From the **Start** menu, click **Programs**.
2. Select the **HP LaserJet** folder.
3. Select the **HP CLJ4550 uninstall** icon.
4. Select a component to uninstall by checking the appropriate box. Then, click **Next**.

PCL 6 and PCL 5c driver modifications

Files added to the System for the PCL Driver

\$SYSTEM directory

The following files are added to the \$SYSTEM directory upon installation of the PCL driver:

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
FINSTALL.DLL	Font installer	4550 Printing Systems
FINSTALL.HLP	Font installer help	4550 Printing Systems
HPCLJUI.HLP		
HPPCLJDM.DLL	PCL 5c driver help	4550 Printing Systems
HPPCL5F.DRV	PCL 5c driver	4550 Printing Systems
HPPCL5F.HLP		

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
HPPCL5F1.DLL	PCL 5c driver	4550 Printing Systems
HPPCL5F2.DLL	PCL 5c driver	4550 Printing Systems
HPPCL5F2.HLP	Driver Help file	4550 Printing Systems
HPPCL5F3.DLL	PCL 5c driver	4550 Printing Systems
HPPCL5F4.DLL	PCL 5c driver	4550 Printing Systems
HPCLJ5.ICM		
HPCAFE32.EXE		
HPCAFD16.DLL		
HPC4550		
HPCFRP32.DLL		
HPCCPANL.EXE		
HPCFRP32.DLL		
HPCFRPAP.EXE		
MSVCRT.DLL		

PS driver modifications

Files added to the system for the PS driver

\$SYSTEM directory

The following driver files are added to the \$SYSTEM directory upon installation of the PS driver:

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
PSCRIPT.DRV	Microsoft PSCRIPT driver.	
PSCRIPT.HLP	Microsoft Help file.	
PSCRIPT.INI	Microsoft's Configuration file associated with PSCRIPT.drv.	

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
FONT.S.MFM	Microsoft's Font Metric file.	
ICONLIB.DLL	Microsoft's Shared Library required by the PSCRIPT.drv.	
HP4550-4.PPD	HP Color LaserJet 4550 printer description file.	
HPC4550P.ICM		

Japanese \$SYSTEM directory

The following driver files are added to the Japanese \$SYSTEM directory upon installation of the PS driver:

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
PSCRIPT.DRV	Microsoft PSCRIPT driver.	
PSCRIPT.HLP	Microsoft Help file.	
PSCRIPT.INI	Microsoft's Configuration file associated with PSCRIPT.drv.	
FONT.S.MFM	Microsoft's Font Metric file.	
ICONLIB.DLL	Microsoft's Shared Library required by the PSCRIPT.drv.	
UN.DLL		
HPDCMON.DLL		
HP4550-4.PPD	HP Color LaserJet 4550 printer description file.	
READ_.WRI		
HPCLJ_CP.HPA	Image color match file.	
HPCLJ_UI.HLP		
HPCLJ16U.HLP		
HPCLJ_UI.HPA		

Windows NT 4.0

NOTE: In the Descriptions that follow, the \$ symbol before a path name indicates that the path to that directory can change from system to system. The term **\$Path** indicates that the path and the subdirectory can change from system to system.

System requirements

The minimum system requirements for clients running Windows NT4.0/5.0 Workstation are:

- 32-bit x86-based microprocessor (such as Intel 80386/25 or higher), or Intel Pentium
- VGA or higher resolution
- 8 MB of free hard disk space
- 12 MB RAM; 16 MB recommended

Components and features

The HP Color LaserJet 4550/4550N/4550DN/4550HDN Printing System (version 1.00) includes the following components for Windows. Following the table are Descriptions of each component.

Component	Version
HP Installer	
HP C LaserJet 4550 HP PCL 6 driver	
HP C LaserJet 4550 HP PCL 5c driver	
HP C LaserJet 4550 PS PPD for use with Microsoft PSCRIPT driver	4.5
HP Online User Guide	2.0
Bidirectional Communication	
HP Resource Manager	

The printer drivers included in the HP Color LaserJet 4550/4550N/4550DN/4550HDN Printing System for Windows are HP PCL 5c, HP PCL 6 and PS. These printer drivers communicate with the printer to access the printer's features. Along with other standard components each driver for the printer is described in the following table.

Components	Features/Descriptions
HP PCL 6, HP PCL 5c	<ul style="list-style-type: none"> • PCL 6 and PCL 5c drivers feature a Graphical User Interface with a common "look and feel." • Provides access to the printer's paper handling and print quality features. • Job Status and Alerts provides job status messages at the host PC when printing problems occur (toner out, paper out, etc.) or when a print job is complete. It also allows you to proactively check the status of the printer. This utility can be configured to display only those message you want. • Supplies Information and Reordering allows you to order the consumables and supplies needed for your HP printers directly from the Web. This feature is available during a custom install and requires Job Status and Alerts • Selected from the printer driver, Job Retention lets you store a print job on the printer's hard disk. This allows you to perform a number of advanced print job functions, including quick copying a job, proofing and holding a job, printing a private job, and storing a job. Job Retention is a standard feature of the HP Color LaserJet 4550HDN printer, and is optional on the 4550, 4550N, and 4550DN printers.
PS Driver	<ul style="list-style-type: none"> • Included as a component of the printing system. • Provides access to PS features of printer. • Print to PS or E file. • Set general printing options. • Automatic PANTONE®* Calibration is the default setting for HP Color LaserJet printers. This feature automatically converts PANTONE®* colors to optimal color values for the printer by recognizing the PANTONE®* color name or number in the data stream sent to the printer. The feature is activated when printing colors that were chosen using the PANTONE®* Color Picker in supported graphics applications. See the color.wri Readme file included on the printer CD-ROM for more information about PANTONE®* and ICC color.

Background information

Online user guide installation

The online user guide for this printer is supplied in online format for viewing on your computer screen. You can install the online user guide while you are installing the printer software, or you can install it later. When you install the online user guide, both the guide and Adobe Acrobat Reader are installed in the HP LaserJet folder.

To install the online user guide while you are installing the printer software, follow the instructions that appear on your screen.

Font support

Microsoft Windows software includes these basic standard fonts that can be used with any HP printer:

Standard Fonts		
Arial	Courier New Italic	Times New Roman Italic
Arial Italic	Courier New Bold	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	

The following PCL device fonts reside in the HP Color LaserJet 4550 printers and can be accessed by all users:

PCL Device Fonts		
Antique Olive	Garamond Antiqua	New Century Schoolbook Bold
Antique Olive Bold	Garamond Halbfett	New Century Schoolbook Bold Italic
Antique Olive Italic	Garamond Kursiv	New Century Schoolbook Italic
Albertus Medium	Garamond Kursiv Halbfett	New Century Schoolbook Roman
Albertus Extra Bold	Helvetica	Palatino Bold
Arial	Helvetica Bold	Palatino Bold Italic
Arial Bold	Helvetica Bold Oblique	Palatino Italic

Arial Bold Italic	Helvetica Oblique	Palatino Roman
Arial Italic	Helvetica Narrow	Symbol
CG Times	Helvetica Narrow Bold	Symbol
CG Times Bold	Helvetica Narrow Bold Oblique	Times Bold
CG Times Bold Italic	Helvetica Narrow Oblique	Times Bold Italic
CG Times Italic	ITC Avant Garde Book	Times Italic
CG Omega	ITC Avant Garde Demi	Times New Bold
CG Omega Bold	ITC Avant Garde Book Oblique	Times New Bold Italic
CG Omega Bold Italic	ITC Avant Garde Demi Oblique	Times New Italic
CG Times Italic	ITC Bookman Demi	Times New Roman
Clarendon Condensed	ITC Bookman Demi Italic	Times Roman
Coronet	ITC Bookman Light	Wingdings
Courier	ITC Bookman Light Italic	Univers Bold
Courier Bold	ITC Zapf Chancery Italic	Univers Bold Condensed
Courier Bold Italic	ITC Zapf Dingbats	Univers Bold Condensed Italic
Courier Italic	Letter Gothic	Univers Bold Italic
Courier	Letter Gothic Bold	Univers Medium
Courier Bold	Letter Gothic Bold Italic	Univers Medium Condensed
Courier Bold Oblique	Line Printer	Univers Medium Condensed Italic
Courier Oblique	Marigold	Univers Medium Italic

The following PS device fonts reside in the HP Color LaserJet 4550 printers. Only those fonts with an (*) can be accessed by Windows users:

PS Device Fonts		
Antique Olive	Garamond Antiqua	(* New Century Schoolbook Bold Italic
Antique Olive Bold	Garamond Halbfett	(* New Century Schoolbook Italic
Antique Olive Italic	Garamond Kursiv	(* New Century Schoolbook Roman
Albertus Medium	Garamond Kursiv Halbfett	(* Palatino
Albertus Extra Bold	(* Helvetica	(* Palatino Bold
Arial	(* Helvetica Bold	(* Palatino Bold Italic
Arial Bold	(* Helvetica Bold Oblique	(* Palatino Italic
Arial Bold Italic	(* Helvetica Oblique	Palatino Roman
Arial Italic	(* Helvetica Narrow	(* Symbol
CG Times	(* Helvetica Narrow Bold	Symbol
CG Times Bold	(* Helvetica Narrow Bold Oblique	(* Times Bold
CG Times Bold Italic	(* Helvetica Narrow Oblique	(* Times Bold Italic
CG Times Italic	(* ITC Avant Garde Gothic Book	(* Times Italic
CG Omega	(* ITC Avant Garde Gothic Demi	Times New Bold
CG Omega Bold	(* ITC Avant Garde Gothic Book Oblique	Times New Bold Italic
CG Omega Bold Italic	(* ITC Avant Garde Gothic Demi Oblique	Times New Italic
CG Times Italic	(* ITC Bookman Demi	Times New Roman
Clarendon Condensed	(* ITC Bookman Demi Italic	(* Times Roman
Coronet	(* ITC Bookman Light	Wingdings
(* Courier	(* ITC Bookman Light Italic	Univers Bold

(*) Courier Bold	(*) ITC Zapf Chancery Medium Italic	Univers Bold Condensed
Courier Bold Italic	(*) ITC Zapf Dingbats	Univers Bold Condensed Italic
Courier Italic	Letter Gothic	Univers Bold Italic
Courier	Letter Gothic Bold	Univers Medium
Courier Bold	Letter Gothic Bold Italic	Univers Medium Condensed
(*) Courier Bold Oblique	Marigold	Univers Medium Condensed Italic
(*) Courier Oblique	(*) New Century Schoolbook Bold	Univers Medium Italic

Windows NT 4.0 installation instructions

General installation

NOTE: You must have administrator rights on the system to install the software.

1. Close all applications, terminate-and-stay-resident (TSR) programs, and virus checkers. After installation, you can restart these programs.
2. If you are installing from the CD-ROM, insert the CD-ROM into the CD-ROM drive.
3. If the CD-ROM begins to auto-play, go to step 6.
4. If the installation CD-ROM does not begin to auto-play, select **Run** from the **Start** menu.
5. In the Run box, type the drive and path for the installation CD-ROM (usually D:\SETUP.EXE). If you are a network user installing from a shared Windows directory, see your network administrator for the correct drive and path.
6. Click **Install Printer** to begin installation, and then respond to each prompt that appears on the screen. Click **Next** to proceed to the next screen, or click **Back** to return to the previous screen.

NOTE: If you downloaded the Printing System electronically, you need to first run the downloaded .exe file(s). If SETUP.EXE does not run automatically, browse to the root location of the downloaded SETUP.EXE file, double-click the file, and go to step 6.

Driver only installation

1. Close all applications.
2. Click **Start**, click **Settings**, and then **Printers**.

3. Double-click **Add Printer**.
4. Answer the questions in the Add Printer Wizard until you reach the screen with the printer manufacturer list.
5. Click **Have Disk**.
6. Browse to the driver location using one of the options in this step:
 - a. **Inbox CD-ROM option:** Browse to the appropriate <language>\Drivers\<os>\<pd> directory for your operating system and language.
 - b. **Internet download option:** Browse to the folder where the Web files were downloaded and decompressed.
7. Select the appropriate .INF file.
8. Click **Open**, and then click **OK**.
9. Select the appropriate printer.
10. Follow the remaining instructions to complete the printer installation. At this point, the driver has been copied to your hard disk and added to the list of installed printers.

Setting a default printer

1. From the **Start** menu, click **Settings**, and then click **Printers**.
2. Select the printer you wish to set as the default printer.
3. From the **File** menu, select **Set As Default**. A check appears next to the menu option.
4. Click **Close**.

Windows Installation Options	
Typical	Custom
<p>Installs:</p> <ul style="list-style-type: none"> • Printer drivers • Uninstaller • Readme files • Resource Manager • Bidirectional Communication 	<p>Installs:</p> <ul style="list-style-type: none"> • Uninstaller • Printer drivers • Readme files • Bidirectional Communicatio • Resource Manager <p>Optional:</p> <ul style="list-style-type: none"> • Online User Guide

Installation for network administrators

This installation process copies the installation disks to a network drive or hard disk drive. Anyone with access to that drive can run the installation.

1. Close all applications and turn off virus checkers and terminate stay resident (TSR) programs. After installation these programs can be turned back on.
2. Insert the installation CD-ROM for the appropriate language into the CD-ROM drive.
3. If AutoPlay is bypassed, select **Run** from the **Start** menu.
4. Type D:\SETUP.EXE and press ENTER (or click **OK**).
5. Click **Install Printer**.
6. To install printer software for the language and version of Windows being used to install from, click **Next**.
7. Click **Continue** until asked to select an installation option.
8. To install software for Windows on a peer-to-peer network, choose **Custom**. This option installs the following:
 - Uninstaller
 - Printer drivers
 - Readme files
 - Bidirectional communication
 - Resource Manager
 - Online User Guide

NOTE: When installing the software on a network that uses a shared version of Windows, install the software twice. During the first installation, install files on the shared Windows directory. Once the installation is complete, run the installation software again, and choose Typical or Custom to install the printer software onto the workstation used to install from.

9. Define the printer port to use for this printer. The options available are:
 - **Use an Existing Port** - select the port you wish to use.
 - **Add a Port** - select the port you wish to use.
 - **Connect to a Shared Network Printer** - browse the directory structure to locate the path and name of the shared network printer.
10. Once the installer has installed the chosen printer software and Windows has been restarted, the installation is complete. Network administrators must now configure the printer on the network (refer to "Configuring the Printer on the Network").

Configuring the printer on the network

Before the printer can be used, configure it on the network. For more information, see the appropriate chapters on Windows NT networks in the *HP JetDirect Print Server Software Installation Guide*.

Distributing the installation software to network clients

Before a network client can print to the HP Color LaserJet 4550 Printer, the printer software must be installed on the client's workstation. Rather than distributing the CD-ROM to each client, place disk images of the installation software onto a public directory. The printer software's **Customization Utilities** option lets you copy disk images for Windows operating systems to a designated directory. To create disk images with the Customization Utility:

1. Insert the CD-ROM for the appropriate language into the CD-ROM drive.
2. Click the **Start** button, and then select **Run**.
3. If AutoPlay is bypassed, select **Run** from the **Start** menu.
4. Type D:\SETUP.EXE and press ENTER (or click **OK**).
5. Click **Install Printer**.
6. When you are prompted to choose the method of installation, click **Customization Utilities**.
7. Select the language and operating system versions for which the disk images are to be created, and choose the drivers to be included in the disk images.
8. Click the **Browse** button to assign a path to the drive and directory where the disk images are to be copied.
9. Click **Next** and follow the on-screen instructions to complete the disk copy.

NOTE: Use a file management tool such as Windows File Manager or XCOPY to copy disk images. If using an application or utility other than Disk Copy, browse the image directory on the CD-ROM to determine the location of the disk images.

If a disk copy utility other than Disk Copy (in the installer) is used to create disk images, the Online User Guide will not be included in the disk images.

Installing the printer software for network clients

Before a client can print to the HP Color LaserJet 4550 printer, the printer software must be installed on the client's workstation.

The procedures for installing end-user software on client workstations are similar to the installation procedures for network administrators. Install the end-user software on client workstations by running SETUP.EXE from the root directory of the CD-ROM or from the Disk 1 directory of the disk images.

To install end-user software, select **Typical** or **Custom**.

Windows Installation Options	
Typical	Custom

<p>Installs:</p> <ul style="list-style-type: none"> • Printer drivers • Uninstaller • Readme files • Resource Manager • Bidirectional Communication 	<p>Installs:</p> <ul style="list-style-type: none"> • Uninstaller • Printer drivers • Readme files • Bidirectional Communicatio • Resource Manager <p>Optional:</p> <ul style="list-style-type: none"> • Online User Guide
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Do not install the PCL 5c Driver, PCL 6 Driver or PS Driver(s) onto Windows NT workstations when installing other end-user software. Clear the PCL and PS Driver checkboxes in the Components list during the Custom Installation. The driver(s) is installed from the server when connected to the network printer.

NOTE: To connect to the network printer on a Windows NT workstation, the installer must have ADMINISTRATOR PRIVILEGES on that workstation.

Users of a shared network version of Windows can install only those software components that the Network Administrator installed during the Network Administrator installation.

Connecting to the printer

After installing the end-user software on a client workstation, the user or the network administrator must connect the printer drivers to the printer on the proper port before the client can print to the printer. The procedures for connecting to a port vary, depending on which operating system is being used. Use the instructions below that apply to operating system is being used.

When connecting to the network printer on a Windows NT workstation, the printer driver is installed from the server. If the operating system is unable to install the driver from the server, use the CD_ROM to install the driver. If prompted for the driver, browse the HPPRINT.inf in the WINNT\<language>\PCL\Disk1\file subdirectory (where <language> is the language being used).

NOTE: To connect to the network printer on a Windows NT workstation, you must have ADMINISTRATOR PRIVELAGES on that workstation.

In Windows NT 4.0, there are three options for connecting to the network printer:

- Open **Network Neighborhood** and locate the printer on the network. Drag the printer icon from the **Network Neighborhood** to the **Printers** folder.

- Open **Network Neighborhood** and double-click on the printer icon. Follow the instructions on the screen for connecting to a printer.
- Use the **Add Printer Wizard** in the **Printers** folder to connect to a network printer.

Online user guide installation

The online User Guide for this printer is supplied in online format for viewing on individual screens. The online User Guide can be installed while installing the printer software or it can be installed later.

To install the online User Guide while you are installing the printer software, follow the instructions that appear on the screen.

Installation options and user prompts for Windows NT 4.0

The following table assumes you are using the HP Color LaserJet installer CD.

NOTE: Installing the Color laserJet 4550 print system will overwrite the Windows NT 4.0 Pscript 4.0 driver with the Windows NT 4.0 Pscript 4.5 driver.

<u>Installation Option</u>	<u>Description</u>	<u>User Prompts</u>
Typical Installation	Installs the printing system already configured for the average user. This includes the PCL 6 driver, PS driver, Readme files, bidirectional communication, Resource Manager and the uninstaller.	Select Port. Allows you to select the type of port the printer is to be connected to. <ul style="list-style-type: none"> • Use an existing port • Add a port • Connect to a shared network printer

Custom Installation	Installs the printing system, allowing you to customize the printing configuration.	<p>Select Components. Choice is:</p> <ul style="list-style-type: none"> • Printer Drivers (default selection). Shows space required and available for each. Default has all drivers selected. • PCL 6 • PCL 5c • PS • Bidirectional communication • Standalone Status • Resource Manager • User Guide. You can choose to install the online user guide.
Customization Utility	Copies the Installation disks to a network drive or hard drive. Anyone with access to that drive can run the installation.	<ul style="list-style-type: none"> • Language. Allows you to select the language the printer software is to be installed in. • Change directory option. • Prompts for disks during disk copy. • User Guide. You can choose to install the online User Guide into the public directory. • Operating System. Allows you to select the operating system and printer model.
Network Administrator	The installer will provide this option only if it detects that a user is running a shared copy of Windows and has read/write capabilities. It copies installation files to the shared Windows directory on the network.	<ul style="list-style-type: none"> • User Guide. You can choose to install the online User Guide. • Prompts for appropriate installation disks.

Uninstalling printing system components

CAUTION: Hewlett-Packard strongly recommends using the Uninstaller to remove printing system components. Removing printing system components and files manually can impact the operation of other installed components of this printing system, as well as components of other printing systems installed on this computer. System integrity can also be affected by removing files from the printing system. Before removing any files, perform a complete backup of the system.

1. From the **Start** menu, click **Programs**.
2. Select the **HP LaserJet** folder.
3. Select the **HP CLJ 4550 uninstall** icon.
4. Select a component to uninstall by checking the appropriate box. Then, click **Next**.

Standard PCL 6 and PCL 5c driver modifications

Files added to the system for the PCL driver

\$SYSTEM directory

The following files are added to the \$WINNT\SYSTEM directory upon installation of the PCL 5c driver:

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
HPC4C.DLL	PCL 5c driver	4550 Printing Systems
HPC4K.DLL	PCL 5c driver	4550 Printing Systems
HPC4L.DLL	PCL 5c driver	4550 Printing Systems
HPC4P.DLL	PCL 5c driver	4550 Printing Systems
HPC4PCL5.DLL	PCL 5c driver	4550 Printing Systems
HPC4U.DLL	PCL 5c driver	4550 Printing Systems
READ_HP.TXT	Read me file	

PS driver modifications

Files added to the system for the PS driver

\$SYSTEM directory

The following driver files are added to the \$SYSTEM directory upon installation of the PS Driver:

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
PSCRIPT4.DLL	Microsoft Pscript driver	
PSUUI.DLL	PS UI driver	
PSCRIPT.HLP	PS help file	
HP4550-6.PPD	Printer description file	
PSCRIPT.NTF		
HP4550.INF	PS Installer	

Windows NT 3.51

NOTE: In the Descriptions that follow, the \$ symbol before a path name indicates that the path to that directory can change from system to system. The term **\$Path** indicates that the path and the subdirectory can change from system to system.

System requirements

The minimum system requirements for clients running Windows NT 3.51 Workstation are:

- 32-bit x86-based microprocessor (such as Intel 386/25 or higher) or Intel Pentium
- VGA or higher resolution
- 8 MB of free hard disk space
- 12 MB RAM; 16 MB recommended

The HP Color LaserJet 4550/4550N/4550DN/4550HDN Printing System (version 1.00) includes the following components for Windows. Following the table are Descriptions of each component.

Component	Version
Microsoft Unidriver (HP Color LaserJet 4500 HP PCL 5c driver)	
HP Color LaserJet4550 PS PPD for use with Microsoft PSCRIPT driver	
HP Online User Guide	
Bidirectional Communication	
HP Resource Manager	

The printer drivers included in the HP Color LaserJet 4550/4550N/4550DN/4550HDN Printing System for Windows are HP PCL 5c and PS. These printer drivers communicate with the printer to access the printer's features. Each driver along with other standard components for the printer is described in the following table.

Components	Features/Descriptions
HP PCL 5c	<ul style="list-style-type: none"> • PCL 6 and PCL 5c drivers feature a Graphical User Interface with a common "look and feel." • Provides access to the printer's paper handling and print quality features. • Job Status and Alerts provides job status messages at the host PC when printing problems occur (toner out, paper out, etc.) or when a print job is complete. It also allows users to proactively check the status of the printer. This utility can be configured to display only those messages you want. • Supplies Information and Reordering allows you to order the consumables and supplies needed for your HP printers directly from the Web. This feature is available during a custom install and requires Job Status and Alerts • Selected from the printer driver, Job Retention lets you store a print job on the printer's hard disk. This allows you to perform a number of advanced print job functions, including quick copying a job, proofing and holding a job, printing a private job, and storing a job. Job Retention is a standard feature of the HP Color LaserJet 4550HDN printer, and is optional on the 4550, 4550N, and 4550DN printers.
PS Driver	<ul style="list-style-type: none"> • Included as a component of the printing system. Installed when installer detects PS-ready printer. • Provides access to PS features of printer. • Print to PS or E file. • Set general printing options. • Automatic PANTONE®* Calibration is the default setting for HP Color LaserJet printers. This feature automatically converts PANTONE®* colors to optimal color values for the printer by recognizing the PANTONE®* color name or number in the data stream sent to the printer. The feature is activated when printing colors that were chosen using the PANTONE®* Color Picker in supported graphics applications. See the color.wri Readme file included on the printer CD-ROM for more information about PANTONE®* and ICC color.

Background information

Online user guide

The online user guide for this printer is supplied in online format for viewing on your computer screen. You can install the online user guide while you are installing the printer software, or you can install it later. When you install the online user guide, both the guide and Adobe Acrobat Reader are installed in the HP LaserJet folder.

To install the online user guide while you are installing the printer software, follow the instructions that appear on your screen.

Font support

Microsoft Windows software includes these basic standard fonts that can be used with any HP printer:

Standard Fonts		
Arial	Courier New Italic	Times New Roman Italic
Arial Italic	Courier New Bold	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	

The following PCL device fonts reside in the HP Color LaserJet 4550 printers and can be accessed by all users:

PCL Device Fonts		
Antique Olive	Garamond Antiqua	New Century Schoolbook Bold
Antique Olive Bold	Garamond Halbfett	New Century Schoolbook Bold Italic
Antique Olive Italic	Garamond Kursiv	New Century Schoolbook Italic
Albertus Medium	Garamond Kursiv Halbfett	New Century Schoolbook Roman
Albertus Extra Bold	Helvetica	Palatino Bold
Arial	Helvetica Bold	Palatino Bold Italic

Arial Bold	Helvetica Bold Oblique	Palatino Italic
Arial Bold Italic	Helvetica Oblique	Palatino Roman
Arial Italic	Helvetica Narrow	Symbol
CG Times	Helvetica Narrow Bold	Symbol
CG Times Bold	Helvetica Narrow Bold Oblique	Times Bold
CG Times Bold Italic	Helvetica Narrow Oblique	Times Bold Italic
CG Times Italic	ITC Avant Garde Book	Times Italic
CG Omega	ITC Avant Garde Demi	Times New Bold
CG Omega Bold	ITC Avant Garde Book Oblique	Times New Bold Italic
CG Omega Bold Italic	ITC Avant Garde Demi Oblique	Times New Italic
CG Times Italic	ITC Bookman Demi	Times New Roman
Clarendon Condensed	ITC Bookman Demi Italic	Times Roman
Coronet	ITC Bookman Light	Wingdings
Courier	ITC Bookman Light Italic	Univers Bold
Courier Bold	ITC Zapf Chancery Italic	Univers Bold Condensed
Courier Bold Italic	ITC Zapf Dingbats	Univers Bold Condensed Italic
Courier Italic	Letter Gothic	Univers Bold Italic
Courier	Letter Gothic Bold	Univers Medium
Courier Bold	Letter Gothic Bold Italic	Univers Medium Condensed
Courier Bold Oblique	Line Printer	Univers Medium Condensed Italic
Courier Oblique	Marigold	Univers Medium Italic

The following PS device fonts reside in the HP Color LaserJet 4550 printers. Only those fonts with an (*) can be accessed by Windows users:

PS Device Fonts		
Antique Olive	Garamond Antiqua	(* New Century Schoolbook Bold Italic
Antique Olive Bold	Garamond Halbfett	(* New Century Schoolbook Italic
Antique Olive Italic	Garamond Kursiv	(* New Century Schoolbook Roman
Albertus Medium	Garamond Kursiv Halbfett	(* Palatino
Albertus Extra Bold	(* Helvetica	(* Palatino Bold
Arial	(* Helvetica Bold	(* Palatino Bold Italic
Arial Bold	(* Helvetica Bold Oblique	(* Palatino Italic
Arial Bold Italic	(* Helvetica Oblique	Palatino Roman
Arial Italic	(* Helvetica Narrow	(* Symbol
CG Times	(* Helvetica Narrow Bold	Symbol
CG Times Bold	(* Helvetica Narrow Bold Oblique	(* Times Bold
CG Times Bold Italic	(* Helvetica Narrow Oblique	(* Times Bold Italic
CG Times Italic	(* ITC Avant Garde Gothic Book	(* Times Italic
CG Omega	(* ITC Avant Garde Gothic Demi	Times New Bold
CG Omega Bold	(* ITC Avant Garde Gothic Book Oblique	Times New Bold Italic
CG Omega Bold Italic	(* ITC Avant Garde Gothic Demi Oblique	Times New Italic
CG Times Italic	(* ITC Bookman Demi	Times New Roman
Clarendon Condensed	(* ITC Bookman Demi Italic	(* Times Roman
Coronet	(* ITC Bookman Light	Wingdings

(*) Courier	(*) ITC Bookman Light Italic	Univers Bold
(*) Courier Bold	(*) ITC Zapf Chancery Medium Italic	Univers Bold Condensed
Courier Bold Italic	(*) ITC Zapf Dingbats	Univers Bold Condensed Italic
Courier Italic	Letter Gothic	Univers Bold Italic
Courier	Letter Gothic Bold	Univers Medium
Courier Bold	Letter Gothic Bold Italic	Univers Medium Condensed
(*) Courier Bold Oblique	Marigold	Univers Medium Condensed Italic
(*) Courier Oblique	(*) New Century Schoolbook Bold	Univers Medium Italic

Windows NT 3.51 installation instructions

NOTE: For more information about installation options, refer to the tables "Installation Options and User Prompts for Windows NT 3.51."

Installed files and installation environments

A set of files is installed onto your system for each component in the printing system. However, the ultimate location of these files varies, depending on the environment (network or no network) and depending on whether a standalone version of Windows NT 3.51 or a shared version is running.

General installation

1. Install both drivers and fonts from your CD.
2. Close all running applications.
3. Insert the CD into the CD drive.
4. From the Program Manager, click Main, click Control Panel, click Printers, and then click Install.
5. Follow the instructions on the screen to add a printer.
6. For latest or additional drivers, go to <http://www.hp.com/support/lj4550> on the World Wide Web.

Installation for network administrators

1. Install both drivers and fonts from your CD.
2. Close all running applications.
3. Insert the CD into the CD drive.
4. From the Program Manager, click Main, click Control Panel, click Printers, and then click Install.
5. Follow the instructions on the screen to add a printer.

6. To install fonts, locate the appropriate font installer on the CD for your system and run it.
7. For latest or additional drivers, go to <http://www.hp.com/support/lj4100> on the World Wide Web.
8. Network administrators must now configure the printer on the network.

NOTE: When installing the software on a network that uses a shared version of Windows, install the software twice. During the first installation, install files on the shared Windows directory. Once the installation is complete, install the printer software onto the workstation you are installing from.

Configuring the printer on the network

Before printing to the printer on a network, the printer must be configured to the network. To configure the printer on the network, refer to the *HP JetDirect Print Server Software Installation Guide*.

Connecting to the printer

After installing the end-user software on a client workstation, you or the network administrator must connect the printer drivers to the printer on the proper port before the client can print to the printer. The procedures for connecting to a port vary depending on which operating system is being used. Use the instructions below that apply to which operating system is used.

NOTE: To connect to the network printer on a Windows NT workstation, the installer must have ADMINISTRATOR PRIVILEGES on that workstation.

In Windows NT 3.51, use Connect to Printer in the Printer menu. Under Shared Printers, double-click on the printer's network name, and then follow the instructions on the screen.

Uninstalling printing system components

To uninstall the PCL 5c driver, remove the files listed below.

PCL 5c driver modifications

Files added to the system for the PCL 5c driver

\$SYSTEM directory

The following files are added to the \$WINDOVS\SYSTEM directory upon installation of the PCL driver:

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
RASDDUI.HLP	PCL 5c driver	
MON1.DLL	PCL 5c driver	

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
HPPCL5F	PCL 5c driver	
RASDDUI.DLL	PCL 5c driver	
UNPCL.DLL	PCL 5c driver	
UNPCL.DLL	PCL 5c driver	
HPPCLJ_CP.HPA	PCL 5c driver help	
HPPCLJ_UI.HLP	UI support file	
HPPCLJ_UI.HPA	UI support file	
HPPCLJ16U.HLP	Font installer	

PS driver modifications

Files added to the system for the PS driver

\$SYSTEM directory

The following driver files are added to the \$SYSTEM directory upon installation of the PS driver:

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
PSCRIPT.DLL	Microsoft Pscript driver for Windows NT 3.51.	
PSCRIPTUI.DLL	PS driver user interface code associated with PSCRIPT.dll.	
PSCRIPT.HLP	PS driver Help file	
PSCRIPT.CNT		
HP_4550.PPD	Printer description file.	
READ_.WRI	Readme file for PS	
UNPS.DLL	PS Uninstaller	

Japanese \$SYSTEM directory

The following driver files are added to the Japanese \$SYSTEM directory upon installation of the PS driver:

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
PSCRIPT.DLL	PS driver for Windows NT 3.51.	
PSCRIPTUI.DLL	PS driver user interface code associated with PSCRIPT.dll.	
PSCRIPT.HLP	PS driver Help file	
PSCRIPT.CNT		
HP_4550.PPD	Printer description file.	
READ_.WRI	Readme file for PS	
UNPS.DLL	PS Uninstaller	
HPCLJ_CP.HPA		
HPCLJ_UI.HLP		
HPCLJ_UI.HPA		
HPCLJ16U.HLP		

Windows 3.1x/Windows for Workgroups

NOTE: Windows 3.1x refers to Windows 3.1 and Windows for Workgroups 3.11.

In the Descriptions that follow, the \$ symbol before a path name indicates that the path to that directory can change from system to system. The term **\$Path** indicates that the path and the directory can change from system to system.

System requirements

The minimum system requirements for users running Windows 3.1x or Windows for Workgroup 3.1x are:

- Windows 3.1x or Windows for Workgroups 3.1x
- DOS 5.0 or greater
- 386 processor or greater
- 4 MB RAM
- 4 MB available disk space

The HP Color LaserJet 4550/4550N/4550DN/4550HDN CD-ROM contains the following components for Windows. Descriptions of each component follow the table

Component	Version
HP Installer	1.0
Microsoft Unidriver (HP Color LaserJet 4500 HP PCL 5c)	F3.0
HP Online User Guide	1.0
Adobe Acrobat Reader	
Bidirectional Communication	
HP Color LaserJet 4550 PS WPD for use with Microsoft PSCRIPT driver	3.58

Printer support

- The PCL 6 and PCL 5c drivers will support all HP Color LaserJet 4550 printers.
- The PS driver will support all HP Color LaserJet 4550 printers.

Background information

Online user guide installation

The online user guide for this printer is supplied in online format for viewing on your computer screen. You can install the online user guide while you are installing the printer software, or you can install it later. To install the online user guide, copy it onto your system.

Adobe Acrobat Reader

Adobe Acrobat Reader allows you to read the PDF format of the online user guide.

Font support

Microsoft Windows software includes the following standard fonts, which can be used with any HP printer:

Standard Fonts		
Arial	Courier New Italic	Times New Roman Italic
Arial Italic	Courier New Bold	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	

The following PCL device fonts reside in the HP Color LaserJet 4550 printers and can be accessed by all users:

PCL Device Fonts		
Antique Olive	Garamond Antiqua	New Century Schoolbook Bold
Antique Olive Bold	Garamond Halbfett	New Century Schoolbook Bold Italic
Antique Olive Italic	Garamond Kursiv	New Century Schoolbook Italic
Albertus Medium	Garamond Kursiv Halbfett	New Century Schoolbook Roman
Albertus Extra Bold	Helvetica	Palatino Bold
Arial	Helvetica Bold	Palatino Bold Italic

Arial Bold	Helvetica Bold Oblique	Palatino Italic
Arial Bold Italic	Helvetica Oblique	Palatino Roman
Arial Italic	Helvetica Narrow	Symbol
CG Times	Helvetica Narrow Bold	Symbol
CG Times Bold	Helvetica Narrow Bold Oblique	Times Bold
CG Times Bold Italic	Helvetica Narrow Oblique	Times Bold Italic
CG Times Italic	ITC Avant Garde Book	Times Italic
CG Omega	ITC Avant Garde Demi	Times New Bold
CG Omega Bold	ITC Avant Garde Book Oblique	Times New Bold Italic
CG Omega Bold Italic	ITC Avant Garde Demi Oblique	Times New Italic
CG Times Italic	ITC Bookman Demi	Times New Roman
Clarendon Condensed	ITC Bookman Demi Italic	Times Roman
Coronet	ITC Bookman Light	Wingdings
Courier	ITC Bookman Light Italic	Univers Bold
Courier Bold	ITC Zapf Chancery Italic	Univers Bold Condensed
Courier Bold Italic	ITC Zapf Dingbats	Univers Bold Condensed Italic
Courier Italic	Letter Gothic	Univers Bold Italic
Courier	Letter Gothic Bold	Univers Medium
Courier Bold	Letter Gothic Bold Italic	Univers Medium Condensed
Courier Bold Oblique	Line Printer	Univers Medium Condensed Italic
Courier Oblique	Marigold	Univers Medium Italic

The following PS device fonts reside in the HP Color LaserJet 4550 printers. Only those fonts with an (*) can be accessed by Windows users:

PS Device Fonts		
Antique Olive	Garamond Antiqua	(* New Century Schoolbook Bold Italic
Antique Olive Bold	Garamond Halbfett	(* New Century Schoolbook Italic
Antique Olive Italic	Garamond Kursiv	(* New Century Schoolbook Roman
Albertus Medium	Garamond Kursiv Halbfett	(* Palatino
Albertus Extra Bold	(* Helvetica	(* Palatino Bold
Arial	(* Helvetica Bold	(* Palatino Bold Italic
Arial Bold	(* Helvetica Bold Oblique	(* Palatino Italic
Arial Bold Italic	(* Helvetica Oblique	Palatino Roman
Arial Italic	(* Helvetica Narrow	(* Symbol
CG Times	(* Helvetica Narrow Bold	Symbol
CG Times Bold	(* Helvetica Narrow Bold Oblique	(* Times Bold
CG Times Bold Italic	(* Helvetica Narrow Oblique	(* Times Bold Italic
CG Times Italic	(* ITC Avant Garde Gothic Book	(* Times Italic
CG Omega	(* ITC Avant Garde Gothic Demi	Times New Bold
CG Omega Bold	(* ITC Avant Garde Gothic Book Oblique	Times New Bold Italic
CG Omega Bold Italic	(* ITC Avant Garde Gothic Demi Oblique	Times New Italic
CG Times Italic	(* ITC Bookman Demi	Times New Roman
Clarendon Condensed	(* ITC Bookman Demi Italic	(* Times Roman
Coronet	(* ITC Bookman Light	Wingdings

(*) Courier	(*) ITC Bookman Light Italic	Univers Bold
(*) Courier Bold	(*) ITC Zapf Chancery Medium Italic	Univers Bold Condensed
Courier Bold Italic	(*) ITC Zapf Dingbats	Univers Bold Condensed Italic
Courier Italic	Letter Gothic	Univers Bold Italic
Courier	Letter Gothic Bold	Univers Medium
Courier Bold	Letter Gothic Bold Italic	Univers Medium Condensed
(*) Courier Bold Oblique	Marigold	Univers Medium Condensed Italic
(*) Courier Oblique	(*) New Century Schoolbook Bold	Univers Medium Italic

Windows 3.1x installation instructions

1. Install both drivers and fonts from your CD.
2. Close all running applications.
3. Insert the CD into the CD drive.
4. From the Program Manager, click **Main**, click **Control Panel**, click **Printers**, and then click **Install**.
5. Follow the instructions on the screen to add a printer.
6. To install fonts, locate the appropriate font installer on the CD for your system and run it.
7. For latest or additional drivers, go to <http://www.hp.com/support/lj4100> on the World Wide Web.

Uninstalling printing system components

PCL driver modifications

Files added to the system for the PCL 5c driver

\$SYSTEM directory

The following files are added to the \$SYSTEM directory when the PCL driver is installed in both a standalone and a shared Windows 3.1x system; they must be uninstalled to uninstall the printing system:

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
HPPCL5F.DRV	PCL 5c driver	4500 Printing Systems

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
HPPCL5F2.DLL	PCL 5c driver	4500 Printing Systems
HPPCL5F2.HLP	PCL 5c driver	4500 Printing Systems
HPPCL5F3.DLL	PCL 5c driver	4500 Printing Systems
HPPCL5F4.DLL	PCL 5c driver	4500 Printing Systems
HPCLJUI.DLL	PCL 5c driver	4500 Printing Systems
HPPCL5F.DRV	PCL 5c driver	4500 Printing Systems
HPPCL5F.HLP	PCL 5c driver help	4500 Printing Systems
HPCLJDM.DLL		

Changes made to WIN.INI for the PCL 5c driver

The following modifications are made to the WIN.INI file upon installation of the Standard PCL driver:

```
[PrinterPorts]
device=HP Color LaserJet4500-HP=HPPCL5F,LPT1:,15,45
```

```
[devices]
device=HP Color LaserJet4500-HP=HPPCL5F,LPT1:
```

If the printer is set as the default printer, there is a line in the [windows] section of the WIN.INI file:

```
device=HP Color LaserJet4500-HP, HPPCL5F,LPT1:
```

PS driver modifications

Files added to the system for the PS driver

\$SYSTEM directory

The following driver files are added to the \$WINDOWS\SYSTEM directory upon installation of the PS driver:

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
OEMSETUP.INF	PS installer	
PSCRIPT.DRV	PS driver	
PSCRIPT.HLP	Microsoft Help file	

<u>Filename</u>	<u>Description</u>	<u>Shared With Component(s)</u>
HP_4500-6.WPD	Printer description file	
HP_4500-4.PPD	Printer description file	
READ_.WRI	PS Readme	
OEMSETUP.INI	Installation script	

Changes made to INI FILES for the PS driver

The following modifications are made to the specified .INI files upon installation of the PS driver:

WIN.INI

[Windows]

device=HP Color LaserJet4500 PS,PSCRIPT.DLL,LPT1

[PS,LPT1]

ATM=placeholder

[PrinterPorts]

HP Color LaserJet4500 PS =PSCRIPT.DLL,LPT1:,15, 45

[devices]

HP Color LaserJet4500 PS=PSCRIPT.DLL,LPT1:

[Adobe TrueType Substitutions]

Arial=Helvetica

Arial Narrow=Helvetica-Narrow

Book Antiqua=Palatino

Bookman Old Style=Bookman

Century Gothic=AvantGarde

Century Schoolbook=New Century Schoolbook

Courier New=Courier

Monotype Corsiva=Zapf Chancery

Monotype Sorts=Zapf Dingbats

Symbol=Symbol

Times New Roman=Times

Macintosh printing system

System requirements

The minimum requirements for the Macintosh Printing System are:

- Macintosh Operating System 7.5.3 or later

Components

The Macintosh Printing System for the HP Color LaserJet 4550/4550N/4550DN/4550HDN printer includes the following components:

Component	Version	Filename	Installed In
Font and Configuration Utility	v. 3.5.6	HP LaserJet Utility 3.5.6	HP LaserJet folder in root directory of startup disk or as specified by user
PS Printer Description file (PPD)	v. 1.0	HP Color LaserJet 4550 PPD for use with Apple Laser Writer driver	Printer Descriptions folder in Extensions folder
Online HTML Guide	v. 1.0		HP LaserJet folder in root directory of startup disk (or as specified by user) on older Mac OS versions; in the Help folder in the Systemn Folder in newer Mac OS versions.
HTML Utility Help			
HTML Printing Help			
Font Installer			
PANTONE®*			
ICC Profiles			

NOTE: If any of the components already exist in the target location with the same name but a higher version number, the newer components will not be replaced.

Background information

DocMaker

DocMaker is the user guide for the Macintosh operating system. It is a self-executable Doc. file that does not require a PDF reader for all languages except Asian. In Asian languages, the DocMaker is in PDF format and requires either Adobe Acrobat Reader or another PDF reader. You can install the DocMaker file while installing the printer software

and it is installed in the HP LaserJet folder. To access DocMaker, open the HP LaserJet folder and double-click on **DocMaker**.

To install the DocMaker while you are installing the printer software, follow the instructions that appear on your screen.

Adobe Acrobat Reader

Adobe Acrobat Reader enables you to read the PDF format of the DocMaker file in Asian languages. It is available for installation on the CD.

Font support

To ensure you have access to all fonts installed with the HP Color LaserJet 4550 printer, the Macintosh Printing System includes the standard 35 screen fonts in 11 families:

Standard Screen Fonts		
Avant Garde	Helvetica Narrow	Times
Bookman	New Century Schoolbook	Zapf Chancery
Courier	Palatino	Zapf Dingbats
Helvetica	Symbol	

The following bitmap screen fonts reside on the HP Color LaserJet 4550 printer:

Bitmap Screen Fonts		
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 are resident on all HP Color LaserJet 4550 printers but can be used by Macintosh platforms only by installing additional screen fonts. The screen fonts can be accessed on either the CD or the World Wide Web at: www.hp.com

Additional Screen Fonts		
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		

Printer support

The Macintosh Printing System will operate on the HP Color LaserJet 4550/4550N/4550DN. All the Macintosh components will work if the printer has both emulated PS and an AppleTalk I/O installed.

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 is printing to the printer.

NOTE: If the computer is connected to the printer by a LocalTalk (Printer Port) or EtherTalk connection, the AppleTalk (or Network) control panel must be configured for the correct connection to communicate with the printer.

The Macintosh partition contains an installer program for each language. Find the language that is appropriate for the operating system being used, and use the installer program for that language.

Uninstalling the Macintosh Printing System

To uninstall the Macintosh Printing System, drag the PPDs, Help folders for HP Utility and Printing and HP LaserJet Folder to the Trash. Do not drag the Laser Writer driver to the Trash; it is a component of the Mac OS.

In-box disk layout

The Macintosh Printing System consists of one file: the HP Color LaserJet 4550 Installer - Integrated installer program.

IBM OS/2, 2.0, and greater

System requirements

The minimum system requirements for users running OS/2 are:

- OS/2 2.0 with FixPack, OS/2 2.11, OS/2 Warp 3.0 or OS/2 Warp 4.0
- MB RAM for preWarp 4.0; 16 MB RAM for Warp 4.0
- 2 MB available disk space for installing driver
- 10 MB available disk space for Spooler/Swap space for printing. Large print jobs can require more free disk space.

Font support

NOTE: Fonts can be downloaded to the printer by using the Font Installer feature of the printer driver.

Standard Fonts		
Albertus	CG Times Italic	Symbol
Albertus Extra Bold	Clarendon Condensed	Times New Roman
Antique Olive	Coronet	Times New Roman Bold
Antique Olive Bold	Courier	Times New Roman Bold Italic
Antique Olive Italic	Courier Bold	Times New Roman Italic
Arial	Courier Bold Italic	Univers
Arial Bold	Courier Italic	Univers Bold
Arial Bold Italic	Garamond Antiqua	Univers Bold Italic
Arial Italic	Garamond Halbfett	Univers Italic
CG Omega	Garamond Kursiv	Univers Condensed
CG Omega Bold	Garamond Kursiv Halbfett	Univers Condensed Bold
CG Omega Bold Italic	Letter	Univers Condensed Bold Italic
CG Omega Italic	Letter Bold	Univers Condensed Medium Italic
CG Times	Letter Italic	Wingdings

CG Times Bold	Line Printer	
CG Times Bold Italic	Marigold	

OS/2 installation instructions

NOTE: Installation procedures differ depending on whether or not a printer object does or does not exist on the OS/2 Desktop being used. Use the instructions that match the Desktop.

Installing a printer in OS/2 when a printer object does not appear on the computer's desktop

NOTE: Use this procedure if the OS/2 Desktop does not have a printer object. A system can have this configuration if no printer was selected during OS/2 installation, or all the print objects have been deleted from the Desktop.

To create a printer object and install a printer driver use the following procedures:

1. Open the **Templates Folder** (located in OS/2 system folder after OS/2 installation).
2. Select the **Printer** template. Press and hold the right mouse button.
3. Drag the template to the Desktop.
4. Release the right mouse button.
5. Type a name for the printer in the **Name** field.
6. Select a port to which the printer is connected.
7. Click **Install new printer driver**. A window appears with a list of the printer drivers that are shipped with O/S2.
8. Click **Other printer driver**.
9. Point to the downloaded printer drivers.
10. Click **Refresh**. Wait until the window fills with printer drivers.
11. Select one or more drivers by clicking the left mouse button over the desired driver.
12. Click **Install**.

Installing a printer in OS/2 when a printer object does appear on your desktop

NOTE: If the old 16-bit HP LaserJet driver is installed on a system, delete it before installing this driver.

Use these directions if a printer object does exist on the OS/2 desktop, but you do not have the correct printer driver installed on the system. This could happen if a different printer was added to the system.

To install a new printer driver and use an existing printer object, use the following procedure:

1. Select the **Printer object** using the right mouse button.
2. Click **Settings**.

3. Click the **Printer Driver** tab.
4. Select one of the **Printer Driver Objects** using the right mouse button.
5. Click **Install**.
6. Select **Other OS/2 printer driver**.
7. Point to the downloaded printer drivers.
8. Click the **Refresh** button. Wait until the window fills with printer drivers.
9. Select one or more drivers by clicking the left mouse button over the desired driver.
10. Click the **Install** button.

Additional information about the OS/2 drivers is included in the Readme files that come with each driver.

Changing a printer driver in the Printer Object

Once both the printer object and the printer driver have been installed, the correct printer driver should be selected in the print object. This might also be necessary if using different printer drivers with a single print object. To change to a different printer driver:

1. Right-click the **Printer Object**.
2. Click **Settings**.
3. Click the **Printer Driver** tab.
4. Double-click on the **Title-bar** icon.

The printer object is now set up to use a different printer driver. To customize the settings for this printer driver, see “Changing the Printer Properties” or “Changing the Job Properties.”

Changing the Printer Properties

A printer driver has settings called **Printer Properties**. **Printer Properties** describe how a particular printer is physically set up. Examples of printer properties include the amount of memory in a printer, forms defined by the printer, forms associated with the printer paper trays, and installed printer patterns.

To set or change **Printer Properties**:

1. Point to the **Printer Object**. Right-click the **Printer Object**.
2. Click **Settings**.
3. Click the **Printer Driver** tab.
4. Select the printer driver, and then right-click the mouse button.
5. Click **Settings**.
6. Change the properties to match the printer setup.
7. Double-click on the **title-bar** icon.

The printer object is now set up to print a job. For information about how to print a job, see the **OS/2 Tutorial** or the **Information** folder for information on printing.

Changing the Job Properties

A printer driver has settings called **Job Properties**. **Job Properties** describe how a particular print job is printed. Examples of job properties include number of copies, print resolution, print quality, color effects, and orientation (portrait or landscape). Applications generally allow the selection of a printer object (sometimes referred to as a printer queue) and they allow you to change the “Job Properties” associated with a particular job by

selecting on **setup** or **options** buttons. There are times, such as when performing drag-n-drop printing, when it is appropriate to change Job Properties outside of an application.

To change the default Job Properties associated with a printer object outside of an application:

1. Right-click the **Printer Object**.
2. Click **Settings**.
3. Click the **Job Properties** tab.
4. Change the properties.
5. Click **Save**.

The default job properties associated with a printer object are now set up. For more information about how to print a job, see the **OS/2 Tutorial** or the **Information** folder.

Online user guide installation

The online user guide for this printer is supplied in online format for viewing on your computer screen. You can install the online user guide by copying the file to your hard drive and viewing with Adobe (R) Acrobat Reader.

Network Operating Systems

Novell

Installing a printer driver to the Nd Broker

These steps use components of Netware and ND. If any of these steps do not work, you will need to contact Novell for assistance.

1. Run NWADMIN32.EXE.
2. Double-click the ND Broker Object.
3. Click the **Resource Management (RMS)** tab.
4. Click **Add Resources**.
5. Select the printer drivers for the operating system.
6. Click **Add**.
7. Browse to the .INF file of a printer.

NOTE: Some downloaded drivers will expand into several different directories labeled disk1, disk2, and disk3. After downloading a driver and expanding it, make sure all files are in the same directory so that all files - disk 1 through disk 4 - are together in the same directory.

8. Click **OK**.

The printer driver is added to the Server_Name>SYS:ND\RESDIR\PRNDRV\WIN95 directory on the server where the Broker Service is loaded (BROKER.NLM in the SYS:SYSTEM).

NOTE: NPD files are not needed for newer printers. See Novell document "Printer Not Listed in Printer Type Box" or "What are NPR, NPX, and NPD Files?"

Log onto a server in Bindery Mode

Use the following procedure to overcome the default NDS login mode when logging on to a Novell server.

Determine current connection

1. In order to see what kind of connection you have with the server, right click on red Novell "N" located in the Systray.
2. In the menu that appears, select "Netware Connections...."
3. A new window will appear showing the Tree(s) you are connected too and what server you are connected too. You will also see the type of connection. If it is a bindery connection it will say "Bindery" under the heading of Authentication State. Otherwise you will see "Directory Services" which is a NDS connection.

Client setup for bindery mode login

1. To view your mode of connection with the server, right click on the Novell logo located in the Systray.
2. In the menu that appears, select **Novell Client Properties**.

3. Select the **Location Profiles** tab.
4. Select **Default** in the Location Profile area, then select **Properties** at the bottom of the window.
5. You will now see a new window with a tab labeled **Services**. Below that is another selection window labeled as Services, where you should see the words Login Service highlighted.
6. Below the Services selection drop-down list, another drop-down should have Default highlighted. Select **Properties** from that list.
7. The next window, select the **Bindery** tab.
8. Check the **Active Authenticator** box and select the lower **Clear Current Connections** box.
9. Click the **browse** button on the right side of the server drop-down box and select the server you want to connect to as default.
10. Select **OK** on all of the open windows.
11. Right click on the Novell logo located in the Systray, select **NetWare Login** and re-login into the server.

Once you have logged in, check that your connection is now in Bindery mode.

Installing HP drivers using NDPS and ZenWorks

To install HP drivers using NDPS and ZenWorks, you must have Novell ZenWorks 2.0 (or later), Novell Client for NT Version 4.71, NDPS Ver. 2.0, and the appropriate HP and drivers and postscript printer description (PPD) files.

NOTE: This procedure requires Novell Client 4.71 for NT to loaded on the workstation, and ZenWorks 2.0 with Service Pack 1 loaded on the server. ZenWorks Service Pack 1 should be loaded only on English language servers. Service Pack 1 is included in ZenWorks 2.0 for all non-English versions.

The user must create PPD configuration files, but the driver assigns mailbox and stacker bins to user groups.

To verify that ZenWorks Service Pack 1 has been installed on English-language servers, obtain a DOS prompt and make Z: the active directory. The DOS command ZENVER will display the version and service packs installed. If Service Pack 1 has not been installed, it is available for download from the Novell website; the English language filename is: ZFD2SP1.EXE.

1. Load HP printer drivers into RMS of the NDPS Broker
 - Using NWAdmin32,
 - a. Open the **Broker**.
 - b. Click the **Resource Management** button.
 - c. Click the **Add Resources** button.
 - d. Select the **Windows NT 4 Printer Drivers** icon.
 - e. Select **Add**; this will open a window labeled Add Resources.
 - f. Select the **Browse** button and navigate to the location of the HP printer drivers to be installed.
 - g. Select the correct driver INF file
 - h. Install the first driver; when the install window closes, select **Add** to install more drivers.
 - i. When you have completed installing the desired HP printer drivers, select **OK** and **OK**.
 - j. Browse to where the drivers are located.

- k. When you have completed loading the drivers, verify their installation by locating them in the Current Resources field.
 - l. Select **OK** and **Cancel** to complete the installation.
2. Make print queue objects.
 - a. Create a standard NDS Printer Queue using NWAdmin32.
 - b. Label the queue for the person or group that will be using a specific bin location. Create one Queue for each bin/driver that will be used. (Example: user1-printer2-bin3)
 3. Make NDPS print agents
 - a. Create the NDPS Printer Agent Object.
 - b. Enter the name for the printer agent (Example: User1-printer2-PA).
 - c. Select the NDPS Manager.
 - d. Select the HP Gateway.
 - e. Select **OK**.
 - f. Select the printer to use for this printer agent.
 - g. Select the WinNT4 tab.
 - h. Scroll down to the correct driver to be used with this user or users, then click **Continue** and **OK**.
 - i. Open the Printer agent again (you should see a HP status window).
 - j. Select **Jobs v**.
 - k. Select **spooling configuration**.
 - l. Select **Add**.
 - m. Select the printer queue object for this user.
 - n. Click **OK**, **OK**, and **Cancel**.
 4. Make User Policies.
 - a. Create a user policy for the specific user and enable the printer policy.

NOTE: If the Policy icon does not appear, ZenWorks support pack 1 has not been installed on the server.

- b. Name the policy.

NOTE: It is helpful to name policies in such a way that administrators can easily understand the purpose of the specific policies.

- c. Select **Next**.
 - d. Add a user or users and select **Next**. To create more than one policy, select the **create another policy** box.
 - e. When all of the policies have been created, select **Finish**. A unique user policy is required for each printer driver or printer driver configuration used.
5. Associate queues with the printer agent
 - a. Open the user policy and select the **NT user printer policy** box.
 - b. Select **details** and **Add**.
 - c. Highlight the NDS print queue object previously created for this user or group.
 - d. Select **OK**.
 - e. Select **New driver**.
 - f. Select **Clear Current Settings**.
 - g. Select the **Select printer model** button.
 - h. Select **have disk** and browse to the location of the drivers.
 - i. Install the correct driver to be associated with the policy.
 - j. Select **OK**, **OK**, and **Cancel**.

Verify that the configuration works properly.

Remove printer objects from the Novell Server.

To remove printer objects, it is first necessary to delete from the Novell server all old queues that were associated with the printer.

NOTE: A Bindery Queue as seen on a Novell server is made up of two Objects: the Printer Queue and the Printer Server Object.

Verify that no previous Queue has been made and associated to the printer.

NOTE: The print queue or the print server object can detach from the printer device. This will cause a malfunction and none of the print jobs will print.

Check existing print queue and print server objects

1. Find NWAdmin32. If ZenWorks has been installed on the server, browse to NWAdmin32 by the following path: Network Neighborhood > Server (Spy-5xb) > Sys > Public > win32 > Nwadmin.exe.
2. Open NWAdmin32.

NOTE: If the administrator is not logged in to the specific server where the file is installed, authentication for that server might be required.

3. Select all references to the printer; Bindery mode printers have two objects and NDS mode printers have three objects.

Figure 44 shows NDS print queue objects.

Figure 44: NDS print queue objects (NWAdmin32)

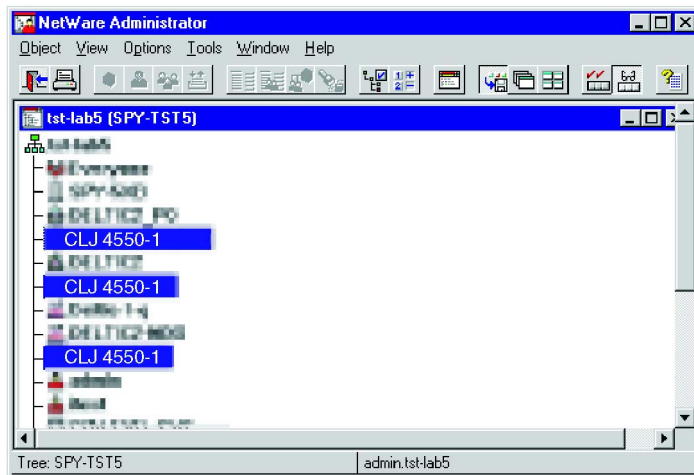
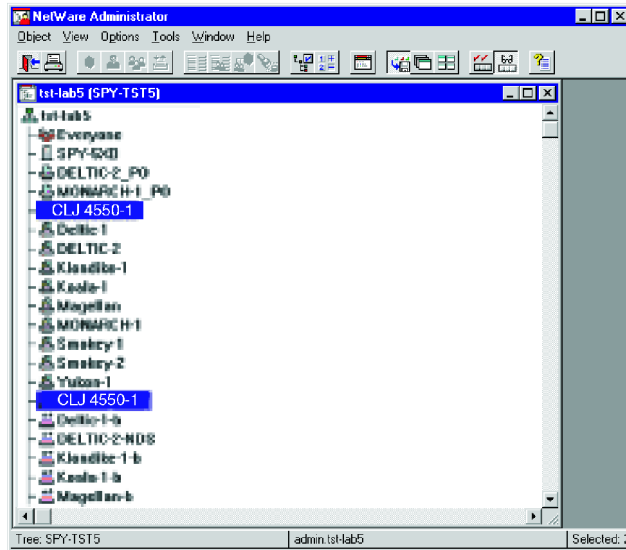


Figure 45 shows bindery print queue objects.

Figure 45: Binder print queue objects (NWAdmin32)



To build a new print queue, all present objects must be deleted.

After deleting print queue object, double click the topmost icon to collapse its directory, then double click it again to refresh its directory. Verify that all printer-associated items have been deleted.

The Nwadmin program window can now be closed or minimized.

Bindery-NDS-NDPS Queue Quickset

Build a Bindery queue on a Novell server

1. Remove any previously built print queues.
2. Open Web JetAdmin and verify the IPX/SPX protocol is active.

NOTE: This is indicated at the lower/bottom right corner of the screen.

3. Right click the Printer icon and select **Modify**.
4. Verify that the printer name and description are correct and select **Next**.

Both fields on the right side (NDS Tree Name & Print Server Context) should be set to [unconfigured].

NOTE: The convention used for this name is the printer name only. If there are other units, a dash is included with the unit number next. The description will always be the Spp number).

5. Select the printer icon labeled **Queues**.
6. Select the **Change** button.
7. If the old queue or Unknown Queue appears in the right pane, highlight the queue name and select **Remove**. Otherwise continue to the next step.

8. In the left pane, if the old queue is listed, highlight the Queue name and select **Delete**. To confirm the deletion, select **OK**. If the old queue is not listed, proceed to the next step.
9. In the left pane, select the server where the new queue will be created.
10. Select the **Create** button.
11. Enter the queue name (Example: CLJ4550-1-B) and select **OK**

NOTE: The naming convention being used is as follows: Printer name, dash, Unit number, dash, type of Queue (B for Bindery).

12. Select **Yes** to add this to the list of serviced queues.
13. Select **OK**.
14. The new queue should appear in the right pane. Select **Next**.
15. Verify that the queue's IP, Gateway, and Sub-mask numbers are correct.
16. Select **Next**, then **Finish**, then **OK** to complete creation of a Bindery printer queue.

Build an NDS queue on a Novell server

1. Remove any previously built print queues.
2. Open Web JetAdmin and verify the IPX/SPX protocol is active.

NOTE: Protocol is indicated at the lower/bottom right corner of the screen.

3. Right click the printer icon and select **Modify**.
4. Verify the printer name and description are correct, then select **Next**.

NOTE: The default icon shown will be Netware Directory Services; if it is not, select it.

The convention used for this name is the printer name only. If there are other units, a dash is included with the unit number next. The description will always be the Spp number.

5. In **NDS Tree name**, select the tree where the server is located.
6. Verify or enter the correct Print Server Context.
7. Select the **Operating Mode** icon (no actual mode selection is necessary).
8. Select the **Printer Queue** icon.
9. Select the **Change** button.
10. If the old queue or Unknown Queue appears in the right pane, highlight the queue name and select **Remove**. If not, continue to the next step.
11. If the old Queue is listed in the left pane, highlight the Queue name and select **Delete**. To confirm the deletion, select **OK**. If it is not listed, proceed to the next step.
12. In the left pane, select the tree (not the server) where the NDS queue will be created.
13. Select the **Create** button.
14. Enter the queue name (Example: CLJ4550-1-NDS)

NOTE: The naming convention being used is as follows: Printer name, dash, unit number, dash, NDS (For the type of Queue you are creating).

15. Verify the server and context are correct, then select **OK**.
16. To add this to the list of serviced queues, select **Yes**.
17. Select **OK**.
18. If the new queue appears, connected to the tree in the right pane, select **Next**.
19. Verify the IP, Gateway, and Sub mask numbers are correct.
20. Select **Next**, then **Finish**, then **OK** to complete the a NDS queue.

Build a queue with a new or reset JetDirect card

1. Open Web JetAdmin and select **Device** then **New**.
2. Select the correct MAC address of the printer JetDirect card.
3. Enter the Printer server name (this is the printer name) and the Spp description.
4. To create a Bindery Queue, see Build a Bindery queue on a Novell server complete the installation.
5. To create an NDS Queue, see Build an NDS queue on a Novell server to complete the installation.

Troubleshooting:

To correct errors concerning administrative rights, check server login type (verify the login has the correct administrative rights). Refresh Web JetAdmin. If this does not eliminate the error, login to the server again; reselect the tree, context and server to establish a good link with the server.

If this does not eliminate the error, turn the printer off, hold down the green button and turn the printer on again. The front panel will display "Cold Boot." This will also reset the JetDirect card; see Build a queue with a new or reset JetDirect card to proceed.

Building an NDPS Printer

Loading a driver to vend

1. Logon to the correct server with Administration rights.
2. If an **NDPS Manager** does not exist, create an NDPS Manager.
3. Double click on the **Broker** object.
4. Select the **Resource Management** button on the right side; it also might be labeled (RMS).
5. Select the **Add** button.
6. Verify in the Current Resources field that no driver for the printer is loaded.
7. Select browse and navigate to the location of the driver .inf driver files, then select the .inf file for the driver you want to load.
8. Select **OK**.
9. If a driver was already loaded, select **Replace the current driver** to load the new driver.
10. After the driver has loaded, verify in the Current Resources field that the driver loaded correctly.
11. Close the window.

Creating a Printer agent

1. Right click the container object.
2. Select **Create**
3. Select **NDPS Printer**.
4. Type in the printer name and select **OK**.

NOTE: HP suggests the printer be named with the following convention: printer name - number (if applicable) – NDPS. All example printer names use this convention

5. Highlight the HP Gateway.
6. Select the **NDPS Manager** previously created, click **OK**, and **OK**.
7. If the printer manager has not been previously loaded a window will appear stating the **NDPS Manager** must be loaded. Click **OK** to close this window.
8. Select the printer to be used and click **OK**.

NOTE: The printer can be selected by the IP address, the IPX address, or the Jet Direct Name.

9. To vend to a specific OS, select the printer name to be vended. If no drivers are to be vended, select **None** under all of the OS icons in this window, then select **OK**.

Finding the NDPS printer object you just created from Windows

1. The Novell client must be running Novell Distributed printer Services for Windows to find and connect to an NDPS printer object. Verify this in the properties of **Network Neighborhood** under services, or by looking for the printer through **Add Printer**.
2. In Windows 95, Windows 98, or Windows Millennium, select **Start, Settings**, then **Printers**.
3. Double click the **Add Printer** icon, select **Network Printer** and click **Next**, choose **Browse**, then **Entire Network (or tree)**, select a context, and select the printer **Agent Object** (listed as “xxx-x-NDPS” if the HP naming convention was used).

NOTE: Do not use the NDPS Public access Printers

4. In Windows NT4.0 and Windows 2000, select **Start, Settings**, then **Printers**.
5. Double click the **Add Printers** icon. Choose **NDPS Printers**, then **NDPS Controlled Access Printers**. Select the context, then select the **printer Agent Object**.
6. If the driver has not been loaded through RMS or selected to vend, a window will appear that requests the location of the driver to be loaded.
7. If you did load a driver in section A and selected that driver in section B, then you will see the driver being vended to your system at this time.
8. You can use the default printer name, or you can enter your own printer name at this point.

Appendix A: Job status and alerts in Windows operating systems

Operating systems supported

This component can be installed on:

- Windows 2000
- Windows 95, Windows 98 and Windows Millennium
- Windows NT 4.0

Overview

The Job Status and Alerts feature is an extension to the printing system to help users stay informed about the status of jobs they have submitted. Job Status and Alerts installs as part of the default driver installation. If the user wants to install the driver without Job Status and Alerts for some reason, it is necessary to use the custom install option and uncheck the status component before proceeding.

There is no help file or help button associated with the Job Status and Alerts window. The window is a system-global printing status monitor. That is, there is only one Job Status and Alerts window, regardless of how many printers or print jobs are being processed on the system.

Job Status and Alerts functionality is a background process launched at system startup. Normally, it runs until the system shuts down. This Status process installs and maintains an icon in the system tray. The behavior and appearance of this icon is described in depth in System tray icon.

The Options panel allows the user to specify what types of events (if any) should cause the Job Status and Alerts window to display automatically.

The following definitions are used in the Job Status and Alerts feature:

- **Active job:** a job that has been submitted, is represented by an icon in the Job Status and Alerts icon list, and is not yet completed.
- **Active panel:** the panel that is currently being displayed if the Job Status and Alerts window is open, or that would be displayed if the window were opened; the panel associated with the currently selected icon
- **Alert condition:** a job status condition that would trigger a document alert, whether or not that type of alert were enabled in the Document Alerts options panel.
- **Completed job:** a job that cannot proceed because it has either finished successfully, failed with some sort of error, was canceled, or Job Status and Alerts is unable to locate the job or communicate with the printer (bidi communication failure).
- **Current job:** see Active panel.
- **Current panel:** see Active panel.
- **Inactive job:** see Completed job.
- **Panel:** the collection of display elements (similar to a dialog) associated with a particular icon, and displayed in the right side of the Job Status and Alerts window when that icon is selected.
- **Selected panel:** see Active panel
- **Top job:** the job that was submitted most recently, earning it the top position in the icon list.
- **Triggering job:** the job with the most recent alert condition.

Job status and alerts window

The Job Status and Alerts window is a standard Windows resizable application window with a title bar, but no menu bar across the top.

The status window is divided into several distinct regions. At the bottom of the window is the nameless region that contains the HP logo on the left end and the Cancel Job and Close buttons on the right end. The Cancel Job button is disabled (grayed out) unless a job status icon is selected, or if the selected job is finished, failed, was canceled, or is being canceled. If enabled, clicking the Cancel Job button will remove the job from the spooler queue and/or the target printer.

The upper portion of the status window is divided into two regions by a vertical divider bar that can be dragged right or left to adjust the relative widths of the two regions. On the left is a list of job icons, printer icons, and the Options icon. The icons are ordered primarily by these groups--first the jobs, if any, then the printers, and finally the Options icon at the end of the list. The job icons will be presented in the reverse of the order in which the jobs were submitted--most recent jobs first, followed by older jobs. The printer icons are sorted in alphabetical order.

On the right is the display area for currently selected icon. Job Status icons appear (one for each pending job) when jobs are submitted for printing. When a job finishes printing, its status icon shows the finished state (green circle with blue check mark), and the icon remains in the icon list until another icon is selected (either manually, or automatically by the Job Status and Alerts feature).

Printer status icons appear in the icon list for each printer configured on the system. Clicking these icons will update and display the Printer Status panel. Printers that are involved with at least one of the active print jobs are queried for their status periodically. If a printer responds with an error or warning condition, the Job Status and Alerts window might be displayed according to the Document Alerts options described in the Job Status Panel.

Job status panel

The job status panel has a dynamic icon and title that represents the current status of the print job being monitored. Normally, the title of the job status icon will be the name of the document being printed, subject to the availability of that information from the application. If the application does not provide a document title, Job Status and Alerts will use the label "Unknown."

The state of the job may be one of several possibilities:

- **Receiving** indicates that the job data is being written to the spooler queue (local or remote) by the application.
- **Unknown** is shown when the Job Status and Alerts software cannot communicate with the destination printer.
- **Printing** indicates that the spooler is now sending our job to the printer, and/or the printer is processing our job.
- **Waiting** indicates that there are other jobs queued up in the spooler or printer ahead of ours.
- **Stopped** indicates that there is some sort of problem with the printer and progress is not being made. Typically, this would be caused by a paper jam or similar printer error that occurs while printing our job or one of the jobs ahead of ours.
- **Finished** indicates that the document has been printed successfully.
- **Failed** indicates that the printer reported an error of some kind and the job was terminated, or was completed with some kind of compromise (such as print resolution)
- **Canceled** indicates that the job was removed from the spooler or terminated before the printer could finish it.
- **Canceling** indicates that the software is attempting to cancel the job at the user's request.

The Warning icon is used in conjunction with one of the other job status icons, and does not represent a job state by itself. The Receiving icon will be rarely seen, because a typical print job takes very little time to write to the spooler, especially if the spooler is on the local host. After Receiving, the job enters the Waiting state or the Printing state.

Since the largest portion of time before a job completes will be spent in either the Waiting or the Printing states, both of these employ an animated icon.

NOTE: The animated icons will appear in the job status panel only--the icon list will use only the static icons.

It is possible that when the Job Status window is displayed, more than one job is being processed. In that event, there is a separate job status icon for each job being processed. Each has the appropriate icon indicating the current status of that job, but the job (document) name will be used to distinguish them. In the event that more than one job has been submitted with the same name, some identifier is appended to the second and subsequent icon titles (engineering resources permitting) to keep them unique (e.g., two documents named "untitled" might appear as "untitled" and "untitled2").

When the job status icon is selected, the right side of the window displays the status panel containing information about the status of the current job. The general layout of the status panel is:

- a status icon followed by a single-word title, followed by the name of the target printer in parentheses
- a one-line sentence describing the details of the current status
- additional information (not always present) that pertains to the current status.

In case of a printer warning condition, the current status of the job does not change--the job progresses as usual, until either the user cancels the job or the printer develops a more serious (error) condition. To notify the user of warning conditions that do not (immediately) impact the current job, a warning icon is displayed along with a brief description of the condition.

NOTE: The job icon (in the list of the left side) will never change to the warning icon because, as stated above, the caution icon does not represent a state by itself--it only supplements one of the other states.

Warning conditions will not be reported for jobs that are completed, but they can be combined with any other state, including error (stopped) states.

With the job completed, it is no longer possible to cancel the job, so the Cancel Job button becomes disabled.

If the destination printer is an unknown type, it will be impossible to gather status information about the job. In this case, Job Status and Alerts displays the "Unknown" state. This also displays when the printer is a known type, but for whatever reason, Job Status and Alerts could not get status information.

Dynamic Behavior of Job Status

When the Job Status window is opened, it contains at least one icon in the list, and exactly one icon is selected, with its panel displayed in the right side of the window.

When the Job Status window is opened, it will select either the most recent triggering job (if an alert condition has occurred since the window was last closed), or the same panel

that was selected when the window was last closed. If the previously selected panel is no longer present (because it has been deleted), then the first job panel in the list will be selected. If no job panels exist, then the Options panel will be selected as a last-case default.

When the window is open, there are three types of events that can cause the program to display a different panel:

1. The user manually selects a different panel by clicking on a different icon.
2. Another job has an alert condition and that type of alert is enabled.
3. Another job has an alert condition and the current panel corresponds to a completed job.

In the case of event number one, the Job Status window will display the panel corresponding to the icon that was clicked by the user. In the case of events two and three, the window will display the panel for the triggering job. If none of these events occur, the panel currently being displayed will remain in the display indefinitely.

When a completed job is no longer selected, its icon will remain in the icon list for 10 seconds. This delay allows the user to quickly check the status of other jobs without losing a completed job (say, one that failed with a peculiar error message). However, if the completed job remains unselected for 10 seconds, it will be deleted from the icon list. When the Job Status and Alerts window is closed, the rules are a little bit simpler. The closed Job Status and Alerts window (even though it's not visible) will select a new panel when:

1. the system tray icon changes
2. the selected panel is a completed job and has been for 10 seconds

In the first case, the new panel that is selected would be the triggering job. In the second case, the selected panel would be deleted and the top job would be selected. Closing the Job Status and Alerts window when the selected panel is a completed job will delete that job panel immediately--no 10-second timer is used in this case.

Printer status panel

The printer status feature has a generic printer icon and a title that matches the particular printer whose status is being monitored. If there is more than one printer configured, each printer will be represented by a separate printer status icon in the icon list (one status icon per printer icon in the Printers folder, except for unsupported drivers). Selecting a printer status icon causes the right side of the window to display the printer status panel.

The printer status panel has five browser navigation buttons positioned over a browser window element which is used to display web pages either supplied by the printer or created locally from current status information. The five navigation buttons are designated as follows (from left to right):

- **Back:** If the user clicks on a hyperlink within a displayed page, clicking the Back button will return to the previous page. The repeatedly clicking the Back button will take the user back to the main printer status page, after which it will no longer have an effect.
- **Forward:** Think of this button as an "Undo" for the Back button. Clicking it has no effect unless the Back button was clicked recently.
- **Refresh:** Refreshes the contents of the page. If the page is served by a printer's embedded web server, then a request is made to reload that page. If the page is synthesized from the bidi status returned by a printer, then that status is updated and the page recreated and redisplayed.
- **Home:** This button reloads the main page for the selected printer--it has nothing to do with the Home page that may be configured for Internet Explorer.

- **Job History:** displays a page containing information about the history of jobs printed to this printer from this PC (described further below).

Of the five buttons at the top of the printer status panel, the first four should be readily apparent to anyone who has used a web browser. The Refresh button is necessary for updating the printer status page when the printer has no embedded web server. When displaying embedded web content, the web server will automatically repost its page contents and refresh the browser window when status changes. The last button represents job history.

The Job History page consists of a table containing Document Name, Owner, State, and Pages. The Document Name is the name reported to the driver by the application. The Owner is the windows user (login) name. The State is either Printed, Canceled, Failed, or Unknown. The Pages column is "N of M" where N is the number of pages printed. and M is the total number of pages to print. For jobs whose state is "Printed," N should be equal to M. They may differ in Canceled or Failed jobs. The specific layout and cosmetic appearance of this page is subject to change.

There are a number of situations where the printer status panel will not be able to display printer status information. These situations occur when:

1. Job Status and Alerts is retrieving information from the printer;
2. There is a bidi communication failure; and
3. Job Status and Alerts can communicate with the printer but they don't understand each other.

For each of these three cases, the printer status window will display an animated gif image that is intended to substitute for an error or progress message.

Options panel

There are a number of aspects of the Job Status and Alerts software that users may wish to configure in order to specify a combination of behaviors that's well suited to the user's style of working. What makes the Options panel unique is the category selection, located in the light gray band across the top of the panel. These controls include a drop-down list control, where the user may select from an expandable list of options categories, and a Next button, which selects the next category in the list in circular fashion. Selecting a different choice from the drop-down list (or clicking the Next button) causes the contents of the panel below to be updated with a different set of options that correspond to the selected category.

The installer program allows the administrator to create a custom installation disk that will install preconfigured options for Job Status and Alerts. The administrator will be able to specify the default Document Alert and Refresh Rate options, and will have the choice of making the Refresh Rate sub-panel not appear to the end user. If this option is selected, then the end user will only have one sub-panel available for Job Status and Alerts Options (Document Alerts), and the scope controls will not be shown at the top of the Options panel.

Within both the Document Alerts and the Refresh Rate sub-panels, the user must first select a printer to set the scope of the Options settings to be changed. The default setting is All Printers, which means that any changes made to the settings below will apply to all configured printers. If a change in scope is desired, the specific printer (or All Printers) must be selected **before** the settings are adjusted. At any given time, any change made to any of the Options settings will apply to the printer specified in the drop-down list. Changing the printer scope **after** changing the Options settings will not have the desired effect.

The Document Alerts options consist of four check boxes representing four different types of notice that the user may be interested in. If none of these options are checked, then no document alerts will appear during the course of a print job to the selected printer. When at least one option is checked and an in-progress print job has triggered that condition, the Job Status window will appear with the Job Status panel displaying the particular status condition that triggered the alert.

The second alert option, labeled "your document has finished printing," will notify the user if any job completes successfully. Failed jobs are covered under the "your document cannot complete due to an error" option, and there is no alert option that covers canceled jobs.

The Refresh Rate options specify the intervals at which the printer and spooler are queried over the network for updated job status information. The default setting for the Refresh Rate is the center unlabeled detent, halfway between Less Often and More Often.

The three labeled refresh rate settings are accompanied by a notice that appears below the slider control. The notices are intended to warn the user about the trade-offs between network performance and responsiveness of the status window. When the Never selection is active, the notice will inform the user that no status monitoring will be performed on the selected printer. If the current scope control is set to All Printers, the notice will state that the whole status monitoring system is now disabled. When in this state, the obvious way to turn it back on is to drag the slider control off of the Never setting.

The following table shows the text of the notice messages for the four unique settings that produce them.

<u>Refresh Rate Setting</u>	<u>Notice Message Text</u>
More Often	This setting will give you the most timely status updates, but may have a negative impact on network performance.
Less Often	This setting has minimal impact on network traffic, but document alerts may be delayed by several minutes.
Never (one printer)	This setting disables status monitoring for all documents sent to the printer <i>printername</i> .
Never (all printers)	This setting disables all document status monitoring.

System tray icon

In the system tray, an icon will represent only the most significant status conditions. This icon serves as an abbreviated status indicator when the Job Status and Alerts window is not open. It also serves as a control point for interacting with the status process.

The system tray icon provides access to the status functions in the following ways:

- Its icon represents the worst status of all jobs being monitored. That is, if three jobs are being monitored, and two of them are proceeding nicely but the third is blocked because of a paper jam, the icon will show the red Stop image to signal the error condition. The tray icons will be similar to (but smaller than) some of the status icons, plus there will be an Idle icon that will just show a printer when there is no job status to report.
- A double-click on the icon with the left mouse button will cause the Job Status and Alerts window to display if it is not already visible.
- A single left-click or right-click on the icon will present a context menu with the following items:
 - **Open**: opens the Job Status and Alerts window as if the user had double-clicked on the icon. It's **bold** to show the default (recommended) option.
 - **Options**: opens the Job Status and Alerts window and automatically selects the Options panel
 - **Exit**: presents a confirmation dialog, then terminates the Job Status and Alerts app

When the Exit... item is selected from the context menu, a dialog box appears.

If Job Status and Alerts has been configured not to run automatically on restart, the same dialog will appear again the next time the program is executed manually (either from the Run command or by double-clicking the application icon). If it is already configured for auto-run, this dialog will not appear when the program is executed.

There are seven significant states visible from tray icon:

- **Failed:** A job has recently completed with an error, such as memory out, or was canceled.
- **Error:** A job being processed is being held up by an error condition.
- **Finished:** A job has recently completed successfully.
- **Warning:** A printer for a job being processed has a warning condition, but no error conditions have been detected (warning alerts are enabled).
- **Busy:** A job recently began being processed and is proceeding normally.
- **Idle:** The Job Status and Alerts software has been installed, and there are no active jobs being processed.
- **Unknown:** A print job that Job Status and Alerts was tracking cannot be found. It was probably printed, but Job Status and Alerts cannot determine the exact outcome.

These states represent the maximum detail we should expect to convey through the system tray icon. If the user sees the Busy icon and wants more detail on the current status of a job, they can double-click the icon to display the Job Status and Alerts window.

The tray icon will always represent the triggering job whose status changed (had an alert condition) most recently. Even if the last job completed an hour ago, the tray icon will indicate the last alert condition of that job (e.g., Finished, Failed, or Unknown). If warning alerts are not checked (enabled) in the Document Alerts options, then the Warning icon will not be displayed in the system tray when a warning alert condition is detected. However, Error and Failed icons *will* be shown when appropriate, even if the error alerts are not enabled.

Because a completed job panel will only be deleted when it is not the active panel, the last job panel will remain the active panel (and the tray icon will remain either Finished, Failed, or Unknown) until another triggering job is submitted. This new job will become the active panel. However, without submitting a new job, the old job panel can be deleted manually by opening the window and closing it again. At this time, if there are no other jobs to be selected in the list, the system tray icon will return to the Idle state (the icon).

Job status and alerts files

Win32 (Common files between Win9x and WinNT/2K)

Filename	Directory	Description
Hpbdrtpl.dll	\$SYSTEM	(Print Job Specific) Printer delivery step module responsible for communicating with the printer via bidi to determine the state of a print job (uses a polling mechanism).
hpbskpng.dll	\$SYSTEM	(Print Job Specific) Printer socket ping delivery step module responsible for listening for pushed job events from the printer, data is transmitted via sockets.
hpbewsdm.dll	\$SYSTEM	Embedded web server device monitor that is responsible for determining a printers device status URL if the printer has an embedded web server.

Filename	Directory	Description
hpbwspds.dll	\$\$SYSTEM	(Print Job Specific) Windows spooler delivery step that communicates with the windows spooler to determine the state of the print job while it exists within the windows print subsystem.
hpbsubmn.dll	\$\$SYSTEM	(Print Job Specific) Submission monitor that listens for events coming back from the printer/spooler/socket ping delivery steps and then forwards the appropriate information to a User Interface module that will display something meaningful from the event data sent from the delivery steps.
hpbmappr.dll	\$\$SYSTEM	The mapper creates/maps print jobs to the appropriate delivery steps and also maps printers to specific device monitors.
hpbsmui.dll	\$\$SYSTEM	(Print Job Specific) Submission monitor UI component that interprets job event data sent to it from a submission monitor, and displays a meaningful UI based on the job data.
hpbwsdm.dll	\$\$SYSTEM	Synthetic web server device monitor that performs bidi requests to the printer to generate a synthesized web page that represents the current state of the device and its capabilities.
hpbdvui.dll	\$\$SYSTEM	Device monitor UI that hosts the HTML control (From IE 4.0 or greater) that will display the HTML data the embedded web server (hpbewsdm.dll) or the synthetic web server (hpbwsdm.dll) generate.
hpbpsvr.exe	\$\$SYSTEM	Socket Ping Server executable that listens for pushed events from any printer on windows sockets, and then forwards the connection data/events to the job specific socket ping delivery step (hpbkpng.dll).
hpbJob Status and Alertsui.dll	\$\$SYSTEM	Job Status and Alerts core UI component that displays the main application window.
hpbpref.dll	\$\$SYSTEM	Job Status and Alerts options component that is responsible for displaying the Options UI.
HpStatus.exe	\$\$SYSTEM	Main Job Status and Alerts executable.
Hpbdrvin.dll	\$\$SYSTEM	Job Status and Alerts Proxy driver installation module.
Hpbdrvhk.exe	\$\$SYSTEM	Command line utility that can be used by CCC agents to add/remove Job Status and Alerts support for specific drivers and printers.

<u>Filename</u>	<u>Directory</u>	<u>Description</u>
blackbar.gif brokenconnection.gif greenbar.gif greenblink.gif Level-00N.gif Level-012.gif Level-025.gif Level-050.gif Level-075.gif Level-100.gif Level-Empty.gif Level-OK.gif Level-Unknown.gif OK.gif redbar.gif redblink.gif Unknown.gif working.gif	Typically installed in something like: C:\Program Files\Hewlett-Packard\HP Status\Images	Graphics image files that are used by Job Status and Alerts when displaying the printer/device status.
HPJob Status and AlertsDRV.MTX	\$WINDOWS	The driver support matrix file that Job Status and Alerts uses to determine whether Job Status and Alerts will support specific driver models, and/or specific driver model files.

Windows 95, Windows 98, and Windows Millennium

<u>Filename</u>	<u>Directory</u>	<u>Description</u>
Hpbjds9x.exe	\$SYSTEM	Windows 9X job detector application that detects when new print jobs are started and it notifies the Job Status and Alerts application to start tracking the print job.
HPBPRX9X.DRV	\$SYSTEM	Windows 9x Status Proxy driver.
Hpbdrp16.dll	\$SYSTEM	Windows 9x status proxy driver installation module.
Hpsync9x.exe	\$SYSTEM	Windows 9x driver synchronization utility.

Windows NT 4.0

<u>Filename</u>	<u>Directory</u>	<u>Description</u>
Hpbjdsnt.exe	\$SYSTEM	Windows NT/2K Job detector application.
Hpbprxkm.dll	\$SYSTEM	Windows NT 4.0 Kernel Mode status proxy driver.

Hpbdrvrv.dll	\$\$SYSTEM	Windows NT/2K status proxy driver installation module.
Hpsyncnt.exe	\$\$SYSTEM	Windows NT/2k driver synchronization utility.

Windows 2000

<u>Filename</u>	<u>Directory</u>	<u>Update</u>
Hpbprx2k.dll	\$\$SYSTEM	Windows 2K User Mode status proxy driver.
hpb2ksrv.exe	\$\$SYSTEM	Windows 2K Status Service.
Hpbjdsnt.exe	\$\$SYSTEM	Windows NT/2K Job detector application.
Hpbprxkm.dll	\$\$SYSTEM	Windows NT 4.0 Kernel Mode status proxy driver.
Hpbdrvrv.dll	\$\$SYSTEM	Windows NT/2K status proxy driver installation module.
Hpsyncnt.exe	\$\$SYSTEM	Windows NT/2k driver synchronization utility.

For Windows 2000, the status service can be manually installed by running the command
hpb2ksrv.exe –install

To uninstall the Windows 2000 status service manually, run the following command:
hpb2ksrv.exe –remove

The hpb2ksrv.exe file is a Windows NT Service that runs only on Windows 2000. The –install option will install the service on the users computer, and after reboot it will start itself automatically. The –remove option will stop the service and remove itself as a service, and then it can be deleted.

INI file entries

Windows 95, Windows 98, and Windows Millennium Ini Entries

<u>INI File</u>	<u>Section</u>	<u>Key</u>	<u>Value</u>
win.ini	hpstatus-aggressive	pscript.driv	1

The following ini file entries are used by status to enable/disable certain functions within Job Status and Alerts.

Windows 95, Windows 98, Windows Millennium, Windows NT4.0, and Windows 2000 ini entries

<u>INI File</u>	<u>Section</u>	<u>Key</u>	<u>Value</u>
Hpstatus.ini	allprinters	independent	1
Hpstatus.ini	allprinters	Onejobprocessing alert	1

INI File	Section	Key	Value
Hpstatus.ini	allprinters	finishedjobalert	1
Hpstatus.ini	allprinters	warningalert	1
Hpstatus.ini	allprinters	erroralert	1
Hpstatus.ini	refreshrate	allprinters	5
Hpstatus.ini	LegacyPrinterDSRates	MoreOften	10000
Hpstatus.ini	LegacyPrinterDSRates	MoreOftenLessOne	30000
Hpstatus.ini	LegacyPrinterDSRates	Middle	40000
Hpstatus.ini	LegacyPrinterDSRates	LessOftenPlusOne	90000
Hpstatus.ini	LegacyPrinterDSRates	LessOften	120000
Hpstatus.ini	WindowsSpoolerDSRates	MoreOften	275
Hpstatus.ini	WindowsSpoolerDSRates	MoreOftenLessOne	275
Hpstatus.ini	WindowsSpoolerDSRates	Middle	275
Hpstatus.ini	WindowsSpoolerDSRates	LessOftenPlusOne	275
Hpstatus.ini	WindowsSpoolerDSRates	LessOften	275
Hpstatus.ini	images	redbar	\$IMAGEPATH\ redbar.gif
Hpstatus.ini	images	redblink	\$IMAGEPATH\ redblink.gif
Hpstatus.ini	images	greenbar	\$IMAGEPATH\ greenbar.gif
Hpstatus.ini	images	greenblink	\$IMAGEPATH\ greenblink.gif
Hpstatus.ini	images	blackbar	\$IMAGEPATH\ blackbar.gif
Hpstatus.ini	images	working	\$IMAGEPATH\ working.gif

<u>INI File</u>	<u>Section</u>	<u>Key</u>	<u>Value</u>
Hpstatus.ini	images	brokenconnection	\$IMAGEPATH\brokenconnection.gif
Hpstatus.ini	images	LevelUnknown	\$IMAGEPATH\level-unknown.gif
Hpstatus.ini	images	LevelOk	\$IMAGEPATH\level-ok.gif
Hpstatus.ini	images	LevelEmpty	\$IMAGEPATH\level-Empty.gif
Hpstatus.ini	images	Level00N	\$IMAGEPATH\level-00N.gif
Hpstatus.ini	images	Level12	\$IMAGEPATH\level-012.gif
Hpstatus.ini	images	Level25	\$IMAGEPATH\level-025.gif
Hpstatus.ini	images	Level50	\$IMAGEPATH\level-050.gif
Hpstatus.ini	images	Level75	\$IMAGEPATH\level-075.gif
Hpstatus.ini	images	Level100	\$IMAGEPATH\level-100.gif
Hpstatus.ini	images	Ok	\$IMAGEPATH\ok.gif
Hpstatus.ini	images	Unknown	\$IMAGEPATH\unknown.gif

The \$IMAGEPATH is just a place holder for where the actual path of the .gif files are installed. It will typically be something like: c:\program files\hewlett-packard\hp status\images

Description of HPSTATUS.INI Entries and their Purpose

Below is a description of each section that HPSTATUS.INI can have, and the possible keys that each section contains as well as a description of the purpose for each key.

[allprinters]

The name of this section indicates that the keys are for each printer installed, unless there is a printer specific section, which has independent alert, and refresh rate settings. These keys are specific to the tracking of a print job.

<u>Key Name</u>	<u>Values</u>	<u>Meaning</u>
onejobprocessingalert	0*	Job Status and Alerts will not activate/display itself when a new job is detected.
	1	Job Status and Alerts will activate/display itself when a new job is detected.
finishedjobalert	0*	Job Status and Alerts will not activate/display itself when a print job has completed (includes finished or unknown).
	1	Job Status and Alerts will activate/display itself when a job has completed (includes finished or unknown).
warningalert	0*	Job Status and Alerts will not activate/display itself when a warning is active in the printer.
	1	Job Status and Alerts will activate/display itself when a warning is active in the printer.
erroralert	0	Job Status and Alerts will not activate/display itself when an error has been detected.
	1*	Job Status and Alerts will activate/display itself when an error has been detected.

* Default values after installation

[refreshrate]

The keys in this section are specific to each printer, or all printers. The value for each printer indicates the update interval for which status will query the printer for the state of the print job. These keys are specific to the tracking of a print job.

<u>Key Name</u>	<u>Values</u>	<u>Meaning</u>
hidden	0*	The hidden key controls whether or not the refresh rate panel should appear within the Job Status and Alerts options. This entry may be useful for administrators who do not wish to let their end users control the refresh rate setting due to negative impact on network performance. (See LegacyPrinterDSRates for more information on the refresh rate intervals.) Do not hide the refresh rate panel.
	1	Hide the refresh rate panel within the Job Status and Alerts Options so that users can not change the refresh rate interval.

allprinters	0	Maps to the Refresh Rate setting of Never (Job Status and Alerts will not track the status of print jobs).
	1	Maps to the Refresh Rate setting of LessOften (see LegacyPrinterDSRates for more information).
	2	Maps to the Refresh Rate setting of LessOftenPlusOne (see LegacyPrinterDSRates for more information). The refresh rate setting one tick to the right of LessOften.
	3*	Maps to the Refresh Rate setting of Middle (see LegacyPrinterDSRates for more information). The middle refresh rate setting.
	4	Maps to the Refresh Rate setting of MoreOftenLessOne (see LegacyPrinterDSRates for more information). The refresh rate setting one tick to the left of MoreOften.
	5	Maps to the Refresh Rate setting of MoreOften (see LegacyPrinterDSRates for more information).
SpecificPrinterName	0-5	Each printer can have its own independent refresh rate, just as the allprinters key does above.

* Default values after installation

[LegacyPrinterDSRates]

This section contains key/value pairs that control the update interval Job Status and Alerts will use while querying for the state of a print job within a printer. The values for each key are in terms of milliseconds. So a value of 1000 is has the equivalent of 1 second. The lower the refresh rate value, the more often the printer is queried for the state of a print job. (See the WindowsSpoolerDSRates section for similar update intervals)

An administrator could speed up (lower the interval) or slow down (increase the interval) these refresh rates by modifying an HPSTATUS.INI file and then replicate that file on all of the client systems. This is done by copying the file to each client's WINDOWS directory, or if the clients are running a shared version of Windows (win9x), then simply putting the HPSTATUS.INI in the server's SYSTEM directory would also suffice.

<u>Key Name</u>	<u>Values</u>	<u>Meaning</u>
LessOften	120000	When the refresh rate slider control is set to the LessOften, print jobs will use the value for this key to check the status of a print job. (Update job state every 2 minutes.)
LessOftenPlusOne	90000	When the refresh rate slider control is set to the LessOftenPlusOne, print jobs will use the value for this key to check the status of a print job. (Update job state every 1 minute and 30 seconds.)

Middle	40000	When the refresh rate slider control is set to the Middle, print jobs will use the value for this key to check the status of a print job. (Update job state every 40 seconds.)
MoreOftenLessOne	30000	When the refresh rate slider control is set to the MoreOftenLessOne, print jobs will use the value for this key to check the status of a print job. (Update job state every 30 seconds.)
MoreOften		When the refresh rate slider control is set to the MoreOften, print jobs will use the value for this key to check the status of a print job. (Update job state every 10 seconds.)

All values above are default values

[WindowsSpoolerDSRates]

This section contains key/value pairs that control the update interval Job Status and Alerts will use while querying for the state of a print job within the context of the current computer (spooler queue). The values for each key are in terms of milliseconds. So a value of 1000 is has the equivalent of 1 second. The lower the refresh rate value, the more often the computer (spooler queue) is queried for the state of a print job. (See the LegacyPrinterDSRates section for similar update intervals) Since the spooler queue resides on the local computer, no networking is performed to get this state, so these update intervals can be set fairly high (0.2 of second) without affect system performance.

An administrator could speed up (lower the interval) or slow down (increase the interval) these refresh rates by modifying an HPSTATUS.INI file and then replicate that file on all of the client systems. This is done by copying the file to each client's WINDOWS directory, or if the clients are running a shared version of Windows (win9x), then simply putting the HPSTATUS.INI in the server's SYSTEM directory would also suffice.

<u>Key Name</u>	<u>Values</u>	<u>Meaning</u>
LessOften	275	When the refresh rate slider control is set to the LessOften, print jobs will use the value for this key to check the status of a print job. (Update job state every 275 milliseconds = ~3/10 of second.)
LessOftenPlusOne	275	When the refresh rate slider control is set to the LessOftenPlusOne, print jobs will use the value for this key to check the status of a print job. (Update job state every 275 milliseconds = ~3/10 of second.)
Middle	275	When the refresh rate slider control is set to the Middle, print jobs will use the value for this key to check the status of a print job. (Update job state every 275 milliseconds = ~3/10 of second.)

MoreOftenLessOne	275	When the refresh rate slider control is set to the MoreOftenLessOne, print jobs will use the value for this key to check the status of a print job. (Update job state every 275 milliseconds = ~3/10 of second.)
MoreOften	275	When the refresh rate slider control is set to the MoreOften, print jobs will use the value for this key to check the status of a print job. (Update job state every 275 milliseconds = ~3/10 of second.)

All values above are default values

[EWSConnect]

This section controls the timeout value for attempting to connect to the Embedded Web Server (EWS) within the printer. If the printer doesn't respond within the timeout value specified below, Job Status and Alerts will assume that the EWS is not present within the printer.

<u>Key Name</u>	<u>Values</u>	<u>Meaning</u>
EWSTimeout	4000	Timeout value for retrieving data from the EWS within the printer. The time specified is in milliseconds. (4000 milliseconds = 4 seconds.)

[LostJobTimer]

This section controls the default amount of time Job Status and Alerts will continue to track a print job without any change in the job state. When Job Status and Alerts starts tracking a new print job, it sets up a timer for the value specified below. Whenever the state of the print job changes, the timer is reset. If the state of print job does not change within the time specified, Job Status and Alerts will give up trying to track the print job, and set the job state as Unknown.

<u>Key Name</u>	<u>Values</u>	<u>Meaning</u>
LostJobtimeout	300000	Timeout value for indicating that the state of the job is unknown and Job Status and Alerts will no longer try to track the job if the job state hasn't been updated within the time specified. Time specified is in milliseconds. (300000 milliseconds = 5 minutes [(300000/1000 milliseconds)/ 60 seconds].)

[biditimeout]

This section controls the bidi connection timeout values when attempting to open a connection printer, and it also controls the timeout values for getting information from the device as well as how long to wait before retrying again.

Key Name	Values	Meaning
Timeout1	3000	Timeout value to wait before retrying the failed bidi call, before trying the call again. On a failed call, it will retry retry1 number of times before it completely fails. Time specified is in milliseconds.
Timeout2	3000	Timeout value to wait until repeating the first retry loop. After the retry1 loop has completed without response, it will retry retry2 number of times before it completely fails. Time specified is in milliseconds.
Retry1	1	Number of times to retry a bidi call in the event of a failure, waiting timeout1 milliseconds before retrying.
Retry2	1	Number of times to repeat the retry1 loop in the event of a failure, before failing completely. Waiting timeout2 milliseconds before repeating the retry1 loop.

[bidilevel]

This section controls the bidi protocol level at which to perform queries on the device.

Key Name	Values	Meaning
Bidilevel	1*	Performs standard PML get requests from the device.
	2	Performs advanced PML multi-get requests from the device. This value should only be used for JetDirect cards that have a firmware version higher than G.05.35. If the bidilevel is set to 2, and the printer frequently errors out with the error EIO 82.0180 , then the bidilevel must be set 1. This bidilevel setting will help improve response time, but due to bad firmware in the JetDirect card it can cause errors in the printer.

* Default values after installation

Enabling/disabling job status and alerts support

When Job Status and Alerts is closed, by right clicking on the Job Status and Alerts tray icon and selecting Exit, it will prompt the user to restart Job Status and Alerts on startup. If the user chooses “No, don’t start automatically”, this entry will be removed.

To start status manually, select the Start|Run menu, and type HPSTATUS.

Disable job tracking

To temporarily disable job tracking for one or more printers available in Job Status and Alerts, select the Options icon, and then in the Options panel select “Refresh Rate”. A window similar to the image below will appear. Move the slider control all the way to the left so that it is pointing at “Never”.

Adding/removing job status and alerts printers

Job Status and Alerts determines which drivers it supports and which ones it doesn’t by consulting the driver support matrix file HPJob Status and AlertsDRV.MTX. If a printer is known to be supported, but it isn’t appearing with the Job Status and Alerts window, you can run a command to enable Job Status and Alerts support for the driver that the printer uses.

NOTE: Take care when adding a driver to the Job Status and Alerts supported list, because it may be unsupported for a reason, and adding in support for a driver that hasn’t been tested/supported may break printing for the specified driver or the entire printing system.

Steps to add support for a specific driver

1. Open a command prompt window.
2. Change directories so that the current directory is the windows\system directory (For win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32).
3. Make sure Job Status and Alerts is shutdown, if it is not right click on the Job Status and Alerts tray icon and choose exit.
4. Type the command: `hpbdrvhk -s “printername.”`
5. Repeat step 4 for each printer name that is to be added.
6. Type the command: `hpstatus.`
7. When Job Status and Alerts is finished loading, the name of the printer supplied in step 4 will appear in the left pane of the Job Status and Alerts application window.
8. Any printer that uses the same driver model name as the printer referenced in step 4 will also appear in the left pane of the Job Status and Alerts application window.

Steps to remove support for a specific printer

1. Open a command prompt window.
2. Change directories so that the current directory is the windows\system directory (for win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32).
3. Make sure Job Status and Alerts is shutdown, if it is not right click on the Job Status and Alerts tray icon and choose exit.
4. Type the command: `hpbdrvhk -u “printername.”`
5. Repeat step 4 for each printer name that is to be removed.
6. Type the command: `hpstatus.`
7. When Job Status and Alerts is finished loading, the name of the printer(s) supplied in step 4 will no longer appear in the Job Status and Alerts application window.

Steps to remove support for a specific driver

1. Open a command prompt window.
2. Change directories so that the current directory is the windows\system directory (for win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32).
3. Make sure Job Status and Alerts is shutdown, if it is not right click on the Job Status and Alerts tray icon and choose exit.
4. Type the command: `hpbdrvhk -r "printername."`
5. Repeat step 4 for each printer name that is to be removed.
6. Type the command: `hpstatus.`
7. Job Status and Alerts will no longer support any printer that refers to the same driver model name.

Driver support matrix

The status component determines which printer drivers it supports by consulting a file called the Driver Support Matrix (DSM) named HPJob Status and AlertsDRV.MTX. This DSM file is nothing more than an INI file that contains entries of driver model names that it specifically supports, or specifically does not support.

DSM File Format

The format of the DSM file looks like:

```
[Driver Model Name]
supported=[0|1]
```

Each driver model name that status supports will have an entry in this file. For example the 8150 PS driver would have an entry in the DSM file that looks like:

```
[HP LaserJet 8150 Series PS]
supported=1
```

The DSM can also have entries that specifically prohibit known drivers that status will not support:

```
[Driver Model Name, NotSupported]
driverFileName,x.y.z=1
```

This type of entry is used by status to exclude support for a specific driver model name, using a specific driver file and version. For example, the 8500 PCL drivers for 9x and NT are not supported because the printer drivers are not written in a standard way that status proxy drivers can hook the OS functions they call. Disabling support for these types of drivers is accomplished by having the following entries in the DSM:

```
[HP CLJ 8500 - PCL,NotSupported]
HPCPCLA.DRV,1.0.0090=1
;; windows 9x pcl driver is not supported
```

```
[HP CLJ 8500 - PCL,NotSupported]
HPCPCLA.DLL,1.0.0090=1
;; windows NT4 Kernel Mode driver is not supported
```

Troubleshooting

If Job Status and Alerts is conflicting with some other application or a specific driver model is causing problems follow the steps below to resolve the appropriate issue.

General problem solving

To determine the state of Job Status and Alerts and which printers it is currently monitoring, and how to remove a specific printer, consult the table below.

Problem	Solution(s)	Description of Solution(s)
When I print a job and Job Status and Alerts tracks the status of my print job, it immediately shows the Unknown Job state.	Try changing the device to a port.	<p>Bidi is only supported to a limited set of Port types for version 1.01 of Job Status and Alerts, and they include:</p> <ul style="list-style-type: none"> • HP Standard TCP/IP Port • HP JetDirect Port • MS Standard TCP/IP Port • LPR Ports <p>Bidi does not support USB, or LPT ports, or shared LPT ports.</p>

Problem	Solution(s)	Description of Solution(s)
<p>When I print a job and Job Status and Alerts tracks the status of my print job, after a few minutes of time, it eventually shows the Unknown Job state. (It always behaves this way.)</p>	<p>Verify the connection is valid by selecting the printer icon within Job Status and Alerts.</p>	<p>If the printer device status shows up correctly, then this is most likely a compatibility issue with the printer driver, see #2 for this problem.</p> <p>If it shows a broken connection gif, then the problem is with the device, and Job Status and Alerts is unable to communicate with it. Resolve the communication problem with the printer.</p> <p>If the device is working properly, and Job Status and Alerts still can't communicate with it, then Job Status and Alerts will not support the device:</p> <ol style="list-style-type: none"> 1. Open a command prompt window. 2. Change directories so that the current directory is the windows\system directory (For win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32). 3. Verify Job Status and Alerts is shut down; if not, right click on the Job Status and Alerts tray icon and choose exit. 4. Verify all other applications are shut down. 5. Type the command: hpbdrvkh -u "prntername."

Problem	Solution(s)	Description of Solution(s)
	<p>If the device status works correctly from #1 above then the problem is most likely due to an unsupported printer driver model.</p>	<p>The printer driver may be incompatible with the Job Status and Alerts proxy drivers, so it should be disabled/removed. Follow the steps below.</p> <ol style="list-style-type: none"> 1. Open a command prompt window. 2. Change directories so that the current directory is the windows\system directory (for win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32). 3. Make sure Job Status and Alerts is shutdown, if it is not right click on the Job Status and Alerts tray icon and choose exit. 4. Make sure that all other applications are shutdown. 5. Type the command: hpbdrvhk -r "printername". 6. Type the command: hpbdrvhk -u "printername."
<p>I don't want Job Status and Alerts to track job status or show device status for a specific printer.</p>	<p>Remove the printer from the Job Status and Alerts list.</p>	<ol style="list-style-type: none"> 1. Open a command prompt window. 2. Change directories so that the current directory is the windows\system directory (for win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32). 3. Type the command: hpbdrvhk -u "printername."

Problem	Solution(s)	Description of Solution(s)
<p>I don't want Job Status and Alerts to track job status on any of my printers, but I do want to use the Device Status feature.</p>	<p>Select the Options Icon, and then select the Next button so that the Refresh Rate option is displayed in the right panel. Move the slider to the far left, pointing at Never.</p>	<p>Setting the refresh rate option to Never will disable all print job tracking, but it will still allow the user to select one of the printer icons to get device status.</p> <p>In the event that the administrator has hidden the refresh rate option and the user cannot see this option complete the following steps:</p> <ol style="list-style-type: none"> 1. Choose the Start Run menu and type in notepad. 2. When notepad opens, choose the File Open menu and browse to the windows directory, and select the file HPSTATUS.INI. 3. In the HPSTATUS.INI file, locate the [refreshrate] section, and set the allprinters entry equal to 0. 4. Save the file and exit notepad. 5. The change will take effect for the next print job.

Problem	Solution(s)	Description of Solution(s)
<p>I don't want Job Status and Alerts to track job status or show device status for a specific printer, but I want to see the device status for that printer.</p>	<p>Select the Options Icon, and then select the Next button so that the Refresh Rate option is displayed in the right panel. Select the specific printer in the For list, and then move the slider to the far left, pointing at Never.</p>	<p>Setting the refresh rate option to Never will disable print job tracking for the specific printer, but it will still allow the user to select the printer icon to get device status.</p> <p>In the event that the administrator has hidden the refresh rate option and the user cannot see this option complete the following steps:</p> <ol style="list-style-type: none"> 1. Choose the Start, Run menu and type in notepad. 2. When notepad opens, choose the File, Open menu and browse to the windows directory, and select the file HPSTATUS.INI. 3. In the HPSTATUS.INI file, locate the [refreshrate] section, and create a new entry with the exact name of the printer and set it equal to 0. 4. Save the file and exit notepad 5. The change will take effect for the next print job. <p>The entry would look something like this: [refreshrate] HP LaserJet 8150 Series PCL6=0</p>
<p>When I renamed my printer, Job Status and Alerts didn't detect the changes.</p>	<p>Job Status and Alerts may not update the printer list immediately, and a shutdown of Job Status and Alerts and restart of Job Status and Alerts is needed.</p>	<p>In version 1.01 of Job Status and Alerts, it typically will not update the name of the printer, or even remove the old printer name.</p> <p>To fix this problem, right click on the Job Status and Alerts system tray icon, and choose exit. Then choose the Start Run menu and type in hpstatus to reload status. It will then pick up the printer changes and display the renamed printer.</p>

Problem	Solution(s)	Description of Solution(s)
How do I get my newly installed printers to show up within Job Status and Alerts.	Shutdown and restart the system.	<p>When Job Status and Alerts first loads up, it performs a check of the system to see if any new printers have been installed. If it detects a new printer that it supports it will automatically add it to the printer list.</p> <p>If the printer was installed, then removed, and installed again, Job Status and Alerts may not add it automatically and it will need to be added manually. To do this complete the following steps:</p> <ol style="list-style-type: none"> 1. Open a command prompt window. 2. Change directories so that the current directory is the windows\system directory (for win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32) 3. Make sure Job Status and Alerts is shutdown, if it is not right click on the Job Status and Alerts tray icon and choose exit. 4. Type the command: hpbdrvhk -i -a. 5. Restart the system.

In general the HPBDRVHK.EXE can be used to solve various problems. The following is a list of the command line options available to the support utility and their meaning.

Command Line Option	Sample	Meaning
-e	hpbdrvhk -e	Enumerates all printers installed on the computer.
-h	hpbdrvhk -h	Enumerates all printers installed on the computer that Job Status and Alerts is currently tracking print jobs on, or has hooked.
-u	hpbdrvhk -u "My 8100"	The -u parameter means to <u>uninstall</u> Job Status and Alerts support for the specified printer or for all printers depending on the following command line parameter.

Command Line Option	Sample	Meaning
	hpbdrvhk -u -a	Uninstall Job Status and Alerts support for all printers
-l	hpbdrvhk -l "My 8150"	Install Job Status and Alerts support for the specified printer, or for all printers depending on the following command line parameter. If the driver model name used by this printer is supported, then the printer will be supported by Job Status and Alerts, otherwise it will report back the error message: The driver used by (My 8150) is not supported.
	hpbdrvhk -i -a	Install Job Status and Alerts support for all printers that use a driver model which is Supported by Job Status and Alerts
-s	hpbdrvhk -s "My 9000"	Adds the driver model name used by the specified printer, to the driver support matrix file.
-r	hpbdrvhk -r "My 9000"	Removes the driver model name used by the specified printer from the driver support matrix. This means that any other printer which uses the same driver model as the printer "My 9000" will no longer be supported by Job Status and Alerts.

Command Line Option	Sample	Meaning
-x	hpbdrvhk -x "HP DeskJet"	<p>Excludes the driver model name using the specified printer driver file from the driver support matrix. This option is generally not needed, but could be useful in a shared environment.</p> <p>If an administrator discovers that Job Status and Alerts is causing problems with a specific driver/printer, but works correctly with a newer version of the driver/printer, this option can then be run on one machine, and then replicated to other machines.</p> <p>This option records the printer driver file version for the driver model name, used by the specified printer, as an unsupported driver model. Yet if a new printer driver file with the same name, and a newer version is released and is found to work with Job Status and Alerts, Job Status and Alerts will support the printer using the newer driver files.</p>
-c	hpbdrvhk -c "My Printer"	<p>Cleans the registry information and Job Status and Alerts driver hooking information should any remnants be left behind.</p> <p>This option should only be run if the hpbdrvhk -u (uninstall) option fails after running it 3 times in a row.</p>
	hpbdrvhk -c -a	<p>Use the -a option to clean up all printer settings after the hpbdrvhk -u -a command has been run.</p>

Job status and alerts is causing problems with a specific driver model

To resolve this issue, perform the following steps:

1. Open a command prompt window.
2. Change directories so that the current directory is the windows\system directory (for win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32).
3. Make sure Job Status and Alerts is shutdown, if it is not right click on the Job Status and Alerts tray icon and choose exit.
4. Make sure that all other applications are shutdown.
5. Type the command: hpbdrvhk -r "Name of the Printer Goes Here."
6. Type the command: hpbdrvhk -u "Name of the Printer Goes Here."
7. Repeat step 5 and 6 for each printer name that references the driver model name which is causing problems.
8. Restart the system.

9. Any printer that references the same driver model name will no longer be supported by Job Status and Alerts.

If the user is still experiencing problems with this driver/printer and Job Status and Alerts, complete the following steps:

1. Repeat steps 1-4 above.
2. Type the command: `hpbdrvhk -c "Name of the Printer Goes Here."`
3. Repeat step 11 for each printer name that was used in the steps 1-4 originally.
4. Restart the system.

If the user is still having problems then follow the next steps below:

1. Repeat steps 1-4 above.
2. Type the command: `hpbdrvhk -u -a`.
3. Type the command: `hpbdrvhk -c -a`.
4. Choose the Start|Run menu and type in: REGEDIT.
5. Browse to `HKEY_LOCAL_MACHINE\Software\Hewlett-Packard\HPSpoolerImportFixup`.
6. Delete any subkeys that have a printer driver model name (such as "HP LaserJet 8150 PS").
7. Delete all values except these three if they are present: `NewImportModule`, `ReplacerModule`, `NewImportModuleUM`.
8. In the registry editor, browse to `HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Print\Environments`.
9. If this is a windows 9X machine proceed to Windows 9X Steps.
10. If this is a windows NT 4.0 machine proceed to Windows NT 4.0 Steps.
11. If this is a windows 2000 machine proceed to Windows NT 4.0 Steps and then complete the Windows 2000 Steps.

Windows 9X steps

1. In the registry editor select the `Windows 4.0\Drivers` key.
2. Select the first driver key and perform the steps below.

Windows NT 4.0 steps

1. At the command prompt type: `net stop spooler`.
2. In the registry editor select the `Windows NT x86\Drivers\Version-2` key.
3. Select the first driver key and perform the steps below:
 - a. If there is a value named `RealDriver`, right click on the `Driver` value and choose delete, then right click on the `RealDriver` value and choose rename, rename the `RealDriver` value to be `Driver`.
 - b. If there is not a value named `RealDriver`, proceed to the next step.
 - c. Select the next driver model name key in the registry and repeat step d-f until each one has been inspected.
 - d. At the command prompt type: `net start spooler`.
 - e. Restart the system.

Windows 2000 steps

1. Complete Windows NT 4.0 steps a-g, DO NOT reboot the system until these steps below are complete.
2. In the registry editor select the `Windows NT x86\Drivers\Version-3` key.
3. Select the first driver key and perform the steps below:

- a. If there is a value named RealDriver, right click on the Driver value and choose delete, then right click on the RealDriver value and choose rename, rename the RealDriver value to be Driver.
- b. If there is not a value named RealDriver, proceed to the next step
- c. Select the next driver model name key in the registry and repeat step d-f until each one has been inspected.
- d. At the command prompt type: net start spooler
- e. Reboot the system

Job status and alerts is conflicting with other application(s)

If Job Status and Alerts is conflicting with another application, and the user wishes to remove Job Status and Alerts manually, it can be removed by doing the following steps:

1. Open a command prompt window
2. Change directories so that the current directory is the windows\system directory (for win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32).
3. Make sure Job Status and Alerts is shutdown, if it is not right click on the Job Status and Alerts tray icon and choose exit, and after choosing exit, make sure the user selects the “No, don’t start automatically” option.
4. Make sure that all other applications are shutdown.
5. Type the command: hpbdrvhk -u -a.
6. Type the command: hpbdrvhk -c -a.
7. Restart the system.
8. If printing is not working after reboot, see Job Status and Alerts is causing problems with a specific driver model.

Readme Files

Hewlett-Packard Color LaserJet 4550, 4550N, 4550DN, 4550HDN Printer Late-breaking Readme File

Hewlett-Packard Color LaserJet 4550 Series Printer
 Printing System Late Breaking Readme

The Late-Breaking Readme file contains information that may impact the installation and use of your HP Color LaserJet 4550 printer.

* * * * *

Readme File Contents:

- I. Introduction
- II. Late Breaking Information
 - Known issues and workarounds
- III Technical Assistance
- IV. Legal Statements
 - Trademark notices
 - Software license and copyright

I. INTRODUCTION

This Readme file provides specific information you should know before you install and use the printing system. Information and Known issues are provided for the following operating systems:

- Microsoft (R) Windows (R) 2000
- Windows NT (R) 4.0
- Windows 95/98/Millennium (Me)
- Windows 3.1x

This file provides specific compatibility, and troubleshooting information. For additional information on the printer features and driver features, see the online help included with each software component and see the printer user guide.

II. Known Issues

Job Status and Alerts

Issue: The Job Status and Alerts utility will not be included on the in-box software CD or the Web at product introduction. This utility will be provided on the in-box CD and the Web at a later date.

Printer

Issue:

The paper jam error codes have changed to be compatible across multiple LaserJet printers.

Description:

13.XX PAPER JAM

alternates with

CHECK ALL REAR DOORS

or

CHECK MIDDLE FRONT DRAWER

or

CHECK FRONT DUPLEX DRAWER

 The 13.XX paper jam error codes are listed below:

4500 XX	4550 XX	Description
-----	-----	-----
0	1	Paper jam in paper feed area
1	5	Paper jam in fusing unit area
2	6	Paper jam in fusing unit area
3	10	Paper jam in reversing area
4	11	Paper jam in reversing area
5	12	Paper jam in path to duplexer area
6	13	Paper jam in path to duplexer area
7	20	Paper jam in paper path area
8	21	Door open jam
9	23	Unexpected media type
10	24	Unexpected media type
11	25	Unexpected media type
12	2	Paper jam in paper feed area

For more information on troubleshooting paper jams, go to the Color LaserJet 4550 website at:

http://www.hp.com/support/lj4550_solve_a_problem
 and click on the topic for how to clear a paper jam

CD Browser

Issue:

When using the Customization Utility to create a custom printing system, the floppy drive destination is not available.

Description:

When using the Customization Utility to create a custom printing system, only the "Copy Printer Drivers Only" selection will allow the use of a floppy drive as a destination. When selecting "Create Customized Installer" or "Copy Entire Printing System Installer" from the Customization Utility, only local or network hard drives can be selected.

Issue:

When using the Customization Utility to create a custom printing system, the operating system being used to create the custom set must be included in the list of operating systems for the custom set.

Description:

When using the Customization Utility to create a custom printing system, you must include the current operating system that is being used to create the "Create Customized Installer" or "Copy Entire Printing System Installer." For example, if you are using Windows NT 4.0 and you want to create a customized installer for Windows 98, you must also include Windows NT 4.0 in the new customized installer. If you want to create a customized installer that includes software for Windows 98 only, you must create the customized installer while running Windows 98.

Issue:

When installing the printing system software using a custom disk set created with the Customization Utility, the following error message appears:

```
"Setup is unable to find _SETUP.DLL, which is needed to complete the installation. Error 103"
```

Description:

When installing from a customer printing system, the language selection must match the language selection that was used when the custom printing system was created.

The custom installation program will prompt the user for a language selection. If the language selected during installation is different from the language selected during the creation of the custom printing system, the above error message appears. The custom printing system installer created with the Customization Utility only contains the language

that was selected during the creation of the custom printing system. Therefore, the same language must be selected when using the custom installer.

Workaround:

Verify the same language is selected during both the creation and use of the custom installer.

Printing System Installer

Hard Disk Free Space Requirements:

Before installing the printing system software, verify there is at least 20 MB of free disk space available for the installation of the software.

Issue:

Cannot cancel the printing system installer after file copy has begun.

Description:

There is no Cancel button available when the printing system installer is copying files and updating the system. The Cancel button is not available because cancellation during the file copy or system update processes could leave the user's system in an unknown state. Also, do not use "End Task" or shut down the computer during the file copy and system update process.

Workaround:

Complete the printing system installation and then use the printing system uninstaller located in the HP Color LaserJet 4550 programs folder to uninstall the printing system. After the uninstall process is complete, the printing system installer may be re-run with the new selections.

Issue:

User does not receive a response when trying to run the installer setup.exe file.

Description:

The installation program checks for a minimum of 7 MB of free disk space on the computer before starting the installation of the software. If there is not at least 7 MB of free disk space the installer will not start. No error messages or warnings appear.

Workaround:

Verify there is at least 20 MB of free disk space available for the installation of the software.

Printing System Uninstaller

Issue:

The printing system uninstaller does not completely uninstall the printing system software.

Description:

If the printing system installer is used to install more than one language on the same system, only the files and components from the last installation will be removed. The printing system installer only stores one uninstallation file per system.

Workaround:

Uninstall the printing system for one language before installing the printing system for another language.

Parallel and USB Support

Issue:

Some advanced features of the HP Color LaserJet 4550 printing system are not supported using a parallel or USB connection.

Description:

Printing system components that require bidirectional functionality are not supported using a parallel or USB connection.

The components that are not supported using parallel or USB are:

- Automatic Driver Configuration
- Update Now
- Job Status and Alerts

Workaround:

This functionality will be added in a future release of the printing system software for the HP Color LaserJet 4550 printer.

Printer Drivers

Issue:

Job Retention, Proof and Hold, prints all of the copies of a print job.

Description:

Some applications may send each copy of a print job as a separate job.

Workaround:

Clear the Collation option in the application.

Issue:

Windows PCL6/5c drivers

User cannot print on the backside of the first sheet when duplexing using the "Use Different Paper" option for the first page.

Description:

The printing system does not allow for this capability at this time. This functionality may be added in future products.

Issue:

When printing a duplexed document with multiple copies, the second copy prints on first copy's last page instead of on a separate page.

Description:

This is a known issue with several applications. For example, an application sends a 3 page, 2-copy job as one 6-page document. When print data is sent to the printer in this manner, the driver cannot distinguish that it is really 2 copies of the same print job.

Workaround:

Turn on "Ignore Application Collation" in the PCL 6/5c printer driver and turn off the Collation option in the Print dialog box of the application.

Issue:

PNG graphic images do not print with the current version of Netscape Navigator (TM) (4.73).

Description:

Netscape Navigator does not support PNG images by default. A PNG plug-in must be downloaded from Netscape (TM) and installed into the browser.

Workaround:

Download and install the PNG plug-in from Netscape.

Bidirectional Functionality

Description:

When running the HP Port Resolver, bidirectional functionality, from an NT 4.0 client machine to a remote printer connected via an NT 4.0 share, one of the following problems may occur:

1. When clicking the printer driver "Update Now" button, a "printer communication error" is posted.
2. When using the Job Status and Alerts utility, a broken connection is displayed.
3. When using the porttest.exe test utility, the error code 0x80070005 is returned.

Solution:

If an "Update Now" or "Stand Alone Status" from an NT 4.0 client, fails to communicate with a printer on a remote NT 4.0 share, check that the Network -> Services -> RPC Configuration service is correctly installed on both the client AND host (print server) computers and that the RPC "Name Service Provider" field (click RPC - "Properties" to view this info) is set to "Windows NT Locator."

Windows 95, 98 and 2000 are not affected by this problem.

Job Status and Alerts

Supported Operating Systems and Environments:

Job Status and Alerts are Supported on Windows 95 with Internet Explorer 4 or higher, Windows 98, Windows Me, Windows NT, and Windows 2000.

Job Status and Alerts are not supported for Terminal Server.

Job Status and Alerts functionality is available for printers connected to the network from a client using the Windows PCL 6/5c drivers.

Job Status and Alerts are not supported when using a parallel connection.

Device Status requires Internet Explorer version 4 or greater.

Issue:

Device Status stops responding and print job icons freeze.

Description:

When Job Status and Alerts is tracking a large number of print jobs, Device Status may stop responding and icons may not be removed from the Job Status and Alerts window.

Workaround:

Download updated Job Status and Alerts software when available from www.hp.com

Issue:

Job status does not work when using Novell Client on a Windows NT 4.0 or Windows 2000 client.

Workaround:

Download updated Job Status and Alerts software when available from www.hp.com

Issue:

Multiple copies of the same print job show up in the Job Status and Alerts window as separate jobs.

Description:

Some applications send each copy of a print job as a separate job. Therefore, Job Status and Alerts will represent each copy as a separate job.

Workaround:

Turn off Job status when using applications that send each copy of a print job as a separate job.

Install Network Printer Wizard

Issue:

When port name is more than 63 characters, port creation fails.

Description:

If a user chooses to change the port name and uses a new name of more than 63 characters, the port creation will fail. A dialog box appears with the following message "There was an error creating the port. Please refer to the Read Me file about how to create network Printer Ports. The printer will be set up to the local printer port." The driver installation finishes, and the printer is setup to print to LPTx.

Workaround:

Run the installer again and type in a name with fewer than 63 characters.

Issue:

IP Address set via "Suggest Settings" and printer creation fails.

Conditions required:

The computer is configured with TCP/IP only and a Dial Up Adapter, the printer has an assigned IP address, and the user performs specific device search by hardware address.

Description:

After the printer is discovered via the hardware address, on the IP Settings screen, the user can choose the Suggest Settings option (auto net). If user uses the Suggest Settings option, the installation continues as though the installer is assigning an autonet address to the printer. However, the installation will fail and IP on printer will not be written.

Workaround:

Do not change the IP Address via the Suggest Settings option.

Issue:

No default queue name is suggested by Install Network Printer Wizard.

Description:

Each time the Install Network Printer Wizard is run on different workstations a new queue is created. For the first eight installs, Install Network Printer Wizard will suggest a default queue name incrementing by _q2, _q3... This is successful until the ninth queue. When the ninth queue should be created, the queue name field is left blank instead.

Workaround:

The user can then type in the name of the queue.

Additional Information:

The user should be using Add Printer or the appropriate installer to attach to an existing queue rather than using the Install Network Printer Wizard to create a new queue for each workstation. If the user wants a new queue for each workstation, he or she will have to type in a new queue name.

Novell

Issue:

'vending' many HP (and other manufacturers') drivers to the client using Novell's Point and Print technology causes spoolss.exe to display a Dr.Watson error (page fault).

Description:

When running the Novell 4.7 or 4.71 clients on Windows NT 4.0, and using Novell 5.x servers with NDPS printers, the process of 'vending' many HP (and other Mfr's) drivers to the client using Novell's Point and Print technology causes spoolss.exe to display a Dr.Watson error (page fault). Novell is addressing this issue.

Workaround:

Use either the 4.6 or 4.8 Novell clients for NT 4.0 when using NDPS printers.

 III. TECHNICAL ASSISTANCE

OBTAINING ADDITIONAL INFORMATION FROM HP SERVICES

See the online user guide on the CD-ROM supplied with the printer for additional methods of obtaining software and support information, such as driver distribution centers, fax service, and online services and support.

OBTAINING INFORMATION VIA THE INTERNET

Printer drivers, updated HP printer software, and product and support information may be obtained from the following URLs. Access the Internet or FTP address and use the menus to locate the software or support of your choice.
 (Paths may change without notice.)

In the U.S. <http://www.hp.com/support/lj4550>

In Europe <http://www2.hp.com>

Printer drivers may be obtained from the following sites:

In Japan <ftp://www.jpn.hp.com/drivers/>

In Korea <http://www.hp.co.kr>

In Taiwan <http://www.hp.com/tw>

or the local driver website at <http://www.dds.com.tw>

URL for Access HP:

<http://www.hp.com>

FTP library service

Anonymous FTP library service is available for around-the-clock access to drivers and technical support information for Hewlett-Packard peripheral and computer products.

FTP address: <ftp.hp.com>

Login: anonymous

Password: your Internet name (or user identification)

OBTAINING SUPPORT SERVICES OUTSIDE OF THE UNITED STATES

See the printer online user guide and visit the HP website at <http://www.hp.com> for more information on driver distribution and customer support options, or contact your authorized HP Dealer.

IV. LEGAL STATEMENTS

TRADEMARK NOTICES

- Microsoft, MS-DOS, Windows, and Windows NT are registered trademarks of the Microsoft Corporation.
- PostScript is a registered trademark of Adobe Systems, Incorporated.
- Netscape Navigator is a U.S. trademark of Netscape Communications Corporation.
- Netscape is a U.S. trademark of Netscape Communications Corporation.

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components of the HP Color LaserJet 4550 Series printing system must be distributed together. The HP Color LaserJet 4550 Series printing system may not be distributed for profit.

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Hewlett-Packard Color LaserJet 4550, 4550N, 4550DN, 4550HDN Printer Printing System CD-ROM Readme File

Hewlett-Packard Color LaserJet 4550, 4550N, 4550DN, and 4550HDN Printers Printing System Readme File for Windows®

NOTICE!

**PLEASE READ THE README.TXT FILE FOR
"LATE-BREAKING INFORMATION."**

**The Late-Breaking Information README.TXT file contains information
that can impact the installation and use of your
HP Color LaserJet printer. Late-breaking information appears only in English.**

ReadMe File Contents:

1. Introduction
 - 1.1 -- Purpose of this ReadMe File
 - 1.2 -- Who needs this software?
 - 1.3 -- Overview of the Printing System software components
2. Installation Instructions
 - 2.1 -- Installation Overview: Windows 95, Windows 98, and Windows Millennium, NT® 4.0, and 2000
 - 2.2 -- Installation Options: Windows 95, Windows 98, and Windows Millennium, NT 4.0, and 2000
 - 2.3 -- Installation Instructions: Windows 95, Windows 98, and Windows Millennium, NT 4.0, and 2000
 - 2.4 -- Installation Instructions: Windows 3.1x
 - 2.5 -- Customization Utility
 - 2.6 -- Silent Install (Unattended Installer)
 - 2.7 -- Uninstaller
 - 2.8 -- Documentation
 - 2.9 -- Optional Software
3. Technical Assistance
 - 3.1 -- Obtaining Additional Information from HP Services
 - 3.2 -- Obtaining Information via the Internet
 - 3.3 -- Obtaining Support Services Outside of the United States
4. Legal Statements
 - 4.1 -- Trademark Notices
 - 4.2 -- Legal Notice
 - 4.3 -- Copyright

1. INTRODUCTION

1.1 PURPOSE OF THIS README FILE

This ReadMe file provides specific installation instructions and other information for the HP Color LaserJet 4550, 4550N, 4550DN, and 4550HDN printers. Installation instructions are provided for the following operating systems:

- Windows 2000
- Windows NT 4.0
- Windows 95, Windows 98, and Windows Millennium
- Windows 3.1x

For instructions on installing OS/2 printer drivers or Macintosh OS components, see the associated ReadMe files or installation notes for that particular system.

This file provides specific installation, compatibility, and troubleshooting information. For additional information on the printer features and driver features, refer to the online Help included with each software component and the printer online user guide.

1.2 WHO NEEDS THIS SOFTWARE?

HP recommends using this software to install the HP Color LaserJet 4550 printing system, which is required for printing with the HP Color LaserJet 4550, 4550N, 4550DN, and 4550HDN printers. Network clients will need the installation CD-ROM, or the name of the appropriate network directory, to install the software on their individual workstations.

1.3 OVERVIEW OF THE PRINTING SYSTEM SOFTWARE COMPONENTS

The printer CD-ROM has software and documentation that supports HP Color LaserJet 4550, 4550N, 4550DN, and 4550HDN printers. For more information about a particular driver or software component, see its associated online Help.

End-User Software Components

The Printing System also includes the following software components for end-users. Refer to the online user guide for more information.

Drivers

A printer driver is a software program that enables your software applications to access your printer's features. Typically, you should install a printer driver for each printer and each printing language you are using. In addition, each operating system needs different printer drivers.

The CD-ROM includes the following printer drivers for Windows 3.1x, Windows 95, Windows 98, and Windows Millennium, Windows NT 4.0, and Windows 2000

Operating System	PCL 5c	PCL 6	PS
Windows 3.1	x		x
Windows 95, Windows 98, and Windows Millennium			x
Windows NT4.0/2000	x	x	x

***NOTES:

- PCL 6 and PCL 5c drivers feature a Graphical User Interface with a common "look and feel"
- Microsoft® Pscript driver using PPD files
- AutoCad R15 driver included
- The printer automatically switches between PCL5, PCL6, and PS printer languages.

Available printing features vary between printer drivers. See the printer driver Help files for instructions on using specific printing features.

Additional Drivers

The following drivers are not included on the CD-ROM but are available from the internet or customer care. See Section IV, "Technical Assistance," in this ReadMe or "HP Customer Care" in the printer online user guide for more information on obtaining drivers and other HP software.

- OS/2 PCL 5c printer driver
- OS/2 PS printer driver
- Windows NT 3.51 PCL 5c and PS printer drivers
- UNIX and Linux Model scripts

Additional Features

Job Status and Alerts

Job Status and Alerts provides job status messages at the host PC when printing problems occur (toner out, paper out, etc.) or when a print job is complete. It also allows the users to proactively check the status of the printer. This utility can be configured to display only those message the user wants.

Supplies Information and Reordering

This feature allows you to order the consumables and supplies needed for your HP printers directly from the Web. This feature is available during a custom install and requires Job Status and Alerts.

Job Retention Features

Selected from the printer driver, Job Retention lets you store a print job on the printer's hard disk. This allows you to perform a number of advanced print job functions, including quick copying a job, proofing and holding a job, printing a private job, and storing a job. Job Retention is a standard feature of the HP Color LaserJet 4550HDN printer, and is optional on the 4550, 4550N, and 4550DN printers.

Automatic PANTONE®* Calibration (PS® driver only)

Automatic PANTONE®* Calibration is the default setting for HP Color LaserJet printers. This feature automatically converts PANTONE®* colors to optimal color values for the printer by recognizing the PANTONE®* color name or number in the data stream sent to the printer. The feature is activated when printing colors that were chosen using the PANTONE®* Color Picker in supported graphics applications. See the **color.wri** Readme file included on the printer CD-ROM for more information about PANTONE®* and ICC color.

Network Administrator Software Components

HP Web JetAdmin

The HP Web JetAdmin software is a printer management tool for Windows that allows network administrators to remotely install, configure, troubleshoot, manage, and set passwords for HP JetDirect-connected printers and accessories from an intuitive browser interface. This simplifies cross-platform management of these devices from anywhere with corporate Internet access, and allows more proactive management and fewer trips to the printer. This software is available at the HP Internet site.

HP Resource Manager

The HP Resource Manager is a Windows 95, Windows 98, and Windows Millennium, NT 4.0 and Windows 2000 application that allows you to download, delete, and manage the contents of your optional printer hard disk driver, including printer-based fonts and forms. The Resource Manager supports the most common network protocols (TCP/IP & IPX/SPX) as well as direct parallel port connection. HP Resource Manager can be used with any 4550 series printer equipped with a hard drive.

2. INSTALLATION INSTRUCTIONS

When operating in a Windows environment, the CD-ROM setup software will detect the version of the operating system that you are running. The software is installed in the language that you have selected in your Windows Control Panel.

If you are working on a network and wish to specify a new port during the installation of the printer software, the HP Network Printer Wizard will help automate this process. The HP Network Printer Wizard is integrated into the installer.

*****NOTE:** When you upgrade to a different operating system, you must reinstall the printer driver.

2.1 INSTALLATION OVERVIEW: WINDOWS 95, WINDOWS 98, AND WINDOWS MILLENNIUM, NT, and 2000

When the CD-ROM is inserted and auto-play is enabled, a selection menu appears that provides access to the CD-ROM contents. The selection menu includes the following choices:

Install printer - Allows you to select the installation method you prefer (see Installation Options)

Registration - Lets you register your HP Color LaserJet 4550 printer via the Internet

Documentation - Provides access to the documentation included on the CD-ROM

Customization utility - Create disk images or copy the printing system CD-ROM

Optional software - Lets you install the optional software included on the CD-ROM

*****NOTE:**

The latest printer drivers and printing software for HP LaserJet printers are available on the Internet at <http://www.hp.com>. The installer automatically detects if you have Internet access, and asks if you want to check the HP Internet site for the latest drivers. If the printer drivers or printing software have been updated since your CD-ROM was created, the installer updates the driver from the Internet.

2.2 INSTALLATION OPTIONS: WINDOWS 95, WINDOWS 98, AND WINDOWS MILLENNIUM, NT, and 2000

- **Typical Installation**

Installs the PCL drivers, MS Pscript driver for PS Emulation, and the Uninstaller.

HP Color LaserJet 4550 PCL 6 Driver.

Default driver. The PCL 6 printer driver usually provides the best combination of performance and WYSIWYG printing.

HP Color LaserJet 4550 PCL 5c Driver.

Use the PCL 5c printer driver for best page layout compatibility on documents previously printed in PCL 5e.

HP Color LaserJet 4550 PS Driver.

The PS emulation drivers are usually the best choice when printing from PS-based applications such as QuarkXPress, CorelDRAW™, or any Adobe application. You should also use the PS emulation driver if you want to control CYMK values.

Screen Fonts.

Printer-matching TrueType fonts to help ensure WYSIWYG printing.

Job Status and Alerts.

Alerts you if a job you sent to the printer cannot finish printing, or when the job is complete. Also, allows you to view the status of your printer (toner levels, configuration, etc.).

Driver Auto-configuration.

Provides automatic enabling of connected printer accessories in the driver.

HP Color LaserJet 4550 Readme.

HP Color LaserJet 4550 Printer ReadMe, which includes installation information and description of printing system features (this document).

- **Custom Installation**

Allows you to specify which printing system components you wish to install. Choose from the printer drivers, the Uninstaller, fonts, bidirectional communication features (Job Status and Alerts and Auto-configuration), Supplies Information and Reordering (provides additional supplies information and helps you order replacement supplies for your printer).

2.3 INSTALLATION INSTRUCTIONS: WINDOWS 95, WINDOWS 98, AND WINDOWS MILLENNIUM, WINDOWS NT 4.0 and Windows 2000

***NOTE:

Administrator privileges are required to install the Printing System onto a Windows NT system.

Printing System installation

1. Close all applications, terminate-and-stay-resident (TSR) programs, and virus checkers. After installation, you can restart these programs.
2. If you are installing from the CD-ROM, insert the CD-ROM into the CD-ROM drive.
3. If the CD-ROM begins to auto-play, go to step 6.
4. If the installation CD-ROM does not begin to auto-play, select **Run** from the **Start** menu.
5. In the Run box, type the drive and path for the installation CD-ROM (usually **D:\Setup.exe**). If you are a network user installing from a shared Windows directory, see your network administrator for the correct drive and path.
6. Select **Install Printer** to begin installation, and then respond to each prompt that appears on the screen. Select **Next** to proceed to the next screen, or select **Back** to return to the previous screen.

***NOTE: Web Files:

If you downloaded the Printing System electronically, you need to first run the downloaded .exe file(s). If SETUP.EXE does not run automatically, browse to the root location of the downloaded SETUP.EXE file, double-select the file, and go to step 6.

Driver Only Installation

1. Close all applications.
2. Select on Start, Settings, Printers.
3. Double select on Add Printer.
4. Answer the questions in the Add Printer Wizard until you reach the screen with the printer manufacturer list.

5. Select on Have Disk.
6. Browse to the driver location using one of the options in this step:
 - **Inbox CD-ROM option:** Browse to the appropriate \<language>\Drivers\<os>\<pdI> directory for your operating system and language.
 - **Internet download option:** Browse to the folder where the Web files were downloaded and decompressed.
7. Select the appropriate .INF file.
8. Select Open and OK.
9. Select the appropriate printer.
10. Follow the remaining instructions to complete the printer installation. At this point, the driver has been copied to your hard disk and added to the list of installed printers.

Setting a Default Printer

1. From the **Start** menu, select **Settings** and then select **Printers**.
2. Select on the printer you wish to set as the default printer.
3. From the **File** menu, select **Set As Default**.
A check appears next to the menu option.
4. Select **Close**.

Port Selection

Once the installation process is complete, you can now need to assign the printer to a port on your network if you didn't assign a port during setup. To assign the printer to a port on your network:

1. Select Start
2. Select Settings.
3. Select Printers.
4. Highlight the printer you just installed.
5. Select the File menu.
6. Select Properties.
7. In Windows 95, Windows 98, and Windows Millennium, select on the Details tab to change your port information. In Windows NT 4.0 or 2000, select the Port tab.

2.4 INSTALLATION INSTRUCTIONS: WINDOWS 3.1x

Driver Only

1. Close all applications. Turn off virus checkers and terminate stay resident (TSR) programs. After installation, these programs can be turned back on.
2. Go to Main in the Program Manager and select Control Panel.
3. Select Printers.
4. Under Printer, choose Add.
5. Under List of Printers choose Unlisted and select Install.
6. Browse to the driver location using one of the options in this step:
 - **Inbox CD-ROM option:** Browse to the appropriate \<language>\Drivers\<PDL>\Win3x directory on the CD-ROM for your operating system and language.
 - **Internet download option:** Browse to the folder where the Web files were downloaded and decompressed.
7. Select the appropriate printer and select OK.
8. Follow the remaining instructions to complete the printer installation.

Font Installation

1. Close all applications. Turn off virus checkers and terminate stay resident (TSR) programs. After installation, these programs can be turned back on.
2. Browse to the **FontInstWin3x** directory under the directory for your language.
3. Double-select the file **fontin31.exe** to install fonts onto your system.

2.5 CUSTOMIZATION UTILITY

The HP Color LaserJet 4550 Printing System Installer includes customization utility that will create custom installations.

To create disk sets, use one of the following methods to access Customization Utility:

- When using CD-ROM auto-play, choose the "Customization Utility" button.
- Run **setup.exe** located at the root of the CD-ROM and choose the "Customization Utility" button.

The HP Color LaserJet 4550 Printing System Customization utility includes the following options:

Copy printer drivers only

Copies printer drivers to selected media. The resulting files can be used with Microsoft's Add Printer Wizard or Windows 3.x Create Printer installations.

Create a customized installer (allows for interactive or silent installations)

Creates an interactive or silent (no user input required) installer customized by language, operating system(s), model(s) and components

Copy the entire Printing System installer (NOTE: Floppy disks are not supported.)

Copies the Printing System installer for selected language and operating system(s) to media other than floppy disks (e.g., shared Network location).

2.6 SILENT INSTALL (Unattended Installation)

Silent Install allows you to configure Setup to run without user interaction. This installation method is useful when you want to use the default selections provided by Setup or when you want to run the installation without being prompted. A system administrator can also create a custom disk image containing specific drivers and utilities, allowing users to run Setup without further interaction.

Silent installation can be performed in two ways:

- **Customized silent install**
This method lets you create a customized silent installer allowing the selection of OS, language, printer models, drivers, and utilities. Network administrators can create a customized silent installer to be used by their clients without any intervention.
- **Command line silent install**
This method is not customizable and only installs the components in the Typical Install option without any user intervention. The command line values mentioned below must be provided.

Command Line Values

*****NOTE:** Values that follow equal signs (=) in a command line must not contain intervening spaces.

Method 1: Command line:

```
<cd-root>/setup/setup.exe /u /port=xxxx /printer=n /pd=n
```

Method 2: Setup.lst

Use the setup.lst file to specify command line arguments to the installer for an unattended installation. You can send command line arguments in one of the following ways:

- send the command directly to the installer
- send the command using the setup.lst file
- use a combination of the two.

For example, this file contains two options: /port and /printer. The installer operates as normal because the /u option has not been specified. If you use setup /u for the installer, it operates in unattended mode and uses the two values specified in the Defaults section of the setup.lst file. If you use setup /u /printer=1 for the installer, it operates in unattended mode and chooses the second printer from the list below. (The options specified on the command line override the options specified in the setup.lst file.) The options available (see below) can also include the /u option. Using this option key makes the installer always operate as unattended.

The following Descriptions explain the available options:

/u Signals the installer to use the specified port and printer given on the command line (or in this file), and use all default selections. Installation then proceeds without prompting the user.

/port=xxxx Used to specify the default port when doing an unattended install. The value specified by xxxx should be a valid port with no spaces.

/printer=n Used to specify the default printer when doing an unattended install. The value specified by n is an integer that references the list of available printers. For example, the following printers are available for the HP Color LaserJet 4550 installation:

```
0 = HP Color LaserJet 4550
1 = HP Color LaserJet 4550N
2 = HP Color LaserJet 4550DN
3 = HP Color LaserJet 4550HDN
```

/pd=n Used to specify whether the selected printer is the default printer, when you have multiple printers connected to your network. The value specified by n is an integer (i.e., 0 or 1). For this argument, entering 1 sets the selected printer as the default printer. Entering zero sets the printer as a non-default printer.

You can preset these options in the setup.lst file located on in the root directory of the CD-ROM. In the [Defaults] section, add the following syntax:

```
[Defaults]
Options= /port=<value> /printer=<number> /pd=<number>
```

2.7 UNINSTALLER

After a successful printing system installation, the Uninstall icon in the HP Color LaserJet 4550 program group allows you to select and remove any or all of the HP printing system components. To uninstall some or all HP printer software components, select the **HP Color LaserJet 4550 Uninstaller** icon from the HP Color LaserJet 4550 program group. Select **Next** and follow the prompts to continue the uninstall process.

*****NOTE:**

No uninstaller is available for driver-only installation using Windows "Add Printer" or Print Manager. For driver-only installations, delete the printer icon from the Printers folder (Windows 95, Windows 98, and Windows Millennium, NT 4.0, and 2000) or Print Manager (Windows 3.x).

2.8 DOCUMENTATION

The CD ROM contains the following documentation, in addition to this ReadMe, for the HP Color LaserJet 4550 printer.

- Documentation can be viewed from the CD-ROM by running setup.exe at the root of the CD-ROM and selecting the **Documentation** option. If you do not have Adobe Acrobat Reader installed, the CD-ROM provides an installation option.
- Documentation can be copied to your system and printed by browsing to the paths provided below.

*****NOTE:** In the paths shown below, browse to the appropriate folder for your language.

User Guide (PDF format)

The HP Color LaserJet 4550 User Guide includes information about product operation, troubleshooting, warranty and specifications, supplies, and support. The user guide is located at <CD-ROM Drive>:\<language>\Manuals\

FIR Guide (PDF format)

The HP Fast InfraRed Receiver guide includes the information about installation, troubleshooting, specifications, and support. The FIR Guide is located at <CD-ROM Drive>:\<language>\Manuals\

JetDirect Guide (PDF format)

The HP JetDirect Administrator's Guide includes network installation and troubleshooting information. The JetDirect Guide is located at <CD-ROM Drive>:\<language>\Manuals\

PANTONE®* and ICC ReadMe file (Write format)

Provides an introduction to color printing, describes how to print the best simulation of the PANTONE®* MATCHING SYSTEM colors, and describes how to install and use ICC profiles on an HP Color LaserJet 4550 printer. The PANTONE®* and ICC ReadMe file is located at <CD-ROM Drive>:\<language>\Manuals\

Release Notes (Text format - English Only)

The HP Color LaserJet 4550 Printer release notes include late breaking information. The Late Breaking ReadMe file is located at <CD-ROM Drive>:\

Besides this documentation, online Help is available with each driver and printer utility. Printed Getting Started and Quick Reference guides are provided with the printer at the time of purchase. Installation guides are provided in each consumable kit, and accessory installation guides are included with each accessory.

Additional software driver information can be obtained at <http://www.hp.com/support/lj4550>. Once connected, select "Manuals," and then select the "Software Technical Reference for the HP Color LaserJet 4550/4550N/4550DN/4550HDN Printer Family."

2.9 OPTIONAL SOFTWARE

The following Optional software is available for your HP Color LaserJet 4550 printer:

[Web JetAdmin](#)

Follow these steps to download HP Web JetAdmin from the HP WebSite:

1. Run setup.exe at the root of the CD-ROM.(If auto-play is enabled, setup will automatically launch).
2. Select **Optional Software** option.
3. Select **Web JetAdmin** option.
4. Select on download link on Web page that appears.

Resource Manager

Follow the steps to install HP Resource Manager Software:

1. Run setup.exe at the root of the CD-ROM.(If auto-play is enabled, setup will automatically launch).
2. Select **Optional Software** option.
3. Select **Resource Manager** option.
4. Select **Next** and follow the prompts to install.

Resource Manager can also be installed by browsing to the following path :
<CD-ROM drive>:\<lang>\ResMgr\setup.exe

3. TECHNICAL ASSISTANCE

3.1 OBTAINING ADDITIONAL INFORMATION FROM HP SERVICES

See the online user guide that was supplied on CD-ROM with the printer for additional methods of obtaining software and support information, such as driver distribution centers, fax service, and online services and support.

3.2 OBTAINING INFORMATION VIA THE INTERNET

Printer drivers, updated HP printer software, and product and support information can be obtained from the following URLs. Access the Internet or FTP address and use the menus to locate the software or support of your choice. (Paths can change without notice.)

In the U.S. <http://www.hp.com/support/lj4550>
In Europe <http://www2.hp.com>

Printer drivers can be obtained from the following sites:

In Japan <ftp://www.jpn.hp.com/drivers/>
In Korea <http://www.hp.co.kr>
In Taiwan <http://www.hp.com/tw>
 or the local driver website at <http://www.dds.com.tw>

URL for Access HP:
<http://www.hp.com>

FTP library service

Anonymous FTP library service is available for around-the-clock access to drivers and technical support information for Hewlett-Packard peripheral and computer products.

FTP address: <ftp.hp.com>
Login: anonymous
Password: your Internet name (or user identification)

3.3 OBTAINING SUPPORT SERVICES OUTSIDE OF THE UNITED STATES

See the printer online user guide and visit the HP website at <http://www.hp.com> for more information on driver distribution and customer support options, or contact your authorized HP Dealer.

4. LEGAL STATEMENTS

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4.3 COPYRIGHT

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Hewlett-Packard Color LaserJet 4550, 4550N, 4550DN, 4550HDN Printer PANTONE®* and ICC ReadMe File

Hewlett-Packard Color LaserJet Printer
4550, 4550N, 4550DN, 4550HDN
PANTONE®* and ICC Readme File

NOTICE!

PLEASE READ "LATE-BREAKING INFORMATION" IN THIS Readme FILE FOR THE LATEST INFORMATION ABOUT YOUR PRODUCT. THIS SECTION IS IN ENGLISH ONLY.

For additional information, see the CD-ROM Installation Notes, which contain information that might affect the installation and use of your HP Color LaserJet 4550 printer. Installation Notes are located in the HP LaserJet 4550 folder or on CD-ROM 1.

Readme File Contents

TIP: To find information quickly, search the text document for the section number or title as it appears in the contents.

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1. INTRODUCTION

1.1 PURPOSE OF THIS README FILE

The Hewlett-Packard Color LaserJet 4550 printers support both automatic and manual PANTONE®* Color Calibration. The printers are also compatible with color management systems (CMS) using ICC profiles such as **ColorSync** on the Macintosh, **ICM** on Windows, and CMS systems built into application software. This README file provides an introduction to color printing, describes how to print the best simulation of the PANTONE®* MATCHING SYSTEM colors and describes how to install and use ICC profiles on an HP Color LaserJet 4550 printer.

Note:

The term "HP Color LaserJet 4550" printer refers to the HP Color LaserJet 4550, 4550N, 4550DN, and 4550HDN printers.

1.2 PRINTING COLOR DOCUMENTS

Getting good results automatically

The HP Color LaserJet 4550 printers provide great color easily and automatically right out-of-the-box. With a powerful blend of automatic color features, the 4550 series printers generate excellent color results for the general office user while offering sophisticated tools for the experienced color professional.

To provide excellent color, the HP Color LaserJet 4550 series printers offer several powerful capabilities:

- ColorSmart II optimizes the rendition of text, graphics and images automatically
- Industry standard sRGB default color space for effortless color matching
- Automatic PANTONE®* Calibration for easy use of PANTONE®* calibrated colors
- Color tables crafted to provide smooth, accurate rendition of all printable colors.

sRGB color workspace standard

sRGB is a world-wide color standard (IEC 61966-2-1) originally developed by HP and Microsoft as a common color language for monitors, input devices (scanners, digital cameras) and output devices (inkjet printers, laser printers, plotters). It is the default color space used for HP peripherals, Microsoft Operating Systems, the Worldwide Web, and most office software sold today. sRGB is representative of the typical Windows PC monitor today and the convergence standard for High Definition TV.

ColorSmart II

ColorSmart II is a set of technologies that enables optimal color output automatically for diverse types of documents. ColorSmart II utilizes object tagging and sRGB color technologies. Object tagging allows optimal color and halftone settings to be used for different objects on a page (text, graphics and images). The printer analyzes the page (what objects it contains) and intelligently uses the halftone and color settings that provide the best print quality for each object. Object tagging, combined with optimized default settings, produces great color automatically. For more information on ColorSmart II, see **HP ColorSmart II** in chapter 4 of the online user guide.

Features for CMYK color control (PS driver)

Cyan, magenta, yellow and black (CMYK) are the inks used by a printing press. It is often called four-color printing. CMYK data files are typically used by and originate from graphic arts (printing and publishing) environments. The HP Color LaserJet 4550 series printer is optimized to print RGB colors for a good match to the screen, but will also accept CMYK colors through the PS printer driver. By default, the HP Color LaserJet 4550 series printer interprets CMYK data according to the Specification for Web Offset Publications (SWOP) standard. This standard defines process control points for CMYK inks to achieve common color output. Emulations for Dainippon Ink and Chemical ink sets (DIC) and Euroscale CMYK inks used in the Far East and Europe, respectively, are also available and can be selected from the printer driver. Detailed Descriptions of each option are given below.

CMYK ink emulation options

- **FAST** or **SWOP** - Generates color according to the Specification for Web Offset Publications (SWOP) as defined by ISO Type 1 printing (TR001). This is the only CMYK color set with a fixed color definition and is the most prevalent color set used in North America. This is the default value for press emulation that is used with the PS driver CMYK data. The SWOP CMYK Inkset setting applies a more strict emulation of the SWOP colors than the FAST CMYK Inkset setting.
- **Euroscale** - Generates color according to the norm for European printing as defined by the Dupont Cromalin proofing system. This color set is frequently encountered in Europe. These colors tend to be more saturated than the same data printed with the SWOP setting.
- **DIC** - Generates colors according to the norm for Asia as defined by Dainippon Ink and Chemical Company. This color set is frequently encountered in Asia. These colors tend to be more saturated than even the Euroscale colors.

2. PRINTING PANTONE®* COLORS

The PANTONE®* MATCHING SYSTEM is widely used by the printing industry to specify the color of objects. By using PANTONE®* certified colors and palettes, you can be assured of getting the closest color match possible when a file is printed on the HP Color LaserJet 4550 printer.

The Automatic PANTONE®* Calibration feature lets the printer substitute the best simulation obtainable on this printer when a PANTONE®* color name is found in the PS code sent by an application. For PCL printing and other situations where the name is not sent to the printer, application specific palettes are available and can be used to color the objects in a document with the best PANTONE®* color simulation for the HP 4550. In addition, the HP 4550 RGB and CMYK values for to each PANTONE®* color are available by printing an **.eps**, **.tif** or **.ps** file or by finding the value in a text lookup table.

2.1 AUTOMATIC PANTONE®* CALIBRATION (PS driver only)

Automatic PANTONE®* Calibration is the default setting for HP Color LaserJet printers. This feature automatically converts PANTONE®* colors to optimal color values for the printer by recognizing the PANTONE®* color name or number in the data stream sent to the printer. The feature is activated when printing colors that were chosen using the PANTONE®* Color picker in supported graphics applications.

Applications known to generate PS files with graphic objects preserving the PANTONE®* name are listed below:

- Adobe Illustrator 7 & 8
- Adobe PageMaker 6.5
- CorelDRAW 7, 8 & 9
- Deneba Canvas 5 (see note below)
- Macromedia Freehand 7 & 8
- Micrografx Designer
- Quark Xpress 3 & 4

Note:

Deneba Canvas versions 6 and 7 are not compatible with the Automatic PANTONE®* Calibration feature

The Automatic PANTONE Calibration feature only applies to graphic objects, not picture (raster) data such as scanned images and TIFF files. Adobe Photoshop, for example, being a raster image editor, is not on the above list of applications that support the Automatic PANTONE®* calibration feature.

Some applications substitute CMYK values to the printer if they cannot provide PANTONE®* names. If your application does not pass the PANTONE®* names to the printer, the application will substitute default CMYK values to be printed for each color. In this case, the accuracy of color matching will depend on the ink emulation selected - FAST, SWOP, Euro standard, or DIC (Dainippon). If your application does not pass the PANTONE®* names to the printer, the custom CMYK values created by PANTONE®* for this printer are available in the manual PANTONE®* palettes described next.

Enabling PANTONE®* support in the printer driver

The printer is PANTONE®* ready in its default configuration. To turn off Automatic PANTONE®* Calibration in the printer driver, go to **Properties, Advanced**, and then **Printer Features**. Note that this feature must be disabled when printing color separations (one grayscale page per colorant) from many applications.

2.2 PRINTING NON-AUTOMATIC PANTONE®* COLORS

The PANTONE®* calibration data for each printer are provided for situations where the Automatic PANTONE®* Calibration is not available. The Automatic PANTONE®* Calibration feature only applies to graphic objects, not

picture (raster) data such as scanned images and TIFF files. Adobe Photoshop, for example, being a raster image editor, is not on the list of applications that support the Automatic PANTONE®* calibration feature.

The printer specific PANTONE®* palettes are available on the HP web site and on the driver CD-ROM 1 in the PANTONE directory. The directory includes application specific palettes as well as a specific name-to-printer CMYK color tables for your printer (LUTTXT directory). Also available are tiff (Tifchart) and eps (EPSchart) files that can be printed to create color charts of the PANTONE®* calibrated printer colors. The files are named HP4550{X}.{ext} where the X is "C" for a CMYK PS palette and an "R" for an RGB PCL palette. The {ext} is the file extension indicating the type of file as explained below in the description for each application.

You must choose the correct palette and color chart based on the print driver you are using. The CMYK palettes can only be used with the PS driver. The CMYK palettes are optimized for the default setting (FAST CMYK Inkset) of the printer. The RGB palettes work best with the PCL (5 or 6) driver. The RGB palettes are optimized for the sRGB default (automatic) ColorSmart II setting. They can be used in many applications with the PS driver, but will produce unpredictable results with some software that does not send RGB data through PS.

Any color management software such as ICM or ColorSync must be turned off when printing PANTONE®* Colors specified as CMYK or sRGB values. These color conversions will change the colors sent to the printer and reduce the accuracy of the PANTONE®* color simulation.

To disable Color Management:

- Windows 98 and Windows 2000: ICM-2 - make sure that no color profiles are associated with the printer. This is found under the color management tab of the print properties dialog box.
- Windows NT® 4.0 - There is no system color management and nothing to disable.
- Windows 95: ICM-1 - The printer installation process must set up a profile for use in ICM-1. The HP4550 installation processes do not do this, so color management will not be enabled.
- Macintosh: ColorSync - From the Chooser, disable ColorSync Matching.

2.3 LOADING CUSTOM PANTONE®* PALETTES IN APPLICATIONS

To use the palettes, load the printer PANTONE®* palette for your application, as explained later in this document. Each palette is specifically designed for the application/printer combination. Because each palette is unique, the palette must be loaded into the application that you are using to create documents with HP4550 calibrated PANTONE®* colors.

ADOBE ILLUSTRATOR

Adobe Illustrator loads color palettes through the Open command from the File menu. Once opened, the colors are available in the Custom Colors box.

The color palette for Adobe Illustrator is stored in the **Applicat\ADOBE\ILLUSTR** folder. The palette file, **HP4550C.ai** for PS or **HP4550R.ai** for PCL, should be copied to the folder where other Illustrator files are stored on your hard disk before continuing.

Adobe Illustrator 8, 7, 6 and 5.5

To open a color palette in Illustrator 8, 7, 6.0.1 and 5.5

1. Start Illustrator.
2. From the **File** menu, choose **Import Styles**.
3. Select the HP4550 color palette.

To use the PANTONE®* color palette in Illustrator 6.0.1 and 5.5

1. Follow the previous steps to open the color palette.
Note: You must open the palette for every session before you can use PANTONE®* colors.
2. Choose **Open** or **New** from the **File** menu.
3. From the **Object** menu, choose **Paint Style** and select the appropriate PANTONE®* color.

Adobe Illustrator 4.x

To open a color palette in Illustrator 4.x

1. Start Illustrator.
2. From the **File** menu, choose **Open**.
3. Select the HP4550 color palette.

To use the PANTONE®* color palette in Illustrator 4.x

1. Follow the previous steps to open the color palette.
Note: You must open the palette for every session before you can use PANTONE®* colors.
2. Choose **Open** or **New** from the **File** menu.
3. From the **Object** menu, choose **Custom Colors** and select the appropriate PANTONE®* color.

ADOBE PHOTOSHOP

Adobe Photoshop does not allow colors to be defined by a name. When the HP4550 PANTONE®* palette is opened, the colors is shown but the color names are not available. If you use colors that are similar to each other, it might be difficult for you to see the difference between the colors. If you are working with an extensive palette or if you want to see the color names, see **Using PANTONE®* Colors Support In Other Applications** at the end of this section, which provides instructions on using EPS or TIFF files to import PANTONE®* colors.

The color palette for Photoshop is stored in the Applicat\ADOBE\PHOTOSHP directory. Before continuing, copy the palette file named HP4550C.aco for CMYK Images or HP4550R.aco for RGB images to the folder where other Photoshop files are stored on your hard disk. Note that CMYK images can not be printed to the PCL printer without an implicit conversion to RGB by Photoshop. To locate the folder, search for files with an extension of **.aco**.

Adobe Photoshop 4.X and 5.X

To open a color palette in Photoshop

1. Open Photoshop.
2. If the palette swatches do not appear, select **Show Swatches** from the Window menu.
3. Select the arrow in the upper-right corner of the Swatches Window and choose **Load Swatches**.
4. Select the color palette (the file is named HP CLJ 4550.aco) and **Open**.
Note: If you do not see this file, check the drop-down bar titled List files of format type. Make certain this option is set to .aco files rather than .act files.

To use a color from your color palette

1. Select the **Paint Bucket** tool.
2. Select one of the custom colors in the Swatches window.
3. Select anywhere on an object to fill it with the color.

To print PANTONE® colors, set the Image Mode to either CMYK Color or RGB Color depending on the color space of the image. Do not select the "Printer Color Management" or "PS Color Management" option.

ADOBE PAGEMAKER

PageMaker 6.x and 5.x support both .bcf (binary color format) and .acf (ASCII color format) formats. The PANTONE® color palette for PageMaker is stored in the Applicat\ADOBE\PAGEMAKE directory of the driver CD-ROM. The palette files are named **HP4550C.bcf** and **HP4550C.acf** for PS or **HP4550R.bcf** and **HP4550R.acf** for PCL printing.

Adobe PageMaker 6.x

PageMaker 6.x requires that you store the palettes in the Color folder under RSRC, located under the PageMaker folder. Copy the files to that location before continuing.

To open a color palette in PageMaker 6.x

1. Open PageMaker 6.x.
2. From the **Element** menu (version 6.0) or the **Utilities** menu (version 6.5), choose **Define Colors**.
3. In the **Define Colors** dialog box, select **New** to add new colors.
4. In the **Edit Color** dialog box, select the **Libraries** arrow.
5. Select a palette from the list. You are now in Color Picker.
6. Choose the colors you wish to include from your palette and select **OK**.
Note: PageMaker can only import a maximum of 500 colors at once. If you choose more than 500 colors, an error message results and only the first 500 colors are loaded.
7. Select **OK** to close the **Edit Color** dialog box.
8. Select **OK** again to close the **Define Color** dialog box.

To use colors from your color palette

1. If the Color Palette window is not open, from the Window menu, choose **Color Palette**.
2. Choose the object that you want to color.
3. In the Color Palette box, choose **Fill** to apply the color to the object, **Line** to apply the color to the line (border), or **Both** to apply the color to the object and its border.
4. Select a color in the Colors window to apply the color to the selected object.

Adobe PageMaker 5.x

To open a color palette in PageMaker 5.x

1. Open PageMaker 5.x.
2. From the **Element** menu, choose **Define Colors**.
3. In the Define Colors dialog box, select New to add new colors.
4. In the **Edit Color** dialog box, select the **Libraries** arrow.
5. Choose the color palette for use in PageMaker 5.x and select **Open**.
6. Choose the colors you wish to include from your palette and select **OK**.
Note: PageMaker can only import a maximum of 500 colors at once. If you choose more than 500 colors, an error message results and only the first 500 colors are loaded.
7. Choose **OK** to close the **Edit Color** dialog box.
8. Select **OK** again to close the **Define Color** dialog box.

To use colors from your color palette

1. If the Color Palette window is not open, from the Window menu, choose **Color Palette**.
2. Choose the object that you want to color.
3. In the **Color Palette** box, choose **Fill** if you want to apply the color to the object, **Line** to apply the color to the line (border), or **Both** to apply the color to the object and its border.
4. In the **Colors** window, select a color to apply to the selected object.

QUARKXPRESS

You must add colors to a QuarkXpress color palette by importing an .eps file. QuarkXpress adds the colors in an .eps file to its color list. Once the colors are in your color list, you can use the colors in your document.

To load PANTONE®* colors into QuarkXpress

1. Open Applicat\Quark folder and copy the contents to a folder on your hard disk.
2. Use a printout of the PANTONE®* color palette to locate the colors that you want to import. (See the section on printing the PANTONE®* color chart for instructions.)
3. On the printout, note the number that appears at the bottom of the column containing your color. This number ranges from 1 to 92 and might include decimal values.
4. Refer to the following list to determine which chart file contains the color you want:

Column number from PANTONE®* printout:	PS or TIFF chart filename
Column 1 through column 11.5	1-16.eps or 1-16.tif
Column 12 through column 2	17-32.eps or 17-32.tif
Column 24 through column 30.5	33-48.eps or 33-48.tif
Column 31 through column 40	49-64.eps or 49-64.tif
Column 41 through column 52.3	65-80.eps or 65-80.tif
Column 52.4 through column 62.5	81-96.eps or 81-96.tif
Column 63 through column 71	97-112.eps or 97-112.tif
Column 71.3 through column 84	113-128.eps or 113-128.tif
Column 85 through column 92	129-135.eps or 129-135.tif

5. Import the correct EPS file.

The colors automatically load into your palette for use in QuarkXpress.

Note:

Depending on your system configuration, QuarkXpress might not add all the colors in the PANTONE®* library into the color list. The number of colors within a QuarkXpress palette is limited by the amount of memory you have allocated to the program and the complexity of the file.

Do not rename PANTONE®* Colors created in ColorDrive from within QuarkXpress. Removing the leading space in front of the color name causes QuarkXpress to redefine the color from its built-in values.

CORELDRAW

CorelDRAW Supports the .cpl format for version 7 and beyond and the .pal format for older versions. The files **HP4550C.cpl** and **HP4550C.pal** for PS and **HP4550R.cpl** and **HP4550R.pal** for PCL are stored in the **Applicat\CORELDRW** folder. Place these files in a folder on your hard disk, the CUSTOM directory in the CorelDRAW directory structure is recommended. Do not use the RGB palettes with the PS driver in CorelDRAW.

Note:

CorelDRAW 7 and 8 have built-in application-level color correction which must be disabled first. Please refer to the CorelDRAW manual for detailed instructions.

To open a color palette in CorelDRAW:

1. Open CorelDRAW.
2. Select the **Fill** tool.
3. Select the **Palette** icon.
4. From the right arrow pop-up next to the Custom Palette, choose **Open Palette**. In version 8, the palette filename is in a pull down menu box.
5. Open the appropriate palette for the HP4550.
6. Select the color palette for use in CorelDRAW and select **OK**.

To use the colors in a drawing use the palette tab of the color fill tool and scroll through the choices to find the desired color.

MACROMEDIA FREEHAND

Macromedia FreeHand supports both .bcf and .acf formats for color palettes. You can store custom color palettes anywhere on your hard disk. If you save your palette in the Color folder, it automatically appears on the Options menu in the Color List dialog box the next time you open FreeHand.

The files **HP4550C.acf** and **HP4550C.bcf** for PS and **HP4550R.acf** and **HP4550R.bcf** for PCL are stored in the **Applicat\FREEHAND** folder. Place these files in the folder on your hard disk where other .acf or .bcf files are stored. HP recommends that you place them in your FreeHand Color folder.

Macromedia FreeHand 4.X and beyond

To open a color palette in FreeHand 5.x and 4.x

1. Open FreeHand .
2. From the **File** menu, open a new or existing FreeHand document.
3. If the Color List window is not open, from the Window menu, choose **Color List**. On some versions the Color List window is found under "Panels->" in the Window menu.
4. Open the **Options** menu in the Color List palette.
5. If you stored your color palette in the Colors folder, choose the color palette name in the **Options** list. **- Or**
-

If you stored your color palette anywhere else, from the **Options** menu, choose **Import**.

6. Select your color palette and select **Open**.
7. Choose the colors you wish to use and select **OK**.

To use colors in FreeHand 5.x and 4.x

From the Color List dialog box, drag the color square you want onto the object to which you want to apply the color. Drag the color square into the center of an object to fill the object with the chosen color or onto the border of an object to apply the chosen color to the border.

Macromedia FreeHand 3.x

Earlier versions of FreeHand did not support .acf or .bcf formats and instead use .clb format.

The files **HP4550C.clb** for PS and **HP4550R.clb** for PCL are provided for users of FreeHand 3.x and are stored in the **Applicat\FREEHAND** folder. Place the appropriate file in the folder on your hard drive where other **.clb** files are stored. HP recommends that you place it in your FreeHand Color folder.

To open a color palette in FreeHand 3.x

1. Open FreeHand 3.x.
2. Open a new or existing document.
3. If the Colors window is not open, from the **View** menu choose the **Window** menu, and then choose **Colors**.
4. Select the arrow on the right side of the **Colors** window and choose **Import**.
5. Choose the file **HP4550C.clb** or **HP4550R.clb** and select **Open**.
6. Choose the colors you wish to use and select **OK**.

To use colors from your color palette

1. Select the object you want to color.
2. From the **Colors** window, choose the **Fill** box.
3. Choose **Fill** to fill the object, **Line** to fill the line (border), or **Both** to fill both the object and its border.
4. Choose a color in the Colors window to apply the color to the chosen object.

DENEBA CANVAS VERSION 3.5+

A special palette for Canvas is provided in the Canvas folder. The files are named **HP4550C.pal** and **HP4550R.pal**.

To open a color palette in Canvas

1. In the **Canvas** folder, select the PANTONE®* Colors item in the Window menu.
2. Select **Load...** in the pop-up menu for Color Sets.
3. Load the Canvas palette HP CLJ 4550.pal.

These colors can now be used in your artwork.

2.4 USING PANTONE®* COLOR SUPPORT IN OTHER APPLICATIONS

If your application is not listed, you might have access to PANTONE®* colors in that program through EPS charts or TIFF charts.

Using EPS or TIFF charts to import PANTONE®* colors

Most graphics and desktop publishing programs allow the import of EPS files, TIFF files, or both. Many programs also have an "eyedropper" tool, which you can use to pick up colors out of an imported graphic. If necessary, you can use the EPS or TIFF files to import colors into any application that supports one of these formats and has an eyedropper tool (or functional equivalent).

1. Open the Epschart or Tifchart Folder on your desktop.
2. Locate the color that you want to import from a printout of the PANTONE®* Color Chart. (See the section on printing the color chart for instructions.)
3. On the printout, note the number that appears at the bottom of the column containing your color. This number ranges from 1 to 92 and might include decimals.

Also note the PANTONE®* number, directly under the swatch containing your color on the PANTONE®* color palette. For instance, **106** refers to a shade of yellow on the first page of your printout, in column three.

Refer to the following list to determine which chart file contains the color you want:

Column number from PANTONE®* printout	EPS or TIFF chart filename
Column 1 through column 11.5	1-16.eps or 1-16.tif
Column 12 through column 23	17-32.eps or 17-32.tif
Column 24 through column 30.5	33-48.eps or 33-48.tif
Column 31 through column 40	49-64.eps or 49-64.tif
Column 41 through column 52.3	65-80.eps or 65-80.tif
Column 52.4 through column 62.5	81-96.eps or 81-96.tif
Column 63 through column 71	97-112.eps or 97-112.tif
Column 71.3 through column 84	113-128.eps or 113-128.tif
Column 85 through column 92	129-135.eps or 129-135.tif

5. Open or Import the EPS or TIFF file containing the desired color.
6. After opening the proper chart file, find the exact color you wish to use by referring to the PANTONE®* number.

These numbers are listed below the color swatch in both the PANTONE®* color palette printout and in the EPS or TIFF file. For example, to load the shade of yellow 106 mentioned earlier, first open 1-16.eps or 1-16.tif and then find the color swatch in the EPS file. The number 106 appears directly below the swatch containing this color.

CD-ROM 1 includes text format files called HP4550C.txt and HP4550R.txt in the LUTTXT directory. These files might be helpful if you are working in a program that does not support loading color palettes and cannot import an EPS or TIFF file. You can open the file in a word processor, text editor, or a spreadsheet program and print a crib sheet of the colors and their definitions.

You can use this sheet to set up the colors in your program. This Readme file does not provide detailed instructions for this procedure because the procedure varies for each program. However, if you are already familiar with how to manually create RGB or CMYK color values in your application, HP4550.txt might be useful to you.

2.5 PRINTING THE PANTONE®* CALIBRATED COLOR CHARTS

Once you have printed the complete PANTONE®* color palette, you can use it as a swatch booklet for permanent reference. The swatch color chart is available in pdf, tif, ps and eps formats. If you wish to print the color palette, use one of the options described below.

You must choose the correct palette based on the print driver you are using. The CMYK palettes can only be used with the PS driver. The CMYK palettes and color charts are optimized for the default setting (FAST CMYK Inkset) of the printer. The RGB palettes work best with the PCL (5 or 6) driver. The RGB palettes are optimized for the sRGB default (automatic) ColorSmart II setting. They can be used in many applications with the PS driver, but will produce unpredictable results with some software that does not send RGB data through PS.

Any color management software built into an application or the operating system (such as ICM or ColorSync) must be turned off when printing PANTONE®* Colors specified as CMYK or sRGB values. These color conversions will change the colors sent to the printer and reduce the accuracy of the PANTONE®* color simulation.

Printing the color palette from Adobe Acrobat Reader

The Acrobat folder includes a portable document format (.pdf) that contains the PANTONE®* color palette. The file names are HP4550C.pdf and HP4550R.pdf. Use Acrobat Reader to print the color palette.

Printing the color palette from Adobe Photoshop

The .tif files found in the Tifchart directory and the .eps files in the Epschart directory can be printed using Photoshop. All color management options must be disabled. The CMYK format must be printed using "CMYK Color" and the RGB format with "RGB Color". Do not enable PS Color Management or Printer Color management.

Printing the color palette from Microsoft Word, PowerPoint or Publisher

The .tif files found in the Tifchart directory can be inserted as a picture in a Microsoft Word, PowerPoint or Publisher document. The HP4550R files must be used whether the PS or PCL driver is to be used.

Other formats of the color palette

CD-ROM 1 also includes two other versions of the color palette. One is a PS file, and one is a PANTONE®* ColorDrive file.

- **PS file:** The PS file is in the Raw PS subdirectory on CD-ROM 1. The name of the file is HP4550C.ps.
- **PANTONE®* ColorDrive file:** The PS file is in the PANTONE®* ColorDrive Support subdirectory on CD-ROM 1. The name of the file is HP4550C.pcd.

Notes on the PANTONE®* calibration:

PANTONE®* Colors generated by the Hewlett-Packard Color LaserJet 4550 are four-color process simulations and can not match PANTONE-identified solid color standards. Use current PANTONE Color Reference Manuals for accurate color.

PANTONE Color simulations are only obtainable on this product when driven by qualified Pantone-licensed software packages. Contact Pantone, Inc. for a current list of qualified licensees.

There are many variables in the four-color process reproduction of colors generated by the Hewlett-Packard Color LaserJet 4550, any one of which can affect the quality of the PANTONE Color simulation, including:

- Type of paper used
- Type of toner used
- CMYK Inkset setting
- ColorSmart settings
- Environmental conditions
- Overhead lighting
- Personal differences in perception of color
- Software applications
- Printer drivers

For optimum results, we recommend that the following be used:

- Paper - Hewlett-Packard LaserJet Paper
- Toner - Hewlett-Packard Color LaserJet 4550 Toner cartridges
- CMYK Inkset - FAST
- ColorSmart - Automatic

3. USING ICC PROFILES AND COLOR MANAGEMENT SYSTEMS (CMS)

3.1 OVERVIEW OF COLOR MANAGEMENT SYSTEMS (CMS)

Color professionals with more exacting color requirements can use color management systems (software) to control the color data exchange between devices. Color management is used to convert color data for different devices with dissimilar color definitions. Color management systems, such as ICM in Windows and ColorSync on the Macintosh, are available at the operating system level, while others can be integrated into an application.

For most purposes, the sRGB and CMYK Ink emulation paths provide great color on the HP 4550 without any color management. The HP 4550 is compatible with color management systems when color conversions are required or desired for more control of the printer color.

A color management system (CMS) performs two main functions:

- Mapping colors between devices with different ranges of color (gamuts), such as scanners and printers.
- Transforming colors from one working space to another, such as from CMYK (cyan/magenta/yellow/black) to sRGB (a term generally used to define red/green/blue color output for monitors).

When mapping colors from one gamut space to another, the best method often depends on the type of data being mapped. Some systems provide the option of choosing the method or rendering intent of the color transform. For example, when transforming photographic data to a smaller data space, it is important to maintain the relative color differences that give the image a realistic appearance. This process is often called perceptual or image color mapping. The process of transforming named colors, such as PANTONE®* colors, and matching a standard ink color as closely as possible, is called a colorimetric transformation. Printing PANTONE®* colors that have been through a color management system is not as accurate as using the custom calibrated values as described in the previous section. The other less used option in a color management system is the saturation or graphics intent. For most practical purposes, the perceptual or image intent will provide the best results.

HP provides CMYK (hp4550c.icm) and sRGB (hp4550r.icm) ICC profiles with its Color LaserJet 4550 printers. The CMYK profile can only be used with the PS driver while the sRGB profile can be used with any of the HP4550 drivers. The profiles are in the ICM directory of the driver CD-ROM 1 or on the HP Web site. These profiles describe the way color is interpreted in the default CMYK and RGB modes. The sRGB profile matches the default RGB mode (sRGB) which is enabled with the Screen Match or Automatic Color Smart II setting in either the PCL or PS driver. The CMYK profile is based on the default mode which is a SWOP simulation with a CMYK Inkset setting of FAST in the PS driver. These profiles can be used for color conversions in a color managed workflow.

3.2 CUSTOM ICC PROFILES

Color professionals can also use color management to calibrate specific color devices. This use of color management requires a custom ICC profile to be built for the specific device. There are many software packages and measurement devices on the market for this purpose.

To create the best ICC profile for the HP 4550 printer, it should be put in the "Vivid" or full gamut color mode in the Color Smart II controls. Note that the "Vivid" setting must be set for all object types: text, graphics and images. An RGB can be built by printing the ICC profile software measurement target with the printer in the Vivid mode and then keeping the printer in this mode when printing color managed data from the profile.

Note:

The HP 4550 does not have a device CMYK mode but will work well in the Vivid RGB mode with either the PS or PCL driver provided the application supports RGB ICC profiles.

3.3 ENABLING CMS SUPPORT IN MACINTOSH OS

To enable CMS support in Macintosh OS System 7.0, complete the following steps:

1. From the Chooser, select the HP Color LaserJet 4500 printer, and then select Setup.
2. Select Print Options.
3. Select ColorSync Matching.
The Printer Profile option becomes available.
4. Select the printer profile you want to use.
5. Close the Setup window.

3.4 ENABLING CMS SUPPORT IN WINDOWS OS

The HP4550R.icm or HP4550C.icm ICC profiles can be installed at the system level using ICM-2 built into the Windows 98 and 2000 operating systems. Windows NT 4.0 does not have ICM, and ICM-1 on Windows 95 is not supported. The HP4550C.icm CMYK profile can only be used with the PS driver while the HP4550R.icm sRGB profile can be used with any of the HP4550 drivers.

ICM is not recommended for use with the HP Color LaserJet 4550. The default RGB path is sRGB which is compatible with the default settings of ICM and all color data processed through the Windows operating systems. The default ICM profile is "sRGB Color Space Profile.icm" and works very well with HP printers. If there is a need to manually enable ICM, it can be done from the Printer Properties dialog, or by right-selecting on the profile as described below.

ICM is enabled by associating an ICC profile with the printer. Microsoft Office and other applications including Microsoft Word, Microsoft PowerPoint and Microsoft Publisher will process printer colors through the associated ICC profile when a document is printed. A profile can be associated with the printer in two different ways:

Enabling ICM by right selecting on the profile:

Copy the ICC profile to the appropriate directory for the OS.

- Win 98 \<windows>\system\color
- Win 2000 \<windows>\system32\spool\drivers\color

Hold the mouse pointer over the profile name, HP4550r.icm (recommended for PS and PCL) or HP4550c.icm (PS only), and select the right mouse button.

Select "Install Profile." Right select on the profile again and select "Associate". A dialog box opens to select the devices this profile is associated with. Select "Add..." and choose the correct HP Color LaserJet 4550 printer.

Enabling ICM from the Printer Properties dialog box:

A second way to view, install or change the ICC profile associated with a printer is to open the printer properties dialog box. Under the "Color Management" tab any profiles associated with the printer is shown. Select Add... and choose the file HP4550r.icm. Select Manual while this filename is selected to make this the default profile for the printer.

The HP4550 PS driver has additional control over ICM when printing under the Advanced Options of the Printer dialog. The ICM Method: ICM Handled by Host System and ICM Intent: Pictures options are recommended.

3.5 ENABLING CMS SUPPORT IN SPECIFIC APPLICATIONS

Color profile filename conventions

The printer supports both RGB and CMYK color input paths. The RGB path is based on sRGB (Standard RGB) and is the preferred path for the HP Color LaserJet 4550. To enable color management, an ICC-compliant color profile for the data type must be installed. The convention used to distinguish between CMYK and sRGB color profiles is HP4550c.icm for CMYK and HP4550r.icm for sRGB.

Since the Windows graphics design interface (GDI) is sRGB compliant, the HP4550r.icm color profile is recommended for most color management tasks. When using the PCL printer drivers, the HP4550r.icm color profile is recommended for best performance, since the data is converted to sRGB.

Many applications that use ICC color profiles expect to find them in specific locations. The default locations for ICC color profiles are:

- Windows 95: <windows>/system/color
- Windows NT 4.0: <windows>/system32/color
- Windows 98: \<windows>\system\color
- Windows 2000: \<windows>\system32\spool\drivers\color or \<windows>\system32\color

Some applications can use color profiles that are stored anywhere, however, using the default location for shared or system color profiles ensures that all applications can use the color profiles.

Although many of the applications with built-in Color Management software do not allow the use of the RGB or HP4550r.icm profile, the Windows Color Management system (ICM) works very well with RGB printer profiles. (The CMYK profile HP4550c.icm can be used as an alternative with the PS driver, however the HP4550r.icm file is the recommended profile for all drivers including PS.)

The printer default settings of ColorSmart II **Automatic** (or ScreenMatch) and CMYK Inkset **FAST** must be used with the HP supplied ICC profiles.

Installing color profiles in ICC-compliant applications

The ICC color profiles for the printer can also be used with ICC-compliant applications. ICC-compliant applications are capable of managing color transformations within the application and in some cases use the information for printing directly to the printer with internal printer drivers rather than using the operating system printer drivers.

The following applications are ICC compliant, and the accompanying procedures show how to install ICM color profiles in these applications. Other applications will soon be compliant. Check with your software vendor for more information.

Adobe Illustrator 7.0 and later

1. From the File menu, select **Color Settings**.
2. Select the **Printer** drop-down list box.
3. From the **Profile** drop-down list box, select **HP CLJ4550 SWOP CMYK PS**. Note that Illustrator will not accept the sRGB profile. The profile is ignored when printing with the PCL driver.
4. (Optional) Select the **Intent** drop-down list box and select the intent you wish to use. (Image or Perceptual is recommended for most uses.)
5. Select **OK**.

Adobe PageMaker 6.5

1. From the File menu, select **Print**.
2. Select the **Printer** drop-down list box and select **HP CLJ4550 SWOP CMYK PS**. Note that PageMaker will not accept the sRGB profile. The profile is ignored when printing with the PCL driver.
3. If you selected a PS printer driver, select **HP CLJ 4550-PS** from the PPD drop-down list box.
4. Select **Color**, and then select **CMS Setup**.
5. From the **Composite Printer** drop-down list box, select the **HP Color LaserJet 4550** printer.
6. Select Color Management ON.
7. Select **OK**.
8. Hold the **SHIFT** key down to change the **Print** button to Done.
9. Select **Done**.

Adobe Photoshop 4.0

Adobe Photoshop 4.0 uses ICC color profiles to create an Adobe Photoshop-specific separation table (.aci file). These tables are used to convert to and from CMYK.

1. From the File menu, select **Color Settings**, and then select **Separation Tables**.
2. Select **Build Tables Using ICC Profiles**.
3. From the **Profile** drop-down list box, select **HP CLJ4550 SWOP CMYK PS**.
4. (Optional) From the Render Intent drop-down list box, select the intent you wish to use. (Perceptual is recommended for most uses.)
5. Select **Build**.
6. Select **OK**.

Adobe Photoshop 5.0 and 5.5

Adobe Photoshop allows separate settings for the RGB setup and CMYK setup in the File-> Color Settings dialog. The RGB setup applies to RGB images while the CMYK setup applies to CMYK images. When printing from Photoshop, the color space should be set to RGB Color or CMYK color to print without any color conversions. Choosing an ICC profile for the Color Space causes Photoshop to convert from the current setup setting to the color space defined in the ICC profile. This can be used to convert from one color space to another such as RGB to CMYK or to a different version of the same space such as to convert from one RGB space to sRGB for the HP4550.

1. In the **Print** dialog box, select the desired profile **HP CLJ4550 sRGB** or **HP CLJ4550 SWOP CMYK PS**. In addition, the built in sRGB choice in Photoshop can be used.
2. Do not select PS Color Management or Printer Color Management.
3. (Optional) From the **Render Intent** drop-down list box, select the intent you wish to use. (Perceptual is recommended for uses.)
4. Select **OK**.

CorelDRAW 7

1. Start the Color Manager 7 either independently or from CorelDRAW 7 or Corel PHOTO-PAINT 7 by selecting **Color Manager** from the **Tools** menu.
2. If the Composite Line checkbox is not selected, select the checkbox to select it.
3. From the **Composite** drop-down list box, select **Install from Disk**.
4. Select the directory containing the HP4550 ICC profiles
5. Select **OK**, and then Select **OK** again.

6. From the **Manufacturer** list, select **Hewlett-Packard**.
7. From the **Model** list, select
PS Driver -HP Color LaserJet 4550 SWOP CMYK PS
PCL Driver - HP Color LaserJet 4550 sRGB
8. Select **OK**.
9. Select **Finish**.

CorelDRAW 8 or later

1. Setup Color Management by opening the **Options** dialog from the **Tools** menu.
2. Expand the Global options and then the Color Management options
3. Select **Profiles**
4. Select **Get Profile From Disk** in the Composite Printer option list
5. Browse to the directory with the HP 4550 ICC profiles from the CD-ROM
6. From the **Manufacturer** list, select **Hewlett-Packard**.
7. From the **Model** list, select:
PS Driver -HP Color LaserJet 4550 SWOP CMYK PS
PCL Driver - HP Color LaserJet 4550 sRGB

When printing, check the Miscellaneous tab of the print dialog box and see that the correct profile is shown and Use Color profile is selected.

Macromedia FreeHand 7 and 8

1. From the **File** menu, select **Print**.
2. Select **Color Management** and make sure the **Color Management** checkbox is selected.
3. From the **Monitor Simulates** drop-down list box, select **Composite Printer**.
4. From the **Composite Printer** list, select **HP CLJ4550 SWOP CMYK PS**.
5. Select **OK**.
6. Select **Cancel**.

Microsoft Publisher

1. From the **Tools** drop-down list box, select **Options**.
2. Make sure the **Improve Screen** and **Printer Color Matching** checkboxes are selected.
3. Select **OK**.

Microsoft Publisher automatically uses the ICM profile for the printer driver you have currently selected. See the section above on enabling the profile with ICM.

QuarkXpress 4.0

1. Check the XTensions Manager in the Utilities menu to make sure the Color Management XTension is active. (If the Color Management XTension is active, a check appears in the Active column next to Quark CMS.)

Note:

If the Color Management XTension is not available, see the QuarkXpress documentation for information about installing XTensions.

2. From the **Edit** menu, point to Edit Preferences, and then select **Color Management**.
3. Select the checkbox in front of **Color Management Active** to turn the Quark CMS on.
4. From the **Composite Printer** drop-down list box, select **HP CLJ4550 SWOP CMYK PS**.

5. Select **OK**.

4. HINTS AND TROUBLESHOOTING

4.1 IMPROVING COLOR PRINTING

The process of matching printer output color to your monitor is quite complex because printers and computer monitors use different methods of producing color. Monitors *display* colors by light pixels using an additive RGB (red, green, blue) color process, but printers *print* colors using a subtractive CMYK (cyan, magenta, yellow, and black) process.

For most users, the best method for matching colors on your screen to your printer is to print sRGB colors. The HP Color LaserJet 4550 uses ColorSmart II, which uses sRGB and automatically optimizes color output. Several factors can influence your ability to match printed colors to those on your monitor. These factors include:

- Print media
- Printer colorants (inks or toners for example)
- Printing process (inkjet, press or laser technology for example)
- Overhead lighting
- Personal differences in perception of color
- Software applications
- Printer drivers
- Operating System of Personal Computer
- Monitors
- Video cards and drivers

The HP web site contains a set of images that allow you to print a sampling of the entire RGB printer color space. This allows you to create a master print showing the colors to expect for each RGB color requested.

4.2 IMPROVING PRINTING SPEED

Apparent printing speed is affected by the size of the file that is transferred to the printer. The file size can be minimized without losing color quality in several ways.

- Keep images an appropriate size. The amount of data in images often dominates the data sent to the printer. Images can be resampled to 150 to 200 dots per printed inch (sampled at the size of the final output) with no loss of quality. This is because the halftone line screen lpi (lines per inch) affects the usefulness of the pixels more than the printer dot size or dpi.
- If the printed size of an image has been reduced within the document without resampling the image, an image with a very high dpi (dots per printed inch) can result. Resample the image to an appropriate dpi using the actual printed size for better performance. Some applications have an option to automatically resample images to a reasonable size before printing.
- Converting a CMYK file to RGB reduces the number of bytes per pixel of an image by three-fourths. The effectiveness of file compression can change the exact gain, but in general an RGB file will transfer fewer bits for faster printing. When converting a file to RGB, select the "sRGB" option if it is available.
- Turn off any options in the application that cause it to resample an image to a higher resolution before sending it to the printer. Some applications have options to resample images to 300 or 600 dpi before

sending to the printer. This is unnecessary as the printer can do resampling after the image has been transferred.

4.3 FREQUENTLY ASKED QUESTIONS

Why does the color look different on today's job or from the first to the last copy?

All electrophotographic printers can vary in the way they deposit toner onto the paper from one period to the next due to a variety of environmental factors:

- environmental changes in the room where the printer is located
- changes in the environment inside the printer during operation
- different moisture content of the paper.

These environmental changes affect the electronic charge of the toner and the drum which results in very small changes in the amount of toner deposited on the paper. This can cause subtle differences in the color on the page. In general, these color differences are not objectionable, especially with images that include a wide mix of colors. Typically, very small color shifts are lost in the overall look of the image.

However, changes in light, flat color areas, especially neutral grays, can become noticeable. Neutral gray colors are those caused by mixing several colors together to generate a shade of gray. An example of this is a Windows menu or tool bar. The differences are also more noticeable in areas with very low amounts of color, where small differences can represent a relatively larger percentage change.

Despite onboard calibration and other techniques that HP uses to minimize these small effects, very small variations in color are an inherent part of electrophotographic printing technology.

Why is the color quality poor or not what I expected?

There are many possible reasons why the color just does not look "right." Unfortunately, color does not have a hard scientific definition. Consequently, different devices handle color in different ways.

- Color scanners, for example, can render identical pictures differently; these scanning differences affect the final output.
- Monitors vary in the way they render color onscreen; adjustments to color settings can add to color variations. As a result, color generated directly on the computer can look different on different computers. (See the next question, **Why don't the printed colors match the colors on the screen?**)
- Software applications can process or display color in different ways and can change the appearance of color images.
- Surrounding light affects the way color look, often causing significant differences in appearance from one light source to the other.
- All RGB color data is not the same, which is why different applications can generate different results.
- The color "numbers" can be the same, an individual's perception can vary according to the circumstances.

When all operations are performed under one roof in one location, the scanner, the applications, the monitor, and the printers can be tuned to each other by selecting settings that optimize the color match to the final printed output. However, once the document is exchanged from one operation to another, the color can change because the values for each color are encoded without a constant reference point.

To minimize problems associated with the different interpretation of color, Hewlett-Packard, in conjunction with Microsoft, developed the sRGB color rendering space to provide a fixed reference point for color used in the office. Because sRGB represents color the way most color monitors do, it is possible to use it to calibrate all devices together. Use sRGB as the target for your scanners, your application program defaults, and your printed

output. Using sRGB will help you generate good color every time, both within your operating environment and between different operating environments.

Why don't the printed colors match the colors on the screen?

The process of matching printer output color to your monitor is quite complex because printers and computer monitors use different methods of producing color. Monitors *display* colors by adding the light from RGB (red, green and blue) colored pixels using an additive color process. Printers *print* colors using a subtractive color process that removes color from the viewing light source as it reflects through the CMYK (cyan, magenta, yellow, and black) inks.

These two different color rendering processes have different color gamuts. Color gamut is the range of colors that can be displayed. Matching the color from one color gamut to the other requires converting the colors. Because some colors from each device are outside the gamut of the other device, it is impossible to match all the colors exactly, resulting in some color shifts regardless of how well everything else is working.

Some of the main reasons that colors can not appear to match the screen are due to the monitor white point setting, the color depth, the gamut mismatch and CMYK color conversions. In addition, the kind of lighting in the room can affect the perception of color. A print viewed in sunlight will often look very different under incandescent lighting.

White point setting

The white point setting of a monitor can have a dramatic affect on the color appearance of a displayed color. The white point setting is easily modified on most monitors. Monitors are usually shipped with the white point set to 9300 degrees Kelvin, which has a very blue appearance. This can be seen by holding a piece of white paper, illuminated by natural or indoor lighting, near a white part of the monitor display. The monitor will appear bluish when compared to the paper.

The sRGB color space is designed for a 6500 Kelvin monitor white. Many monitors have a white setting that can be changed with a user control. Choosing a 6500 K white point will produce optimum conditions for matching printed colors with displayed colors.

Color bit depth

Display drivers and many applications provide controls over the bit depth of the color information. Whenever possible, 24-bit color, or "Millions of Colors," should be chosen to avoid losing color information.

Monitor vs. printer gamuts

Because monitors *display* colors using an additive RGB (red, green and blue) color process but printers *print* colors using a subtractive CMYK (cyan, magenta, yellow, and black) process, fundamental differences in the colors possible on the devices exist.

As an example, in an additive color system, cyan (a light greenish-blue color) is displayed as a combination of green and blue phosphors. In a subtractive color system, cyan is one of the primary colorants used on the print and can be placed directly on the paper. The green and blue phosphors in a monitor combine to display a very light and bright cyan color. The cyan used as a printing colorant is usually a darker color. A very light cyan would not allow the printer to reproduce dark blue colors and would be unacceptable to most observers. This difference in color primaries makes it extremely difficult to print a cyan that matches the monitor cyan perfectly.

In general, the differences in the color technology used in monitors and printers, and the ways the colors combine, create very different gamuts or ranges of colors that can be produced. HP Color LaserJet printers have proprietary technology to map the colors of the monitor into colors that can be printed in a manner that creates excellent color output. Because of the monitor/printer gamut mismatch, some colors are moved from their absolute color on the monitor to a color that can be printed.

CMYK Color Conversions

Many designers create color documents using CMYK color rather than RGB color. This allows them to control colors in the same color space as they will eventually be printed. Because monitors are RGB devices, when an application displays a CMYK color on the monitor, it has to convert the CMYK values to RGB. There are many assumptions that must be made when converting colors. Some of these assumptions include:

- the color of the cyan, magenta, yellow, and black colorants
- the color of the red, green and blue phosphors
- how the colors change as they are mixed together
- what the room lighting conditions are
- the white point of the monitor
- the type of media being printed

Because of these assumptions, the same CMYK value can be displayed onscreen as an RGB color differently by each application. HP Color LaserJet printers use a SWOP ink emulation as their default CMYK color space. Choosing SWOP as the assumed CMYK space in an application will generally produce the best results for these color conversions.

**5. HP SOFTWARE AND SUPPORT SERVICES -
 ADDITIONAL INFORMATION**

Refer to the printer online user guide for additional methods of obtaining software and support information, including the latest printer drivers, online services, fax-back service, and online support.

INTERNET

Anonymous FTP library service is available for around-the-clock access to drivers and technical support information for Hewlett-Packard peripheral and computer products. Note that the paths might change without notice. Access the Internet or FTP address and use the menus to locate the software or support of your choice.

URL for Software and Support: <http://www.hp.com/go/cposupport>

URL for Access HP: <http://www.hp.com>

FTP address: [ftp.hp.com](ftp://ftp.hp.com)
 Login: anonymous
 Password: your Internet name (or user identification)

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