HP Designjet Z6100 Printer series

Using your printer

invent

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- Safety precautions
- Using this guide
- The printer's main features
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- The Embedded Web Server's main components
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Safety precautions

The following precautions ensure the correct use of the printer and prevent printer damage. Use these precautions at all times.

- Use the power supply voltage that is specified on the nameplate. To avoid overloading the printer's electrical outlet, do not use the outlet for multiple devices.
- Make sure that the printer is well-grounded. Failure to ground the printer can result in electrical shock, fire, and susceptibility to electromagnetic interference.
- Do not disassemble or repair the printer yourself. Contact your local HP Service Representative for service. See HP Customer Care on page 183.
- Use only the electrical cord that HP supplied with the printer. Do not damage, cut, or repair the power cord. A damaged power cord creates a risk of fire and electric shock. Replace a damaged power cord with an HP-approved power cord.
- Do not allow metal or liquids (except those used in HP Cleaning Kits) to touch the internal parts of the printer. Doing so can cause fire, electric shock, or other serious hazards.
- Turn off the printer and unplug the power cable from the power outlet in any of the following cases:
  - When you place your hands inside the printer
  - If smoke or an unusual smell emanates from the printer
  - If the printer is making an unusual noise that does not occur during normal operation
  - If a piece of metal or a liquid (not part of cleaning and maintenance routines) touches internal parts of the printer
  - During an electrical (thunder or lightning) storm
  - During a power failure

Using this guide

The *HP Start-up Kit* CD/DVD is the most complete source of information about this product and is organized into the following chapters.

Introduction

This chapter provides a brief introduction to the printer and its documentation for new users.

Use and maintenance

These chapters help you carry out normal printer procedures and include the following topics:

- Connectivity and software instructions on page 12
- Basic setup options on page 20
- Handle the paper on page 26
- Handle the ink system on page 56
- Print options on page 79
- Color management on page 104

- Practical printing examples on page 122
- Maintain the printer on page 135

Troubleshooting

These chapters help you solve problems that might occur while printing and include the following topics:

- Troubleshoot print-quality issues on page 148
- Troubleshoot ink-system issues on page 167
- Troubleshoot paper issues on page 162
- Troubleshoot other issues on page 172
- Front-panel error messages on page 179

Support and specifications

These chapters contain reference information, including HP customer care and the specifications of the printer:

- Get help on page 182
- Printer specifications on page 188
- Legal information on page 193

Appendices

The appendices highlight some of the more common printing scenarios you might face as a user. Each appendix takes a step-by-step approach to working through a given printing scenario, and points you to various parts of this guide that provide more task-specific information and instruction.

Glossary

This chapter contains definitions of printing and HP terms that are used in this documentation.

Index

In addition to the table of contents, an alphabetical index is included to help you to find topics quickly.

Warnings and Cautions

Symbols are used in this manual to ensure the proper use of the printer and to prevent printer damage. Follow the instructions that are marked with these symbols.

WARNING! Failure to follow the guidelines that are marked with this symbol could result in serious personal injury or death.

CAUTION: Failure to follow the guidelines that are marked with this symbol could result in minor personal injury or damage to the product.

The printer's main features

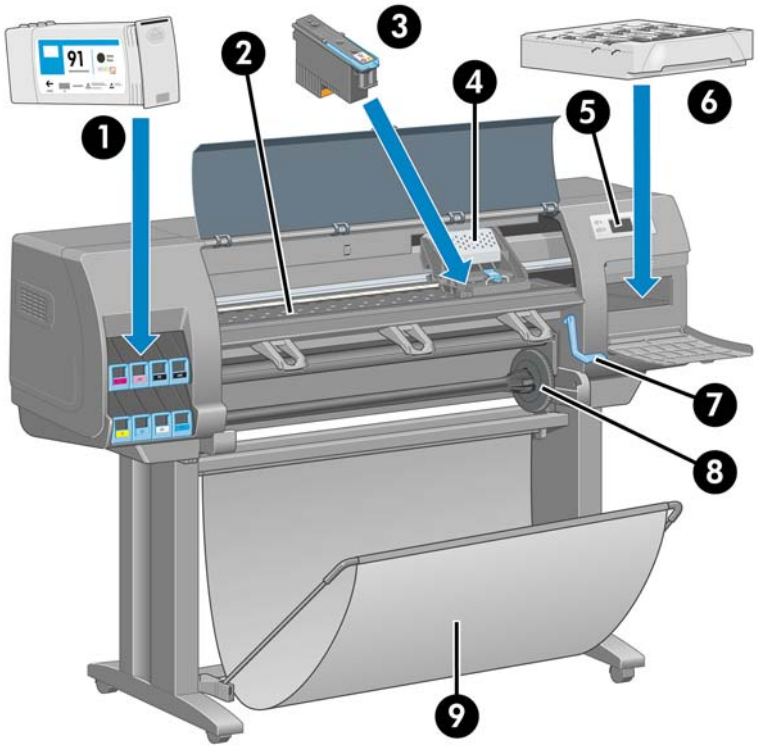
Some major features of the printer are shown below:

- Print resolution of up to 2400 × 1200 optimized dots per inch (dpi), from a 1200 × 1200 dpi input when using photo paper, the Best print-quality option, and the Maximum resolution for the photo paper option
- HP Easy Printer Care (Windows®) and HP Printer Utility (Mac OS). See The HP Easy Printer Care (Windows) and HP Printer Utility (Mac OS) main features on page 11.
- Accurate and consistent color reproduction features:
    - Press emulations for U.S., European, and Japanese standards; and color-monitor red-gree-blue (RGB) emulations
    - Automatic color calibration and profiling
- An eight-ink system that provides a wide color range on matte fine-art papers and glossy photo papers for photographic and graphic arts prints. The ink system also offers complete coverage of International Organization for Standards (ISO) and Specifications for Web Offset Publications (SWOP) gamuts for color accuracy in pre-press applications.
- An HP Embedded Spectrophotometer for consistent and accurate color, even with paper and environment changes and easy creation of custom International Color Consortium (ICC) profiles. See HP Embedded Spectrophotometer on page 108.
- Ink and paper usage information that is available from the Web through the Embedded Web Server. See Access the Embedded Web Server on page 23.
- Paper flexibility and automatic easy load, including information and profiles that are available on the front panel, or through HP Easy Printer Care (Windows) and HP Printer Utility (Mac OS)

The printer's main components

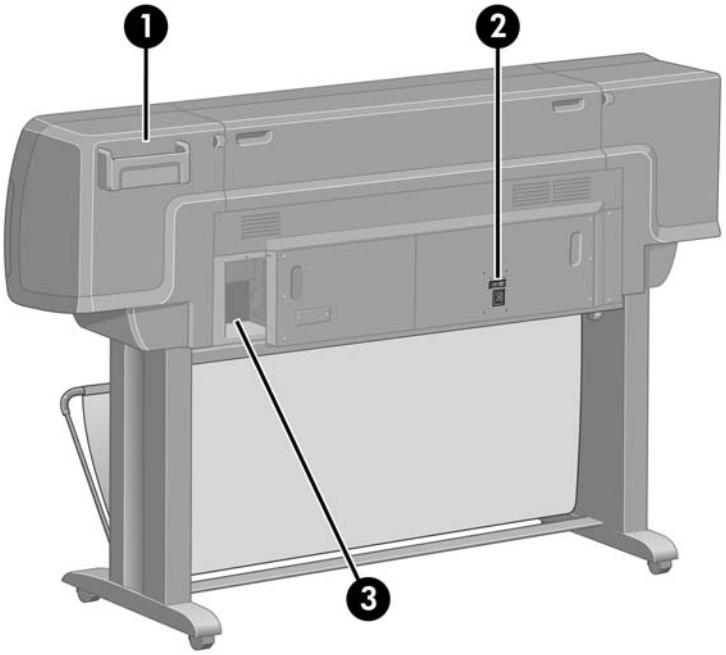
The following views illustrate the main components of the HP Designjet Z6100 42–in and 60–in Printers.

Front view 42-in printer



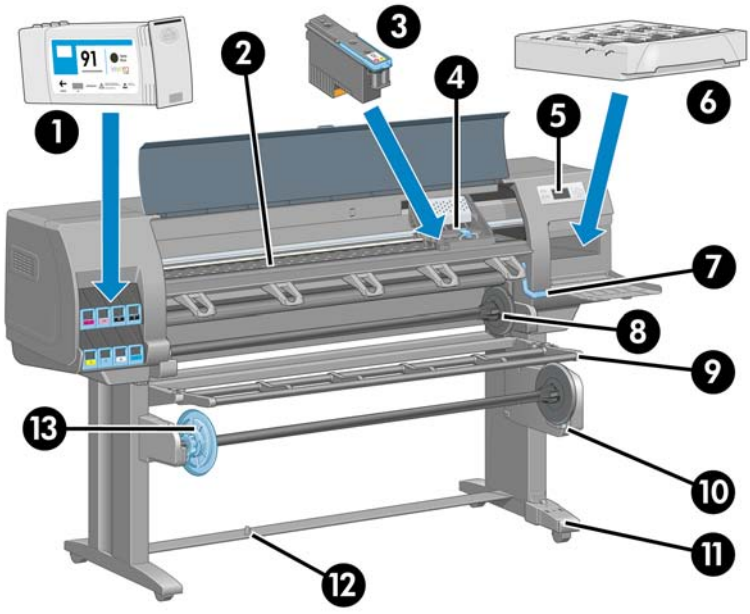
1. Ink cartridge
2. Platen
3. Printhead
4. Printhead carriage
5. Front panel
6. Maintenance cartridge
7. Paper-load lever
8. Spindle
9. Bin

Rear view 42–in printer



1. Quick Reference Guide holder
2. Hard power switch and power-cord plug in
3. Sockets for communication cables and optional accessories

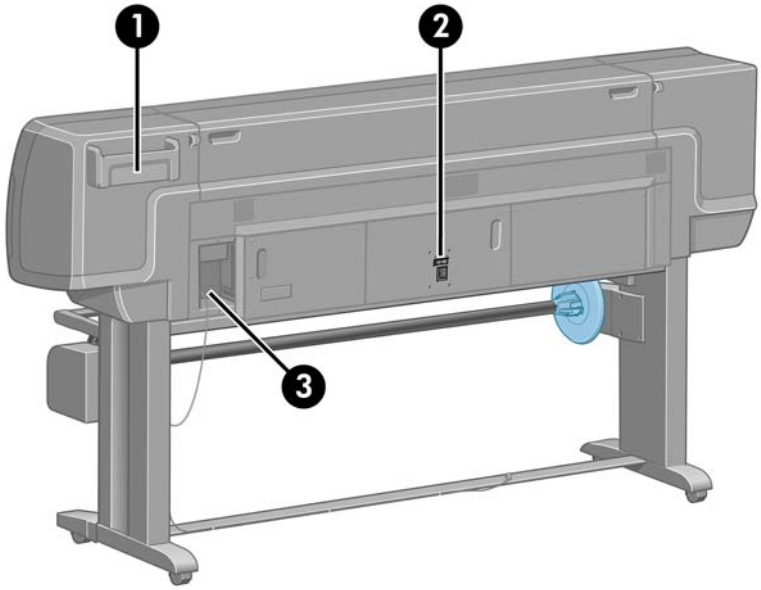
Front view 60–in printer



1. Ink cartridge
2. Platen
3. Printhead
4. Printhead carriage

5. Front panel
6. Maintenance cartridge
7. Paper-load lever
8. Spindle
9. Take-up reel deflector
10. Take-up reel motor
11. Take-up reel cable and sensor housing unit
12. Take-up reel sensor
13. Take-up reel spindle hub

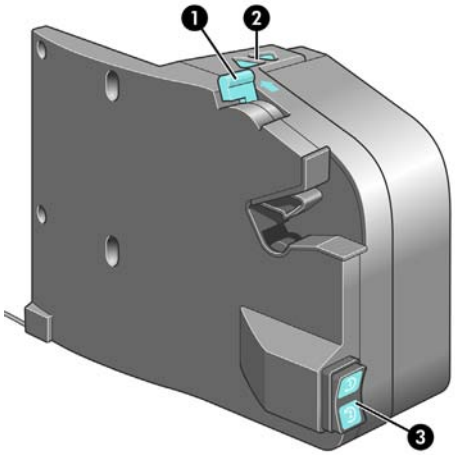
Rear view 60–in printer



1. Quick Reference Guide holder
2. Hard power switch and power-cord plug in
3. Sockets for communication cables and optional accessories

Take-up reel motor

NOTE: The take-up reel is a standard feature on the HP Designjet Z6100 60–in Printer. It is an optional accessory on the HP Designjet Z6100 42–in Printer. See Accessories on page 146.

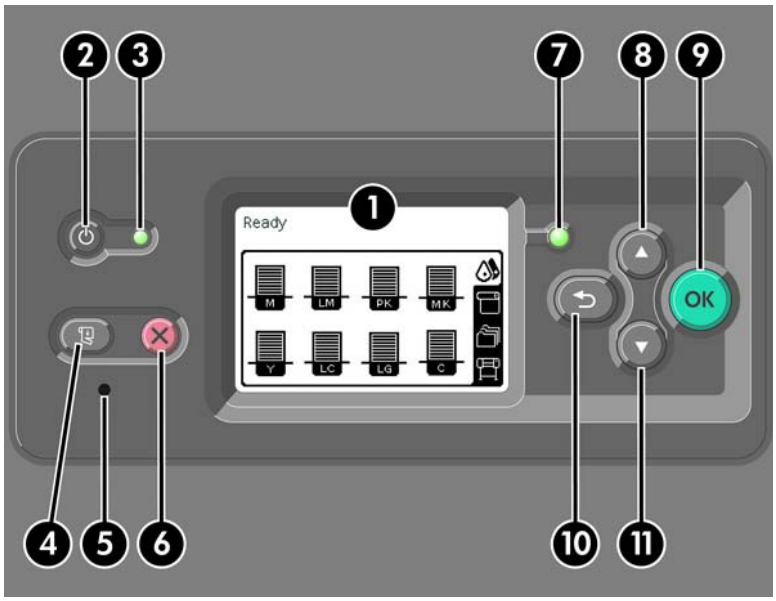


1. Take-up reel spindle lever
2. Manual winding buttons
3. Wind-direction switch

The front panel

Your printer's front panel is located on the front of the printer, on the right-hand side. Use if for the following functions:

- Use it to perform certain operations, such as loading and unloading paper.
- View up-to-date information about the status of the printer, the ink cartridges, the printheads, the maintenance cartridge, the paper, the print jobs, and other parts and processes.
- Get guidance in using the printer.
- See warning and error messages, when appropriate.
- Use it to change the values of printer settings and the operation of the printer. However, settings in the Embedded Web Server or in the driver override changes made on the front panel.



The front panel has the following components:

1. The display area, shows information, icons, and menus.
2. The Power button turns the printer on and off. If the printer is in sleep mode, this button will wake it up. (This is different from the hard power switch on the back of the printer. See Turn the printer on and off on page 21.)
3. The Power light is off when the printer is off. This light is amber when the printer is in sleep mode, green when the printer is on, green and flashing when the printer is in transition between off and on.
4. The Form Feed and Cut button normally advances and cuts the roll. Here is a list of its other functions:
   - If the printer is waiting for more pages to be nested, this button cancels the waiting time and prints the available pages immediately.
   - If the printer is drying the ink after printing, this button cancels the waiting time and releases the page immediately.
   - If the take-up reel is enabled, this button advances the paper 10 cm (3.9 inches), but does not cut the paper.
5. The Reset button restarts the printer (as if it were switched off and switched on again). You will need a non-conductive implement with a narrow tip to operate the Reset button.
6. The Cancel button cancels the current operation. It is often used to stop the current print job.
7. The Status light is off when the printer is not ready to print: the printer is either off, or in sleep mode. The Status light is green when the printer is ready and idle, green and flashing when the printer is busy, amber when a serious internal error has occurred, and amber and flashing when the printer is awaiting human attention.
8. The Up button moves to the previous item in a list, or increases a numerical value.
9. The OK button is used to select the item that is currently highlighted.
10. The Back button is used to return to the previous menu. If you press it repeatedly, or hold it down, you return to the main menu.
11. The Down button moves to the next item in a list, or decreases a numerical value.

To *highlight* an item on the front panel, press the Up or Down button until the item is highlighted.

To *select* an item on the front panel, first highlight it and then press the OK button.

The four front-panel icons are all found on the main menu. If you need to select or highlight an icon, and you do not see the icons in the front panel, press the Back button until you can see them.

Sometimes this guide shows a series of front panel items like this: **Item1** > **Item2** > **Item3**. A construction like this indicates that you should select **Item1**, select **Item2**, and then select **Item3**.

You will find information about specific uses of the front panel throughout this guide.

Printer software

The following software is provided with your printer:

- HP-GL/2 printer driver for Windows operating systems
- PostScript© printer driver for Windows and Mac OS operating systems

NOTE: The PostScript drivers are only available with HP Designjet PostScript printers.

- HP Easy Printer Care (Windows) and HP Printer Utility (Mac OS). See The HP Easy Printer Care (Windows) and HP Printer Utility (Mac OS) main features on page 11.

  NOTE: Because Windows XP Professional x64 Edition does *not* support HP Easy Printer Care, it cannot be installed on computers that are running that version of Windows.

- The Embedded Web Server, which runs in the printer and enables you to use a Web browser on any computer to check the ink levels and the printer status. See Access the Embedded Web Server on page 23.

The Embedded Web Server's main components

The Embedded Web Server is a Web server running inside the printer. Users can obtain printer information, manage settings and profiles, and troubleshoot problems through the Embedded Web Server. It also allows service engineers to retrieve internal information that helps diagnose printer problems.

Access the Embedded Web Server remotely by using an ordinary Web browser running on any computer. Its features and functionality are organized within three tabs. Buttons near the top of each tabs page provide access to online help and supplies reordering.

Main tab

The **Main** tab provides information about the following items:

- Print jobs and managing the print queue
- Supplies status
- Paper and ink usage and accounting
- PANTONE©* emulation

Setup tab

The **Setup** tab includes options to complete these tasks:

- Define printer, network and security settings
- Send accounting reports and notifications of warnings and errors through email
- Update firmware
- Upload paper profiles
- Set the date and time

Support tab

The **Support** tab contains options to complete these funtions:

- Use the Embedded Web Server Print Quality Troubleshooting wizard to help resolve some of the most common print quality issues
- Browse helpful information from a variety of sources
- Access HP Designjet links for technical support with your printer, driver and accessories
- Access service support pages that show current and historical data on the usage of your printer
- Troubleshoot image-quality

The driver's main features

The HP-GL/2 driver is your main printer driver. The following are its main features:

- Access to the HP Knowledge Center, which includes illustrated, step-by-step guides for the most common printing environments
- A crop-lines option to indicate where the paper should be cut to achieve an appropriate paper size
- A wide variety of printing options
- Color-adjustment options

The HP Easy Printer Care (Windows) and HP Printer Utility (Mac OS) main features

The HP Easy Printer Care (Windows) and HP Printer Utility (Mac OS) provide an easy-to-use interface that allows the user to manage and access various printer features and functionality.

- Manage the printer, including single-point color control with the HP Color Center.
- Gain access to the online HP Knowledge Center.
- View the status of the ink cartridges, the printheads and the paper.
- Manage, install, and create International Color Consortium (ICC) profiles (available with PostScript printers only).
- Access and use embedded profiles (available with PostScript printers only).
- Update the printer's firmware. See Update the printer firmware on page 141.
- Calibrate the printer and display.
- Change various printer settings (on the Settings tab).
- Configure network settings

NOTE: Because Windows XP Professional x64 Edition does *not* support HP Easy Printer Care, it cannot be installed on computers that are running that version of Windows.

2 Connectivity and software instructions

- Install the driver
- Choose which connection method to use
- Connect to a network (Windows)
- Connect directly to a computer (Windows)
- Uninstall the printer software (Windows)
- Connect to a network (Mac OS)
- Connect directly to a computer (Mac OS)
- Uninstall the printer software (Mac OS)

Install the driver

This information guides you through the driver installation process. The instructions for installing the driver are specific to your computer operating system and the method by which you choose to connect the computer to the printer. When you install the driver, the HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS), and the HP Color Center software are also installed.

Choose which connection method to use

The following methods can be used to connect your printer.

Connection type	Speed	Cable length	Other factors
Gigabit Ethernet	Fast; varies according to network traffic	Long (100 m=328 ft)	Requires extra equipment (switches)
Jetdirect print server (optional accessory)	Moderate; varies according to network traffic	Long (100 m=328 ft)	Requires extra equipment (switches) Provides additional features See http://www.hp.com/go/jetdirect/ for more details
USB 2.0 (optional accessory)	Very fast	Short (5 m=16 ft)	

NOTE: The speed of any network connection depends on all the components that are used in the network, which can include network interface cards, hubs, routers, switches, and cables. If any one of these components cannot operate at high speed, you will have a low-speed connection. The speed of your network connection can also be affected by the total amount of traffic from other devices on the network.

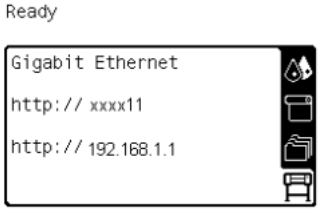
Connect to a network (Windows)

Before you begin, check your equipment:

- The printer should be set up and turned on.
- The Ethernet hub or router should be on and functioning correctly.
- All computers on the network should be turned on and connected to the network.
- The printer should be connected to the network.

Now you can proceed to install the printer software and connect your printer:

1. Make a note of the IP address on the status screen on the printer's front panel (192.168.1.1 in this example):



2. Insert the *HP Start-Up Kit* CD/DVD into your computer. If the CD/DVD does not start automatically, run the START.EXE program in the root folder of the CD/DVD.

3. Click **Install**.

NOTE: Because Windows XP Professional x64 Edition does *not* support HP Easy Printer Care, it cannot be installed on computers that are running that version of Windows.

4. Follow the onscreen instructions to install the driver and set up the printer. The following notes help you to understand the screens and make appropriate choices.

   - When asked how the printer is connected, select **Wired networking**.
   - The configuration program looks for printers that are connected to your network. When the search is complete, a list of printers appears. Identify your printer by its Internet Protocol (IP) address and select it from the list.
   - The configuration program analyzes the network and the printer. The program detects the network settings and suggests the settings to use when configuring the printer. It is not normally necessary to change any of these settings, but you can do so if you want to.

If your computer fails to find any printers on the network, the **Printer Not Found** window appears, which helps you to find your printer. If you are using a firewall, you might have to disable it temporarily in order to find the printer. You also have the options of searching for the printer by its Uniform Resource Locator (URL), IP address, or media access control (MAC) address.

Connect directly to a computer (Windows)

If you have an HP High speed USB 2.0 card (available as an optional accessory and supported under Windows 2000, XP, and 2003 Server), you can connect your printer directly to a computer without going through a network. See Accessories on page 146.

TIP: A universal serial bus (USB) connection might be faster than a network connection, but because the cable is limited in length, the printer is more difficult to share.

1. *Do not connect the computer to the printer yet.* First install the printer driver software on the computer.
2. Insert the *HP Start-Up Kit* CD/DVD into your CD/DVD drive. If the CD/DVD does not start automatically, run the START.EXE program in the root folder of the CD/DVD.
3. Click **Install**.

NOTE: Because Windows XP Professional x64 Edition does *not* support HP Easy Printer Care, it cannot be installed on computers that are running that version of Windows.

4. Follow the onscreen instructions to install the driver and set up the printer. The following notes help you to understand the screens and make appropriate choices.

   - When asked how the printer is connected, select **Connected directly to this computer**.
   - If you would like to share the printer with other people that are connected to your network, click the **Printer Properties** button in the **Ready to Install** window, and then click the **Sharing** tab and type the name under which the printer will be shared.
   - When prompted to do so, connect your computer to the printer with a certified USB cable. Make sure that the printer is turned on.

NOTE: The use of non-certified USB cables can lead to connectivity problems. Only cables that are certified by the USB Implementor's Forum (http://www.usb.org/) should be used with this printer.

Uninstall the printer software (Windows)

1. Insert the *HP Start-Up Kit* CD/DVD into your CD/DVD drive. If the CD/DVD does not start automatically, run the START.EXE program in the root folder of the CD/DVD.
2. Click **Uninstall**, and follow the onscreen instructions to uninstall the printer software.

Connect to a network (Mac OS)

You can connect your printer to a network under Mac OS X by using the following methods:

- Bonjour or Rendezvous
- TCP/IP

NOTE: The printer does not support AppleTalk.

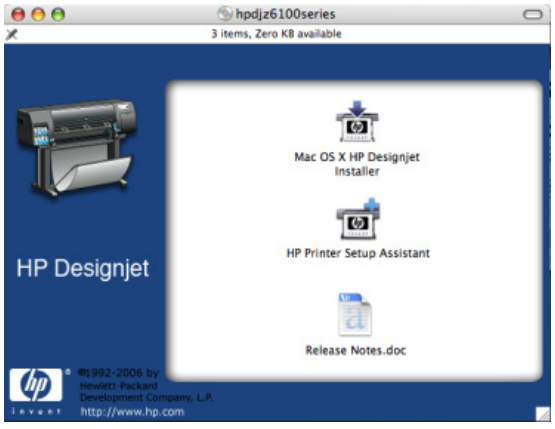
Before you begin, check your equipment:

- The printer should be set up and turned on.
- The Ethernet hub or router should be on and functioning correctly.
- All computers on the network should be turned on and connected to the network.
- The printer should be connected to the network.

Now you can proceed to install the printer software and connect your printer.

Bonjour or Rendezvous connection

1. On the front panel, and select the icon, and then select **Connectivity Menu** > **Gigabit Ethernet** > **View configuration**. Note the multicast Domain Name System (mDNS) service name of your printer.
2. Insert the *HP Start-Up Kit* CD/DVD into your CD/DVD drive.
3. Click the CD icon on your desktop.

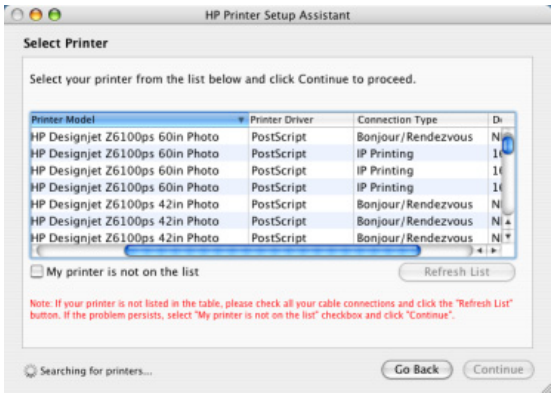


4. Click the **Mac OS X HP Designjet Installer** icon.
5. Follow the onscreen instructions. HP recommends that you use the **Easy Install** option.

   The printer software is installed, including the printer driver, HP Printer Utility, and HP Color Center.

6. When the software has been installed, the HP Printer Setup Assistant starts automatically to help you set up a connection to your printer. Follow the onscreen instructions.

7. When you reach the Select Printer screen, look for your printer's mDNS service name (which you noted in step 1) in the Printer Name column.



- If you find the correct printer name, scroll sideways to see the Connection Type column, and make sure that it shows **Bonjour/Rendezvous**. Highlight that line. If you do not immediately see the printer name, continue searching farther down the list.
- If you cannot find your printer name with a **Bonjour/Rendezvous** connection type, check the box **My printer is not in the list**

Click **Continue**.

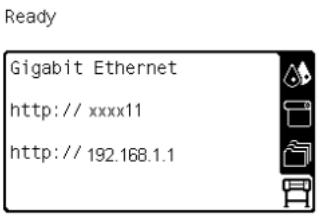
8. Continue following the onscreen instructions. When you reach the Printer Queue Created screen, click **Quit** to exit, or click **Create New Queue** if you want to connect another printer to the network.

9. When the HP Printer Setup Assistant has finished, you can remove the CD from the CD drive.

If the printer driver is already installed, the HP Printer Setup Assistant can be run separately from the CD.

TCP/IP connection

1. On the front panel, and highlight the  icon. The status screen appears.



Note the URL of your printer (http://xxxx11 in this example).

2. Insert the *HP Start-Up Kit* CD/DVD into your CD/DVD drive.

3. Click the CD/DVD icon on your desktop.

4. Click the **Mac OS X HP Designjet Installer** icon.
5. Follow the onscreen instructions. HP recommends that you use the **Easy Install** option.

   The printer software is installed, including the printer driver, HP Printer Utility, and HP Color Center.
6. When the software has been installed, the HP Printer Setup Assistant starts automatically to help you set up a connection to your printer. Follow the onscreen instructions.
7. When you reach the Select Printer screen, look for your printer's URL (which you noted in step 1) in the Printer Name column.

   - If you find the correct printer name, scroll sideways to see the Connection Type column, and make sure that it shows **Bonjour/Rendezvous**. Highlight that line. If you do not immediately see the printer name, continue searching farther down the list.
   - If you cannot find your printer name with a **Bonjour/Rendezvous** connection type, check the box **My printer is not in the list**

   Click **Continue**.
8. Continue following the onscreen instructions. When you reach the Printer Queue Created screen, click **Quit** to exit, or click **Create New Queue** if you want to connect another printer to the network.
9. When the HP Printer Setup Assistant has finished, you can remove the CD from the CD drive.

If the printer driver is already installed, the HP Printer Setup Assistant can be run at any time from the CD.

Connect directly to a computer (Mac OS)

If you have an HP High speed USB 2.0 card (available as an optional accessory), you can connect your printer directly to a computer without going through a network. See Accessories on page 146.

1. Make sure that the printer is either turned off, or disconnected from the computer.
2. Insert the *HP Start-Up Kit* CD/DVD into your CD/DVD drive.

3. Click the CD/DVD icon on your desktop.

4. Click the **Mac OS X HP Designjet Installer** icon.
5. Follow the onscreen instructions. HP recommends that you use the **Easy Install** option.

   The printer software is installed, including the printer driver, HP Printer Utility, and HP Color Center.
6. When the software has been installed, the HP Printer Setup Assistant starts automatically to help you set up a connection to your printer.
7. Make sure that the printer is turned on and connected to the computer with a certified USB cable.

   NOTE: The use of non-certified USB cables can lead to connectivity problems. Only cables certified by the USB Implementor's Forum (http://www.usb.org/) should be used with this printer.
8. In the HP Printer Setup Assistant, click **Continue**.
9. In the list of printers that appears, select the entry that uses the connection type USB, and click **Continue**.
10. The following screen shows information about your printer's installation, and the name of the printer can be modified. Make any changes you want to make, and click **Continue**.
11. Your printer is now connected. On the Printer Queue Created screen, click **Quit** to exit, or click **Create New Queue** if you want to connect another printer.
12. When the HP Printer Setup Assistant has finished, you can remove the CD from the CD drive.

If the printer driver is already installed, run the HP Printer Setup Assistant can be run at any time from the CD.

Share the printer

NOTE: Printer sharing between users is supported under Mac OS X V10.2 and later.

If your computer is connected to a network, you can make your directly connected printer available to other computers on the same network.

1. Double-click the System Preferences icon on the Dock menu bar on your desktop.
2. Enable printer sharing by clicking **Sharing** > **Services** > **Printer Sharing**.
3. Your printer now automatically appears in the list of shared printers that is available on any other computer that is running Mac OS and connected to your local network.

NOTE: Any other users that want to share your printer must install the printer software on their own computers.

Any other users that share your directly connected printer can send print jobs, but cannot receive information from the printer. This affects printer alerts, printer status reports, paper management, printer administration, and troubleshooting.

Mac OS V10.2 users have to select the **Show printers connected to other computers** option in the Print Center in order to see shared printers.

Sharing your directly connected printer with other users will slow down your computer, perhaps to the point that the delay is unacceptable.

TIP: The best way to share the printer over a network is to connect the printer to the network, rather than to any single computer. See Connect to a network (Mac OS) on page 15.

Uninstall the printer software (Mac OS)

1. Insert the *HP Start-Up Kit* CD/DVD into your CD/DVD drive.
2. Click the CD/DVD icon on your desktop.
3. Click the **Mac OS X HP Designjet Installer** icon.
4. Click **Uninstall**, and follow the onscreen instructions to uninstall the printer software.

3 Basic setup options

- Printer setup options
- Embedded Web Server setup options
- HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS) setup options

Printer setup options

Turn the printer on and off

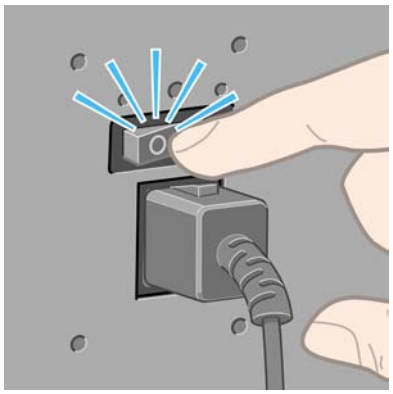
TIP: Turn the printer on with the hard power switch on the back of the printer or by pressing the Power button on the front panel. You can leave the printer on without wasting energy. Leaving it on improves response time and overall system reliability. When the printer has not been used for a certain period of time, it saves power by going into sleep mode. Any interaction with the printer returns it to active mode, and it can resume printing immediately.

NOTE: In sleep mode, the printer wakes up from time to time to do maintenance service to the printheads. This avoids the need of doing long preparation after long idle periods.

If you want to turn the printer on or off, the normal and recommended method is to use the Power button on the front panel.

When you turn off the printer this way, the printheads are automatically stored with the maintenance cartridge, which prevents them from drying out.

However, if you plan to leave the printer turned off for a long period of time, you are recommended to turn it off using the Power button, and then also switch off the power switch at the rear.



To turn it back on later, use the power switch at the rear, and then press the Power button.

When the printer is turned on, it will take some time to initialize itself. This time is about 10 minutes for the HP Designjet Z6100 printer series.

Restart the printer

In some circumstances you may be advised to restart the printer. Please proceed as follows:

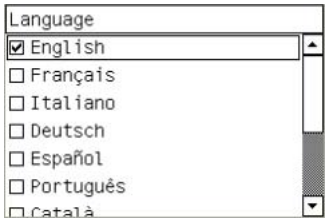
1. Press the Power button on the front panel to turn the printer off. Wait a few moments, and then press the Power button again. This should restart the printer. If it does not, continue with step 2.
2. Use the Reset button on the front panel. You will need a non-conductive implement with a narrow tip to press the Reset button. This normally has the same effect as pressing the Power button, but might work if the Power button press does not.
3. If neither steps 1 nor 2 seems to have any effect, turn off the printer by using the power switch at the rear of the printer.
4. Remove the power cord from the power socket.
5. Wait for 10 seconds.
6. Reinsert the power cord into the power socket and turn on the printer by using the power switch.
7. Make sure that the Power light on the front panel illuminates. If it does not, use the Power button to turn on the printer.

Change the language of the front panel

Two methods are available to change the language that is used for the front-panel menus and messages.

- If you can understand the current front panel language, go to the front panel and select the  icon, and then select **Front panel options** > **Select language**.
- If you cannot understand the current front panel language, start with the printer powered off. At the front panel, press the OK button and hold it down. While holding down the OK button, press the Power button and hold it down. Continue to hold down both buttons until the green light on the left side of the front panel starts flashing, and then release both buttons. You can expect a delay of about one second. If the green light starts flashing without any delay, you may need to start again.

Whichever method you used, the language selection menu should now appear on the front panel.



Highlight your preferred language, and then press the OK button.

Request e-mail notification of specific error conditions

1. In the Embedded Web Server, go to the E-mail server page on the **Setup** tab and ensure that the following fields are correctly filled in:
   - **SMTP server**. This is the IP address of the outgoing mail server (Simple Mail Transfer Protocol [SMTP]) that processes all e-mail messages from the printer. If the mail server requires authentication, e-mail notifications will not work.
   - **Printer e-mail address**. Each e-mail message that the printer sends must include a return address. This address does not need to be a real, functional e-mail address, but it should be unique, so that recipients of the message can identify the printer that sent it
2. Go to the Notification page, which is also on the **Setup** tab.
3. Click the **New** icon to request new notifications, or click the **Edit** icon to edit notifications that have already been set up. Then specify the e-mail addresses to which notifications are sent, and select the incidents that result in notification messages.

Change the sleep mode setting

If the printer is left turned on but unused for a certain period of time, it automatically goes into sleep mode to save power. The default period of time it waits is 15 minutes. To change the time the printer waits before it goes into sleep mode, go to the front panel and select the  icon, and then select **Front panel options** > **Sleep mode wait time**. Highlight the wait time that you want, and then press the OK button.

Turn off the buzzer

To turn the printer's buzzer on or off, go to the front panel and select the  icon, and then select **Front panel options** > **Enable buzzer**.

Change the front panel display contrast

To change the contrast of the front-panel display, select the  icon, select **Front panel options** > **Select display contrast**, and then select a value by using the Up or Down button. Press the OK button to save the value.

Change the units of measurement

To change the units of measurement that appear on the front panel, select the  icon, select **Front panel options** > **Select units**, and then select **English** or **Metric**.

The units of measurement can also be changed in the Embedded Web Server.

Embedded Web Server setup options

Access the Embedded Web Server

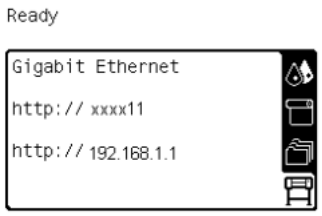
Use the Embedded Web Server to manage your printer remotely through an ordinary Web browser running on any computer.

NOTE: To use the Embedded Web Server, you must have a TCP/IP connection to your printer.

The following browsers are known to be compatible with the Embedded Web Server:

- Internet Explorer 5.5 or later for Windows
- Safari 1, 2, 3 or later for Mac OS X
- Netscape Navigator 6.01 or later
- Mozilla 1.5 or later
- Mozilla Firefox 1.0 or later

To use the Embedded Web Server on any computer, open your Web browser and type the printer address. The printer address appears on the status screen on the printer's front panel (192.168.1.1 in this example):



If you follow these instructions but fail to open the Embedded Web Server, see Cannot access the Embedded Web Server on page 174.

Password-protect the Embedded Web Server

1. In the Embedded Web Server, click the **Setup** tab and go to the Security page.
2. Type a security password of your own choice in the **New password** field.
3. Type it again in the **Confirm password** field.
4. Click **Set password**.

When a password is set, no one can perform the following actions in the Embedded Web Server without providing the security password:

- Manage print jobs in the queue (cancel, delete)
- View previews of print jobs
- Delete stored jobs
- Clear accounting information
- Update the printer's firmware

NOTE: If you forget the security password, see Cannot access the Embedded Web Server on page 174.

Change the language of the Embedded Web Server

The Embedded Web Server functions in the following languages: English, Portuguese, Spanish, Catalan, French, Italian, German, Simplified Chinese, Traditional Chinese, Korean, and Japanese. It uses the language that you specified in your Web browser options. If you specify a language that it cannot support, it functions in English.

To change the language, change your Web browser's language setting. For example, in Internet Explorer version 6, go to the **Tools** menu and select **Internet Options**, **Languages**. Make sure that the language you want is at the top of the list in the dialog box.

To complete the change, close and reopen your Web browser.

HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS) setup options

Use the HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS) to manage your printer from a computer that has a USB connection and TCP/IP.

- In Windows, start HP Easy Printer Care from your desktop shortcut or by clicking **Start** > **All Programs** > **Hewlett-Packard** > **HP Easy Printer Care** > **Start HP Easy Printer Care**. This opens the HP Easy Printer Care, which shows the printers installed.
- In Mac OS, select **STARTUP_DISK** > **Library** > **Printers** > **HP** > **Utilities** > **HP Printer Utility**. The HP Printer selector opens the first time you use the Printer Utility. Subsequently, the Printer Utility opens automatically upon startup. Use the HP Color Center icon in the dock to open the Printer Selector. The printer should be added in the Printer Setup Utility.

  Upon startup, the Printer Utility opens automatically for the last printer configured.

  Select your printer and click **Launch Utility**. This opens the HP Printer Utility.

  After you have installed the HP Printer Utility from the startup disk, you can start it from the dock.

If you follow these instructions but fail to get through to HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS), see Cannot access HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS) on page 177.

NOTE: Because Windows XP Professional x64 Edition does *not* support HP Easy Printer Care, it cannot be installed on computers that are running that version of Windows.

Change the language of the HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS)

The HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS) functions in the following languages: English, Portuguese, Spanish, Catalan (Windows only), French, Italian, German, Russian, Simplified Chinese, Traditional Chinese, Korean, and Japanese.

- In Windows, select **Tools** > **Set Language**, select a language from the list, and click the **Apply** button
- In Mac OS, change the language as you would for any other software program. In **System Preferences**, select **International**, and then restart the software.

4 Handle the paper

- Overview
- Load a roll onto the spindle
- Load a roll into the printer
- Unload a roll from the printer
- Use the take-up reel
- View information about the paper
- Perform paper advance calibration
- Download paper profiles
- Use non-HP paper
- Cancel the drying time
- Change the drying time
- Printing paper info
- Store the paper
- Order paper

Overview

Paper is only a subset of the portfolio of printing media the printer can handle. You can also print on a wide variety of films, textiles and fabrics, self-adhesive materials, and banner and sign materials. Throughout this guide, however, these media are generally referred to as paper.

NOTE: Because the front panel has limited space, the names of the HP paper might be abbreviated and might not appear in the front panel exactly as they are shown on the packaging label.

NOTE: Because the complete list of supported paper is very long, only the most common paper types appear in the front panel. If you want to see an HP paper type that does not appear on the front panel, download the profile to the printer from http://www.hp.com/go/designjet. See Download paper profiles on page 47.

NOTE: The automatic paper-cutter feature is disabled for some of the heaviest media types, because some heavy paper can damage the cutter.

Use paper

Choosing the correct paper type for your needs is an essential step in ensuring good print quality. For best printing results, use only recommended HP paper (see Supported paper types on page 28), HP papers have been developed and thoroughly tested to ensure reliable performance. All printing components (printer, ink system, and paper) have been designed to work together to offer trouble-free operation and ensure optimal print quality.

Here are some additional tips about paper usage:

- Allow all paper types to adapt to room conditions, out of the packaging, for 24 hours before using them for printing.
- Handle film and photo paper by the edges, or wear cotton gloves. Skin oils can be transferred to the paper, leaving fingerprint marks.
- Keep the paper tightly wound on the roll throughout the loading and unloading procedures. To make sure that the roll stays tightly wound, consider using tape to adhere the lead edge of the roll to the core just before removing the roll from the printer. You can keep the roll taped during storage. If the roll starts to unwind, it can become difficult to handle.

  NOTE: The use of tape to adhere the lead edge of the roll is especially important for 76.2–mm (3–inch) cores, in which the inherent stiffness of the printing material can cause the material to loosen and unwind from its core.

- Whenever you load a roll, the front panel prompts you to specify the paper type that you are loading. For good print quality, it is essential to specify this correctly. Make sure that the paper name that is printed on the packaging label matches the description on the front panel.

  If you cannot find a specific paper on the front-panel display, go to http://www.hp.com/go/designjet/supplies to download the latest color profile to your printer, or select the paper description that best matches the paper name printed on the packaging label.

- The quality of some images might be reduced if you use a paper type that is unsuitable for your image. This is especially important to consider when printing on fiber-based papers such as HP Universal Coated Paper, HP Coated Paper, HP Heavyweight Coated Paper and HP Universal Heavyweight Coated Paper. Printing images that contain high-saturation area fills on fiber-based papers can create unwanted wavy patterns as a result of paper expansion. This can ultimately contribute to more severe problems. Consider using Super Heavyweight Coated Paper and other cockle-free papers when printing high-saturation area fills.

- Make sure that the appropriate print-quality setting (Best, Normal, Normal-Fast, or Fast) is selected. You can set the print quality in the driver, in the Embedded Web Server, or on the front panel. Driver or Embedded Web Server settings override front panel settings. The combination of paper type and print-quality settings tells the printer how to place the ink on the paper—for example, the ink density and halftoning method. See Select print quality on page 80.
- Although the ink systems that are supplied with this printer have good light-fastness, colors will eventually fade or change if exposed to sunlight over a long period of time
- If the paper type shown on the front panel does not correspond to the paper that you intend to use, take one of the following actions:
  - Reload the roll into the printer and select the correct media type. See Unload a roll from the printer on page 36 and Load a roll into the printer on page 32.
  - Use the Embedded Web Server, the HP Easy Printer Care, or the HP Printer Utility to reconfigure the media type for the roll.
  - At the printer's front panel, select the  icon, and then select **View loaded paper** > **Change loaded paper type**.

    NOTE: The paper advance calibration is not performed when the paper type is changed from the frnt panel.

Drying time

On some paper and under certain environmental conditions, the ink needs some time to dry before the paper is unloaded. The following settings are available:

- **Optimal**: the printer automatically determines the appropriate drying time, based on the paper you have selected and the current temperature and humidity. If any drying time is required, a "drying time to go" countdown appears on the front panel.
- **Extended**: the default drying time is extended. This can be used if you find that the default drying time is sufficient to dry the ink.
- **Reduced**: the default drying time is reduced. This can be used if you want to get prints as fast as possible, and you find that the reduced drying time causes no significant problem in your environment.
- **None**: no drying time is provided. This can be used, for example, if you are manually removing the prints as quickly as the printer is producing them.
- **Manual**: this allows you to specify the drying time (in minutes).

To change the drying time, see Change the drying time on page 49.

Supported paper types

The following table lists the most common HP paper types that are suitable for use with your printer, and shows the name that you should select on the front panel when loading each paper type. If you want to use an HP paper that does not appear on the front panel, go to http://www.hp.com/go/designjet/supplies and download the appropriate paper profile. You only need to download a profile once; the printer stores it for future use and it subsequently appears in the front panel .

For the part numbers, widths, and weights of these papers, see Order paper on page 49.

NOTE: This list is likely to change over the course of time. For the latest information, visit http://www.hp.com/go/designjet/supplies/.

Table 4-1 Supported paper types

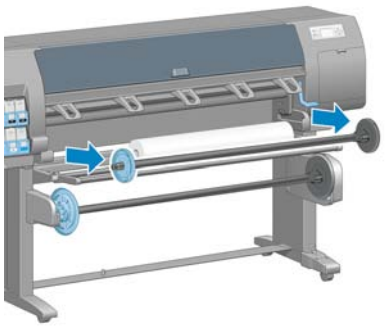
Paper type	Product name	Front panel name
Bond and Coated Paper	HP Coated Paper	HP Coated Paper
	HP Coated Paper (CAD)	HP Coated Paper (CAD)
	HP Universal Coated Paper	HP Universal Coated Paper
	HP Universal Coated Paper (CAD)	HP Univ Coated Paper(CAD)
	HP Heavyweight Coated Paper	HP Heavyweight Coated
	HP Universal Heavyweight Coated Paper	HP Univ HeavyweightCoated
	HP Universal Inkjet Bond Paper	HP Univ Inkjet Bond Paper
	Plain paper	Plain paper
	Bright White Bond Paper	Bright White Bond Paper
	Coated Paper	Coated Paper
	Coated Paper (CAD)	Coated Paper (CAD)
	Heavyweight Coated Paper	Heavyweight Coated Paper
	Super Heavyweight Coated Paper	Super HW Coated Paper
Photo Paper	HP Premium Instant-dry Photo Gloss	HP Premium ID Gloss
	HP Premium Instant-dry Photo Satin	HP Premium ID Satin
	HP Professional Satin Photo Paper	HP Prof Satin Photo Paper
	HP Universal Instant-dry Photo Gloss	HP Universal ID Gloss
	HP Universal Instant-dry Photo Semi-Gloss	HP Universal ID SemiGloss
	Photo Gloss Paper	Photo Gloss Paper
	Photo Semi-Gloss/Satin Paper	Photo SG/Satin Paper
Fine Art Material	HP Professional Matte Canvas	HP Prof Matte Canvas
	HP Collector Satin Canvas	HP Collector Satin Canvas
	HP Aquarella Art Paper	HP Aquarella Art Paper
	HP Artist Matte Canvas	HP Artist Matte Canvas
	HP Universal Matte Canvas	HP Universal Matte Canvas
	HP Hahnemühle Smooth Fine Art Paper	HP Smooth Fine Art Paper
	HP Matte Litho-realistic Paper	HP Matte Litho
	HP Hahnemühle Textured Fine Art Paper	HP Textured FA Paper
	Canvas	Canvas
	Fine Art Paper	Fine Art Paper
Backlit Material	HP Premium Vivid Color Backlit Film	HP Premium Vivid Backlit
	Backlit Film	Backlit Film
Banner and Sign Material	HP Instant-dry Indoor Banner, Gloss	HP ID Indoor Banner Gloss
	HP Opaque Scrim Banner	HP Opaque Scrim Banner
	Indoor Banner	Indoor Banner
	Scrim Banner	Scrim Banner

Table 4-1 Supported paper types (continued)

Paper type	Product name	Front panel name
Technical Paper	Natural Tracing Paper	Natural Tracing Paper
	Translucent Bond	Translucent Bond
	Vellum	Vellum
Film	Transparent/Clear Film	Transparent/Clear Film
	Matte Film	Matte Film
Proofing Paper	HP Professional High-gloss Contract Proofing Paper	HP HG Contract Proofing
	HP Professional Semi-gloss Contract Proofing Paper	HP SG Contract Proofing
	HP Proofing Matte	HP Proofing Matte
	Proofing Gloss Paper	Proofing Gloss Paper
	Proofing Semi-Gloss/Satin Paper	Proofing SG/Satin Paper
	Proofing Matte Paper	Proofing Matte Paper
Self-Adhesive Material	Adhesive Polypropylene	Adhesive Polypropylene
	Adhesive Vinyl	Adhesive Vinyl
Fabric/textile Material	(Shown only if a custom paper is downloaded from the Internet)	TBD

Load a roll onto the spindle

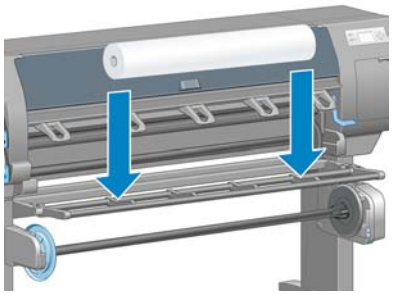
1. Make sure that the printer wheels are locked (the brake lever is pressed down) to prevent the printer from moving.
2. Remove the first end of the spindle from the right side of the printer, and then move the spindle to the right in order to extract the other end. Do not insert your fingers into the spindle supports during the removal process.



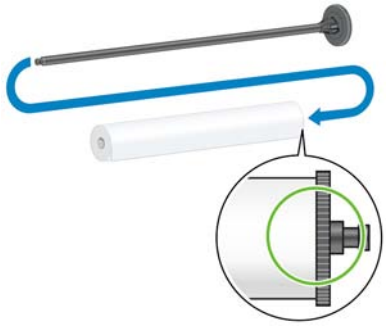
The spindle has a hub at each end to keep the roll in position. Remove the blue hub at the left end to mount a new roll. The hub slides along the spindle to hold rolls of different widths.

3. Slide the lever-lock on the blue hub to the unlocked position and remove the hub (1) from the left end of the spindle.

4. Rest the roll of paper that you want to load on the take-up reel deflector. The roll might be long and heavy, and you might need two people to handle it.

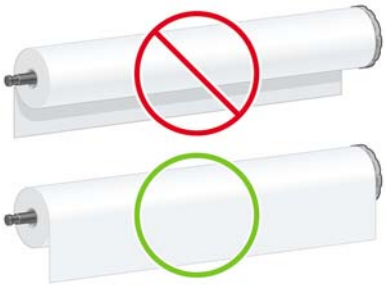


5. Slide the spindle into the roll. Make sure that no space exists between the roll and the fixed hub at the right end of the spindle.

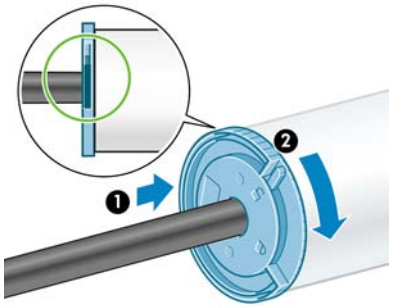


Make sure that the paper will wind off the roll in the correct direction. If it does not, remove the spindle from the roll, turn the roll 180° and rest it on the deflector. Then slide the spindle into the roll.

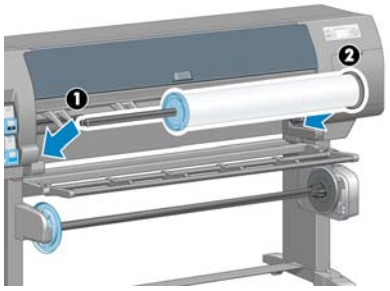
NOTE: A label on the spindle also shows the correct winding direction.



6. Put the blue hub on to the upper end of the spindle, and push it towards the end of the roll as shown in step 1 in the following image. Then slide the lever-lock to the locked position as shown in step 2.



7. With the blue hub on the left, insert the spindle into the left side of the printer (1), and then into the right side of the printer (2).

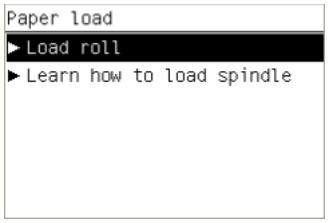


If you regularly use different paper types, you can change rolls more quickly if you pre-load rolls of different paper types on different spindles. Extra spindles are available for purchase.

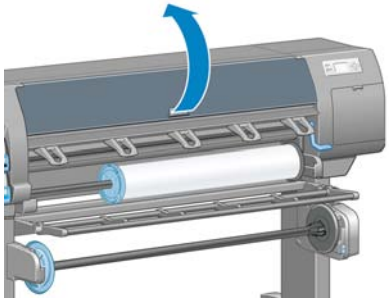
Load a roll into the printer

NOTE: To start this procedure, you need to have a roll loaded on the spindle. See Load a roll onto the spindle on page 30.

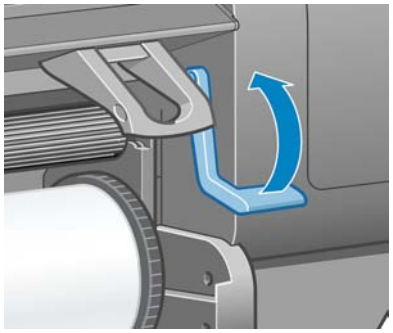
1. At the printer's front panel, select the icon, and then select **Paper load** > **Load roll**.



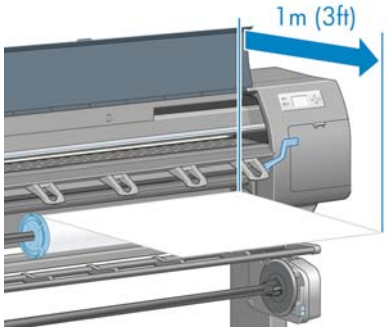
2. Wait until the front panel prompts you to open the printer window.



3. Lift the paper-load lever.



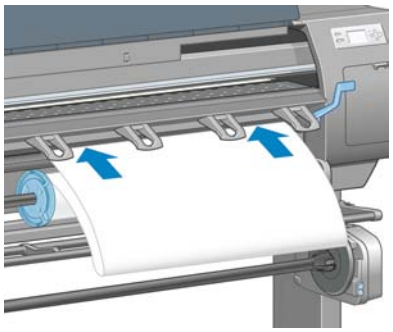
4. Pull out approximately 1 m (3 feet) of paper.



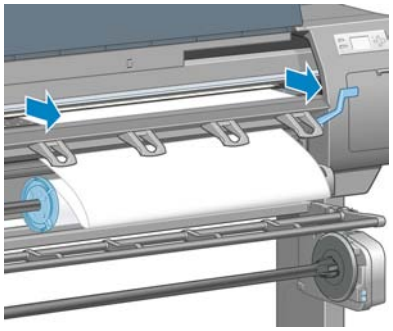
5. Carefully insert the leading edge of the roll above the black-ribbed roller.

WARNING! Take care not to touch the rubber wheels on the platen while loading paper. These wheels can rotate and trap skin, hair, or clothing.

WARNING! Take care not to push your fingers inside the printer's paper path.



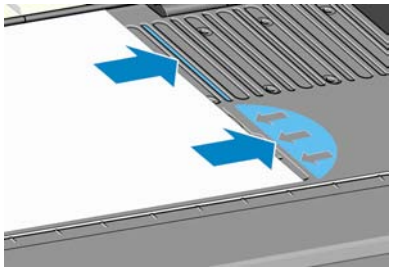
6. Wait until the paper emerges from the printer, as shown in the following graphic.



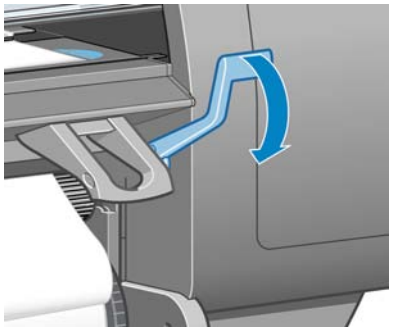
NOTE: If you have an unexpected problem at any stage of the paper loading process, see The paper cannot be loaded successfully on page 163.

7. Align the edge of the paper with the blue line and the left edge of the semi-circle to the right of the platen.

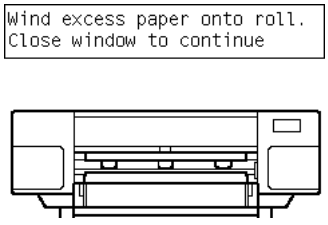
TIP: It may be helpful to also align the lead edge of the paper with the front edge of the platen. You can use a blade or scissors to improve the lead edge of the paper if it is not straight or is not cut well.



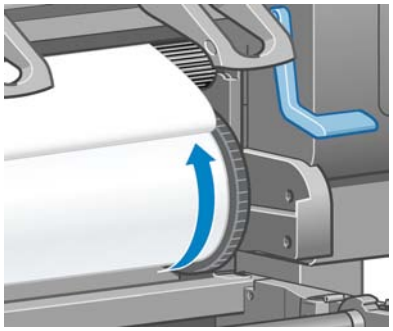
8. When the paper is correctly aligned with the blue line and half-circle, lower the paper-load lever.



9. Wait for the front-panel message that prompts you to wind excess paper onto the roll.

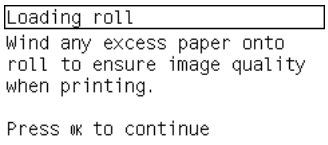


10. Wind the excess paper onto the roll. Use the hub to turn the roll in the direction shown.



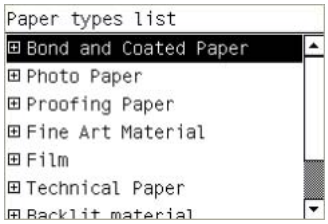
11. Lower the printer window.

12. Wait for the front panel to again prompt you to wind excess paper onto the roll.



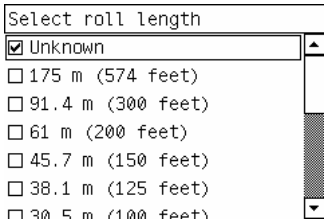
13. The printer will perform a color calibration if it has not already calibrated the paper type you are using, and if color calibration is turned on. See Color calibration on page 110.

14. a) Select the paper category and paper type of the roll you are loading.

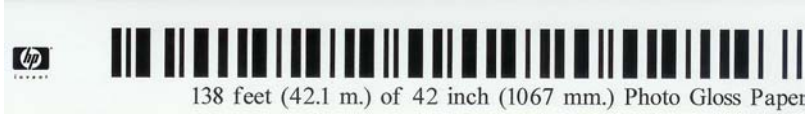


NOTE: If it is not clear which paper category or paper type to select, see Supported paper types on page 28.

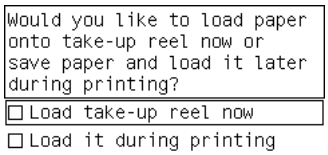
b) Select the length of the roll you are loading.



NOTE: If the paper that you are using has a paper-data barcode printed on the leading edge of the roll, the paper information is automatically loaded into the printer.



15. If you have a take-up reel (a standard feature on the 60–inch printer and an optional accessory on the 42–inch printer) and it is enabled, you will see the "Take-up reel enabled" message on the front-panel **Paper** tab. In this case, a message will appear on the front panel asking if you want to load paper into the reel. If you select **No** (or if you do not have a take-up reel) the front panel displays the **Ready** message and the printer is ready to print. If you select **Yes**, a message will appear on the front panel asking if you want to load the take-up reel now or during printing.



- If you want to load the take-up reel now, select **Load take-up reel now**, read through the introductory text in the section Use the take-up reel on page 38, and then continue to step 3 of the procedure.
- If you want to load the take-up reel during printing, select **Load it during printing**, read through the introductory text in the section Use the take-up reel on page 38, and then continue to step 3 of the procedure.

NOTE: Familiarize yourself with the procedural steps, because loading the take-up reel while printing requires you to complete the procedure while the printer is feeding and printing paper. Loading the take-up reel during printing saves approximately 1 m (3 feet) of paper.

If the take-up reel is not enabled and you would like to enable it, select the  icon, and then select **Take-up reel** > **Enable**.

NOTE: During the initial printer set up, printhead alignment and color calibration is performed automatically after the roll is loaded into the printer.

Unload a roll from the printer

NOTE: If you used the take-up reel (a standard feature on the 60–inch printer and an optional accessory on the 42–inch printer) during printing, unload the printed roll from the take-up reel before attempting to remove the roll from the printer. See Unload a roll from the take-up reel on page 43.

Initiate the procedure for unloading a roll from the printer the front panel or by lifting the paper-load lever. In either case, a front-panel animation guides you through the remainder of the procedure.

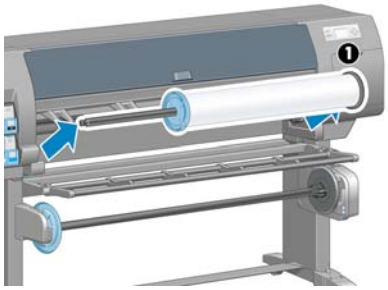
Before unloading a roll, check whether the end of the roll is still attached to the spindle, and follow the appropriate procedure as described in the following sections.

The normal procedure (roll attached to spindle)

If the end of the roll is still attached to the spindle, use the following procedure.

1. On the printer's front panel, select the  icon, and then select **Unload paper**.
2. The paper is ejected from the printer.

   If for some reason the paper is not automatically ejected from the printer, the front-panel display prompts you to lift the paper-load lever and wind the roll by hand until the paper leaves the printer. When you have finished, lower the paper-load lever.
3. Turn the hub by hand, until the paper is fully wound onto the roll.
4. Press the OK button.
5. Remove the roll from the printer, pulling out the right end on the right side of the printer first. Do not insert your fingers into the spindle supports during the removal process.



Roll is detached from spindle

Use the following procedure if the end of the roll is visible but no longer attached to the spindle:

1. If you have already selected **Paper unload** at the front panel, press the Cancel button to cancel that procedure.
2. Lift the paper-load lever. If the front panel shows a warning about the lever, ignore it.
3. Pull out the paper from the front of the printer.
4. Remove the empty spindle from the printer, pulling out the end on the right side of the printer first. Do not insert your fingers into the spindle supports during the removal process.
5. Lower the paper-load lever.
6. If the front panel shows a warning message, press the OK button to clear it.

No paper visible

Use this procedure if the end of the roll has entirely disappeared into the printer:

1. Press the Form Feed and Cut button on the front panel to eject the remaining paper.
2. Remove the empty spindle from the printer, pulling out the end on the right side of the printer first. Do not insert your fingers into the spindle supports during the removal process.

Use the take-up reel

CAUTION: Make sure the printer is turned off when installing the take-up reel motor on the printer.

The take-up reel must be enabled and operated from the front panel. When the take-up reel is enabled, the "Take-up reel enabled" message appears on the **Paper** tab on the front panel. If the take-up reel is not enabled and you would like to enable it, select the icon and then select **Take-up reel** > **Enable**.

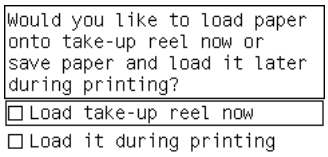
Follow these guidelines when taping rolls to the take-up reel spindle core:

- Make sure that the paper is straight when it is attached to the spindle core. Otherwise it skews as it winds onto the core.
- The spindle core on the take-up reel must be the same width as the paper that you are using.
- Check that neither side of the spindle core has end caps, and make sure the spindle core is pushed firmly into both spindle guides.
- If you are using a HP Designjet Z6100 42–in Printer, make sure that the bin loop is placed behind the foot brace so that it does not block the take-up reel sensors.

NOTE: If you want to load the take-up reel during printing, familiarize yourself with the procedural steps. Loading the take-up reel during printing requires you to complete the procedure while the printer is feeding and printing paper. Loading the take-up reel during printing saves approximately 1 m (3 feet) of paper.

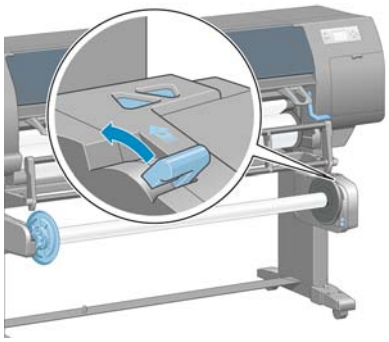
Load a roll onto the take-up reel

1. On the printer's front panel, select the icon, and then select **Take-up reel** > **Load take-up reel**.
2. If you want to load the take-up reel now, select **Load take-up reel now** on the front panel. If you want to load the take-up reel during printing, select **Load it during printing** on the front panel.

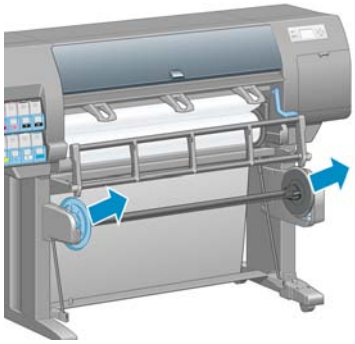


3. Make sure that the take-up reel deflector is in its upright position.

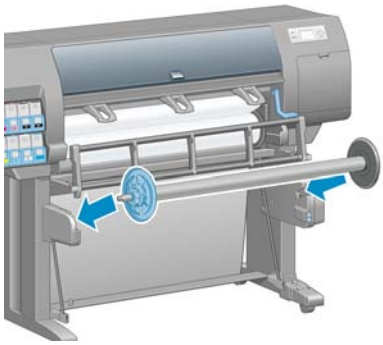
4. Unlock the take-up reel spindle by pushing the spindle lever to its uppermost position.



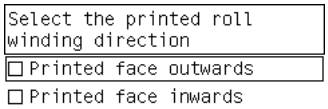
5. Remove the take-up reel spindle.



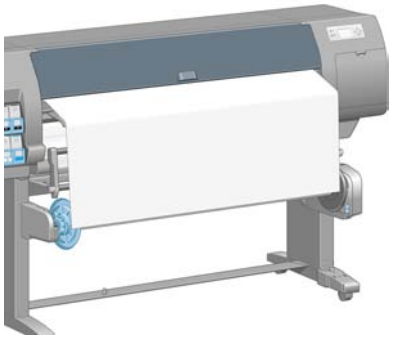
6. The front-panel display guides you through the process of loading the take-up reel spindle core onto the take-up reel spindle. When that task is complete, load the take-up reel spindle into the printer by pushing firmly on both ends of the spindle.



7. Press the OK button on the front panel, and then select a winding direction.

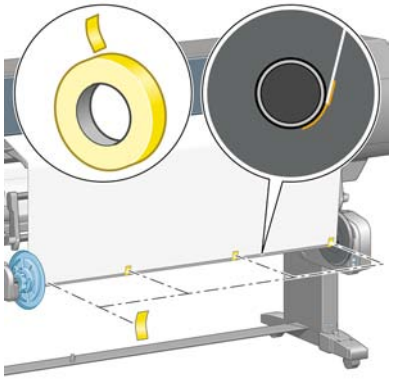


The printer advances the paper. Make sure that the paper passes in front of the take-up reel deflector, as shown.



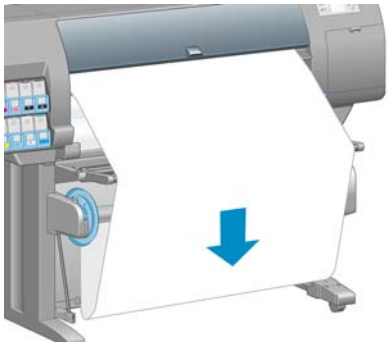
8. Pull the paper taut to the position shown in the following figure. Do *not* attempt to pull more paper out of the printer. Use tape to secure the paper to the spindle core. You might need to use more tape than is shown in the following image. The paper should be secure enough to support the weight of the loop-shaping core, which you insert in step 12.

NOTE: If you are loading the take-up reel *during* printing you do not need to pull the paper taut. Tape the paper to the spindle core when an adequate length of paper has fed from the printer after printing begins.



NOTE: To avoid having the paper skew as it winds onto the spindle core, make sure the paper is straight when you attach it. It is sometimes useful to use the core grooves to align the paper.

9. Press the OK button on the front panel. The printer advances the paper.

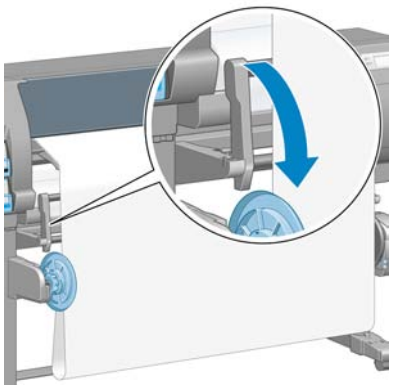


NOTE: Make sure that you insert the loop-shaping core. The take-up reel will not function correctly without it. The loop-shaping core must have end caps. Make sure that the end caps extend over the edges of the paper.

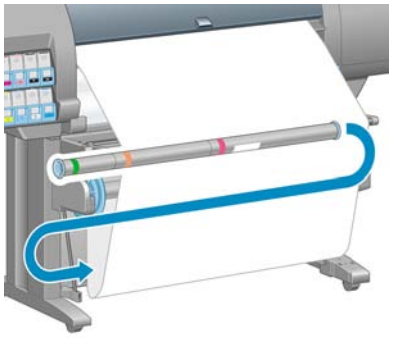
10. Assemble a loop-shaping core by matching the shape-coded and color-coded lengths of plastic tubing. The loop-shaping core must be the same width as the paper that you are using. Make sure that both end caps are firmly fitted on the ends of the loop-shaping core.

NOTE: The front-panel display shows the required length of the loop-shaping core based on the width of the roll that you have loaded into the printer.

11. Gently lower the take-up reel deflector.



12. Carefully insert the loop-shaping core.



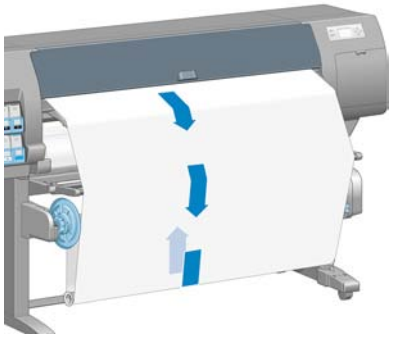
NOTE: Make sure that you insert the loop-shaping core. The take-up reel will not function correctly without it. The loop-shaping core must have end caps. Make sure that the end caps extend over the edges of the paper.

13. Use the wind-direction switch on the take-up reel motor to select the winding direction. Setting **1** winds the paper so that the printed image faces in. Setting **2** winds the paper so that the printed image faces out.

    The front panel shows you to the correct setting based on the winding-direction decision you made in step 7.

14. Press the OK button on the front panel. The **Take-up reel has been successfully installed** message appears.

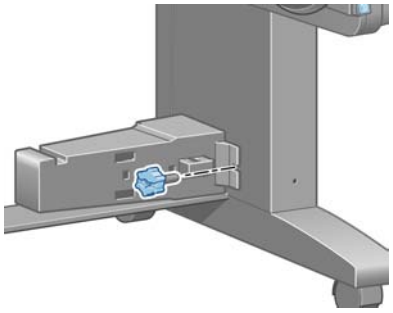
15. The following image shows how the printer looks when it is operating. As paper is fed from the printer, it drops down in a loop and then up into the take-up reel spindle.



NOTE: While the take-up reel is operating, make sure that the take-up reel sensors are not blocked.

NOTE: The automatic paper-cutter is disabled when the take-up reel is in use.

NOTE: If you want to move the printer, first remove the take-up reel sensor and cable housing unit from the foot of the printer stand. Place the sensor and cable housing unit on the printer stand crossbar and use the blue plastic screw to affix the housing unit to the leg of the stand, as shown, while the printer is being moved. When reinstalling the housing unit, make sure that the wheel on the foot of the printer stand is pointing forward.

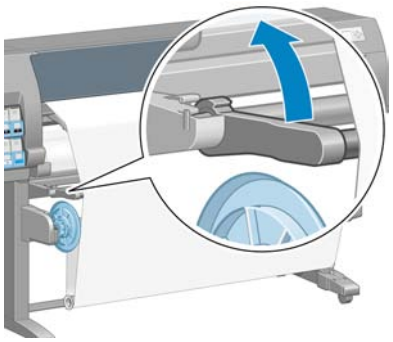


Unload a roll from the take-up reel

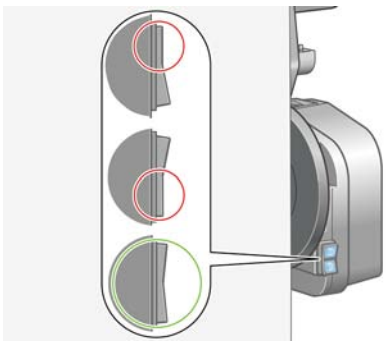
1. On the printer's front panel, select the  icon, and then select **Paper unload** > **Unload roll**.

   The printer advances the paper to allow for cutting.

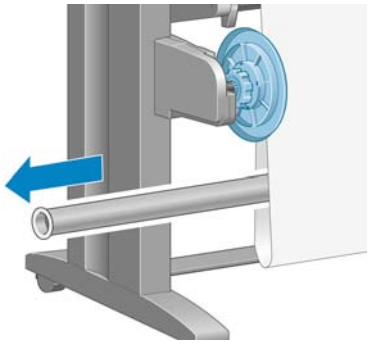
2. Lift the take-up reel deflector to its upright position.



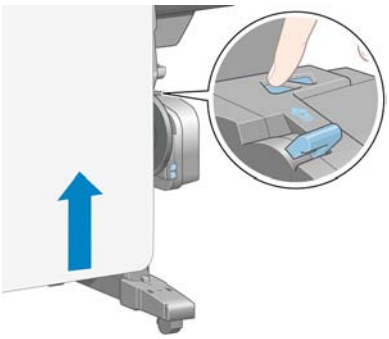
3. Switch the wind-direction switch to the Off position. The switch is in the off position when it is centered (in other words, when the switch is neither in position 1 nor position 2).



4. Remove the loop-shaping core.



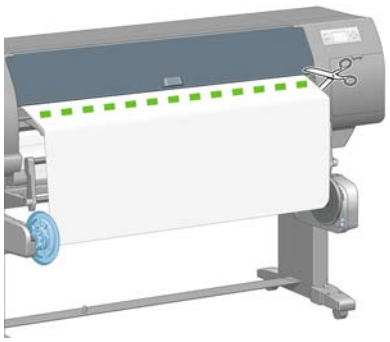
5. Use the winding button on the take-up reel motor to wind the excess paper around the take-up reel spindle.



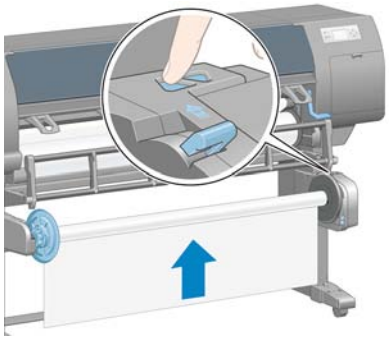
6. Press the OK button on the front panel.

7. The printer knows if the type of paper that is loaded is suitable for the automatic paper-cutter. The paper is cut if it is suitable. If the paper is not suitable, cut the paper manually.

NOTE: The automatic paper-cutter feature is disabled for some of the heaviest media types, because they can damage the cutter.



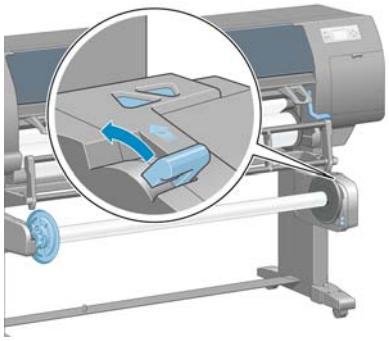
8. Use the winding button on the take-up reel motor to wind the remainder of the paper around the take-up reel spindle.



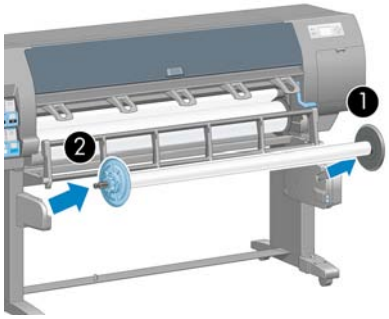
9. Press the OK button on the front panel.

   The amount of printed paper that is on the take-up reel spindle appears on the front panel.

10. Unlock the take-up reel spindle by pushing the spindle lever to its uppermost position.



11. Remove the roll from the printer, pulling out the end on the right side of the printer first. Do not insert your fingers into the spindle supports during the removal process.



12. To remove the roll from the printer after you have unloaded the take-up reel, see Unload a roll from the printer on page 36.

View information about the paper

On the printer's front panel, select the icon, and then select **View loaded paper** > **View paper details**.

The following information appears on the front panel:

- The roll status
- The paper type that you have selected

- The width of the paper in millimeters (estimated by the printer)
- The length of the paper in millimeters (estimated by the printer)

If no paper is loaded, the message **Out of paper** appears.

The same information appears on the Embedded Web Server's Supplies page.

Perform paper advance calibration

The printer is calibrated to advance correctly when printing all the papers that appear on the front panel. When you select the type of loaded paper, the printer adjusts the rate at which it advances the paper while printing. However, to fine-tune the image quality of your print, you might need to calibrate the rate at which the paper advances. See Troubleshoot print-quality issues on page 148 to determine whether paper-advance calibration is the solution for your issue.

Accurate paper advance controls proper placement of dots on the paper. If the paper is not advanced correctly, light or dark bands appear in the printed image and the grain in the image might increase.

To check the paper advance calibration status of the paper, select the  icon, and then select **View loaded paper** > **View paper details**. The status appears:

- **DEFAULT**: this status appears when an HP paper is loaded. Unless you experience image-quality problems in your printed image, such as banding or graininess, HP recommends that you do not calibrate the paper advance.
- **RECOMMENDED**: this status appears when you create a new paper. The paper advance values for this paper are inherited from the family type. HP recommends that you perform a paper advance calibration to optimize the values.
- **OK**: this status indicates that the loaded paper has been calibrated previously. However, you might need to repeat the calibration if you experience image-quality problems, such as banding or graininess in your printed image.

NOTE: Whenever you update the printer firmware, the paper-advance calibration values are reset to the factory default. See Update the printer firmware on page 141.

NOTE: Colored papers, glossy canvas, and transparent materials such as translucent bond, clear film, natural tracing paper, and vellum are not suitable for paper-advance calibration.

Overview of the paper advance procedure

1. On the front panel, select the  icon, and then select **Image quality maintenance** > **Paper advance calibration** > **Calibrate paper advance**. The printer automatically calibrates the paper-advance and prints a paper advance calibration image.
2. Wait until the front panel shows the status screen, and then reprint your image.

NOTE: The calibration procedure takes approximately six minutes. The front-panel display shows any errors in the process.

If you are satisfied with your image, continue using this calibration for your paper type. If you see improvement in your image, continue with step 3. If you are dissatisfied with the calibration, return to the default calibration. See Return to the default calibration on page 47.

3. To fine-tune the calibration, select the  icon, and then select **Image quality maintenance** > **Paper advance calibration** > **Adjust paper advance**.

4. Select the percentage of change from -100% to 100%. To correct light banding, decrease the percentage. To correct dark banding, increase the percentage.
5. Press the OK button on the front panel to save the value.
6. Wait until the front panel shows the status screen, and then reprint your image.

Return to the default calibration

Returning to the default calibration sets all the paper-advance calibration to zero. To return to the default paper advance-calibration value, you must reset the calibration.

1. On the front panel, select the  icon, and then select **Image quality maintenance** > **Paper advance calibration** > **Reset paper advance**.
2. Wait until the front panel shows that the operation has been successfully completed before you press the Back button to return to the **Ready** screen.

Download paper profiles

Each supported paper type has its own characteristics. The printer changes the way it prints on each different paper type. For example, some might need more ink and some might require a longer drying time. The printer requires a description of the requirements of each paper type. This description is called the "paper profile".

The paper profile contains the ICC profile, which describes the color characteristics of the paper. It also contains information about other characteristics and requirements of the paper that are not directly related to color. Existing paper profiles for your printer are installed in the printer's software.

Your printer contains paper profiles for only the most commonly used paper types. If you buy a paper type for which your printer has no profile, you cannot select that paper type in the front panel.

You can assign a profile for a new paper type in three ways:

- Use a HP factory paper profile by selecting the closest category and type on the front panel, in HP Easy Printer Care (Windows), or in HP Printer Utility (Mac OS)

  NOTE: Because colors might not be accurate, this method is not recommended for high-quality prints.

- Go to http://www.hp.com/go/designjet/downloads and click the **HP Designjet ICC/Media profiles and PANTONE tables** link. Select from the **HP Designjet media profiles** drop-down menu.

  NOTE: HP only provides profiles for HP paper types. If you do not find the paper profile that you want on the Web, it might have been added to the latest firmware for your printer. Check the firmware release notes for information. See Update the printer firmware on page 141.

- Add a custom paper type. See Use non-HP paper on page 47, and create an ICC profile for either HP or non-HP papers.

Use non-HP paper

HP paper has been fully tested with the printer and can be expected to give the best print quality.

You can print on paper from any manufacturer. Before doing so, add the custom paper type and allow the printer to run a color calibration. You can add a custom paper by using the HP Color Center in HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS).

NOTE: If you have already selected **Custom paper** > **Add Custom Paper** from HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS), the first Add New Paper screen appears and you can start this procedure at step 4.

1. Go to the Color Center in HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS).
2. Select **Manage Papers**.
3. In Windows, select **Add new paper**. In Mac OS, click **+**.
4. Type the paper name.

   NOTE: HP recommends that you use the commercial name of the paper so that other users recognize it.

5. Select a paper category.

   NOTE: The paper category determines the amount of ink that is used and other basic printing parameters. To obtain satisfactory results, experiment with different categories and use the ones that work best.

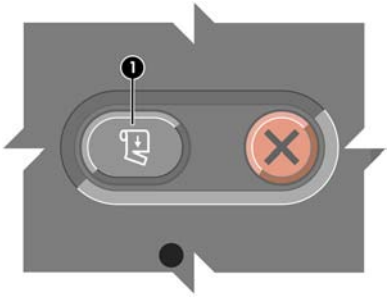
6. Load the custom paper. See Load a roll into the printer on page 32.
7. Click **Next**. The printer performs a color calibration and prints a calibration chart. This can take up to 10 minutes.

   NOTE: For more information on the processes available in the Color Center, see A summary of the color-management process on page 109.

8. After the new calibration parameters are calculated and stored, you are reminded to create an ICC profile. Click **Done**. The custom paper is added to the paper category you selected.
9. To create an ICC profile, which allows you to print on your paper with the best possible color accuracy, see Color profiling on page 111.

Cancel the drying time

Press the Form Feed and Cut button (1) on the front panel.



CAUTION: A print that has not dried sufficiently can suffer from quality problems.

Change the drying time

Change the drying time setting to accommodate special printing conditions.

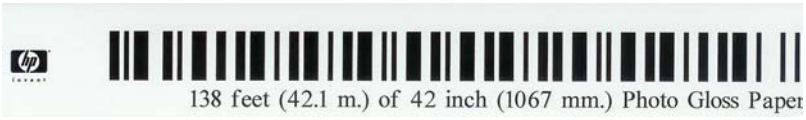
Select the icon, and then select **Paper handling options** > **Select drying time**. Select from the options **Extended**, **Optimal**, **Reduced**, **None** or **Manual**.

If you select **Manual**, set the drying time. Select the icon, and then select **Paper handling options** > **Manual drying time**, and then select the drying time (in seconds).

For more information about drying time, see Drying time on page 28.

Printing paper info

Enable the **Printing paper info** option to see the printer's estimation of the remaining roll length. The information is a combination of barcode and text that is printed on the leading edge of the roll when the paper is unloaded from the printer.



NOTE: The paper-length estimation is only available if the printer registered the amount of paper that was on the roll when you loaded it. To provide this informations to the printer, specify the roll length on the front panel when loading the paper, or load a roll that has the paper-data barcode printed on it.

To enable the Printing paper info option, select the icon in the printer's front panel, and then select **Paper handling options** > **Enable Printing paper info**.

Store the paper

The following are tips for storing paper:

- Always keep unused rolls wrapped in the plastic wrap to prevent discoloration. Rewrap partially used rolls if they are not being used.
- Do not stack rolls.
- Allow all paper types to adapt to room conditions out of the packaging for 24 hours before printing.
- Handle film and glossy paper by the edges or wear cotton gloves. Skin oils can be transferred to the paper, leaving fingerprint marks.
- Keep the paper tightly wound on the roll throughout the loading and unloading procedures. If the roll starts to unwind, it can become difficult to handle.

Order paper

The following paper types are currently provided for use with your printer.

NOTE: This list is likely to change over the course of time. For the latest information, see http://www.hp.com/go/designjet/supplies/.

Key to geographic availability:

- (As) indicates papers that are available in Asia
- (A) indicates papers that are available in Asia (excluding Japan)
- (J) indicates papers that are available in Japan only
- (E) indicates papers that are available in Europe, the Middle East, and Africa
- (L) indicates papers that are available in Latin America
- (N) indicates papers that are available in North America

If the part number is not followed by parentheses, the paper is available in all regions.

Table 4-2 Paper

Paper type	g/m²	Length	Width	Part numbers
HP Bond and Coated Paper				
HP Universal Inkjet Bond Paper	80	150 feet = 45.7 m	24 inches = 610 mm	Q1396A
			36 inches = 914 mm	Q1397A
			42 inches = 1067 mm	Q1398A
		300 feet = 91.4 m	23.39 inches = 594 mm	Q8004A (AsE)
			33.11 inches = 841 mm	Q8005A (AsE)
		574 feet = 175 m	36 inches = 914 mm	Q8751A
HP Bright White Inkjet Bond Paper	90	150 feet = 45.7 m	16.54 inches = 420 mm	Q1446A (J)
			23.39 inches = 594 mm	Q1445A (J)
			24 inches = 610 mm	C1860A (LN), C6035A (AsE)
			33.11 inches = 841 mm	Q1444A (EJ)
			36 inches = 914 mm	C1861A (LN), C6036A (AsE)
		300 feet = 91.4 m	36 inches = 914 mm	C6810A
HP Universal Coated Paper	95	150 feet = 45.7 m	24 inches = 610 mm	Q1404A (AsEN)
			36 inches = 914 mm	Q1405A (AsEN)
			42 inches = 1067 mm	Q1406A
			60 inches = 1524 mm	Q1408A (AEN)

Table 4-2 Paper (continued)

Paper type	g/m²	Length	Width	Part numbers
HP Coated Paper	90	150 feet = 45.7 m	16.54 inches = 420 mm	Q1443A (J)
			23.39 inches = 594 mm	Q1442A (EJ)
			24 inches = 610 mm	C6019B
			33.11 inches = 841 mm	Q1441A (EJ)
			36 inches = 914 mm	C6020B
			42 inches = 1067 mm	C6567B
			54 inches = 1372 mm	C6568B
		300 feet = 91.4 m	36 inches = 914 mm	C6980B
HP Universal Heavyweight Coated Paper	120	100 feet = 30.5 m	24 inches = 610 mm	Q1412A (EAsN)
			36 inches = 914 mm	Q1413A
			42 inches = 1067 mm	Q1414A (EAsN)
HP Heavyweight Coated Paper	131	100 feet = 30.5 m	24 inches = 610 mm	C6029C (AsEN)
			36 inches = 914 mm	C6030C
			42 inches = 1067 mm	C6569C
			54 inches = 1372 mm	C6570C
			60 inches = 1524 mm	C6977C
		225 feet = 67.5 m	42 inches = 1067 mm	Q1956A (EN)
			60 inches = 1524 mm	Q1957A (EN)
HP Super Heavyweight Plus Matte Paper	210	100 feet = 30.5 m	24 inches = 610 mm	Q6626A (AsEN)
			36 inches = 914 mm	Q6627A (AsEN)
			42 inches = 1067 mm	Q6628A (AsEN)
			50 inches = 1270 mm	Q6629A (AsN)
			60 inches = 1524 mm	Q6630A (AsEN)
HP Coloured Paper Fluorescent Yellow	100	150 feet = 45.7 m	36 inches = 914 mm	Q1757A (E)
HP Coloured Paper Yellow	92	150 feet = 45.7 m	36 inches = 914 mm	C1760A (EN)
			50 inches = 1270 mm	C6588A (E)
HP Technical Paper				
HP Natural Tracing Paper	90	150 feet = 45.7 m	16.54 inches = 420 mm	Q1440A (J)
			23.39 inches = 594 mm	Q1439A (J)
			24 inches = 610 mm	C3869A
			33.11 inches = 841 mm	Q1438A (J)
			36 inches = 914 mm	C3868A

Table 4-2 Paper (continued)

Paper type	g/m²	Length	Width	Part numbers
HP Translucent Bond	67	150 feet = 45.7 m	24 inches = 610 mm	C3860A (AsN)
			36 inches = 914 mm	C3859A (NL)
HP Vellum	75	150 feet = 45.7 m	24 inches = 610 mm	C3862A (N)
			36 inches = 914 mm	C3861A (NL)
HP Film (technical and graphic)				
HP Clear Film	174	75 feet = 22.9 m	24 inches = 610 mm	C3876A (AsEN)
			36 inches = 914 mm	C3875A
HP Matte Film	160	125 feet = 38.1 m	24 inches = 610 mm	51642A (AsEN)
			36 inches = 914 mm	51642B
HP Polyester Film White Matte	185	50 feet = 15 m	36 inches = 914 mm	Q1736A (AEN)
HP Photographic Paper				
HP Universal Instant-Dry Photo Gloss	190	100 feet = 30.5 m	24 inches = 610 mm	Q6574A
			36 inches = 914 mm	Q6575A
			42 inches = 1067 mm	Q6576A
			60 inches = 1524 mm	Q6578A
		200 feet = 61 m	42 inches = 1067 mm	Q8754A
			60 inches = 1524 mm	Q8756A
HP Universal Instant-Dry Photo Semi-Gloss	190	100 feet = 30.5 m	24 inches = 610 mm	Q6579A
			36 inches = 914 mm	Q6580A
			42 inches = 1067 mm	Q6581A
			50 inches = 1270 mm	Q6582A
			60 inches = 1524 mm	Q6583A
		200 feet = 61 m	42 inches = 1067 mm	Q8755A
			60 inches = 1524 mm	Q8757A
HP Premium Instant-Dry Gloss Photo Paper	260	100 feet = 30.5 m	36 inches = 914 mm	Q7993A (AsLEN)
			42 inches = 1067 mm	Q7995A (AsLEN)
			50 inches = 1270 mm	Q7997A (AsLN)
			60 inches = 1524 mm	Q7999A (AsLEN)
		75 feet = 22.9 m	24 inches = 610 mm	Q7991A (AsLEN)
HP Premium Instant-Dry Satin Photo Paper	260	100 feet = 30.5 m	36 inches = 914 mm	Q7994A (AsLEN)
			42 inches = 1067 mm	Q7996A (AsLEN)
			50 inches = 1270 mm	Q7998A (AsLN)
			60 inches = 1524 mm	Q8000A (AsLEN)
		75 feet = 22.9 m	24 inches = 610 mm	Q7992A (AsLEN)
HP Professional Satin Photo Paper	300	50 feet = 15.2 m	24 inches = 610 mm	Q8759A (AsLEN)
			44 inches = 1118 mm	Q8840A

Table 4-2 Paper (continued)

Paper type	g/m²	Length	Width	Part numbers
HP Photo Paper RC Matte	200	100 feet = 30.5 m	36 inches = 914 mm	C7946A (AEN)
			54 inches = 1372 mm	C7947A (AEN)
HP Proofing Paper				
HP Professional High-Gloss Contract Proofing Paper	200	100 feet = 30.5 m	24 inches = 610 mm	Q8663A (EN)
HP Professional Semi-Gloss Contract Proofing Paper	235	100 feet = 30.5 m	24 inches = 610 mm	C7971A (EN)
HP Proofing Matte	146	100 feet = 30.5 m	24 inches = 610 mm	Q1968A (AsEN)
HP Backlit Material				
HP Premium Vivid Color Backlit Film	285	100 feet = 30.5 m	36 inches = 914 mm	Q8747A
			42 inches = 1067 mm	Q8748A
			54 inches = 1372 mm	C8749A
			60 inches = 1524 mm	Q8750A
HP Self-Adhesive Material				
HP Indoor Paper Self-Adhesive	170	75 feet = 22.9 m	36 inches = 914 mm	Q1733A (JEN)
			60 inches = 1524 mm	Q1735A (EN)
HP Polypropylene, Matte — Adhesive Backed	200	70 feet = 21.3 m	36 inches = 914 mm	Q1908A (AEN)
HP Colorfast Adhesive Vinyl	328	40 feet = 12.2 m	36 inches = 914 mm	C6775A
			54 inches = 1372 mm	C6777A (EN)
HP Universal Adhesive Vinyl	290	66 feet = 20.1 m	36 inches = 914 mm	Q8676A
			42 inches = 1067 mm	Q8677A
HP Self-Adhesive Gloss Polypropylene	176	75 feet = 22.9 m	36 inches = 914 mm	Q8834A
			42 inches = 1067 mm	Q8835A
HP Banner and Sign Material				
HP Durable Display Film	205	50 feet = 15.2 m	36 inches = 914 mm	Q6620A (EN)
			50 inches = 1270 mm	Q6621A (EN)
HP Instant-Dry Indoor Banner, Gloss	195	50 feet = 15.2 m	36 inches = 914 mm	Q5482A (N)
			42 inches = 1067 mm	Q5483A (AsN)
			50 inches = 1270 mm	Q5484A (N)
HP Polypropylene, Matte	130	75 feet = 22.9 m	36 inches = 914 mm	Q1903A (AEN)
			42 inches = 1067 mm	Q1904A (AEN)
			54 inches = 1372 mm	Q1906A (AEN)
			60 inches = 1524 mm	Q1907A (AEN)

Table 4-2 Paper (continued)

Paper type	g/m²	Length	Width	Part numbers
HP Opaque Scrim	486	50 feet = 15.2 m	36 inches = 914 mm	Q1898B
			42 inches = 1067 mm	Q1899B
			54 inches = 1372 mm	Q1901B
			60 inches = 1524 mm	Q1902B
HP Banners with Tyvek	140	50 feet = 15.2 m	36 inches = 914 mm	C6787A
			54 inches = 1372 mm	C6789A
HP Outdoor Paper	145	100 feet = 30.5 m	36 inches = 914 mm	Q1730A (EN)
HP Outdoor Billboard Paper Blue Back	140	100 feet = 30.5 m	36 inches = 914 mm	C7949A (EN)
			54 inches = 1372 mm	C7950A (EN)
HP Fabric / Textile Material				
HP Durable Flag Fabric	110	33 feet = 10 m	36 inches = 914 mm	Q6624A (EN)
HP Paper-Backed Fabric Polyester 110 gram 11.4 mil	110 (no backing) 185 (with backing)	33 feet = 10 m	36 inches = 914 mm	Q1745A (EN)
HP Paper-Backed Fabric Silk Satin	63.5 (no backing) 160 (with backing)	33 feet = 10 m	36 inches = 914 mm	Q1748A (EN)
HP Fine Art Printing Material				
HP Collector Satin Canvas	400	20 feet = 6.1 m	24 inches = 610 mm	Q8708A (AsLEN)
		50 feet = 15.2 m	36 inches = 914 mm	Q8709A (AsLEN)
			42 inches = 1067 mm	Q8710A (AsLEN)
			60 inches = 1524 mm	Q8711A (AsLEN)
HP Professional Matte Canvas	430	20 feet = 6.1 m	24 inches = 610 mm	Q8673A (LEN)
		50 feet = 15.2 m	36 inches = 914 mm	Q8671A (LEN)
			42 inches = 1067 mm	Q8674A (LEN)
			60 inches = 1524 mm	Q8672A (LEN)
HP Artist Matte Canvas	380	20 feet = 6.1 m	24 inches = 610 mm	Q8704A (AsLEN)
		50 feet = 15.2 m	36 inches = 914 mm	Q8705A (AsLEN)
			42 inches = 1067 mm	Q8706A (AsLEN)
			60 inches = 1524 mm	Q8707A (AsLEN)
HP Universal Matte Canvas	350	20 feet = 6.1 m	24 inches = 610 mm	Q8712A (AsLEN)
		50 feet = 15.2 m	36 inches = 914 mm	Q8713A (AsLEN)
			42 inches = 1067 mm	Q8714A (AsLEN)
HP Canvas Paper 180 gram	180	35 feet = 10.7 m	36 inches = 914 mm	Q1724A (AEN)
HP Aquarella Art Paper 240g	240	35 feet = 10.7 m	24 inches = 610 mm	Q8741A (EN)
			36 inches = 914 mm	Q1703A (EN)
HP Hahnemühle Watercolor Paper	210	38 feet = 11.6 m	36 inches = 914 mm	Q1984A (EN)

Table 4-2 Paper (continued)

Paper type	g/m²	Length	Width	Part numbers
HP Hahnemühle Smooth Fine Art Paper	265	35 feet = 10.7 m	24 inches = 610 mm	Q8732A (EN)
			36 inches = 914 mm	Q1985A (EN)
			42 inches = 1067 mm	Q8733A (EN)
HP Hahnemühle Textured Fine Art Paper	265	35 feet = 10.7 m	24 inches = 610 mm	Q8736A (EN)
			36 inches = 914 mm	Q1937A (EN)
			42 inches = 1067 mm	Q8738A (EN)
HP Matte Litho-Realistic Paper	270	100 feet = 30.5 m	36 inches = 914 mm	Q7973A (EN)
			24 inches = 610 mm	Q7972A
Japan-Only HP Printing Material				
HP Yupo Synthetic Paper (other specialty)	81.5	100 feet = 30.5 m	36 inches = 914 mm	Q1432A (J)
			54 inches = 1372 mm	Q1434A (J)

Non-recommended paper types

In many cases, paper types that HP does not support might be compatible with your printer. However, the following paper types are unlikely to give satisfactory results:

- Photo paper that swells
- Brochure paper

5 Handle the ink system

- Ink system components
- Ink system tips
- Work with ink system components
- Order ink supplies

Ink system components

Ink cartridges

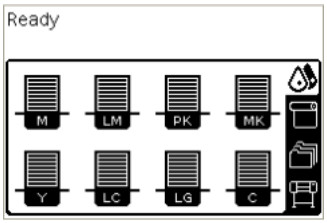
The printer's eight ink cartridges provide magenta, light magenta, photo black, matte black, yellow, light cyan, light gray and cyan ink to the printheads. Each cartridge has a capacity of 775 ml.

Ink cartridges require no maintenance or cleaning. When each ink cartridge is shaken vigorously before installation, and inserted correctly into its slot, the ink will flow to the printheads. Because the printheads control the amount of ink that is transferred to the page, high-quality printing results continue even when the ink levels are getting low.

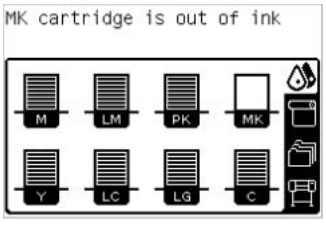
CAUTION: Avoid touching pins, leads, and circuitry when handling ink cartridges because these elements are sensitive to electrostatic discharge. Such devices are called ESD-sensitive devices. See Glossary on page 216. Electrostatic discharges are one of the main hazards to electronics products. This type of damage can reduce the life expectancy of the device.

Replace ink cartridges

You can highlight the  icon at any time to check the ink levels of all the ink cartridges.



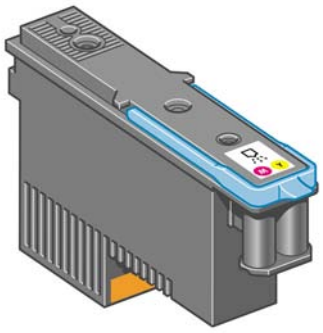
The front panel warns you when cartridge ink level is low. When a cartridge is empty, the printer stops printing and the front panel provides an explanation.



HP recommends that you replace the empty cartridge with a new HP cartridge. See Order ink supplies on page 78, Remove an ink cartridge on page 59, and Insert an ink cartridge on page 61.

Printheads

The printheads are connected to the ink cartridges. They use jet action to put ink on the paper. Each printhead has two ink cartridge connection points and two jet nozzles, which means that each printhead accommodates two ink cartridges. For example, the following printhead image indicates a printhead that draws and jets ink from the magenta and yellow cartridges.



The printheads are extremely durable and do *not* need to be replaced every time an ink cartridge is replaced. They provide excellent results even when the ink cartridges contain a low level of ink.

To maintain optimum print quality, the printheads are automatically tested at regular intervals, and automatically serviced when necessary. This takes a little time and can occasionally delay printing.

When a printhead eventually needs to be replaced, the front panel will display a message.

CAUTION: Avoid touching pins, leads, and circuitry when handling ink cartridges because these elements are sensitive to electrostatic discharge. Such devices are called ESD-sensitive devices. See Glossary on page 216. Electrostatic discharges are one of the main hazards to electronics products. This type of damage can reduce the life expectancy of the device.

Maintenance cartridge

Use the maintenance cartridge to clean and maintain the printheads, ensure the best possible print quality, and seal the printheads when they are not in use to prevent them from drying out.

NOTE: The maintenance cartridge contains liquid. Therefore, store any maintenance cartridges upright and on a flat surface.

Ink system tips

For best results, always follow these guidelines:

- Install the ink cartridges, printheads, and maintenance cartridge before the install-by date, which is printed on the packaging. The expiration for the ink cartridges is the manufacturing date marked on the cartridge plus 30 months.
- Follow the instructions on the front panel during installation.
- Allow the printer and the maintenance cartridge to clean the printheads automatically.
- Avoid unnecessary removal of the ink cartridges and printheads.
- The ink cartridges should never be removed while the printer is printing. They should be removed only when the printer is ready for you to replace them. The front panel guides you through the removal and installation procedures (or see Remove an ink cartridge on page 59 and Insert an ink cartridge on page 61.
- Make sure that you comply with all applicable laws and regulations when disposing of ink system consumables.

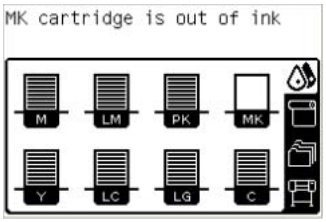
NOTE: Shake the ink cartridges and printheads vigorously before installing them. See Insert an ink cartridge on page 61 and Insert a printhead on page 64.

Work with ink system components

Remove an ink cartridge

Ink cartridges should be removed for the following two reasons:

- The ink cartridge is very low and you want to replace it with a full cartridge for unattended printing. You can use the remaining ink in the first cartridge at a more convenient time.
- The ink cartridge is empty or faulty, and you must replace it to continue printing.

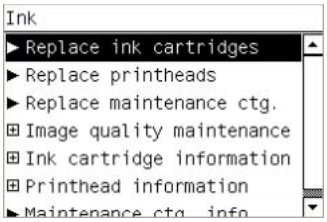


CAUTION: The procedure to remove an ink cartridge must be initiated from the front panel. Do not remove an ink cartridge until the front panel prompts you.

CAUTION: Remove an ink cartridge only if you are ready to insert another one.

WARNING! Make sure that the printer wheels are locked (the brake lever is pressed down) to prevent the printer from moving.

1. On the printer's front panel, select the icon, and then select **Replace ink cartridges**.

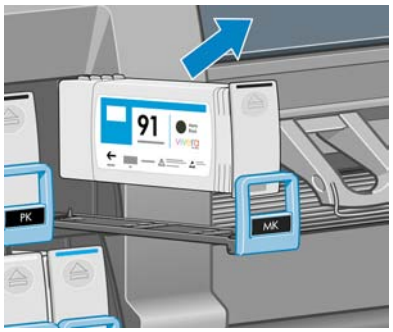


2. Grip the blue tab in front of the cartridge that you want to remove.

3. Pull the blue tab down and then pull it outwards, towards you.

4. The cartridge comes out, in its drawer.

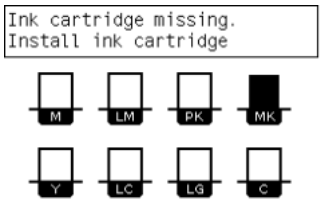
5. Lift the cartridge out of its drawer.



NOTE: Avoid touching the end of the cartridge that is inserted into the printer, because the connection might be coated with ink.

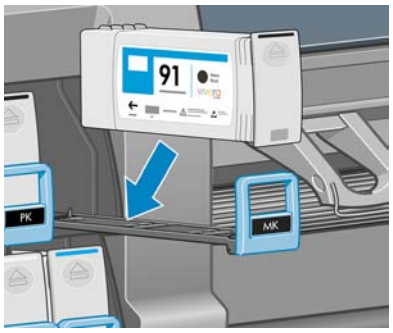
NOTE: If necessary, store a partially-used ink cartridge in the same position as if it were inserted in the printer. Avoid using a partially-used cartridge that has been stored on its end.

6. The front-panel display identifies the missing ink cartridge.



Insert an ink cartridge

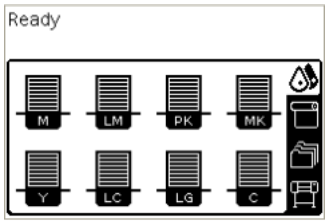
1. Pick up the new ink cartridge and find the label that identifies the ink color. Hold the ink cartridge so that you can see the label at the top of the side that is facing you.
2. Check that the colored label above the empty slot in the printer matches the color of the label on the cartridge.
3. Shake the cartridge vigorously for about 15 seconds.
4. Insert the ink cartridge into the cartridge drawer.



5. Slide the drawer and cartridge into the slot until they lock into position.

If you have difficulty, see Cannot insert an ink cartridge on page 168.

6. The front-panel display confirms that all cartridges have been correctly inserted.

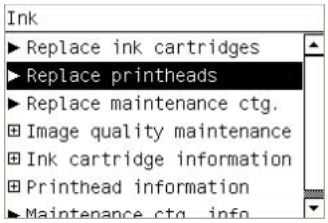


Remove a printhead

WARNING! Make sure that the printer wheels are locked (the brake lever is pressed down) to prevent the printer from moving.

Printhead replacement must be performed after the printer has been turned on with the hard power switch at the back of the printer.

1. On the printer's front panel, select the  icon, and then select **Replace printheads**.

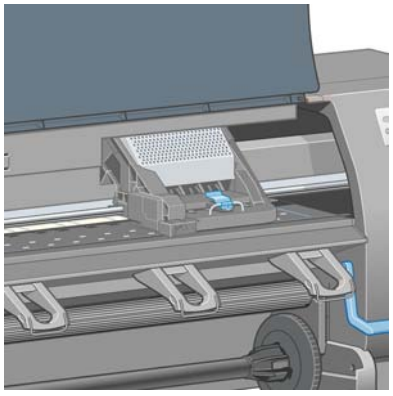


2. The printer moves the carriage into the correct position.

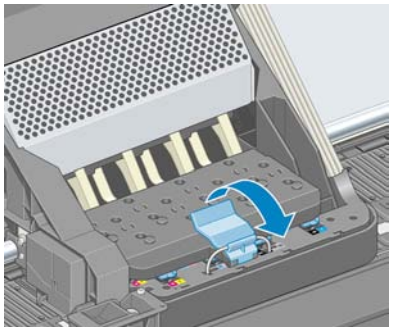
> **CAUTION:** If the carriage remains in the removal position for more than 3 minutes without inserting or removing any printheads, it will attempt to return back to its home position to the right.

3. When the carriage has stopped moving, the front panel prompts you to open the printer window.

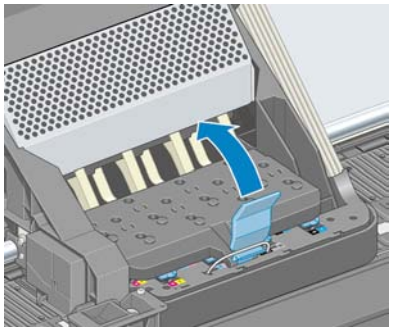
4. Locate the carriage on the right side of the printer.



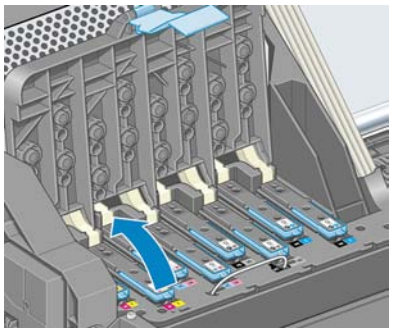
5. Pull up and release the latch on top of the carriage.



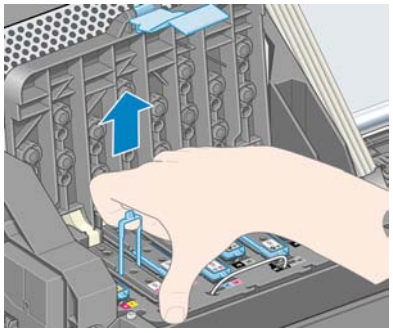
6. Lift up the cover. This provides access to the printheads.



7. To remove a printhead, lift up the blue handle.

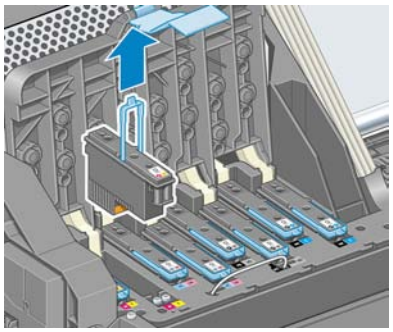


8. Using the blue handle, gently disengage the printhead.

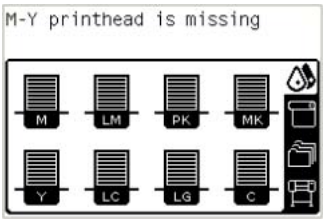


9. Gently pull the blue handle upward until the printhead is released from the carriage.

CAUTION: Do not pull abruptly. That action can damage the printhead.



10. The front-panel display identifies the missing printhead.

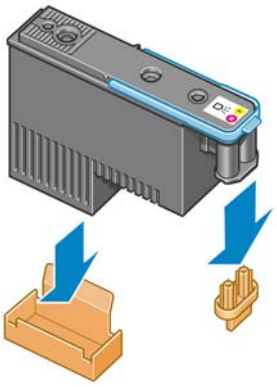


Insert a printhead

1. If the printhead is new, shake it vigorously before removing the protective caps. Hold the printhead upright (with the protective caps facing down) and shake the printhead vigorously in a smooth up and down motion for about 15 seconds.

NOTE: Be careful not to strike the printhead against anything while shaking it, because this could cause damage.

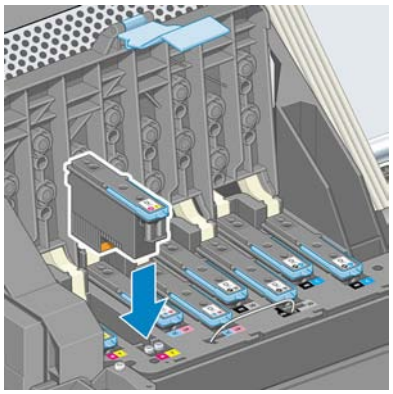
2. Remove the orange protective caps by pulling them down.



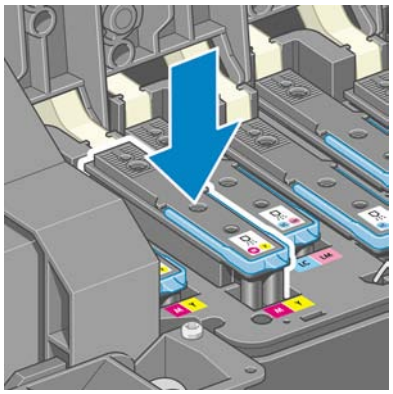
3. The printhead is designed to prevent you from accidentally inserting it into the wrong slot. Check that the colored label on the printhead matches the colored label of the carriage slot into which the printhead is to be inserted.

4. Insert the new printhead into its correct slot in the carriage.

CAUTION: Insert the printhead slowly and vertically, straight down. It can be damaged if you insert it too quickly, or at an angle, or if you rotate it as you insert it.

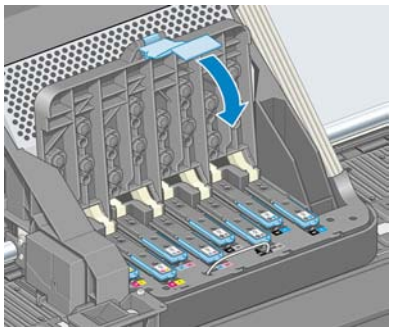


5. Push down as indicated by the arrow.

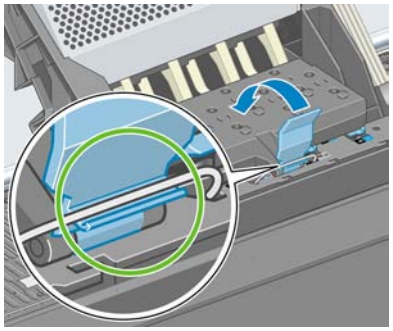


CAUTION: You might feel some resistance when installing the new printhead, so you need to press it down firmly but smoothly. You should hear a beep and see confirmation on the front-panel display that the printhead has been inserted. If you have difficulty, see Cannot insert a printhead on page 168.

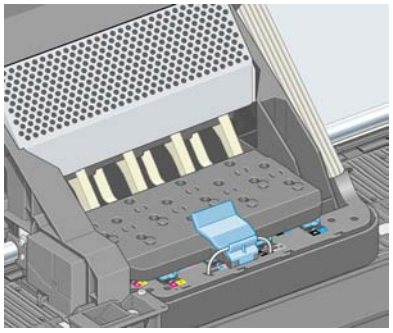
6. Insert all of the other printheads that need to be installed, and close the carriage cover.



7. Make sure that the end of the blue handle catches the wire loop on the near side of the carriage.



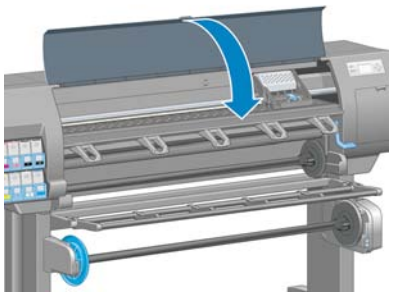
8. Lower the handle to rest on the carriage cover.



When all of the printheads have been inserted correctly and the printer has accepted them, the printer beeps.

NOTE: If the printer does not beep when you insert the printhead and the **Replace** message appears on the front-panel display, you might need to reinsert the printhead.

9. Close the printer window.



10. The front-panel display confirms that all of the printheads are correctly inserted. The printer starts checking and preparing the printheads. The default routine process, when all printheads are changed, takes about 18 minutes. If the printer identifies a problem when preparing the printheads, the process takes longer, up to 30 minutes. For a single printhead insertion, the time varies between 10 and 20 minutes. After all printheads are checked and prepared, the printhead realignment procedure runs automatically if paper is loaded. See Align the printheads on page 71.

Clean (recover) the printheads

To clean the printheads (which often enables them to recover from problems), go to the printer's front panel and select the icon, and then select **Image quality maintenance** > **Clean**

printheads. Specify which printheads you would like to clean. You can clean all of the printheads or only some of them. Select from these options:

- Clean all
- Clean M-Y
- Clean LM-LC
- Clean PK-LG
- Clean MK-C
- Purge ink

Cleaning all printheads takes about 5 minutes. Cleaning any two printheads takes about 3 minutes. Purging the ink takes about 5 minutes.

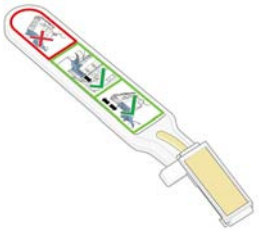
NOTE: Cleaning all printheads uses more ink than cleaning a single pair.

NOTE: HP recommends that you purge the ink from the printheads before printing a job if the printer has been turned off for more than six weeks or if you are experiencing inconsistent colors from print to print after long storage periods. Purging the ink from the printheads helps to ensure maximum color consistency; it is *not* a remedy for poor printhead health.

Clean the electrical connections on a printhead

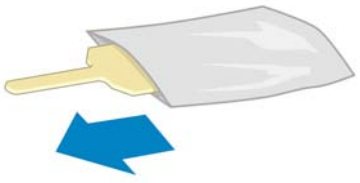
It is possible that the printer will not recognize a printhead after it has been installed. This can happen when ink builds up on the electrical connections between the printhead and the printhead carriage. Under these circumstances, HP recommends that you clean the electrical connections on the printhead. However, routine cleaning of the connections when no problems are apparent is *not* recommended.

A carriage interconnect wiper is included with your printer (in the Maintenance Kit box).



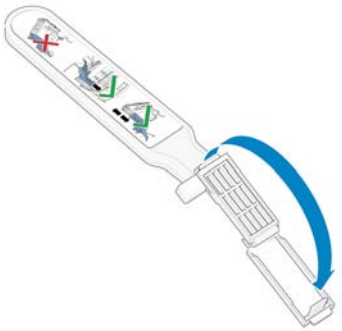
Use this to clean the electrical interconnects on both the printhead carriage and the printhead if the **Reseat** or **Replace** message persists next to the printhead on the front-panel display.

1. Remove a new pre-moistened replacement sponge from its pouch.

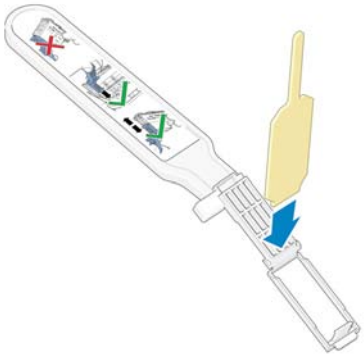


A supply of sponges is included in the box with the wiper. If all sponges have been used, more can be obtained by contacting your HP customer service representative.

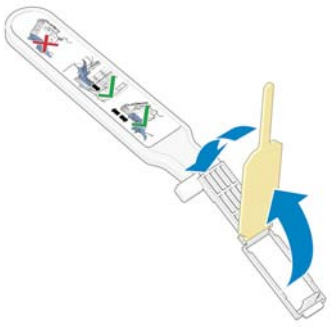
2. Open the carriage interconnect wiper.



3. Load the sponge by positioning the sponge on the face of the carriage interconnect wiper with the shorter tab in the locating slot.



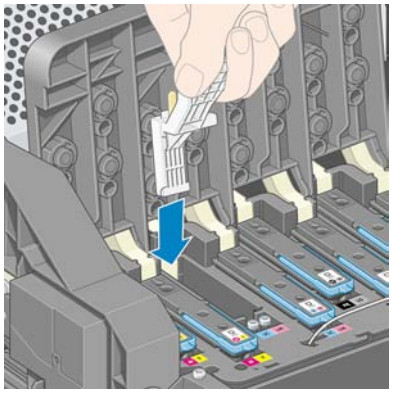
4. Close the carriage interconnect wiper, trapping the sponge in place.



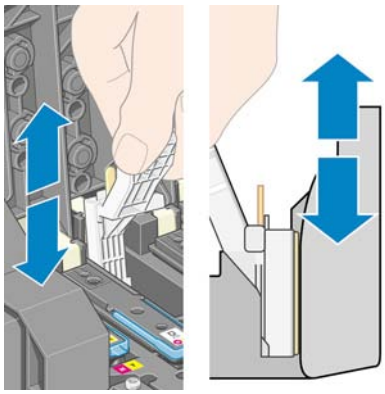
5. Open the printhead carriage latch and extract the printhead that is causing the problem, as indicated on the front panel. See Remove a printhead on page 61.

6. Insert the carriage interconnect wiper into the printhead slot at the back. Wipe the electrical contacts by inserting the tool between the electrical connections at the back of the slot and the steel spring, with the sponge facing away from you and towards the electrical contacts. Try to avoid picking up any ink deposit that may have accumulated on the bottom surface of the slot.

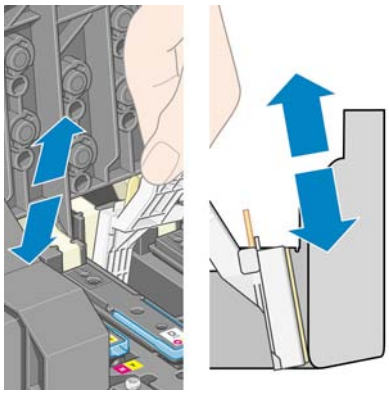
> **CAUTION:** If the carriage remains in the central part of the printer for more than 7 minutes, it attempts to return to its home position to the right.



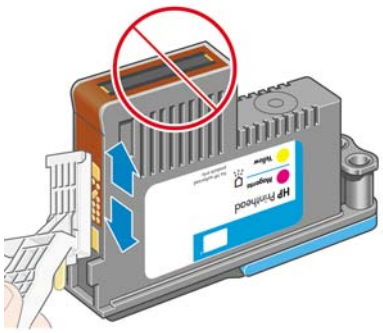
7. Rub the sponge against the contacts with a *light* force along the entire depth of the flex connector, inserting the wiper as far as allowed by the mechanical stop on the tool.



8. Take special care to clean all contacts thoroughly, including the ones at the lowest point of the connector.



9. Using the same sponge, clean the lower strip of electrical contacts on the printhead (unless the printhead is new). Avoid touching the upper set of electrical contacts.

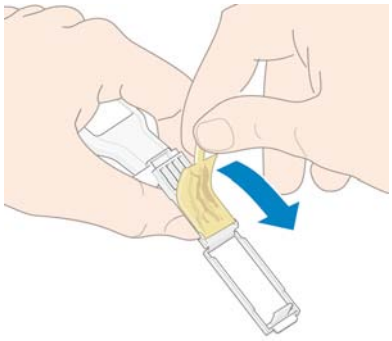


CAUTION: Do not touch the surface of the printhead that contains the nozzles, because the nozzles are easily damaged.

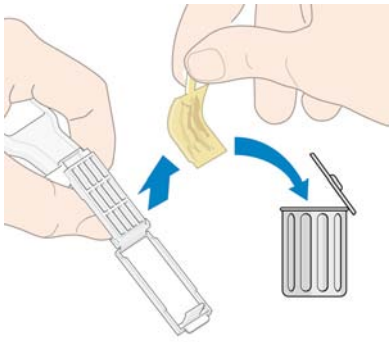
10. After waiting a few moments to allow both connectors to dry, replace the printhead into the printhead carriage. See Insert a printhead on page 64.

11. After completing the cleaning process, open the carriage interconnect wiper by pulling on the sponge tab.

12. Remove the soiled sponge from the carriage interconnect wiper.



13. Dispose of the soiled sponge in a safe place to prevent the transfer of ink onto hands and clothing.



If the front panel continues to show the **Reseat** or **Replace** message, replace the printhead or contact your HP customer service representative.

Align the printheads

The printer performs printhead alignment whenever printheads are replaced. If no paper is loaded when a printhead is replaced, the printer will perform the alignment the next time you load paper.

Also align the printheads if the Printhead status plot indicates an alignment error. See Use the Printhead status plot on page 71.

1. Make sure that you have a roll of opaque, white paper loaded in the printer. Colored papers, glossy canvas, and transparent materials such as translucent bond, clear film, tracing paper, and vellum are not suitable for printhead alignment.
2. To request printhead alignment (if the alignment is not being performed automatically), go to the front panel, select the  icon, and then select **Image quality maintenance** > **Align printheads**.

   The process takes about 10 minutes and starts immediately, unless an image is currently being printed. If a print job is in process, the alignment will be done as soon as the current print job is finished.

NOTE: Occasionally, if the paper in the printer is very close to the beginning of a roll, the front panel might report that the printer needs to feed up to 3 m (≈ 10 ft) of paper before starting the printhead alignment. This is necessary to ensure a successful alignment. You can continue with the printhead alignment and allow the printer to feed as much paper as necessary, delay the alignment until later, or cancel the alignment.

Use the Printhead status plot

The Printhead status plot consists of patterns that are designed to highlight printhead-reliability problems. It helps you to check the performance of the printheads that are currently installed in your printer, and to determine whether any printhead is experiencing clogging or other problems.

Print the Printhead status plot

To print the Printhead status plot:

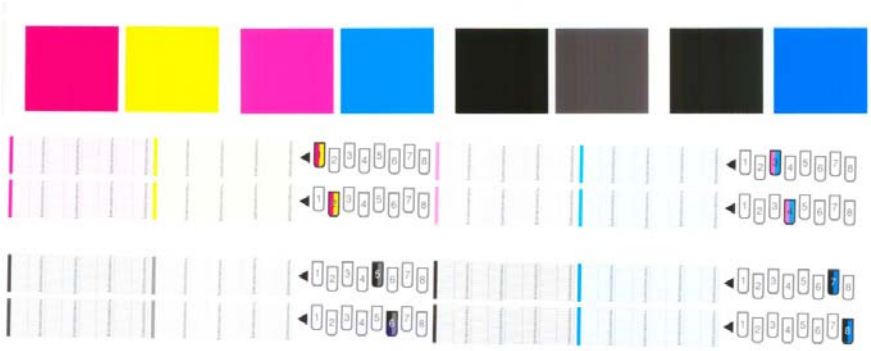
1. Use the same paper type that you were using when you detected a problem.
2. Verify that the selected paper type is the same as the paper type that is loaded into the printer.
3. On the printer's front panel, select the  icon, and then select **Image quality maintenance** > **Printhead diagnostics image**.

It takes about 2 minutes to print the Printhead status plot.

Interpret the Printhead status plot

The print is divided into two parts, both of which test printhead performance.

- Part 1 (top) consists of rectangles of pure colors, one for each printhead. This part represents the print quality that you will get from each color.
- Part 2 (bottom) consists of small dashes, one for each nozzle on each printhead. This part complements the first, and detects how many faulty nozzles are on each printhead.

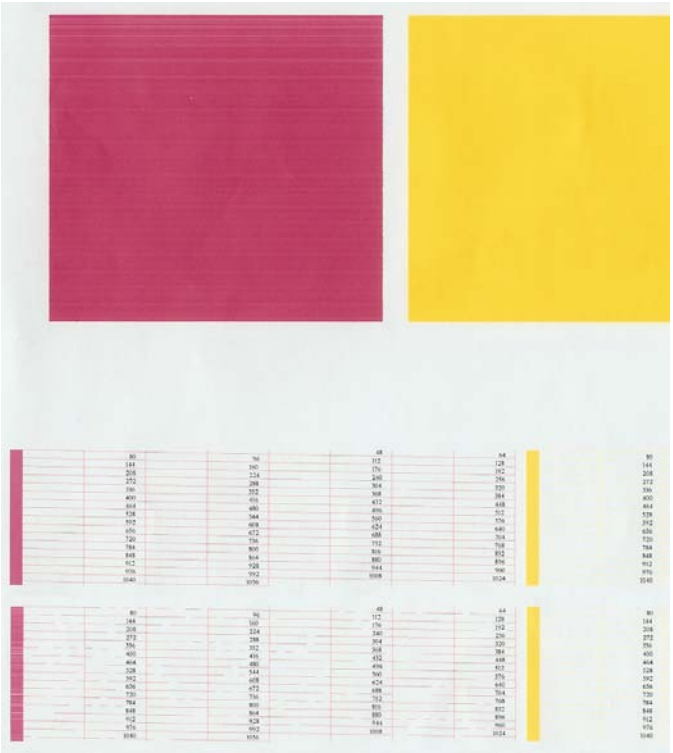


First look at the top part of the print. Each colored rectangle should be a uniform color without any horizontal lines across it.

Then look at the bottom part of the print. For each individual colored pattern, make sure that most of the dashes are present.

If you see horizontal lines in the top part and also see missing dashes in the bottom part for the same color, the printhead for that color needs to be cleaned. However, if the rectangles look solid, do not worry about a few missing dashes in the bottom part, because the printer can compensate for a few clogged nozzles.

The graphic shown illustrates printhead 2 in a bad state:



Corrective action

1. Clean any faulty printheads. See Clean the printheads on page 168. Then reprint the Printhead status plot to see whether the problem has been solved.
2. If the problem persists, clean the printheads again, and reprint the Printhead status plot to see whether the problem has been solved.
3. If the problem persists, consider cleaning your printheads manually. See Clean the printheads on page 168. Also try reprinting your current print job, in case it now prints satisfactorily.
4. If the problem continues to persist, replace any persistently faulty printheads. See Work with ink system components on page 59.

What to do if problems persist

If you still experience print-quality problems after applying the advice in this chapter, here are some additional tips to consider:

- Try using a higher print-quality option. See Select print quality on page 80.
- Check the driver you are using to print with. If it is a non-HP driver, consult the driver vendor about the problem. You could also try using the correct HP driver, if that workaround is acceptable to you. Download the latest HP drivers from http://www.hp.com/go/designjet/.
- If you are using a non-HP raster image processing (RIP), its settings might be incorrect. See the documentation that came with the RIP.
- Verify that your printer firmware is up to date. See Update the printer firmware on page 141.
- Verify that you have the correct settings in your software program.
- Contact HP Support. See HP Customer Care on page 183.

Remove the maintenance cartridge

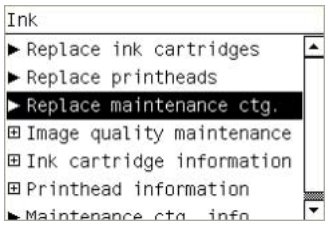
A message appears on the front panel when you must change the maintenance cartridge. Follow these precautions when removing a maintenance cartridge:

- Be careful not to get ink on your hands. Ink might be on, around, and inside the replaced maintenance cartridge.
- Always handle and store the replaced maintenance cartridge upright to avoid spilling any ink.

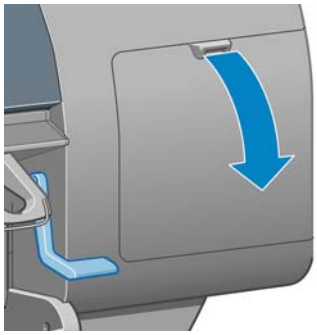
CAUTION: A message appears on the front panel when the maintenance cartridge is almost full and again when it is completely full and must be changed. You can ignore the alert and continue printing by pressing the OK button on the front panel. However, HP strongly recommends that you change the maintenance cartridge when prompted. Ignoring the alert can result in serious damage to the printer.

WARNING! Make sure that the printer wheels are locked (the brake lever is pressed down) to prevent the printer from moving.

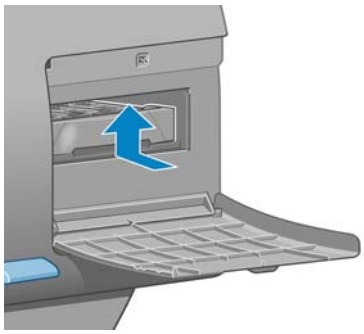
1. On the printer's front panel, select the  icon, and then select **Replace maintenance ctg**.



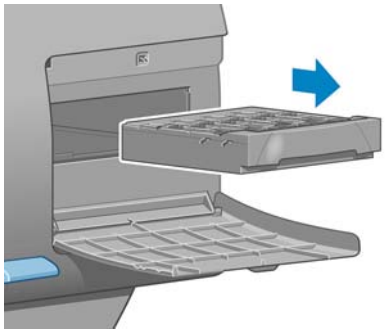
2. The maintenance cartridge is located in a slot underneath the front panel, at the front of the printer. Open the door.



3. The maintenance cartridge has a handle on the front. To remove the cartridge, press inward and upward as indicated by the arrow, until the cartridge is released.



4. Lift up the maintenance cartridge to remove it from the slot, and slide it out.

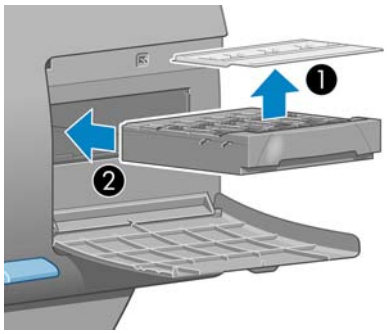


See also Insert the maintenance cartridge on page 75.

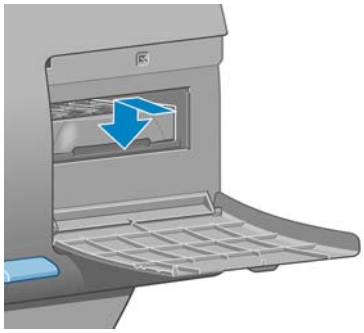
Insert the maintenance cartridge

The plastic bag in which the new maintenance cartridge comes can be used to dispose of the old maintenance cartridge.

1. Insert the maintenance cartridge into the slot, in the direction indicated by the arrow.



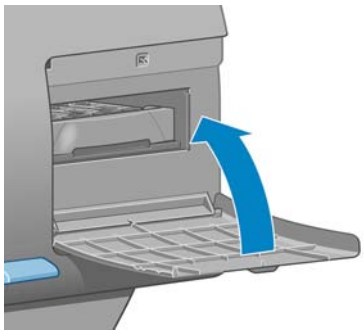
2. When the maintenance cartridge has been pushed all the way in, press inwards and downwards as indicated, until it clicks into place.



If you have difficulty, see Cannot insert the maintenance cartridge on page 168.

NOTE: The front panel will not show the new maintenance cartridge until the door is closed.

3. When you have inserted the maintenance cartridge into the printer, close the door.



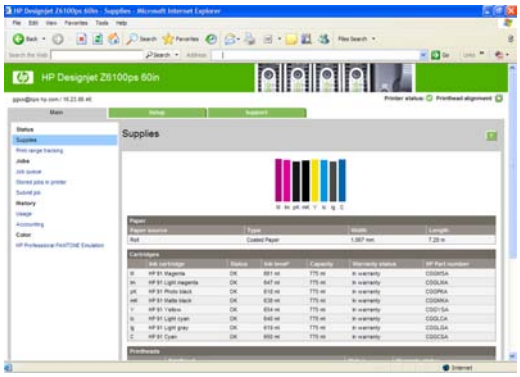
NOTE: The printer needs all the ink cartridges, printheads and maintenance cartridge to be installed before it can continue.

4. If no paper is loaded, the front panel will instruct you to load some.

NOTE: Make sure that the printer window and the door to the right are closed after you replace the supplies. The printer will not print while these are open.

Check the status of the ink system

1. Access the Embedded Web Server. See Embedded Web Server setup options on page 23.
2. Go to the Supplies page on the **Main** tab.



The Supplies page shows you the status of the ink cartridges (including the ink levels), the printheads, the maintenance cartridge, and the loaded paper.

Check the status of the ink cartridges

To view the ink levels in your ink cartridges, go to the printer's front panel and select the  icon.

To get more information about your ink cartridges, use the front-panel ink menu, HP Easy Printer Care (Windows), or HP Printer Utility (Mac OS).

Ink menu procedure

1. On the front panel, select the  icon, and then select **Ink cartridge information**.
2. Select the cartridge about which you want information.
3. The front panel shows the following information:
   - Color
   - Product name
   - Product number
   - Serial number
   - Status
   - Ink level, if known
   - Total ink capacity in milliliters
   - Expiration date
   - Warranty status
   - Manufacturer

HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS) procedures

- In HP Easy Printer Care (Windows), go to the **Overview** tab. The status of each cartridge appears when you select **Supply Status** > **Cartridges**.
- In HP Printer Utility (Mac OS), select **Information** > **Printer Status**.

Check the status of a printhead

The printer automatically checks and services the printheads after each print. Follow these steps to get more information on your printheads.

1. On the front panel, select the  icon, and then select **Printhead information**.
2. Select the printhead for which you want to see information.
3. The front panel shows the following information:
   - Colors
   - Product name
   - Product number
   - Serial number
   - Status (See Front-panel error messages on page 179.)
   - Volume of ink it has used
   - Warranty status

You can also get most of this information without leaving your computer by using HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS).

NOTE: If the warranty status is **See warranty note**, this indicates that non-HP ink is being used. Printer service or repairs required as a result of using "non-HP" ink are not covered under warranty. See the *Legal Information* document for detailed warranty implications.

Check printer usage statistics

To check your printer-usage, statistics are available.

NOTE: The accuracy of the usage statistics is not guaranteed.

Printer statistics with HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS)

1. Access HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS). See HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS) setup options on page 25.
2. Go to the Usage window to view the total printer usage.
3. Under Windows, go to the **Overview** tab and click on the **Printer usage** link.

   Under Mac OS, select **Information** > **Printer Usage** and click the **Start** button.

Printer statistics with the Embedded Web Server

1. Access the Embedded Web Server, see Access the Embedded Web Server on page 23.
2. Go to the Usage page on the **Main** tab.

Order ink supplies

You can order the following ink supplies for your printer.

Table 5-1 Ink cartridges

Cartridge	Capacity (ml)	Part number
HP 91 Matte Black 775 ml Ink Cartridge	775	C9464A
HP 91 Photo Black 775 ml Ink Cartridge	775	C9465A
HP 91 Light Gray 775 ml Ink Cartridge	775	C9466A
HP 91 Cyan 775 ml Ink Cartridge	775	C9467A
HP 91 Magenta 775 ml Ink Cartridge	775	C9468A
HP 91 Yellow 775 ml Ink Cartridge	775	C9469A
HP 91 Light Cyan 775 ml Ink Cartridge	775	C9470A
HP 91 Light Magenta 775 ml Ink Cartridge	775	C9471A

Table 5-2 Printheads

Printhead	Part number
HP 91 Matte Black & Cyan Printhead	C9460A
HP 91 Magenta & Yellow Printhead	C9461A
HP 91 Light Magenta & Light Cyan Printhead	C9462A
HP 91 Photo Black & Light Gray Printhead	C9463A

Table 5-3 Maintenance cartridge

Maintenance cartridge	Part number
HP 91 Maintenance Cartridge	C9518A

6 Print options

- Select print quality
- Select page size
- Adjust margins and layout options
- Resize a print
- Print crop lines
- Rotate an image
- Print a mirror image
- Select image orientation
- Remove the top and bottom blank areas
- Enter an account ID
- Select color emulation mode
- Change the treatment of overlapping lines
- Print with shortcuts
- Hold for preview
- Configure for high-quality printing
- Print in grayscale
- Print a draft
- Manage print jobs
- Request the printer's internal prints
- Use paper economically
- Use ink economically
- Change the graphic language setting

Select print quality

The printer has various print-quality options. The best quality printing requires some loss of speed, while maximum-speed printing can cause some reduction in print quality. The printer has four different print-quality options.

NOTE: If you have set the print quality in the printer driver or through the Embedded Web Server, that setting overrides a print-quality setting established on the front panel.

NOTE: You cannot change the print quality of pages that the printer is already receiving or has already received (even if they have not started to print yet).

Use the Embedded Web Server

To specify the print quality through the Embedded Web Server, go to the **Submit Job** page on the **Main** tab. In the **Job Settings** tree, select **Basic settings** and then select one of the settings from the **Print quality** drop-down menu: **Fast**, **Normal-Fast**, **Normal**, or **Best**.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Use a driver

You can specify the print quality in the following ways:

- In the Windows HP-GL/2 or Postscript driver, go to the **Paper/Quality** tab and look at the Print Quality section. If you select **Standard Options**, you can use the slider to select some compromise between speed and quality. If you select **Custom Options**, you can choose **Fast**, **Normal-Fast**, **Normal** or **Best**.
- In the Mac OS **Print** dialog box, go to the **Image Quality** panel. If you select **Standard** quality options, you can use the slider to select some compromise between speed and quality. If you select **Custom** quality options, you will see the specific print-quality options.

NOTE: In the Windows driver dialog box, the rendering resolution for your job appears in the **Custom Print Quality Options**dialog box. In the Mac OS **Print** dialog box, it appears in the **Summary** panel.

Use the front panel

On the front panel, select the  icon, and then select **Printing preferences** > **Select quality level**.

Select page size

Select the page size through the Embedded Web Server, in a driver, or on the front panel. The size that you select should be the page size in which the document was created. You can resize the document for printing. See Resize a print on page 83.

NOTE: If you set the page size from your computer, that setting overrides the page size setting on the front panel.

Custom page sizes

Custom page sizes can be defined in a driver or through the Embedded Web Server. The two types of custom page sizes are differentiated by how they were created, and therefore, which users have accessibility to them.

- Custom papers: custom papers are custom page sizes that have been defined in a driver and that reside on the user's hard drive. Therefore, custom papers are not available to other users in the network.
- Printer forms: printer forms are custom page sizes that have been defined through the Embedded Web Server and are visible to all network users who share that print queue. Users require at least Print operator network permissions to create printer forms.

Use the Embedded Web Server

To select the page size through the Embedded Web Server, go to the **Submit Job** page on the **Main** tab. In the **Job Settings** tree, select **Advanced settings** > **Paper** > **Page size** and then select **Standard** or **Custom** page size.

- Standard: use the drop-down menus to set the **Size** and **Orientation**.
- Custom: use the free-text fields to specify a **Width** and **Length**, and use the **Page size** drop-down menu to define the units of measurement.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Use a driver

Select the page size in the following ways:

- In the Windows HP-GL/2 or PostScript driver, click the **Paper/Quality** tab, and then select **Document Size**.
- In the Mac OS Page driver dialog, select **Page Setup** from the **File** menu, select your printer in the **Format for** popup menu, and then select **Paper size**.

To define a custom paper size that does not appear in the list of paper sizes:

- In the Windows and PostScript drivers, use one of two different methods:
  - In the driver dialog, select **Custom** from the **Document size** drop-down menu on the **Paper/Quality** tab. Type a name for the custom size and click **Save**. Then specify the paper dimensions and click **OK** to save your custom paper size.

    NOTE: The custom paper size you define is not available for selection in the list of custom sizes until you have exited and opened the Printing Preferences/Properties again. Then, you can select **More** from the **Document size**drop-down menu and find the custom paper size in the list.

  - On the **Start** menu, select **Printers and Faxes**, and then from the **File** menu select **Server Properties**. On the **Forms** tab, click the **Create a new form** check box, specify the name and dimensions of the new form, and then click **Save Form**.
- In Mac OS X V10.4, select **Paper Size** > **Manage Custom Sizes** in the **Page Setup** dialog box.
- In Mac OS X V10.2 or V10.3, select **Settings** > **Custom Paper Size** in the **Page Setup** dialog box.

Use the front panel

On the front panel, select the  icon, and then select **Printing preferences** > **Paper options** > **Select paper size**.

Adjust margins and layout options

The printer margins determine the area between the edges of your image and the edges of the paper. For information about the exact sizes (in millimeters) of the available margin settings, see Table 17-4 Margins on page 190.

Depending on the method that you use to adjust the margins, at least some of the following layout options are available.

- **Standard**. Your image is printed on a page of the size that you have selected, with a narrow margin between the edges of the image and the edges of the paper. The image should be small enough to fit between the margins.
- **Oversize**. Your image is printed on a page slightly larger than the size that you have selected. If you cut off the margins, the remaining page is the size you selected, with no margins between your image and the edges of the paper.
- **Clip Contents By Margins**. Use this setting when the contents have white borders and a size equal to that of the paper that you have selected in the driver. The printer uses the white border for its margins and you get a page size that is equal to what was selected in the driver.

See the Usage and Preview sections of the **Paper/Quality** tab for tips about deciding which margins and layout option best suit your needs.

NOTE: If margins are set in the printer driver or through the Embedded Web Server, they override the margins that are set on the front panel.

Use the Embedded Web Server

To set the margins through the Embedded Web Server, go to the **Submit Job** page on the **Main** tab. In the **Job Settings** tree, select **Advanced settings** > **Paper** > **Layout/Margins**. Then use the **Select margins** drop-down menu to set the margins. Select from: **Default**, **Small**, **Normal** and **Extended**.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Use a driver

Specify the margins in the following ways:

- In the Windows HP-GL/2 **Normal** margins and **Standard** layout are selected by default. To change the margins and layout options, click the **Paper/Quality** tab and click the **Layout** button.
- In the Windows PostScript driver, **Normal** margins and **Standard** layout are selected by default. To change the margins, click the **Paper/Quality** tab, select **More** from the **Document size** drop-down menu, and then select the desired page size and the margins at the same time. Click the **Layout** button to change the layout options.
- In the Mac OS driver, select **Page Setup** from the **File** menu, select your printer in the in the **Format for** popup menu, and then select **Paper size**. You select the page size and the margins at the same time.

NOTE: In the Windows PostScript driver, you have the option of selecting a paper size with no margins. The **No margins** option should only be selected in conjunction with the **Oversized** and **Clip contents by margins** layout settings.

NOTE: In Mac OS driver, the available margins options depend on the paper size that you selected in the **Page Setup** dialog box.

You have the option of selecting a paper size with no margins. To select the **No margins** option, click the **Printing** dialog, select the **Finishing** panel, and then click the **Layout** tab. The **No margins** option should only be selected in conjunction with the **Oversized** and **Clip contents by margins** layout settings.

Use the front panel

On the front panel, select the  icon, and then select **Printing preferences** > **Margins** > **Select margins**.

Resize a print

You can send an image to the printer at a certain size but tell the printer to resize it (normally larger). This can be useful in the follow situations:

- If your software does not support large formats
- If your file is too large for the printer's memory. In this case, you can reduce the page size in your software and then scale it up again by using the front-panel option

Use the Embedded Web Server

To rescale a print through the Embedded Web Server, go to the **Submit Job** page on the **Main** tab. On the **Job Settings** tree, select **Advanced settings** > **Resizing**. In the **Resizing** drop-down menu, select **Standard**, **% of actual size**, or **Custom**.

- If you select **Standard**, select a size and orientation from the drop-down menus.
- If you select **% of actual size**, enter a percentage in the free-text field.
- If you select **Custom**, type a size in the free-text field, and then set the units and specify on the drop-down menu whether the size defines the width or length.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Use a driver

Rescale a print in the following ways:

- In the Windows HP-GL/2 or PostScript driver, click the **Features** tab, and then select **Resizing options**
  - The **Print document on** option adjusts the image size to the paper size that you selected. For example, if you select ISO A2 as the paper size and you print an A4-size image, it is enlarged to fit the A2 paper. If the ISO A3 paper size is selected, the printer reduces a larger image to fit the A3 size.
  - The **% of normal size** option enlarges the printable area of the original paper size (the page minus the margins) by the percentage indicated, and then adds the margins to create the output paper size
- In the Mac OS **Print** dialog, select the **Finishing** panel and then select **Print document on**. The image size is adjusted to the paper size that you selected.

  For example, if you select ISO A3 as the paper size and you print an A4-size image, the image will be enlarged to fit the A2 paper. If you select ISO A3 as the paper size and the image is larger than A3, the printer reduces the image to fit the paper.

Use the front panel

On the front panel, select the  icon, and then select **Printing preferences** > **Paper options** > **Resize**.

Print crop lines

Crop lines are lines that are printed onto the paper during a print job to indicate where the paper should be cut to achieve a specific paper size. Crop lines can be printed for individual jobs or for multiple jobs that are printed with the nesting feature.

For information about how to print crop lines for multiple jobs that are printed with the nesting feature, see Nest with crop lines on page 100.

Use the Embedded Web Server

To enable crop lines through the Embedded Web Server, go to the **Submit Job** page on the **Main** tab. In the **Job Settings** tree, select **Advanced settings** > **Roll options** and then select a setting from the **Enable crop lines** drop-down menu.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Use a driver

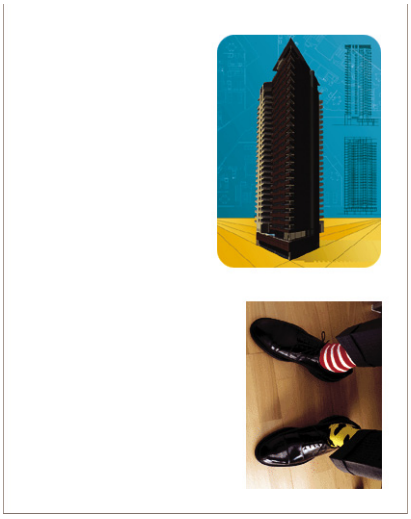
- In the Windows driver, go to the **Features** tab and in the **Roll Options** section, select the **Enable Crop lines** checkbox
- In the Mac OS **Print** dialog box, go to the **Finishing** panel and select the **Crop lines** check box.

Use the front panel

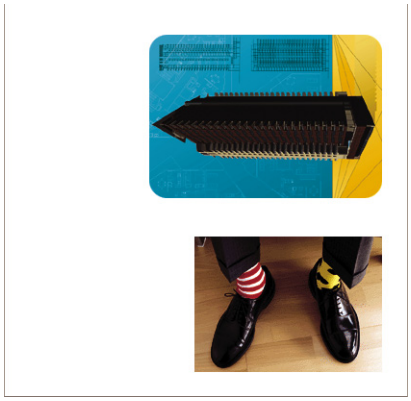
On the front panel, select the  icon, and then select **Printing preferences** > **Paper options** > **Enable crop lines**.

Rotate an image

By default, images are printed with the shorter sides parallel to the leading edge of the paper, like this:



You can rotate your images by 90° in order to save paper, like this:



When you rotate an image, you are actually rotating the page on the roll; the image maintains its same orientation on the page. Rotate the image through the Embedded Web Server, in a driver, or on the front panel. For more information about image orientation, see Select image orientation on page 87.

NOTE: If rotation is set in the printer driver or through the Embedded Web Server, it overrides the front-panel setting.

NOTE: When you rotate a job, the page length might be increased to avoid clipping, because the top and bottom margins are usually larger than the side margins.

CAUTION: If you rotate an image, the paper might not be wide enough for the image. For example, rotating a portrait D/A1-size image on D/A1-size paper by 90° will probably make the image exceed the width of the paper. If you are using the Embedded Web Server, the preview screen confirms this with a warning triangle. The job reverts to a "hold for paper." See Understand job status on page 97.

Use the Embedded Web Server

To rotate an image through the Embedded Web Server, go to the **Submit Job** page on the **Main** tab. In the **Job Settings** tree, select **Advanced settings** > **Roll options** and then select one of the settings from the **Rotate** drop-down menu.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Use a driver

You can rotate an image in the following ways:

- In the Windows HP-GL/2 or PostScript driver, select the **Features** tab, and then select in the Roll Options section, select **Rotate by 90 degrees**.
- In the Mac OS **Print** dialog box, select the **Finishing** panel and **Rotate by 90 degrees**.

Use the front panel

On the front panel, select the icon, and then select **Printing preferences** > **Paper options** > **Rotate**.

Autorotate

The Windows HP-GL/2 printer driver provides an Autorotate option, that automatically rotates oversized portrait images by 90° in order to save paper. Click the **Features** tab and in the Roll Options section, select **Autorotate**. Then select the width of the loaded roll on the **Roll width** drop-down menu.

Print a mirror image

If you are using clear imaging paper, sometimes called backlit, you might want to print a mirror image of your image, so that when the paper is lit from behind, the image appears in the correct orientation. Use one of the following methods to do this without changing the image in your software program.

Use the Embedded Web Server

To print a mirror image through the Embedded Web Server, go to the **Submit Job** page on the **Main** tab. In the **Job Settings** tree, select **Advanced settings** > **Transformations** and then select one of the settings from the **Mirror image** drop-down menu.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Select image orientation

When you set the image orientation, select either portrait or landscape orientation. Changing between portrait and landscape changes the orientation of the image on the page, but does not rotate the page on the roll. Change the orientation through the Embedded Web Server or in a driver. For more information about rotating an image, see Rotate an image on page 85.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Use the Embedded Web Server

To select the image orientation through the Embedded Web Server, go to the **Submit Job** page on the **Main** tab. In the **Job Settings** tree, select **Advanced settings** > **Orientation** and then select **Portrait** or **Landscape**.

Use a driver

- In the Windows driver, go to the **Paper/Quality** tab and then select **Portrait** or **Landscape**.
- In the Mac OS, go to the **Page Setup** dialog box, and then select **Portrait** or **Landscape**.

Remove the top and bottom blank areas

In addition to the page margins set for the job, the printer allows 5 millimeters of blank space between each print. To remove these top and bottom blank areas, select the **Remove top/bottom blank areas** feature.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Use the Embedded Web Server

To remove top and bottom blank areas through the Embedded Web Server, go to the **Submit Job** page on the **Main** tab. In the **Job Settings** tree, select **Advanced settings** > **Roll options** and then select **Remove top/bottom blank areas**.

Use a driver

- In the Windows driver, go to the **Features** tab and select **Remove top/bottom blank areas**.
- In the Mac OS **Print** dialog box, go to the **Finishing** panel and select **Remove top/bottom blank areas**.

Enter an account ID

Use this feature to assign an account ID to a print job for accounting purposes. The account ID appears in the printer-generated accounting reports. To track of job-accounting information, set your printer to require an account ID for each job that is submitted. This setting makes the account ID field mandatory and jobs that have no account ID revert to a "on hold for accounting" status.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Use the Embedded Web Server

To enable the Account ID feature, go to the **Submit Job** page on the **Main** tab. In the **Job Settings** tree, select **Advanced settings** > **Roll options** and then select **Account ID**.

Use a driver

- In the Windows driver, go to the **Features** tab and type an **Account ID** in the Account ID field.
- In the Mac OS **Print** dialog box, go to the **Accounting** panel and type an **Account ID** in the Account ID field.

Select color emulation mode

Select color emulation modes through the Embedded Web Server, in a driver or on the front panel. For more information about application-managed colors and printer-managed colors, see Color-management options on page 114.

Use the Embedded Web Server

To select a color emulation mode through the Embedded Web Server, go to the **Submit Job** page on the **Main** tab. In the **Job Settings** tree, select **Advanced settings** > **Color** and then select one of the settings from the **Color Management** drop-down menu. If you select the **Printer emulation** setting, you can then select the printer series you that want to emulate from the drop-down menu.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Use a driver

Select a color emulation mode in the following ways:

- In the Windows HP-GL/2 or PostScript driver, select the **Color Management** section of the **Color** tab.
- In the Mac OS **Print** dialog box, select the **Color Options** panel, and then select **Printer Emulation**.

Use the front panel

- On the front panel, select the  icon, and then select **Printing preferences** > **Color options** and select the emulation mode of interest.

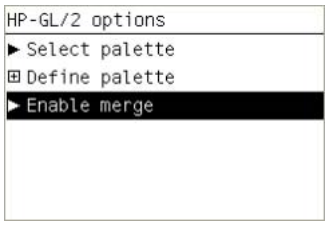
Change the treatment of overlapping lines

The **Merge** setting controls the overlapping lines in an image. There are two settings **Off** and **On**.

- If **Merge** is **Off**, only the color of the top line is printed where the lines cross.
- If **Merge** is **On**, the colors of the two lines are merged where the lines cross.

Use the front panel

To turn on **Merge** on the front panel, select the  icon, and then select **Printing preferences** > **HP-GL/2 options** > **Enable merge**. You can set the merge setting from some software programs. Settings in your software override the front-panel settings.



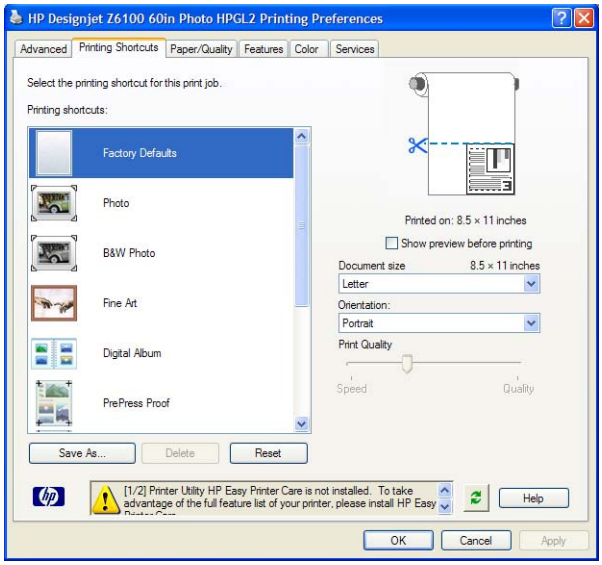
NOTE: Merge settings have no effect on PostScript files.

Print with shortcuts

The printer driver provides many options that can be set to different values when printing a particular job. A printing shortcut stores the values that are appropriate for a particular kind of job, so that you can set all the options with a single click. Some settings (such as paper size and orientation) can be overridden by the values that you specify in the software program.

NOTE: Shortcuts are available only in the Windows HP-GL/2 and PostScript drivers.

To use a shortcut, click the **Printing Shortcuts** tab in the Windows driver.



A list of available shortcuts appears. Select the one that matches the job that you want to print.

The driver options are now set. Print immediately, or examine the settings to make sure they are appropriate. You can select a shortcut and then change some of its settings manually.

TIP: Make sure to check at least the settings that you can see on the **Printing Shortcuts** tab: the document size, orientation, and so on.

The Factory Defaults shortcut contains the printer's default settings. When you click it, it sets all the options to their default values.

Printing shortcuts can be customized to your particular needs. To create your own shortcut:

1. Select the shortcut that comes closest to satisfying your requirements.
2. Change any value in the **Printing Shortcuts** tab and other tabs.
3. Save the new printing shortcut.

If you decide later that you no longer want a shortcut, you can delete it.

Hold for preview

Preview a print on the screen to check the layout of the print before printing, which can help you to avoid wasting paper and ink.

NOTE: If the nesting feature is enabled, the preview image might not accurately reflect the actual print job.

Use the Embedded Web Server

1. Go to the **Submit Job** page on the **Main** tab.
2. In the **Job Settings** tree, select **Basic settings**.
3. On the **Hold for a preview** drop-down menu, select **Yes**.
4. Click the **Print** button to submit the job.

In the print queue, you can see that the job has an “on hold” status.

5. To preview the job, click the icon in the Preview column.

NOTE: The printer can store up to 64 pages for preview. If the job that you selected for preview contains more than 64 pages, the job will be canceled and purged without notification when the printer starts to process the sixty-fifth page. If you want to preview a job that has more than 64 pages, click the **Continue** button before the printer starts to process the sixty-fifth page. Because the preview image is ready as soon as the first page is processed, you should have enough time to check the preview image.

Use a driver

You cannot actually preview a print in the printer drivers. However, selecting the preview option in the driver opens the Embedded Web Server. You then see the image in the Embedded Web Server preview window.

- To select the preview option in the Windows HP/GL-2 or PS drivers, go to the **Printing shortcuts** tab and select the **Show preview before printing** check box.
- To select the preview option in the Mac OS driver, go to the **Finishing** panel and select the **Show print preview** check box.
- You can also use your software program's print preview option.

Configure for high-quality printing

You can configure the printer for high-quality printing.

Use the Embedded Web Server

Through the Embedded Web Server, go to the **Submit Job** page on the **Main** tab. In the **Job Settings** tree, select **Basic settings** and select **Best** from the **Print quality** drop-down menu.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Use a driver

- In the Windows driver, go to the **Paper/Quality** tab and look at the Print Quality section. Move the print-quality slider to the extreme right ('**Quality**').
- In the Mac OS **Print** dialog box, go to the **Image Quality** panel, and then move the print-quality slider to the extreme right ('**Quality**').

Use the front panel

On the front panel, select the  icon, and then select **Printing preferences** > **Select quality level** > **Best**.

NOTE: If you set the print quality from your computer, that overrides the print-quality setting on the front panel.

Additional tips

The following are additional tips for specific printing conditions:

- **Printing on satin photo paper**: If you are printing on satin photo paper, consider using HP Professional Satin Photo Paper, which offers:
  - A wider color gamut
  - Better black optical density
  - Better PANTONE* coverage
  - A smoother surface
  - More robustness
- **Print-quality configuration suggestions**: The following table shows recommended print-quality settings and paper types for various different kinds of prints.

NOTE: High-density images should be printed on heavier paper (heavyweight or glossy).

Print content	Print quality	Paper types
Photographs 	**Best**	Productivity Photo Gloss
Renderings 	**Best**	Heavyweight Coated Paper Productivity Photo Gloss
In-store advertising 	**Normal-Fast** or **Normal**	Coated Paper Heavyweight Coated Paper Productivity Photo Gloss
Lines and images – high quality maps 	**Best**	Coated Paper CAD Heavyweight Coated Paper Productivity Photo Gloss
Lines and fills 	**Best**	Bright White Bond Paper Translucent materials* Coated Paper CAD

Print content	Print quality	Paper types
		Heavyweight Coated Paper
		Productivity Photo Gloss
Lines and fills (draft) 	**Fast**	Bright White
		Bond Paper
		Translucent materials*
		Coated Paper CAD
		Heavyweight Coated Paper
		Productivity Photo Gloss
Lines 	**Normal-Fast** or **Normal**	Bright White
		Bond Paper
		Translucent materials*
		Coated Paper CAD
Lines (draft) 	**Fast**	Bright White
		Bond Paper
		Translucent materials*
		Coated Paper CAD

* Translucent materials include Vellum, Translucent Bond, Natural Tracing Paper, Clear Film, and Matte Film.

For technical details about print resolution, see Functional specifications on page 189.

Print in grayscale

You can convert all colors in your image to shades of gray. By using an option in your graphics program if given the option, or by using the driver.

Use the Embedded Web Server

To print in grayscale through the Embedded Web Server, go to the **Submit Job** page on the **Main** tab. In the **Job Settings** tree, select **Advanced settings** > **Color** and then select a setting from the **Color/ Grayscale** drop-down menu.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Use a driver

- In the Windows HP-GL/2 or PostScript driver, go to the **Color** tab and look at the Color Options section. Select **Print In Grayscale** and then select one of the two grayscale options that are available.
- In the Mac OS **Print** dialog box, go to the **Color options** panel and select **Color**. Select **Print In Grayscale** and then select one of the two grayscale options that are available.

These are the two grayscale options:

- **Gray and Black Inks Only**: With this option, only gray and black inks are used to produce the grayscale image.
- **Full Set of Inks**: With this option, a mix of colors are used to produce the grayscale image.

NOTE: The **Full Set of Inks** option can produce better results. Try using that option if you are experiencing bronzing when printing on glossy paper. See The image has a metallic hue (bronzing) on page 154.

Print a draft

You can configure the printer for fast, draft-quality printing.

Use the Embedded Web Server

Through the Embedded Web Server, go to the **Submit Job** page in the **Main** tab. In the **Job Settings** tree, select **Basic settings** and select **Fast** from the **Print quality** drop-down menu.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Use a driver

- In the Windows HP-GL/2 or PostScript driver, go to the **Paper/Quality** tab and look at the Print Quality section. Move the print-quality slider to the extreme left ('**Speed**').
- In the Mac OS **Print** dialog box, go to the **Image Quality** panel and move the print-quality slider to the extreme left ('**Speed**').

Use the front panel

On the front panel, select the  icon, and then select **Printing preferences** > **Select quality level** > **Fast**.

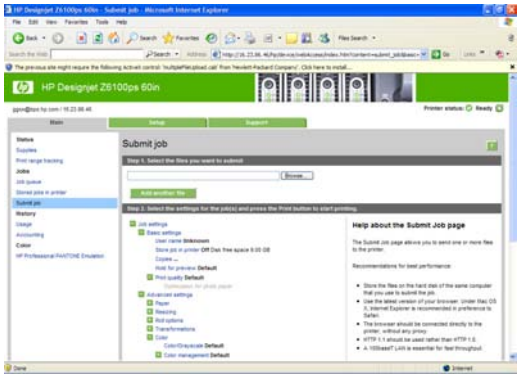
NOTE: If you set the print quality from your computer, that overrides the print-quality setting on the front panel.

Manage print jobs

Submit a job

1. Access the Embedded Web Server. See Embedded Web Server setup options on page 23.

2. Go to the **Submit job** page on the **Main** tab.



3. Click the **Add files** button to Browse your computer and select the files to print.

NOTE: Submitting a print job through the Embedded Web Server does *not* require you to have the printer driver or the software that was used to create the file installed on your computer.

4. Set any other job options you may want from within the **Job settings** tree.

   If you leave an option set to **Default**, the setting that was saved in the job will be used. If the job contains no setting for that option, the setting in the printer will be used. The setting in the printer can be changed on the front panel, or, in some cases, through the Device Setup page in the Embedded Web Server.

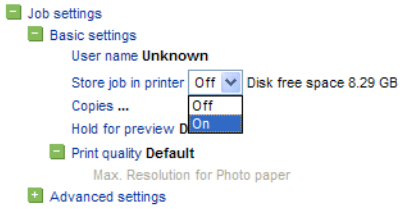
5. Click the **Print** button.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Save a job

You can only save a job while submitting it for printing:

1. Access the Embedded Web Server. See Embedded Web Server setup options on page 23.
2. Go to the **Submit job** page on the **Main** tab.
3. Click the **Add files** button, browse your computer, and select the file to print.
4. If you want to submit more than one file, click the **Add files** button to add more files.
5. In the **Job settings** tree, go to **Basic settings** and set the **Store job in printer** option to **On**.



6. Set any other job options that you want from within the **Job settings** tree.
7. Click the **Print** button.

   The job appears on the Stored jobs in printer page on the **Main** tab.

Reprint an old job

If you intend to reprint a job later after making some changes to the job settings (such as size or quality), you can store the job inside your printer so that you do not have to resubmit it later.

NOTE: If you want to reprint a job without changes, you can do that from the print queue without saving the job.

Reprint old jobs either through the Embedded Web Server or on the front panel.

Use the Embedded Web Server

Reprint any jobs that are listed in the job queue or on the list of jobs that are stored in the printer.

- Go to the **Job queue** on the **Main** tab, select the job that you want to reprint, and click the **Reprint** button.
- Go to the **Stored jobs in printer** page in the **Main** tab, select the job that you want to print, modify the print options as necessary, and click **Save**, **Print**, or **Print and save**.

Use the front panel

Reprint a job on the front panel in one of two ways, depending on the job that you want to reprint.

- To reprint the last job that was printed, select the  icon and then select **Reprint last job**.
- To reprint any other job, select the  icon and select **Job queue**. Then select the job that you want to reprint and select **Reprint**. Select the number of copies that you want to print and click **OK**.

Cancel a job

Cancel a job on the front panel by pressing the Cancel button, or through the Embedded Web Server by selecting the job from within the job queue and clicking the **Cancel** button.

You can also use the driver to cancel.

The printer advances the paper as it would if the print were finished.

NOTE: A multipage job or a large file might take longer to stop printing than other files.

Manage the print queue

The queue might contain more than one job. If so, your printer stores jobs in a queue while it is printing the current page.

Prioritize a job in the queue

- On the front panel: to make any pending job in the queue the next one to be printed, select the  icon and then select **Job queue**. Select the job that you want to be printed next and select **Move to front**.
- Through the Embedded Web Server: select the job that you want to be printed next within the job queue and select **Move to front**.

NOTE: If nesting is turned on, the prioritized job might remain nested with others. If you want only this job to be printed next, and on its own on the roll, first turn nesting off and then move the job to the front of the queue as described.

Identify a job in the queue

The best way to look at the queue is through the Embedded Web Server, on the **Jobs queue** page on the **Main** tab. Manage the queue and get full information about every job by clicking the name of the file.

You can also manage the queue on the front panel. To do so, select the  icon and then select **Job queue**. You can see a list of the jobs in the queue, each with an icon depicting its status as pending, active, done, or cancelled.

Delete a job from the queue

Under normal circumstances, you do not need to delete a job from the queue after printing it, because it will leave the queue as more files are sent. However, if you have sent a file in error and want to avoid the chance that it will be reprinted, you can delete it by selecting it and then selecting **Delete** through the Embedded Web Server or on the front panel.

In the same way, you can delete a job that has not been printed yet.

If the job is currently being printed (status = **printing**) and you want to both cancel the job and delete it, first click the **Cancel** icon in the Web server or press the Cancel button on the front panel, and then delete the job from the queue.

Make copies of a job in the queue

To make extra copies of any job in the queue, select the job through the Embedded Web Server and click the **Reprint** button, and then specify the number of copies that you want. The job moves to the top of the queue.

You can also do this on the front panel: select the  icon and then select **Job queue**. Select the job, select **Copies**, and then specify the number of copies that you want and press the OK button. This overrides any value set in your software.

NOTE: If **Rotate** was **On** when you sent the file, every copy will be rotated.

If the job has already been printed, use **Move to front** to move it to the top of the queue.

Understand job status

These are the possible job status messages, in the approximate order in which they appear:

- **receiving**: the printer is receiving the job from the computer.
- **waiting to process**: the job has been received by the printer and is waiting to be rendered (only for jobs submitted through the Embedded Web Server.)
- **processing**: the printer is parsing and rendering the job.
- **preparing to print**: the printer is performing writing system checks before printing the job.
- **waiting to print**: the job is waiting for the print engine to become available to proceed with printing.

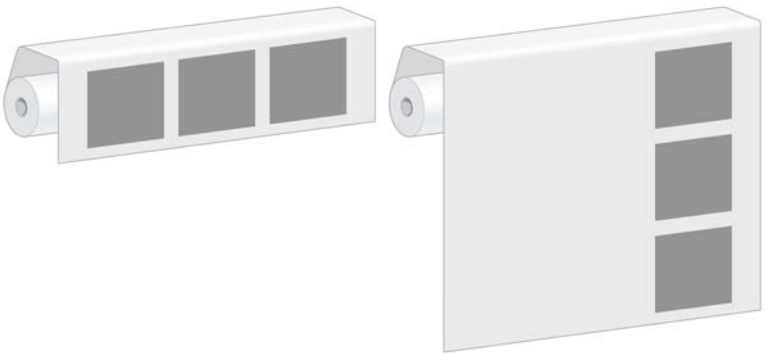
- **waiting for nest**: the printer is set up with **Nesting=On** and is waiting for other job to complete the nest and proceed with printing.
- **on hold**: the job was sent with the **Hold for preview** option and is on hold.

  NOTE: If the printer stalls while printing a job and the queue facility is turned on, the partially printed job will appear in the queue as **on hold** when the printer is turned on again. When you resume the job, it begins printing at the page on which it was interrupted.

- **on hold for paper**: the job cannot be printed because the paper it requires is not loaded in the printer. Load the required paper and then click **Continue** to resume the job.
- **on hold for accounting**: the job cannot be printed because the printer requires all jobs to have an account ID. Type the account ID and then click **Continue** to resume the job.
- **printing**
- **drying**
- **cutting paper**
- **ejecting page**
- **canceling**: the job is being canceled, but will remain in the printer job queue.
- **deleting**: the job is being deleted from the printer.
- **printed**
- **canceled**: the job has been canceled by the printer.
- **canceled by user**
- **empty job**: the job does not contain anything to print.

Nest jobs to save paper

Nesting means placing pages side-by-side on the paper, rather than one after the other. Do this to avoid wasting paper. The graphic below to the left illustrates the general concept of nested print jobs. The graphic below to the right illustrates three that have been print jobs printed with the nesting feature disabled.



When does the printer try to nest pages?

When the **Job Management** menu on the front panel or the Setup page in the Embedded Web Server shows that **Nest** is **On**, the printer nests pages.

How long does the printer wait for another file?

So that the printer can make the best nest possible, it waits after receiving a file to determine whether a subsequent page will nest with it. This waiting period is the nest wait time; the factory default nest wait time is 2 minutes. This means that the printer waits up to 2 minutes after the last file is received before printing the final nest.

You can change this waiting time on the printer's front panel. Select the  icon, and then select **Job management options** > **Nest options** > **Select wait time**. The available range is 1 to 99 minutes.

NOTE: Nesting requires that you set the **When to start printing** feature to **After processing**. To do so, select the  icon, and then select **Job management options** > **When to start printing** and select **After processing**.

While the printer is waiting for nesting to time out, the remaining time appears on the front panel. You can print the nest (cancel the nest wait time) by pressing the Cancel button.

Which pages can be nested?

All pages can be nested unless they are so large that two of them cannot fit side-by-side on the roll, or more pages remain that can fit on the remaining length of the roll. A single group of nested pages cannot be split between two rolls.

Configure the nesting option

On the printer's front panel: select the  icon, and then select **Job management options** > **Nest options** > **Enable nesting** and select **Off**, **In order**, or **Optimized order**.

The following are three nesting options:

- **Off**

  Select the **Off** setting to disable the nesting feature.

- **In order**

  Pages are nested on the roll in the same order in which they are submitted to the printer. The nest is broken and printed as soon as one of three conditions is met:

  - The nest is full, meaning that the remaining paper on the roll is insufficient to accommodate the next page that is submitted.
  - The nesting timeout elapses.
  - The next page to arrive is incompatible with the pages that are already nested.

  For more information about the compatibility of a page, see How job compatibility is defined on page 100.

  The advantage of In-order nesting is that the wait time for pages to nest – and therefore the total printing time – is typically reduced because more conditions exist to break the nest. The disadvantage is that the nest is broken by the first incompatible page submitted, even if a sufficient length of paper and additional compatible pages are in the queue. This means that a higher probability exists that the paper will not be used efficiently.

- **Optimized order**

Pages are nested on the roll independent of when they are submitted to the printer. An incompatible page does not break a nest. Instead, the printer waits for more compatible pages and queues the incompatible pages until one of three conditions is met:

- The nest is full, meaning that the remaining length of paper on the roll is too small to accommodate the next page submitted
- The nesting timeout elapses
- The incompatible-page queue is full. The printer queues up to six incompatible pages while it nests compatible pages. Upon receiving the seventh incompatible page, the nest is broken and printed. Then the pages in the incompatible-page queue print.

For more information about the compatibility of a job, see How job compatibility is defined on page 100.

The advantage of Optimized order nesting is that it typically wastes less paper because the nest is not broken when an incompatible page is submitted. The disadvantage is the overall printing time is typically longer because the printer waits for compatible pages.

NOTE: Pages might not be printed in the order that the were submitted to the printer when the Optimized order option is selected.

How job compatibility is defined

In order to be in the same nest, the individual pages must be compatible in all of the following ways:

- All pages must have the same print-quality setting.
- The **Maximum Detail** setting must be the same on all pages.
- The **Mirror** setting must be the same for all pages.
- The **Rendering Intent** must be the same for all pages.
- The **Cutter** setting must be the same for all pages.
- The color adjustment settings must be the same for all pages. These are known as **Advanced Color Settings** in the Windows driver, and **CMYK Settings** in the Mac OS driver.
- Pages must be all color or all grayscale. The pages cannot be a mix of color and grayscale.
- All pages must be in one of the following two groups; the two groups cannot be mixed in the same nest:
  - HP-GL/2, RTL, and CALS G4
  - PostScript, PDF, TIFF, and JPEG
- JPEG, TIFF, and CALS G4 pages that have a resolution greater than 300 dpi might not nest with other pages.

Nest with crop lines

Crop lines are lines that are printed onto the paper during a print job to indicate where the paper should be cut to create a specific paper size. Crop lines can be printed for individual jobs or for multiple jobs printed with the nesting feature.

NOTE: Selecting the crop lines option in the **Nest options** menu overrides the setting in the **Printing options** menu for an individual job.

To print crop lines for multiple jobs printed with the nesting feature through the Embedded Web Server:

1. Go to the **Printer Settings** page on the **Setup** tab.
2. Select **Printer settings** > **Job management** and then select Yes from the **Nest** drop-down menu.
3. Go to the **Submit Job** page on the **Main** tab.
4. In the **Job Settings** tree, select **Advanced settings** > **Roll options**, and then select **Yes** from the **Enable crop lines** drop-down menu.

For information about how to print crop lines for individual jobs, see Print crop lines on page 84.

Check ink and paper usage for a job

Two methods exist to check ink and paper usage for a job.

NOTE: The accuracy of the usage statistics is not guaranteed.

Ink and paper statistics with HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS)

1. Access HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS). See HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS) setup options on page 25.
2. Go to the **Accounting** window to view information about the most recent jobs.
3. In Windows, go to the **Job Accounting** tab.

   In Mac OS, select **Information** > **Job Accounting** and click the **Look Up** button.

Printer statistics with the Embedded Web Server

To obtain printer statistics through the Embedded Web Server, go to the **Accounting** page on the **Main** tab and find the job for which you want information.

Request the printer's internal prints

The internal prints provide various kinds of information about your printer. Request these prints from the front panel, without using a computer.

Before requesting any internal print, make sure that paper is loaded and that the **Ready** message appears on the front-panel display.

To print an internal print, select the  icon, **Internal prints**, and then select the type of internal print that you want.

The following internal prints are available:

- Demo: shows some of the capabilities of the printer
- Menu map: shows details of all the front-panel menus
- Configuration: shows all the current front-panel settings
- Usage report: shows estimates of the total number of prints, number of prints by paper type, number of prints by print-quality option, and total amount of ink used per color. The accuracy of these estimates is not guaranteed.
- HP-GL/2 palette: shows the color or grayscale definitions in the currently-selected color palette

- PostScript font list: lists the PostScript fonts that are installed in the printer (PostScript printers only)
- Service information: provides information that service engineers require

Use paper economically

Here are some recommendations for making economical use of paper:

- If you are printing more than one job, consider nesting the jobs. Nesting means placing pages side-by-side on the paper, rather than one after the other. See Nest jobs to save paper on page 98.
- You might be able to save some paper by using the following options:
  - In the Windows HP-GL/2 or PostScript driver, select the **Features** tab and then select **Remove top/bottom blank areas** or **Rotate by 90 degrees**.
  - In the Mac OS **Print** dialog, select the **Finishing** panel and then select **Remove top/bottom blank areas** or **Rotate by 90 degrees**.
- If you preview the print on your computer before printing, you can sometimes avoid wasting paper on prints that contain obvious mistakes. See Hold for preview on page 90.

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

Use ink economically

Here are some recommendations for making economical use of ink:

- For draft prints, use plain paper and move the print-quality slider to the left end of the scale ('**Speed**')
- Clean the printheads only when needed, and clean only those printheads that need cleaning. Cleaning the printheads can be useful, but it uses ink.
- Leave the printer permanently turned on so that it can maintain the printheads in good condition automatically. This regular printhead maintenance uses a small amount of ink. However, if it is not done, the printer might use much more ink later to restore the health of the printheads.
- Wide prints make more efficient use of ink than narrow prints

NOTE: Be aware that when you submit more than one job at a time by clicking the **Add files** button in the Embedded Web Server, all of the jobs that you submit will adopt the settings of the final job that you submit. However, none of the jobs in the print queue are affected.

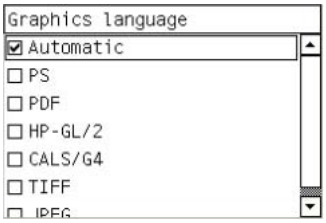
Change the graphic language setting

Unless you are troubleshooting one of the problems mentioned in the following section, you should not need to change the default graphic language setting (**Automatic**). Avoid changing the setting because setting a specific graphic language means that you can print only files that have been created in that language.

NOTE: Any setting selected in HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS) overrides the setting selected on the front panel.

Use the front panel

To change the graphic language setting, select the icon, and then select **Printing preferences** > **Select graphics language**, where the following options are available.



- Select **Automatic** to allow the printer determine which type of file it is receiving. This setting works for most software programs.
- Select **PS** if you are printing only PostScript files, and if your PostScript jobs do not start with the standard PostScript header (%!PS) and do not include PJL language-switching commands

  Alternatively, select **PS** if you have experienced problems while downloading PostScript fonts. In this case, select **Automatic** again after you have downloaded the fonts.

  If you are downloading fonts over a USB connection, select the icon, and then select **Printing preferences** > **PS** > **Select encoding**.
- Select **TIFF**, **JPEG**, **PDF**, or **CALS G4** only if you are sending a file of the appropriate type directly to the printer without going through a printer driver. This is normally done only through the Embedded Web Server, which sets the language without user intervention.

NOTE: The **PS** and **PDF** options are available with PostScript printers only.

Use the HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS)

Change the graphic language setting from the HP Easy Printer Care and HP Printer Utility by using the following steps.

1. In Windows, click the **Settings** tab and then select **Printer settings** > **Printing preferences**.

   In Mac OS, select **Configuration** and then select **Printer settings** > **Configure printer settings** > **Printing preferences**.
2. Select one of the following options:
   - Select **Automatic** to allow the printer determine which type of file it is receiving. This setting works for most software programs. **Automatic** is the recommended value.
   - Select **HP-GL/2** only if you are sending a file of the appropriate type directly to the printer, without going through a printer driver

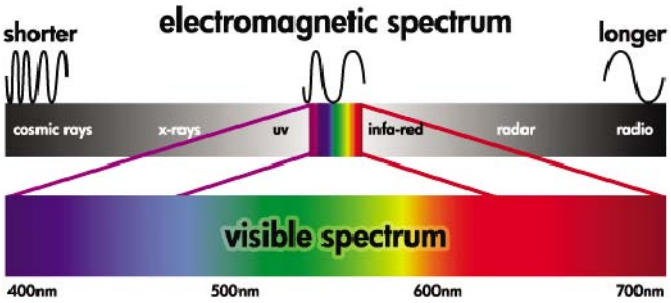
7 Color management

- What is color?
- The problem: color in the computer world
- The solution: color management
- Color and your printer
- A summary of the color-management process
- Color calibration
- Color profiling
- Color-management options
- Color adjustment options
- Perform black point compensation
- Set the rendering intent
- HP Professional PANTONE* Emulation
- Color emulation modes

What is color?

We see the world around us as steeped in color. Color is in the first instance simply an aspect of how we experience our environment and is therefore subjective. Our color experiences are closely related to brain activity that is triggered by signals that our eyes send to it. These signals undergo a complex and highly interlinked sequence of processing stages that make the relationship between what our eyes emit and what we experience anything but direct. The signals sent by the eye depend on the light-sensitive cells that line the back of our eyes, and they belong to three types, each sensitive to electromagnetic radiation of different physical properties (wavelengths). Such electromagnetic radiation is called light and objects appear to have certain colors because of how the objects interact with light (by emission, reflection, absorption, transmission, scattering, etc.).

Our individual experiences of color are also affected by our previous experiences and memories and by the way in which we put our experiences into language. Finally, environmental factors such as changes in lighting, scene content, or the proximity of other colors also have an effect, which makes the way in which we view a given display or print an essential part of the colors we see. Differences in all these aspects (from physiological differences between people, to differences in their past experiences, memories and linguistic tendencies) can result in people talking about colors differently even in response to the same light reflected from an single object. However, many similarities exist between how individuals experience color. You can make very specific judgments about color that others will also agree with when care is taken in the process. In conclusion we can say that color results from the interaction between light, objects, and a viewer, which makes it a very complex and to a large degree subjective phenomenon.



The problem: color in the computer world

Color-imaging devices such as printers, displays, projectors, and televisions create colors by using different methods and materials (colorants). Displays, for instance, use colorants that emit red (long wavelength), green (medium wavelength), and blue (short wavelength) light. A white color requires all three colorants and black requires that none of them be used (i.e. that no light be emitted). Devices that use light-emitting colorants are called additive, because the light from them is added together before it enters a viewer's eyes. Printers, on the other hand, use materials that absorb parts of the light that shines on them. They are called subtractive. Typical prints use cyan (red absorbing), magenta (green absorbing), and yellow (blue absorbing) inks and an additional black ink that absorbs light at all wavelengths. To get white using a printer requires not absorbing any of the light that illuminates a piece of paper and to get black, all of the inks need to be used to absorb all of the light that is present.

To control the output of color imaging devices, the following color spaces are normally used:

- **RGB (Red, Green, and Blue)** is the color space typically used for additive devices. A color is represented as a combination of specific quantities of red, green, and blue colorants that create the range of colors (color gamut) in the device.

  NOTE: Colors in subtractive devices can also be controlled by using RGB data. Especially when control over the printer's black ink is unnecessary, this is an efficient option.

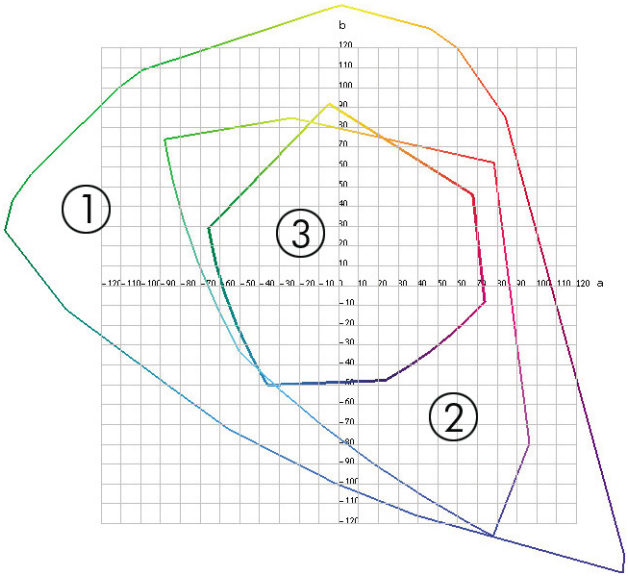
- **CMYK (Cyan, Magenta, Yellow, and Black)** is the color space for subtractive devices, such as printers or presses. A color is represented as a combination of cyan, magenta, yellow, and black (K) inks, and combinations provide the entire range of colors in the device.

Color spaces are only methods of controlling different color-imaging devices. They do not describe colors directly. The same CMYK values, for example, create different colors when sent to different printers that use different inks and paper types. For example, consider a printer that can use indoor inks or outdoor inks. The printer (hardware) is the same, but it has two different color gamuts due to the different chemistry of the inks (dye-based versus pigmented). Furthermore, they need to work with different paper types, as ink interaction with the paper depends on its chemistry. Thus, the colors resulting from given CMYK values depend on the types of inks and papers that you use with a printer. If this is the case using the same printer, you can easily imagine how different results can be obtained with printers using different technologies and therefore using different ink chemistry.

The same happens with RGB-controlled devices. For example, imagine that two different monitors from the same manufacturer have their white points at 9600 K and 6500 K, respectively. Their colors are going to be different because they will be related to a different white point reference. The situation varies even more among monitors from different manufacturers. To emulate the standard color temperature of the graphic-arts industry, set the white point of your monitor to 5000 K (also called D50).

NOTE: The white point is the brightest neutral color that a device can reproduce or that is present in an image. The human visual system automatically adapts to the content of an image based on its white point.

An RGB image, such as an image obtained from a digital camera and edited on a monitor, must first be converted to CMYK before printing. Different devices do not give access to the same color gamuts: some colors that can be shown on a display cannot be matched in print, and vice versa. The following figure illustrates how the human eye perceives a larger range of colors than a typical display or printer. It also shows that the color gamuts in two different types of color-imaging devices do not match each other.



1. All colors
2. Computer monitor gamut
3. CMYK press gamut

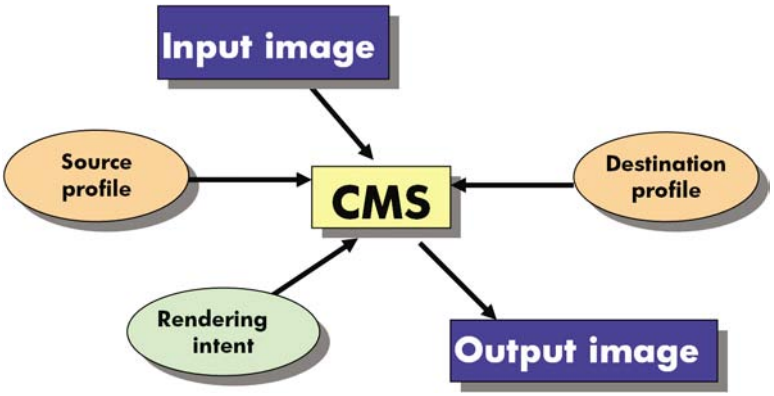
Some color spaces are not device-dependent, but instead represent how a viewer sees colors, such as CIE Lab or CIECAM02. These color spaces are defined by the CIE (Commission Internationale de l'Éclairage). The advantage of these spaces is that if two objects have the same CIELAB values, they look the same when viewed under the same conditions. Values in these spaces can be obtained from measuring the light emitted or reflected by an object.

The solution: color management

Many colors from an RGB-controlled device cannot be reproduced in a CMYK-controlled device, and vice versa. These colors are called "out-of-gamut" colors.

1. **Describe the color behavior of a device as accurately as possible by using an ICC profile.** The color behavior of a device can be described by taking various RGB or CMYK combinations, sending them to a device, measuring the resulting output, and expressing it in a device-independent color space (for example, CIE Lab). The resulting relationship is stored in an ICC profile, which is a standard file that translates the color space of a device(CMYK or RGB) to a device-independent color space (for example CIE Lab). The process of generating an ICC profile is called profiling.
2. **Convert colors as effectively as possible by using a Color Management System (CMS).** A CMS is software that uses information from ICC profiles to transform the color space of one device (defined by a source profile) into the color space of another device (defined by a destination profile). In this solution, difficulties arise with the colors that exist in the gamut that one device uses and that the other does not use.

The following four settings describe and CMS:



- **CMS:** Color Management System. The software that converts the color information that is stored in the input image (defined by a source profile) into an output image that has the color space specified by a destination profile. Many different CMSs are on the market: in software programs, in operating systems, and in printing software, including the HP Designjet Z6100 internal RIP.
- **Source profile:** a description of the color behavior of the input device
- **Destination profile:** a description of the color behavior of the output device
- **Rendering intent:** the most difficult challenge in color management is when a color in the source gamut does not correspond directly to a color in the destination gamut. When a perfect match is not possible, choices must be made about how to treat gamut differences. These choices are called rendering intent. There are four different possibilities depending on the final output that you want to achieve.
  - Use **Perceptual** for the most pleasing final output. It is suitable for photographic content.
  - Use **Saturation** for vivid final output. It is suitable for business graphics (charts, presentations, and so on), but is not recommended for color matching.
  - Use **Relative Colorimetric** for press proofing. This rendering intent provides a match for colors that are inside both the source and destination gamuts, and minimizes differences when a match is not possible.
  - Use **Absolute Colorimetric** for press proofing (like Relative Colorimetric), when you also want to simulate the color of the source's paper.

The following are the most commonly used device color spaces and profiles:

- RGB mode:
  - **sRGB (sRGB IEC61966-2.1):** for images that typically originate from consumer digital cameras and scanners and from the Web
  - **Adobe® RGB (1998):** for images that typically originate from professional digital cameras
  - **Specific RGB device space:** for images that are coming from or going to a specific RGB device that has been profiled
- CMYK mode:
  - **SWOP:** Specifications for Web Offset Publications, a set of press standards that have been defined for a typical U.S. press and for different types of paper stock
  - **ISO 12647-2:** a set of press standards that have been defined by the International Standards Organization for different types of paper. Some examples of the definitions include Coated, Uncoated, and so on.
  - **Other regional standards:** Euroscale, JMPA, Japan Color
  - **Specific CMYK device space:** for images that are coming from or going to a specific CMYK device that has been profiled. The HP Designjet Z6100 printer can measure itself and generate an CMYK ICC profile, describing its color behavior for the paper that was loaded when it calculated the measurement.

Color and your printer

As a creative professional, predictable and dependable results from your printer are essential to getting your job done. Predictability is a key element of an efficient color workflow. You need prints that match your expectations and that generate neutral grays and correct colors on your selected paper, print-to-print and printer-to-printer. Dependability ensures that every print is free of print-quality defects and ready to use or send to your customer. You save time and effort and avoid wasting ink and paper, and you can meet demanding production schedules with confidence.

HP Designjet Z6100 printers have been engineered with advanced hardware and driver features to ensure predictable and dependable results, and offer dramatic improvements in efficiency and control for your color workflow.

HP Embedded Spectrophotometer

HP Designjet Z6100 printer series revolutionizes professional color workflows by using a built-in spectrophotometer for color calibration and profiling.

A spectrophotometer is a precision instrument that can determine the exact composition of the light that is reflected from a color patch. It splits the reflected light into different wavelength components and measures the strength of each component. The HP Embedded Spectrophotometer is mounted on the printhead carriage.

The HP Designjet Z6100 printers use the spectrophotometer to generate custom ICC profiles automatically for your preferred paper types. It then calibrates the printers to deliver print-to-print and printer-to-printer consistency with less than half the color error of earlier HP Designjets, under all environmental conditions, and even on unknown (not factory-profiled) paper types. A built-in white calibration tile, which is protected by an automatic shutter, ensures reliable measurements that meet international standards.

The printer, color-imaging pipeline, and professional-quality spectrophotometer with GretagMacbeth i1 color technology are integrated with the HP Color Center software for the HP Designjet Z6100. Giving the calibration and profiling processes direct access to the writing system allows precise control of ink levels and color separations for each printed color patch. The automated measurement process eliminates

the need to handle the test print, provides repeatable drying times, and allows fast measurements with precise electromechanical positioning of the spectrophotometer over the color patch. This provides unprecedented ease of use and matches or exceeds the performance of more expensive offline, handheld profiling systems.

A summary of the color-management process

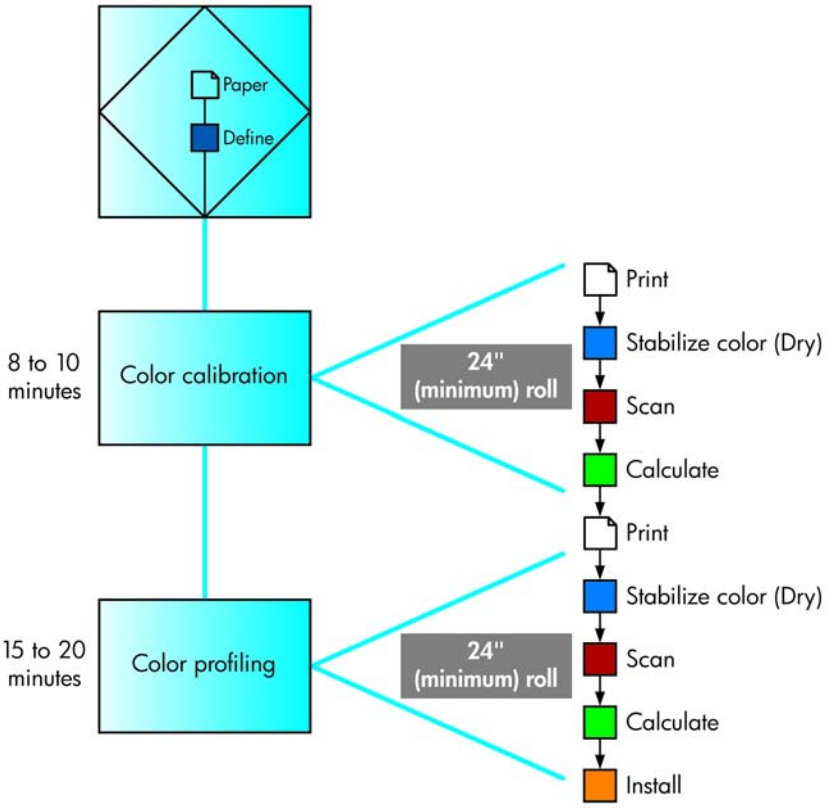
To get the accurate and consistent colors that you want, follow these steps for each paper type that you use.

1. If the printer does not recognize your paper type, add the type to the printer's list of known papers. See Use non-HP paper on page 47. Typical users might add a few custom paper types every year.
2. Color-calibrate the paper type to ensure consistent colors. Perform this calibration when a printer alert recommends this calibration (typically, every few weeks for each paper type you use). In addition, calibrate immediately before a particularly important print job in which color consistency is vital.
3. Color-profile the paper type to ensure accurate colors. Profiling does not normally need to be repeated; after you have a profile for a particular paper type, you can continue to use it. However, re-profiling does no harm, and some users repeat the profiling process every month to ensure that the profile is up-to-date.
4. When printing, select the correct color profile for the paper type that you are using.

Paper types that are defined in the printer also have color profiles stored in the printer. However, HP recommends that you calibrate the paper before using it.

If you define a new paper type, the printer automatically leads you through calibration and profiling.

The following diagram shows the operations that the HP Color Center performs, in order.



NOTE: You can perform all three operations in sequence, as shown. You can also choose to start with or stop after any of the three operations. However, color calibration is performed automatically after you add a new paper type.

Color calibration

Your printer uses color calibration to produce consistent colors with the specific printheads, inks, and paper type that you are using, and in your particular environmental conditions. After color calibration, you can expect to get identical prints from any two different printers that are situated in different geographical locations.

Calibration should be done in any of the following circumstances:

- Whenever a printhead is replaced
- Whenever a new paper type is introduced that has not yet been calibrated with the current set of printheads
- Whenever a certain amount of printing has been done since the last calibration
- Whenever the printer has been turned off for a long period of time
- Whenever the environmental conditions (temperature and humidity) change significantly

The printer usually reminds you with an alert whenever you need to perform color calibration, unless you have disabled the alerts. However, if the environmental conditions change, the printer will not be aware of it.

You can check the color calibration status of the currently loaded paper at any time by selecting the icon, and then selecting **View loaded paper** > **View paper details**. The status can be one of the following conditions:

- Pending: the paper has not been calibrated

  NOTE: Whenever you update the printer's firmware, the color calibration status of all papers is reset to PENDING. See Update the printer firmware on page 141.

- Recommend: the printer software recommends that you calibrate the printer because it has recognized a condition that might require calibration
- Obsolete: the paper has been calibrated, but the calibration is now out of date and should be repeated
- OK: the paper has been calibrated, and the calibration is up to date
- Disabled: this paper cannot be calibrated

  NOTE: Colored papers; glossy canvas; and transparent materials such as translucent bond, clear film, tracing paper; and vellum are not suitable for color calibration.

You can also check the color calibration status by using HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS).

Calibrate a paper type before creating its color profile. Later recalibration does not require a new color profile.

You can start color calibration in the following ways:

- From the printer alert that recommends calibration
- From the HP Color Center: select **Calibrate Your Printer**
- From the front panel: select the icon, and then select **Image quality maintenance** > **Calibrate color**

After launching calibration, the process is fully automatic and can be performed unattended after you have loaded appropriate paper. The paper must be at least 24 inches wide.

The process takes about 8 minutes and consists of the following steps.

1. A calibration test chart is printed, which contains patches of each ink that your printer uses.

2. To stabilize the colors, the test chart dries for a period of time that depends on the paper type.
3. The HP Embedded Spectrophotometer scans and measures the test chart.
4. The printer uses the measurements to calculate the necessary correction factors for consistent color printing on that paper type. It also calculates the maximum amount of each ink that can be applied to the paper.

Color profiling

NOTE: Color profiling information applies only to PostScript printers.

Color calibration provides consistent colors, but consistent colors are not necessarily accurate colors.

In order to print accurate colors, convert the color values in your files to the color values that will produce the correct colors when using your printer, your inks, and your paper. An ICC color profile is a description of a printer, ink, and paper combination that contains all the information for these color conversions.

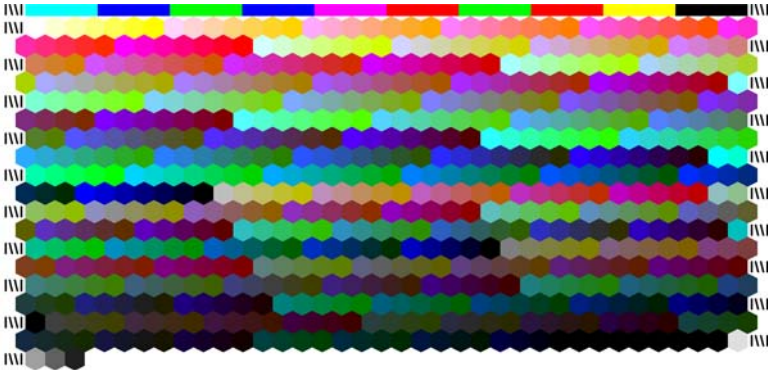
When you have defined and calibrated a new paper type, the printer is ready to create a ICC profile for use with your paper, which allows you to print on it with the best possible color accuracy. Alternatively, if your paper type is already known to the printer, you already have its appropriate ICC profile.

Create your own profile

Create a color profile easily by using the HP Color Center to select **Create and Install ICC Profile**. The printer prompts for information about the paper, and then creates and installs the new profile automatically.

The process takes about 15 to 20 minutes and consists of the following steps.

1. A profiling test chart is printed, which contains patches of each ink used in your printer. Unlike a calibration test chart, most of the patches contain combinations of ink.



NOTE: To use a longer drying time, instruct the HP Color Center to create the test chart without creating a profile (Windows: select **Print target only**; Mac OS: select **Print ICC profiling chart**). Later, when the chart is completely dry, restart the HP Color Center and request a profile that uses the test chart that you have already created (Windows: select **Create ICC profile from a target that has already been printed**; Mac OS: select **Scan ICC profiling chart and create ICC profile**). The scan will begin after the spectrophotometer warms up.

2. The HP Embedded Spectrophotometer scans and measures the test chart.
3. The printer uses the measurements to calculate the necessary correction factors for consistent color printing on that paper type. It also calculates the maximum amount of each ink that can be applied to the paper.
4. The new ICC profile is stored in the correct system folder on your computer, where your software programs can find it.

   The profile is also stored in the printer so other computers that are connected to the same printer can copy it. A profile can be accessed and used as soon as a job is submitted from the Embedded Web Server. HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS) will notify you if your printer has profiles that are not yet stored on your computer.

NOTE: You might need to quit and restart some programs in order to use a profile that has just been created.

Use a third-party profile

If you have obtained an ICC profile through means other than using the printer's built-in profiling software (for instance from an Internet download or a third-party profiling software package), you can install it for use with your printer and paper.

NOTE: You can only import and export CMYK profiles.

The printer needs to know which paper type the profile corresponds to. First select a paper type from the list of papers that the printer recognizes. When selecting a paper type, try to pick one that resembles your actual paper type as closely as possible. The paper type determines the amount of ink that is used and other basic printing parameters, so making a good choice here is fundamental to achieving good results later on. If you find that you cannot obtain satisfactory results with the profile and paper type that you picked, try selecting different types, and use the one that works best.

If the paper that you are using is not listed, or if you cannot find a paper type that resembles yours closely enough, you can define a new type. See Use non-HP paper on page 47. The printer then calibrates itself for use with that paper, after which you can return to installing the ICC profile.

After you have selected the paper type, browse to the file that contains the ICC profile to use with your printer and paper. Normally, ICC profile file names end in the extension ".icc" (for International Color Consortium) or ".icm" (for Image Color Matching). The profile is stored in the correct system folder on your computer, and in the printer.

Profile your monitor

Also calibrate and profile your monitor (display device), so that the colors you see on the screen relate more closely to those that you see on your prints. You can do this in two ways:

- Use your operating system. In the HP Color Center, select **How To Calibrate Your Display** for further information.
- Use the optional HP Advanced Profiling Solution, which gives more accurate results.

HP Advanced Profiling Solution

HP and X-Rite have worked together to develop the HP Advanced Profiling Solution, powered by GretagMacbeth™ technology, which takes advantage of the spectrophotometer that is built into the printer to provide a revolutionary end-to-end calibrated ICC color workflow.

The HP Advanced Profiling Solution, tailored for HP printers, offers a powerful and automated, yet cost-effective, color-management system with a fully streamlined workflow. This helps you to avoid the cost, hassle, and delay of offline measurement devices. Together, GretagMacbeth and HP provide a new tool that designers, photographers, and other creative professionals can use to generate proofs and photo-quality prints accurately and consistently.

The Advanced Profiling Solution includes the following features:

- The HP Colorimeter monitor calibrator, with which you can accurately calibrate and profile all of your monitors: LCD, CRT, and laptops
- An ICC profiling and editing software program that provides additional features and functionality beyond those included in the HP Color Center

Use the Advanced Profiling Solution to perform the following tasks:

- See matching colors on your screen and printed paper.
- Edit your color profiles visually for maximum control.
- Perform all operations easily using a step-by-step software interface—no extra manuals are needed.
- Generate color profiles for all your paper types, in RGB or CMYK.

The HP Advanced Profiling Solution is fully supported by HP, so you do not need to deal with various support organizations from different companies.

Key features

The HP Advanced Profiling Solution helps you take control of your colors:

- Calibrate and profile all of your monitors: LCD, CRT, and laptop.
- Perform an automated CMYK profiling through the HP software drivers to ensure accurate printing

- Perform an automated CMYK profiling when your printer is driven by a Raster Image Processor (RIP) for accurate digital prints and proofs.
- Edit your profiles easily and visually for ultimate color control.

Color-management options

The aim of color management is to reproduce colors as accurately as possible on all devices, so that when you print an image, you see very similar colors as when you view the same image on your monitor.

The following are two basic approaches to color management:

- **Application-Managed Colors**: your software program converts the colors of your image to the color space of your printer and paper type by using the ICC profile that is embedded in the image and the ICC profile for your printer and paper type.
- **Printer-Managed Colors**: your software program sends your image to the printer without any color conversion, and the printer converts the colors to its own color space. The details of this process depend on the graphics language that you are using.
  - **PostScript**: the PostScript interpreter module inside the printer performs the color conversion by using the profiles that are stored in the printer and the ones that are sent with the PostScript job. This kind of color management is done when you are using the PostScript driver and you specify printer color management, or when you send a PostScript or PDF file directly to the printer through the Embedded Web Server. In either case you have to select the profiles to use as default (in case the job does not specify any) and the rendering intent to apply.
  - **Non-Postscript (PCL, RTL, HP-GL/2)**: the color management is done by using a set of stored color tables. ICC profiles are not used. This method is somewhat less versatile than the previous methods, but is a little simpler and faster, and can produce good results with standard HP paper types. This kind of color management is done when you are using a non-PostScript driver and you specify printer color management, or when you send a non-PostScript file directly to the printer through the Embedded Web Server.

NOTE: The printer can convert only two color spaces to its own color space by using the stored color tables: Adobe RGB and sRGB if you are using Windows, and Adobe RGB and CYMK if you are using Mac OS

You are recommended to consult the HP Knowledge Center at http://www.hp.com/go/knowledge_center/djz6100/ to see how to use the color-management options in your particular software program.

Select **Application-Managed Colors** and **Printer-Managed Colors** according to the place you want to establish the setting:

- **In the Windows driver:** click the **Color** tab.
- **In the Mac OS Print dialog box:** select the **Color Options** panel.
- **In some applications:** make this selection in the application.

Color adjustment options

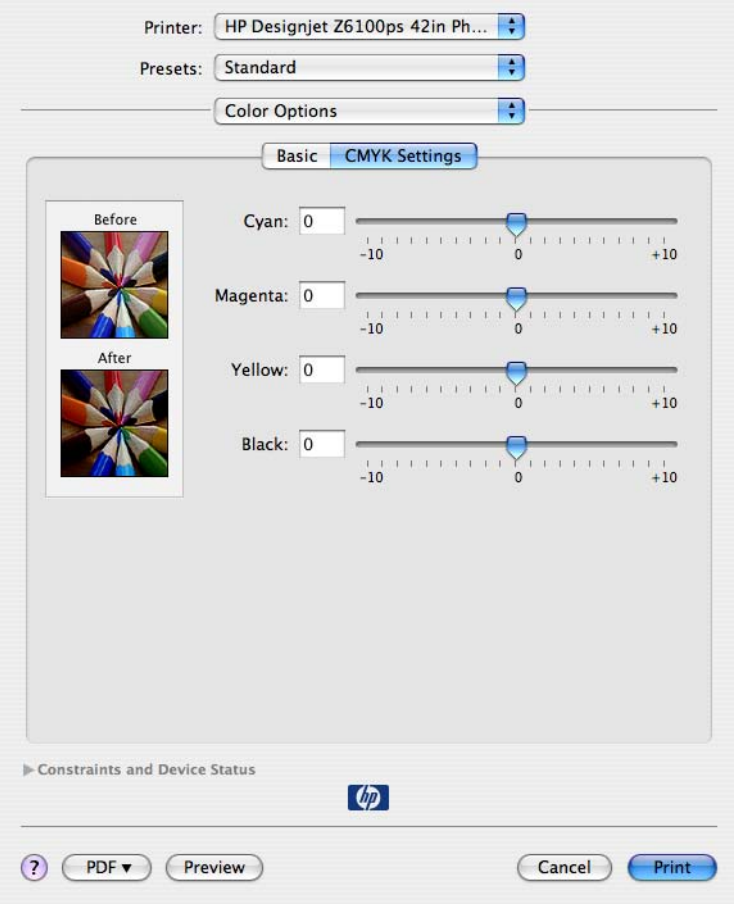
The objective of color management is to print accurate colors. Perform color management correctly to print accurate colors withuot manual color adjustments. However, manual adjustments might be useful in the following situations:

- Your color management is not providing accurate colors
- You want colors that are subjectively pleasing rather than accurate

You can adjust the colors of your print in similar ways In Windows and Mac OS:

- **In the Windows driver:** click the **Color** tab, and then select **Print in color**. Make sure that the **Advanced Color Adjustments** check box is selected, and then click the **Settings** button.
- **In the Mac OS Print dialog box:** select the **Color options** panel, and then select **CMYK Settings.**

In either operating system, you can make adjustments by using the black slider and the three color sliders.



- Use the black slider to make the entire print lighter or darker.
- Use the color sliders to fade or emphasize each of the primary colors in the print. The primary colors are red, green, and blue or cyan, magenta, and yellow, depending on the color model that is used in the image.

Perform black point compensation

NOTE: This option is available only when printing a PostScript, PDF, TIFF, or JPEG job.

The black point compensation option controls whether to adjust for differences in black points when converting colors between color spaces. When this option is selected, the full dynamic range of the source space is mapped into the full dynamic range of the destination space. It can be very useful in preventing blocking shadows when the black point of the source space is darker than that of the destination space. This option is allowed only when the relative colorimetric rendering intent is selected. See Set the rendering intent on page 116.

Black point compensation can be specified in the following ways:

- With a Windows PostScript printer driver: click the **Color** tab, and then select **Black point compensation**.
- With a Mac OS printer driver: select the **Color Options** panel, and then select **Black point compensation**.
- Through the Embedded Web Server: select the **Submit Job** page, and then select **Color** > **Black point compensation**.
- On the front panel: select the  icon, and then select **Printing preferences** > **Color options** > **Black point compensation**.

Set the rendering intent

NOTE: This option is available only when printing a PostScript, PDF, TIFF, or JPEG job.

Rendering intent is one of the settings available when doing a color transformation. Because some of the colors you want to print might not be reproducible by the printer, using the rendering intent allows you to select one of four different ways of handling these out-of-gamut colors.

- **Saturation (graphics)**: best used for presentation graphics, charts, or images that are made up of bright, saturated colors
- **Perceptual (images)**: best used for photographs or images in which colors blend together. This setting attempts to preserve the overall color appearance.
- **Relative colorimetric (proofing)**: best used when you want to match a particular color. This method is mainly used for proofing. It guarantees that if a color can be printed accurately, it will be printed accurately. The other methods provide a more pleasing range of colors but do not guarantee that any particular color will be printed accurately. This option maps the white of the input space to the white of the paper on which you are printing.
- **Absolute colorimetric (proofing)**: this option is the same as relative colorimetric, but without mapping of the white. This rendering is also used mainly for proofing, where the goal is to simulate the output of one printer (including its white point).

The rendering intent can be specified in the following ways:

- With a Windows PostScript printer driver: click the **Color** tab, and then select **Rendering intent**.
- With a Mac OS printer driver: select the **Color Options** panel, and then select **Rendering intent**.
- Through the Embedded Web Server: select the **Submit Job** page, and then select **Color** > **Rendering intent**.
- On the front panel: select the  icon, then **Printing preferences** > **Color options** > **Select rendering intent**.

HP Professional PANTONE* Emulation

When you use a named PANTONE* color in an image, your software program normally sends a CMYK or RGB approximation to that color to the printer. However, instead of taking the printer or the paper type into account, the software merely produces a generic approximation of the PANTONE* color, that looks different on different printers and on different papers.

HP Professional PANTONE* Emulation takes into account the characteristics of the printer and the paper type. The results look as similar to the original PANTONE* colors as is possible on a given printer using a given paper type. This technology is designed to produce emulations that are similar to those that prepress professionals establish.

To use HP Professional PANTONE* Emulation, just turn it on.

- With the Windows PostScript printer driver: click the **Color** tab, and then select **HP Professional PANTONE Emulation**.
- With a Mac OS printer driver: select the **Color Options** panel, and then select**HP Professional PANTONE Emulation**.
- Through the Embedded Web Server: select the **Submit Job** page, and then select **Color** > **HP Professional PANTONE Emulation**.
- On the front panel: select the  icon, and then select **Printing preferences** > **Color options** > **Black point compensation**.

NOTE: HP Professional PANTONE* Emulation is available only when printing a PostScript or PDF job.

You can also use the Embedded Web Server to print a swatch book that shows emulations of PANTONE* colors from your printer, along with a measure of the color difference (ΔE) between each emulation and the original PANTONE* spot color. HP Professional PANTONE* Emulation not only provides the closest match that can be achieved on your printer; but also provides clear information about how close the emulation is to the original spot color.

To print a swatch book, click the Embedded Web Server **Main** tab, and then select **HP Professional PANTONE* Emulation**. Select the PANTONE* stock to emulate, and then select the PANTONE* colors that you want to print. When you have selected all the colors that you want, click the **Print** button.

Color emulation modes

If you want to print a particular print job and to see approximately the same colors that you would get from printing the same job on a different HP Designjet series printer, use the printer's emulation mode.

NOTE: Color emulations do *not* apply to TIFF and JPEG jobs.

- In the Windows driver: click the **Color** tab, select **Printer Managed Colors**, and then select **Printer Emulation** from the **Source profile** drop-down menu. Then select from the **Emulated printer** drop-down menu.
- In the Mac OS **Print** dialog box: select the **Color Options** panel, and then select **Printer Emulation**. Then select from the **Emulated printer** drop-down menu.
- On the front panel: select the icon, and then select **Printing preferences** > **Color options** > **Emulate Printer**.
- Through the Embedded Web Server: select the **Submit Job** page, and then **Job settings** > **Advanced settings** > **Color** > **Color management** and the desired emulation mode.

You can emulate the following printers:

- HP Designjet 1050c Plus
- HP Designjet 1055cm Plus

- HP Designjet 5500 UV series
- HP Designjet 5500 Dye series

The following table shows approved combinations of print-quality settings and papers for the best printer-emulation results.

	Best	Normal	Normal-Fast	Fast
HP Premium Instant-Dry Gloss Photo Paper	Yes	Yes	No	No
HP Universal Instant-Dry Photo Gloss	Yes	Yes	No	No
HP Heavyweight Coated Paper	Yes	Yes	No	Yes
HP Coated Paper	Yes	Yes	Yes	Yes
HP Bright White Inkjet Bond Paper	Yes	Yes	Yes	Yes

NOTE: The HP Designjet 5500 UV printer series does *not* support HP Bright White Inkjet Bond Paper.

The HP Designjet 1050c Plus and HP Designjet 1055cm Plus printer series do *not* support HP Premium Instant-Dry Gloss Photo Paper *or* HP Universal Instant-Dry Photo Gloss Paper.

CMYK color emulation

All CMYK emulation options apply to PDF, PostScript, TIFF, and JPEG files only.

A traditional workflow defines color in the CMYK space. For best results, the colors must be adjusted to the printer, because different printers will produce different colors from the same CMYK data. If the image file that you are printing was not created specifically for your HP Designjet Z6100 printer, it will require some readjustment, which can be done using one of the following options provided with your printer:

- **U.S. Web Coated (SWOP) 2** uses specifications that are designed to produce quality separations that use U.S. inks under the following printing conditions: 300% total area of ink coverage, negative plate, coated publication-grade stock.
- **U.S. Web Uncoated 2** uses specifications that are designed to produce quality separations that use U.S. inks under the following printing conditions: 260% total area of ink coverage, negative plate, uncoated white offset stock.
- **U.S. Sheetfed Coated 2** uses specifications that are designed to produce quality separations that use U.S. inks under the following printing conditions: 350% total area of ink coverage, negative plate, bright white offset stock.
- **U.S. Sheetfed Uncoated 2** uses specifications that are designed to produce quality separations that use U.S. inks under the following printing conditions: 260% total area of ink coverage, negative plate, uncoated white offset stock.
- **Euroscale Coated 2** uses specifications that are designed to produce quality separations that use Euroscale inks under the following printing conditions: 350% total area of ink coverage, positive plate, bright white coated stock

- **Euroscale Uncoated 2** uses specifications that are designed to produce quality separations that use Euroscale inks under the following printing conditions: 260% total area of ink coverage, positive plate, uncoated white offset stock.
- **Europe ISO Coated FOGRA27** uses the FOGRA27 press characterization. It is designed to produce quality separations for standard ISO printing using: 350% total ink coverage, positive film and coated paper"
- **HP CMYK Plus**: a set of HP proprietary re-rendering rules that produce a good result for most digital commercial printing jobs by expanding the reduced gamut of your press into the wider gamut of your printer.
- **JMPA**: Japanese standard for offset press
- **Photoshop 4 Default CMYK**
- **Photoshop 5 Default CMYK**
- **Japan Color 2001 Coated** uses the Japan Color 2001 specification for type 3 (coated) paper. It is designed to produce quality separations by using 350% total ink coverage, positive film, and coated paper.
- **Japan Color 2001 Uncoated** uses the Japan Color 2001 specification for type 4 (uncoated) paper. It is designed to produce quality separations by using 310% total ink coverage, positive film, and uncoated paper.
- **Japan Web Coated (Ad)** uses specifications that are developed by the Japan Magazine Publisher Association for digital proofing of images in the Japanese magazine and advertising market.
- **Japan Color 2002 Newspaper** uses the Japan Color 2002 for Newspapers specification. It is designed to produce quality separations using: 240% total ink coverage, positive film and standard newsprint paper"
- **Toyo** is designed to produce quality separations for Toyo printing presses.
- **DIC** is designed to produce quality separations for Dainippon Ink Company printing presses.
- Other **HP Designjet** printers can be emulated.
- **None (Native)**: no emulation, for use when the when the software or operating system complete the color conversion. Therefore, the data arrives at the printer already color–managed

NOTE: These options have no effect if the software defines its own CMYK space, known as calibrated CMYK or CIEBasedDEFG in PostScript terminology.

RGB color emulation

These options apply to PDF, PostScript, TIFF, and JPEG files. For HP-GL/2 and RTL files, only sRGB and AdobeRGB are supported.

If you want to print an RGB image, it must be converted to CMYK data. You might be able to do the conversion in the software or operating system. To perform this conversion on the printer, use the following color profiles:

- **None (Native)**: no emulation. The printer uses its default internal conversion from RGB to CMYK, without following any color standard. This does not imply that results will be bad.
- **sRGB IEC61966-2.1** emulates the characteristics of the average PC monitor. This standard space is endorsed by many hardware and software manufacturers, and is becoming the default color space for many scanners, printers, and software programs.

- **ColorMatch RGB** emulates the native color space of Radius Pressview monitors. This space provides a smaller gamut alternative to Adobe RGB (1998) for print-production work.
- **Apple RGB** emulates the characteristics of the average Apple monitor, and is used by a variety of desktop publishing applications. Use this space for files that you plan to display on Apple monitors, or for working with old desktop publishing files.
- **Adobe RGB (1998)** provides a fairly large gamut of RGB colors. Use this space if you need to do print-production work that includes a broad range of colors.

8 Practical printing examples

- Overview
- Resize an image by using Adobe Photoshop (HP–GL/2 and PostScript driver)
- Print a color photo (Photoshop CS2 v9.0, Win)
- Print a draft for revision with the correct scale
- Reprint a job with consistent colors
- Use ESRI ArcGIS 9 to print a map

Overview

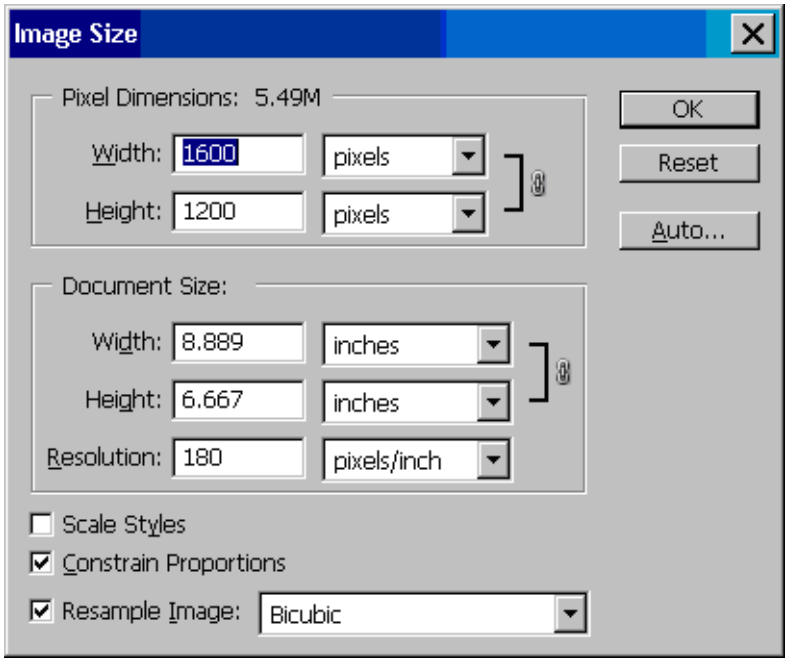
The following step-by-step instructions for printing jobs that use specific software are similar to those at the HP Knowledge Center on the Web. Consult the Knowledge Center at http://www.hp.com/go/knowledge_center/djz6100/ for the most up-to-date information and for additional printing examples, including RIP scenarios.

Resize an image by using Adobe Photoshop (HP–GL/2 and PostScript driver)

Application settings

1. Open your image in Adobe Photoshop, and then select **Image size** from the **Image** menu.

   The **Image Size** dialog box appears.



2. Set the sizing options.

   - **Pixel Dimensions**: Set the resulting image size
   - **Document Size and resolution**: Set the resulting page size and resolution. As a general guideline, consider setting the resolution according to your print quality setting. Refer to the following table for guidance.

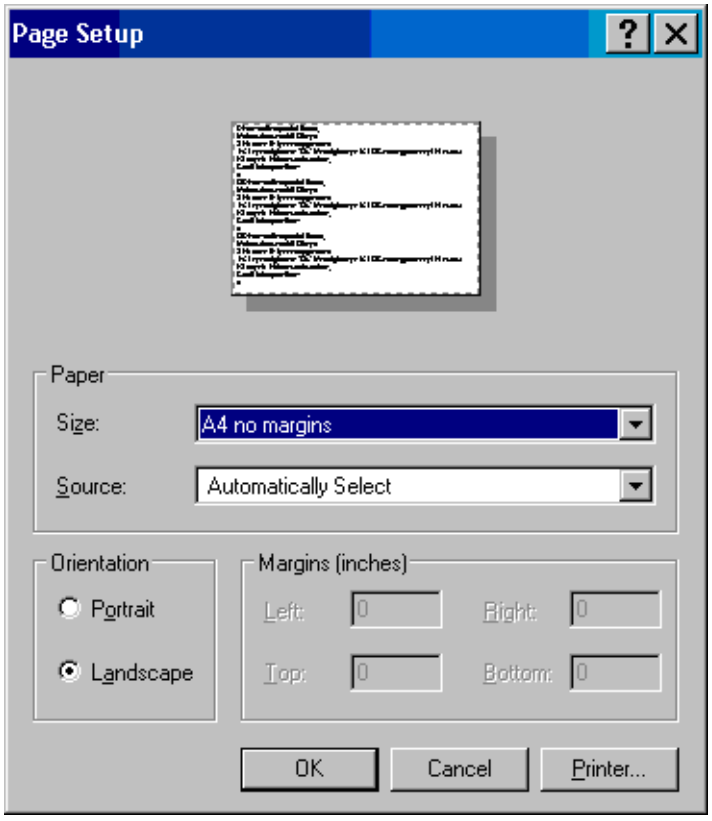
Print quality setting	Recommended resolution setting
Fast	300
Normal-Fast	300–600
Normal	600–900
Best	1200

   For more information about the print quality setting, see Select print quality on page 80.

- **Constrain Proportions**: Select this option if you want to preserve height-to-width ratio of your original image
- **Resample Image**: When an image is resampled, an interpolation method is used to assign color values to any new pixels that Photoshop creates, based on the color values of existing pixels in the image. Photoshop uses sophisticated methods to preserve the quality and detail from the original image when you resample. Select from the following resampling options:
  - **Nearest Neighbor**: A fast but less precise method that replicates the pixels in an image. This method is for use with illustrations that contain edges that are not anti-aliased, to preserve hard edges and produce a smaller file. However, this method can produce jagged effects, which become apparent when you distort or scale an image or perform multiple manipulations on a selection.
  - **Bilinear**: A method that adds pixels by averaging the color values of surrounding pixels. It produces medium-quality results.
  - **Bicubic**: A slower but more precise method based on an examination of the values of surrounding pixels. Using more complex calculations, Bicubic produces smoother tonal gradations than Nearest Neighbor or Bilinear.
  - **Bicubic Smoother**: A good method for enlarging images based on Bicubic interpolation but designed to produce smoother results
  - **Bicubic Sharper**: A good method for reducing the size of an image based on Bicubic interpolation with enhanced sharpening. This method maintains the detail in a resampled image. If Bicubic Sharper oversharpens some areas of an image, try using Bicubic.

3. When you have finished setting the sizing options, click the **OK** button.
4. Select **Print with preview** from the **File** menu.
5. Click the **Page Setup** button.

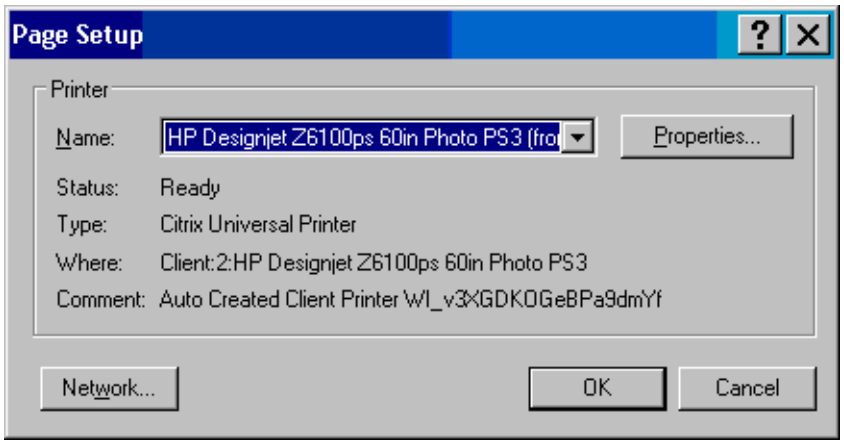
   The **Page Setup** dialog box appears.



6. In the **Paper size** drop-down menu, select a page size and margin setting for the image that you are printing and then click the **Printer** button.

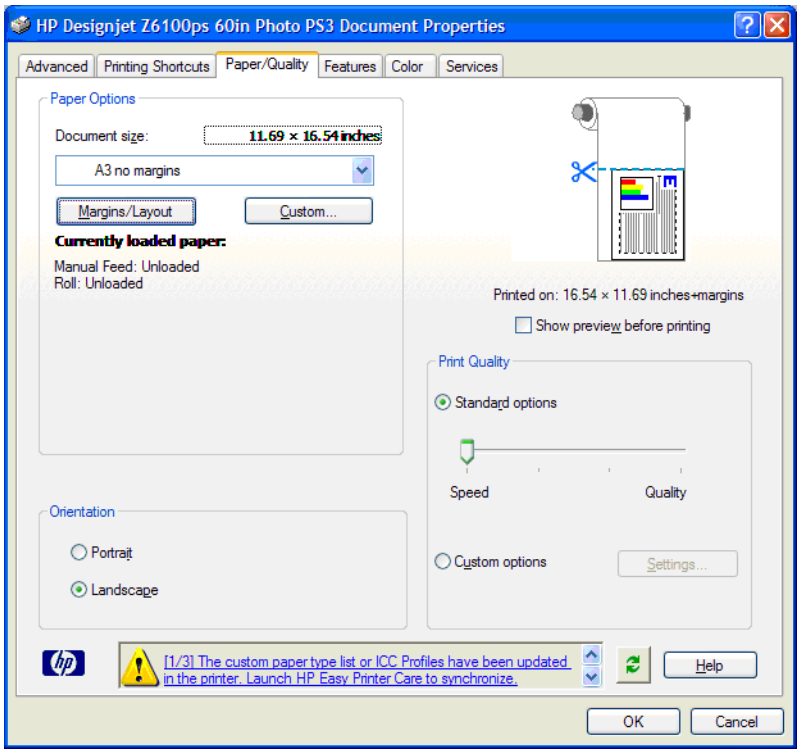
   A new Page Setup dialog box appears.

7. Click the **Page Setup** button.



8. Select your printer and then click the **Properties** button.

   The printer driver dialog box appears.



9. Set the print options that you want and then click the **OK** button. For more information about print option settings, see Print options on page 79.

Print a color photo (Photoshop CS2 v9.0, Win)

This example uses Adobe Photoshop CS2 V9.0 in Windows XP. The color management is done by Photoshop.

1. Initial recommendations:
   - Select an appropriate paper type for the job.
   - The paper type should be calibrated and profiled with the printer and the print-quality level that you intend to use. See Color calibration on page 110 and Color profiling on page 111.
   - To obtain a correct preview of the printed image, the monitor should also be profiled.
2. Open Adobe Photoshop CS2.
3. On the **Edit** menu, select **Color Settings**.
   - Make sure that **More Options** are displayed.
   - In **Color Management Policies**, select **Preserve Embedded Profiles**.
   - In **Profile Mismatches**, select **Ask When Opening** and **Ask When Pasting**.
   - In **Missing Profiles**, select **Ask When Opening**.
   - In **Conversion Options**, click the **More Options** button to open **Conversion Options**, and then select **Intent** > **Perceptual**.
   - Click the **OK** button.
4. On the **File** menu, select **Open** to open the image.
   - If the document has an embedded color profile that does not match the current working space, select **Use the embedded profile**. Otherwise, select **Assign working space**.

     If the image colors do not look right, try assigning it to other color spaces by selecting **Edit** > **Assign Profile** (try **sRGB**, **Adobe RGB**, **ColorMatch RGB** and others) until you are satisfied.
   - Click the **OK** button.
5. On the **File** menu, select **Print with Preview**.
   - Select **Page Setup**.
   - Select the printer (for example, **HP Designjet Z6100ps 60–in**)

     .
   - In **Paper size**: select the size of the paper that is currently loaded in the printer.
   - In **Orientation**: select the orientation of your image on the paper (portrait or landscape).
   - Click the **OK** button.
   - Set the **Position** and the **Scaled Print Size** that you want.
   - Make sure that **More Options** are displayed.
   - Click the **Color Management** tab.
   - In **Print**: select **Document**.
   - Select **Options** > **Color Handling**, and then select **Let Photoshop Determine Colors**.

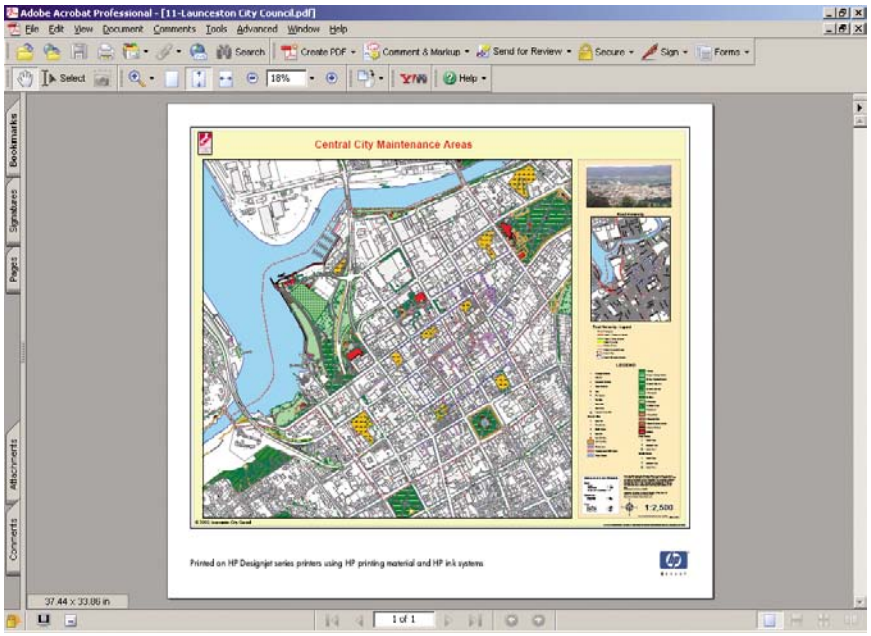
- Select **Options** > **Printer Profile**, and then select the correct profile for your printer and paper type.
- Select **Options** > **Rendering Intent**, and then select **Perceptual**.
- Click the **Print** button.

6. Select the driver settings.
   - In **Printer**: select the printer (**HP Designjet Z6100ps 60–in**).
   - Click the **Paper Type/Quality** tab, and then specify these options:
     - In **Paper Type**: select the paper type that is currently loaded in the printer.
     - In **Quality Options**: select **Standard options** and drag the slider to **Quality**.
   - Click the **Color** tab, and then specify these options:
     - Select **Print in Color**.
     - In **Color Management**: select **Application Managed Colors**.
   - Click the **Print** button.

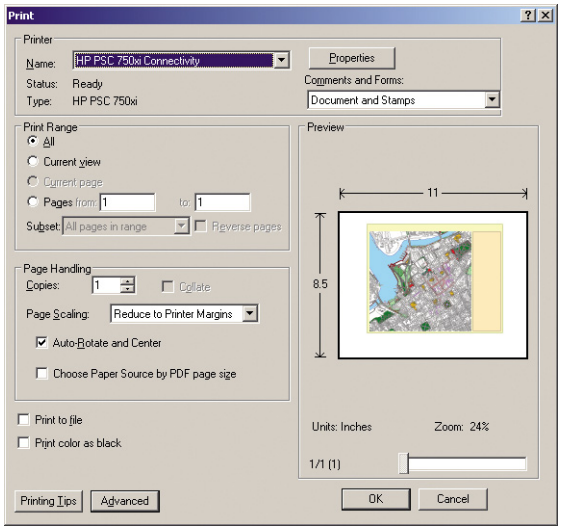
Print a draft for revision with the correct scale

Using Adobe Acrobat

1. In the Acrobat window, check the plot size by positioning your cursor near the bottom left corner of the screen.

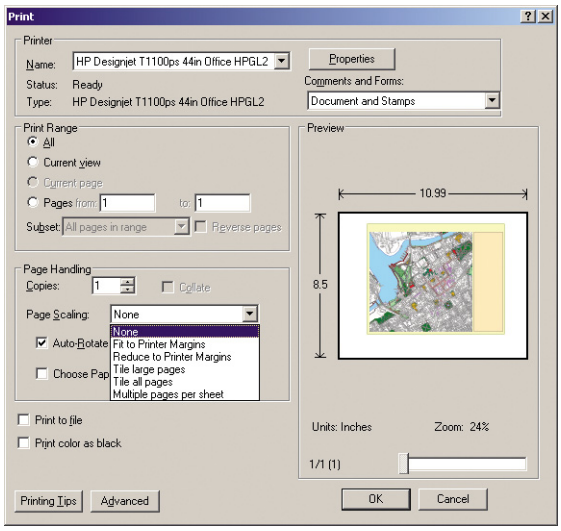


2. Select **File** and then select **Print**.

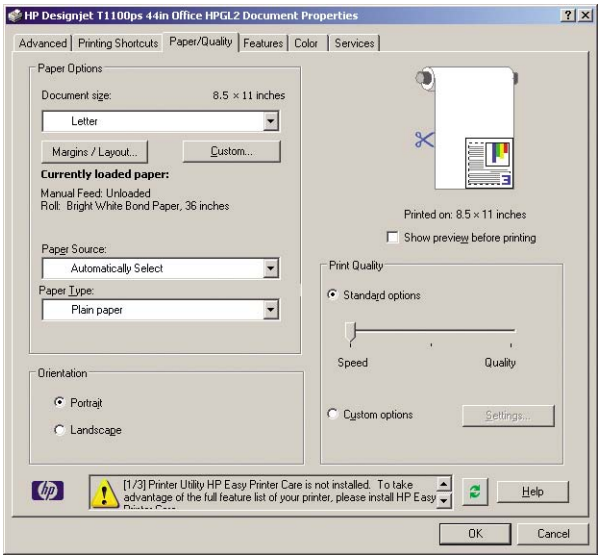


NOTE: The page size is *not* automatically selected according to the drawing size.

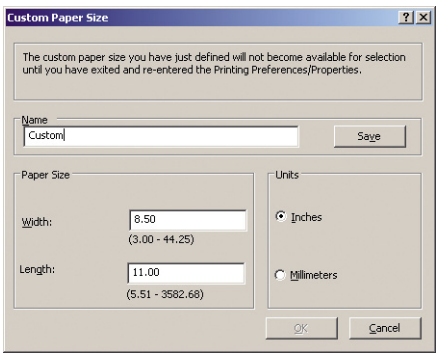
3. To keep the scale, set **Page Scaling** to **None** (which is not the default setting).



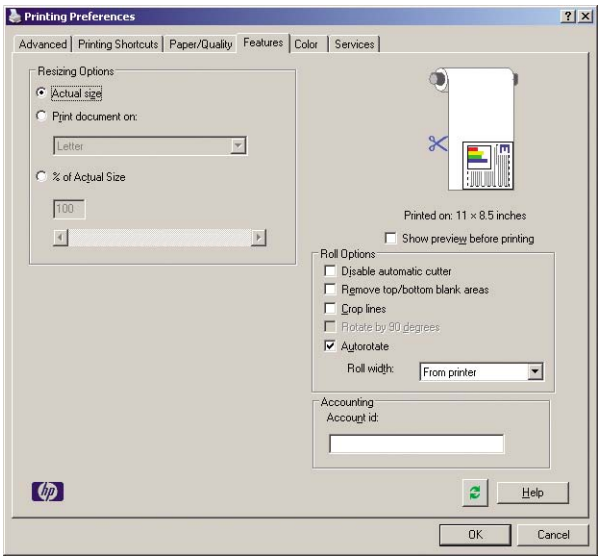
4. Click the **Properties** button and then click the **Paper/Quality** tab.



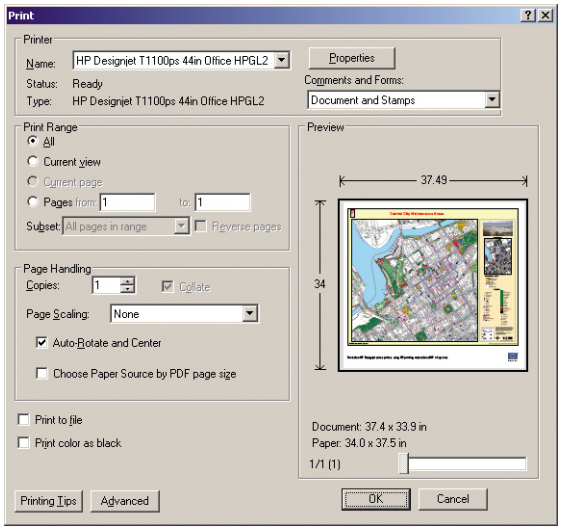
5. Select the **Document Size** and **Print Quality** you want to use. Click the **Custom** button to define a new custom paper size.



6. Click the **Features** tab, and then select **Autorotate**.



7. Click the **OK** button and check to see that the print preview in the **Print** dialog box looks correct.



Reprint a job with consistent colors

This scenario explains how to get consistent colors from print-to-print.

NOTE: HP supports color consistency between print jobs printed with the same printer models, using the same paper type.

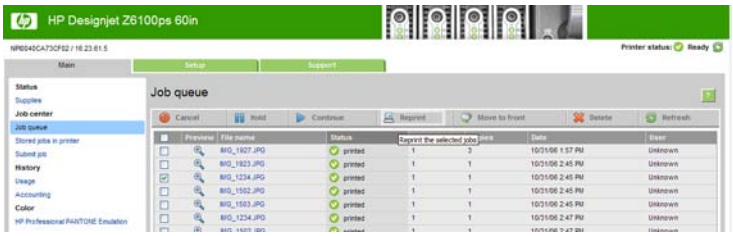
Scenario 1

Reprint a job with consistent colors by using the same printer.

To ensure color consistency when reprinting the job, use the same paper type.

1. Verify that the color calibration is valid for the paper type that is loaded. On the front pane, select the icon, and then select **View loaded paper** > **View paper details**. In the **Paper information** window, verify that **Color Calibration is OK**. If the status of the Color Calibration is **Pending** or **Recommended**, perform a color calibration from the HP Color Center, or on the front panel.

2. Reprint a job: Through the Embedded web server, go to the **Job queue**, select the job you want to reprint, and then click the **Reprint** button.



A file can also be printed again if was stored in the printer. Through the Embedded Web Server, go to **Stored jobs in printer**, select the job you want to print, and then click the **Print** button.

Scenario 2

Reprint a job by using two HP Designjet Z6100 printers.

To ensure color consistency when reprinting the job, use the same paper type.

1. Verify that the color calibration is valid for the paper type that is loaded in *both* printers. On the front panel, select the  icon, and then select **View loaded paper** > **View paper details**. In the **Paper information** window, verify that **Color Calibration is OK**. If the status of the Color Calibration is **Pending** or **Recommended**, perform a color calibration from the HP Color Center, or on the front panel.
2. Print the jobs.

Use ESRI ArcGIS 9 to print a map

ArcGIS is a scalable system of software for geographic data creation, management, integration, analysis, and dissemination for every organization, from an individual to a globally distributed network of people.

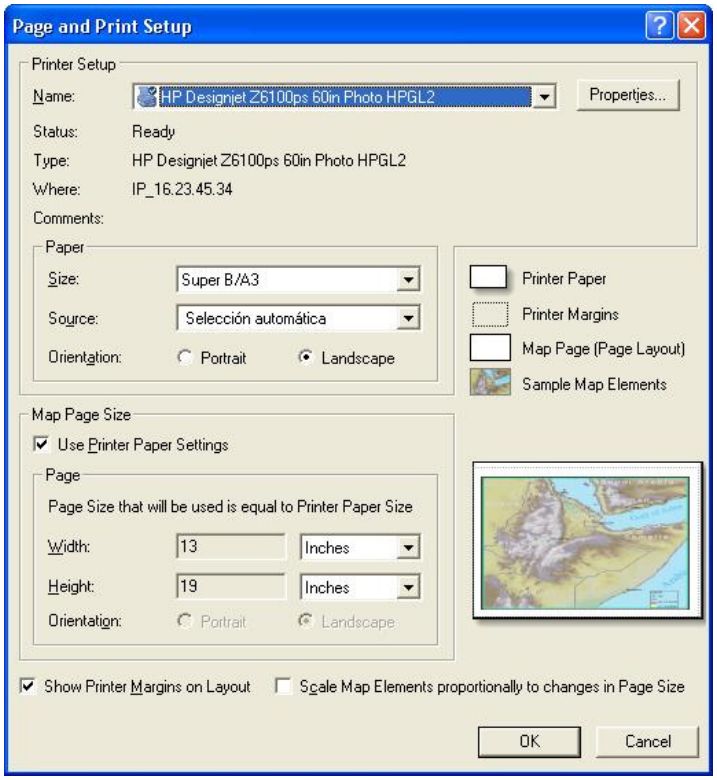
The software always sends RGB data to the printer driver. Select from several different printer engines. The printer engine determines the format and method that ArcMap uses to send the print job to the printer. One to three options are available, depending on license and printer configurations.

- **Windows** is the default and is always available, regardless of the printer that is in use. It allows the software to use the installed HP-GL/2 and RTL driver
- **PostScript** is available only if your printer supports PostScript and when the PostScript driver has been selected in the Name section. This allows you to output the file as a PostScript file. This option might be useful in certain specific cases, but in general it is *not recommended*.
- **ArcPress** is an extension that can be purchased for printing from ArcGIS. It is a software RIP that takes the original metafile and applies raster to it before sending it to the printer, so that the printer does not need to. This is beneficial because some printers cannot apply raster or do not have enough memory to process large jobs. *Always use ArcPress with HP RTL (RGB) TrueColor.*

Use the Windows printer engine

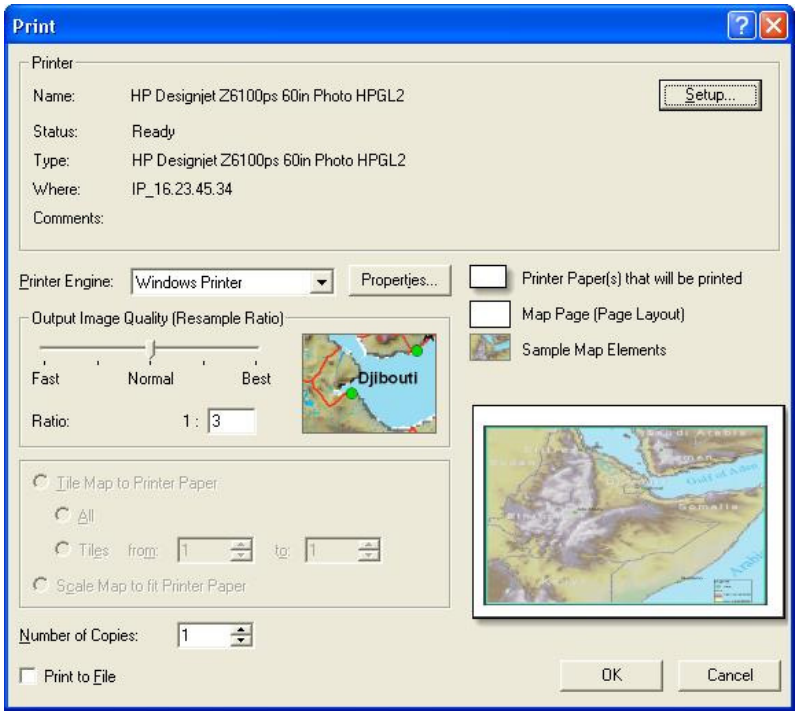
1. Make sure that you have installed the HP-GL/2 and RTL driver.

2. When you are ready to print, select **File** > **Page and Print Setup**, and select the HP-GL/2 and RTL driver.



3. Click the **Properties** button and configure the driver as follows.
   - On the **Paper/Quality** tab, set **Print Quality** to **Quality**.
   - On the **Color** tab, clear the **Print In Grayscale** check box, and set **Printer managed colors** to **sRGB** in the **Source profile** drop-down menu.
4. Click the **OK** button.
5. Select **File** > **Print**.
   - **Printer Engine**: select **Windows Printer**.
   - **Output Image Quality (Resample Ratio)**: this setting alters the number of pixels that are sampled when an ArcMap print file is generated. It determines how many pixels in the map document are used to create the file that goes to the printer.
     - Fast = 1:5
     - Normal = 1:3
     - Best = 1:1 (as is)

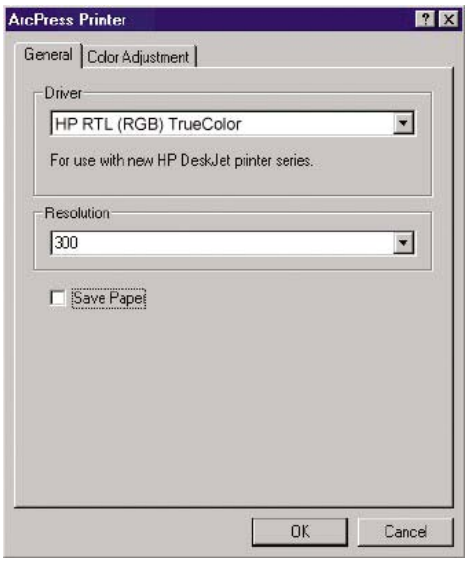
     Selecting **Best** requires a lot of printer resources to process the print job, and might cause long processing times and generate out-of-memory messages, depending on the map size. If you experience these issues, select an Output Image Quality that is lower than **Best**. You will gain no advantage in print quality when you send an image that has resolution higher than the printer's input resolution.



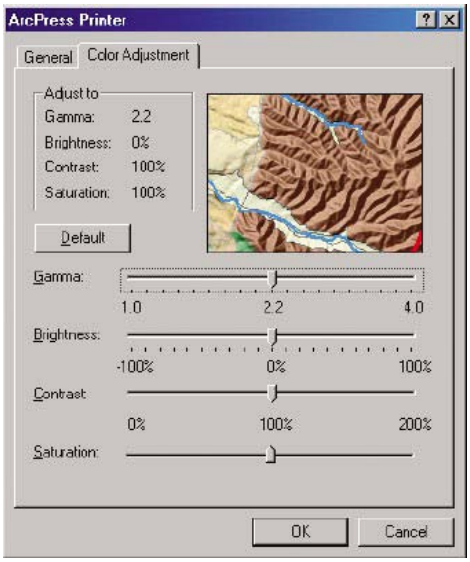
6. Click the **OK** button to print.

Use the ArcPress printer engine

1. Even though it will function only as a port, you must have the driver that you need installed.
2. When you are ready to print, select **File** > **Page and Print Setup**, select the driver (the driver settings have no effect), and click the **OK** button.
3. Select **File** > **Print**.
   - **Printer Engine**: select **ArcPress**.
   - Click the **Properties** button, select the **HP RTL (RGB) TrueColor** driver, and select the resolution to be sent to the printer.



- Click the **Color Adjustment** tab if you want to adjust gamma, brightness, contrast, or saturation. You can preview the changes.



4. To print, click the **OK** button both in this dialog box and in the **Print** dialog box.

9 Maintain the printer

- Clean the exterior of the printer
- Clean the platen
- Clean the paper-advance sensor window
- Lubricate the printhead carriage
- Maintain the ink cartridges
- Perform preventive maintenance
- Move or store the printer
- Update the printer firmware
- Change the ink absorber
- Secure disk erase

Clean the exterior of the printer

Use a damp sponge or a soft cloth and a mild household cleaner such as non-abrasive liquid soap to clean the outside of the printer and all other parts of the printer that you regularly touch as part of normal operation (for example, ink cartridge drawer handles).

WARNING! To avoid an electric shock, make sure that the printer is turned OFF and unplugged before you clean it. Do not let water get inside the printer.

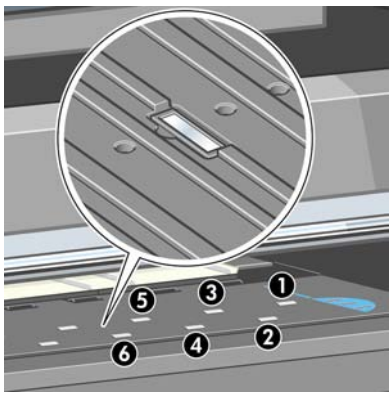
CAUTION: Do not use abrasive cleaners on the printer.

Clean the platen

You should clean your printer's platen every few months, or when necessary.

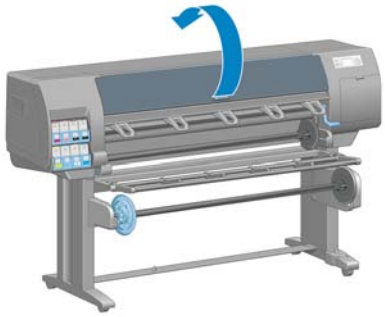
NOTE: If you print on wide paper after having printed on narrower paper, you might find that the left side of the platen has become dirty. If this contaminated section of the platen is not cleaned, it might leave marks on the back of the paper.

WARNING! Be careful not to damage the paper-advance sensor when cleaning the platen. The sensor is the very small rectangular window (less than 1 square centimeter and shown in the following graphic) found near the sixth platen roller from the right. See Clean the paper-advance sensor window on page 138.

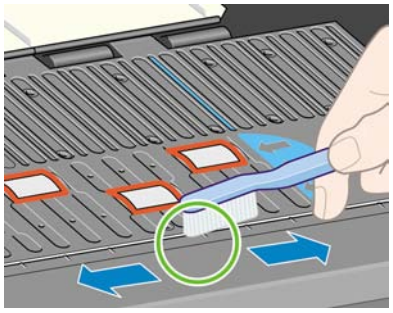


Follow these instructions to clean the platen.

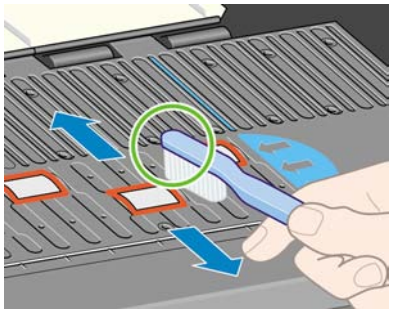
1. Unload all paper from the printer. See Unload a roll from the printer on page 36.
2. Open the printer window.



3. With a dry brush, remove ink deposits from the cutter groove.

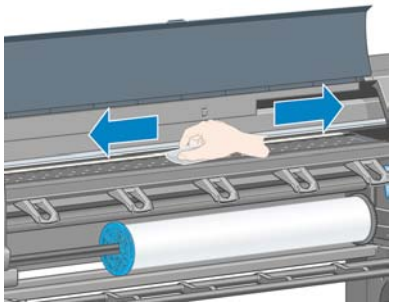


4. With the same dry brush, remove ink deposits from the platen surface.



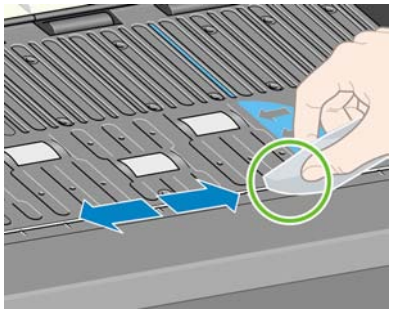
5. Use a clean, absorbent lint-free cloth that has been slightly dampened with isopropyl alcohol to wipe loosened ink deposits from the platen.

NOTE: Isopropyl alcohol is not provided in the Maintenance Kit.

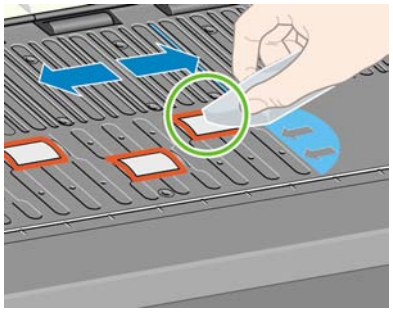


CAUTION: Do not use commercial cleaners or abrasive cleaners. Do not wet the platen directly, because you will leave too much moisture behind.

6. Use the damp cloth to clean the cutter ramp.



7. Use a dry cloth to clean the exposed part of the wheels. Ideally, you should clean the entire circumference of these wheels.



Clean the paper-advance sensor window

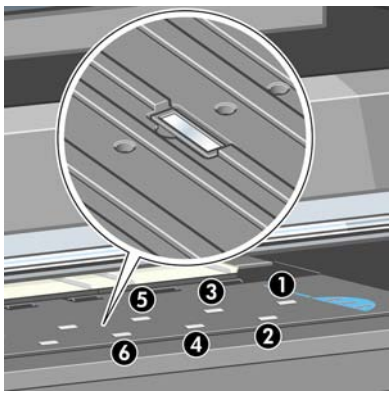
The paper advance sensor is the very small rectangular window (less than 1 square centimeter in size and shown in the following graphic) near the sixth platen roller from the right.

HP recommends that you clean the paper-advance sensor window whenever you clean the print platen and if you are experiencing print quality issues.

Before cleaning the paper-advance sensor window, unload the media by using the front panel procedure. See Unload a roll from the printer on page 36. Then use a clean, absorbent, lint-free cloth that you have slightly dampened with isopropyl alcohol to very gently wipe any dust and loosened ink deposits from the sensor window.

Wait 3-4 minutes before reloading the media to ensure that the alcohol has evaporated completely.

Under ambient light, a clean sensor window shows a violet-colored reflection that extends uniformly across the entire surface. To see this reflection, look closely at the sensor window and slightly change your viewing angle.



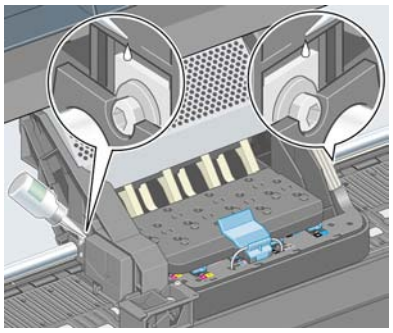
Lubricate the printhead carriage

The printhead carriage occasionally (about once a year) needs lubrication so that it continues to slide easily along the slider rod.

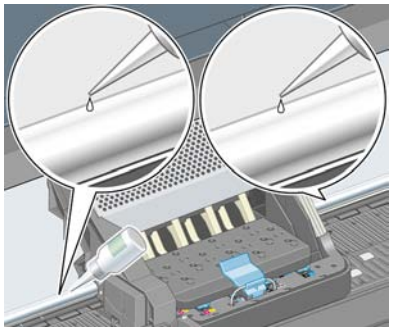
1. To gain access to the carriage, go to the front panel and select the icon, and then select **Replace printheads**. The carriage slides to the middle section of the printer.

   CAUTION: If the carriage remains in the central part of the printer for more than 7 minutes, it attempts to return to its home position on the right.

2. Take the bottle of oil from the Maintenance Kit that is supplied with your printer. A replacement kit can be ordered if necessary.
3. Open the printer window and apply a few drops of the oil to the pads on either side of the carriage.



4. Apply a few drops of oil directly to the slider rod on either side of the carriage.



5. Close the printer window.

Maintain the ink cartridges

During the normal lifetime of a cartridge, no specific maintenance is required. However, in order to maintain the best print quality, you should replace a cartridge when it has reached its expiration date, which is the manufacturing date marked on the cartridge plus 30 months.

Perform preventive maintenance

During the life of your printer, components that are used constantly can wear out.

To avoid having these components degrade to the point that the printer breaks down, the printer keeps track of the number of cycles that the printer carriage makes across the axis of the printer, and also monitors the total quantity of ink used.

The printer uses these numbers to track the need for preventive maintenance, and displays one of the following messages on the front panel:

- Maintenance #1 required
- Maintenance #2 required

These messages mean that some components are nearing the end of their lives. You can continue printing for quite some time, depending on your use of the printer. However, HP strongly recommends that you contact your customer service representative and arrange for a preventive maintenance visit. The service engineer can then replace the worn parts onsite, which will prolong the life of the printer.

The benefits of arranging a service engineer's visit when these messages appear on the front panel are two-fold:

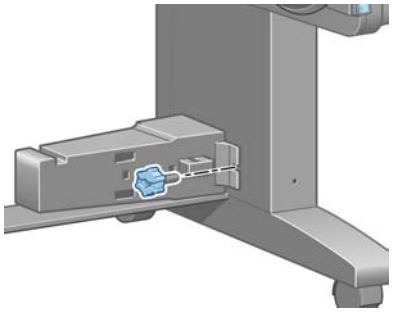
- The printer components can be replaced at a time that is convenient for you, and so will not disturb your daily workflow.
- When the service engineer performs a preventive maintenance visit, replaces several parts at once. This eliminates the need for repeat visits.

Move or store the printer

If you need to move your printer or store it for an extended period of time, prepare it correctly to avoid possible damage.

1. Do not remove the ink cartridges, printheads, or printhead cleaners.
2. Make sure that no paper is loaded.
3. Make sure that the printhead carriage is located in the service station (at the right end of the printer).
4. Make sure that the **Ready** message appears on the front panel.
5. Turn off the power by using the Power button on the front panel.
6. Also switch off the power switch at the rear of the printer.
7. Disconnect the power cable and any cables that connect the printer to a network, a computer, or a scanner.

8. If you have a take-up reel installed, remove the take-up reel sensor and cable-housing unit from the foot of the printer stand. For your convenience, you can place the sensor and cable-housing unit on the printer-stand crossbar and use the blue, plastic screw to affix the housing unit to the leg of the stand, while you move the printer. (See the following graphic.) When reinstalling the housing unit, make sure that the wheel on the foot of the printer stand is pointing forward.



NOTE: If the printer or ink cartridges are moved from a cold location to a warm and humid location, water from the atmosphere can condensate on the printer parts and cartridges and can result in ink leaks and printer errors. In this case, HP recommends that you wait at least 3 hours before turning on the printer or installing the ink cartridges, to allow the condensate to evaporate.

TIP: Because preparing and purging the printheads uses both time and ink, you are strongly recommended to leave the printer always on or in sleep mode, whenever possible, to maintain the health of the printheads. In both cases, the printer wakes up from time to time to maintain the printheads. Thus you can avoid going through lengthy preparation processes before using your printer.

Update the printer firmware

The printer's various functions are controlled by software that resides in the printer, also known as firmware.

From time to time, firmware updates from Hewlett-Packard become available. These updates increase the printer's functionality and enhance its features.

Firmware updates can be downloaded from the Internet and installed in your printer in the following ways. Use the method that you find most convenient.

- In Windows, open the HP Easy Printer Care, select your printer, click the **Support** tab, and then select **Firmware Update**.
- In Mac OS, open the HP Printer Utility, select **Support** and then select **Firmware Update**.
- Through the printer's Embedded Web Server, click the **Setup** tab and then select **Firmware update**.

Follow the onscreen instructions to download the firmware file and store it on your hard disk. Then select the downloaded file and click **Update**.

The firmware includes a set of the most commonly used paper profiles. Extra paper profiles can be downloaded separately; see Download paper profiles on page 47.

If you experience very slow progress while uploading the firmware file to the printer, the reason could be that you are using a proxy server. In that case, try bypassing the proxy server and accessing the Embedded Web Server directly.

- In Internet Explorer 6 for Windows, go to **Tools** > **Internet Options** > **Connections** > **LAN Settings**, and select the **Bypass proxy server for local addresses** check box. Alternatively, for more precise control, click the **Advanced** button and add the printer's IP address to the list of exceptions, for which the proxy server is not used.
- In Safari for Mac OS, go to **Safari** > **Preferences** > **Advanced** and click the **Proxies: Change Settings** button. Add the printer's IP address or its domain name to the list of exceptions, for which the proxy server is not used.

Change the ink absorber

An alert appears on the printer front panel when the ink absorber is reaching its maximum saturation and again when the absorber should be changed.

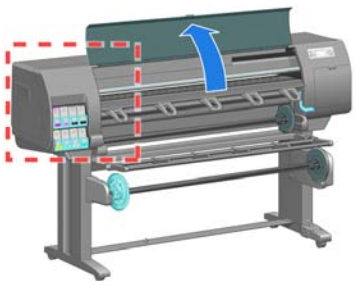
NOTE: The absorber can become excessively dry and fail to function correctly in climates where the relative humidity is consistently below 25%.

CAUTION: A saturated or excessively dry ink absorber can cause severe damage to the printheads and other parts of the printer. HP strongly recommends that you promptly change the ink absorber when alerted.

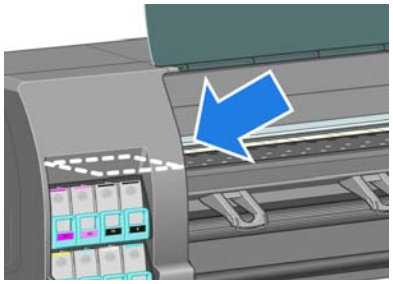
Remove the ink absorber

1. Find the ink absorber and disposable plastic gloves that are included in the maintenance kit that came packaged with your printer.

2. On the printer's front panel, select the  icon, and then select **Replace maintenance ctg.**
3. Open the printer window.



4. Identify the left spittoon.

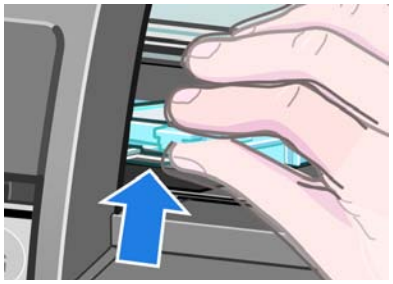


5. Locate the ink absorber.

6. Lift the tab that extends from the front edge of the absorber.

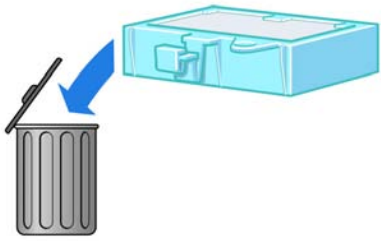
NOTE: Use the disposable plastic gloves to avoid getting ink on your hands.

7. Lift the tab on the absorber until it is clear of the spittoon and you can easily grip the tab.



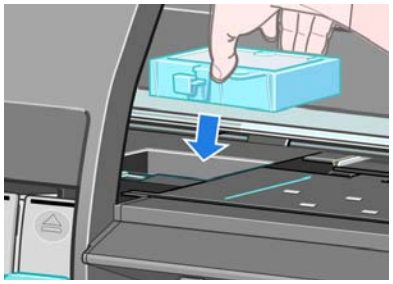
8. Lift and remove the absorber from the spittoon.

9. Dispose of the soiled ink absorber according to your local regulations.

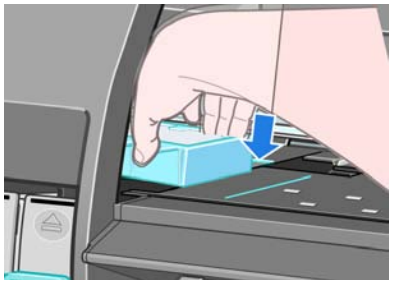


Insert the ink absorber

1. Grip the new ink absorber as shown.

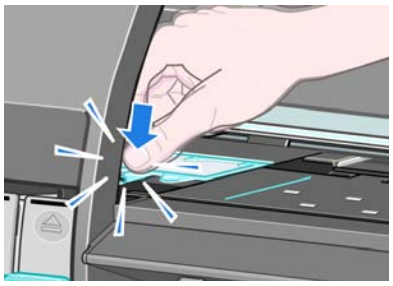


2. Insert the back edge of the absorber into the fitting in the spittoon.



3. Use your thumb to slide the absorber to the back of the fitting in the spittoon.

4. Push down on the tabbed edge until you hear the absorber click into place. Make sure that the top of the ink absorber is seated flatly and that none of the corners are higher than the plane of the platen.



5. Press the OK button on the front panel. The printer verifies that the ink absorber is correctly seated. If the front panel shows a message that it is not seated correctly, remove the ink absorber, insert it again, and then press the OK button.

Secure disk erase

The printer's hard disk is used as a temporary storage area for print jobs. The Secure Disk Erase facility can completely erase your information from the hard disk to protect it from unauthorized access. You can choose to erase particular files, or the whole hard disk.

Secure Disk Erase provides three different levels of security:

- **Non-Secure Fast Erase**: all pointers to the information are erased. The information itself remains on the hard disk until the disk space it occupies is needed for other purposes, and it is then overwritten. While it remains on the disk, it is difficult for most people to access, but may be accessed using software designed for the purpose. This is the normal method in which files are erased on most computer systems; it is the fastest method but the least secure.
- **Secure Fast Erase**: all pointers to the information are erased, and the information itself is also overwritten with a fixed character pattern. This method is slower than Non-Secure Fast Erase, but more secure. It may still be possible to access fragments of the erased information by using special tools to detect residual magnetic traces.
- **Secure Sanitizing Erase**: all pointers to the information are erased, and the information itself is repetitively overwritten using an algorithm designed to eliminate any residual traces. This is the slowest method, but the most secure. Secure Sanitizing Erase meets the US Department of Defense 5220-22.m requirements for clearing and sanitization of disk media. This is the default security level when using Secure Disk Erase.

Secure Disk Erase is one of the facilities provided by Web JetAdmin, which is HP's free Web-based print management software. See http://www.hp.com/go/webjetadmin/.

If you have difficulty in using Secure Disk Erase from Web JetAdmin, please contact HP Support. See HP Customer Care on page 183.

NOTE: If you choose to erase the whole hard disk, you may be asked to restart the printer several times during the process, which will take about 6 hours with Secure Disk Erase or 24 hours with Secure Sanitizing Erase.

10 Accessories

- Order accessories

Order accessories

The following accessories can be ordered for your printer.

Name	Product number
HP Designjet 256 MB Memory Upgrade (increases the memory capacity of your printer to work with complex files)	Q5673A
HP Designjet 42–inch Scanner	Q1277A
HP Advanced Profiling Solution Software WW	Q6695A
HP Advanced Profiling Solution Software AP	Q6701A
HP Jetdirect 635n IPv6/IPsec Print Server	J7961A
HP Jetdirect 625n Gigabit Ethernet Print Server	J7960G
HP Designjet High speed USB 2.0 Card (provides a high speed connection direct to your printer)	Q5680A
HP Designjet Z6100 42–inch Spindle (spare spindles ease the process of switching between different types of paper)	Q6707A
HP Designjet Z6100 60–inch Spindle (spare spindles ease the process of switching between different types of paper)	Q6708A
HP Designjet Z6100 42–inch Take-Up Reel	Q6706A
HP Designjet Z6100 60-in Media Bin	Q6714A
HP Designjet Z6100 User Maintenance Kit	Q6715A

11 Troubleshoot print-quality issues

- General advice
- The Embedded Web Server Print Quality Troubleshooting wizard
- Lines are too thick, too thin, or missing
- Lines appear stepped or jagged
- Parts of lines or text are missing
- Lines are printed double or in the wrong colors
- Lines are blurred (ink bleeds from lines)
- Lines are slightly warped
- Dark or light horizontal lines across the image (banding)
- The image is grainy
- The image has a metallic hue (bronzing)
- The printed output is not flat
- The print smudges when touched
- Ink marks appear on the paper
- Defects near the top of a print
- Colors are inaccurate
- The output is completely blank
- The output contains only a partial print
- The image is clipped
- The image is in one portion of the printing area
- The image is unexpectedly rotated
- The print is a mirror image of the original
- The print is distorted or unintelligible
- One image overlays another on the same print
- Pen settings seem to have no effect
- The image has a wood-grain appearance (aeroworms)

General advice

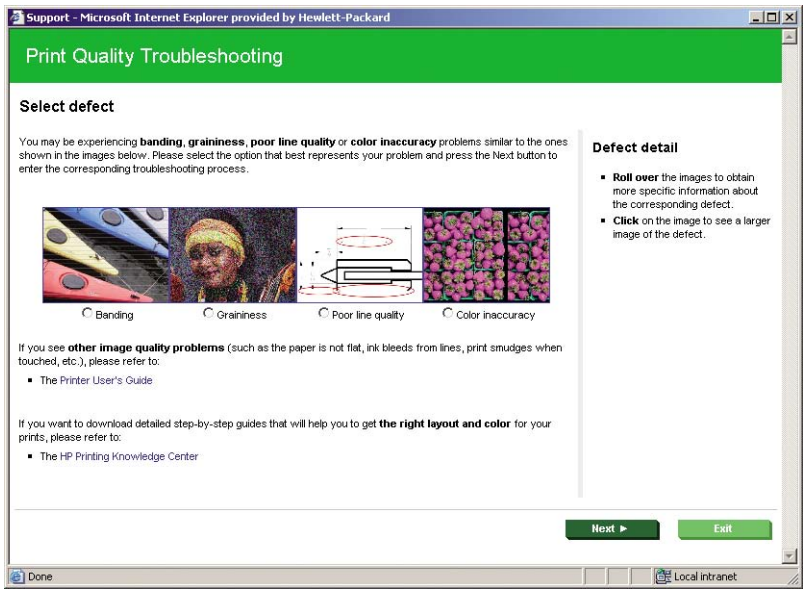
Use the following approach when you have any print-quality problem:

- To achieve the best performance from your printer, use only genuine HP supplies and accessories, whose reliability and performance have been thoroughly tested to give trouble-free performance and best-quality prints. For details of recommended papers, see Order paper on page 49.
- Make sure that the paper type that you select on the front panel is the same as the paper type that is loaded in the printer. Make sure that the paper type has been calibrated. Also make sure that the paper type that you select in your software is the same as the paper type that you loaded in the printer.

  CAUTION: If you have the wrong paper type selected, you might experience poor print quality and incorrect colors, and damage to the printheads might occur.

- Make sure that you are using the most appropriate print-quality settings for your purposes. See Select print quality on page 80. You are likely to see lower print quality if you have moved the print-quality slider to the **Fast** end of the scale, or set the custom quality level to **Fast**.
- Make sure that your environmental conditions (temperature, humidity) are in the recommended range. See Environmental specifications on page 191.
- Make sure that your ink cartridges and printheads have not passed their expiration dates. See Maintain the ink cartridges on page 139.
- Avoid touching the paper while printing is in progress.

The Embedded Web Server Print Quality Troubleshooting wizard



The Embedded Web Server Print Quality Troubleshooting wizard is designed to help you resolve some of the most common print-quality issues that users encounter in large-format printing. The wizard guides you through the resolution of the following print-quality issues:

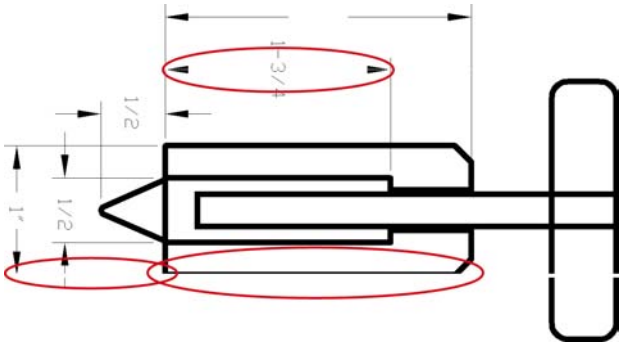
- Dark or light horizontal lines across the image (banding)
- Graininess

- Poor line quality
- Inaccurate color

To access the Embedded Web Server Print Quality Troubleshooting wizard, click the **Print Quality Troubleshooting** link on the **Support** tab. Select the print-quality issue that you are experiencing and click the **Next** button.

A list of suggestions for corrective action appears along with help to guide you through the corrective action.

Lines are too thick, too thin, or missing

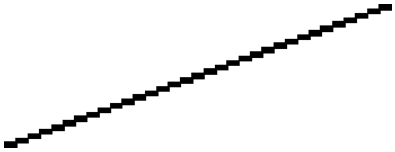


1. Verify that the paper type that you have loaded corresponds to the paper type that you selected on the front panel and in your software.
2. Make sure that you are using the appropriate print-quality settings for your purposes. See Select print quality on page 80.
3. If you are using a HP-GL/2 driver and the resolution of your image is greater than the printing resolution, you might notice a loss of line quality. You can find the **Max. Application Resolution** option on the Windows driver **Advanced** tab, under **Document Options** > **Printer Features**. If you change this option, reprint your job if the problem has been solved.
4. If lines are too thin or missing, print the Printhead status plot. See Use the Printhead status plot on page 71.
5. Try aligning the printheads. See Align the printheads on page 71. After alignment, reprint your job if the problem has been solved.
6. Select the  icon on the printer's front panel, and then **View loaded paper** to see the paper-advance calibration status. If the status is PENDING, perform a paper-advance calibration. See Perform paper advance calibration on page 46.

If the problem persists after you complete these actions, contact your customer service representative for further support.

Lines appear stepped or jagged

Use the following procedure if lines in your image appear stepped or jagged when printed:



1. The problem might be inherent in the image. Try to improve the image within the software program that you are using to edit it.
2. Make sure that you are using appropriate print-quality settings. See Select print quality on page 80.
3. If you are using an HP-GL/2 driver, hange your image-rendering resolution to 300 dpi or 600 dpi, depending on your printing need. The **Max. Application Resolution** option in the Windows driver dialog's **Advanced** tab, under **Document Options** > **Printer Features**.

Parts of lines or text are missing

A high-quality large-format print job often requires a large amount of data, and in some specific workflows, the output might not look like you expected. Here are some suggestions to help you to avoid this problem:

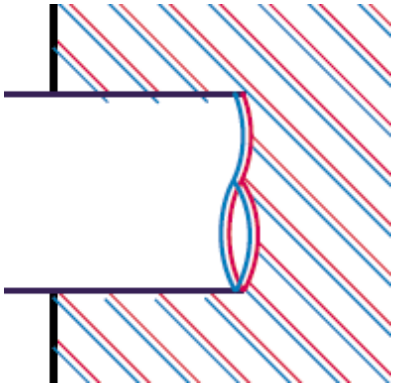
- Select a smaller page size and scale to the final page size in the driver or on the front panel.
- Save the file in another format, such as TIFF or EPS, and open it in another program.
- Use a RIP to print the file.
- Reduce the resolution of the bitmap images in your software.
- Select a lower print quality in order to reduce the resolution of the printed image.
- On the **Advanced** tab of the Windows driver dialog, select **Document options**, **Printer features**, and then establish the following settings:
  - Set **Send job as bitmap** to **Enabled** (HP-GL/2 driver only).
  - Set **16-bit App. Compatibility** to **Enabled**.
  - Set **Max. Application resolution** to 300.

NOTE: These settings are described for troubleshooting purposes only and might adversely affect the final output quality or the time necessary to generate the print job. Therefore, restore these settings to their default values if they do not help to solve the problem.

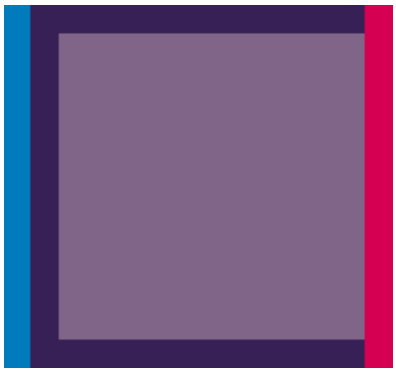
Lines are printed double or in the wrong colors

This problem can have various visible symptoms:

- Colored lines are printed double, in different colors.



- The borders of colored blocks are the wrong color.



Use these steps to correct this kind of problem:

1. Align the printheads. See Align the printheads on page 71.
2. Make sure that you are using appropriate print-quality settings. See Select print quality on page 80.

Lines are blurred (ink bleeds from lines)

Humidity can cause ink to soak into the paper, making the lines look blurred and fuzzy. Try the following remedies:

1. Make sure that your environmental conditions (temperature, humidity) are suitable for high-quality printing. See Environmental specifications on page 191.
2. Verify that the paper type that you select on the front panel is the same as the paper type that you are using. To check, select the icon from the printer's front panel, and then select **View loaded paper**.
3. Try changing to a heavier paper type, such as HP Heavyweight Coated Paper, HP Super Heavyweight Coated Paper, or Digital Fine Art paper.
4. If you are using glossy paper, try changing to a different type of glossy paper.
5. Align the printheads. See Align the printheads on page 71.

Lines are slightly warped

The paper itself might be warped. This can happen if it has been used or stored in an extreme environment. See Environmental specifications on page 191.

Dark or light horizontal lines across the image (banding)

Try the following remedies if your printed image suffers from added horizontal lines as shown (the color may vary):

1. Make sure that the paper type you have loaded corresponds to the paper type that you select on the front panel and in your software.
2. Make sure that you are using appropriate print-quality settings for your purposes. See Select print quality on page 80. In some cases, you can overcome a print-quality problem merely by selecting a higher print-quality level. For instance, if you have set the print-quality slider to **Fast**, try setting it to **Best**. If you change the print-quality settings, reprint your job if the problem has been solved.
3. Print the Printhead status plot. See Use the Printhead status plot on page 71.

4. Check the paper-advance calibration status on the front panel. If the status is PENDING, you should perform paper-advance calibration. See Perform paper advance calibration on page 46.
5. Try aligning the printheads. See Align the printheads on page 71. After alignment, reprint your job if the problem has been solved.

If the problem persists, contact your customer service representative for further support.

The image is grainy

1. Verify that the paper type you have loaded corresponds to the paper type that you select on the front panel and in your software.
2. Verify that you are printing on the correct side of the paper.
3. Make sure that you are using appropriate print-quality settings. See Select print quality on page 80. In some cases, you can overcome a print-quality problem merely by selecting a higher print-quality level. For instance, if you have set the print-quality slider to **Fast**, try setting it to **Best**. If you change the print-quality settings, reprint your job if the problem has been solved.
4. Try aligning the printheads. See Align the printheads on page 71. After alignment, reprint your job if the problem has been solved.
5. Check the paper-advance calibration status on the front panel. If the status is PENDING, you should perform paper-advance calibration. See Perform paper advance calibration on page 46.

If the problem persists, contact your customer service representative for further support. See HP Customer Care on page 183.

The image has a metallic hue (bronzing)

Bronzing describes an image that has a metallic hue when it is viewed from specific angles. Bronzing occurs most commonly when you print pigmented inks on non-matte paper, such as photo paper. If you are using standard print-quality options and the image contains the bronzing effect, move the slider to **Quality**. See Select print quality on page 80.

If you are experiencing bronzing when printing grayscale images on glossy paper, try using the **Full Set of Inks** printing option. To do so from the Windows driver, click the **Color** tab and select **Print In Grayscale**, and then select the **Full Set of Inks** option from the drop-down menu.

The printed output is not flat

If the paper does not lie flat when it comes out of the printer, but instead contains shallow waves, you are likely to see defects in the printed image, such as vertical stripes. This can happen when you use thin paper that becomes saturated with ink.

1. Make sure that the paper type you have loaded corresponds to the paper type that you select on the front panel and in your software.
2. Try changing to a thicker paper type, such as HP Heavyweight Coated Paper, HP Super Heavyweight Coated Paper, or thicker Digital Fine Art papers.

The print smudges when touched

The black ink pigment can smudge when a finger or pen touches it. This is particularly noticeable on: vellum, translucent bond, films, productivity photo paper, and natural tracing paper.

Try these remedies to reduce the smudging:

- Try to print in an environment that is not too humid for the printer. See Environmental specifications on page 191.
- Change pure black objects in your image to a dark color, such as dark brown, so that they are printed with colored inks instead of black ink.
- Use HP Heavyweight Coated Paper.
- Increase the drying time. See Change the drying time on page 49.

Ink marks appear on the paper

This problem can occur for several different reasons.

Smears on the front of coated paper

If a lot of ink is used on coated paper, the paper absorbs the ink quickly and expands. As the printheads move over the paper, the printheads come into contact with the paper and smear the printed image.

Whenever you notice this problem, cancel the printing job immediately. Press the Cancel button on the front panel and also cancel the job from your computer software. Otherwise the soaked paper might damage the printheads.

Try the following suggestions to avoid this problem:

- Use a recommended paper type. See Supported paper types on page 28.
- If the image you are printing contains intense color, try using HP Heavyweight Coated Paper.
- Use extended margins (see Adjust margins and layout options on page 82), or try to increase the margins by relocating the image within the page by using your software program.
- If necessary, try changing to a non-paper-based material such as transparent film.

Smears or scratches on the front of glossy paper

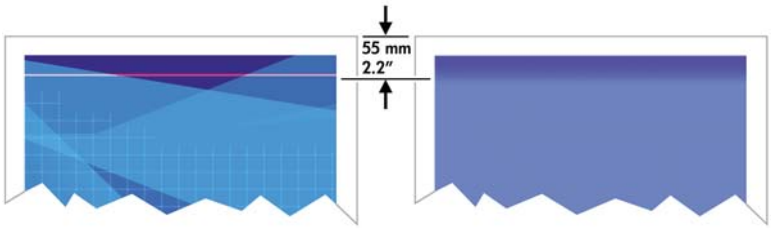
Glossy paper can be extremely sensitive to the bin or to anything else that it contacts soon after printing. This depends on the amount of ink that has been deposited on the paper and the environmental conditions at the time of printing. Avoid any contact with the paper surface and handle the print with care.

Ink marks on the back of the paper

Ink residue on the platen or the input rollers is likely to mark the back of the paper. See Clean the platen on page 136.

Defects near the top of a print

In a defect that affects only the start of a print, within 5.5 cm of the leading edge of the paper, a band of inconsistent color appears:



Use these steps to avoid this problem:

1. The easiest solution might be to select the **Extended Margins** option in the driver, through the Embedded Web Server, or on the front panel. Using this remedy means that the area of the paper affected by the problem (at the start of the page) might not be printed on. See Adjust margins and layout options on page 82.
2. Align the printheads. See Align the printheads on page 71.
3. Make suer that you are using appropriate print-quality settings. See Select print quality on page 80.

Colors are inaccurate

If the colors of your print do not match your expectations, try the following remedies:

1. Verify that the paper type you have loaded corresponds to the paper type that you selected on the front panel and in your software. At the same time, check the color-calibration status. If the status is RECOMMENDED or OBSOLETE, you should perform color calibration. See Color calibration on page 110. If you have made any changes, reprint your job if the problem has been solved.
2. Verify that you are printing on the correct side of the paper.
3. Make sure that you are using the appropriate print-quality settings. See Select print quality on page 80. If you have selected the **Fast** options, you might not get accurate colors. If you change the print-quality settings, reprint your job if the problem has been solved.
4. If you are using Application Color Management, make sure that the color profile that you are using corresponds to the selected paper type and print-quality settings. If you have doubts about which color settings to use, see Color management on page 104. If you need to create a color profile, see Color profiling on page 111.
5. If the problem consists of color differences between your print and your monitor, follow the instructions in the "How to calibrate your monitor" section of the HP Color Center. Reprint your job if the problem has been solved.
6. Print the Printhead status plot. See Use the Printhead status plot on page 71.
7. Consult the HP Knowledge Center at http://www.hp.com/go/knowledge_center/djz6100/ for step-by-step color assistance with different software programs (English language content only).

If the problem persists, contact your customer service representative for further support. See Get help on page 182.

PANTONE* colors are inaccurate

See HP Professional PANTONE* Emulation on page 116.

Colors between different HP Designjets do not match

If you print an image on two different printer models (for instance, on an HP Designjet Z6100 printer series and an HP Designjet 5500 printer series), the colors of the two prints might not match well.

Matching two printing devices that use different ink chemistry, paper chemistry, and printheads is unlikely to be completely successful. Use the information provided here is to attempt to make one printer match another.

Print with PostScript drivers

The situation describes printing with the PostScript driver installed for that printer. In this example, we are using an HP Designjet Z6100 printer series and an HP Designjet 5500 printer series.

1. Verify that both printers have the most recent firmware version. See Update the printer firmware on page 141.
2. Verify that you have the most recent printer driver for both printers. Download the latest versions for any HP printer from http://www.hp.com/go/designjet.
3. Make sure that Color Calibration is turned on. On the front panel of the HP Designjet Z6100, select the  icon, and then select **Printer configuration** > **Color calibration** > **On**.
4. Load the printers with the same type of paper.
5. Verify that the Paper Type setting on the front panel corresponds to the paper that you have loaded.
6. Use you normal settings to print your image on the HP Designjet 5500.
7. Now prepare to print the same image on the HP Designjet Z6100.

   In your software, set the color space of the image to emulate the HP Designjet 5500 and the specific paper type that you used in that printer. The data sent to the driver must be already converted to this emulation color space, which is a CMYK color space. See the online help for the software program to find information about how to do this. In this way, the Z6100 will emulate the colors that the 5500 can produce when printing on that paper type.
8. In the PostScript driver for the HP Designjet Z6100, go to the Color Management section and set the CMYK input profile to the same HP Designjet 5500 color space that you selected in the software (the emulation color space).

   NOTE: When trying to emulate another printer you should always use CMYK colors, not RGB.
9. Set the rendering intent to Relative Colorimetric, or to Absolute Colorimetric if you want to emulate the whiteness of the paper.
10. Print the image on the HP Designjet Z6100.

Print with HP-GL/2 drivers

The situation describes printing with the HP-GL/2 driver installed for that printer.

1. Verify that both printers have the most recent firmware version. See Update the printer firmware on page 141.
2. Verify that you have the most recent printer drivers for both printers. You can download the latest versions for any HP printer from http://www.hp.com/go/designjet.
3. Make sure that Color Calibration is turned on. On the front panel of the HP Designjet Z6100 printer series, select the  icon, then **Printer configuration** > **Color calibration** > **On**.
4. Load the printers with the same type of paper.
5. Verify that the Paper Type setting on the front panel corresponds to the paper you have loaded.

6. In the HP-GL/2 driver for the HP Designjet Z6100, click the **Color** tab, and select **Printer Emulation** from the list of color management options. Then select the HP Designjet 5500 from the list of emulated printers.
7. In the HP-GL/2 driver for the HP Designjet 5500, click the **Options** tab, and then select **Manual Color** > **Color Control** > **Match Screen**. Also click the **Paper Size** tab, and then select **Paper Type**.

Print the same HP-GL/2 file

The situation describes how to produce an HP-GL/2 file (also known as a PLT file) with the HP-GL/2 driver installed for one printer that you intend to send to another printer.

1. Verify that both printers have the most recent firmware version. See Update the printer firmware on page 141.
2. Make sure that Color Calibration is turned on. At the front panel of the HP Designjet Z6100, select the  icon, then **Printer configuration** > **Color calibration** > **On**.
3. Load the printers with the same type of paper.
4. Verify that the Paper Type setting on the front panel corresponds to the paper you have loaded.
5. If you have an HP-GL/2 file for an HP Designjet 5500 and you want to print it on an HP Designjet Z6100, use the Embedded Web Server or the front panel.
   - Through the Embedded Web Server: leave the color options set to **Default**.
   - On the front panel: select the  icon, and then select **Printing preferences** > **Color options** > **Emulate printer** > **HP Designjet 5500 Series**.

   For other HP Designjet printers, set both printers to match the screen colors (sRGB, if that is available), as when printing with separate HP-GL/2 drivers.

The output is completely blank

If the front-panel graphic language setting is **Automatic** (the default), try the other settings: **PostScript** for a PostScript file, **HP-GL/2** for an HP-GL/2 file, and so on. Then send the file again.

When you have finished this particular print, remember to reset the graphic language to **Automatic**.

The output contains only a partial print

- If you pressed Cancel before the printer received all the data, you ended the data transmission and will have to print the page again.
- The **I/O timeout** setting might be too short. This setting determines how long the printer waits for the computer to send more data, before deciding that the job is finished. On the front panel, increase the **I/O timeout** setting to a longer period and then send the print again by selecting the  icon, and then selecting **Connectivity menu** > **Advanced** > **Select I/O timeout**.
- A communications problem between your computer and the printer might exist. Check your USB or network cable.
- Verify that your software settings are correct for your current page size (for example, long-axis prints).
- If you are using network software, make sure that it has not timed out.

The image is clipped

Clipping normally indicates a discrepancy between the actual printable area on the loaded paper and the printable area as described by your software. You can often identify this kind of problem before printing by previewing your print. See Hold for preview on page 90.

- Check the actual printable area for the paper size that you have loaded.

  printable area = paper size – margins

- Check what your software understands to be the printable area (which it might cite as "printing area" or "imageable area"). For example, some software programs assume standard printable areas that are larger than those used in this printer.
- If you have defined a custom page size that has very narrow margins, the printer might impose its own minimal margins and clip your image slightly. You might want to use a larger paper size. See Adjust margins and layout options on page 82.
- If your image contains its own margins, you might be able to print it successfully by using the **Clip Contents by margins** option. See Adjust margins and layout options on page 82.
- If you are trying to print a very long image on a roll, make sure that your software can print an image of that size.
- You might have asked to rotate the page to landscape orientation on a paper size that is not sufficiently wide.
- If necessary, reduce the size of the image or document in your software, so that it fits between the margins

Other explanations exist for a clipped images. Some programs, such as Adobe Photoshop, Adobe Illustrator, and CorelDRAW, use an internal 16-bit coordinate system which means that they cannot handle an image of more than 32,768 pixels. If you try to print a larger image, the bottom of the image will be clipped. To print the entire image, try these suggestions:

- If you are using an HP-GL/2 driver, you can reduce the resolution so that the whole image requires fewer than 32,768 pixels. The Windows driver includes an option called **16-bit App. Compatibility**, which reduces the resolution automatically. The option is on the **Advanced** tab, under **Document Options** > **Printer Features**.
- Save the file in another format, such as TIFF or EPS, and open it in another program.
- Use a RIP to print the file.

The image is in one portion of the printing area

- In the software, have you selected a page size that is too small?
- Does your software read the image as being in one portion of the page?

The image is unexpectedly rotated

On the front panel, select the  icon, and then select **Printing preferences** > **Paper options** > **Rotate**. Verify that the setting is what you wanted.

For non-PostScript files: if **Nesting** is **On**, pages are sometimes automatically rotated to save paper. See Nest jobs to save paper on page 98.

The print is a mirror image of the original

On the front panel, select the icon, and then select **Printing preferences** > **Paper options** > **Enable mirror image**. Verify that the setting is what you wanted.

The print is distorted or unintelligible

- The interface cable that is connecting your printer to your network (or to your computer) might be faulty. Try another cable.
- On the front panel, select the icon, and then select **Printing preferences** > **Select graphics languag**. If the language setting is **Automatic** (the default), try the other settings: **PostScript** for a PostScript file, **HP-GL/2** for an HP-GL/2 file, on so on. Then send the file again.
- Depending on the software, drivers, and RIPs that you are using with your printer, different ways to solve this problem exist. Refer to the vendor's user documentation for details.

One image overlays another on the same print

The **I/O timeout** setting might be too long. On the front panel, decrease the setting and print again.

Select the icon, and then select **Connectivity menu** > **Advanced** > **Select I/O timeout**.

Pen settings seem to have no effect

- You have changed the settings on the front panel by selecting the icon followed by **Printing preferences** > **HP-GL/2** > **Define palette**, but did not select that palette in **Printing preferences** > **HP-GL/2** > **Select palette**.
- To enable the software-driven pen settings, go to the front panel and select the icon followed by **Printing preferences** > **HP-GL/2** > **Select palette** > **Software**.

The image has a wood-grain appearance (aeroworms)

Aeroworms are wavy, horizontal bands produced by air-induced dot placement error (DPE). In extreme cases, aeroworms give the image a wood-grain appearance. The problem occurs most commonly on print jobs that are set for low-quality and high-speed. It does not occur when the custom print-quality setting is set to “best.”

To eliminate aeroworms, select a higher IQ print setting. See Select print quality on page 80.

12 Troubleshoot paper issues

- The paper cannot be loaded successfully
- The paper has jammed
- Prints do not stack correctly in the bin
- Automatic paper-cutter does not function
- Take-up reel paper jammed
- Take-up reel does not wind

The paper cannot be loaded successfully

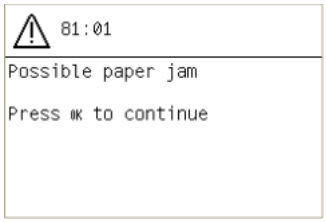
Here are a few things to check if you cannot successfully load the paper.

- The paper might be loaded at an angle (skewed or mislocated). Make sure that the right edge of the paper is aligned with the half-circle on the right-hand side of the platen, and that the leading edge of the paper is aligned with the metal bar in the platen.
- The paper might be crumpled or warped, or have irregular edges.
- If the paper jams in the paper path to the platen, the leading edge of the paper might not be straight or clean. Remove the initial 2 cm (1 in) of paper from the roll and try again. This might be necessary even with a new roll of paper.
- Make sure that the spindle is correctly inserted.
- Make sure that the paper is correctly loaded on the spindle, and that it loads over the roll towards you.
- Verify that the paper is wound tightly on the roll.

The paper has jammed

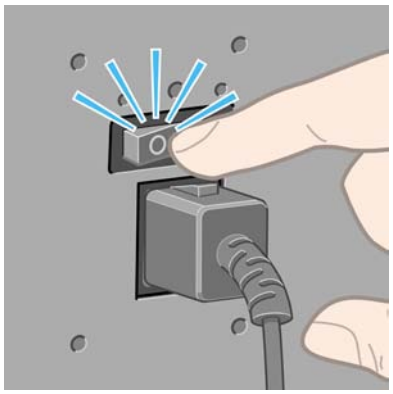
When a jam occurs, the **Possible paper jam** message usually appears in the front panel, with one of two error codes:

- 81:01 indicates that paper cannot advance into the printer.
- 86:01 indicates that the printhead carriage cannot move from side to side.

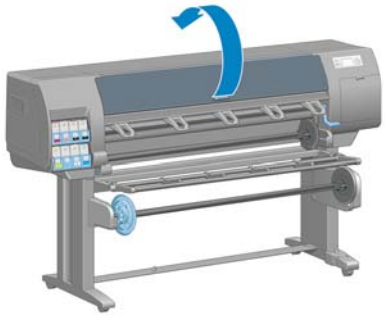


Check the printhead path

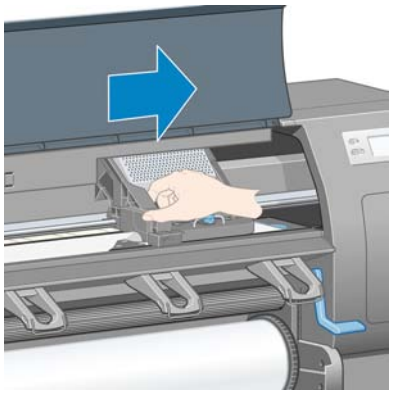
1. Turn off the printer at the front panel, then also switch off the power switch at the rear.



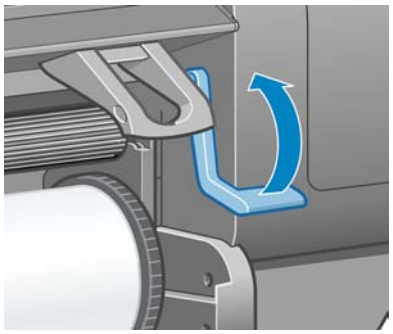
2. Open the printer window.



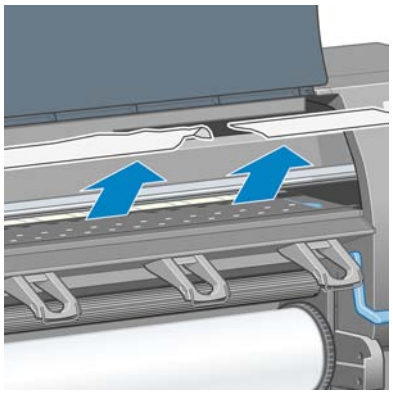
3. Try to move the printhead carriage out of the way.



4. Lift the paper-load lever as far up as it will go.



5. Carefully remove any of the jammed paper that you can lift up and out from the top of the printer.



6. Carefully pull the remainder of the roll down and out of the printer.
7. Turn on the printer.

8. Reload the roll. See Load a roll into the printer on page 32.
9. If some paper continues to cause an obstruction within the printer, it can often be cleared by loading a rigid paper type into the printer.
10. If you find that you have print-quality problems after a jam, try realigning the printheads. See Align the printheads on page 71.

Check the paper path

- This problem can occur when a roll has finished and the end of the roll is stuck to the cardboard core. If this has happened, cut the end of the roll away from the core. Then feed the paper through the printer, and load a new roll.
- Otherwise, follow the procedure described above, under Check the printhead path on page 163

Prints do not stack correctly in the bin

NOTE: This topic applies to the HP Designjet Z6100 42–in Printer only.

- Paper often tends to curl near the end of a roll, which can cause stacking problems. Load a new roll, or remove prints manually as they are completed.
- If you are mixing prints or nesting sets of several different sizes, you might experience stacking problems because of the different sizes of paper in the bin.

Automatic paper-cutter does not function

The automatic paper-cutter is disabled when the take-up reel is in use. To use the cutter on the paper, uninstall (disable) the take-up reel on the front panel by selecting the  icon, and then selecting **Take-up reel** > **Disable take-up reel**.

NOTE: The automatic paper-cutter feature is disabled for some of the heaviest media types, because they might damage the cutter.

Take-up reel paper jammed

If the paper is severely damaged on the take-up reel spindle core, do not use the printer's cutter to cut and remove the paper. Instead, cut the paper manually as close as possible to the printer window, and then remove the roll. See Unload a roll from the printer on page 36.

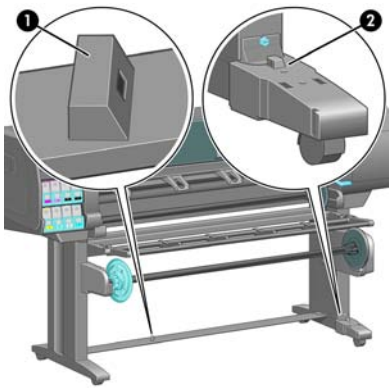
Take-up reel does not wind

Predictably, if the take-up reel is not winding as anticipated, the printed output is likely to end up on the floor. If the printer recognizes a problem with the take-up reel, it will interrupt the print job until the issue is corrected. If the printer does not recognize a problem, the job will continue to print. The following table highlights possible issues and solutions.

Take-up reel LED status	Issue	Print job interrupted?	Possible cause	Possible solution
Blinking quickly	Take-up reel is not winding	Yes	The sensor beam was blocked for more than 3 seconds.	Make sure that the take-up reel sensors are not blocked by a strip of paper, the collection

Take-up reel LED status	Issue	Print job interrupted?	Possible cause	Possible solution
				bin if you are using the HP Designjet Z6100 42–in Printer, or any objects. See the following graphic. Make sure that the collection bin is placed behind the foot brace. Also ensure that the take-up reel power switch is in the On position.
Blinking slowly	Take-up reel is not winding	No	The sensor cables are loose or unplugged.	Ensure that the sensor cables are correctly secured.
Solid red	Take-up reel is not winding	No	There is too much resistance on the take-up reel motor.	Ensure that the paper is not winding too tightly. A loop-shaping core should be inserted and hanging as shown in step 10 of Use the take-up reel on page 38.
Solid green	Take-up reel is not winding	No	The take-up reel power switch is in the Off position	Ensure that the take-up reel power switch is in the On position.
Solid green	Take-up reel is winding in the wrong direction	No	The take-up reel wind-direction switch is in the wrong winding position. After 3 seconds, the printer recognizes the problem and interrupts the print job. See the first error listed in this table.	Flip the take-up reel wind-direction switch to the correct position.

The following graphic shows the take-up reel sensors and cable.



1. Take-up reel sensor
2. Take-up reel sensor and cable housing unit

13 Troubleshoot ink-system issues

- Cannot insert an ink cartridge
- Cannot insert a printhead
- Cannot insert the maintenance cartridge
- Front panel recommends reseating or replacing a printhead
- Clean the printheads
- Align the printheads

Cannot insert an ink cartridge

1. Verify that you have the correct type of cartridge (model number).
2. Verify that the colored label on the cartridge is the same color as the label on the slot.
3. Verify that the cartridge is correctly oriented, the arrow on the front of the ink cartridge should face upwards.

CAUTION: Never clean inside the ink cartridge slots.

Cannot insert a printhead

1. Verify that you have the correct type of printhead (model number).
2. Verify that you have removed the protective caps and the clear protective tape from the printhead.
3. Verify that the colored label on the printhead is the same color as the label on the slot.
4. Verify that the printhead is correctly oriented (compare with the others).
5. Verify that you have closed and latched the printhead cover.

Cannot insert the maintenance cartridge

Verify that the maintenance cartridge is correctly oriented.

Front panel recommends reseating or replacing a printhead

1. Remove the printhead and verify that its protective film has been removed.
2. Clean the electrical connections between the printhead and the carriage. See Clean the electrical connections on a printhead on page 67.
3. Reinsert the printhead into the carriage and check the front panel message.
4. If the problem persists, insert a new printhead.

Clean the printheads

Periodic printhead cleaning is performed automatically, as long as the printer is kept turned on. However, you should clean the printheads if you are experiencing poor image quality and cannot resolve the issues by other methods. This ensures that there is fresh ink in the nozzles and helps to prevents nozzle clogs.

If you have printed the Printhead status plot, you know which colors are failing. Clean the pair of printheads that are not performing adequately. If you are not sure which printheads to clean, clean all of the printheads.

To clean the printheads, go to the printer's front panel and select the  icon, select **Image quality maintenance** > **Clean printheads**, and then select which printheads you want to clean. You can clean all of the printheads or only some of them. Your choices are:

- Clean all
- Clean M-Y

- Clean LM-LC
- Clean PK-LG
- Clean MK-C
- Purge ink

Cleaning all of the printheads takes about 5 minutes. Cleaning any two printheads takes about 3 minutes. Purging the ink takes about 5 minutes.

NOTE: Cleaning all printheads uses more ink than cleaning a single pair.

NOTE: HP recommends that you purge the ink from the printheads before printing a job if the printer has been turned off for more than six weeks or if you are experiencing inconsistent colors from print to print after long storage periods. Purging the ink from the printheads helps to ensure maximum color consistency; it is *not* a remedy for poor printhead health.

Align the printheads

Precise alignment between printheads is essential for color accuracy, smooth color transitions, and sharp edges in graphical elements. Your printer has an automatic printhead alignment process which runs whenever a printhead has been accessed or replaced.

In the case of a paper jam, if you have used a custom paper, or if you are experiencing problems with color accuracy; you might need to align the printheads. See Align the printheads on page 71.

NOTE: If you experience a paper jam, HP recommends that you reinsert the printheads and align the printheads.

TIP: Use the same paper you intend to print on to align the printheads. Photo paper is recommended for the best results. Plain; bond; and thin, coated papers are acceptable, but provide marginal results.

WARNING! Colored papers, glossy canvas, and transparent materials such as translucent bond, clear film, tracing paper, and vellum are not suitable for aligning the printheads. However, if you must perform printhead alignment with a material that is not supported, make sure you use a material with the same thickness as the material you are going to use for printing.

Reinsert printheads procedure

1. If the printhead alignment process is running and the wrong paper is loaded, press the Cancel button on the front panel.

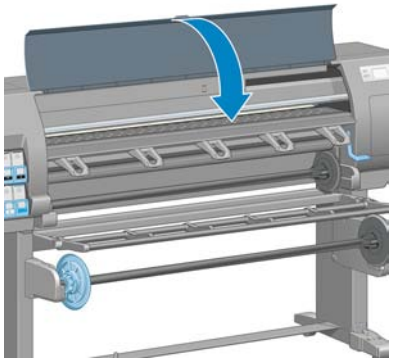
   CAUTION: Do not print if the printhead alignment process has been canceled.

2. Load the paper you want to use. Photo paper is recommended for the best results.

   WARNING! Colored papers, glossy canvas, and transparent materials such as translucent bond, clear film, tracing paper, and vellum are not suitable for aligning the printheads. However, if you must perform printhead alignment with a material that is not supported, make sure you use a material with the same thickness as the material you are going to use for printing.

3. Remove and reinsert all of the printheads. See Remove a printhead on page 61 and Insert a printhead on page 64. This starts the printhead alignment process.

NOTE: Make sure the printer window is closed during printhead alignment.



4. The process takes about 6 minutes. Wait until the front panel shows that the process is complete before using the printer.

NOTE: A calibration image is printed during the printhead alignment process. The front panel shows if there were any errors in the process.

Image Quality Maintenance menu procedure

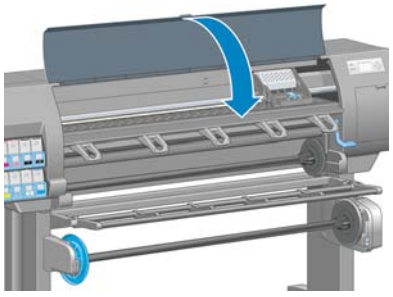
1. Load the paper you want to use. Photo paper is recommended for the best results. Plain; bond; and thin, coated papers are acceptable, but provide marginal results.

WARNING! Colored papers, glossy canvas, and transparent materials such as translucent bond, clear film, tracing paper, and vellum are not suitable for aligning the printheads. However, if you must perform printhead alignment with a material that is not supported, make sure you use a material with the same thickness as the material you are going to use for printing.

2. Go to the front panel and select the icon, and then select **Image quality maintenance** > **Align printheads**. The printer verifies that a sufficient amount of paper exists to perform printhead alignment.

3. If the paper type that is loaded is acceptable for printhead alignment, the printer performs the alignment and prints an alignment pattern.

NOTE: Make sure the printer window is closed during printhead alignment.



4. The process takes about 5 minutes. Wait until the front panel shows that the process is complete before using the printer.

Scan errors during alignment

If the alignment process fails, a **Scanning problems** message appears on the front panel. This indicates that the alignment was not completed successfully. Therefore, the printheads are not aligned and the alignment should be repeated before printing. The problem might be because of one of the following scenarios:

- The type of paper used in the printhead alignment process was not acceptable. Repeat the alignment process using one of the recommended paper types.
- The printheads are not clean. Clean the printheads. See Clean the printheads on page 168.
- The printer window was open during the printhead alignment process. Repeat the alignment process with the printer window closed.

If the problem persists after following the recommended remedies, try replacing all of the printheads. If the problem persists after replacing the printheads, a failure in the scanning system may exist.

14 Troubleshoot other issues

- The printer is not printing
- The software program slows down or stalls while generating the print job
- The printer seems slow
- Communication failures between computer and printer
- Cannot access the Embedded Web Server
- “Out-of-memory” error message
- AutoCAD 2000 memory allocation error
- The platen rollers squeak
- Cannot access HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS)
- No output from Microsoft Visio 2003
- Print job canceled and purged when held for preview

The printer is not printing

Possible reasons why a file you have sent from your computer is not printing when expected, include the following:

- A problem with the electrical power might exist. If the printer is not performing and the front panel does not respond, verify that the power cable is correctly connected and that the electrical socket is functioning.
- An unusual electromagnetic phenomena may exist, such as strong electromagnetic fields or severe electrical disturbances. Such occurrences can cause the printer to behave strangely, or even stop working. Turn off the printer by using the Power button on the front panel, wait until the electromagnetic environment has returned to normal, and then turn the printer on again. If the problems persist, contact your customer service representative.
- The graphic language setting might be incorrectly set.
- The correct printer driver might not have been installed in your computer.
- One of the following paper scenarios might exist:
  - The paper name that appears on the front panel does not reflect the paper that is loaded in the printer.
  - There is not a sufficient amount of paper on the loaded roll to print the entire job.

  Under these conditions, one print job might be printed, while another print job is held in the print queue. To resolve this issue, unload the roll from the printer and load a new roll, using the front panel to guide you through the process.
- The nesting setting might be **On** and the printer is waiting for the nest timeout to expire. Under this condition, the front panel shows the remaining time.
- You might have requested a print preview in your printer driver. Under this condition, the preview appears in a Web browser.

The software program slows down or stalls while generating the print job

Large quantities of data might be necessary to generate a high-quality large-format print job. This can cause your software program to slow down significantly or stall. Lowering the print resolution may help to avoid this scenario, however, lowering the print resolution reduces image quality.

In the Windows HP-GL/2 driver, click the **Advanced** tab, select **Document options** > **Printer features**, and then set **Max. Application resolution** to 300.

The printer seems slow

Here are some possible explanations:

- Did you set the print quality to **Best**? Images printed with the **Best** print-quality setting require more time to print.
- Did you specify the correct paper type when loading the paper? Verify that the paper type that appears on the front panel matches the paper that is loaded in the printer.
- Is your printer connected to a network? Check that all components used in the network (network interface cards, hubs, routers, switches, and cables) are capable of high-speed operation. Is there a lot of traffic from other devices on the network?

- Did you set the drying time to **Extended**? Try changing the drying time to **Optimal**. See Change the drying time on page 49.
- Are the printheads in good condition? Printing time might increase when a printhead needs cleaning. Check the printhead status on the front panel or through the Embedded Web Server. Clean or replace printheads if necessary.
- Do your image contain high-density, black fills? Printing time might increase for images containing high-density, black fills.

Communication failures between computer and printer

Some symptoms are:

- The front-panel display does not show the **Receiving** message when you have sent an image to the printer.
- Your computer shows an error message when you try to print.
- Your computer or printer stalls when transferring data.
- Your printed output shows random or inexplicable errors (misplaced lines, partial graphics, and so on).

To solve a communication problem:

- Make sure that you have selected the correct printer in your software program.
- Make sure that the printer works correctly when printing from other software programs.
- Remember that large images usually require more time to receive, process, and print.
- If the printer is connected to your computer by a USB cable, try disconnecting and reconnecting the cable.
- If the printer is connected to your computer through any other intermediate devices, such as switch boxes, buffer boxes, cable adapters, or cable converters, remove the intermediate device and try connecting the printer directly to your computer.
- Try another interface cable. See Choose which connection method to use on page 13.
- Make sure that the graphic language setting is correctly set.

Cannot access the Embedded Web Server

If you have not done so already, please read Access the Embedded Web Server on page 23.

NOTE: If you connect your printer directly to your computer with a USB cable, use HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS).

1. Go to the front panel and select the  icon.
2. Select **Connectivity Menu** > **Advanced** > **Embedded Web Server** > **Allow EWS** > **On**.
3. If you have a TCP/IP connection to your printer, go to the front panel and select the  icon, and then select **Connectivity Menu**.
4. Select the type of connection you are using.

5. Select **View Information**.
6. The information should read: **IP enabled: Yes**. If it does not, you might need to use a different connection.

If you still cannot access the Embedded Web Server, turn the printer off with the Power button on the front panel and then turn it on again.

If you experience very slow progress while trying to access the Embedded Web Server, the problem could be that you are using a proxy server. Try bypassing the proxy server and accessing the Embedded Web Server directly.

- In Internet Explorer 6 for Windows, go to **Tools** > **Internet Options** > **Connections** > **LAN Settings**, and select the **Bypass proxy server for local addresses** check box. You can also click the **Advanced** button to add the printer's IP address to the list of exceptions, for which the proxy server is not used.
- In Safari for Mac OS, go to **Safari** > **Preferences** > **Advanced** and click the **Proxies: Change Settings** button. Add the printer's IP address or its domain name to the list of exceptions, for which the proxy server is not used.

"Out-of-memory" error message

There is no direct relationship between the size of a file in your computer and the amount of memory needed to print the file. Because of file compression and other factors, it is difficult to estimate how much memory is needed to print a job. It is possible that the printer will lack sufficient memory to print a certain job, despite having printed larger jobs in the past. Adding memory to your printer is one solution.

If you are using the Windows HP-GL/2 driver, printer memory problems can often be resolved by clicking the **Advanced** tab, selecting **Document options**, selecting **Printer features**, and then selecting **Print job as raster**.

NOTE: If you select this option, the time needed to process the job in your computer might be considerably longer.

AutoCAD 2000 memory allocation error

When printing from AutoCAD 2000 for the first time after installing the printer driver, a **Memory allocation error** message might appear.

This is an AutoCAD 2000 problem. Download the Plotting Update Patch (**plotupdate.exe**) from the Autodesk Web site (http://www.autodesk.com/) to resolve the problem.

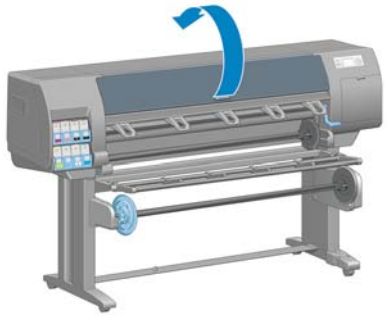
HP also recommends that you download the Plotting Update Patch if you experience other problems when printing from AutoCAD 2000.

The platen rollers squeak

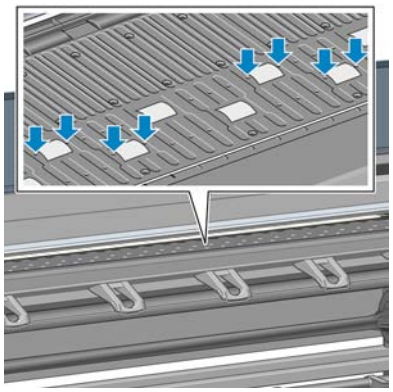
It might be necessary to oil the rollers. Locate the oil bottle in the maintenance kit that came with your printer.

1. Turn off the printer by using the Power button on the front panel.

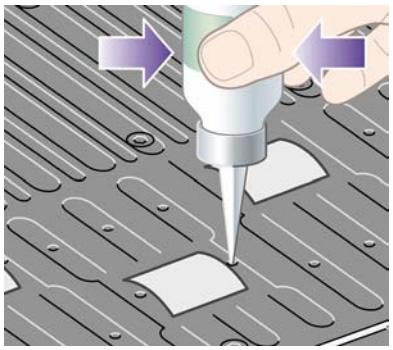
2. Open the printer window.



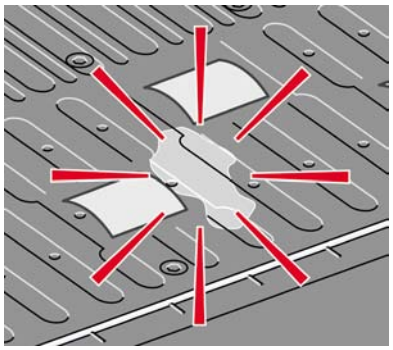
3. Locate the small holes in the platen near some of the rollers.



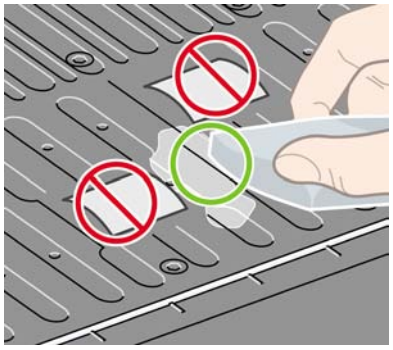
4. Put three drops of oil into each hole in the platen.



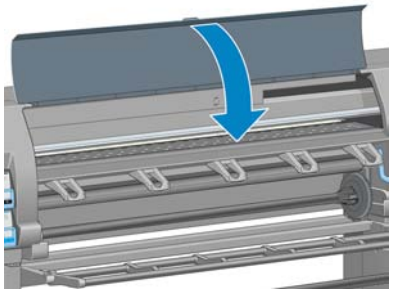
NOTE: Be careful not to spill oil onto the platen.



5. If oil spills onto the platen, wipe the platen clean by using the cloth that was supplied with the maintenance kit.



6. Lower the printer window.



Cannot access HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS)

If you have not done so already, please read HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS) setup options on page 25.

NOTE: Because Windows XP Professional x64 Edition does *not* support HP Easy Printer Care, it cannot be installed on computers that are running that version of Windows.

1. Go to the front panel and select the icon.
2. Select **Connectivity Menu** > **Advanced** > **Web services** > **Printer Utility Software** > **Enable**.
3. If you have a TCP/IP connection to your printer, go to the front panel and select the icon again.
4. Select the type of connection you are using.
5. Select **View Information**.

If you still cannot connect, turn the printer off by using the Power button on the front panel and then turn it on again.

No output from Microsoft Visio 2003

For more information about problems when printing large images (more than 129 inches long) from Microsoft Visio 2003, see Microsoft's online knowledge base (http://support.microsoft.com/search/).

To avoid these problems, you can scale down the image in Visio (to a size less than 129 inches) and then scale up the image in the driver. Resize the image in Visio and then in the Windows driver, click the **Features** tab and then select the **Resizing** options.

Print job canceled and purged when held for preview

The printer can store up to 64 pages for preview. If the job that you selected for preview contains more than 64 pages, the job will be canceled and purged without notification when the printer starts to process the sixty-fifth page. If you want to preview a job that has more than 64 pages, click the Continue button before the printer starts to process the sixty-fifth page. Because the preview image is ready as soon as the first page is processed, you should have enough time to check the preview image.

15 Front-panel error messages

Under certain circumstances, a front-panel error message appears. Follow the advice in the Recommendation column to resolve the error.

If an error message appears on the front panel that is *not* included in this list, and you are in doubt over the correct response, contact HP Support. See HP Customer Care on page 183.

Table 15-1 Text messages

Message	Recommendation
[Color] cartridge has expired	Replace the cartridge. See Remove an ink cartridge on page 59 and Insert an ink cartridge on page 61.
[Color] cartridge is missing	Insert a cartridge of the correct color. See Insert an ink cartridge on page 61.
[Color] cartridge is out of ink	Replace the cartridge. See Remove an ink cartridge on page 59 and Insert an ink cartridge on page 61.
[Color] printhead #[n] error: not present	Insert the correct printhead. See Insert a printhead on page 64.
[Color] printhead #[n] error: please remove	Remove the incorrect printhead and insert a new printhead of the correct type (color and number). See Remove a printhead on page 61 and Insert a printhead on page 64.
[Color] printhead #[n] error: replace	Remove the non-functional printhead and insert a new printhead. See Remove a printhead on page 61 and Insert a printhead on page 64.
[Color] printhead #[n] error: reseat	Remove and reinsert the same printhead, or try cleaning the electrical connections. If necessary, insert a new printhead. See Front panel recommends reseating or replacing a printhead on page 168.
[Color] printhead #[n] out of warranty	The printhead's warranty has ended, because of the length of time it has been in operation or because of the volume of ink used. See Legal information on page 193.
[Color] printhead #[n] warranty warning	The printhead's warranty may be invalidated by the use of the wrong kind of ink. See Legal information on page 193.
[Warning] internal failure: Unable to create print	The internal print files are not available in the printer. Load the internal print files through the Embedded Web Server.
IO error	Restart the printer. If the problem persists, contact HP Support. See HP Customer Care on page 183.
IO warning	Try again; if the problem persists, contact HP Support. See HP Customer Care on page 183.
PDL Error: Ink system not ready	Clean the printheads. See Clean the printheads on page 168.
PDL Error: Job clipped	The image is too large for the paper or for the printer. Load larger paper if possible, or reduce the image size.
PDL Error: memory full	Restart the printer and try resending the job; if necessary, reduce the complexity of the job.

Table 15-1 Text messages (continued)

Message	Recommendation
PDL Error: out of paper	Load more paper.
PDL Error: parsing error	The print job is unintelligible to the printer. Try to recreate and resend it. Check your cable connections.
PDL Error: print mode error	The paper type or print quality specified for the job are incorrect. Change the loaded paper type or the print settings.
PDL Error: printing error	Try sending the job again.
PDL Error: virtual memory full	Restart the printer and try resending the job; if necessary, reduce the complexity of the job.
Replace [color] cartridge	Replace the cartridge. See Remove an ink cartridge on page 59 and Insert an ink cartridge on page 61.
Reseat [color] cartridge	Remove and reinsert the same cartridge. See Remove an ink cartridge on page 59 and Insert an ink cartridge on page 61.
Update: failed. Invalid file	Make sure that you have selected the correct firmware update file. Then try again to perform the update.

Under certain circumstances, a front-panel numeric error message appears. Follow the advice in the Recommendation column to resolve the error.

If an error message appears on the front panel that is *not* included in this list, turn off the printer and then turn it back on. If the problem persists, contact HP Support. See HP Customer Care on page 183.

Table 15-2 Numeric error messages

Error code	Recommendation
26.n.01 (where n = the subject ink cartridge number)	Remove the subject ink cartridge and reinstall it in the printer. If the error persists, replace the subject ink cartridge. If the problem persists, contact HP Support. See HP Customer Care on page 183.
29.01	The maintenance cartridge is not inserted correctly. Open the maintenance cartridge door on the right side of the printer, make sure that the maintenance cartridge is correctly seated, and then close the door. If the problem persists, replace the maintenance cartridge. If the problem persists, contact HP Support. See HP Customer Care on page 183.
32.1.01	A take-up reel error has occurred. Make sure that the paper is adequately taped to the take-up reel spindle core, and then make sure that the winding direction is correctly set.
32.2.01	The take-up reel can not be detected. Make sure that the take-up reel sensor cable is correctly connected.
61.01	The file format is incorrect and the printer cannot process the job. Try the following remedies: • Turn off the printer by using the Power button on the front panel and the power switch at the back of the printer, and then disconnect the power cord—then reconnect the power cord and turn on the printer. • Make sure that the graphic language setting is correct. See Change the graphic language setting on page 102. • Resubmit the file to the printer. • Verify that your printer firmware is up to date. See Update the printer firmware on page 141. If the problem persists, contact HP Support. See HP Customer Care on page 183.

Table 15-2 Numeric error messages (continued)

Error code	Recommendation
63.04	An input/output problem has occurred with the network card. Try the following remedies: • Make sure that the network cable is correctly connected to the network card. • Verify that your printer firmware is up to date. See Update the printer firmware on page 141. If the problem persists, contact HP Support. See HP Customer Care on page 183.
71.03	An “out of memory” failure has occurred. HP recommends that you remove any unnecessary files from the printer's hard disk through the Embedded Web Server.
74.01	An error occurred when uploading the firmware update file. Try the following remedies: • Turn off the printer by using the Power button on the front panel and the power switch at the back of the printer, and then disconnect the power cord—then reconnect the power cord and turn on the printer. • Try again to upload the firmware update file to the printer. See Update the printer firmware on page 141. If the problem persists, contact HP Support. See HP Customer Care on page 183.
76.03	A “disk out of space” has occurred. Try the following remedies: • Turn off the printer by using the Power button on the front panel and the power switch at the back of the printer, and then disconnect the power cord—then reconnect the power cord and turn on the printer. • Resubmit the file to the printer. • HP recommends that you remove any unnecessary files from the printer's hard disk through the Embedded Web Server. • Perform an Electrically Erasable Read-Only Memory (EEROM) reset and then resubmit the file to the printer. If the problem persists, contact HP Support. See HP Customer Care on page 183.
77.04	An Embedded Web Server internal software error has occurred. Try the following remedies: • Turn off the printer by using the Power button on the front panel and the power switch at the back of the printer, and then disconnect the power cord—then reconnect the power cord and turn on the printer. • Verify that your printer firmware is up to date. See Update the printer firmware on page 141. If the problem persists, contact HP Support. See HP Customer Care on page 183.
81.01, 81.03, 86.01	Open the printer window and make sure that there are no obstacles restricting the movement of the drive roller. If the paper has jammed and is restricting the movement of the drive roller, lift the paper load lever and clear the obstruction. If the problem persists, contact HP Support. See HP Customer Care on page 183.

16 Get help

- Introduction
- HP Instant Support
- HP Proactive Support
- HP Customer Care
- HP Designjet Online
- Other sources of information

Introduction

HP Customer Care offers award-winning support to ensure that you get the most from your HP Designjet. HP Customer Care provides comprehensive, proven support expertise and new technologies to give you unique end-to-end support. Services include setup and installation, troubleshooting tools, warranty upgrades, repair and exchange services, phone and Web support, software updates, and self-maintenance services. For more information about HP Customer Care, go to: http://www.hp.com/go/designjet/.

HP Instant Support

HP Instant Support Professional Edition is HP's suite of troubleshooting tools that collect diagnostic information from your printer and match it with intelligent solutions from HP's knowledge bases, allowing you to resolve problems as quickly as possible.

To start an HP Instant Support session, click on the link in the **Support** tab of your printer's Embedded Web Server. See Access the Embedded Web Server on page 23.

To use HP Instant Support, the following conditions must be met:

- Because HP Instant Support is accessible only through the Embedded Web Server, you must have a TCP/IP connection to your printer.
- Because HP Instant Support is a Web-based service, you must have access to the World Wide Web,

HP Instant Support is currently available in English, Korean, Simplified Chinese, and Traditional Chinese.

For more information about HP Instant Support, go to: http://www.hp.com/go/ispe/.

HP Proactive Support

HP Proactive Support is a troubleshooting support tool that identifies, diagnoses, and resolves issues you might encounter when using your commercial imaging and printing products. HP Proactive Support is embedded into multiple HP software programs including the HP Easy Printer Care (Windows) and HP Printer Utility (Mac OS), allowing you to easily and conveniently monitor, update and maintain all of your HP printers.

For more information about HP Proactive Support, go to: http://www.hp.com/go/proactivesupport.

HP Customer Care

As your strategic support partner, we make it our business to help keep your business running smoothly. HP Customer Care offers award-winning support to ensure that you get the most from your HP Designjet.

HP Customer Care provides comprehensive, proven support expertise and leverages new technologies to give customers unique end-to-end support. Services include setup and installation, troubleshooting tools, warranty upgrades, repair and exchange services, phone and Web support, software updates, and self-maintenance services. To find out more about HP Customer Care, go to http://www.hp.com/go/designjet/. For the most current contact information, click on the **Contact HP** link or call the phone number in the *Quick Reference Guide* provided with your printer.

What to do before you call:

- Review the troubleshooting suggestions in this guide.
- Review the relevant driver documentation supplied with this printer (for users sending PostScript files or those using Microsoft Windows).
- If you have installed third-party software drivers and RIPs, refer to their documentation.

- If the problem appears to be related to your software program, first contact your software vendor.
- If you call one of the Hewlett-Packard offices, have the following information available to help us answer your questions more quickly:
  - The printer you are using (the product number and the serial number, found on the label at the back of the printer on the front panel: select the  icon, and then **View printer information**.
  - The printer's Service ID (also in the **View printer information** option.)
  - If there is an error code on the front panel, make note of it.
  - The brand name and model number of the computer you are using
  - Any special equipment or software you are using (for example, spoolers, networks, switch-boxes, modems, or special software drivers)
  - The part number of the network cable you are using and the name of the store though which it was purchased
  - The type of interface used on your printer (USB or network)
  - The software name and version you are using
  - Print out the service information prints. You may be asked to fax them to the support center helping you.

    On the front panel: select the  icon, and then select **Internal prints** > **Service information prints** > **Print all pages**.

    Through the Embedded Web Server: go to the **Service support** page in the **Support** tab, and then select **Printer information** > **Print all pages**.

Telephone numbers

For an up-to-date list of HP Support telephone numbers, go to http://welcome.hp.com/country/us/en/wwcontact_us.html. If you do not have access to the Web, try one of the numbers below.

- Algeria: 213 17 63 80
- Argentina: 0 800 777 HP INVENT, local 5411 4778 8380
- Australia: 13 10 47
- Austria: 0810 00 10 00
- Bahrain: 800 171
- Belgium: (0) 78 600 600
- Bolivia: 0 800 1110, local 54 11 4708 1600
- Brazil: 0800 157 751, local 55 11 3747 7799
- Canada: 1 800 HP INVENT
- Caribbean: 1 800 711 2884
- Central America: 1 800 711 2884
- Chile: 800 HP INVENT, 123 800 360 999

- China: 800 810 59 59, 10 6564 59 59
- Colombia: 01 8000 51 HP INVENT, local 571 606 9191
- Czech Republic: 420 261 307 310
- Denmark: 70 11 77 00
- Ecuador: 999 119, 1 800 225 528
- Egypt: 202 532 5222
- Finland: 0203 53232
- France: 08 26 10 49 49
- Germany: 0180 52 58 143
- Greece: 210 6073603, 801 11 22 55 47
- Guadaloupe: 0800 99 00 11, 877 219 8791
- Guatemala: 1 800 999 5105, 1 800 711 2884
- Hong Kong: 852 3002 8555
- Hungary: 06 1 382 1111
- India: 1 600 112 267
- Indonesia: 350 3408
- Ireland: 1 890 946500
- Israel: 09 830 4848
- Italy: 02 3859 1212
- Jamaica: 0 800 711 2884
- Japan: software 0120 014121, hardware 0120 742594
- Korea: 82 1588 3003
- Luxembourg: 27 303 303
- Malaysia: 1 800 80 5405
- Martinique: 0 800 99 00, 877 219 8671
- Mexico: 01 800 472 6684, local 5258 9922
- Middle East: 4 366 2020
- Morocco: 2240 4747
- Netherlands: 0900 1170 000
- New Zealand: 09 365 9805
- Norway: 800 62 800
- Paraguay: 00 811 800, 800 711 2884
- Panama: 001 800 711 2884
- Peru: 0 800 10111

- Philippines: 632 888 6100
- Poland: 22 566 6000
- Portugal: 213 164 164
- Puerto Rico: 1 800 652 6672
- RSA: 27 11 258 9301, local 086 000 1030
- Romania: 40 21 315 4442
- Russia: 095 797 3520, 812 3467 997
- Saudi Arabia: 6272 5300
- Slovakia: 2 50222444
- South Africa: 0800 001 030
- Spain: 902 010 333
- Sweden: 077 130 30 00
- Switzerland: 0848 80 20 20
- Taiwan: 886 2 872 28000
- Thailand: 0 2353 9000
- Tunisia: 71 89 12 22
- Turkey: 216 444 71 71
- UAE: 800 4520, 04 366 2020
- Ukraine: 44 4903520
- United Kingdom: 0870 842 2339
- United States: 1 800 HP INVENT
- Uruguay: 54 11 4708 1600
- Venezuela: 0 800 HP INVENT, local 58 212 278 8000
- Vietnam: 84 8 823 45 30
- West Africa (French): 351 213 17 63 80

HP Designjet Online

HP offers dedicated services and resources to ensure you always get the best performance from your HP Designjet products and solutions.

Register at HP Designjet Online, your large-format printing community at http://www.hp.com/go/designjet/ for unrestricted access to:

- Downloads of the latest printer firmware, drivers, software, paper profiles, and so on
- Technical support, including online troubleshooting, customer care contacts, and more
- Forums for direct contact with the experts, both HP and your colleagues
- Warranty tracking online, for your peace of mind

- Technical documentation and training videos
- Latest product information about printers, supplies, accessories, software, and so on
- Supplies Center for all you need to know about ink and paper

You decide the information you need by customizing your registration for the products you have purchased and your type of business, and by setting your communication preferences.

Register at HP Designjet Online for the best performance.

HP Designjet Online is available in English, German, French, Italian, Spanish, Portuguese, Japanese, Korean, Simplified Chinese, and Traditional Chinese.

Other sources of information

More information is available from the following sources:

- The Embedded Web Server provides information about your printer status, technical support, online documentation, and so on. See Printer software on page 9.
- The Printer assembly document that came with your printer

17 Printer specifications

- Functional specifications
- Physical specifications
- Memory specifications
- Power specifications
- Ecological specifications
- Environmental specifications
- Acoustic specifications

Functional specifications

Table 17-1 HP No. 91 ink supplies

Printheads	Matte black/cyan, light magenta/light cyan, magenta/yellow, and photo black/light gray
Maintenance cartridge	Non-color-specific
Ink cartridges	Magenta, light magenta, photo black, matte black, yellow, light cyan, light gray and cyan. All cartridges contain 775 ml of ink.

Table 17-2 Paper sizes

	Minimum	Maximum
Width	610 mm (24 inches)	1524 mm (60 inches)
Length	420 mm (16.5 inches)	Roll with maximum external diameter of 170 mm (6.7 inches)

Table 17-3 Print resolution (using Windows HP-GL/2 driver)

Print quality	Maximum resolution for photo paper	Rendering resolution	Printing resolution
Best	On	1200×1200	2400×1200 (HP Premium Instant-dry Photo Gloss, HP Premium Instant-dry Photo Satin, HP Universal Instant-dry Photo Gloss, HP Universal Instant-dry Photo Semi-Gloss, Photo Gloss Paper, Photo Semi-Gloss/Satin Paper, Photo Matte Paper) 1200×1200 (other)
Best	Off	1200×1200	600×1200 (HP Premium Instant-dry Photo Gloss, HP Premium Instant-dry Photo Satin, HP Universal Instant-dry Photo Gloss, HP Universal Instant-dry Photo Semi-Gloss, Photo Gloss Paper, Photo Semi-Gloss/Satin Paper, Photo Matte Paper) 1200×1200 (other)
Normal	n/a	600×600	600×1200 (HP Premium Instant-dry Photo Gloss, HP Premium Instant-dry Photo Satin, HP Universal Instant-dry Photo Gloss, HP Universal Instant-dry Photo Semi-Gloss, Photo Gloss Paper, Photo Semi-Gloss/Satin Paper, Photo Matte Paper) 1200×1200 (other)
Normal-Fast	n/a	600×600	600×1200 (HP Premium Instant-dry Photo Gloss, HP Premium Instant-dry Photo Satin, HP Universal Instant-dry Photo Gloss, HP Universal

Table 17-3 Print resolution (using Windows HP-GL/2 driver) (continued)

Print quality	Maximum resolution for photo paper	Rendering resolution	Printing resolution
			Instant-dry Photo Semi-Gloss, Photo Gloss Paper, Photo Semi-Gloss/Satin Paper, Photo Matte Paper) 1200×1200 (other)
Fast	n/a	300×300	600×1200 (plain paper, bright white bond paper, HP Premium Instant-dry Photo Gloss, HP Premium Instant-dry Photo Satin, HP Universal Instant-dry Photo Gloss, HP Universal Instant-dry Photo Semi-Gloss, Photo Gloss Paper, Photo Semi-Gloss/ Satin Paper, Photo Matte Paper) 1200×1200 (other)

Table 17-4 Margins

Side margins	5 mm = 0.2 inches (small, normal) 15 mm = 0.6 inches (extended)
Top margin (leading edge)	5 mm = 0.2 inches (small) 11.5 mm = 0.5 inches (normal) 35 mm = 1.4 inches (extended)
Bottom margin (trailing edge)	5 mm = 0.2 inches (small, normal and extended)

Table 17-5 Mechanical accuracy

±0.1% of the specified vector length or ±0.1 mm (whichever greater) at 23°C (73°F), 50-60% relative humidity, on A0 printing material in **Best** or **Normal** mode with HP Matte Film.

Table 17-6 Graphic languages supported

HP Designjet Z6100 Printer	HP-GL/2, RTL, TIFF, JPEG, CALS G4
HP Designjet Z6100ps Printer only	Adobe PostScript level 3, PDF 1.5

Physical specifications

Table 17-7 Printer physical specifications

Weight (including stand)	< 163 kg (HP Designjet Z6100 42–in) < 195 kg (HP Designjet Z6100 60–in)
Width	< 1990 mm (HP Designjet Z6100 42–in) < 2450 mm (HP Designjet Z6100 60–in)

Table 17-7 Printer physical specifications (continued)

Depth	< 860 mm (with take-up reel) < 700 mm (without take-up reel)
Height	≈ 1370 mm

Memory specifications

Table 17-8 Memory specifications

Memory (DRAM) supplied	256 MB
Memory (DRAM) maximum	512 MB
Hard disk	40 GB

Power specifications

Table 17-9 Printer power specifications

Source	100 – 127 Vac / 220 – 240 Vac ±10%, autoranging
Frequency	50–60 Hz
Current	< 4 A
Consumption	350W maximum

Ecological specifications

This product complies with European Union WEEE and RoHS Directives.

ENERGY STAR and the ENERGY STAR mark are registered U.S. marks To determine the ENERGY STAR® qualification status of these product models. See: http://www.hp.com/go/energystar.

For up-to-date ecological specifications of your printer, please go to http://www.hp.com/ and search for "ecological specifications".

Environmental specifications

Table 17-10 Printer environmental specifications

Relative humidity range for best print quality	20–80%, depending on paper type
Temperature range for best print quality	15 to 30°C (59 to 86°F), depending on paper type
Temperature range for printing	5 to 40°C (41 to 104°F)
Temperature range when not in operation	-20 to +55°C (-4 to +131°F)
Maximum altitude when printing	3000 m

NOTE: If the printer or ink cartridges are moved from a cold location to a warm and humid location, water from the atmosphere can condensate on the printer parts and cartridges and can result in ink leaks and printer errors. In this case, HP recommends that you wait at least 3 hours before turning on the printer or installing the ink cartridges, to allow the condensate to evaporate.

Acoustic specifications

Table 17-11 Printer acoustic specifications

Idle sound power	≤ 5.8 B (A)
Operating sound power	≤ 7.0 B (A)
Idle sound pressure	≤ 41 dB (A)
Operating sound pressure	≤ 53 dB (A)

18 Legal information

- Hewlett-Packard Limited Warranty—HP (HP Designjet Z6100 Printer series)
- Hewlett-Packard Software License Agreement
- Open source software
- Regulatory notices
- DECLARATION OF CONFORMITY

Hewlett-Packard Limited Warranty—HP (HP Designjet Z6100 Printer series)

HP product	Limited Warranty Period
Printer	1 year (from the date of purchase by the customer)
Software	90 days (from the date of purchase by the customer)
Printhead	Until the "end of warranty" date printed on the product is reached, or 1200 ml of HP ink have been cycled through the printhead, whichever occurs first
Ink cartridge	Until the genuine HP ink is depleted as indicated by the printer, or the "end of warranty" date printed on the product is reached, whichever occurs first

A. Extent of HP Limited Warranty

1. HP warrants to you, end-user customer, that the HP hardware products specified above will be free from defects in materials and workmanship during the Limited Warranty Period specified above. The Limited Warranty Period starts on the date of purchase. Your dated sales or delivery receipt, showing the date of purchase of the product, is your proof of purchase date. You may be required to provide proof of purchase as a condition of receiving warranty service.
2. For software products, HP's Limited Warranty applies only to a failure to execute programming instructions during the Limited Warranty Period specified above.
3. HP does not warrant that the operation of any product will be uninterrupted or error free.
4. HP's Limited Warranty covers only those defects that arise as a result of normal use of the HP products, and does not cover any other problems, including those that arise as result of:
   a. Improper or inadequate maintenance or modification;
   b. Software, interfacing, paper, parts, or supplies not provided or supported by HP;
   c. Operation outside the product's specifications; or
   d. Unauthorized modification or misuse.

   Routine printer maintenance operations in the HP Designjet Z6100 Printer series, such as cleaning and preventive maintenance services (including parts contained in any preventive maintenance kit and HP service engineer visits), are not covered by HP's Limited Warranty.
5. YOU SHOULD MAKE PERIODIC BACKUP COPIES OF THE DATA STORED ON THE PRINTER'S HARD DISK OR OTHER STORAGE DEVICES AS A PRECAUTION AGAINST POSSIBLE FAILURES, ALTERATION, OR LOSS OF THE DATA. BEFORE RETURNING ANY UNIT FOR SERVICE, BE SURE TO BACK UP DATA AND REMOVE ANY CONFIDENTIAL, PROPRIETARY, OR PERSONAL INFORMATION. HP IS NOT RESPONSIBLE FOR DAMAGE TO OR LOSS OF ANY FILES, STORED BY YOU ON THE PRINTER'S HARD DISK OR OTHER STORAGE DEVICES. HP IS NOT RESPONSIBLE FOR THE RECOVERY OF LOST FILES OR DATA.
6. For HP printer products, the use of a refilled or non-original HP consumable product (ink, printhead or ink cartridge) does not affect either HP's Limited Warranty to you or any HP support contract with you. However, if printer failure or damage is attributable to the use of a non-HP or refilled ink cartridge, HP will charge its standard time and materials charges to service the printer for the particular failure or damage.

7. If HP receives, during the applicable warranty period, notice of a defect in any product which is covered by this Limited Warranty:

   a. HP shall replace any defective HP software, media, or consumable product which is covered by this Limited Warranty, and deliver another product to you to replace the defective one.

   b. HP, at its sole discretion, shall either repair on site or replace any defective hardware product or component part. If HP elects to replace any component part, HP will provide to you (i) a replacement part, in return of the defective one, and (ii) remote part installation assistance, if needed.

8. If HP is unable to repair or replace, as applicable, a defective product which is covered by this Limited Warranty, HP shall, within a reasonable time after being notified of the defect, refund the purchase price for the product.

9. HP shall have no obligation to replace or refund until you return the defective components, parts, consumables, media, or hardware product to HP. All components, parts, consumables, media or hardware products, removed under this Limited Warranty become the property of HP. Notwithstanding the above mentioned, HP may waive the requirement for you to return the defective part.

10. Unless otherwise stated, and to the extent permitted by local law, HP products may be manufactured using new materials or new and used materials equivalent to new in performance and reliability. HP may repair or replace products (i) with equivalent products to the products being repaired or replaced but which may have been subject to prior use; or (ii) with an equivalent product to an original product that has been discontinued.

11. This Limited Warranty is valid in any country/region where HP or its authorized providers offer warranty services and HP has marketed the HP product covered by this Limited Warranty. However, warranty service availability and response time may vary from country/region to country/region. HP will not alter form, fit, or function of the product to make it operate in a country for which it was never intended to function for legal or regulatory reasons.

12. Contracts for additional services may be available for any authorized HP service facility where the listed HP product is distributed by HP or an authorized importer.

B. Limitation of warranty

TO THE EXTENT ALLOWED BY LOCAL LAW, NEITHER HP NOR ITS THIRD PARTY SUPPLIERS MAKE ANY OTHER WARRANTY OR CONDITION OF ANY KIND, WHETHER EXPRESS OR IMPLIED, WITH RESPECT TO THE HP PRODUCTS, AND SPECIFICALLY DISCLAIM THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE.

C. Limitations of liability

TO THE EXTENT ALLOWED BY LOCAL LAW, EXCEPT FOR THE OBLIGATIONS SPECIFICALLY SET FORTH IN THIS LIMITED WARRANTY, IN NO EVENT SHALL HP OR ITS THIRD PARTY SUPPLIERS BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING ANY LOSS OF PROFITS OR SAVINGS), WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY AND WHETHER ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

D. Local law

1. This Limited Warranty gives you specific legal rights. You may also have other rights which vary from state to state in the United States, from province to province in Canada, and from country to country elsewhere in the world. You are advised to consult applicable state, province, or national laws for full determination of your rights.

2. To the extent that this Warranty Statement is inconsistent with local law, this Warranty Statement shall be deemed modified to be consistent with such local law. THE WARRANTY TERMS

CONTAINED IN THIS LIMITED WARRANTY, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT, OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

Revision: December 10th, 2006

Hewlett-Packard Software License Agreement

ATTENTION: USE OF THE SOFTWARE IS SUBJECT TO THE HP SOFTWARE LICENSE TERMS SET FORTH BELOW. USING THE SOFTWARE INDICATES YOUR ACCEPTANCE OF THESE LICENSE TERMS. IF YOU DO NOT ACCEPT THESE LICENSE TERMS, YOU MAY RETURN THE SOFTWARE FOR A FULL REFUND. IF THE SOFTWARE IS SUPPLIED WITH ANOTHER PRODUCT, YOU MAY RETURN THE ENTIRE UNUSED PRODUCT FOR A FULL REFUND.

HP SOFTWARE LICENSE TERMS

The following terms govern your use of the software integrated into your HP Designjet Z6100 Printer series, unless you have a separate agreement with HP.

Definitions. HP Designjet Z6100 Printer series software includes HP software product (“the Software”) and Open Source Software components.

“Open Source Software” means various open source software components including, but not limited to, Apache, Tomcat, MySQL, and omniORB, licensed under terms of applicable open source license agreements included in the materials relating to such software (please see “Open Source Software” section below).

License Grant. HP grants you a license to use one copy of the Software pre-installed in the HP Designjet Z6100 Printer series. "Use" means storing, loading, executing or displaying the Software. You may not modify the Software or disable any licensing or control features of the Software.

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Regulatory notices

This HP product contains a lithium battery located on an internal motherboard that may require special handling at end-of-life.

Material Safety Data Sheet

You can obtain current Material Safety Data Sheets for the ink systems used in the printer by mailing a request to this address: Hewlett-Packard Customer Information Center, 19310 Pruneridge Avenue, Dept. MSDS,Cupertino, CA 95014, U.S.A.

There is also a Web page: http://www.hp.com/hpinfo/community/environment/productinfo/psis_inkjet.htm

Regulatory Model Number

For regulatory identification purposes, your product is assigned a Regulatory Model Number. The Regulatory Model Number for your Printer is **BCLAA-0701** and the Take-Up Reel is **BCLAA-0702**. This regulatory number should not be confused with the marketing names (HP Designjet printer series or HP Take-Up Reel for Designjet printer series) or product numbers (Q####X – where X is any single letter and # is any number).

Regulatory Statements

- **USA**
  - **Electro-Magnetic Compatibility (EMC)**
  - **FCC statements (USA)**

    The U.S. Federal Communications Commission (in 47 cfr15.105) has specified that the following notices be brought to the attention of users of this product.

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

  - **Shielded cables**

    Use of shielded data cables is required to comply with the Class A limits of Part 15 of the FCC Rules.

    

    CAUTION: Pursuant to Part 15.21 of the FCC Rules, any changes or modifications to this equipment not expressly approved by the Hewlett-Packard Company may cause harmful interference and void the FCC authorization to operate this equipment.

    This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense.

- **California**

  Attention California users:

  The battery supplied with this product may contain perchlorate material. Special handling may apply. See **www.dtsc.ca.gov/hazardouswaste/perchlorate** for information.

  Atención a los usuarios de California:

  La pila proporcionada con este producto puede contener perclorato. Podría requerir manipulación especial. Consulte **www.dtsc.ca.gov/hazardouswaste/perchlorate** para obtener más información.

- **Canada**
  - **Electro-Magnetic Compatibility (EMC)**
  - **Normes de sécurité (Canada)**

    Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe A prescrites dans le réglement sur le brouillage radioélectrique édicté par le Ministére des Communications du Canada.

  - **DOC statement (Canada)**

    This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

- **Korean EMI statement**

사용자 안내문 :A 급 기기

이 기기는 업무용으로 전자파적합등록을 받은 기기이오니, 판매자 또는 사용자는 이 점을 주의 하시기 바라며, 만약 잘못 구입 하셨을 때에는 구입한 곳에서 비업무용으로 교환 하시기 바랍니다.

- **Taiwanese EMI statement**

警告使用者：

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

- **VCCI Class A (Japan)**

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- **Safety power cord warning**

製品には、同梱された電源コードをお使い下さい。
同梱された電源コードは、他の製品では使用出来ません。

translation
Please use the attached power cord.
The attached power cord is not allowed to use with other product.

- **Chinese EMI statement**

此为A级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

- **Germany**

Sound: Geräuschemission (Germany) LpA < 70 dB, am Arbeitsplatz, im Normalbetrieb, nach DIN45635 T. 19.

- **Europe**

⚠ **WARNING!** This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

- **Disposal of waste equipment by users in private households in the European Union**

  This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

DECLARATION OF CONFORMITY

according to ISO/IEC 17050-1 and EN 17050-1

Supplier's name:	Hewlett-Packard Company
Supplier's address:	Avenida Graells, 501 08174 Sant Cugat del Vallès Barcelona, Spain

declares that the product

Regulatory Model Numbers [1]:	BCLAA-0701, BCLAA-0702
Product names and models:	HP Designjet Z6100 Printer series, HP Take-Up Reel for Designjet Z6100 Printer series
Product options:	All

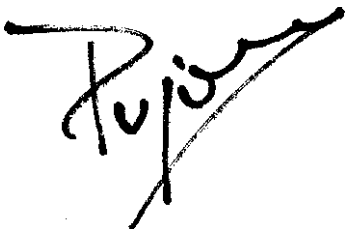
conforms to the following product specifications

Safety:	IEC 60950-1:2001 / EN 60950-1:2001
EMC:	EN 55022:1998 +A1:00 +A2:03/ CISPR 22:1997+A1:00 +A2:02 Class A EN 55024:1998 +A1:2001 +A2:2003 EN 61000-3-2:2000 +A2:2005/ IEC 61000-3-2:2000 +A1:2001 +A2:2004 EN 61000-3-3:1995+A1:2001/ IEC 61000-3-3:1994 +A1:2001

Additional information

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC and carries the CE-marking accordingly.

☐ This product is assigned a Regulatory Model Number which stays with the regulatory aspects of the design. The Regulatory Model Number is the main product identifier in the regulatory documentation and test reports, this number should not be confused with the marketing name or the product numbers.



Josep Maria Pujol

Hardware Quality Manager

Sant Cugat del Vallès (Barcelona)

December 5th, 2006

A Overnight job scenario

In this scenario, the print service provider (PSP) is nearing the end of the business day and receives a new order which requires delivery early the next day. The plotter is currently printing and there are jobs in the queue which must also be delivered the next day. The best solution is to queue the new job and print it overnight.

The following information describes the necessary tasks to ensure worry-free overnight printing.

Task 1: Handle the digital content

The following steps will help you to successfully handle the digital content.

1. Open the PDF file in Adobe Acrobat.
2. Ensure you have all the necessary information to submit the job, including fonts and high-resolution images.
3. Check the orientation, margins, typography, color and resolution to ensure that there are no printing or finishing inconsistencies.
4. Print a draft copy of the work on a small printer as a proof for validation.
5. Generate the PDF for the RIP.
6. Move the PDF file to the RIP station.

NOTE: Ensure the job can be completed and delivered on time given the current workload and the paper and ink supplies.

Task 2: Handle the paper

Ensure that there is enough paper left in the current roll to accommodate all of the queued jobs and the new order. If there is not enough paper left, pause the print queue and load a new roll.

The table below identifies sections of this user's guide which will help you to quickly find information on handling paper.

Table A-1 Handle the paper

Task Elements	See this section of the user's guide
Unload paper	See Unload a roll from the printer on page 36
Load paper	See Load a roll onto the spindle on page 30
Load a roll onto the take-up reel	See Load a roll onto the take-up reel on page 38
Check the paper profile	See View information about the paper on page 45
Troubleshooting	**See this section of the user's guide**

Table A-1 Handle the paper (continued)

Task Elements	See this section of the user's guide
I can't load the paper	See The paper cannot be loaded successfully on page 163
I can't find the paper profile for my paper	See Download paper profiles on page 47 and Update the printer firmware on page 141
I don't have HP paper	See Use non-HP paper on page 47 and Supported paper types on page 28
The paper has jammed	See The paper has jammed on page 163
The take-up reel paper has jammed	See Take-up reel paper jammed on page 165
The take-up reel does not wind	See Take-up reel does not wind on page 165

NOTE: For additional information about paper, see Handle the paper on page 26.

Task 3: Handle the ink system

Ensure that ink consumables levels are adequate to accommodate all of the queued jobs and the new order. If the ink consumables levels are too low, pause the print queue and replace and align the components as necessary.

The table below identifies sections of this user's guide which will help you to quickly find information on handling the ink system.

Table A-2 Handle the ink system

Task Elements	See this section of the user's guide
Check ink cartridge statistics	See Check the status of the ink cartridges on page 76
Remove an ink cartridge	See Remove an ink cartridge on page 59
Insert an ink cartridge	See Insert an ink cartridge on page 61
Check printhead statistics	See Check the status of a printhead on page 77
Remove a printhead	See Remove a printhead on page 61
Insert a printhead	See Insert a printhead on page 64
Align printheads	See Align the printheads on page 71
Remove the maintenance cartridge	See Remove the maintenance cartridge on page 73
Insert the maintenance cartridge	See Insert the maintenance cartridge on page 75
Troubleshooting	**See this section of the user's guide**
I cannot access the Embedded Web Server	See Cannot access the Embedded Web Server on page 174
I cannot insert an ink cartridge	See Cannot insert an ink cartridge on page 168
I cannot insert a printhead	See Cannot insert a printhead on page 168
The printer will not recognize the printhead	See Clean the electrical connections on a printhead on page 67

NOTE: For additional information about the ink system, see Handle the ink system on page 56.

Task 4: Handle print jobs

After verifying ink consumables and paper levels, you can send the job to the printer. On the screen preview, make adjustments for paper type, print size, number of copies and nesting as necessary. You can then move the job to the RIP queue.

The table below identifies sections of this user's guide which will help you to quickly find information on handling print jobs.

Table A-3 Handle print jobs

Task Elements	See this section of the user's guide
Submit a job	See Submit a job on page 94
Save a job	See Save a job on page 95
Check ink and paper usage for a job	See Check ink and paper usage for a job on page 101
Cancel a job	See Cancel a job on page 96
Manage the print queue	See Manage the print queue on page 96
Troubleshooting	**See this section of the user's guide**
I can't access the Embedded Web Server	See Cannot access the Embedded Web Server on page 174

NOTE: To improve color consistency between prints or from one printer to another, consider performing a color calibration. For more information on color calibration, see Color calibration on page 110.

Task 5: Adjust printed images

Check the quality of the prints. The table below identifies sections of this user's guide which will help you to quickly find information on adjusting printed images.

Table A-4 Handle the ink system

Task Elements	See this section of the user's guide
Select print quality	See Select print quality on page 80
Select page size	See Select page size on page 80
Select margins options	See Adjust margins and layout options on page 82
Resize a print	See Resize a print on page 83
Change the treatment of overlapping lines	See Change the treatment of overlapping lines on page 89
Print in grayscale	See Print in grayscale on page 93
Print crop lines	See Print crop lines on page 84
Rotate an image	See Rotate an image on page 85
Select the color emulation mode	See Select color emulation mode on page 88
Print a mirror image	See Print a mirror image on page 87
Select image orientation	See Select image orientation on page 87
Remove top and bottom blank areas	See Remove the top and bottom blank areas on page 87
Enter an account ID	See Enter an account ID on page 88

Table A-4 Handle the ink system (continued)

Task Elements	See this section of the user's guide
Troubleshooting	**See this section of the user's guide**
I am experiencing print quality problems	See Troubleshoot print-quality issues on page 148

NOTE: For additional information about adjusting printed images, see Print options on page 79.

NOTE: For additional information about unloading a roll from the take-up reel after printing, see Unload a roll from the take-up reel on page 43.

B Urgent walk-in job scenario

In this scenario, the print service provider (PSP) receives an urgent walk-in order which requires delivery in less than two hours. The plotter is currently printing and there are jobs in the queue, however, the new job has the highest priority. It also requires different paper than what is currently in the printer.

NOTE: The new job is a repeat order for which the digital content already exists within the ripped files storage.

The following information describes the necessary tasks to successfully execute an urgent walk-in job.

Task 1: Handle the digital content

The following steps will help you to successfully handle the digital content.

1. Find the digital content on the RIP workstation.
2. Open the PDF file in Adobe Acrobat.
3. Ensure you have all the necessary information to submit the job, including fonts and high-resolution images.
4. Check the orientation, margins, typography, color and resolution to ensure that there are no printing or finishing inconsistencies.

NOTE: Ensure the job can be completed and delivered on time given the current workload and the paper and ink supplies.

Task 2: Handle print jobs

Due to the urgent nature of the new walk-in job, you are required to interrupt the current jobs in the print queue. The following steps will help you to handle the print jobs.

1. Pause the print queue.
2. Move the new job to the top of the print queue.
3. Adjust the new job settings for productivity, paper type, print size, number of copies and nesting as necessary.
4. Cancel the job currently on the plotter when the last image is completed.

NOTE: Resume the print queue only after handling the paper and ink system. Once the new job is done, remember to pause the print queue to avoid printing the queued jobs on the wrong paper.

The table below identifies sections of this user's guide which will help you to quickly find information on handling print jobs.

Table B-1 Handle print jobs

Task Elements	See this section of the user's guide
Submit a job	See Submit a job on page 94
Save a job	See Save a job on page 95
Cancel a job	See Cancel a job on page 96
Manage the print queue	See Manage the print queue on page 96
Troubleshooting	**See this section of the user's guide**
I can't access the Embedded Web Server	See Cannot access the Embedded Web Server on page 174

NOTE: To improve color consistency between prints or from one printer to another, consider performing a color calibration. For more information on color calibration, see {ref: Color calibration}.

Task 3: Handle the paper

The new job requires different paper than the job that was interrupted. The following steps will help you to handle the paper.

1. Remove the printed output from the plotter and annotate what the remainder of the job.
2. Unload the currently loaded paper.
3. Load the correct paper for the new job.

NOTE: To improve color consistency between prints, or from one printer to another, consider performing a color calibration. For more information on color calibration, see Color calibration on page 110.

The table below identifies sections of this user's guide which will help you to quickly find information on handling paper.

Table B-2 Handle the paper

Task Elements	See this section of the user's guide
Unload paper	See Unload a roll from the printer on page 36
Unload a roll from the take-up reel	See Unload a roll from the take-up reel on page 43
Load paper	See Load a roll onto the spindle on page 30
Load a roll onto the take-up reel	See Load a roll onto the take-up reel on page 38
Check the paper profile	See View information about the paper on page 45
Perform color calibration	See Color calibration on page 110
Troubleshooting	**See this section of the user's guide**
I can't load the paper	See The paper cannot be loaded successfully on page 163
I can't find the paper profile for my paper	See Download paper profiles on page 47 and Update the printer firmware on page 141
I don't have HP paper	See Use non-HP paper on page 47 and Supported paper types on page 28
The paper has jammed	See The paper has jammed on page 163

Table B-2 Handle the paper (continued)

Task Elements	See this section of the user's guide
The take-up reel paper has jammed	See Take-up reel paper jammed on page 165
The take-up reel does not wind	See Take-up reel does not wind on page 165

NOTE: For additional information about paper, see Handle the paper on page 26.

Task 4: Handle the ink system

Ensure that ink consumables levels are adequate to accommodate the new job and the remaining queued jobs. If the ink consumables levels are too low, replace and align the components as necessary before resuming the print queue.

The table below identifies sections of this user's guide which will help you to quickly find information on handling the ink system.

Table B-3 Handle the ink system

Task Elements	See this section of the user's guide
Check ink cartridge statistics	See Check the status of the ink cartridges on page 76
Remove an ink cartridge	See Remove an ink cartridge on page 59
Insert an ink cartridge	See Insert an ink cartridge on page 61
Check printhead statistics	See Check the status of a printhead on page 77
Remove a printhead	See Remove a printhead on page 61
Insert a printhead	See Insert a printhead on page 64
Align printheads	See Align the printheads on page 71
Remove the maintenance cartridge	See Remove the maintenance cartridge on page 73
Insert the maintenance cartridge	See Insert the maintenance cartridge on page 75
Troubleshooting	**See this section of the user's guide**
I cannot access the Embedded Web Server	See Cannot access the Embedded Web Server on page 174
I cannot insert an ink cartridge	See Cannot insert an ink cartridge on page 168
I cannot insert a printhead	See Cannot insert a printhead on page 168
The printer will not recognize the printhead	See Clean the electrical connections on a printhead on page 67

NOTE: For additional information about the ink system, see Handle the ink system on page 56.

Task 5: Adjust printed images

Check the quality of the prints. The table below identifies sections of this user's guide which will help you to quickly find information on adjusting printed images.

Table B-4 Handle the ink system

Task Elements	See this section of the user's guide
Select print quality	See Select print quality on page 80
Select page size	See Select page size on page 80
Select margins options	See Adjust margins and layout options on page 82
Resize a print	See Resize a print on page 83
Change the treatment of overlapping lines	See Change the treatment of overlapping lines on page 89
Print in grayscale	See Print in grayscale on page 93
Print crop lines	See Print crop lines on page 84
Rotate an image	See Rotate an image on page 85
Select the color emulation mode	See Select color emulation mode on page 88
Print a mirror image	See Print a mirror image on page 87
Select image orientation	See Select image orientation on page 87
Remove top and bottom blank areas	See Remove the top and bottom blank areas on page 87
Enter an account ID	See Enter an account ID on page 88
Troubleshooting	**See this section of the user's guide**
I am experiencing print quality problems	See Troubleshoot print-quality issues on page 148

NOTE: For additional information about adjusting printed images, see Print options on page 79.

C Replace your HP Designjet 5000 series printer with an HP Designjet Z6100 printer scenario

The HP Designjet Z6100 Printer series is the next-generation large format printer that allows you to reuse the knowledge you've acquired using the HP Designjet 5000 printer. When designing the Z6100, our engineers leveraged the best features and functionality from the 5000 series and then made it even more robust and easier to use. The transition from your 5000 series printer to the Z6100 will not only be quick and intuitive, it will provide greater flexibility, job assurance and image quality to your large format printing business.

This scenario highlights some of the basic operations of large format printing, drawing attention to the main differences between the Z6100 and the 5000 series printer.

Set up the printer

The Z6100 will fit nicely into the space formerly occupied by your 5000 series printer. The rear of the printer is also similar to the 5000 series, with the same power cord attachments and options for connecting your printer to a computer and LAN.

See the following sections for more detailed information:

- Physical specifications on page 190
- Turn the printer on and off on page 21
- The printer's main components on page 4
- Connectivity and software instructions on page 12

Front panel

The Z6100 is managed primarily via the front panel. The front panel has been designed to leverage what you learned while using the 5000 series, with design advancements to improve usability.

The Z6100 front panel contains interactive animations to guide you through all the basic operations. Furthermore, the front panel menu structure and enhanced text and graphics facilitate the configuration and use of the various printer features.

For more detailed information about the front panel, see The front panel on page 8.

Printer software

- Printer drivers for Windows and Mac OS
- The Embedded Web Server (called the HP Designjet WebAccess in the 5000 series) enables you to manage your print jobs, check consumables levels and check printer status
- The HP Easy Printer Care (Windows) and HP Printer Utility (Mac OS), which enable you to access various printer features and functionality

See the following sections for more detailed information:

- Printer software on page 9
- Embedded Web Server setup options on page 23
- HP Easy Printer Care (Windows) or HP Printer Utility (Mac OS) setup options on page 25

If you have worked through the Set-up poster, you are ready to begin printing.

Handle the paper

The Z6100 requirements for handling the paper, loading and unloading the paper and using the take-up reel is similar to those for the 5000 series printer. All of the basic paper-handling procedures start from the front panel.

What is new in paper handling?

- There is no spindle lever on the Z6100 series printers. To remove the spindle, simply lift it from the printer when you are prompted by the front panel.
- New hub design for improved loading and unloading of paper
- You can now leave the printer window open while loading media
- While the portfolio of printing materials has grown, sheet paper is not supported in the Z6100; only roll paper is supported

See the following sections for more detailed information on supported paper types and ordering paper:

- Supported paper types on page 28
- Order paper on page 49

Paper profiles

When you load a new roll into the printer, the front panel prompts you to select the type of paper you are loading and enter the length of the roll. For every paper type listed in the front panel, there is a paper profile (containing an ICC profile) already stored in the printer software.

If you want to use a paper that is not listed in the front panel, choose one of the following options:

- Select the paper that matches most closely the paper you intend to use, via the front panel
- Download the profile from the Internet. The printer automatically performs color calibration and paper advance calibration for every downloaded profile.

You can easily view information on the currently loaded paper. To do so, select the  icon, in the front panel and then select **View information about the paper**.

See the following sections for more detailed information:

- View information about the paper on page 45
- Download paper profiles on page 47
- Use non-HP paper on page 47
- Load a roll onto the spindle on page 30
- Load a roll into the printer on page 32

Print paper info feature

This feature was called Track paper length in the 5000 series. If you enable the Print paper info feature, a barcode containing all available paper information will be printed on the roll when it is unloaded. Subsequently, when you load a roll with an information barcode printed on it, the printer automatically detects the paper type, loads the appropriate profile and tracks the amount of paper remaining in the roll.

See the following sections for more detailed information:

- Unload a roll from the printer on page 36
- Printing paper info on page 49

The take-up reel

The take-up reel on the Z6100 is similar in form and function to the 5000 series take-up reel, but it has been improved for better usability. Here are some of the improvements.

- Dual winding direction. You can choose to wind the printed paper so that the graphics face inward (toward the core) or outward.
- Faster paper advance for shorter set up time
- Improved skew check when loading the paper into the printer to reduce skewing

See the following sections for more detailed information on the take-up reel:

- The printer's main components on page 4
- Use the take-up reel on page 38

Handle the ink system

The Z6100 series printer incorporates cutting-edge technology to give you the best image quality available for large format printing. With the exception of the maintenance cartridge (which has replaced the printhead cleaners) you will notice that the ink system components can be found in the same general locations as in the 5000 series. You will also notice that the ink cartridge door has been removed. This streamlined design offers instant access to the ink cartridges.

What is new with the ink system components?

- **Ink cartridges**: The Z6100 uses 8 ink cartridges. The inks are available exclusively in 775 ml cartridges, offering extended print runs, simplifying the installation process and reducing the frequency of cartridge changes.
- **Printheads**: With improved printhead technology, the handling requirements of the printheads has changed. They must be shaken vigorously and cleaned in a different manner before installation.
- **Maintenance cartridge**: The maintenance cartridge performs the same functions as did the printhead cleaners in the 5000 series. However, as there is only one maintenance cartridge for all

8 printheads, there is less maintenance and less handling of messy printhead cleaners. The printer notifies you via the front panel when you should change the maintenance cartridge.

NOTE: Handle the maintenance cartridge carefully when removing it to avoid getting ink on yourself and the printer.

NOTE: The Z6100 automatically performs printhead alignment whenever a printhead is inserted. You are required to use opaque white paper during printhead alignment. Colored papers, glossy canvas and translucent materials are not suitable for printhead alignment.

See the following sections for more detailed information on the ink system components:

- The printer's main components on page 4
- Ink system components on page 57
- Ink system tips on page 58
- Remove an ink cartridge on page 59
- Insert an ink cartridge on page 61
- Remove a printhead on page 61
- Insert a printhead on page 64
- Align the printheads on page 71
- Remove the maintenance cartridge on page 73
- Insert the maintenance cartridge on page 75
- Clean (recover) the printheads on page 66
- Clean the electrical connections on a printhead on page 67

See the following sections for information on checking ink system status and printer usage statistics:

- Check the status of the ink system on page 76
- Check the status of the ink cartridges on page 76
- Check the status of a printhead on page 77
- Check printer usage statistics on page 77

Image quality and color management

The Z6100 series printers make it easier than ever to achieve the image quality levels you demand of your large format printer.

Print quality

This feature was called Print mode in the 5000 series. The Z6100 series offers one additional print quality level with which to balance print speed and print quality. The table below identifies the correlation between the 5000 series print modes and the Z6100 series print quality levels.

Printer series	Print quality settings from fastest speed (far left) to best quality (far right)			
5000	Max speed		Productivity	Max quality
Z6100	Fast	Normal-fast	Normal	Best

Calibration and image quality

The list below highlights some of the features and functionality built into the Z6100 series to ensure the highest possible image quality.

- Greater print resolution (when photo paper is used, print quality is set to Best and the Maximum resolution feature is enabled)
- Automatic paper advance calibration
- Automatic color calibration
- Automatic paper profiling including ICC profiles (except for unknown papers, which require downloading from the Internet)
- Embedded spectrophotometer: a precision instrument that determines the exact composition of light reflected from a color patch to help ensure consistent and accurate color
- Variety of color emulations. You can even emulate the color palette from your 5000 series printer.

See the following sections for more detailed information:

- Select print quality on page 80
- Perform paper advance calibration on page 46
- A summary of the color-management process on page 109
- Color calibration on page 110
- Color profiling on page 111
- Color-management options on page 114
- Color emulation modes on page 118

Efficient use of paper and consumables

The Z6100 series printers help you to economize paper and consumables usage by providing:

- Printer usage statistics
- Nesting options
- Tips on using paper and inks economically

See the following sections for more detailed information:

- Nest jobs to save paper on page 98
- Use paper economically on page 102
- Use ink economically on page 102

Maintenance and troubleshooting

See the following chapters and sections for information on maintaining the printer and troubleshooting issues:

- Maintain the printer on page 135
- Troubleshoot print-quality issues on page 148

- Troubleshoot ink-system issues on page 167
- Troubleshoot paper issues on page 162
- Troubleshoot other issues on page 172
- Use the Printhead status plot on page 71
- Front-panel error messages on page 179
- Get help on page 182

Glossary

Bonjour Apple Computer's trade name for its implementation of the IETF Zeroconf specification framework, a computer network technology that is used in Apple Mac OS X V10.2 and later. Use it to discover the services that are available on a local area network (LAN). It was originally known as Rendezvous.

Color accuracy The ability to print colors that match the original image as closely as possible, given the fact that all devices have a limited color gamut and might not be able to match certain colors precisely.

Color consistency The ability to print the same colors in a particular print job, from print to print and from printer to printer.

Color model A system of representing colors by numbers. An example of such a system is RGB or CMYK.

Color space A color model in which each color is repesented by a specific set of numbers. Many different color spaces can use the same color model: for instance, monitors generally use the RGB color model, but they have different color spaces, because a particular set of RGB numbers results in different colors on different monitors.

Cutter A printer component that slides back and forth across the platen to cut the paper.

ESD ElectroStatic Discharge. Static electricity is common in daily life. It is the spark when touching the car door, or the cling of clothing. Although controlled static electricity has some useful benefits, uncontrolled electrostatic discharges are one of the main hazards to the electronics products. Therefore, to prevent damage some precautions are needed when setting up the product, or handling ESD sensitive devices. This type of damage may reduce the life expectancy of the device. One way to minimize uncontrolled ESDs, and therefore reduce this type of damage is by touching any exposed grounded part of the product (mainly metal parts) before handling ESD sensitive devices (such as the printheads or ink cartridges). Additionally, to reduce the generation of electrostatic charge in your body try to avoid working in a carpeted area, and keep your body movements to a minimum when handling ESD sensitive devices. Also, avoid working in low humidity environments.

Ethernet A popular computer networking technology for local area networks.

Firmware Software that controls your printer's functionality and is stored semi-permanently in the printer (it can be updated).

Gamut The range of colors and density values reproducible on an output device, such as a printer or monitor.

HP-GL/2 Hewlett-Packard Graphics Language 2: a language defined by HP to describe vector graphics.

I/O Input/Output: this term describes the passing of data between one device and another.

ICC The International Color Consortium, a group of companies that have agreed on a common standard for color profiles.

Ink cartridge A removable printer component that stores ink of a particular color and provides it to the printhead.

IP address A unique identifier that identifies a particular node on a TCP/IP network. It consists of four integers separated by dots.

Jetdirect HP's brand name for its series of print servers that allow a printer to be connected directly to a local area network.

LED Light-Emitting Diode: a semiconductor device that emits light when electrically stimulated.

MAC address Media Access Control address: a unique identifier used to identify a particular device on a network. It is a lower-level identifier than the IP address. Thus, a device may have both a MAC address and an IP address.

Nozzle One of many tiny holes in a printhead through which ink is deposited onto the paper.

Paper A thin, flat material made to be written or printed on; most commonly made from fibers of some kind which are pulped, dried, and pressed.

Platen The flat surface within the printer over which the paper passes while it is being printed on.

Printer driver Software that converts a print job in a generalized format into data suitable for a particular printer.

Printhead A removable printer component that takes ink of one or more colors from the corresponding ink cartridge(s) and deposits it on the paper, through a cluster of nozzles.

Rendezvous Apple Computer's original name for its networking software later known as Bonjour.

Spindle A rod that supports a roll of paper while it is being used for printing.

TCP/IP Transmission Control Protocol/Internet Protocol: the communications protocols on which the Internet is based.

USB Universal Serial Bus: a standard serial bus designed to connect devices to computers.

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