



OFFICEJET PRO X451 AND X551 SERIES PRINTERS

User Guide



HP OFFICEJET PRO X451



HP OFFICEJET PRO X551



HP Officejet Pro X451 and X551 MFP Series

User Guide

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Conventions used in this guide

 **TIP:** Tips provide helpful hints or shortcuts.

 **NOTE:** Notes provide important information to explain a concept or to complete a task.

 **CAUTION:** Cautions indicate procedures that you should follow to avoid losing data or damaging the product.


 **WARNING!** Warnings alert you to specific procedures that you should follow to avoid personal injury, catastrophic loss of data, or extensive damage to the product.

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1 Product basics

- [Product overview](#)
- [Environmental features](#)
- [Accessibility features](#)
- [Product views](#)

Product overview

HP Officejet Pro X451 MFP Series models

Officejet Pro X451dn models

CN459A



Paper handling:

- Tray 1 (50-sheet capacity for 75 GSM or 20 lb. Bond paper)
- Tray 2 (500-sheet capacity for 75 GSM or 20 lb. Bond paper)
- Optional Tray 3 (500-sheet capacity for 75 GSM or 20 lb. Bond paper)
- Standard output bin (250-sheet capacity for 75 GSM or 20 lb. Bond paper)
- Automatic duplex printing

Supported operating systems:

- Windows XP, 32-bit (Service Pack 2 or Higher)
- Windows Vista, 32-bit and 64-bit
- Windows 7, 32-bit and 64-bit
- Windows 8, 32-bit and 64-bit
- Mac OS X v10.6 and later

NOTE: For additional information on Operating System support, see Supported operating systems and printer drivers for Windows.

Connectivity:

- Hi-Speed USB 2.0
- 10/100 Ethernet LAN connection

Officejet Pro X451dw models

CN463A



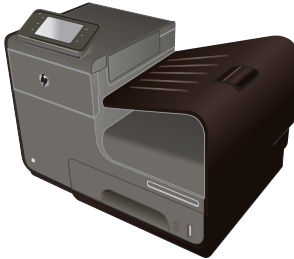
Has the same features as the Officejet Pro X451dn Series, but includes the following:

- 802.11 B/G/N Single Band wireless adapter
 - HP Wireless Direct printing
-

HP Officejet Pro X551 MFP Series models

Officejet Pro X551dw models

CN596A



Paper handling:

- Tray 1 (50-sheet capacity for 75 GSM or 20 lb. Bond paper)
- Tray 2 (500-sheet capacity for 75 GSM or 20 lb. Bond paper)
- Optional Tray 3 (500- sheet capacity for 75 GSM or 20 lb. Bond paper)
- Standard output bin (250- sheet capacity for 75 GSM or 20 lb. Bond paper)
- Automatic duplex printing

Supported operating systems:

- Windows XP, 32-bit (Service Pack 2 or Higher)
- Windows Vista, 32-bit and 64-bit
- Windows 7, 32-bit and 64-bit
- Windows 8, 32-bit and 64-bit
- Mac OS X v10.6 and later


NOTE: For additional information on Operating System support, see Supported operating systems and printer drivers for Windows.

Connectivity:

- 802.11 B/G/N Single Band wireless adapter
- Hi-Speed USB 2.0
- HP ePrint
- HP Wireless Direct printing


Print:

- Plug and Print USB Drive printing (no computer required)

 **IMPORTANT:** This printer is designed to be used on a level surface. Operating the printer when not level could result in inaccurate printer messaging about the amount of ink remaining in cartridges.

Environmental features

Duplex printing	Automatic duplex printing is available with the Officejet Pro X451 and Officejet Pro X551. Duplex printing saves the environment and saves you money.
Print multiple pages per sheet	Save paper by printing two or more pages of a document side-by-side on one sheet of paper. Access this feature through the printer driver.
Recycling	Reduce waste by using recycled paper. Recycle ink cartridges by using the HP Planet Partners return process.
Energy savings	Sleep modes and timer options enable this product to quickly go into reduced power states when not printing, thus saving energy.

 **NOTE:** Additional energy savings may be realized by turning off the printer if it will not be used for more than four hours.

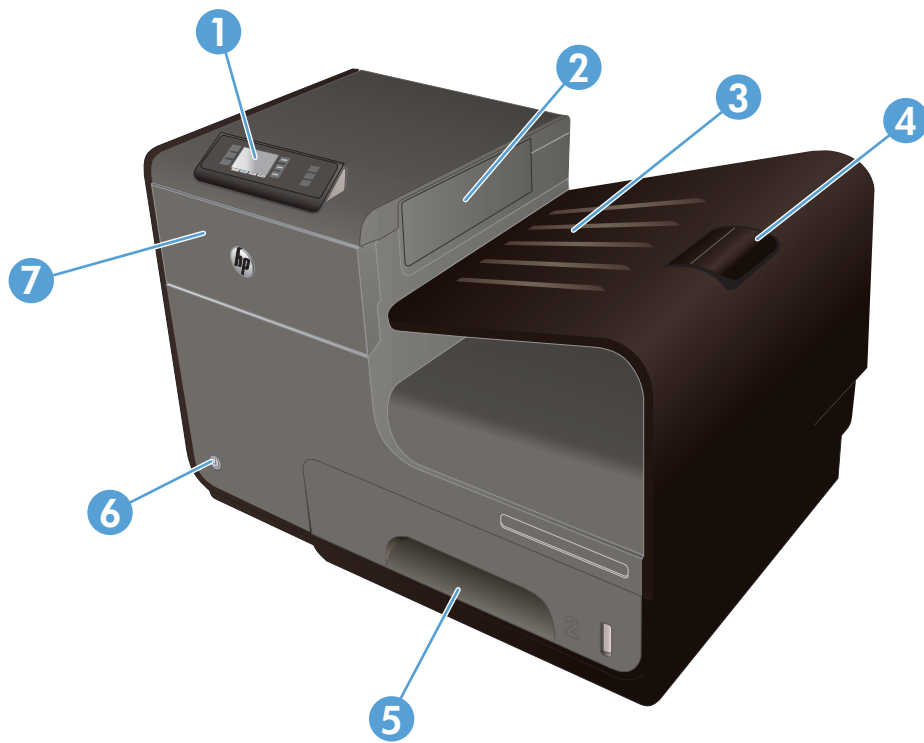
Accessibility features

The product includes several features that aid users with limited vision, hearing, dexterity or strength.

- Online user guide that is compatible with text screen-readers.
- Ink cartridges can be installed and removed using one hand.
- All doors and covers can be opened using one hand.

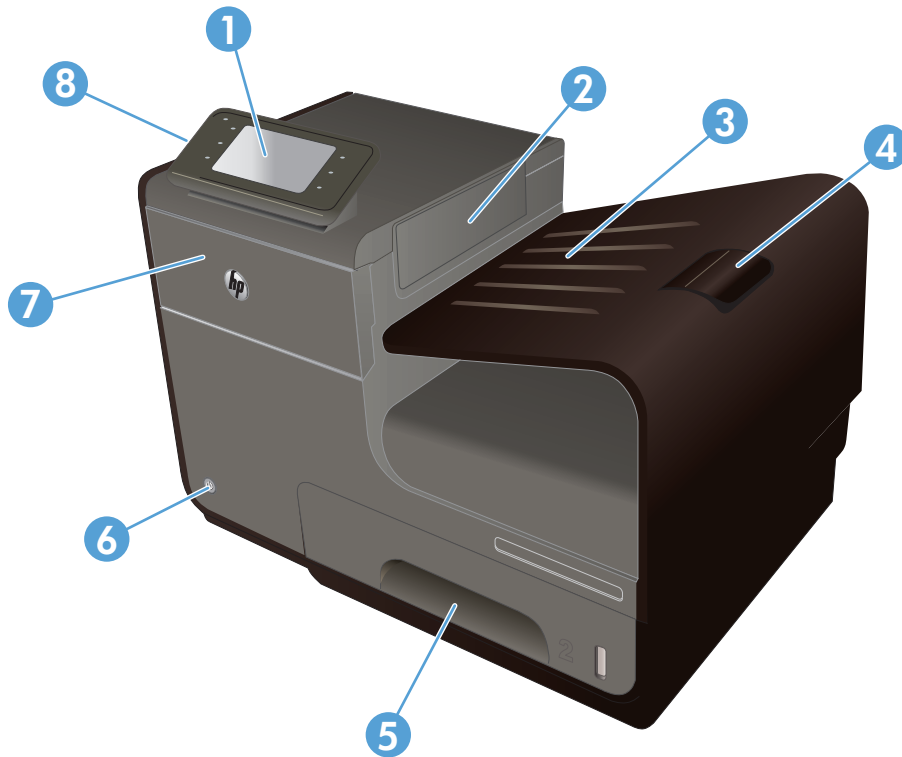
Product views

Front view (X451 Series)



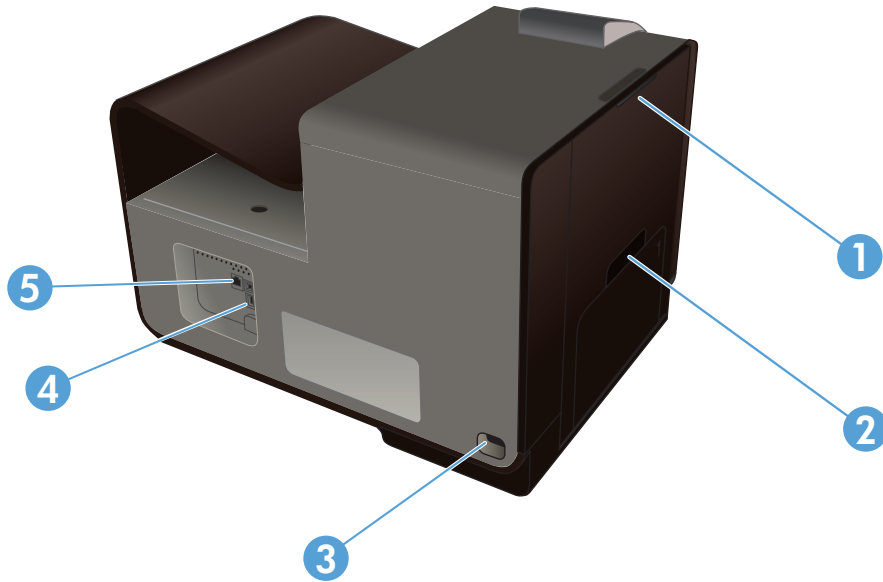
1	Control panel
2	Output eject flap.
3	Output bin
4	Output bin extension
5	Tray 2 (Main paper tray)
6	On/Off button
7	Ink cartridge door

Front view (X551 Series)



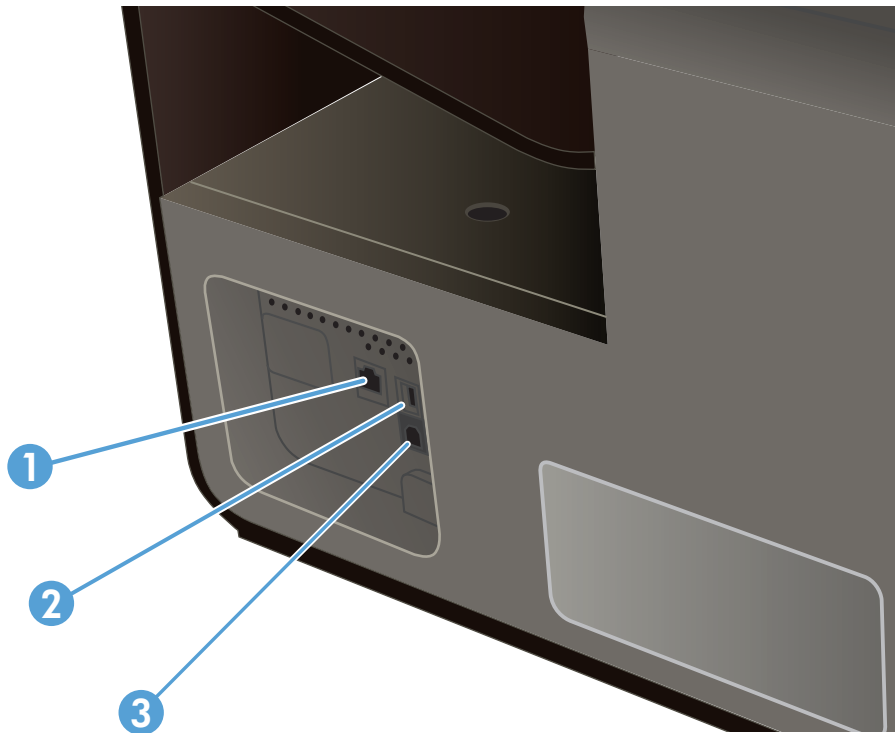
1	Control panel
2	Output bin door
3	Output bin
4	Output bin extension
5	Tray 2 (Main paper tray)
6	On/Off button
7	Ink cartridge door
8	USB 2.0 Host port that accepts USB storage devices for Plug and Print USB Drive printing.

Back view



1	Left door (access for clearing jams)
2	Tray 1 (Multi-purpose tray)
3	Power connection
4	Hi-Speed USB 2.0 ports
5	Ethernet port

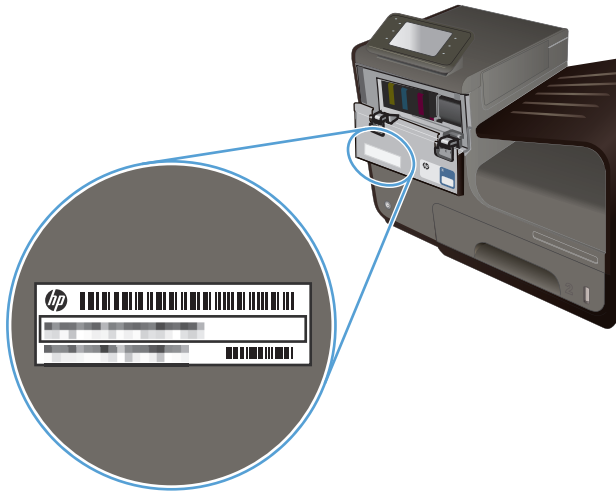
Interface ports



1	Ethernet port
2	USB Device port accepts a USB cable from a PC (alternative to Network and Wireless connections).
3	USB Host port accepts USB storage devices for Plug and Print (Officejet Pro X551 only).

Serial number and model number location

Open the ink cartridge door to view the serial number and product model number label.




Control panel layout (X451 Series)




1		Display screen area
2	?	Help button: provides access to the product help system.
3	📶	Wireless button: provides a number of menu items to view and adjust network settings on wireless models.
4	📧	HP ePrint button: provides quick access to HP Web Services features, including HP ePrint. HP ePrint is a tool that prints documents by using any e-mail enabled device to send them to the product's e-mail address.
5	✖	Cancel button: cancels the current job or exits the current screen. NOTE: This button illuminates only when the current screen can use this feature.
6	↶	Back button: returns to the previous screen NOTE: This button illuminates only when the current screen can use this feature.
7	🏠	Home button: provides quick access to the Home screen. This button only illuminates only when the current screen can use this feature.

Buttons on the Home screen (X451 Series)

The Home screen provides access to the product features, and it indicates the product status.

 **NOTE:** Depending on the product configuration, the features on the Home screen can vary. The layout might also be reversed for some languages.



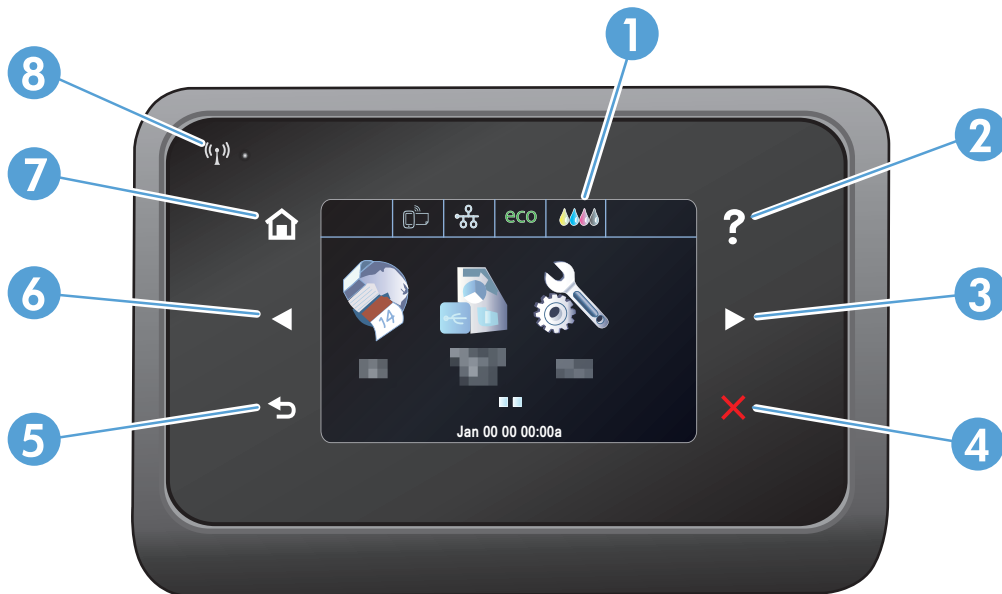
-
- 1 [Setup](#)  button: provides a number of menu items to view and adjust product settings.
 - 2 [Job Status](#) button: allows you to view the status of any current print jobs.
 - 3 [Ink Information](#) button: provides information on the ink levels.
-

Control panel help system



The product has a built-in Help system that explains how to use each screen. To open the Help system, touch the Help ? button to the right of the control panel (Officejet Pro X451) or the upper-right corner of the control panel (Officejet Pro X551).

For screens that contain settings for individual tasks, the Help opens to a topic that explains the options for that task.

Control panel layout (X551 Series)




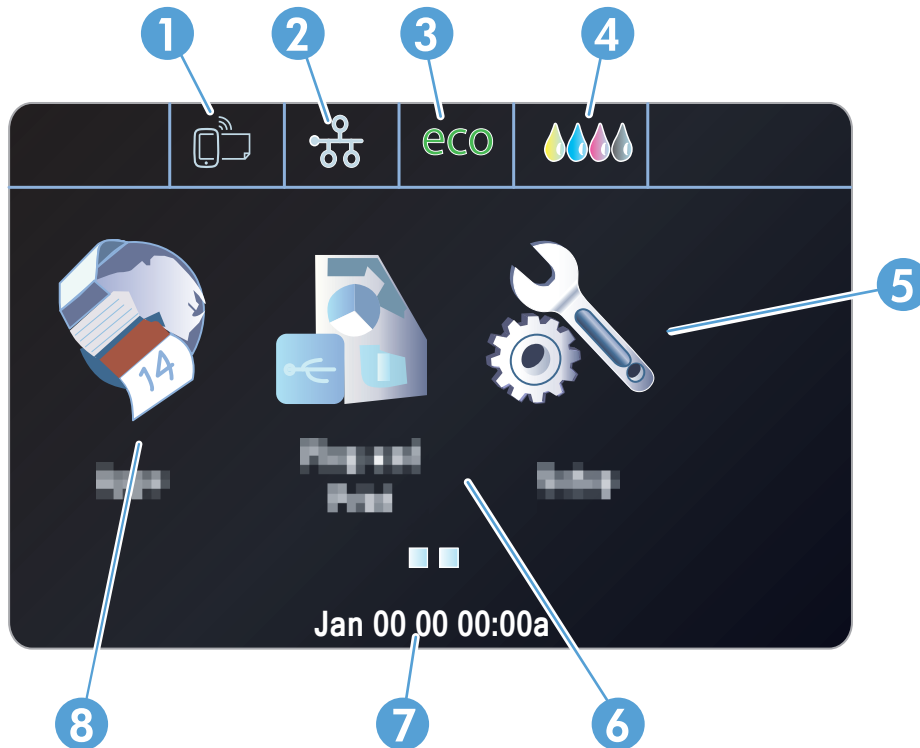
1		Display and touch screen area
2	?	Help button: provides access to the product help system NOTE: This button illuminates only when help is available for the current screen or feature.
3	▶	Right arrow button: moves the cursor to the right or moves the display image to the next screen NOTE: This button illuminates only when the current screen can use this feature.
4	✖	Cancel button: cancels the current job or exits the current screen. NOTE: This button illuminates only when the current screen can use this feature.
5	↶	Back button: returns to the previous screen NOTE: This button illuminates only when the current screen can use this feature.
6	◀	Left arrow button: moves the cursor to the left NOTE: This button illuminates only when the current screen can use this feature.





7		Home button: provides quick access to the Home screen. This button only illuminates only when the current screen can use this feature.
8		Wireless light: indicates the wireless network is enabled. The light blinks while the product is establishing a connection to the wireless network. When connected, the light stops blinking and stays lit.

Buttons on the Home screen (X551 Series)

The Home screen provides access to the product features, and it indicates the product status.

 **NOTE:** Depending on the product configuration, the features on the Home screen can vary. The layout might also be reversed for some languages.



- 1 Web Services  button: provides quick access to HP Web Services features, including HP ePrint.
HP ePrint is a tool that prints documents by using any e-mail enabled device to send them to the product's e-mail address.
- 2 Network  button: provides access to network settings and information. From the network settings screen, you can print the [Network Summary](#) page, set up a wireless network connection, and access advanced network settings.
NOTE: The wireless network feature is only available on select models.
NOTE: When you are connected to a wireless network, this icon changes to a set of signal strength bars.
- 3 Eco Settings **eco** button: provides a list of options to help reduce energy and paper consumption.
- 4 Supplies  button: provides information about supplies status. From the supplies summary screen, you can print the [Supplies Status](#) page.
- 5 [Setup](#)  button: provides a list of available fax reports and settings.
- 6 [Plug and Print](#) button: provides access to the Plug and Print USB Drive printing feature (no computer is required).

7 Status display. When the product is idle, this area of the control panel displays the time and date and allows for access to the time and date settings by touching this area. When the product is processing a job, job status information replaces the time and date display.

8 [Apps](#) button: provides access to the [Apps](#) menu to print directly from select Web applications

Control panel help system

The product has a built-in Help system that explains how to use each screen. To open the Help system, touch the Help ? button in the upper-right corner of the screen.

For screens that contain settings for individual tasks, the Help opens to a topic that explains the options for that task.

If the product alerts you of an error or warning, touch the Help ? button to open a message that describes the problem. The message also contains instructions to help solve the problem.

2 Control panel menus

- [Status menu](#)
- [Apps](#)
- [Plug and Print \(Officejet Pro X551 models only\)](#)
- [Setup Menu](#)

Status menu

To access the Status menu, select [Status](#) from the Home screen on the Control Panel. The Status menu is available on Officejet Pro X451 models only.

Menu item	Sub-menu item	Sub-menu item	Description
Job Status			View information on currently processing jobs on the product.
Ink Information	Estimated Levels		View a graphic representation of the ink cartridge levels for all the cartridges.
	Cartridge Info	Magenta	View a graphic representation of the ink cartridge level for each cartridge individually.
		Cyan	
		Yellow	
		Black	
	Print Report		Print the Printer Status Report
Network Summary	Wired		View a summary of the product's wired network settings; IP address, hostname, and Mac address.
	Wireless		View a summary of the product's wireless network settings; IP address, hostname, and Mac address.


Apps

Use the Apps menu (HP OfficeJet Pro X551 models only) to enable Web Services on the product and use HP ePrint and print Apps.

Plug and Print (Officejet Pro X551 models only)

Use the Plug and Print menu to print directly from a USB Flash or Hard Drive device. For more information on printing with Plug and Print, see Plug and Print USB Drive Printing.

Setup Menu

To open this menu, press (X451 Series) or touch (X551 Series) the [Setup](#)  button from the control panel. The following sub menus are available:

- [Network](#)
- [HP Web Services](#) (HP OfficeJet Pro X451 models only)
- [Device Setup](#)
- [Tools](#)
- [Print Reports](#)

Network menu

In the following table, items that have an asterisk (*) indicate the factory default setting.



NOTE: Wireless menu options are only available on products that support wireless connectivity. For more information, refer to the Product Basics chapter of this user guide.

Menu item	Sub-menu item	Sub-menu item	Description
Wireless Menu (wireless products only)	On Off		Enables or disables the wireless network feature.
NOTE: You can also access this menu by touching the Wireless  button on the control panel.			
Wireless Direct (wireless products only)	On On With Security Off		Configure the Wireless Direct settings for the product.
Wireless Setup Wizard (HP Officejet Pro X551 MFP Series)	Print Guide Continue		Guides you through the steps to set up the product on a wireless network.
Wi-Fi Protected Setup (wireless products only)	Continue	Push Button PIN	If your wireless router supports WPS, use this method to set up the product on a wireless network. This is the simplest method.
View Network Summary	View Wired View Wireless		Prints a summary of your network settings.
Print Wireless Test Report (wireless products only)			Prints a wireless test report.
Print Network Configuration Page			Prints a report of your network configuration settings.
Advanced Setup	Link Speed	Automatic* 10 Full 10 Half 100 Full 100 Half	Sets the link speed. After setting the link speed, the product automatically restarts.
	IP Settings	Automatic (DHCP)* Manual (Static)	Set whether the product's IP setting are configured automatically with DHCP or set manually.
	IPv6	On* Off	Enable or disable the IPv6 protocol on the product.
	Hostname	OK Change	Use this setting the change how the product is identified on the network.

Menu item	Sub-menu item	Sub-menu item	Description
	Legacy Default IP	On	
		Off	
Restore Network Defaults			Resets all network configurations to their factory defaults.

HP Web Services menu (Officejet Pro X451 models only)

Menu item	Sub-menu item	Description
Enable Web Services	Yes	Enables HP Web Services so you can use HP ePrint and the Apps menu.
	No	HP ePrint is a tool that prints documents by using any e-mail enabled device to send them to the product's e-mail address. Use the Apps menu to print directly from select Web applications.

Device Setup menu

In the following table, items that have an asterisk (*) indicate the factory default setting.

Menu item	Sub-menu item	Sub-menu item	Sub-menu item	Description
Preferences	Time/Date			Sets the time format, current time, date format, and current date for the product.
	Language	List of available control-panel display languages.		Sets the language in which the control panel displays messages and product reports.
	Country/Region	Displays a list of available countries and regions.		Selects which country/region the product is used.
	Screen Brightness			Adjust the sliding bar to control the screen brightness on the Control Panel
	Sound Effects Volume	Soft* Loud Off		Adjusts the product's sound effect level.
	Faster Browsing	On Off*		Sets the browsing speed to go faster than the default.
Default Tray	Auto			Sets the default tray to print from.
	Tray 1			
	Tray 2*			
	Tray 3 (Accessory) only if installed			
Default Paper in Tray	Tray 1	Default Paper Size	Letter (8.5 x 11in.)	Select the default paper size for Tray 1 (multi-purpose tray).
			A4 (297 x 210 mm) ... For a complete list of paper sizes, see Supported paper sizes.	

Menu item	Sub-menu item	Sub-menu item	Sub-menu item	Description
		Default Paper Type	Plain Paper Premium Inkjet ... For a complete list of paper sizes, see Supported paper types and tray capacity .	Sets the paper type for printing internal reports, or any print job that does not specify a type.
	Tray 2	Default Paper Size	Letter (8.5 x 11in.) A4 (297 x 210 mm) ... For a complete list of paper sizes, see Supported paper sizes.	Select the default paper size for Tray 2 (main paper tray).
		Default Paper Type	Plain Paper Premium Inkjet ... For a complete list of paper sizes, see Supported paper types and tray capacity.	Sets the paper type for printing internal reports, or any print job that does not specify a type.
	Tray 3	Default Paper Size	Letter (8.5 x 11in.) A4 (297 x 210 mm) ... For a complete list of paper sizes, see Supported paper sizes.	Sets the default paper size for the optional Tray 3.
		Default Paper Type	Plain Paper Premium Inkjet ... For a complete list of paper sizes, see Supported paper types and tray capacity.	Sets the type of paper for printing internal reports, or any print job that does not specify a type.

Menu item	Sub-menu item	Sub-menu item	Sub-menu item	Description
Tray Lock	Tray 1 Tray 2 Tray 3 None*			Tray Lock is a feature that “locks” a tray so that the only time the printer will draw from that tray is when it is specifically requested. This is useful when putting special paper in a tray, such as letterhead. If using “Automatically Select” for the paper source and Tray 1 is locked, the printer will only draw from the remaining trays, either Tray 2 or optional Tray 3, if it is installed. Printing can still be done from the locked tray, but the source must be specified. Tray 1 lock may be overridden under certain conditions.
Duplex	On	Bind on Long Edge		Selects whether to turn duplexing on or off. If on, select to have the page indented on the long edge or short edge of the paper for binding.
		Bind on Short Edge		
	Off			
Ink Low Warning Level	Automatic			Determines when the Low Ink warning message appears on the control panel. Choose Custom to select a cartridge color and ink level value from 1–99.
	Custom			
Power Handling	Standby	5 Minutes		Determines when to put the product in Standby mode.
		10 Minutes *		
		15 Minutes		
		30 Minutes		
		1 Hour		
	Sleep After Standby	15 Minutes		Determines when to put the product to sleep after it has been put into Standby mode.
		30 Minutes		
		1 Hour		
		2 Hours *		
Auto Power Off (HP Officejet Pro X451 MFP Series)	Never*		Sets the product to power down after a specific amount of time.	
	2 hours after Standby			
	4 hours after Standby			
	8 hours after Standby			
	12 hours after Standby			
Schedule On/Off	Schedule On	Schedule On		Schedules a time to automatically turn the product on or off.
		Schedule Off		

Menu item	Sub-menu item	Sub-menu item	Sub-menu item	Description
Print Settings	Personality	Automatic*		Sets the printer language. By default, the product automatically selects which language to use.
		PCL5 Only		
		PCL6 Only		
		PS Only		
	Copies			Sets the number of copies (0–99) to make when the Copy button is touched. The default value is 1.
	Quality	General Office		Sets the default print quality.
		Professional*		
		Presentation		
	PCL Configuration	Form Length		Sets the text attributes for the printer control language being used.
		Orientation		
		Font Number		
		Font Pitch ¹		
		Font Point Size ¹		
		Symbol Set		
		Append CR to LF		
	Print Postscript Error	On		Sets the product to print any postscript errors that occur.
		Off		

¹ For HP Officejet Pro X451 MFP Series products, font pitch and font point size settings can not be made at the product control panel. Changes to these settings must be made using the EWS.

Tools menu

Use the [Tools](#) menu to improve the product's print quality and view estimated ink levels.

Menu item	Description
Display Estimated Ink Levels	Displays a graph of how much ink has been consumed for each cartridge.
Clean Printhead	Use this feature to clean, adjust, and align the printheads. Follow the on-screen instructions to correctly improve the product's print quality.
Cartridge Chip Information	The cartridge chip stores anonymous information about the usage of the product.
Control Panel Lock	Use this feature to lock the product's control panel and prevent unauthorized use of the product.
Clean Ink Smear	Use this feature to solve print quality problems caused by ink smearing on printed pages.
Restore Factory Defaults	Sets all settings to the factory default values

Print Reports menu

Use the [Print Reports](#) menu to print reports that provide information about the product.


Menu item	Sub-menu item	Description
Printer Status Report		Prints current product information, cartridge status, and other product information.
Print Quality Report		Prints a quality test that will help you diagnose minor print issues.
Usage Page		Shows a count of all paper sizes that have passed through the product; lists whether they were monochrome or color, simplex or duplex, and reports the page count. This report is useful for reconciling contractual billing statements.
Network Configuration Page		Prints useful information about the product's wired or wireless network connection.
Event Log		Prints a list of errors and intermittent failures designed to help you troubleshoot problems.
PCL Font List		Prints a list of all the PCL fonts that are installed.
PCL6 Font List		Prints a list of all the PCL6 fonts that are installed.
PS Font List		Prints a list of all the PS fonts that are installed.


3 Connect the product

- [Connect the product using a USB cable](#)
- [Connect the product to a network](#)
- [Connect the product to a wireless network \(wireless models only\)](#)

Connect the product using a USB cable

This product supports a USB 2.0 connection. Use an A-to-B type USB cable. HP recommends using a cable that is no longer than 2 m (6.5 ft).

 **CAUTION:** Do not connect the USB cable until the installation software prompts you to connect it.


 **IMPORTANT:** This printer is designed to be used on a level surface. Operating the printer when not level could result in inaccurate printer messaging about the amount of ink remaining in cartridges.

CD installation

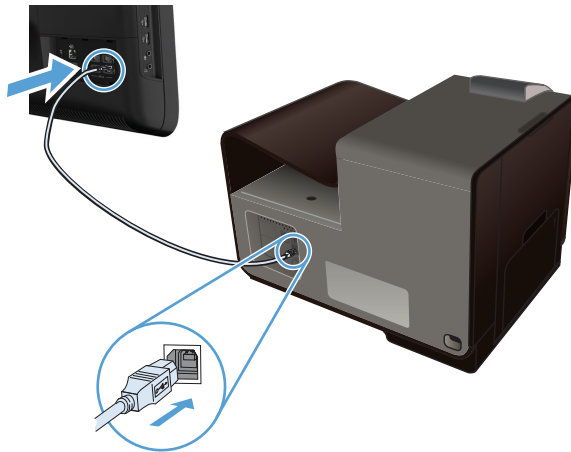
1. Quit all open programs on the computer.
2. Install the software from the CD, and follow the onscreen instructions.

 **NOTE:** If you are installing on a Mac, click the HP Installer icon to install the software.

3. When prompted, select the **USB-Connect the printer to the computer using a USB cable** option, and then click the **Next** button.

 **NOTE:** A dialog displays warning that Web Services (HP ePrint and print Apps) will not be available with a USB installation. Click the **Yes** button to proceed with the USB installation, or click the **No** button to cancel the USB installation.

4. When the software prompts you, connect the USB cable to the computer and the product.




5. When the installation is complete, print a page from any program to make sure that the printing software is correctly installed.

Connect the product to a network

Supported network protocols

To connect a networking-equipped product to a network, you need a network that uses one or more of the following protocols.

- TCP/IP (IPv4 or IPv6)

 **NOTE:** While this product can be used over IPv6 networks, a product software installation from the CD is not supported over IPv6 networks.

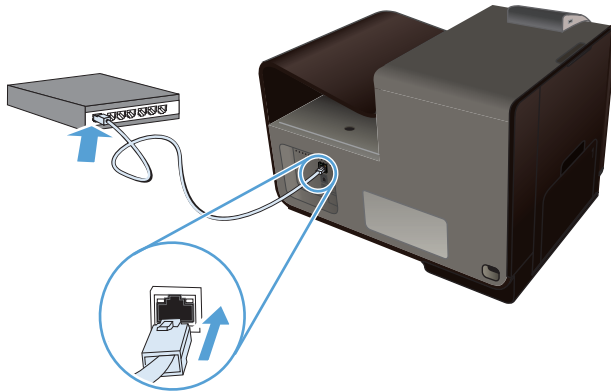
- LPD Printing
- SLP
- WS-Discovery
- HP Wireless Direct


Install the product on a wired network

Use this procedure to install the product on a wired network.

Obtain the IP address

1. Connect the ethernet cable to the product and to the network. Turn the product on.



2. Wait for 60 seconds before continuing. During this time, the network recognizes the product and assigns an IP address or host name for the product.
3. At the product control panel, press the **Setup**  button.
4. Touch the **Print Reports** menu, and then touch the **Network Configuration Page** menu item to print the configuration report.
5. Find the IP address on the configuration report.



Install the software

1. Quit all programs on the computer.
2. Install the software from the CD.
3. Follow the onscreen instructions.

4. When prompted, select the **Wired Network - Connect the printer to your network using an Ethernet cable.** option, and then click the **Next** button.
5. From the list of available printers, select the printer that has the correct IP address.
6. When the installation is complete, print a page from any program to make sure that the printing software is correctly installed.

Configure IP network settings

View or change network settings


Use the embedded Web server to view or change IP configuration settings.

1. Print a configuration page, and locate the IP address.
 - If you are using IPv4, the IP address contains only digits. It has this format:
`xxx . xxx . xxx . xxx`
 - If you are using IPv6, the IP address is a hexadecimal combination of characters and digits. It has a format similar to this:
`xxxx : : xxxx : xxxx : xxxx : xxxx`
2. To open the HP Embedded Web Server, type the IP address (IPv4) into the address line of a Web browser. For IPv6, use the protocol established by the Web browser for entering IPv6 addresses.
3. Click the **Networking** tab to obtain network information. You can change settings as needed.

Set or change the product password

Use the HP Embedded Web Server to set a password or change an existing password for a product on a network so unauthorized users cannot change the product settings.

1. Type the product IP address into the address line of a Web browser. Click the **Settings** tab, click **Security**, and then click the **Password Settings** link.


 **NOTE:** If a password has previously been set, you are prompted to type the password. Type “admin” for User Name along with the password, and then click the **Apply** button.

2. Type the new password in the **Password** box and in the **Confirm Password** box.
3. At the bottom of the window, click the **Apply** button to save the password.

Manually configure IPv4 TCP/IP parameters from the control panel


Use the control-panel menus to manually set an IPv4 address, subnet mask, and default gateway.

HP OfficeJet Pro X451

1. Select the **Setup**  option from the Home screen.
2. Select the **Network** option.
3. Select the **Advanced Setup** option.

4. Select the **IPv4** option.
5. Select the **Manual** option.
6. Select the **IP Address** option.
7. Use the numeric keypad to enter the IP address, and touch the **OK** button. Touch the **Yes** button to confirm.
8. Use the numeric keypad to enter the subnet mask, and touch the **OK** button. Touch the **Yes** button to confirm.
9. Use the numeric keypad to enter the default gateway, and touch the **OK** button. Touch the **Yes** button to confirm.


HP OfficeJet Pro X551


1. From the control panel, touch the **Wireless**  button.
2. Touch the **Advanced Setup** menu, and then touch the **IPv4 Settings** button.
3. Touch the **Manual IP Address** button
4. Use the numeric keypad to enter the IP address, and touch the **OK** button. Touch the **Yes** button to confirm.
5. Use the numeric keypad to enter the subnet mask, and touch the **OK** button. Touch the **Yes** button to confirm.
6. Use the numeric keypad to enter the default gateway, and touch the **OK** button. Touch the **Yes** button to confirm.


Link speed and duplex settings

 **NOTE:** This information applies only to Ethernet networks. It does not apply to wireless networks.

The link speed and communication mode of the print server must match the network hub. For most situations, leave the product in automatic mode. Incorrect changes to the link speed and duplex settings might prevent the product from communicating with other network devices. If you need to make changes, use the product control panel.

 **NOTE:** The setting must match with the network product to which you are connecting (a network hub, switch, gateway, router, or computer).

 **NOTE:** Making changes to these settings causes the product to turn off and then on. Make changes only when the product is idle.

1. From the control panel, press (X451 Series) or touch (X551 Series) the **Setup**  button.
2. Press or touch the **Network Setup** menu item.
3. Press or touch the **Advanced Setup** menu item.
4. Press or touch the **Link Speed** menu.
5. Select one of the following options.

Setting	Description
Automatic	The print server automatically configures itself for the highest link speed and communication mode allowed on the network.
10 Half	10 megabytes per second (Mbps), half-duplex operation
10 Full	10 Mbps, full-duplex operation
100 Full	100 Mbps, full-duplex operation
100 Half	100 Mbps, half-duplex operation

6. Press or touch the **OK** button. The product turns off and then on.

HP ePrint

With HP ePrint, you can print anywhere, anytime, from a mobile phone, laptop, or any other mobile device. HP ePrint works with any email-capable device. If you can e-mail, you can print to an HP ePrint-enabled product. For more details, go to www.hpprintcenter.com.

 **NOTE:** The product must be connected to a network and have Internet access to use HP ePrint.

HP ePrint is disabled as a default setting in the product. Use this procedure to enable it.

1. Type the product IP address into the address line of a Web browser to open the HP Embedded Web Server.
2. Click the **HP Web Services** tab.
3. Select the option to enable Web Services.

Connect the product to a wireless network (wireless models only)


Before installing the product software, make sure the product is not connected to the network using an Ethernet cable.

If your wireless router does not support Wi-Fi Protected Setup (WPS), obtain the wireless router network settings from your system administrator, or complete the following tasks:


- Obtain the wireless network name or service set identifier (SSID).
- Determine the security password or encryption key for the wireless network.

Connect the product to a wireless network using the Wireless Setup Wizard (Officejet Pro X551)

If your wireless router does not support WiFi-Protected Setup (WPS), you can use this method to install the product on a wireless network.

1. From the Home screen on the product control panel, touch the **Setup**  button.
2. Touch the **Network** button, and then touch the **Wireless Setup Wizard** button.
3. The product scans for available wireless networks and returns a list of network names (SSIDs). Select the SSID for your wireless router from the list if it is available. If the SSID for your wireless router is not in the list, touch the **Enter SSID** button. When prompted for the type of network security, select the option that your wireless router uses. A keypad opens on the control panel display.
4. If your wireless router uses WPA security, type the passphrase on the keypad.
If your wireless router uses WEP security, type the key on the keypad.
5. Touch the **OK** button, and wait while the product establishes a connection with the wireless router. Establishing the wireless connection can take a few minutes.

Connect the product to a wireless network using WPS

1. From the product control panel, press (X451 Series) or touch (X551 Series) the **Wireless**  button.
2. Press the **Wireless** menu button.
3. Press the **Wi-Fi Protected Setup** button, and then press the **Continue** button.
4. Use one of these methods to complete the setup:
 - **Pushbutton:** Select the **Push Button** option and follow the instructions on the control panel. Establishing the wireless connection can take a few minutes.
 - **PIN:** Select the **Generate PIN** option and follow the instructions on the control panel. The product generates a unique PIN, which you must type into the wireless router's setup screen. Establishing the wireless connection can take a few minutes.




NOTE: If this method is not successful, try using the Wireless Setup Wizard on the product control panel or try using the USB cable connection method.

Connect the product to a wireless network using a USB cable (Officejet Pro X451 only)

If your wireless router does not support WiFi-Protected Setup (WPS), use this method to set up the product on a wireless network. Using a USB cable to transfer settings makes setting up a wireless connection easier. After the setup is complete, you can disconnect the USB cable and use the wireless connection.

1. Insert the software CD into the computer CD tray.
2. Follow the on-screen instructions. When prompted, select the **Wireless- Connect the printer to your wireless network and internet.** option. Connect the USB cable to the product when prompted.

 **CAUTION:** Do not connect the USB cable until the installation program prompts you.

3. When the installation is complete, print a configuration page to make sure that the product has an SSID name.
4. When installation is complete, disconnect the USB cable.

Install the software for a wireless product currently on the network


If the product already has an IP address on a wireless network and you want to install product software on a computer, complete the following steps.

1. From the product control panel, print a configuration page to obtain the product IP address.
2. Install the software from the CD.
3. Follow the on-screen instructions.
4. When prompted, select the **Wireless- Connect the printer to your wireless network and internet.** option, and then click the **Next** button.
5. From the list of available printers, select the printer that has the correct IP address.

Manually connect the product to a wireless network

During the first 120 minutes of product setup, or after resetting the product's network defaults (and without a network cable attached to the product), the product's wireless radio will broadcast a wireless setup network for the product.

The name of this network is "HP-Setup-xx-[product name]".

 **NOTE:** The “xx” in the network is name is the last two characters of the product's MAC address. The product name will be either HP Officejet Pro X451 MFP Series or HP Officejet Pro X551 MFP Series.

1. From a wireless enabled product, connect to the setup network for the device.
2. Open a web browser while connected to this setup network, and open the HP Embedded Web Server (HP EWS) using the following IP address:
 - 192.168.223.1
3. Find the Wireless Setup Wizard in the product's EWS and follow the on screen instructions to manually connect the product.

 **NOTE:** The product uses Automatic DHCP by default.

4 Use the product with Windows

- [Supported operating systems and printer drivers for Windows](#)
- [Select the correct printer driver for Windows](#)
- [Change print job settings for Windows](#)
- [Remove the printer driver from Windows](#)
- [Supported utilities for Windows](#)

Supported operating systems and printer drivers for Windows

The product supports the following Windows operating systems:

Recommended software installation

- Windows XP (32-bit, Service Pack 2 or higher)
- Windows Vista (32-bit and 64-bit)
- Windows 7 (32-bit and 64-bit)
- Windows 8 (32-bit and 64-bit)

Print drivers only

- Windows 2003 Server (32-bit, Service Pack 3)
- Windows 2008 Server
- Windows 2008 Server R2

NOTE: Windows Server install support is available through the Enterprise (command line) install method only.

The product supports the following Windows printer drivers:

- HP PCL 6 (this is the default printer driver and is included on the CD)
- HP Universal Print Driver for Windows Postscript
- HP Universal Print Driver for PCL 5
- HP Universal Print Driver for PCL 6

The printer drivers include online Help that has instructions for common printing tasks and also describes the buttons, checkboxes, and drop-down lists that are in the printer driver.



NOTE: For downloads of, and more information about, the HP UPD Postscript, PCL 5, and PCL 6 drivers, see www.hp.com/go/upd.

Select the correct printer driver for Windows

Printer drivers provide access to the product features and allow the computer to communicate with the product (using a printer language).

HP PCL 6 driver (This print driver is provided on the in-box CD and is also available from <http://www.hp.com/go/support>.)

- Provided as the default driver. This driver is automatically installed unless you select a different one.
- Recommended for all Windows environments
- Provides the overall best speed, print quality, and product-feature support for most users
- Developed to align with the Windows Graphic Device Interface (GDI) for the best speed in Windows environments
- Might not be fully compatible with third-party and custom software programs that are based on PCL 5

HP UPD PS driver (This print driver is available for download from www.hp.com/go/upd)

- Recommended for printing with Adobe® software programs or with other highly graphics-intensive software programs
- Provides support for printing from postscript emulation needs, or for postscript flash font support

HP UPD PCL 5 (This print driver is available for download from www.hp.com/go/upd)

- Recommended for general office printing in Windows environments
- Compatible with previous PCL versions and older HP Officejet products
- The best choice for printing from third-party or custom software programs
- The best choice when operating with mixed environments, which require the product to be set to PCL 5 (UNIX, Linux, mainframe)
- Designed for use in corporate Windows environments to provide a single driver for use with multiple printer models
- Preferred when printing to multiple printer models from a mobile Windows computer

HP UPD PCL 6 (This print driver is available for download from www.hp.com/go/upd)

- Recommended for printing in all Windows environments
 - Provides the overall best speed, print quality, and printer feature support for most users
 - Developed to align with Windows Graphic Device Interface (GDI) for best speed in Windows environments
 - May not be fully compatible with third-party and custom solutions based on PCL5
-

HP Universal Print Driver (UPD)

The HP Universal Print Driver (UPD) for Windows is a single driver that gives you instant access to virtually any HP Officejet product, from any location, without downloading separate drivers. It is built on proven HP print driver technology and has been tested thoroughly and used with many software programs. It is a powerful solution that performs consistently over time.

The HP UPD communicates directly with each HP product, gathers configuration information, and then customizes the user interface to show the product's unique, available features. It automatically enables features that are available for the product, such as two-sided printing, so you do not need to enable them manually.

For more information, go to www.hp.com/go/upd.

UPD installation modes

Traditional mode	<ul style="list-style-type: none">• Use this mode if you are installing the driver for a single computer. See www.hp.com/go/upd.• When installed in Traditional mode, UPD operates like a discrete printer driver. It operates with a specific product.• If you use this mode, you must install UPD separately for each computer and for each product.
Dynamic mode	<ul style="list-style-type: none">• To use this mode, download UPD from the Internet. See www.hp.com/go/upd.• Dynamic mode allows you to use a single driver installation, so you can discover and print to HP products in any location.• Use this mode if you are installing UPD for a workgroup or to have convenient access to a fleet of printers for individual users.

Change print job settings for Windows

Priority for print settings

Changes to print settings are prioritized depending on where the changes are made:



NOTE: The names of commands and dialog boxes might vary depending on your software program. In managed environments, administrators may enforce printing policies and restrictions.

- **Page Setup dialog box:** Click **Page Setup** or a similar command on the **File** menu of the program you are working in to open this dialog box. Settings changed here override settings changed anywhere else.
- **Print dialog box:** Click **Print**, **Print Setup**, or a similar command on the **File** menu of the program you are working in to open this dialog box. Settings changed in the **Print** dialog box have a lower priority and usually do not override changes made in the **Page Setup** dialog box.
- **Printer Properties dialog box (printer driver):** Click **Properties** in the **Print** dialog box to open the printer driver. Settings changed in the **Printer Properties** dialog box usually do not override

settings anywhere else in the printing software, but will be applied if no conflicting command is sent with a print job. You can change most of the print settings here.

- **Default printer driver settings:** The default printer driver settings determine the settings used in all print jobs, *unless* settings are changed in the **Page Setup**, **Print**, or **Printer Properties** dialog boxes.
- **Printer control panel settings:** Settings changed at the printer control panel have a lower priority than changes made anywhere else.

Change the settings for all print jobs until the software program is closed

1. On the **File** menu in the software program, click **Print**.
2. Select the driver, and then click **Properties** or **Preferences**.

The steps can vary; this procedure is most common.

Change the default settings for all print jobs

1. **Windows XP, Windows Server 2003, and Windows Server 2008 (using the default Start menu view):** Click **Start**, and then click **Printers and Faxes**.

Windows XP, Windows Server 2003, and Windows Server 2008 (using the Classic Start menu view): Click **Start**, click **Settings**, and then click **Printers**.

Windows Vista: Click **Start**, click **Control Panel**, and then in the category for **Hardware and Sound** click **Printer**.

Windows 7: Click **Start**, and then click **Devices and Printers**.

2. Right-click the driver icon, and then select **Printing Preferences**.

Change the product configuration settings

1. **Windows XP, Windows Server 2003, and Windows Server 2008 (using the default Start menu view):** Click **Start**, and then click **Printers and Faxes**.

Windows XP, Windows Server 2003, and Windows Server 2008 (using the Classic Start menu view): Click **Start**, click **Settings**, and then click **Printers**.

Windows Vista: Click **Start**, click **Control Panel**, and then in the category for **Hardware and Sound** click **Printer**.

Windows 7: Click **Start**, and then click **Devices and Printers**.

2. Right-click the driver icon, and then select **Properties** or **Printer properties**.
3. Click the **Device Settings** tab.

Remove the printer driver from Windows

Windows XP

1. Click **Start, Control Panel**, and then **Add or Remove Programs**.
2. Find and select the product from the list.
3. Click the **Change/Remove** button to remove the software.

Windows Vista

1. Click **Start, Control Panel**, and then **Programs and Features**.
2. Find and select the product from the list.
3. Select the **Uninstall/Change** option.

Windows 7

1. Click **Start, Control Panel**, and then under the **Programs** heading, click **Uninstall a program**.
2. Find and select the product from the list.
3. Select the **Uninstall** option.

Supported utilities for Windows

- HP Web Jetadmin
- HP Embedded Web Server
- HP ePrint
- HP Wireless Direct

5 Use the product with Mac

- [Supported operating systems and printer drivers for Mac](#)
- [Software for Mac computers](#)
- [Priority for print settings for Mac](#)
- [Change printer-driver settings for Mac](#)
- [Remove the printer driver from Mac operating systems](#)
- [Supported utilities for Mac](#)
- [Solve problems with Mac](#)

Supported operating systems and printer drivers for Mac

The product supports the following Mac operating systems:

- Mac OS X 10.6 and later



NOTE: See www.hp.com/support for the latest drivers for Mac.



NOTE: For Mac OS X 10.6 and later, Intel Core Processor Macs are supported.

The HP Officejet software installer provides PostScript® Printer Description (PPD) files, Printer Dialog Extensions (PDEs), and the HP Utility for use with Mac OS X computers. The HP printer PPD and PDE files, in combination with the built-in Apple PostScript printer drivers, provide full printing functionality and access to specific HP printer features.

Software for Mac computers

HP Utility for Mac

Use the HP Utility to set up product features that are not available in the printer driver.

You can use the HP Utility when the product uses a universal serial bus (USB) cable or is connected to a TCP/IP-based network.

Open the HP Utility

Use any of the following methods to open the HP Utility:

- From the dock, click **HP Utility**.
- From **Applications**, open the Hewlett-Packard folder, and then click **HP Utility**.
- Click the **Utility** tab of the **Options and Supplies panel** from **Print and Fax**.

HP Utility features

Use the HP Utility software to perform the following tasks:

- Obtain information about supplies status.
- Obtain information about the product, such as the firmware version and the serial number.
- Print a configuration page.
- For products connected to an IP-based network, obtain network information and open the HP Embedded Web Server.
- Configure the paper type and size for the tray.
- Transfer files and fonts from the computer to the product.
- Update the product firmware.

Priority for print settings for Mac

Changes to print settings are prioritized depending on where the changes are made:



NOTE: The names of commands and dialog boxes might vary depending on your software program.

- **Page Setup dialog box:** Click **Page Setup** or a similar command on the **File** menu of the program you are working in to open this dialog box. Settings changed here might override settings changed anywhere else.
- **Print dialog box:** Click **Print**, **Print Setup**, or a similar command on the **File** menu of the program you are working in to open this dialog box. Settings changed in the **Print** dialog box have a lower priority and do *not* override changes made in the **Page Setup** dialog box.
- **Default printer driver settings:** The default printer driver settings determine the settings used in all print jobs, *unless* settings are changed in the **Page Setup**, **Print**, or **Printer Properties** dialog boxes.
- **Printer control panel settings:** Settings changed at the printer control panel have a lower priority than changes made anywhere else.

Change printer-driver settings for Mac

Change the settings for all print jobs until the software program is closed


1. On the **File** menu, click the **Print** button.
2. Change the settings that you want on the various menus.

Change the default settings for all print jobs

1. On the **File** menu, click the **Print** button.
2. Change the settings that you want on the various menus.
3. On the **Presets** menu, click the **Save As...** option and type a name for the preset.

These settings are saved in the **Presets** menu. To use the new settings, you must select the saved preset option every time you open a program and print.

Change the product configuration settings

1. From the Apple menu , click the **System Preferences** menu and then click the **Print & Scan** icon.
2. Select the product in the left side of the window.
3. Click the **Options & Supplies** button.
4. Click the **Driver** tab.
5. Configure the installed options.

Remove the printer driver from Mac operating systems

You must have administrator rights to remove the software.

1. Open **System Preferences**.
2. Select **Print & Scan**.
3. Highlight the product.
4. Click the minus (-) symbol to delete the print queue.

Supported utilities for Mac

HP Embedded Web Server

The product is equipped with the HP Embedded Web server, which provides access to information about product and network activities. Access the HP Embedded Web Server from the HP Utility. Open the **Printer Settings** menu, and then select the **Additional Settings** option.

You can also access the HP Embedded Web Server from the Safari Web browser:

1. Select the page icon in the left side of the Safari toolbar.
2. Click the Bonjour logo.
3. In the list of printers, double-click this product. The HP Embedded Web Server opens.

To access the HP Embedded Web Server from any web browser, type the product's IP address in the browser's address field.

The HP Embedded Web Server can also be accessed through the **System Preferences** menu. Click **System Preferences**, click **Print and Scan**, select your product name, click **Options and Supplies**, click **General**, and then click **Show Printer Webpage**.

Solve problems with Mac

For information about solving problems with a Mac, see [Solve product software problems with Mac on page 150](#).

6 Paper and print media

- [Understand paper use](#)
- [Change the printer driver to match the paper type and size in Windows](#)
- [Supported paper sizes](#)
- [Supported paper types and tray capacity](#)
- [Load paper trays](#)
- [Configure trays](#)

Understand paper use

HP Officejet inks for business are specifically developed for use with HP printheads. Unique ink formulations help extend the life of the printheads and enhance reliability. When used with ColorLok® paper, these inks provide laser-like color output that dries quickly and is ready for distribution.

This product supports a variety of paper and other print media. Paper or print media that does not meet the following guidelines might cause poor print quality, increased jams, and premature wear on the product.

It is possible for paper to meet all of these guidelines and still not produce satisfactory results. This might be the result of improper handling, unacceptable temperature and/or humidity levels, or other variables over which Hewlett-Packard has no control.

⚠ CAUTION: Using paper or print media that does not meet Hewlett-Packard's specifications might cause problems for the product, requiring repair. This repair is not covered by the Hewlett-Packard warranty or service agreements.

- For best results, use only HP-brand paper and print media designed for inkjet printers or multiuse.
- Use paper or print media made for inkjet printers.
- Hewlett-Packard Company cannot recommend the use of other brands of media because HP cannot control their quality.

📝 NOTE: Based on HP internal testing using a range of plain papers, HP highly recommends using papers with the ColorLok® logo for this product. For details, go to www.hp.com/go/printpermanence.



Use the following guidelines to obtain satisfactory results when using special paper or print media. Set the paper type and size in the printer driver to obtain the best results.

Media type	Do	Do not
Envelopes	<ul style="list-style-type: none"> • Store envelopes flat. • Use envelopes where the seam extends all the way to the corner of the envelope. 	<ul style="list-style-type: none"> • Do not use envelopes that are wrinkled, nicked, stuck together, or otherwise damaged. • Do not use envelopes that have clasps, snaps, windows, or coated linings.
Labels	<ul style="list-style-type: none"> • Use only labels that have no exposed backing between them. • Use labels that lie flat. • Use only full sheets of labels. 	<ul style="list-style-type: none"> • Do not use labels that have wrinkles or bubbles, or are damaged. • Do not print partial sheets of labels.
Letterhead or preprinted forms	<ul style="list-style-type: none"> • Use only letterhead or forms approved for use in inkjet printers. 	<ul style="list-style-type: none"> • Do not use raised or metallic letterhead.
Heavy paper	<ul style="list-style-type: none"> • Use only heavy paper that is approved for use in inkjet printers and meets the weight specifications for this product. 	<ul style="list-style-type: none"> • Do not use paper that is heavier than the recommended media specification for this product unless it is HP paper that has been approved for use in this product.
Glossy or coated paper	<ul style="list-style-type: none"> • Use only glossy or coated paper that is approved for use in inkjet printers. 	<ul style="list-style-type: none"> • Do not use glossy or coated paper designed for use in laser products.

Change the printer driver to match the paper type and size in Windows

1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. Select a size from the **Paper size** drop-down list.
5. Select a paper type from the **Paper type** drop-down list.
6. Click the **OK** button.

Supported paper sizes



NOTE: To obtain best print results, select the appropriate paper size and type in your print driver before printing.

Table 6-1 Supported paper and print media sizes

Size	Dimensions	Tray 1	Tray 2	Tray 3	Automatic duplex printing
Letter	216 x 279 mm (8.5 x 11 inches)	✓	✓	✓	✓
Oficio 8.5 x 13	(8.5 x 13 inches)	✓		✓	✓
Oficio 216x340 mm	216 x 340 mm	✓		✓	✓
Legal	216 x 356 mm (8.5 x 14 inches)	✓		✓	✓
A4	210 x 297 mm (8.3 x 11.7 inches)	✓	✓	✓	✓
Executive	184 x 267 mm (7.25 x 10.5 inches)	✓	✓	✓	✓
Statement	140 by 216 mm (5.5 x 8.5 inches)	✓	✓	✓	✓
A5	148 x 210 mm (5.8 x 8.3 inches)	✓	✓	✓	
A6	105 x 148.5 mm (4.13 x 5.83 inches)	✓			
B5 (JIS)	182 x 257 mm (7.17 x 10.12 inches)	✓	✓	✓	✓
B6 (JIS)	128x182mm (5 x 7 inches)	✓			
16k	184 x 260 mm (7.24 x 10.23 inches)				
	195 x 270 mm (7.68 x 10.62 inches)	✓	✓	✓	
	197 x 273 mm (7.75 x 10.75 inches)				
Custom	Minimum: (3 x 5 inches)	Width: (3 to 8.5 inches)	Width: (4 to 8.5 inches)	Width: (4 to 8.5 inches)	
	Maximum: (8.5 to 14 inches)	Length: (5 to 14 inches)	Length: (8.27 to 11.7 inches)	Length: (8.27 to 14 inches)	

Table 6-2 Supported envelopes

Size	Dimensions	Tray 1	Tray 2	Tray 3	Automatic duplex printing
Envelope #10	105 x 241 mm (4.13 x 9.49 inches)	✓	✓		
Envelope DL	110 x 220 mm (4.33 x 8.66 inches)	✓	✓		
Envelope C5	162 x 229 mm (6.4 x 9 inches)	✓	✓		
Envelope B5	176 x 250 mm (6.7 x 9.8 inches)	✓	✓		

Table 6-2 Supported envelopes (continued)

Size	Dimensions	Tray 1	Tray 2	Tray 3	Automatic duplex printing
Envelope C6	114 x 162 mm (4.5 x 6.4 inches)	✓			
Envelope Monarch	98 x 191 mm (3.9 x 7.5 inches)	✓			
Japanese Envelope Chou #3	120 x 235 mm (4.7 x 9.3 inches)	✓	✓		
Japanese Envelope Chou #4	90 x 205 mm (3.5 x 8.1 inches)	✓			

Table 6-3 Supported cards

Size	Dimensions	Tray 1	Tray 2	Tray 3	Automatic duplex printing
3x5	(76.2 x 127 mm) (3 x 5 inches)	✓			
4x6	(102 x 152 mm) (4 x 6 inches)	✓			
5x8	(127 x 203 mm) (5 x 8 inches)	✓			
A6	(105 x 148.5 mm) (4.13 x 5.83 inches)	✓			
Japanese Postcard	(100 x 148 mm) (3.9 x 5.8 inches)	✓			
Double Japan Postcard Rotated	(148 x 200 mm) (5.8 x 7.9 inches)	✓			

Table 6-4 Supported photo media

Size	Dimensions	Tray 1	Tray 2	Tray 3	Automatic duplex printing
4x6	(102 x 152 mm) (4 x 6 inches)	✓			
10x15cm	(100 x 150 mm) (3.9 x 5.9 inches)	✓			
L	(89 x 127 mm) (3.5 x 5 inches)	✓			
5x7 Photo Media (5 x 7 in no-tabs)	(127 x 178 mm) (5 x 7 inches)	✓			
Photo Media (Letter & A4)		✓	✓	✓	

Table 6-4 Supported photo media (continued)

Size	Dimensions	Tray 1	Tray 2	Tray 3	Automatic duplex printing
Japanese Postcard	(100 x 148 mm) (3.9 x 5.8 inches)	✓			
Custom	Minimum: (3 to 5 inches) Maximum: (8.5 to 14 inches)	Width: (3 to 8.5 inches) Length: (5 to 14 inches)	Width: (4 to 8.5 inches) Length: (8.27 to 11.7 inches)	Width: (4 to 8.5 inches) Length: (8.27 to 14 inches)	

Table 6-5 Other supported media

Size	Dimensions	Tray 1	Tray 2	Tray 3	Automatic duplex printing
Labels (Letter and A4)		✓	✓	✓	

Supported paper types and tray capacity

Table 6-6 Tray 1 (multi-purpose) on left side of the product

Paper type	Weight	Capacity ¹	Paper orientation
Every day:	60 to 175 g/m ² (16 to 47 lb)	Up to 50 sheets	Side to be printed on face-down, with the top edge at the front of the tray
<ul style="list-style-type: none"> • Unspecified and Plain • HP EcoSMART Lite • Light 60-74g • Intermediate 85-95g • Mid-Weight 96-110g • Heavy 111-130g • HP Premium Presentation Matte 120g • Extra Heavy 131-175g 			
<ul style="list-style-type: none"> • HP Brochure Matte 180g • HP Brochure Glossy 180g • Cardstock 176-220g • HP Cover Matte 200g • HP Advanced Photo Papers 	Up to 220 g/m ² (58 lb) ¹	Up to 25 sheets	Side to be printed on face-up, with the top edge at the back of the tray

Table 6-6 Tray 1 (multi-purpose) on left side of the product (continued)

Paper type	Weight	Capacity ¹	Paper orientation
<ul style="list-style-type: none"> Envelope Heavy Envelope Labels 		Up to 7 envelopes or labels	Side to be printed on face-up, with the top edge toward the product

¹ Capacity can vary depending on paper weight and thickness, and environmental conditions.

Table 6-7 Tray 2 (main tray) and Tray 3 (accessory tray)

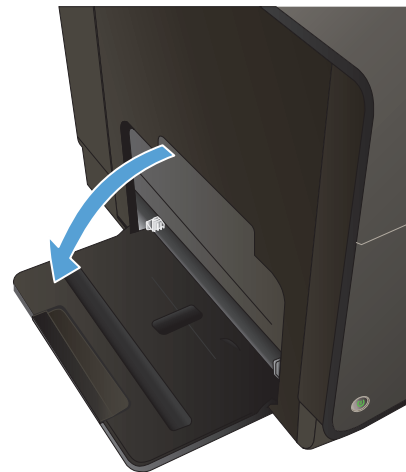
Paper type	Weight	Capacity ¹	Paper orientation
<ul style="list-style-type: none"> Unspecified and Plain HP EcoSMART Lite Light 60-74g Intermediate 85-95g Mid-Weight 96-110g Heavy 111-130g HP Premium Presentation Matte 120g Extra Heavy 131-175g 	60 to 175 g/m ² (16 to 47 lb)	Up to 500 sheets	Side to be printed on face-up, with the top edge at the front of the tray
<ul style="list-style-type: none"> HP Brochure Matte 180g HP Brochure Glossy 180g Cardstock 176-220g HP Cover Matte 200g HP Advanced Photo Papers 	Up to 220 g/m ² (58 lb) ¹	Up to 100 sheets	Side to be printed on face-up, with the top edge at the back of the tray
<ul style="list-style-type: none"> Envelope Heavy Envelope Labels 		Up to 30 envelopes or labels NOTE: Tray 3 does not support envelope printing.	Side to be printed on face-up, with the top edge toward the product

¹ Capacity can vary depending on paper weight and thickness, and environmental conditions.

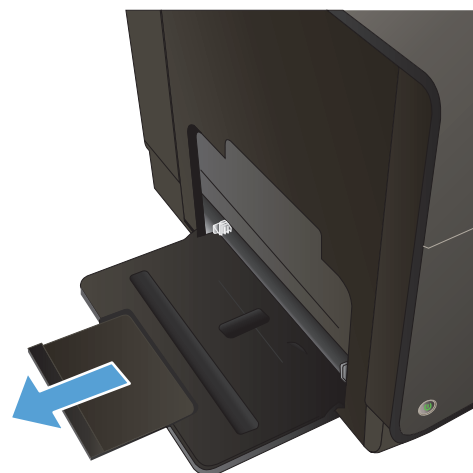
Load paper trays

Load Tray 1 (multi-purpose tray on left side of the product)

1. Open Tray 1.

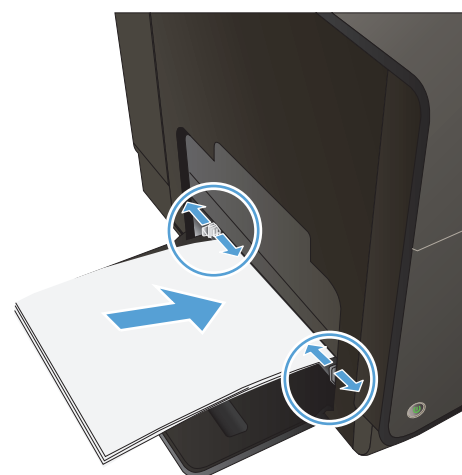


2. Pull out the extension tray.



3. Extend the paper guides fully and then load the paper stack into Tray 1. Adjust the paper guides to the size of the paper.

NOTE: Place the paper into Tray 1 with the side to be printed on face-down and top of page toward the front of the tray.

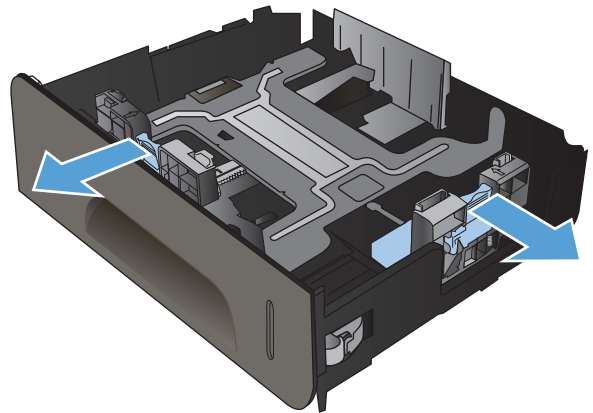


Load Tray 2 or optional Tray 3

1. Pull the tray out of the product.

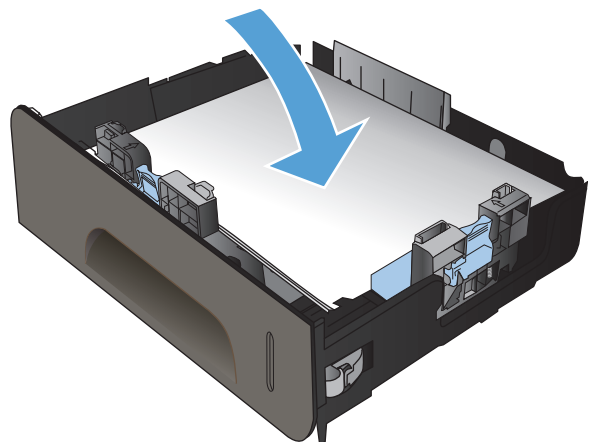


2. Slide open the paper length and width guides.

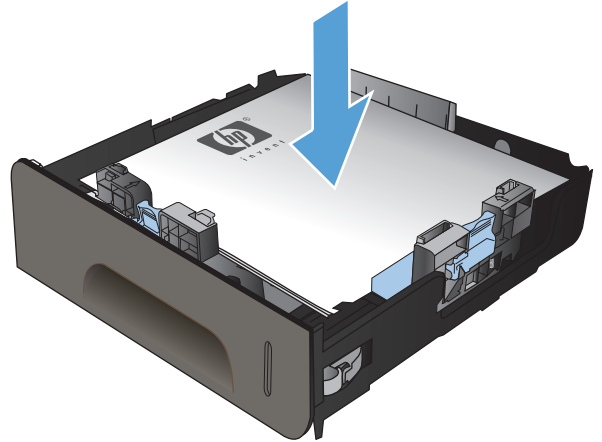


3. Place the paper in the tray and make sure that it is flat at all four corners. Slide the side paper width guides so that they align with the paper-size marking in the bottom of the tray. Slide the front paper length guide so that it pushes the stack of paper against the back of the tray.

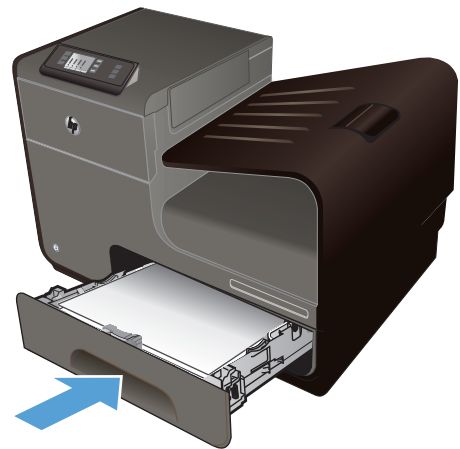
NOTE: Place the paper into the tray with the side to be printed on face-up.



4. Push down on the paper to make sure that the paper stack is below the paper limit tabs on the side of the tray.



5. Slide the tray into the product.



Configure trays


By default, the product pulls paper from Tray 2. If Tray 2 is empty, the product pulls paper from Tray 1, or Tray 3 if it is installed. Configuring a tray on this product changes the speed settings to obtain the best print quality for the type of paper that you are using. If you are using special paper for all or most print jobs on the product, change this default tray setting on the product.

The following table lists possible ways you can use the tray settings to meet your printing needs.

Paper use	Configure the product	Print
Load Tray 1 and one other tray with the same paper, and have the product pick paper from one tray if the other one is empty.	Load paper in Tray 1. No configuration is needed, if the default settings for type and size have not been changed.	From the software program, print the job.

Paper use	Configure the product	Print
Occasionally use special paper, such as heavy paper or letterhead, from a tray that usually contains plain paper.	Load special paper in Tray 1.	From the software program print dialog, choose the paper type that matches the special paper loaded in the tray before sending the print job. Select Tray 1 as the Paper Source from the Paper/Quality tab (Windows) or Paper Feed menu (Mac).
Frequently use special paper, such as heavy paper or letterhead, from one tray.	Load special paper in Tray 1, and configure the tray for the paper type.	From the software program print dialog, choose the paper type that matches the special paper loaded in the tray before sending the print job. Select Tray 1 as the Paper Source from the Paper/Quality tab (Windows) or Paper Feed menu (Mac).

Configure trays

1. Make sure the product is turned on.
2. Perform one of the following tasks:
 - **Control panel:** Press (X451 Series) or touch (X551 Series) the [Setup](#)  button, press or touch [Paper Handling](#), and then press or touch [Paper Selection](#). Select the tray that you want to configure.
 - **Embedded Web server:** Click the **Settings** tab, and then click **Paper Settings** in the left panel. Select a **Default Media Size** and a **Default Media Type** for each tray.
3. Press [OK](#) or click **Apply**.

7 Ink cartridges

The information contained herein is subject to change without notice. For the latest User Guide information go to www.hp.com/support/ojpx451 or www.hp.com/support/ojpx551.

- [Ink cartridge information](#)
- [Supplies views](#)
- [Manage ink cartridges](#)
- [Replacement instructions](#)
- [Solve issues with supplies](#)

Ink cartridge information

Color	Cartridge number	Part number
Standard-capacity replacement black ink cartridge	HP 970	CN621A
High-capacity replacement black ink cartridge	HP 970XL	CN625A
Standard-capacity replacement cyan ink cartridge	HP 971	CN622A
High-capacity replacement cyan ink cartridge	HP 971XL	CN626A
Standard-capacity replacement yellow ink cartridge	HP 971	CN624A
High-capacity replacement yellow ink cartridge	HP 971XL	CN628A
Standard-capacity replacement magenta ink cartridge	HP 971	CN623A
High-capacity replacement magenta ink cartridge	HP 971XL	CN627A

Accessibility: The ink cartridge can be installed and removed by using one hand.

Environmental features: Recycle ink cartridges by using the HP Planet Partners return and recycling program.

For more information about supplies, go to www.hp.com/go/learnaboutsupplies.

Supplies views

Ink cartridge view



-
- | | |
|---|---|
| 1 | Metal connector and ink nozzle. Do not touch. Fingerprints may cause supply error messages. Dust may also cause supply error messages; do not leave ink cartridges outside the product for prolonged periods of time. |
|---|---|
-

Manage ink cartridges

Correctly using, storing, and monitoring the ink cartridge can help ensure high-quality print output.

Change settings for ink cartridges


Print when an ink cartridge is at estimated end of life

Supply-related notifications are communicated on the product control panel.

- A **<Supply> Low** message—where <Supply> is the cartridge—appears when an ink cartridge is nearing the estimated end of its useful life and a replacement cartridge should be obtained for use when needed.
- A **<Supply> Very Low** message appears when the ink cartridge is near its estimated end of useful life.
- **<Supply> Out of Ink** message appears when the ink cartridge is empty.

Modify the Low Ink Warning Level settings from the control panel

You can enable or disable the default settings at any time, and you do not have to re-enable them when you install a new ink cartridge.

1. From the Home screen on the control panel, press (X451 Series) or touch (X551 Series) the [Setup](#)  button.
2. Press or touch the [Device Setup](#) menu.
3. Press or touch the [Ink Low Warning Level](#) menu item.
4. Select from the following options for each supply:
 - Select [Automatic](#) to keep the default low ink warning.
 - Select a fill percentage to choose what ink level prompts a low ink level warning

Print with General Office mode

General Office print mode uses less ink, which might extend the life of the cartridge.

1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. Select **General Office** from the **Print Quality** drop-down box.

Store and recycle supplies

Recycle supplies

Go to hp.com/recycle for full information on recycling, and to order postage-paid labels, envelopes, and boxes for recycling.

Ink cartridge storage

Do not remove the ink cartridge from its package until you are ready to use it.

HP policy on non-HP ink cartridges

Hewlett-Packard Company cannot recommend the use of non-HP ink cartridges, either new or remanufactured.



NOTE: Any damage caused by a non-HP print cartridge is not covered under the HP warranty and service agreements.

HP anticounterfeit website

Go to www.hp.com/go/anticounterfeit when you install an HP print cartridge and the control-panel message says the cartridge is used or counterfeit. HP will help to take steps to resolve the problem.

Your ink cartridge might not be a genuine HP ink cartridge if you notice the following:

- The supplies status page indicates that a used or counterfeit supply is installed.
- You are experiencing a high number of problems with the ink cartridge.
- The cartridge does not look like it usually does (for example, the packaging differs from HP packaging).

Replacement instructions

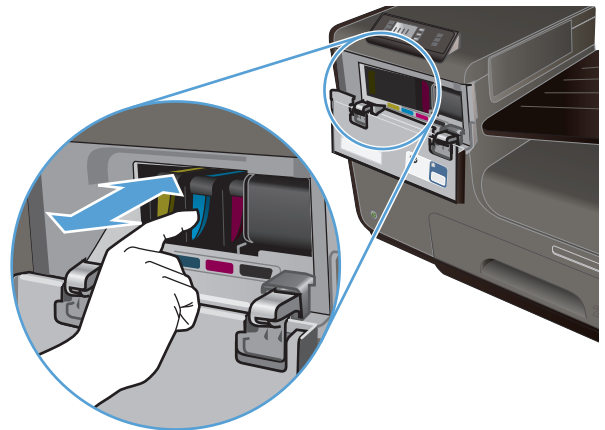
Replace the ink cartridges

The product uses four colors and has a different ink cartridge for each color: yellow (Y), cyan (C), magenta (M), and black (K).

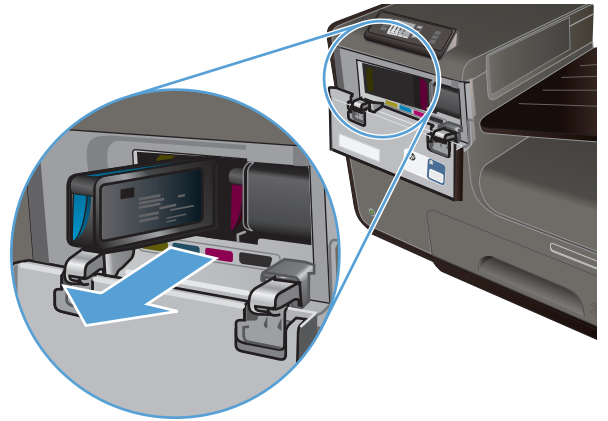
1. Open the ink cartridge door.



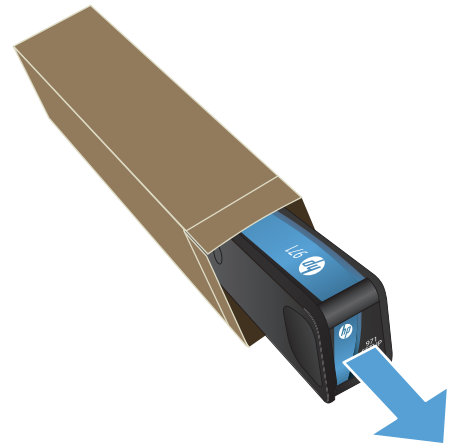
2. Push the old ink cartridge inward to unlock it.



3. Grasp the edge of the old ink cartridge and then pull the cartridge straight out to remove it.



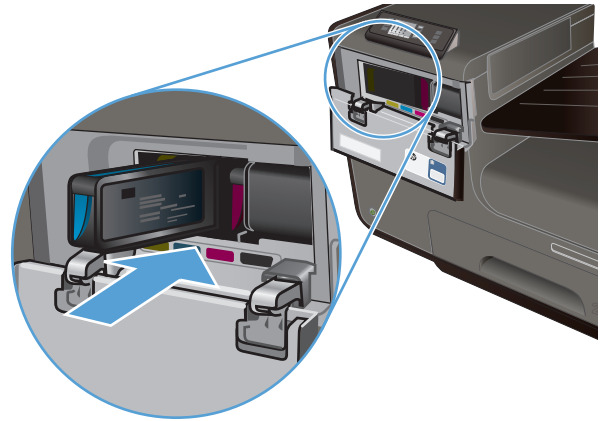
4. Remove the new ink cartridge from the packaging.



5. Do not touch the metal connector of the ink cartridge. Fingerprints on the connector can cause print-quality problems.



6. Insert the new ink cartridge into the product.



7. Close the ink cartridge door.




8. Place the old ink cartridge in the box and refer to HP's recycling instructions at <http://www.hp.com/recycle>.

Solve issues with supplies

Check the ink cartridges

If you are experiencing print quality problems, see [Improve print quality on page 132](#).


 **NOTE:** If you are using a General Office print setting, the printing might appear light.

If you determine that you need to replace an ink cartridge, look on the cartridge or print the Supplies Status Page to find the part number for the correct genuine HP ink cartridge.


Refilled or remanufactured ink cartridges

Hewlett-Packard Company cannot recommend the use of non-HP supplies, either new or remanufactured. Because they are not HP products, HP cannot influence their design or control their

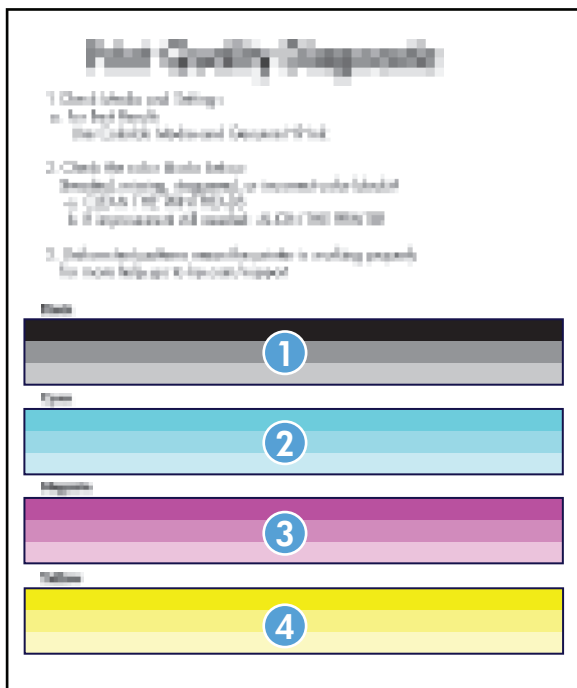
quality. If you are using a refilled or remanufactured ink cartridge and are not satisfied with the print quality, replace the cartridge with a genuine HP cartridge.

 **NOTE:** If you replace a non-HP ink cartridge with a genuine HP ink cartridge, the printhead may still contain non-HP ink until the printhead is depleted of that ink and is supplied with ink from the newly installed, genuine HP ink cartridge.

Interpret the Print Quality Report

1. On the product control panel, press (X451 Series) or touch (X551 Series) the **Setup**  button.
2. Press or touch the **Print Reports** menu item.
3. Press or touch the **Print Quality Report** item to print it.
4. Follow the instructions on the page that prints.

This page contains four bands of color, which are divided into the groups as indicated in the following illustration. By examining each group, you can isolate the problem to a particular ink color.



Section	Ink cartridge
1	Black
2	Cyan

Section	Ink cartridge
3	Magenta
4	Yellow

- If dots or streaks appear in one or more groups, clean the printhead. If this does not solve the problem, contact HP.
- If streaks appear in multiple color bands, see if the problem still persists by performing an additional print head cleaning, and then contact HP. A component other than the ink cartridge is probably causing the problem.

Interpret control panel messages for supplies

Non-HP ink cartridges installed

Description

No action necessary, this is a notification only.

Recommended action

Use SETUP Cartridges

Description

The SETUP cartridges have been removed before the product has completed initialization.

Recommended action

Use the SETUP cartridges that came with your product for product initialization.

Do not use SETUP cartridges

Description

SETUP cartridges cannot be used after the device has been initialized.

Recommended action

Remove and install non-SETUP cartridges.

<Color>Cartridge Low

Description

The ink cartridge is nearing the end of its useful life.

Recommended action

Printing can continue, but consider having a replacement supply on hand.

<Color>Cartridge Very Low

Description

The ink cartridge is near the end of its useful life.

Recommended action

Have a replacement ink cartridge on hand.

Counterfeit or used <color> cartridge installed

Description

The original HP ink in this cartridge has been depleted.

Recommended action

Click OK to continue printing or replace with genuine HP cartridge.

Genuine HP supply installed**Description**

A genuine HP supply was installed.

Recommended action

No action necessary.

Incompatible <color>**Description**

You have installed an ink cartridge that is intended for use in a different HP product model. The product will NOT function with this print cartridge installed.

Recommended action

Install the correct ink cartridge for this product.

Install [color] cartridge**Description**

This message can appear during the initial set up of the product and may also appear after the initial set up of the product has been completed.

If this message appears during initial setup, it means one of the color cartridges is not installed with the door closed. The product will not print if a cartridge is missing.

If this message appears after the initial set up of the product, it means that the cartridge is missing *or* is installed but damaged.

Recommended action

Install or replace the indicated color cartridge.

Out of Ink <Color>**Description**

The ink cartridge is at the end of its useful life, and the product will no longer print.

Recommended action

Replace the ink cartridge.

Used [color] installed, to accept press OK**Description**

A used, but still genuine, HP color ink cartridge has been installed or moved.

Recommended action

You have a used, but still genuine, HP cartridge installed. No action required.

8 Print

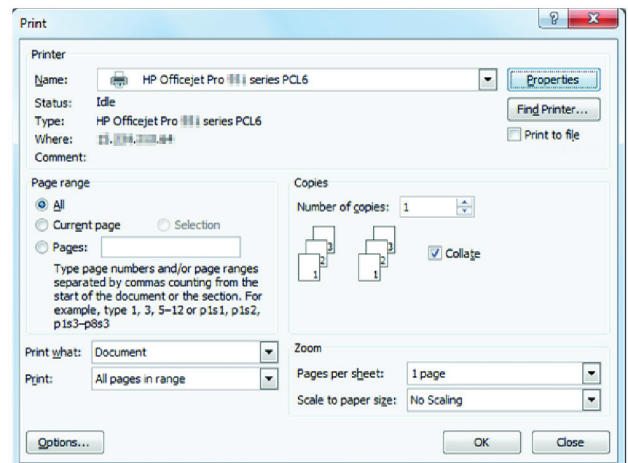
- [Print tasks \(Windows\)](#)
- [Print tasks \(Mac\)](#)
- [Additional print tasks \(Windows\)](#)
- [Additional print tasks \(Mac OS X\)](#)
- [Use HP ePrint](#)
- [Use the HP ePrint Mobile Driver](#)
- [AirPrint](#)
- [Connect the printer with HP Wireless Direct](#)
- [Plug and Print USB Drive printing](#)

Print tasks (Windows)

The methods to open the print dialog from software programs can vary. The procedures that follow include a typical method. Some software programs do not have a **File** menu. See the documentation for your software program to learn how to open the print dialog.

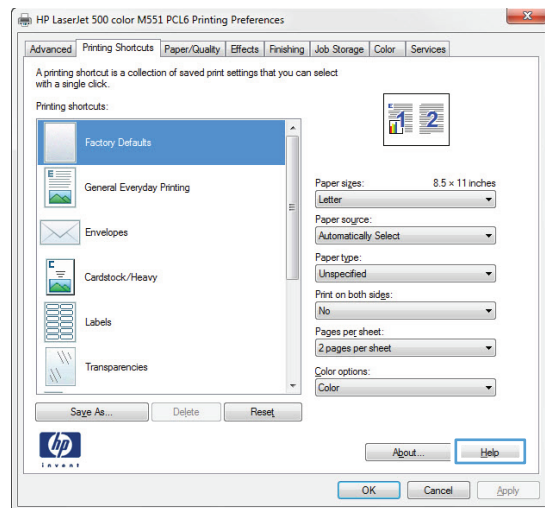
Open the printer driver with Windows

1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.



Get help for any printing option with Windows

1. Click the **Help** button to open the online Help.



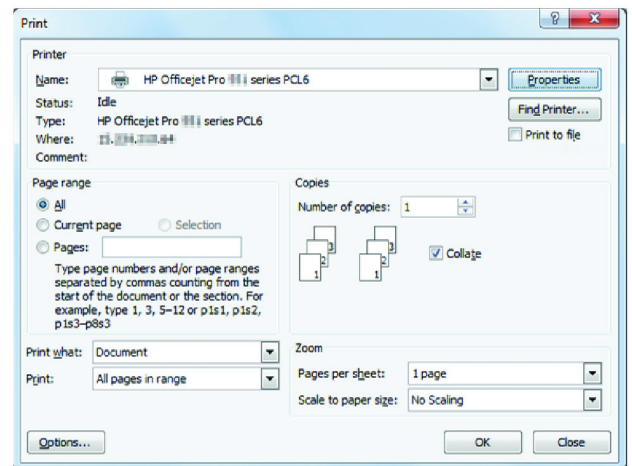
Change the number of print copies with Windows

1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then select the number of copies.

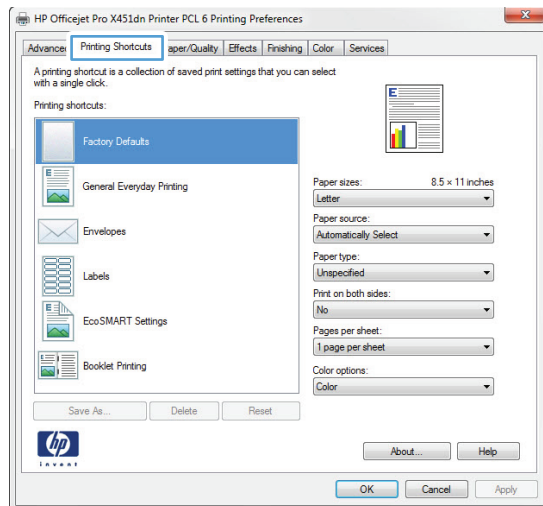
Save custom print settings for reuse with Windows

Use a printing shortcut with Windows

1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.

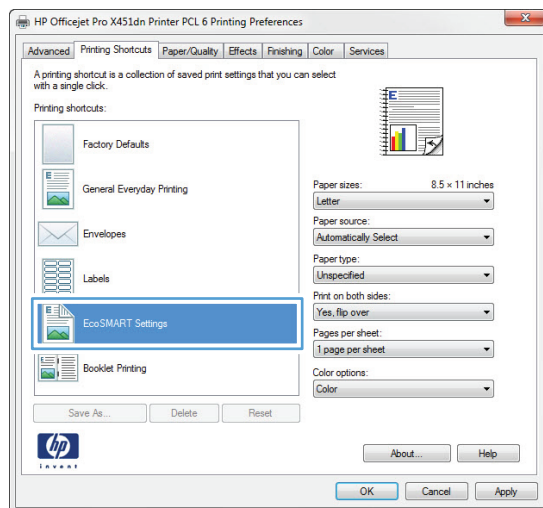


3. Click the **Printing Shortcuts** tab.



4. Select one of the shortcuts, and then click the **OK** button.

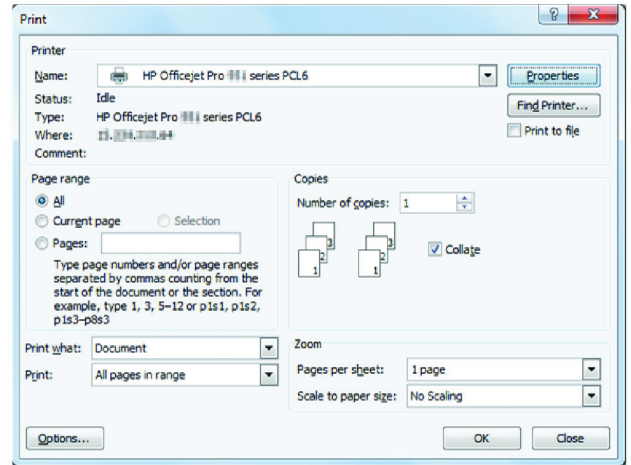
NOTE: When you select a shortcut, the corresponding settings change on the other tabs in the printer driver.



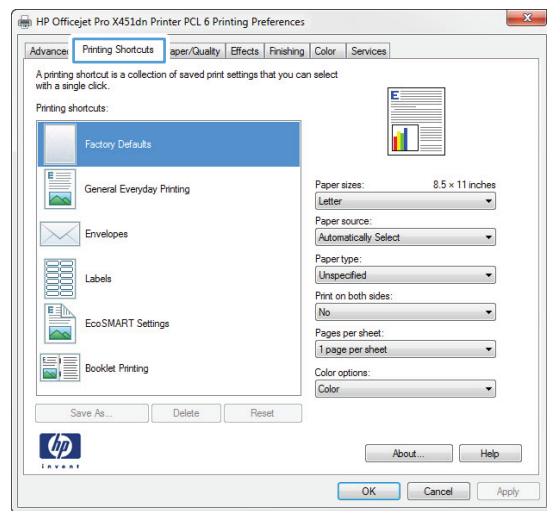
Create printing shortcuts

1. On the **File** menu in the software program, click **Print**.

2. Select the product, and then click the **Properties** or **Preferences** button.

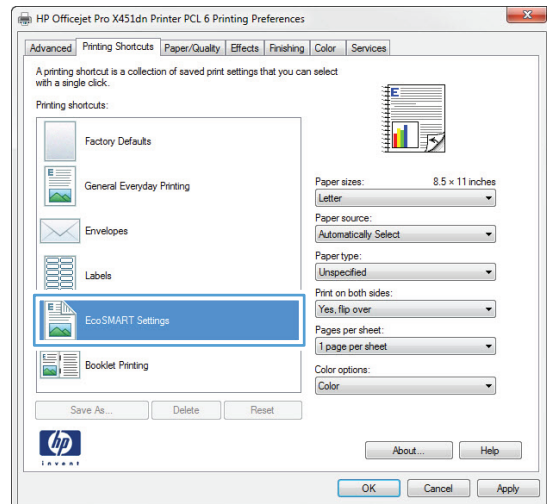


3. Click the **Printing Shortcuts** tab.

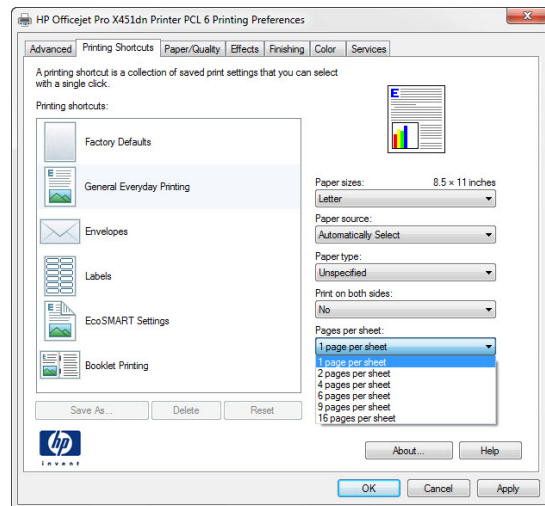


4. Select an existing shortcut as a base.

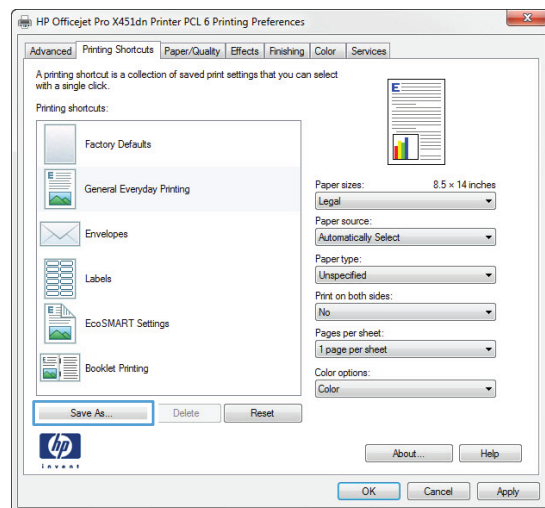
NOTE: Always select a shortcut before adjusting any of the settings on the right side of the screen. If you adjust the settings and then select a shortcut, all your adjustments are lost.



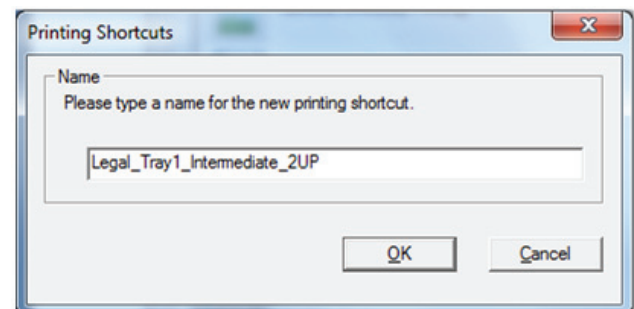
5. Select the print options for the new shortcut.



6. Click the **Save As** button.



7. Type a name for the shortcut, and click the **OK** button.



Improve print quality with Windows

Select the page size with Windows

1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.

3. Click the **Paper/Quality** tab.
4. Select a size from the **Paper size** drop-down list.

Select a custom page size with Windows

1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. Click the **Custom** button.
5. Type a name for the custom size and specify the dimensions.
 - The width is the short edge of the paper.
 - The length is the long edge of the paper.



NOTE: Always load paper into the trays short edge first.

6. Click the **OK** button, and then click the **OK** button on the **Paper/Quality** tab. The custom page size will appear in the list of paper sizes the next time you open the printer driver.

Select the paper type with Windows

1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. From the **Paper type** drop-down list, click the **More...** option.
5. Expand the list of **Type is:** options.
6. Expand the category of paper types that best describes your paper, and then click the paper type that you are using.

Select the paper tray with Windows

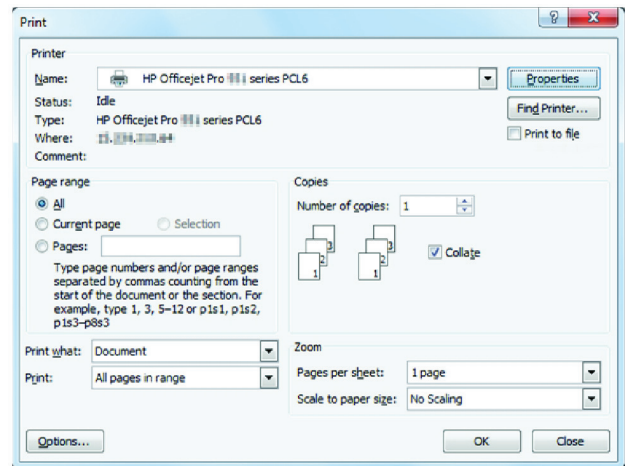
1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. Select a tray from the **Paper source** drop-down list.

Print on both sides (duplex) with Windows

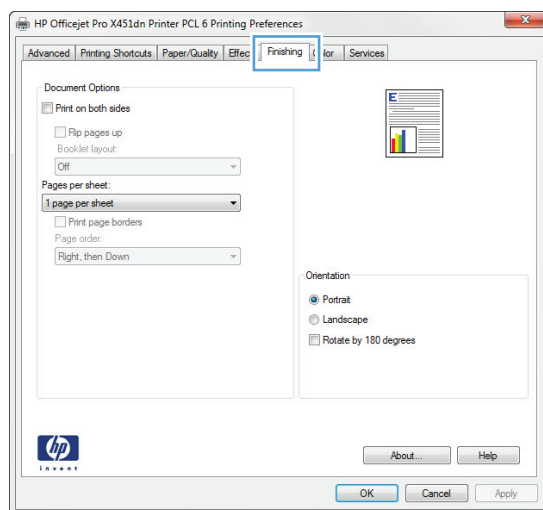
Automatically print on both sides with Windows

1. On the **File** menu in the software program, click **Print**.

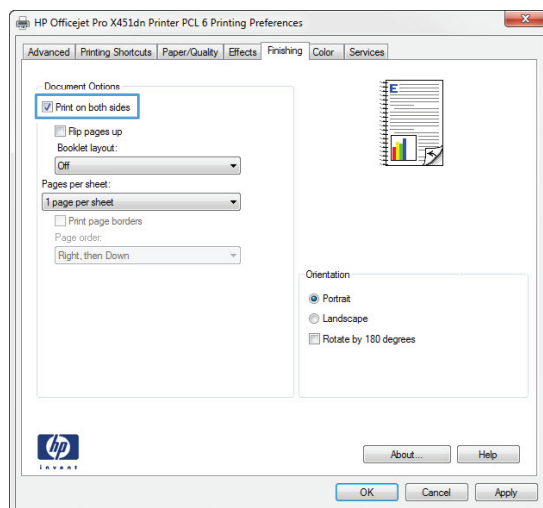
2. Select the product, and then click the **Properties** or **Preferences** button.



3. Click the **Finishing** tab.

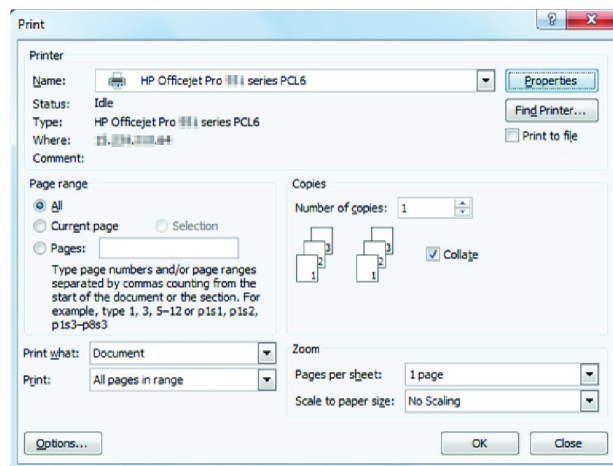


4. Select the **Print on both sides** check box. Click the **OK** button to print the job.

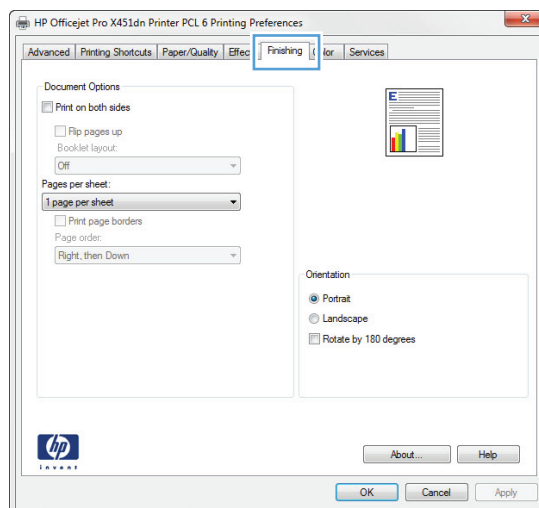


Print multiple pages per sheet with Windows

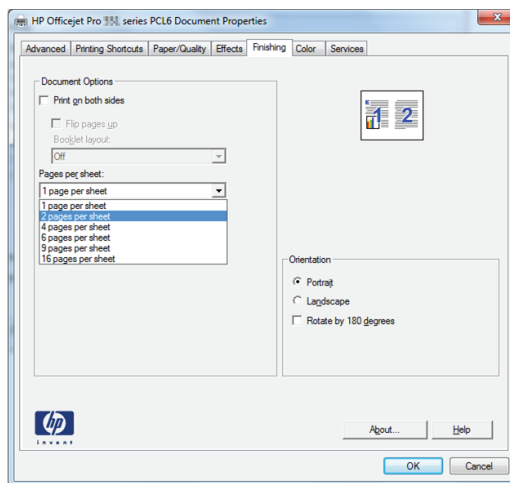
1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.



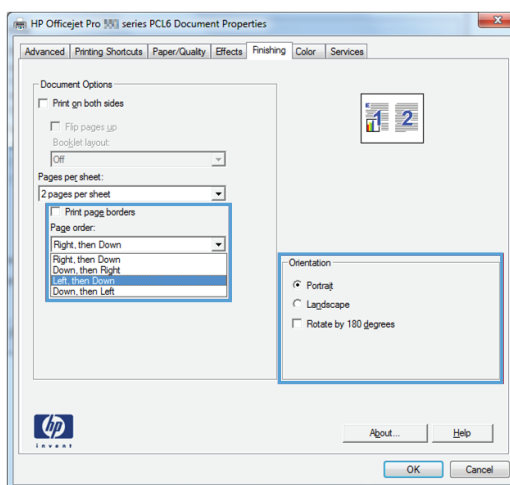
3. Click the **Finishing** tab.



4. Select the number of pages per sheet from the **Pages per sheet** drop-down list.

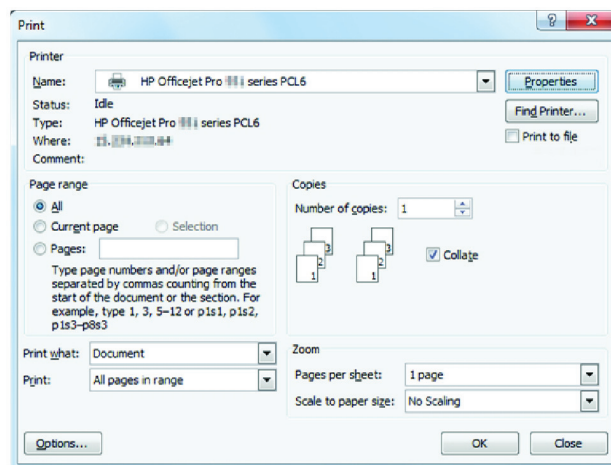


5. Select the correct **Print page borders**, **Page order**, and **Orientation** options.

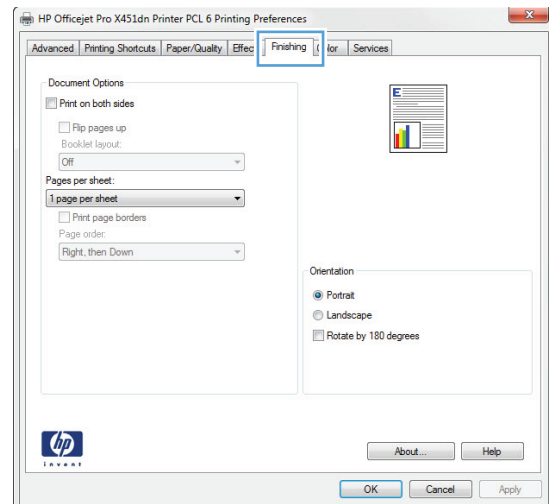


Select page orientation with Windows

1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.

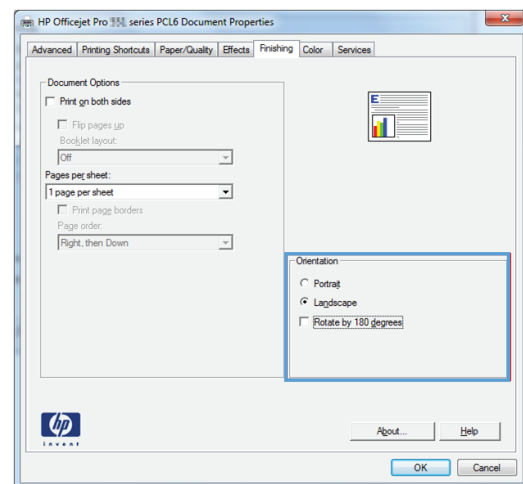


3. Click the **Finishing** tab.



4. In the **Orientation** area, select the **Portrait** or **Landscape** option.

To print the page image upside down, select the **Rotate by 180 degrees** option.



Set Advanced color options with Windows

1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.
3. Click the **Color** tab.
4. Click the **HP EasyColor** check box to clear it.
5. In the **Color Options** area, click the **Ink Settings** button.
6. Use the sliders to adjust the settings, and then click **OK**.

Print tasks (Mac)

Create and use printing presets with Mac


Use printing presets to save the current printer driver settings for reuse.

Create a printing preset

1. On the **File** menu, click the **Print** option.
2. Select the product from the printer list.
3. Select the print settings that you want to save for reuse.
4. In the **Presets** menu, click the **Save As...** option, and type a name for the preset.
5. Click the **OK** button.


Use printing presets

1. On the **File** menu, click the **Print** option.
2. Select the product from the printer list.
3. In the **Presets** menu, select the printing preset.

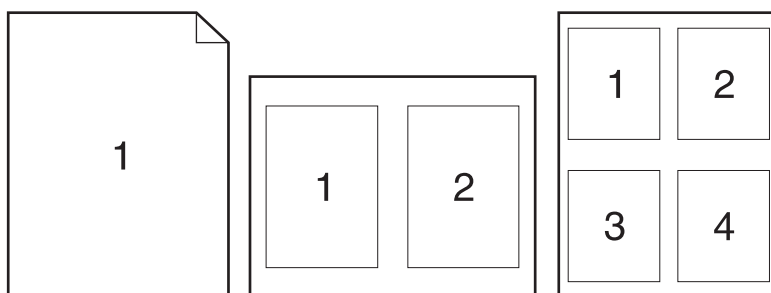
 **NOTE:** To use printer-driver default settings, select the **standard** or **Default Settings** option.

Print a cover page with Mac

1. On the **File** menu, click the **Print** option.
2. Select the product from the printer list.
3. Open the **Cover Page** menu, and then select where to print the cover page. Click either the **Before Document** button or the **After Document** button.
4. In the **Cover Page Type** menu, select the message that you want to print on the cover page.

 **NOTE:** To print a blank cover page, select the **standard** option from the **Cover Page Type** menu.

Print multiple pages on one sheet of paper with Mac



1. On the **File** menu, click the **Print** option.
2. Select the product from the **Printer** list.
3. Open the **Layout** menu.

4. From the **Pages per Sheet** menu, select the number of pages that you want to print on each sheet (1, 2, 4, 6, 9, or 16).
5. In the **Layout Direction** area, select the order and placement of the pages on the sheet.
6. From the **Borders** menu, select the type of border to print around each page on the sheet.

Print on both sides of the page (duplex printing) with Mac

Use automatic duplex printing

1. Insert enough paper into one of the trays to accommodate the print job.
2. On the **File** menu, click the **Print** option.
3. Open the **Layout** menu.
4. From the **Two-Sided** menu, select a binding option. This sets the default binding; subsequent duplex jobs can be printed by simply checking the **Two-Sided** checkbox next to the **Copies** field.

Set the color options with Mac

If you are using the HP Postscript printer driver for Mac, **HP EasyColor** technology scans all documents and automatically adjusts all photographic images with the same improved photographic results.

In the following example, the images on the left were created without using the **HP EasyColor** option. The images on the right show the enhancements that result from using the **HP EasyColor** option.



The **HP EasyColor** option is enabled by default in the HP Mac Postscript printer driver, so you do not need to make manual color adjustments. To disable the option so you can manually adjust the color settings, use the following procedure.


1. On the **File** menu, click the **Print** option.
2. Select the product from the **Printers** list.
3. Open the **Color Options** menu, and then click the **HP EasyColor** check box to clear it.
4. Adjust the **RGB Color Settings** by selecting a setting from the **RGB Color** drop-down menu.


Additional print tasks (Windows)

Cancel a print job

Cancel a print job with Windows

1. If the print job is currently printing, cancel it by pressing the Cancel **X** button on the product control panel.

 **NOTE:** Pressing the Cancel **X** button clears the job that the product is currently processing. If more than one process is running, pressing the Cancel **X** button clears the process that currently appears on the product control panel.

 **NOTE:** On HP Officejet Pro X451 MFP Series products, print jobs can also be canceled from the [Job Status](#) menu.

2. You can also cancel a print job from a software program or a print queue.
 - **Software program:** Typically, a dialog box appears briefly on the computer screen, allowing you to cancel the print job.
 - **Windows print queue:** If a print job is waiting in a print queue (computer memory) or print spooler, delete the job there.
 - **Windows XP, Server 2003, or Server 2008:** Click **Start**, click **Settings**, and then click **Printers and Faxes**. Double-click the product icon to open the window, right-click the print job that you want to cancel, and then click **Cancel**.
 - **Windows Vista:** Click **Start**, click **Control Panel**, and then, under **Hardware and Sound**, click **Printer**. Double-click the product icon to open the window, right-click the print job that you want to cancel, and then click **Cancel**.
 - **Windows 7:** Click **Start**, and then click **Devices and Printers**. Double-click the product icon to open the window, right-click the print job that you want to cancel, and then click **Cancel**.

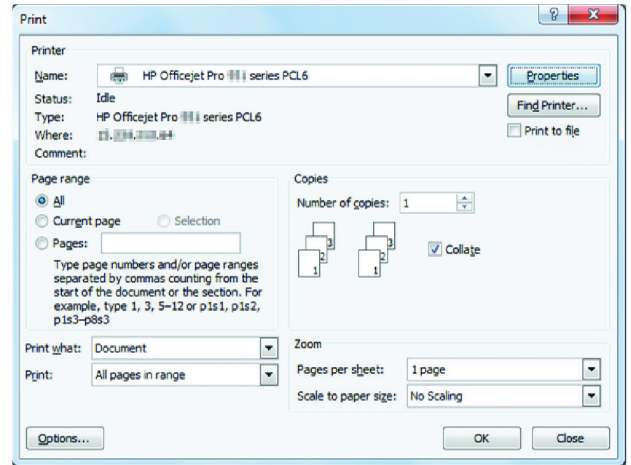
Print colored text as black (grayscale) with Windows

1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.
3. Click the **Advanced** tab.
4. Expand the **Document Options** section.
5. Expand the **Printer Features** section.
6. In the **Print All Text as Black** drop-down list, select the **Enabled** option.

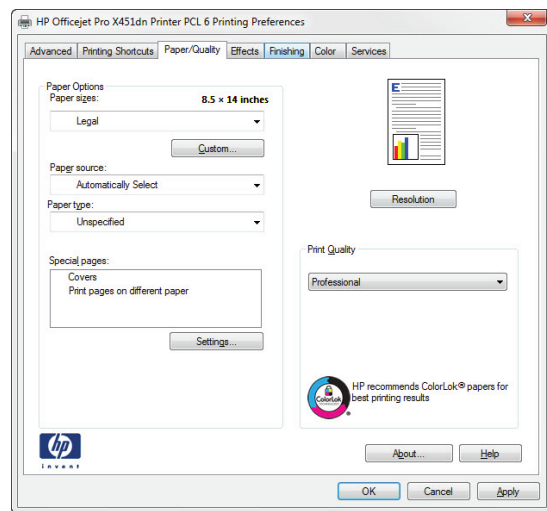
Print on special paper or labels with Windows

1. On the **File** menu in the software program, click **Print**.

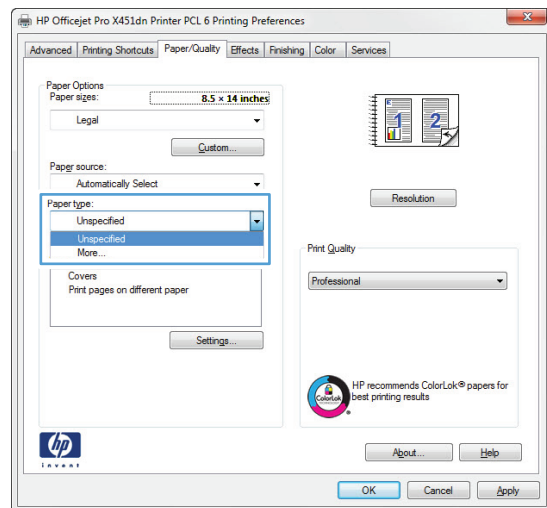
2. Select the product, and then click the **Properties** or **Preferences** button.



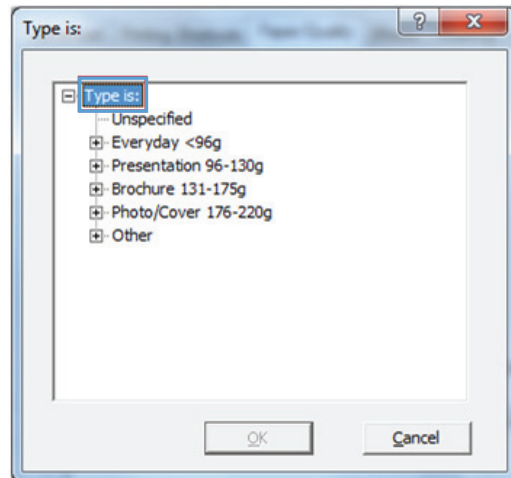
3. Click the **Paper/Quality** tab.



4. From the **Paper type** drop-down list, click the **More...** option.

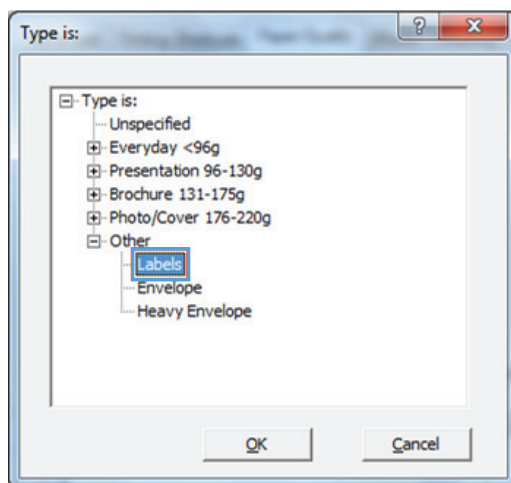


- Expand the list of **Type is:** options.



- Expand the category of paper types that best describes your paper.

NOTE: Labels are in the list of **Other** options.

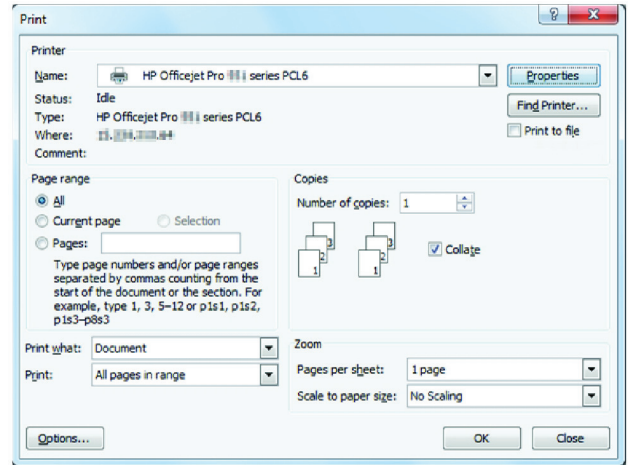


- Select the option for the type of paper you are using, and click the **OK** button.

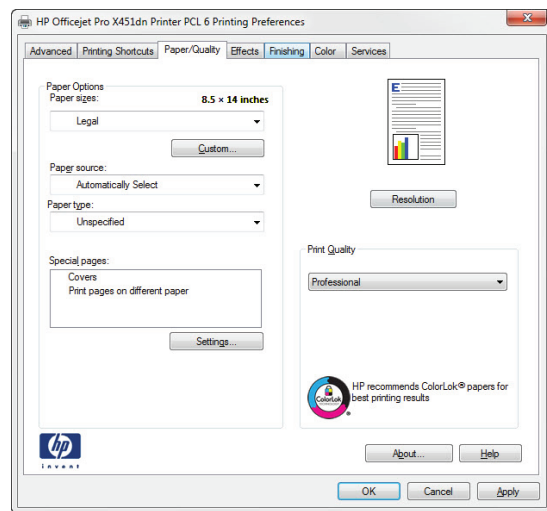
Print the first or last page on different paper with Windows

- On the **File** menu in the software program, click **Print**.

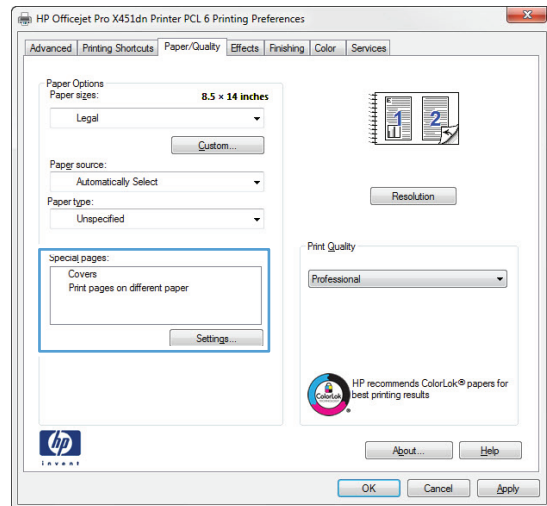
2. Select the product, and then click the **Properties** or **Preferences** button.



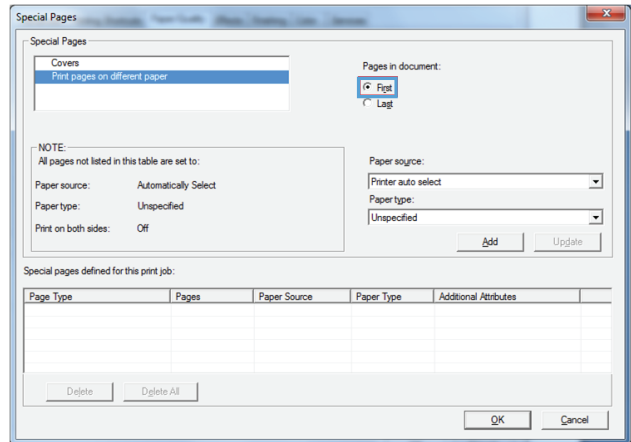
3. Click the **Paper/Quality** tab.



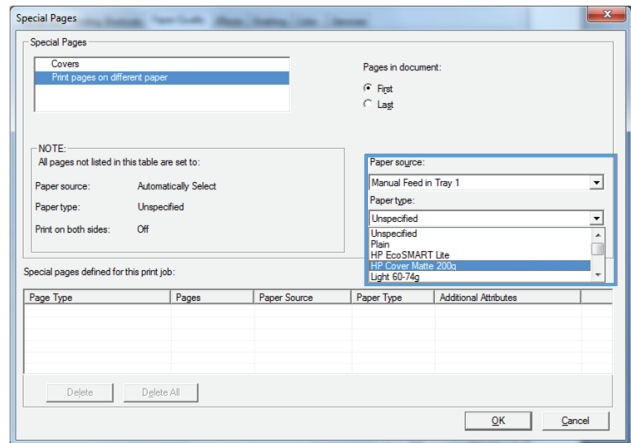
4. In the **Special pages** area, click the **Print pages on different paper** option, and then click the **Settings** button.



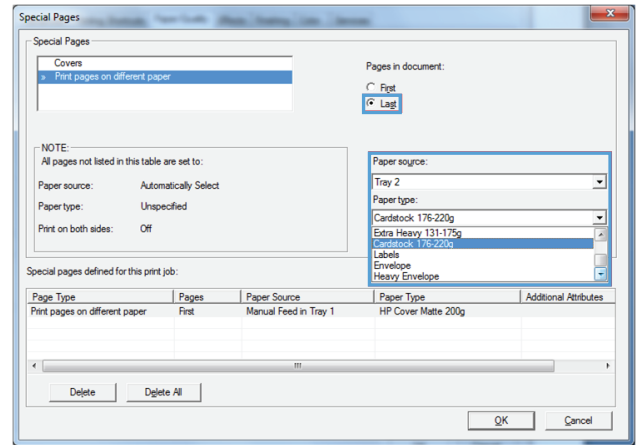
5. In the **Pages in document** area, select either the **First** or **Last** option.



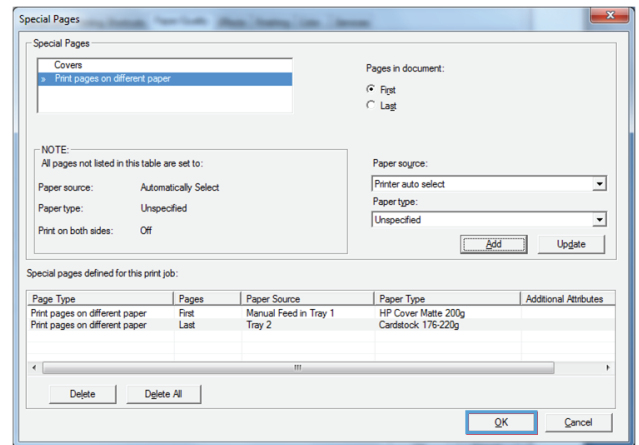
6. Select the correct options from the **Paper source** and **Paper type** drop-down lists. Click the **Add** button.



- If you are printing *both* the first and last pages on different paper, repeat steps 5 and 6, selecting the options for the other page.

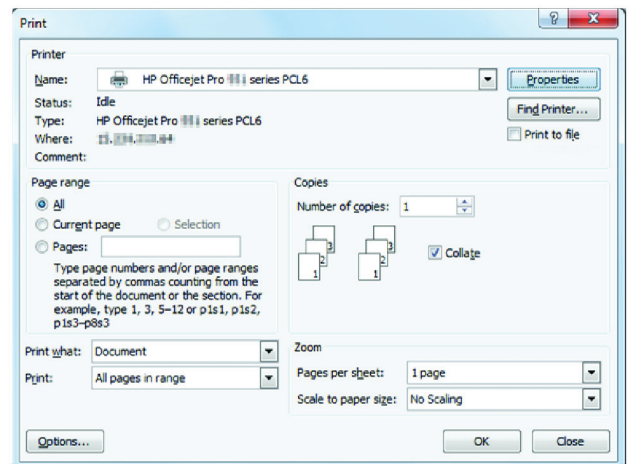


- Click the **OK** button.

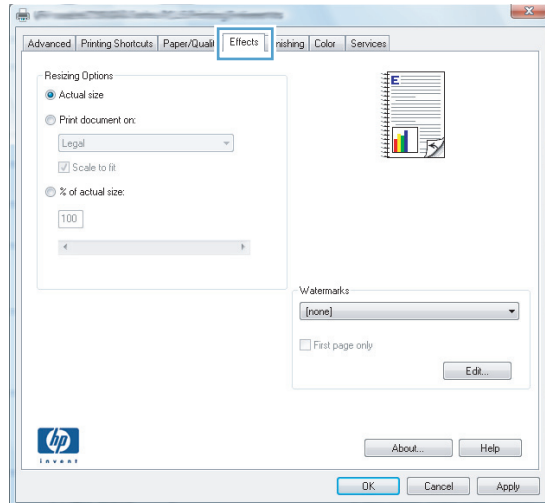


Scale a document to fit page size with Windows

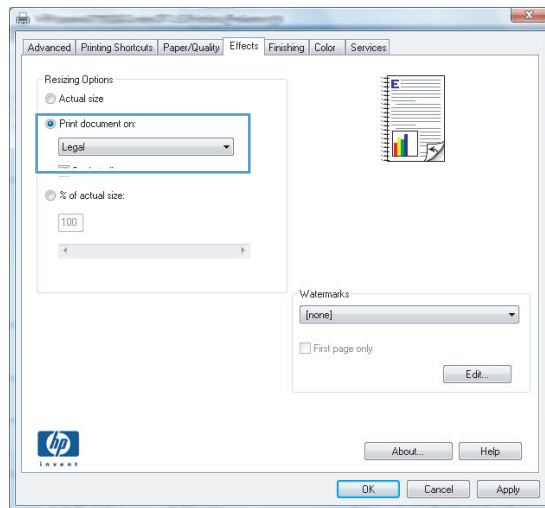
- On the **File** menu in the software program, click **Print**.
- Select the product, and then click the **Properties** or **Preferences** button.



3. Click the **Effects** tab.



4. Select the **Print document on** option, and then select a size from the drop-down list.



Add a watermark to a document with Windows

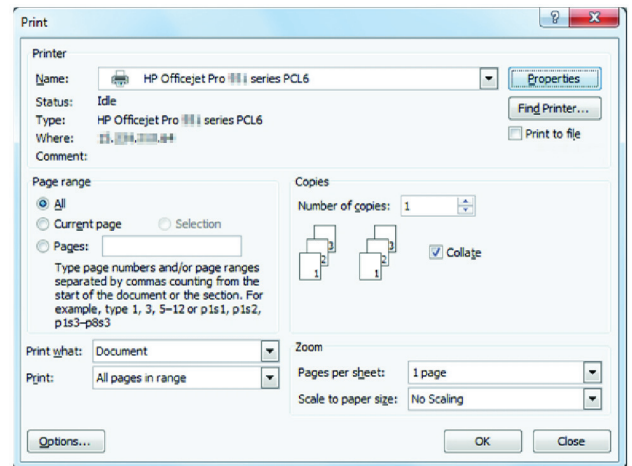
1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.
3. Click the **Effects** tab.
4. Select a watermark from the **Watermarks** drop-down list.

Or, to add a new watermark to the list, click the **Edit** button. Specify the settings for the watermark, and then click the **OK** button.

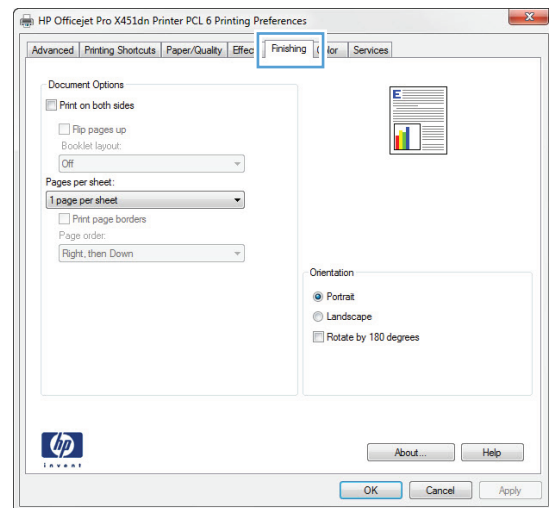
5. To print the watermark on the first page only, select the **First page only** check box. Otherwise, the watermark is printed on each page.

Create a booklet with Windows

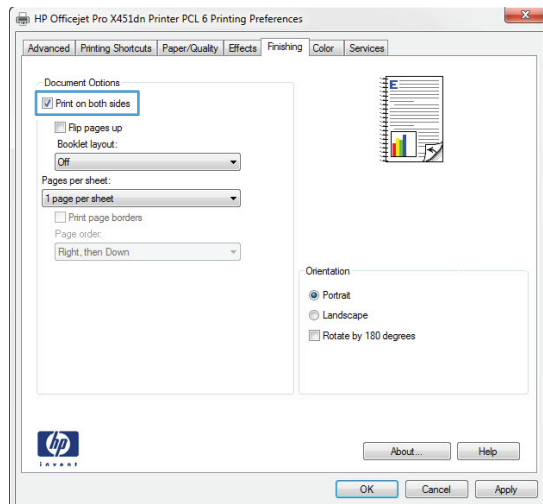
1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.



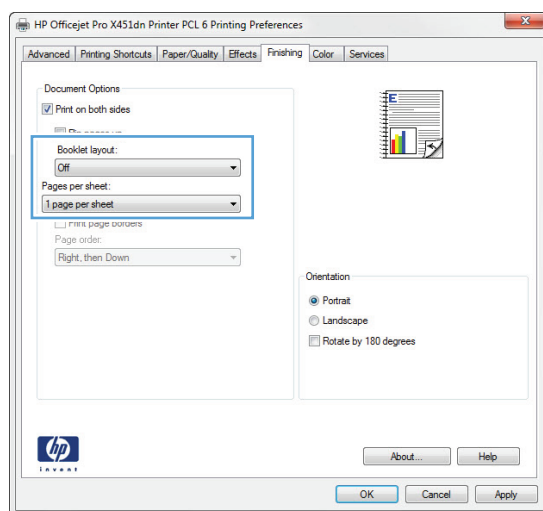
3. Click the **Finishing** tab.



4. Select the **Print on both sides** check box.





5. In the **Booklet layout** drop-down list, click the **Left binding** or **Right binding** option. The **Pages per sheet** option automatically changes to **2 pages per sheet**.



Additional print tasks (Mac OS X)

Cancel a print job with Mac

1. If the print job is currently printing, cancel it by touching the **Printing <filename>** display near the bottom of the product control panel, and then touch the **Cancel**  that becomes available on the right-side of the control panel.

 **NOTE:** Cancelling a job clears the job that the product is currently processing. If more than one process is running, repeat step one to cancel the other jobs.

2. You can also cancel a print job from a software program or a print queue.
 - **Software program:** Typically, a dialog box appears briefly on the computer screen, allowing you to cancel the print job.
 - **Mac print queue:** Open the print queue by double-clicking the product icon in the dock. Highlight the print job, and then click **Delete**.

Change the paper size and type with Mac

1. On the **File** menu in the software program, click the **Print** option.
2. Select a size from the **Paper Size** drop-down list.
3. Open the **Paper/Quality** panel.
4. Select a type from the **Media Type** drop-down list.
5. Click the **Print** button.

Resize documents or print on a custom paper size with Mac


Mac OS X 10.6 and later	<ol style="list-style-type: none">1. On the File menu, click the Print option.
Use one of these methods.	<ol style="list-style-type: none">2. Select the product, and then select the correct settings for the Paper Size and Orientation options.
	<hr/>
	<ol style="list-style-type: none">1. On the File menu, click the Print option.2. Open the Paper Handling menu.3. In the Destination Paper Size area, click the Scale to fit paper size box, and then select the size from the drop-down list.


Use watermarks with Mac


1. On the **File** menu, click the **Print** option.
2. Open the **Watermarks** menu.
3. Check the **Watermark** box to print a semi-transparent message.
4. From the **Watermarks** menu, select whether to print the watermark on all pages or on the first page only.
5. From the **Text** menu, select one of the standard messages, or select the **Custom** option and type a new message in the box.
6. Select options for the remaining settings.

Use HP ePrint


Use HP ePrint to print documents by sending them as an e-mail attachment to the product's e-mail address from any e-mail enabled device.


 **NOTE:** The product must be connected to a wired or wireless network and have Internet access to use HP ePrint.

1. To use HP ePrint, you must first enable HP Web Services.
 - a. From the Home screen on the product control panel, press (X451 Series) or touch (X551 Series) the Web Services  button.
 - b. Press or touch the [Enable Web Services](#) button.
2. From the [HP Web Services](#) menu, touch the [Display E-Mail Address](#) button to display the product's e-mail address on the control panel.
3. Use the HP ePrint Center Web site to define security settings and to configure default print settings for all HP ePrint jobs sent to this product.
 - a. Go to www.hpeprintcenter.com.
 - b. Click **Sign In**, and enter your HP ePrintCenter credentials or sign up for a new account.
 - c. Select your product from the list, or click **+ Add printer** to add it. To add the product, you need the printer code, which is the segment of the product e-mail address that is before the @ symbol.

 **NOTE:** This code is valid for only 24 hours from the time you enable HP Web Services. If it expires, follow the instructions to enable HP Web Services again, and obtain a new code.

- d. To prevent your product from printing unexpected documents, click **ePrint Settings**, and then click the **Allowed Senders** tab. Click **Allowed Senders Only**, and add the e-mail addresses from which you want to allow ePrint jobs.
 - e. To set up default settings for all ePrint jobs sent to this product, click **ePrint Settings**, click **Print Options**, and select the settings that you want to use.
4. To print a document, attach it to an e-mail message sent to the product's e-mail address.

 **NOTE:** The email will be printed once it is received. As with any email, there is no guarantee when, or whether, it will be received. You can check the print status at www.eprintcenter.com.

 **NOTE:** Documents printed with HP ePrint may appear different from the original. Style, formatting, and text flow may differ from the original document. For documents that need to be printed with a higher quality (such as legal documents), we recommend that you print from the software application on your computer, where you will have more control over what your printout looks like.

Use the HP ePrint Mobile Driver


The HP ePrint Mobile Driver makes it easy to print from a desktop or laptop computer to any HP ePrint-capable product. After installing the driver, open the **Print** option from within your application, and then select **HP ePrint Mobile** from the installed printers list. This single driver makes it easy to find HP ePrint-enabled products that are registered to your ePrintCenter account. The target HP product can be at your desk or in a remote location, such as a branch office or across the globe—you can do remote printing by using the Internet without file type or size limitations. The target product can be anywhere in the world; if it is Web-connected and registered in ePrintCenter, you can send a print job to the product.

For Windows, the HP ePrint Mobile Driver also supports traditional direct IP printing to local network printers on the network (LAN or WAN) to supported PostScript® products.


Go to www.hp.com/go/eprintmobiledriver for drivers and information.

Supported operating systems


- Windows® XP (32-bit, SP 2 or greater)

 **NOTE:** Microsoft retired mainstream support for Windows XP in April 2009. HP will continue to provide best-effort support for the discontinued XP operating system.

- Windows Vista® (32-bit and 64-bit)
- Windows 7 (32-bit and 64-bit)
- Windows .Net 3.5 SP1

 **NOTE:** Windows .Net 3.5 is installed if you are not using the Add Printer wizard.

- Mac OS X v10.5 and v10.6

 **NOTE:** The HP ePrint Mobile Driver is a PDF workflow utility for Mac, and is not technically a print driver. HP ePrint Mobile for Mac supports print paths only through ePrintcenter and does not support direct IP printing to local network printers.


AirPrint

Direct printing using Apple's AirPrint is supported for iOS 4.2 and Mac OS X 10.7 or later. Use AirPrint to print directly to the product from an iPad (iOS 4.2), iPhone (3GS or later), or iPod touch (third generation or later) in the following mobile applications:

- Mail
- Photos
- Safari
- Select third-party applications

To use AirPrint, the product must be connected to a wireless network. For more information about using AirPrint and about which HP products are compatible with AirPrint, go to www.hp.com/go/airprint.

 **NOTE:** You might need to upgrade the product firmware to use AirPrint. Go to www.hp.com/support/ojpx451 or www.hp.com/support/ojpx551.

 **NOTE:** When using the AirPrint driver, the options and settings will differ from the full-featured driver provided by HP. This document describes the full-featured HP driver features.

Connect the printer with HP Wireless Direct

Connect a computer, smart phone, tablet, or other Wi-Fi capable device directly to your HP printer with HP Wireless Direct. With an HP Wireless Direct connection you can print wirelessly, without a router, from your Wi-Fi capable devices.

- HP printing software is required for printing over Wireless Direct from a computer. A compatible printing application is required for printing over Wireless Direct from a smart phone or tablet.
- A Wireless Direct connection is turned on and managed from the printer's control panel.
- If your WiFi capable device supports WPA2 encryption, you can enable security when you setup a Wireless Direct connection.
- Five devices or fewer can simultaneously use Wireless Direct to connect to your printer.
- A Wireless Direct connection can be used while your printer is also connected to a wireless network or a USB cable.
- Wireless Direct cannot connect to the internet.

This section covers the following topics:


- [Connect and print from a WiFi capable mobile device](#)
- [Connect and print from a WiFi capable computer over a wireless router and Wireless Direct](#)
- [Connect and print from a WiFi capable computer over Wireless Direct only](#)
- [Change from printing over USB to a Wireless Direct connection](#)

Connect and print from a WiFi capable mobile device


1. Setup your printer. A compatible print application is required for printing from a mobile device. If your mobile print application can print over a wireless network connection, you can print over Wireless Direct.




NOTE: Compatible with mobile devices with HP ePrint mobile app installed, HP Printer Control app installed, Apple devices with iOS 4.2+, and HP webOS devices.

2. Turn on your printer's Wireless Direct connection.
 - Press (X451 Series) or touch (X551 Series) the **Setup**  button from the control panel.
 - Open the **Network** menu.
 - Open the **Wireless Direct** menu.
 - Select **On** to enable Wireless Direct connections or select **On With Security** to enable secure, Wireless Direct connections to the printer.
3. Turn on your mobile device's Wi-Fi capability.
4. From your mobile device, search for and connect to the Wireless Direct name for your printer, such as HP-Setup-xx-Officejet Pro X551.
5. From your mobile device's print application, confirm your HP printer is the default printer, select print, and then print your document.

Connect and print from a WiFi capable computer over a wireless router and Wireless Direct


1. Setup and install your printer over a wireless router. Make sure you can successfully print over your wireless router before proceeding.
2. Turn on your printer's Wireless Direct connection.
 - Press (X451 Series) or touch (X551 Series) the **Setup**  button from the control panel.
 - Open the **Network** menu.
 - Open the **Wireless Direct** menu.
 - Select **On** to enable Wireless Direct connections or select **On With Security** to enable secure, Wireless Direct connections to the printer.
3. Turn on your computer's Wi-Fi capability.
4. From your computer, search for and connect to the Wireless Direct name for your printer, such as HP-Setup-xx-Officejet Pro X551.
5. From your computer, select print, and then confirm to print your document.

Connect and print from a WiFi capable computer over Wireless Direct only

1. Setup your printer, but do not install the HP printer software.
2. Turn on your printer's Wireless Direct connection.
 - Press (X451 Series) or touch (X551 Series) the **Setup**  button from the control panel.
 - Open the **Network** menu.
 - Open the **Wireless Direct** menu.
 - Select **On** to enable Wireless Direct connections or select **On With Security** to enable secure, Wireless Direct connections to the printer.
3. Turn on your computer's Wi-Fi capability.
4. From your computer, search for and connect to the Wireless Direct name for your printer, such as HP-Setup-xx-Officejet Pro X551.
5. Install the HP printer software.
 - When the **Connection Options** software screen is shown, select **Wireless**.
 - When the list of detected printers is shown, select your HP printer, and then finish installing.

Change from printing over USB to a Wireless Direct connection

Follow these steps after setting up your printer with a USB connection.

1. Turn on your printer's Wireless Direct connection.
 - Press (X451 Series) or touch (X551 Series) the **Setup**  button from the control panel.
 - Open the **Network** menu.

- Open the [Wireless Direct](#) menu.
 - Select [On](#) to enable Wireless Direct connections or select [On With Security](#) to enable secure, Wireless Direct connections to the printer.
2. Turn on your computer's Wi-Fi capability.
 3. From your computer, search for and connect to the Wireless Direct name for your printer, such as HP-Setup-xx-Officejet Pro X551.
 4. From your computer, configure the printer software to print over Wireless Direct.
 - a. Select Windows **Start** button > **All Programs** > **HP** > HP Officejet Pro X551 MFP Series**Printer Setup & Software**
 - b. Select **Connect New Printer**.



IMPORTANT: Do not select **Convert a USB connected printer to wireless**.

- c. When the **Connection Options** software screen is shown, select **Wireless**.
 - d. When the list of detected printers is shown, select your HP printer, and then finish installing.
5. When you want to print over Wireless Direct, select your printer labeled (Network) from the Windows Printers group in the software application that you are using.



NOTE: There are will be two instances of your printer in the Printers group, so be sure to select the printer named HP Officejet Pro X551 MFP Series(Network).

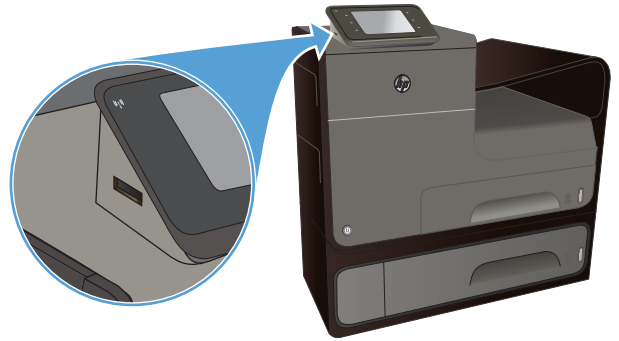
Plug and Print USB Drive printing

For Officejet Pro X551 Series printers

This product features printing from a USB flash drive so you can quickly print files without sending them from a computer. The product accepts standard USB storage accessories in the USB ports on the front and back of the product. You can print the following types of files:

- .PDF
- .JPEG
- .JPG
- .PNG
- .TIFF

1. Insert the USB drive into the USB port on the front or back of the product. The Plug and Print menu opens.



2. Select a document from the list of documents and folders on the USB device.
3. Touch the [Settings...](#) button to modify the print settings for the job, if necessary.
4. Touch [Start Black](#) or [Start Color](#) to start the print job.
5. To scan a document and save it as a .JPEG or .PDF file onto the USB drive, load the document onto the scanner glass or into the document feeder. Touch the [Scan to USB Drive](#) item. Touch the [Settings...](#) button to adjust the scan settings.

9 Color

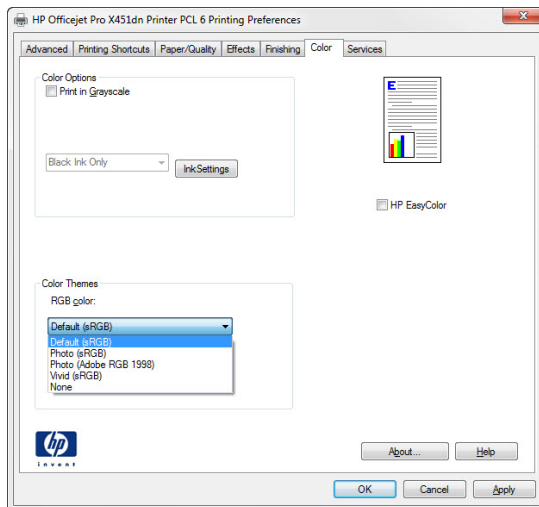
- [Adjust color](#)
- [Use the HP EasyColor option](#)
- [Match colors to your computer screen](#)
- [Print fade- and water-resistant prints](#)

Adjust color

Manage color by changing the settings on the **Color** (Windows) and **Color Options** tab (Mac) in the printer driver.

Change the color theme for a print job

1. On the **File** menu in the software program, click **Print**.
2. Click **Properties** or **Preferences** (Windows).
3. Click the **Color** tab (Windows) or **Color Options** tab (Mac) and uncheck HP EasyColor.
4. Select a color theme from the **Color Themes** (Windows) or **RGB Color** (Mac) drop-down list.



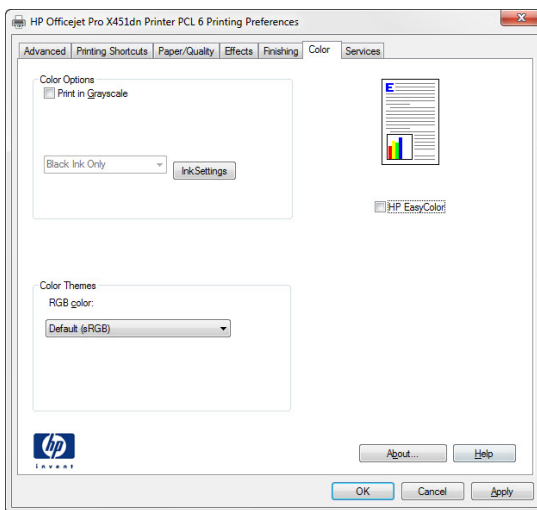
- **Default (sRGB)**: This theme sets the product to print RGB data in raw device mode. When using this theme, manage color in the software program or in the operating system for correct rendering.
- **Vivid**: The product increases the color saturation in the midtones. Use this theme when printing business graphics.
- **Photo**: The product interprets RGB color as if it were printed as a photograph using a digital mini lab. The product renders deeper, more saturated colors differently than with the Default (sRGB) theme. Use this theme when printing photos.

- **Photo (Adobe RGB 1998):** Use this theme with printing digital photos that use the AdobeRGB color space rather than sRGB. Turn off color management in the software program when using this theme.
- **None:** No color theme is used.


Change the color options

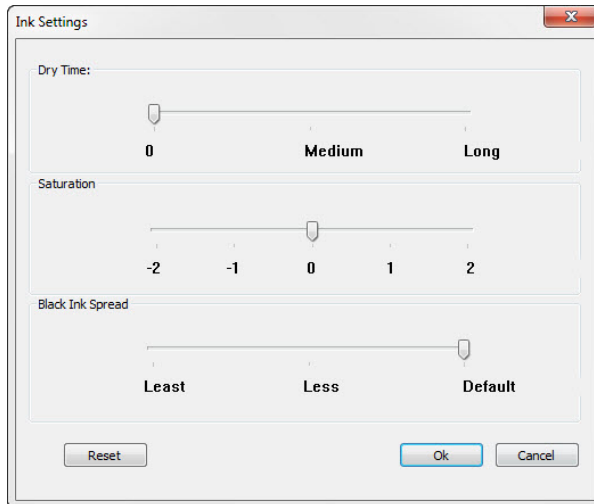
Change the color options settings for the current print job from the color tab of the printer driver.


1. On the **File** menu in the software program, click the **Print** item.
2. Click **Properties** or **Preferences** (Windows).
3. Click the **Color** tab (Windows) or **Color Options** tab (Mac).
4. Clear the **HP EasyColor** check box.



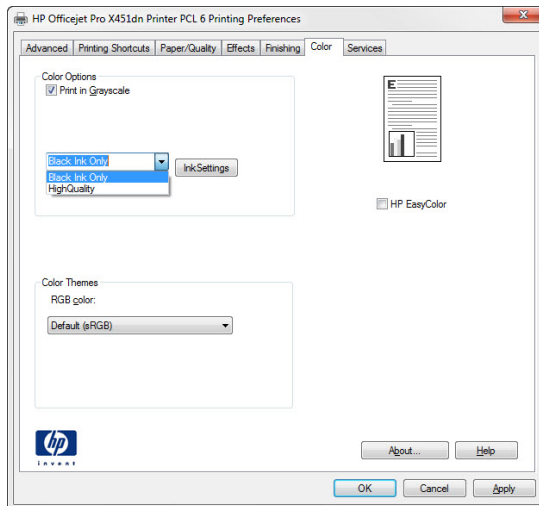
5. Click the **Ink Settings** button (Windows) or expand the **Advanced** menu (Mac), and then use the slider to make the following adjustments:
 - **Dry Time**
 - **Saturation**
 - **Black Ink Spread**

 **NOTE:** Changing color settings manually can impact output. HP recommends that only color graphics experts change these settings.



 **NOTE:** Changing color settings manually can impact output. HP recommends that only color graphics experts change these settings.

6. Click **OK** so save your adjustments and close the window, or click **Reset** to return the settings to the factory defaults (Windows).
7. Click the **Print in Grayscale** option (Windows) or **Print Color as Gray** (Mac) to print a color document in black and shades of gray. Use this option to print color documents for photocopying or faxing. You can also use this option to print draft copies or to save color cartridge life.



8. Click the **OK** button (Windows).

Use the HP EasyColor option

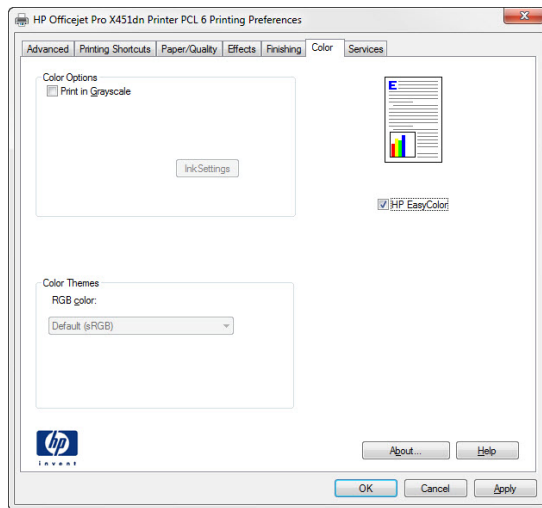
If you are using the HP PCL 6 printer driver for Windows, the **HP EasyColor** technology automatically improves mixed-content documents that are printed from Microsoft Office programs. This technology scans documents and automatically adjusts photographic images in .JPEG or .PNG format. **HP EasyColor** technology enhances the entire image at one time, rather than dividing it into several pieces, which results in improved color consistency, sharper details, and faster printing.

If you are using the HP Postscript printer driver for Mac, **HP EasyColor** technology scans all documents and automatically adjusts all photographic images with the same improved photographic results.

In the following example, the images on the left were created without using the **HP EasyColor** option. The images on the right show the enhancements that result from using the **HP EasyColor** option.



The **HP EasyColor** option is enabled by default in both the HP PCL 6 printer driver and the HP Mac Postscript printer driver, so you do not need to make manual color adjustments. To disable the option so you can manually adjust the color settings, open the **Color** tab in the Windows driver or the **Color Options** tab in the Mac driver, and then click the **HP EasyColor** check box to clear it.



Match colors to your computer screen

For most users, the best method for matching colors is to print sRGB colors.

The process of matching printer output color to your computer screen is complex, because printers and computer monitors use different methods of producing color. Monitors *display* colors by using light pixels that use an RGB (red, green, blue) color process, but printers *print* colors by using a CMYK (cyan, magenta, yellow, and black) process.

Many factors can influence your ability to match printed colors to those on your monitor:

- Print media
- Printer colorants (inks or toners, for example)
- Printing process (inkjet, press, or laser technology, for example)
- Overhead lighting
- Personal differences in perception of color
- Software programs
- Printer drivers
- Computer operating systems
- Monitors
- Video cards and drivers
- Operating environment (humidity, for example)


Keep these factors in mind when colors on your screen do not perfectly match your printed colors.

Print fade- and water-resistant prints

HP Officejet pigment inks designed for business use are like liquid laser toner—providing professional, durable color documents that stand up to handling and dry quickly. Print professional, water-resistant documents on plain paper.

Not only do HP Officejet pigment inks offer vivid colors and bold blacks, they provide benefits over traditional dye-based inks, including superior water and fade resistance and better durability. These unique qualities are possible because the pigment solid does not dissolve in water but is dispersed to prevent pigment settling. As a result, output resists rain and water spills, and you can handle important documents with confidence.

HP Officejet inks for business are specifically developed for use with HP printheads. Unique ink formulations help extend the life of the printheads and enhance reliability. When used with ColorLok® paper, these inks provide laser-like color output that dries quickly and is ready for distribution.

 **NOTE:** Based on HP internal testing using a range of plain papers, HP highly recommends using papers with the ColorLok® logo for this product. For details, go to <http://www.hp.com/go/printpermanence>.



10 Manage and maintain


- [Print information pages](#)
- [Use the HP Embedded Web Server](#)
- [Use HP Web Jetadmin software](#)
- [Product security features](#)
- [Economy settings](#)
- [Clean the product](#)
- [Product updates](#)

Print information pages

Information pages reside within the product memory. These pages help diagnose and solve problems with the product.



NOTE: If the product language was not correctly set during installation, you can set the language manually so the information pages print in one of the supported languages. Change the language by using the [Device Setup](#) menu on the control panel or the HP Embedded Web Server.

1. From the Home screen, press the [Setup](#)  button.
2. Press the [Print Reports](#) button.
3. Select the name of the report that you want to print.

Menu Item	Sub Menu Item	Description
Printer Status Report		Prints the ink cartridge status. Includes the following information: <ul style="list-style-type: none">• Estimated percentage of cartridge life remaining• Approximate pages remaining• Part numbers for HP ink cartridges• Number of pages printed
Print Quality Report		Prints a page that helps solve problems with print quality
Usage Page		Shows a count of all paper sizes that have passed through the product; lists whether they were monochrome or color, simplex or duplex, and reports the page count. This report is useful for reconciling contractual billing statements.


Menu Item	Sub Menu Item	Description
Network Configuration Page		Displays status for: <ul style="list-style-type: none"> • Network hardware configuration • Enabled features • TCP/IP and SNMP information • Network statistics • Wireless network configuration (wireless models only) • Usage page • PCL6 Font list
Event Log		Prints a log of errors and other events during product use.
PCL Font List		Prints a list of all installed PCL fonts
PS Font List		Prints a list of all installed PS fonts

Use the HP Embedded Web Server

This product is equipped with an embedded Web server (EWS), which provides access to information about product and network activities. A Web server provides an environment in which Web programs may run, much in the same way that an operating system, such as Windows, provides an environment for programs to run on a computer. The output from these programs can then be displayed by a Web browser.


An “embedded” Web server resides on a hardware device (such as an HP printer) or in firmware, rather than as software that is loaded on a network server.

The advantage of an EWS is that it provides an interface to the product that anyone with a network-connected product and computer can use. There is no special software to install or configure, but you must have a supported Web browser on the computer. To gain access to the EWS, type the IP address for the product in the address line of the browser.

 **NOTE:** For Macintosh operating systems, you can use the HP EWS over a USB connection after installing the Macintosh software included with the product.

About cookies

The HP EWS places very small text files (cookies) on your hard drive when you are browsing. These files let the HP EWS recognize your computer the next time you visit. For example, if you have configured the HP EWS language, a cookie helps remember which language you have selected so that the next time you access the HP EWS, the pages are displayed in that language. Though some cookies are cleared at the end of each session (such as the cookie that stores the selected language), others (such as the cookie that stores customer-specific preferences) are stored on the computer until you clear them manually.

 **IMPORTANT:** The cookies that the HP EWS stores on your computer are only used for saving settings on your computer or for sharing information between the printer and the computer. These cookies are not sent to any HP Websites.

You can configure your browser to accept all cookies, or you can configure it to alert you every time a cookie is offered, which allows you to decide which cookies to accept or refuse. You can also use your browser to remove unwanted cookies.

Depending on your printer, if you disable cookies, you also disable one or more of the following features:

- Starting where you left the application (especially useful when using setup wizards).
- Remembering the HP EWS browser language setting.
- Personalizing the HP EWS Home page.


For information about how to change your privacy and cookie settings and how to view or delete cookies, see the documentation available with your Web browser.


Open the HP Embedded Web Server

To open the HP Embedded Web Server (HP EWS), type the IP address or host name of the product in the address field of a supported Web browser. To find the IP address, print a Printer Status Report or Network Configuration Page, or get the IP address from the product control panel.

You can also open the HP EWS from the Windows printer driver. Open the **Services** tab and then click the **Device and Supplies Status** icon.


For Mac, the HP EWS can be opened from the HP Utility or from **System Preferences -> Print & Scan -> [product name] -> Options & Supplies -> General -> Show Printer Webpage**.

 **NOTE:** If an error occurs while opening the HP EWS, confirm that the proxy settings are correct for your network.

 **TIP:** After you open the URL, bookmark it so that you can return to it quickly in the future.

Features

- [Home tab](#)
- [Web Services tab](#)
- [Network tab](#)
- [Tools Tab](#)
- [Settings Tab](#)

 **NOTE:** Changing network settings in the HP EWS might disable some of product, or product software or features.

Home tab

Use the **Home** tab to customize various views and tasks related to your device. The **Home** tab includes the following items:



NOTE: Not all of the following items are visible by default. Use the **Personalize this page** button show or hide the items of your choice.

- **Recently Visited:** Displays 5 most recently visited embedded HP EWS links
- **Printer Status:** Displays current printer status.
- **Diagnostic:** Provide links to diagnostic tasks.
- **ePrint:** Displays the status of ePrint connection.
- **Ink Level Status:** Displays ink level status.
- **Manage:** Useful links for managing the HP EWS.
- **Wired Network Status:** Displays wired (802.3) status or wired (802.11) status (wireless models).
- **Setup:** Displays setup options.
- **Custom Shortcut:** Customize quick links to be added as shortcut.
- **Support:** Links to Hewlett-Packard's support Web site.



NOTE: Settings for this page are automatically saved in the Web browser's cookies. If the Web browser's cookies are deleted, these settings are lost.

Web Services tab

Use the **HP Web Services** tab to configure and enable HP Web Services for this product. You must enable HP Web Services to use the HP ePrint feature.

Network tab

Use the **Network** tab to configure and secure network settings for the product when it is connected to an IP-based network. This tab does not display if the product is connected to other types of networks.

Tools Tab

Product Information

- **Printer Information:** Find basic device information such as serial number, name and firmware version.
- **Ink Gauge:** See estimated ink levels, ink cartridge part numbers, and estimated printable pages remaining for each cartridge.
- **Ink Settings:** Change the threshold at which the printer provides the "Low on Ink" notification.

Reports

- **Usage Report:** View the number of pages processed for printing, scanning, copying and faxing.
- **Printer Reports:** Print various reports.
- **Event Log:** View logged events such as firmware errors.

Utilities

- **Bookmarking:** Bookmark pages in the HP EWS.
- **Print Quality Toolbox:** Run maintenance tools to improve the print quality of your printouts.
- **Asset Tracking:** Assign an asset number/location to this device.

Backup and Restore

- **Backup:** Create a password-encrypted file that stores the printer's settings.
- **Restore:** Restore the printer's settings using a backup file created by the HP EWS.

Job Management

- **Job Monitor:** Monitor or cancel jobs currently active or pending in the printer.

Printer Restart

- **Power Cycle:** Allows you to turn off and restart the printer.

Settings Tab

Set and maintain various options on your product including power management, date and time, security, printing, and paper settings, email alerts, default copy settings, restore factory defaults and firewall settings.

Use HP Web Jetadmin software

HP Web Jetadmin is an award-winning, industry-leading tool for efficiently managing a wide variety of networked HP devices, including printers, multifunction products, and digital senders. This single solution allows you to remotely install, monitor, maintain, troubleshoot, and secure your printing and imaging environment — ultimately increasing business productivity by helping you save time, control costs, and protect your investment.

HP Web Jetadmin updates are periodically made available to provide support for specific product features. Visit www.hp.com/go/webjetadmin and click the **Self Help and Documentation** link to learn more about updates.

Product security features

Security statements

This product supports security standards and protocols that help secure the product, protect information on your network, and simplify monitoring and maintenance of the product.

For information about HP's secure imaging and printing solutions, visit www.hp.com/go/Secureprinting. The site provides links to white papers and FAQ documents about security features and may include information about additional security features that are not contained in this document.

Assign an administrator password in the HP Embedded Web Server

The HP Embedded Web Server allows you to assign an administrator password so that unauthorized users cannot change product configuration settings in the HP Embedded Web Server. When the admin password is assigned and applied, you must enter the password to make any configuration changes that are done through the HP Embedded Web Server. If you change an existing password, you must first enter that password. You can also remove the password by entering the existing password and then deleting the assigned password.

Control Panel Lock

The HP Embedded Web Server allows the ability to lock certain features on the product's control panel to prevent unauthorized use. Once the control panel lock is enabled, certain control panel configuration features cannot be changed from the control panel. The control panel lock setting itself can also be secured. This is accomplished by setting the HP Embedded Web Server administrator password. Once the HP Embedded Web Server administrator password is set, the admin password must be entered when accessing the control panel lock enable/disable setting.

Disable unused protocols and services

The HP Embedded Web Server allows the ability to disable unused protocols and services. These protocol and services settings can also be protected from being changed by setting the EWS admin password. These protocols and services include the following:

- **IPv4 and IPv6 disable/enable:** To operate properly on a TCP/IP network, the product must be configured with valid TCP/IP network configuration settings, such as an IP address that is valid for your network. This product supports two versions of this protocol: version 4 (IPv4) and version 6 (IPv6). IPv4 and IPv6 can be enabled/disable individually or simultaneously enabled.
- **Bonjour disable/enable:** Bonjour services are typically used on small networks for IP address and name resolution where conventional a DNS server is not used. The Bonjour service can be enabled or disabled.
- **SNMP disable/enable:** SNMP (Simple Network Management Protocol) is used by network management applications for product management. This product supports the SNMPv1 protocol on IP networks. This product allows the ability to enable/disable SNMPv1.
- **WINS disable/enable:** If you have a Dynamic Host Configuration Protocol (DHCP) service on your network, the product automatically obtains its IP address from that server and registers its name with any RFC 1001 and 1002-compliant dynamic name services as long as the Windows Internet Name Service (WINS) server IP address has been specified. The WINS server IP address configuration can be enable or disabled. If enabled, then the primary and secondary WINS server can be specified.
- **SLP disable/enable:** Service Location Protocol (SLP) is an Internet standard network protocol that provides a framework to allow network applications to discover the existence, location and configuration of networked services in enterprise networks. This protocol can be enabled or disabled.
- **LPD disable/enable:** Line Printer Daemon (LPD) refers to the protocol and programs associated with line-printer spooling services that may be installed on various TCP/IP systems. LPD can be enabled or disabled.

- **LLMNR disable/enable:** Link-Local Multicast Name Resolution (LLMNR) is a protocol based on the Domain Name System (DNS) packet format that allows both IPv4 and IPv6 hosts to perform name resolution for hosts on the same local link. LLMNR can be enabled or disabled.
- **Port 9100 disable/enable:** The product supports raw IP printing through TCP Port 9100. This HP-propriety TCP/IP port on the product is the default port for printing and it is accessed by HP software. Port 9100 can be enabled or disabled.
- **Web Services disable/enable:** The product supports the ability to enable or disable Microsoft Web Services Dynamic Discovery (WS Discovery) protocols or Microsoft Web Services for Devices (WSD) Print services supported on the product. These web services can be enabled or disabled together or WS Discovery can be enabled separately.
- **Internet Printing Protocol (IPP) disable/enable:** Internet Printing Protocol (IPP) is an Internet-standard protocol that allows you to print documents and manage jobs over the internet. IPP can be disabled or enabled.

Administrator Settings

The HP Embedded Web Server allows the ability to enable and disable certain product capabilities. These include network, Ethernet, wireless, wireless access point (i.e. disables wireless direct capability), USB, fax, fax reprint, copy, digital send, webscan, control panel lock, color fax, color copy, color print from memory devices, all web services, only ePrint, and only Apps. The product must be turned off, and then turned on again, for settings to take effect.

Color Access Control

HP's suite of color access control tools allows you to enable or disable color by individuals users or groups and applications. For more information see www.hp.com/go/upd. The HP Embedded Web Server also allows you to disable color faxing, color copying, and color print from memory devices.

Protected Protocols – HTTPS

The HP Embedded Web Server features the ability to enable encryption of product communication through the HTTPS redirection feature. When used, HTTPS prevents others from viewing information between the EWS and the product via encryption – providing a secure communication method.

Firewall

The HP Embedded Web Server allows the ability to enable and configure product firewall rules, priorities, templates, services and policies. The firewall feature provides a network-layer of security on both IPv4 and IPv6 networks. The firewall configuration capability provides control over IP addresses that are allowed access the product, and the ability to set permissions and priorities for digital send, management, discovery, and print services--providing a more secure way of controlling access to the product.

Scan-to and Fax-to Folder Authentication

The Scan-to and Fax-to network folder allows sending to a network folder via the Windows file sharing mechanism. A username and password may be required to log onto the network where the

network folder is located. In addition, appropriate privileges may be required to have write access to the network folder.

Syslog

Support of Syslog, a standard protocol for logging status messages to a designated server, can be used to track the activities and status of devices on the network. The HP Embedded Web Service provides the ability to enable Syslog and to specify the server to which the status messages will be sent. Specifying the priority of those status messages is also supported.

Certificates

The HP Embedded Web Server provides the ability to install and manage certificates for the authentication of product, server and network. This includes the ability to create a certificate, install a certificate, and import and export certificates.

Signed Firmware

Support of digitally-signed firmware updates eliminates exposure to malicious software by preventing the installation of non-approved firmware on the product.

Wireless Authentication

The HP Embedded Web Server provides the ability to configure wireless networking via such 802.1x wireless enterprise authentication protocols as EAP-TLS, LEAP, and PEAP to support access control. The HP Embedded Web Server also provides the ability to configure wireless dynamic key encryption such as WEP encryption and WPA-PSK authentication. In addition, Wireless Direct Authentication can be enabled or disabled.

Economy settings

Print with General Office mode

General Office print mode uses less ink, which might extend the life of the cartridge.

1. On the **File** menu in the software program, click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. Select **General Office** from the **Print Quality** drop-down box.

Power handling


The product includes features that can help reduce energy consumption

The Standby and Sleep After Standby modes reduce power consumption when the product has been inactive for an extended period. You can set the length of time before the product enters Standby or Sleep After Standby modes.

The Schedule On/Off feature turns the product on or off after a certain length of time. You can adjust this time-delay setting.


The [Auto Power Off](#) feature turns the product off after a certain length of time. You can adjust this time delay setting.


Set Standby

1. From the Home screen, press (X451 Series) or touch (X551 Series) the [Setup](#)  button.
2. Open the following menus:
 - [Device Setup](#)
 - [Power Handling](#)
 - [Standby](#)
3. Select the time for the standby delay.


 **NOTE:** The default value is 10 minutes.

Set Sleep After Standby

1. From the Home screen, press (X451 Series) or touch (X551 Series) the [Setup](#)  button.
2. Open the following menus:
 - [Device Setup](#)
 - [Power Handling](#)
 - [Sleep After Standby](#)
3. Select the time for the sleep after standby delay.

 **NOTE:** The default is 2 hours after standby.


Schedule On/Off

1. From the Home screen, press (X451 Series) or touch (X551 Series) the [Setup](#)  button.
2. Open the following menus:
 - [Device Setup](#)
 - [Power Handling](#)
 - [Schedule On/Off](#)
3. Enable [Schedule On](#) or [Schedule Off](#) and set the times for those events to take affect.

Clean the product

Clean the control panel

Clean the touch screen whenever it is necessary to remove fingerprints or dust. Wipe the control panel gently with a clean, water-dampened, lint-free cloth.

 **CAUTION:** Use water only. Solvents or cleaners can damage the control panel. Do not pour or spray water directly onto the touch screen.

Product updates

Software and firmware updates and installation instructions for this product are available at <http://www.hp.com/go/support>. Click **Support & Drivers**, click the operating system, and then select the download for the product.

11 Solve problems

- [Customer support](#)
- [Problem-solving checklist](#)
- [Restore the factory-set defaults](#)
- [Paper feeds incorrectly or becomes jammed](#)
- [Clear jams](#)
- [Improve print quality](#)
- [The product does not print or it prints slowly](#)
- [Solve Plug and Print USB Drive printing problems \(X551 Series\)](#)
- [Solve product connectivity problems](#)
- [Solve wireless network problems](#)
- [Solve product software problems with Windows](#)
- [Solve product software problems with Mac](#)

Customer support

Get telephone support, free during your warranty period, for your country/region	Country/region phone numbers are on the flyer that was in the box with your product or at www.hp.com/support/ .
Have the product name, serial number, date of purchase, and problem description ready.	
Get 24-hour Internet product support and troubleshooting and download drivers and software, and electronic information	http://www.hp.com/go/support
Get support for products used with a Macintosh computer	www.hp.com/go/macosex
Download software utilities, drivers, and electronic information	http://www.hp.com/go/support
Order additional HP service or maintenance agreements	www.hp.com/go/carepack
Register your product	www.register.hp.com

Problem-solving checklist

Follow these steps when trying to solve a problem with the product.

- [Step 1: Check that the product power is on](#)

- [Step 2: Check the control panel for error messages](#)
- [Step 3: Test print functionality](#)
- [Step 4: Try sending a print job from a computer](#)
- [Step 5: Test the Plug and Print USB Drive printing functionality \(X551 Series\)](#)
- [Factors that affect product performance](#)


Step 1: Check that the product power is on

1. Make sure the product is plugged in and turned on.
2. Make sure the power cable is connected to the product and the outlet.
3. Check the power source by connecting the power cable to a different outlet.
4. If the product motors do not rotate, make sure the ink cartridges are installed and that the doors are all closed. The control panel displays messages to indicate these problems.

Step 2: Check the control panel for error messages

The control panel should indicate ready status. If an error message appears, resolve the error.

Step 3: Test print functionality

1. From the control panel Home screen, press (X451 Series) or touch (X551 Series) the [Setup](#)  button.
2. Open the [Print Reports](#) menu, and select the [Printer Status Report](#) to print the report.
3. If the report does not print, make sure paper is loaded in the tray, and check the control panel to see if paper is jammed inside the product.



NOTE: Make sure the paper in the tray meets specifications for this product.

Step 4: Try sending a print job from a computer

1. Use a word-processing program to send a print job to the product.
2. If the job does not print, make sure you selected the correct printer driver.
3. Uninstall and then reinstall the product software.

Step 5: Test the Plug and Print USB Drive printing functionality (X551 Series)


1. Load a .PDF document or .JPEG photo onto a USB flash drive, and insert it in the slot on the front or the back of the product.
2. The [USB Print](#) menu opens. Try printing the document or photo.
3. If no documents are listed, try a different type of USB flash drive.


Factors that affect product performance

Several factors affect the time it takes to print a job:

- The software program that you are using and its settings
- The use of special paper (such as transparencies, heavy paper, and custom-size paper)
- Product processing and download time
- The complexity and size of graphics
- The speed of the computer you are using
- The USB or network connection
- Whether the product is printing in color or in monochrome
- The type of USB drive, if you are using one

Restore the factory-set defaults

 **CAUTION:** Restoring the factory-set defaults returns all of the product and network settings to the factory defaults. The procedure then automatically restarts the product.

1. On the product control panel, press (X451 Series) or touch (X551 Series) the **Setup**  button.
2. Scroll to and press or touch the **Tools** menu button.
3. Scroll to and press or touch the **Restore Factory Defaults** button, and then touch the **OK** button.
The product automatically restarts.

Paper feeds incorrectly or becomes jammed

- [The product does not pick up paper](#)
- [The product picks up multiple sheets of paper](#)
- [Prevent paper jams](#)

The product does not pick up paper

If the product does not pick up paper from the tray, try these solutions.

1. Open the product and remove any jammed sheets of paper.
2. Load the tray with the correct size of paper for your job.
3. Make sure the paper guides in the tray are adjusted correctly for the size of paper. Align the guides with the paper-size markings in the bottom of the tray.
4. Remove the stack of paper from the tray and **flex it**, rotate it 180 degrees, and flip it over. *Do not fan the paper.* Return the stack of paper to the tray.
5. Check the product control panel to see if the product is waiting for you to acknowledge a prompt to feed the paper manually through Tray 1, the multi-purpose tray on the left side of the product. Load paper, and continue.

The product picks up multiple sheets of paper

If the product picks up multiple sheets of paper from the tray, try these solutions.

1. Remove the stack of paper from the tray and **flex it**, rotate it 180 degrees, and flip it over. *Do not fan the paper.* Return the stack of paper to the tray.
2. Use only paper that meets HP specifications for this product.
3. Use paper that is not wrinkled, folded, or damaged. If necessary, use paper from a different package. Make sure all paper in the tray is the same type and size.
4. Make sure the tray is not overfilled. If it is, remove the entire stack of paper from the tray, straighten the stack, and then return less paper to the tray.
5. Make sure the paper guides in the tray are adjusted correctly for the size of paper. Align the guides with the paper-size markings in the bottom of the tray.

Prevent paper jams

To reduce the number of paper jams, try these solutions.

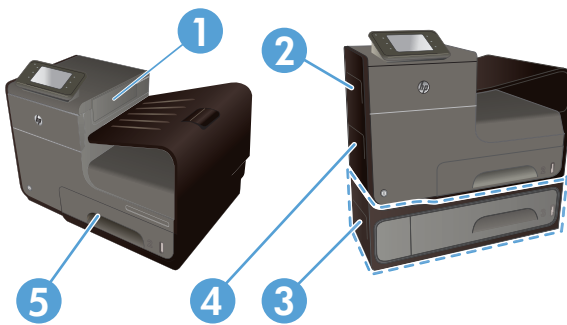
1. Use only paper that meets HP specifications for this product. Light-weight, short grain paper is not recommended for use in this product.
2. Use paper that is not wrinkled, folded, or damaged. If necessary, use paper from a different package.
3. Use paper that has not previously been printed or copied on.

4. Make sure the tray is not overfilled. If it is, remove the entire stack of paper from the tray, straighten the stack, and then return some of the paper to the tray.
5. Make sure the paper guides in the tray are adjusted correctly for the size of paper. Adjust the guides so they are touching the paper stack without bending it.
6. Make sure that the tray is fully inserted in the product.
7. If you are printing on heavy, embossed, or perforated paper, use Tray 1, the multi-purpose tray on the left side of the printer, and then feed sheets manually one at a time.

Clear jams

Jam locations

Jams can occur in these locations:



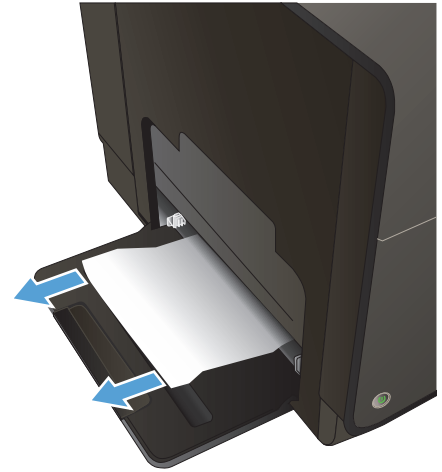
1	Output bin
2	Left door
3	Optional Tray 3 and left jam-access door
4	Tray 1
5	Tray 2

Traces of ink might remain in the product after a jam and leave marks on the printed pages. This problem typically resolves itself after a few sheets have been printed.

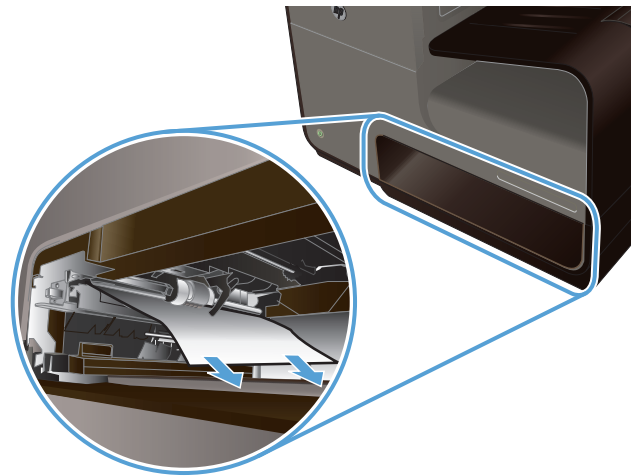
Clear jams in Tray 1 (Multi-purpose tray)

1. If the jammed sheet is visible and easily accessible in Tray 1, pull it from Tray 1.

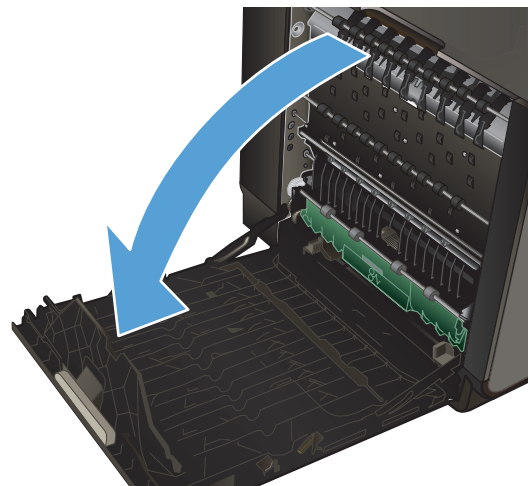
NOTE: If the sheet tears, make sure that all of the fragments are removed before you resume printing.



2. The jammed sheet may also be accessible by removing Tray 2 and removing the jammed sheet by pulling it to the right and then out of the product.

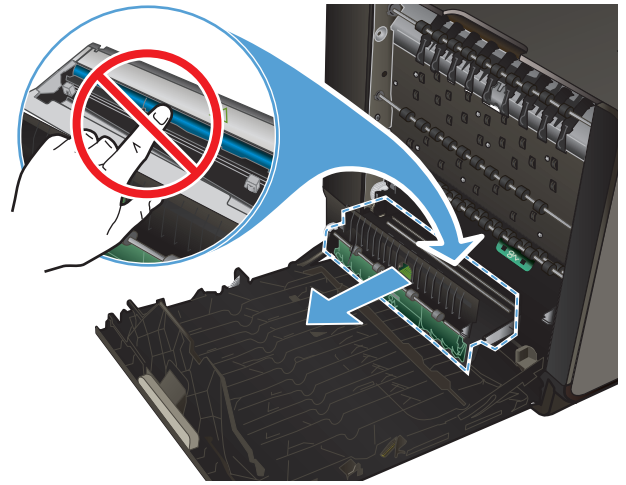


3. If the jammed sheet is not visible or easily accessible in Tray 1, open the left door to access the jammed sheet.

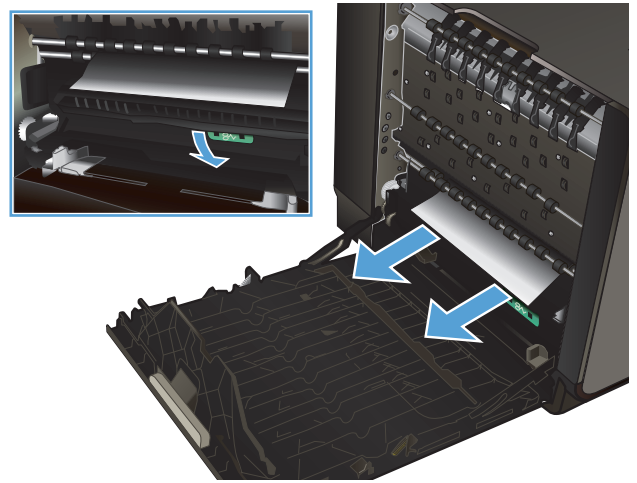


4. If the paper is still not visible or accessible, remove the duplexer by pulling it out with both hands. Set the duplexer aside, upright, on a piece of paper to prevent ink spills.

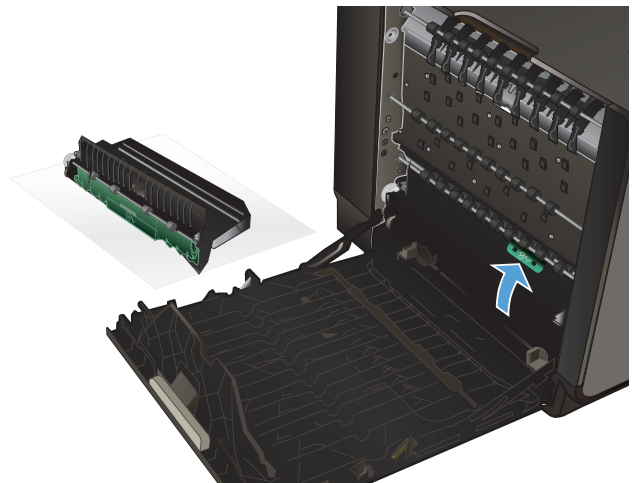
CAUTION: When pulling out the duplexer, avoid making direct contact with the black cylinder to prevent ink smear on skin or clothes.



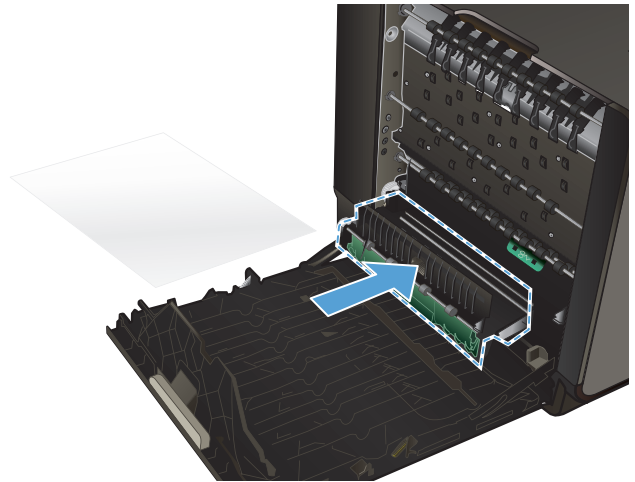
5. Lower the platen by pressing down on the green tab. This will cause the product to try to feed the sheet through the print zone. You may need to gently pull on the sheet if it does not feed. Remove the sheet.



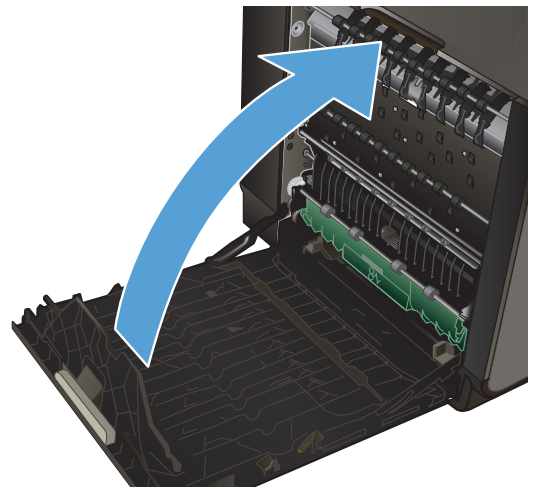
6. Lift the green tab to place the platen back into its operating position.



7. Reinstall the duplexer.

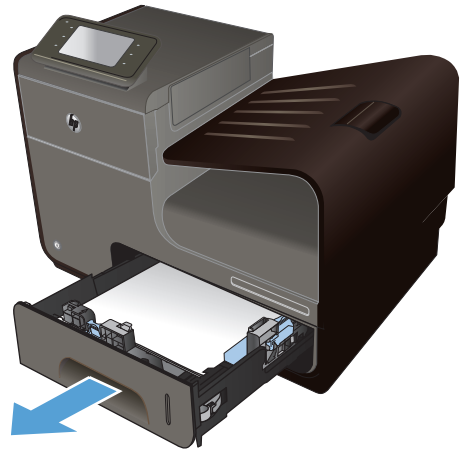


8. Close the left door.

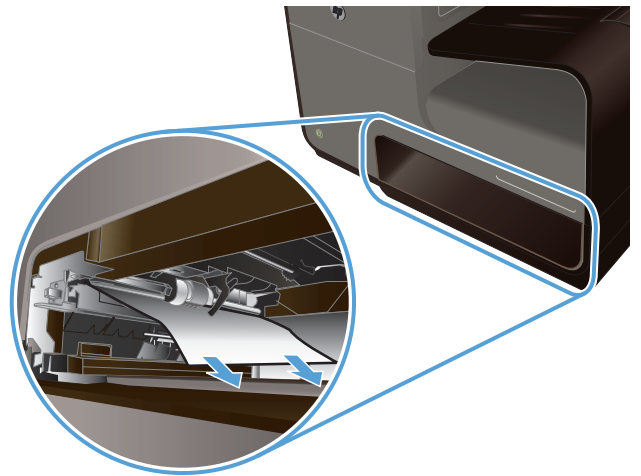


Clear jams in Tray 2

1. Open Tray 2 by pulling it out and releasing the latch at the rear left of the tray.

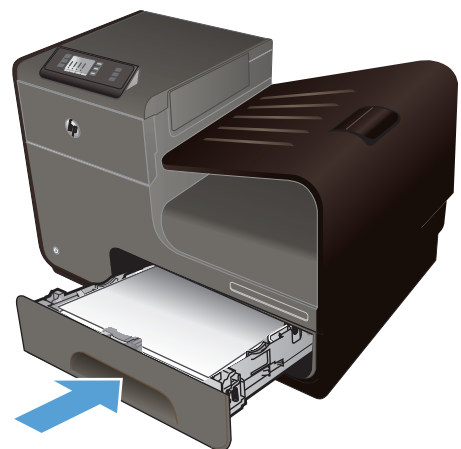


2. Remove the jammed sheet by pulling it to the right and then out of the product.



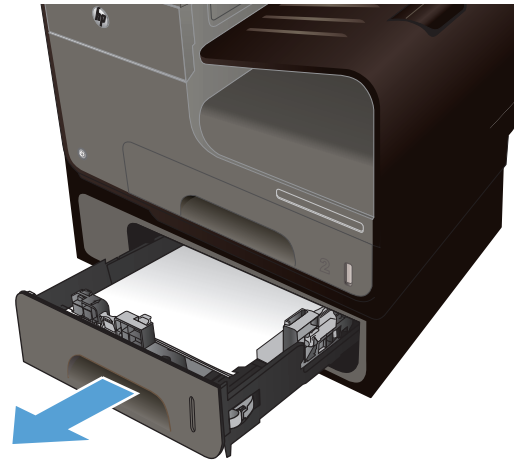
3. Close Tray 2.

NOTE: To close the tray, push in the middle or with even pressure on both sides. Avoid pushing on one side only.

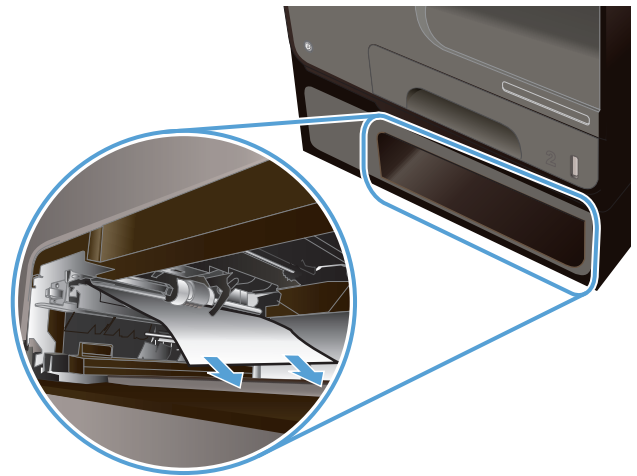


Clear jams in optional Tray 3

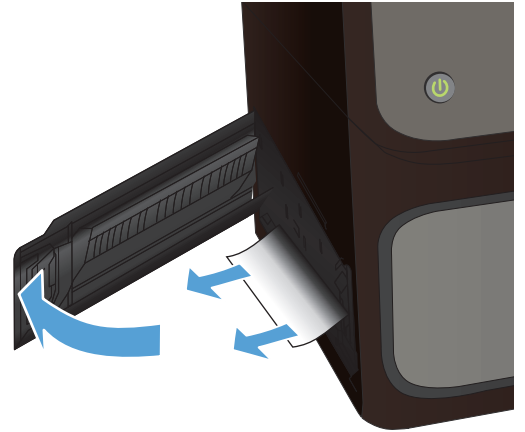
1. Open Tray 3.



2. Remove the jammed sheet by pulling it to the right and then out of the product.

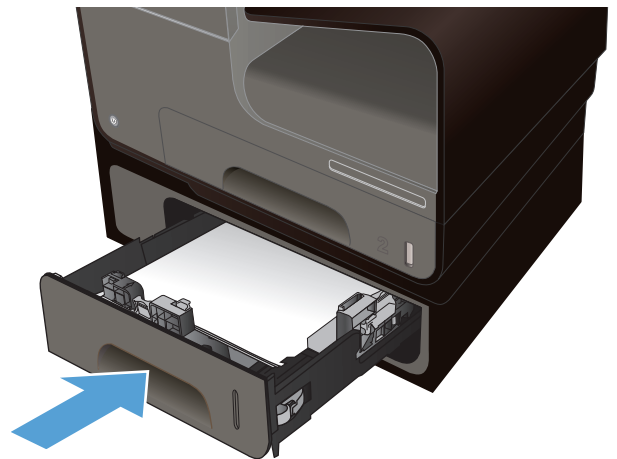


3. If the jam cannot be cleared at the tray, try clearing the jam from the Tray 3 left door.



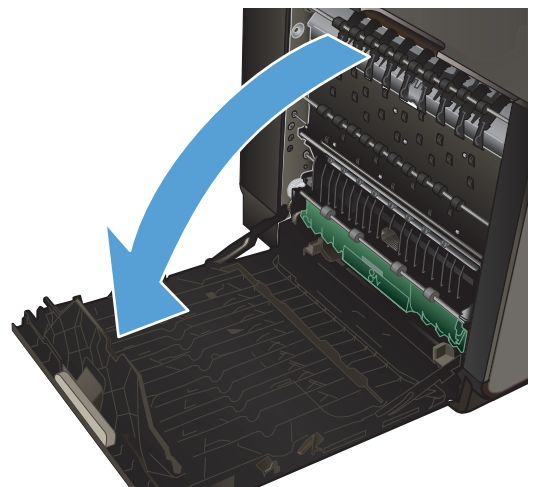
4. Close Tray 3.

NOTE: To close the tray, push in the middle or with even pressure on both sides. Avoid pushing on one side only.



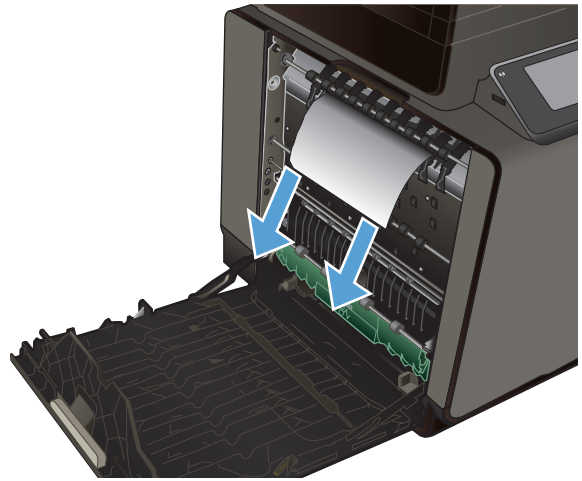
Clear jams in the left door

1. Open the left door.

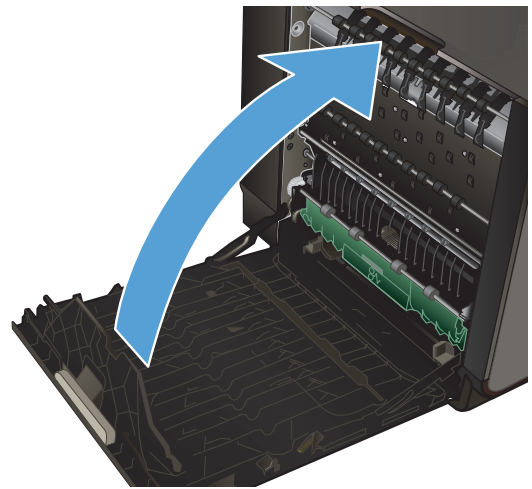


2. Gently remove any visible paper from the rollers and delivery area.

NOTE: If the sheet tears, make sure that all fragments are removed before you resume printing. Do not use sharp objects to remove fragments.



3. Close the left door.



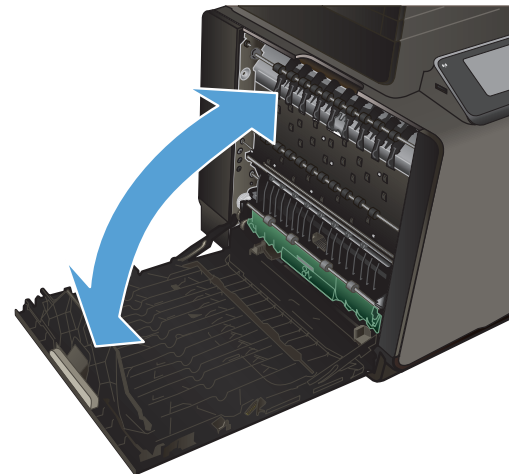
Clear jams in the output bin

1. Look for jammed paper in the output bin area.
2. Remove any visible media.

NOTE: If the sheet tears, make sure that all fragments are removed before resuming printing.

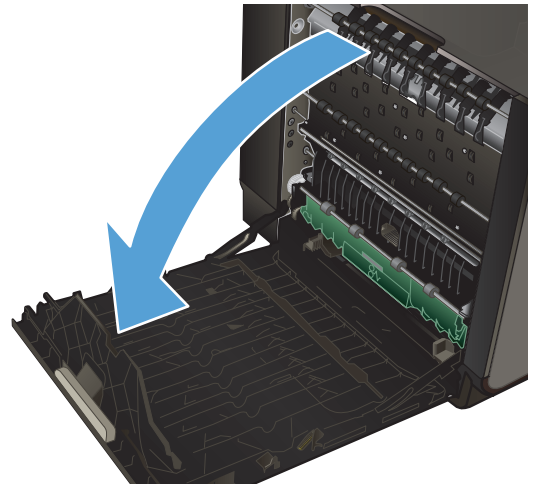


3. Open and then close the left door to clear the message.

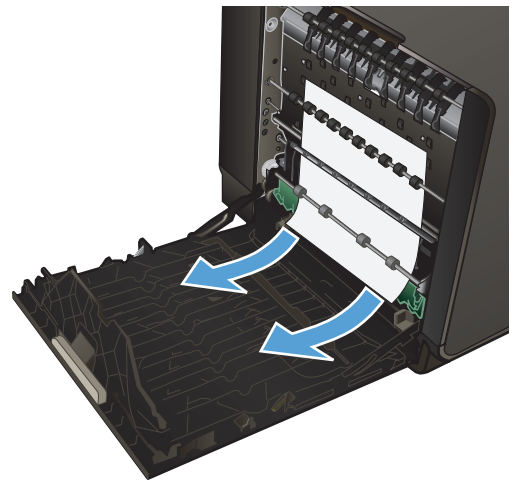


Clear jams in the duplexer

1. Open the left door.

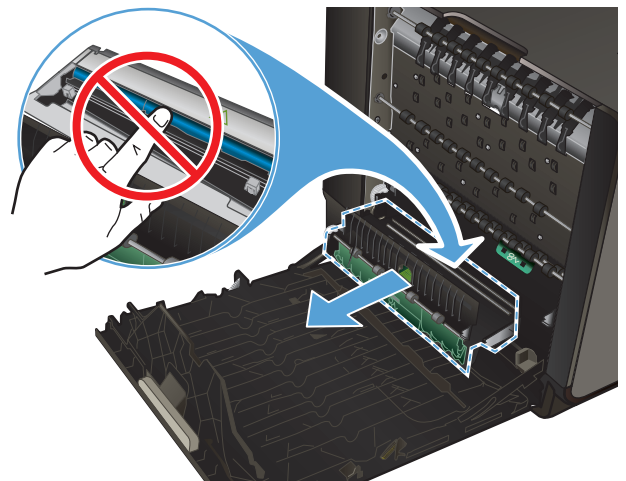


2. If you can see the trailing edge of the sheet, remove the sheet from the product.

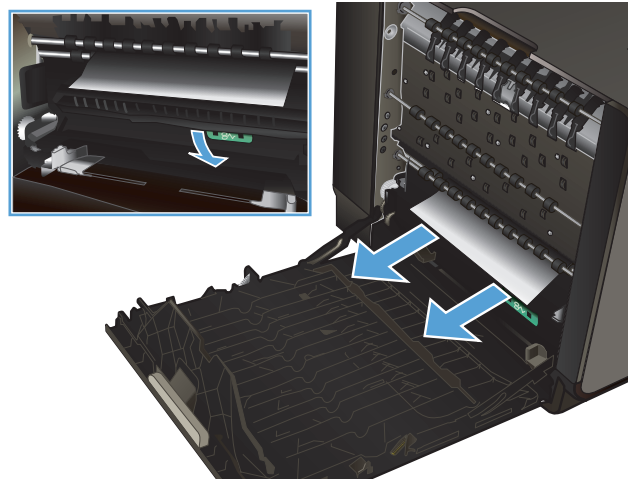


3. If the paper is not visible or accessible, remove the duplexer by pulling it out with both hands. Set the duplexer aside, upright, on a piece of paper to prevent ink spills.

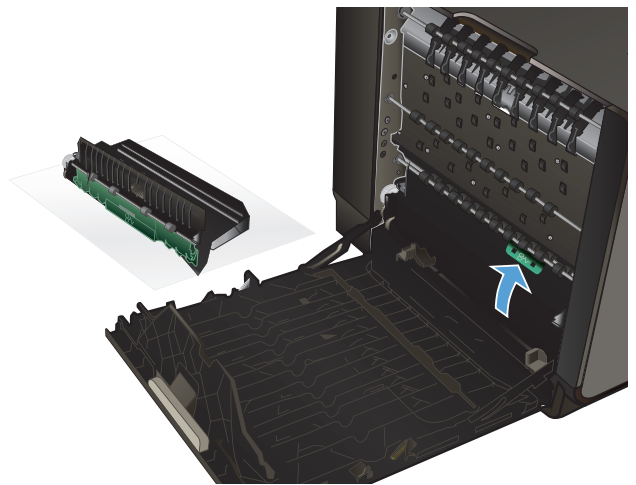
CAUTION: When pulling out the duplexer, avoid making direct contact with the black cylinder to prevent ink smear on skin or clothes.



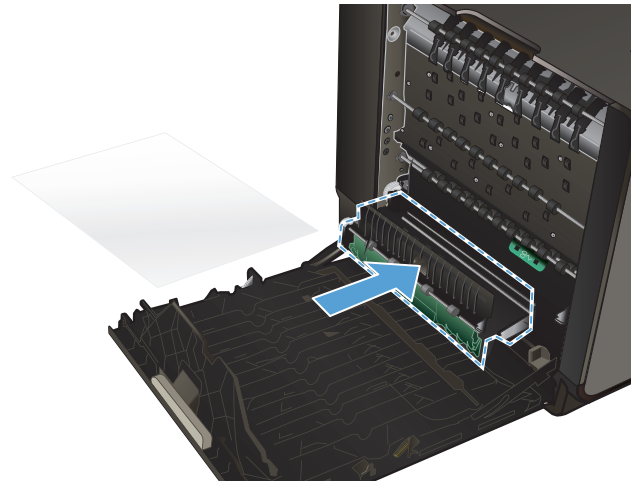
4. Lower the platen by pressing down on the green tab. This will cause the product to try to feed the sheet through the print zone. You may need to gently pull on the sheet if it does not feed. Remove the sheet.



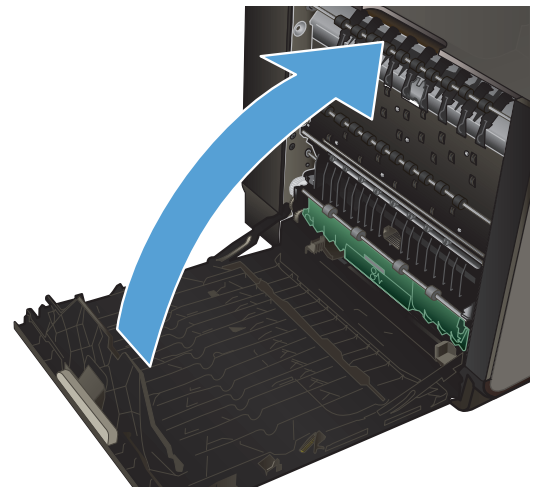
5. Lift the green tab to place the platen back into its operating position.



6. Reinstall the duplexer.



7. Close the left door.



Improve print quality

You can prevent most print-quality problems by following these guidelines.

- [Use the correct paper type setting in the printer driver](#)
- [Adjust color](#)
- [Use paper that meets HP specifications](#)
- [Check the ink cartridges](#)
- [Clean ink smears](#)
- [Clean the printhead](#)
- [Use the printer driver that best meets your printing needs](#)

Use the correct paper type setting in the printer driver

Check the paper type setting if you are having any of the following problems:

- Ink is smearing on the printed pages.
- Repeated marks occur on the printed pages.
- Printed pages are curled.
- Printed pages have small unprinted areas.

Change the paper type and size setting for Windows

1. From a software program that has the **Print** feature available, click on the **File** menu, and then click **Print**.
2. Select the product, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. From the **Paper type** drop-down list, click the **More...** option.
5. Expand the list of **Type is:** options.
6. Expand each category of paper types until you find the paper type that you are using.
7. Select the option for the type of paper you are using, and click the **OK** button.

Change the paper type and size setting for Mac

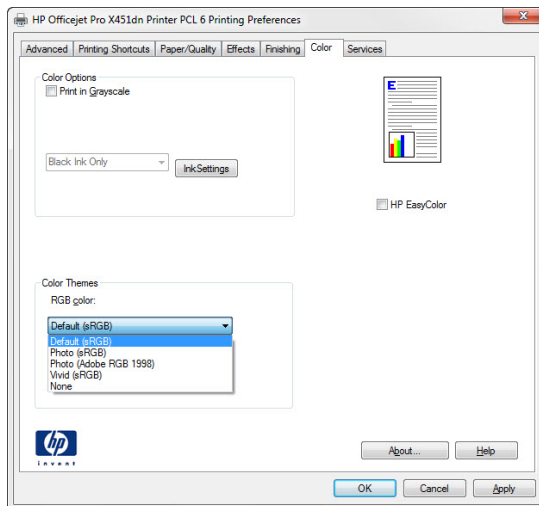
1. On the **File** menu in the software program, click the **Print** option.
2. Select a size from the **Paper Size** drop-down list.
3. Open the **Paper/Quality** menu.
4. Select a type from the **Media Type** drop-down list.
5. Click the **Print** button.

Adjust color

Manage color by changing the settings on the **Color** (Windows) and **Color Options** tab (Mac) in the printer driver.

Change the color theme for a print job

1. On the **File** menu in the software program, click **Print**.
2. Click **Properties** or **Preferences** (Windows).
3. Click the **Color** tab (Windows) or **Color Options** tab (Mac) and uncheck HP EasyColor.
4. Select a color theme from the **Color Themes** (Windows) or **RGB Color** (Mac) drop-down list.



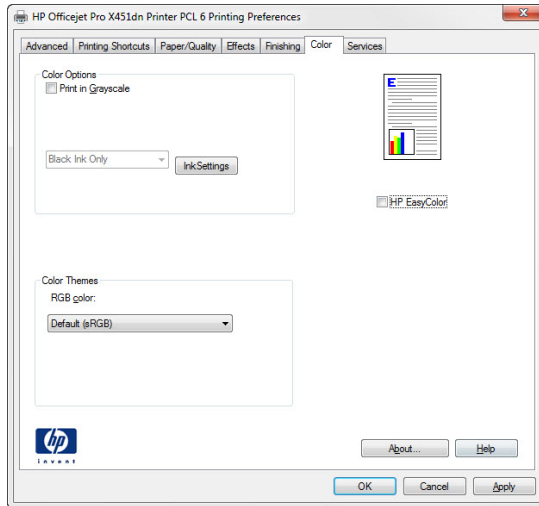
- **Default (sRGB):** This theme sets the product to print RGB data in raw device mode. When using this theme, manage color in the software program or in the operating system for correct rendering.
- **Vivid:** The product increases the color saturation in the midtones. Use this theme when printing business graphics.
- **Photo:** The product interprets RGB color as if it were printed as a photograph using a digital mini lab. The product renders deeper, more saturated colors differently than with the Default (sRGB) theme. Use this theme when printing photos.
- **Photo (Adobe RGB 1998):** Use this theme with printing digital photos that use the AdobeRGB color space rather than sRGB. Turn off color management in the software program when using this theme.
- **None:** No color theme is used.

Change the color options

Change the color options settings for the current print job from the color tab of the printer driver.


1. On the **File** menu in the software program, click the **Print** item.
2. Click **Properties** or **Preferences** (Windows).
3. Click the **Color** tab (Windows) or **Color Options** tab (Mac).

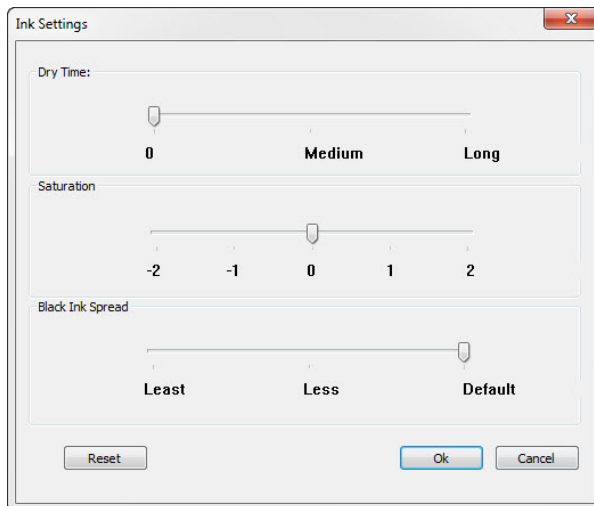
4. Clear the **HP EasyColor** check box.




5. Click the **Ink Settings** button (Windows) or expand the **Advanced** menu (Mac), and then use the slider to make the following adjustments:

- **Dry Time**
- **Saturation**
- **Black Ink Spread**

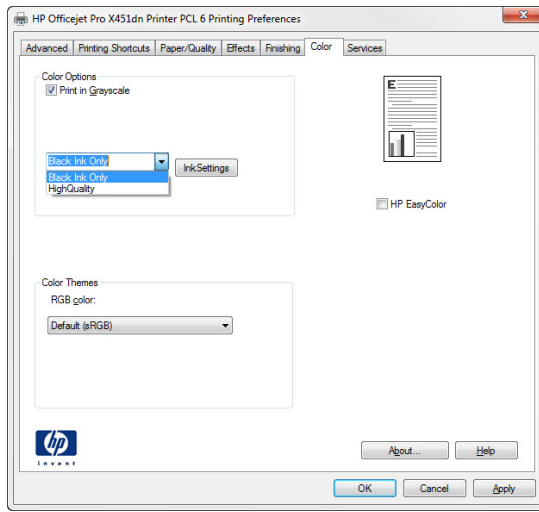
 **NOTE:** Changing color settings manually can impact output. HP recommends that only color graphics experts change these settings.



 **NOTE:** Changing color settings manually can impact output. HP recommends that only color graphics experts change these settings.

6. Click **OK** so save your adjustments and close the window, or click **Reset** to return the settings to the factory defaults (Windows).

7. Click the **Print in Grayscale** option (Windows) or **Print Color as Gray** (Mac) to print a color document in black and shades of gray. Use this option to print color documents for photocopying or faxing. You can also use this option to print draft copies or to save color cartridge life.



8. Click the **OK** button (Windows).


Use paper that meets HP specifications

Use different paper if you are having any of the following problems:

- The printing is too light or seems faded in areas.
- Specks of ink are on the printed pages.
- Ink is smearing on the printed pages.
- Printed characters seem misformed.
- Printed pages are curled.

Always use a paper type and weight that this product supports. In addition, follow these guidelines when selecting paper:

- Use paper that is of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, staples, and curled or bent edges.
- Use paper that has not been previously printed on.
- Use paper that is designed for use in inkjet printers.
- Use paper that is not too rough. Using smoother paper generally results in better print quality.

 **NOTE:** Based on HP internal testing using a range of plain papers, HP highly recommends using papers with the ColorLok® logo for this product. For details, go to <http://www.hp.com/go/printpermanence>.



Check the ink cartridges

Check the ink cartridges by printing a status report, and replace them if necessary, if you are having any of the following problems:

- Printed pages have small unprinted areas.
- Printed pages have streaks or bands.


 **NOTE:** If you are using a draft print setting, the printing might appear light.

If you determine that you need to replace an ink cartridge, look on the cartridge or print the Supplies Status Page to find the part number for the correct genuine HP ink cartridge.


Refilled or remanufactured ink cartridges

Hewlett-Packard Company cannot recommend the use of non-HP supplies, either new or remanufactured. Because they are not HP products, HP cannot influence their design or control their

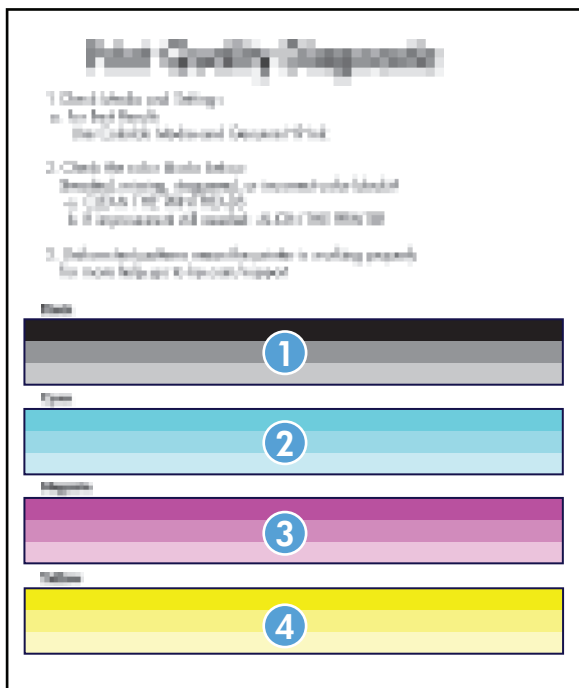
quality. If you are using a refilled or remanufactured ink cartridge and are not satisfied with the print quality, replace the cartridge with a genuine HP cartridge.

 **NOTE:** If you replace a non-HP ink cartridge with a genuine HP ink cartridge, the printhead may still contain non-HP ink until the printhead is depleted of that ink and is supplied with ink from the newly installed, genuine HP ink cartridge.

Interpret the Print Quality Report

1. On the product control panel, press (X451 Series) or touch (X551 Series) the **Setup**  button.
2. Press or touch the **Print Reports** menu item.
3. Press or touch the **Print Quality Report** item to print it.
4. Follow the instructions on the page that prints.

This page contains four bands of color, which are divided into the groups as indicated in the following illustration. By examining each group, you can isolate the problem to a particular ink color.



Section	Ink cartridge
1	Black
2	Cyan

Section	Ink cartridge
3	Magenta
4	Yellow

- If dots or streaks appear in one or more groups, clean the printhead. If this does not solve the problem, contact HP.
- If streaks appear in multiple color bands, see if the problem still persists by performing an additional print head cleaning, and then contact HP. A component other than the ink cartridge is probably causing the problem.

Inspect the ink cartridge for damage

1. Remove the ink cartridge from the product, and verify that there is no debris in the cartridge path.
2. Examine the metal connector of the ink cartridge.

⚠ CAUTION: Do not touch the metal connector on the edge of the cartridge. Fingerprints on the metal connector can cause print-quality problems.




3. If you see any scratches, or other damage on the metal connector, replace the ink cartridge.
4. If the metal connector does not appear to be damaged, push the cartridge gently back into its slot until it locks in place. Print a few pages to see if the problem has resolved.

Clean ink smears

Print a cleaning page to remove dust and excess ink from the printhead and paper path if you are having any of the following problems:

- Specks of ink are on the printed pages.
- Ink is smearing on the printed pages.
- Repeated marks occur on the printed pages.

Use the following procedure to clean ink smears.


1. Load plain letter or A4 paper when you are prompted.
2. From the control panel, press (X451 Series) or touch (X551 Series) the **Setup**  button.
3. Press or touch the **Tools** menu button.
4. Press or touch the **Clean Ink Smear** menu button.
5. Press or touch the **OK** button to begin the cleaning process.

A page feeds through the product slowly. Retain this page for further print quality evaluation.

Clean the printhead

Printhead cleaning can help fix many print quality problems.

Use the following procedure to clean the printhead.

1. Load plain letter or A4 paper.
2. From the control panel, press (X451 Series) or touch (X551 Series) the **Setup**  button.
3. Press or touch the **Tools** menu button.
4. Press or touch the **Clean Printhead** menu button.
5. Press or touch the **OK** button to begin the cleaning process.

A page feeds through the product slowly. Retain this page for further print quality evaluation.

6. Follow the steps on the steps on the control panel.

Use the printer driver that best meets your printing needs

You might need to use a different printer driver if the printed page has unexpected lines in graphics, missing text, missing graphics, incorrect formatting, or substituted fonts.

HP PCL 6 driver	<ul style="list-style-type: none"> • Provided as the default driver. This driver is automatically installed when using the CD. • Recommended for all Windows environments • Provides the overall best speed, print quality, and product-feature support for most users • Developed to align with the Windows Graphic Device Interface (GDI) for the best speed in Windows environments • Might not be fully compatible with third-party and custom software programs that are based on PCL 5
HP UPD PS driver	<ul style="list-style-type: none"> • Recommended for printing with Adobe® software programs or with other highly graphics-intensive software programs • Provides support for printing from postscript emulation needs, or for postscript flash font support • This driver is available for download at http://www.hp.com/go/upd.
HP UPD PCL 5	<ul style="list-style-type: none"> • Recommended for general office printing in Windows environments • Compatible with previous PCL versions and older HP Inkjet products • The best choice for printing from third-party or custom software programs • The best choice when operating with mixed environments, which require the product to be set to PCL 5 (UNIX, Linux, mainframe) • Designed for use in corporate Windows environments to provide a single driver for use with multiple printer models • Preferred when printing to multiple printer models from a mobile Windows computer • This driver is available for download at http://www.hp.com/go/upd.
HP UPD PCL 6	<ul style="list-style-type: none"> • Recommended for printing in all Windows environments • Provides the overall best speed, print quality, and printer feature support for most users • Developed to align with Windows Graphic Device Interface (GDI) for best speed in Windows environments • May not be fully compatible with third-party and custom solutions based on PCL5 • This driver is available for download at http://www.hp.com/go/upd.

Download additional printer drivers from this Web site: <http://www.hp.com/go/support>.

The product does not print or it prints slowly

The product does not print

If the product does not print at all, try the following solutions.

1. Make sure the product is turned on and that the control panel indicates it is ready.
 - If the control panel does not indicate the product is ready, turn the product off and then on again.
 - If the control panel indicates the product is ready, try sending the job again.
2. If the control panel indicates the product has an error, resolve the error and then try to print a test page from the control panel. If the test page prints, there may be a communication problem between the product and the computer you are trying to print from.
3. Make sure the cables are all connected correctly. If the product is connected to a network, check the following items:
 - Check the light next to the network connection on the product. If the network is active, the light is green.
 - Make sure that you are using a network cable and not a phone cord to connect to the network.
 - Make sure the network router, hub, or switch is turned on and that it is working correctly.
4. Install the HP software from the CD that came with the product. Using generic printer drivers can cause delays clearing jobs from the print queue.
5. From the list of printers on your computer, right-click the name of this product, click **Properties**, and open the **Ports** tab.
 - If you are using a network cable to connect to the network, make sure the printer name listed on the **Ports** tab matches the product name on the product configuration page.
 - If you are using a USB cable and are connecting to a wireless network, make sure the box is checked next to **Virtual printer port for USB**.
6. If you are using a personal firewall system on the computer, it might be blocking communication with the product. Try temporarily disabling the firewall to see if it is the source of the problem.
7. If your computer or the product is connected to a wireless network, low signal quality or interference might be delaying print jobs.

The product prints slowly

If the product prints, but it seems slow, try the following solutions.

1. Make sure the computer meets the minimum specifications for this product. For a list of specifications, go to this Web site: <http://www.hp.com/go/support>.
2. If the paper type setting is not correct for the type of paper you are using, change the setting to the correct paper type.
3. If your computer or the product is connected to a wireless network, low signal quality or interference might be delaying print jobs.

Solve Plug and Print USB Drive printing problems (X551 Series)

- [The USB Print menu does not open when you insert the USB accessory](#)
- [The file does not print from the USB storage device](#)
- [The file that you want to print is not listed in the USB Print menu](#)

The USB Print menu does not open when you insert the USB accessory

1. You might be using a USB storage device or a file system that this product does not support. Save the files on a standard USB storage device that uses File Allocation Table (FAT) file systems. The product supports FAT12, FAT16, and FAT32 USB storage accessories.
2. If another menu is already open, close that menu and then reinsert the USB storage device.
3. The USB storage device might have multiple partitions. (Some USB storage device manufacturers install software on the accessory that creates partitions, similar to a CD.) Reformat the USB storage device to remove the partitions, or use a different USB storage device.
4. The USB storage device might require more power than the product can provide.
 - a. Remove the USB storage device.
 - b. Turn the product off and then on.
 - c. Use a USB storage device that has its own power supply or that requires less power.
5. The USB storage device might not be functioning correctly.
 - a. Remove the USB storage device.
 - b. Turn the product off and then on.
 - c. Try printing from another USB storage device.

The file does not print from the USB storage device

1. Make sure paper is in the tray.
2. Check the control panel for messages. If paper is jammed in the product, clear the jam.

The file that you want to print is not listed in the USB Print menu

1. You might be trying to print a file type that the USB printing feature does not support. The product supports .PDF, PNG, .and JPEG file types.
2. You might have too many files in a single folder on the USB storage accessory. Reduce the number of files in the folder by moving them to subfolders.
3. You might be using a character set for the file name that the product does not support. In this case, the product replaces the file names with characters from a different character set. Rename the files using ASCII characters.

Solve product connectivity problems

Solve USB direct-connect problems

If you have connected the product directly to a computer, check the USB cable.

- Verify that the cable is connected to the computer and to the product.
- Verify that the cable is not longer than 5 m (16.4 ft). Try using a shorter cable.
- Verify that the cable is working correctly by connecting it with another product. Replace the cable if necessary.

Solve network problems

Check the following items to verify that the product is communicating with the network. Before beginning, print a configuration page from the product control panel and locate the product IP address that is listed on this page.

- [Poor physical connection](#)
- [The computer is using the incorrect IP address for the product](#)
- [The computer is unable to communicate with the product](#)
- [The product is using incorrect link and duplex settings for the network](#)
- [New software programs might be causing compatibility problems](#)
- [The computer or workstation might be set up incorrectly](#)
- [The product is disabled, or other network settings are incorrect](#)

Poor physical connection

1. Verify that the product is attached to the correct ethernet port using the proper cable.
2. Verify that cable connections are securely attached.
3. Look at the ethernet port on the back of the product, and verify that the amber activity light and the green link-status light are active.
4. If the problem continues, try a different cable or port on the network router, switch, or hub.

The computer is using the incorrect IP address for the product

1. On the computer, open the printer properties and click the **Ports** tab. Verify that the current IP address for the product is selected. The product IP address is listed on the product configuration page or through the control panel.
2. If you installed the product using an HP standard TCP/IP port, select the box labeled **Always print to this printer, even if its IP address changes**.
3. If you installed the product using a Microsoft standard TCP/IP port, use the hostname instead of the IP address.
4. If the IP address is correct, delete the product entry from the list of installed printers, and then add it again.

The computer is unable to communicate with the product

1. Test network communication by pinging the product.
 - a. Open a command-line prompt on your computer. For Windows, click **Start**, click **Run**, and then type `cmd`.
 - b. Type `ping` followed by the IP address for your product.
 - c. If the window displays round-trip times, both the network and device are working.
2. If the ping command failed, verify that the network router, hubs, or switches are on, and then verify that the network settings, the product, and the computer are all configured for the same network.

The product is using incorrect link and duplex settings for the network

Hewlett-Packard recommends leaving this setting in automatic mode (the default setting). If you change these settings, you must also change them for your network.

New software programs might be causing compatibility problems

Verify that any new software programs are correctly installed and that they use the correct printer driver.

The computer or workstation might be set up incorrectly

1. Check the network drivers, printer drivers, and the network redirection.
2. Verify that the operating system is configured correctly.

The product is disabled, or other network settings are incorrect

1. Review the configuration page to check the status of the network protocol. Enable it if necessary.
2. Reconfigure the network settings if necessary.


Solve wireless network problems

- [Wireless connectivity checklist](#)
- [The control panel displays the message: The wireless feature on this product has been turned off](#)
- [The product does not print after the wireless configuration completes](#)
- [The product does not print, and the computer has a third-party firewall installed](#)
- [The wireless connection does not work after moving the wireless router or product](#)
- [Cannot connect more computers to the wireless product](#)
- [The wireless product loses communication when connected to a VPN](#)
- [The network does not appear in the wireless networks list](#)
- [The wireless network is not functioning](#)


Wireless connectivity checklist

- The product and the wireless router are turned on and have power. Also make sure the wireless radio in the product is turned on.
- The service set identifier (SSID) is correct. Print a configuration page to determine the SSID. If you are not sure the SSID is correct, run the wireless setup again.
- With secured networks, make sure the security information is correct. If the security information is incorrect, run the wireless setup again.
- If the wireless network is working correctly, try accessing other computers on the wireless network. If the network has Internet access, try connecting to the Internet over another wireless connection.
- The encryption method (AES or TKIP) is the same for the product as it is for the wireless access point, such as a wireless router (on networks using WPA security).
- The product is within the range of the wireless network. For most networks, the product must be within 30 m (100 ft) of the wireless access point (wireless router).
- Obstacles do not block the wireless signal. Remove any large metal objects between the access point and the product. Make sure poles, walls, or support columns containing metal or concrete do not separate the product and wireless access point.
- The product is located away from electronic devices that might interfere with the wireless signal. Many devices can interfere with the wireless signal including motors, cordless phones, security system cameras, other wireless networks, and some Bluetooth devices.
- The printer driver is installed on the computer.
- You have selected the correct printer port.
- The computer and product connect to the same wireless network.

The control panel displays the message: The wireless feature on this product has been turned off

1. Touch the **Setup**  button, and then touch the **Wireless Setup** menu.
2. Touch the **Turn Wireless On/Off** button, and then touch the **On** button.

The product does not print after the wireless configuration completes


1. Make sure the product is turned on and in the ready state.
2. Make sure you are connecting to the correct wireless network.
3. Make sure that the wireless network is working correctly.
 - a. On the control panel, touch the **Setup**  button, and then touch the **Network** menu item.
 - b. Select the **Print Wireless Network Test** item to test the wireless network. The product prints a report with the results.
4. Make sure that the correct port or product is selected.
 - a. For printers installed *without* the fully-featured installer:
 1. From the list of printers on your computer, right-click the name of this product, click **Properties**, and then open the **Ports** tab.
 2. Make sure the box is checked next to **Virtual printer port for USB**.
 - b. If you installed the product using the CD installer, or downloaded the fully-featured installer from the HP's web site, you can view or change the product IP address using the following steps:
 - i. Click **Start**.
 - ii. Click **All Programs**.
 - iii. Click **HP**.
 - iv. Click your product.
 - v. Click **Update IP Address** to open a utility that reports the known ("previous") IP address for the product and allows you to change the IP address, if necessary.
5. Make sure that your computer is working correctly. If necessary, restart your computer.

The product does not print, and the computer has a third-party firewall installed


1. Update the firewall with the most recent update available from the manufacturer.
2. If programs request firewall access when you install the product or try to print, make sure you allow the programs to run.
3. Temporarily turn off the firewall, and then install the wireless product on the computer. Enable the firewall when you have completed the wireless installation.

The wireless connection does not work after moving the wireless router or product

Make sure that the router or product connects to the same network that your computer connects to.

1. From the control panel, touch the **Setup**  button, and then touch the **Print Reports** menu.
2. Select the **Network Configuration Page** item to print the report.
3. Compare the service set identifier (SSID) on the configuration report to the SSID in the printer configuration for your computer.
4. If the SSIDs are not the same, the devices are not connecting to the same network. Reconfigure the wireless setup for your product.

Cannot connect more computers to the wireless product

1. Make sure that the other computers are within the wireless range and that no obstacles block the signal. For most networks, the wireless range is within 30 m (100 ft) of the wireless access point.
2. Make sure the product is turned on and in the ready state.
3. Turn off any third-party firewalls on your computer.
4. Make sure that the wireless network is working correctly.
 - a. On the product control panel, touch the **Setup**  button, and then touch the **Network** menu.
 - b. Touch the **Print Wireless Test Report** item to test the wireless network. The product prints a report with the results.
5. Make sure that the correct port or product is selected.
 - a. For printers installed *without* the fully-featured installer:
 1. From the list of printers on your computer, right-click the name of this product, click **Properties**, and then open the **Ports** tab.
 2. Make sure the box is checked next to **Virtual printer port for USB**.
 - b. If you installed the product using the CD installer, or downloaded the fully-featured installer from the HP's web site, you can view or change the product IP address using the following steps:
 - i. Click **Start**.
 - ii. Click **All Programs**.
 - iii. Click **HP**.
 - iv. Click your product.
 - v. Click **Update IP Address** to open a utility that reports the known ("previous") IP address for the product and allows you to change the IP address, if necessary.
6. Make sure that your computer is working correctly. If necessary, restart your computer.


The wireless product loses communication when connected to a VPN

- Typically, you cannot connect to a VPN and other networks at the same time.

The network does not appear in the wireless networks list

- Make sure the wireless router is turned on and has power.
- The network might be hidden. However, you can still connect to a hidden network.

The wireless network is not functioning

1. To verify if the network has lost communication, try connecting other devices to the network.
2. Test network communication by pinging the network.
 - a. Open a command-line prompt on your computer. For Windows, click **Start**, click **Run**, and then type `cmd`.
 - b. Type `ping` followed by the service set identifier (SSID) for your network.
 - c. If the window displays round-trip times, the network is working.
3. Make sure that the router or product connects to the same network that your computer connects to.
 - a. From the product control panel, touch the **Setup**  button, and then touch the **Print Reports** menu.
 - b. Touch the **Network Configuration Page** item to print the report.
 - c. Compare the service set identifier (SSID) on the configuration report to the SSID in the printer configuration for your computer.
 - d. If the SSIDs are not the same, the devices are not connecting to the same network. Reconfigure the wireless setup for your product.

Solve product software problems with Windows

Problem	Solution
A printer driver for the product is not visible in the Printer folder	Reinstall the product software. NOTE: Close any applications that are running. To close an application that has an icon in the system tray, right-click the icon, and select Close or Disable .
	Try plugging the USB cable into a different USB port on the computer.
An error message was displayed during the software installation	Reinstall the product software. NOTE: Close any applications that are running. To close an application that has an icon in the task bar, right-click the icon, and select Close or Disable .
	Check the amount of free space on the drive where you are installing the product software. If necessary, free up as much space as you can, and reinstall the product software.
	If necessary, run the Disk Defragmenter, and reinstall the product software.

Problem	Solution
The product is in Ready mode, but nothing prints	<p>Print a Configuration page, and verify the product functionality.</p> <p>Verify that all of the cables are correctly seated and within specifications. This includes the USB and power cables. Try a new cable.</p> <p>Verify the IP Address on the Configuration Page matches the IP address for the software port. Use one of the following procedures:</p>
Windows XP, Windows Server 2003, Windows Server 2008, and Windows Vista	<ol style="list-style-type: none"> 1. Click Start. 2. Click Settings. 3. Click Printers and Faxes (using the default Start menu view) or click Printers (using the Classic Start menu view). 4. Right-click the product driver icon, and then select Properties. 5. Click the Ports tab, and then click Configure Port. 6. Verify the IP address, and then click OK or Cancel. 7. If the IP Addresses are not the same, delete the driver, and reinstall the driver using the correct IP address.
Windows 7	<ol style="list-style-type: none"> 1. Click Start. 2. Click Devices and Printers. 3. Right-click the product driver icon, and then select Printer properties. 4. Click the Ports tab, and then click Configure Port. 5. Verify the IP address, and then click OK or Cancel. 6. If the IP Addresses are not the same, delete the driver, and reinstall the driver using the correct IP address.
Windows XP, Windows Server 2003, Windows Server 2008, and Windows Vista, Windows 7, installed using the fully-featured installer	<ol style="list-style-type: none"> 1. Click Start. 2. Click All Programs. 3. Click HP. 4. Click your product. 5. Click Update IP Address to open a utility that reports the known ("previous") IP address for the product and allows you to change the IP address, if necessary.

Solve product software problems with Mac

- [The printer driver is not listed in the Print & Fax list](#)
- [The product name does not appear in the product list in the Print & Fax list](#)
- [The printer driver does not automatically set up the selected product in the Print & Fax list](#)
- [A print job was not sent to the product that you wanted](#)

- [When connected with a USB cable, the product does not appear in the Print & Fax list after the driver is selected.](#)
- [You are using a generic printer driver when using a USB connection](#)

The printer driver is not listed in the Print & Fax list

1. Make sure that the product .GZ file is in the following hard-drive folder: `Library/Printers/PPDs/Contents/Resources`. If necessary, reinstall the software.
2. If the GZ file is in the folder, the PPD file might be corrupt. Delete the file and then reinstall the software.

The product name does not appear in the product list in the Print & Fax list

1. Make sure that the cables are connected correctly and the product is on.
2. Print a configuration page to check the product name. Verify that the name on the configuration page matches the product name in the Print & Fax list.
3. Replace the USB or ethernet cable with a high-quality cable.

The printer driver does not automatically set up the selected product in the Print & Fax list

1. Make sure that the cables are connected correctly and the product is on.
2. Make sure that the product .GZ file is in the following hard-drive folder: `Library/Printers/PPDs/Contents/Resources`. If necessary, reinstall the software.
3. If the GZ file is in the folder, the PPD file might be corrupt. Delete the file and then reinstall the software.
4. Replace the USB or ethernet cable with a high-quality cable.

A print job was not sent to the product that you wanted

1. Open the print queue and restart the print job.
2. Another product with the same or similar name might have received your print job. Print a configuration page to check the product name. Verify that the name on the configuration page matches the product name in the Print & Fax list.

When connected with a USB cable, the product does not appear in the Print & Fax list after the driver is selected.

Software troubleshooting

- ▲ Make sure that your Mac operating system is Mac OS X 10.6 or later.

Hardware troubleshooting

1. Make sure that the product is turned on.
2. Make sure that the USB cable is connected correctly.
3. Make sure that you are using the appropriate high-speed USB cable.
4. Make sure that you do not have too many USB devices drawing power from the chain. Disconnect all of the devices from the chain, and connect the cable directly to the USB port on the computer
5. Check to see if more than two non-powered USB hubs are connected in a row on the chain. Disconnect all of the devices from the chain, and then connect the cable directly to the USB port on the computer.



NOTE: The iMac keyboard is a non-powered USB hub.

You are using a generic printer driver when using a USB connection

If you connected the USB cable before you installed the software, you might be using a generic printer driver instead of the driver for this product.

1. Delete the generic printer driver.
2. Reinstall the software from the product CD. Do not connect the USB cable until the software installation program prompts you.
3. If multiple printers are installed, make sure that you have selected the correct printer in the **Format For** drop-down menu in the **Print** dialog box.

A Supplies and accessories


- [Order parts, accessories, and supplies](#)
- [Part numbers](#)

Order parts, accessories, and supplies

Order supplies and paper	www.hp.com/go/suresupply
Order genuine HP parts or accessories	www.hp.com/buy/parts
Order through service or support providers	Contact an HP-authorized service or support provider.

Part numbers

Item	Part number	Cartridge number	Description
Ink cartridges	CN621A	HP 970	Standard-capacity black ink cartridge with HP Officejet pigment ink
	CN625A	HP 970XL	High-capacity black ink cartridge with HP Officejet pigment ink
	CN622A	HP 971	Standard-capacity cyan ink cartridge with HP Officejet pigment ink
	CN626A	HP 971XL	High-capacity cyan ink cartridge with HP Officejet pigment ink
	CN624A	HP 971	Standard-capacity yellow ink cartridge with HP Officejet pigment ink
	CN628A	HP 971XL	High-capacity yellow ink cartridge with HP Officejet pigment ink
	CN623A	HP 971	Standard-capacity magenta ink cartridge with HP Officejet pigment ink
	CN627A	HP 971XL	High-capacity magenta ink cartridge with HP Officejet pigment ink
Paper-handling accessories	CN595A		500-sheet paper feeder (optional Tray 3)
USB cable	8121-0868		2-meter A-to-B cable

 **NOTE:** For information about the yield for the cartridges, see www.hp.com/go/pageyield. Actual yield depends on specific use.

Some ink cartridges may not be available in all regions.

B Service and support

- [Hewlett-Packard limited warranty statement](#)
- [End User License Agreement](#)
- [OpenSSL](#)
- [Customer support](#)

Hewlett-Packard limited warranty statement

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Rev. 04/09

OpenSSL

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This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com).

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Download software utilities, drivers, and electronic information	http://www.hp.com/go/support
Order additional HP service or maintenance agreements	www.hp.com/go/carepack
Register your product	www.register.hp.com

C Product specifications

- [Physical specifications](#)
- [Power consumption, electrical specifications, and acoustic emissions](#)
- [Acoustic emissions](#)
- [Environmental specifications](#)

Physical specifications

Table C-1 Physical specifications

Product	Height	Depth	Width	Weight
HP Officejet Pro X451 MFP Series	380 mm (15.0 inches)	399 mm (15.7 inches)	513 mm (20.2 inches)	With supplies: 23.7 kg (50.0 lb)
				Without supplies: 16.7 kg (16.8 lb)
HP Officejet Pro X551 MFP Series	414 mm (16.3 inches)	399 mm (15.7 inches)	513 mm (20.2 inches)	With supplies: 23.7 kg (50.0 lb)
				Without supplies: 16.7 kg (16.8 lb)

Power consumption, electrical specifications, and acoustic emissions

⚠ CAUTION: Power requirements are based on the country/region where the product is sold. Do not convert operating voltages. This will damage the product and any such damage is not covered under the HP limited warranty and service agreements.

Acoustic emissions

Table C-2 Acoustic emission levels

Operation	LwAd-mono (B)	LwAd-color (B)	Notes
Print	6.9	6.8	
Copy	7.1	6.9	ADF models
Scan	6.9	6.7	ADF models

HP recommends that the machine be located in a room in which no employee has his/her regular work station.

Environmental specifications

Table C-3 Environmental specifications¹

	Operating	Transporting
Temperature	15° to 30° C (59° to 86° F)	-40° to 60° C (-40° to 140° F)

Table C-3 Environmental specifications¹ (continued)

	Operating	Transporting
Relative humidity	20 to 80%	90% or less (non-condensing)
Altitude	0 to 3048 m (0 to 10,000 ft)	
Tilt	IMPORTANT: This printer is designed to be used on a level surface. Operating the printer when not level could result in inaccurate printer messaging about the amount of ink remaining in cartridges.	

¹ Values are subject to change.

D Environmental product stewardship program

- [Protecting the environment](#)
- [Ozone production](#)
- [Power consumption](#)
- [Paper use](#)
- [Plastics](#)
- [HP Officejet print supplies](#)
- [Return and recycling instructions](#)
- [Paper](#)
- [Material restrictions](#)
- [Disposal of waste equipment by users](#)
- [Electronic Hardware Recycling](#)
- [Chemical substances](#)
- [Material Safety Data Sheet \(MSDS\)](#)
- [For more information](#)
- [Substances Table \(China\)](#)
- [Restriction on Hazardous Substances statement \(Turkey\)](#)
- [Restriction on Hazardous Substances statement \(Ukraine\)](#)
- [Restriction on Hazardous Substances statement \(Vietnam\)](#)

Protecting the environment

Hewlett-Packard Company is committed to providing quality products in an environmentally sound manner. This product has been designed with several attributes to minimize impacts on our environment.

Ozone production

This product generates no appreciable ozone gas (O₃).

Power consumption

Power usage drops significantly while in Ready or Sleep mode, which saves natural resources and saves money without affecting the high performance of this product. Hewlett-Packard printing and imaging equipment marked with the ENERGY STAR® logo is qualified to the U.S. Environmental Protection Agency's ENERGY STAR specifications for imaging equipment. The following mark will appear on ENERGY STAR qualified imaging products:



Additional ENERGY STAR qualified imaging product model information is listed at:

www.hp.com/go/energystar



NOTE: Additional energy savings may be realized by turning off the printer if it will not be used for a longer time.

Paper use

This product's optional automatic duplex feature (two-sided printing) and N-up printing (multiple pages printed on one page) capability can reduce paper usage and the resulting demands on natural resources.



NOTE: Recycled paper and A4 sized paper can be used for duplexing.

Plastics

Plastic parts over 25 grams are marked according to international standards that enhance the ability to identify plastics for recycling purposes at the end of the product's life.

HP Officejet print supplies

HP is committed to providing inventive, high-quality products and services that are environmentally sound, from product design and manufacturing to distribution, customer use and recycling. When you participate in the HP Planet Partners program, we ensure your HP Officejet ink cartridges are recycled properly, processing them to recover plastics and metals for new products and diverting millions of tons of waste from landfills. Since this cartridge is being recycled and used in new materials, it will not be returned to you. Thank you for being environmentally responsible!



NOTE: Go to <http://www.hp.com/recycle> for complete recycling information and to order postage-paid labels, envelopes, or boxes, for recycling.

Return and recycling instructions

United States and Puerto Rico

Go to www.hp.com/recycle for complete recycling information and to order post-paid labels and envelopes or boxes. Please follow the applicable instructions below.

Multiple returns (more than one cartridge)

1. Package each HP Officejet ink cartridge in its original box and bag.
2. Tape the boxes together using strapping or packaging tape. The package can weigh up to 31 kg (70 lb).
3. Use a single pre-paid shipping label.

OR

1. Use your own suitable box, or request a free bulk collection box from www.hp.com/recycle or 1-800-340-2445 (holds up to 31 kg (70 lb) of HP Deskjet ink cartridges).
2. Use a single pre-paid shipping label.

Single returns

1. Package the HP Officejet ink cartridge in its original bag and box.
2. Place the shipping label on the front of the box.

Shipping

For US and Puerto Rico HP Officejet ink cartridge recycling returns, use the pre-paid, pre-addressed shipping label contained in the box. To use the UPS label, give the package to the UPS driver during your next delivery or pick-up, or take it to an authorized UPS drop-off center. (Requested UPS Ground pickup will be charged normal pick-up rates) For the location of your local UPS drop-off center, call 1-800-PICKUPS or visit www.ups.com.

If you are returning the package with the FedEx label, give the package to either the U.S. Postal Service carrier or FedEx driver during your next pick-up or delivery. (Requested FedEx Ground pickup will be charged normal pick-up rates). Or, you can drop off your packaged ink cartridge(s) at any U.S. Post Office or any FedEx shipping center or store. For the location of your nearest U.S. Post Office, please call 1-800-ASK-USPS or visit www.usps.com. For the location of your nearest FedEx shipping center/store, please call 1-800-GOFEDEX or visit www.fedex.com.

For more information, or to order additional labels or boxes for bulk returns, visit www.hp.com/recycle or call 1-800-340-2445. Information subject to change without notice.

Residents of Alaska and Hawaii

Do not use the UPS label. Call 1-800-340-2445 for information and instructions. The U.S. Postal Service provides no-cost cartridge return transportation services under an arrangement with HP for Alaska and Hawaii.

Non-U.S. returns

To participate in HP Planet Partners return and recycling program, just follow the simple directions in the recycling guide (found inside the packaging of your new product supply item) or visit www.hp.com/recycle. Select your country/region for information on how to return your HP Officejet printing supplies.

Battery disposal

For battery disposal information, see <http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>

Printer recycling

For printer recycling information, see <http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>

Paper

This product is capable of using recycled papers when the paper meets HP guidelines. This product is suitable for the use of recycled paper according to EN12281:2002.

Material restrictions

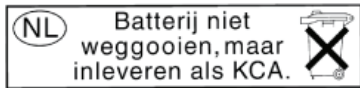
This HP product does not contain intentionally added mercury.

This HP product contains a battery that might require special handling at end-of-life. The batteries contained in or supplied by Hewlett-Packard for this product include the following:

HP Officejet Pro X451 and X551 MFP Series	
Type	Lithium Manganese Dioxide
Weight	3.0 g
Location	On main board
User-removable	No



廢電池請回收



Dit HP Product bevat een lithium-manganees-dioxide batterij. Deze bevindt zich op de hoofdprintplaat. Wanneer deze batterij leeg is, moet deze volgens de geldende regels worden afgevoerd.



廢電池請回收

Please recycle waste batteries.

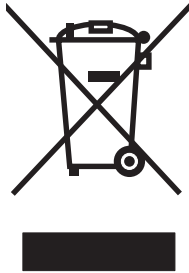
California Perchlorate Material Notice

Perchlorate material - special handling may apply. See: <http://www.dtsc.ca.gov/hazardouswaste/perchlorate/>

This product's real-time clock battery or coin cell battery may contain perchlorate and may require special handling when recycled or disposed of in California.

For recycling information, you can go to www.hp.com/recycle, or contact your local authorities or the Electronics Industries Alliance: www.eiae.org.

Disposal of waste equipment by users



This symbol means do not dispose of your product with your other household waste. Instead, you should protect human health and the environment by handing over your waste equipment to a designated collection point for the recycling of waste electrical and electronic equipment. For more information, go to <http://www.hp.com/recycle>

Electronic Hardware Recycling

HP encourages customers to recycle used electronic hardware. For more information about recycling programs go to: <http://www.hp.com/recycle>.

Chemical substances

HP is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at: www.hp.com/go/reach.

Material Safety Data Sheet (MSDS)

Material Safety Data Sheets (MSDS) for supplies containing chemical substances (for example, ink) can be obtained by accessing the HP Web site at www.hp.com/go/msds or www.hp.com/hpinfo/community/environment/productinfo/safety.

For more information

To obtain information about these environmental topics:

- Product environmental profile sheet for this and many related HP products
- HP's commitment to the environment
- HP's environmental management system
- HP's end-of-life product return and recycling program
- Material Safety Data Sheets

Visit www.hp.com/go/environment or www.hp.com/hpinfo/globalcitizenship/environment.

Substances Table (China)

有毒有害物质表

根据中国电子信息产品污染控制管理办法的要求而出台

部件名称	有毒有害物质和元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
打印引擎	0	0	0	0	0	0
复印机组件	0	0	0	0	0	0
控制面板	0	0	0	0	0	0
塑料外壳	0	0	0	0	0	0
格式化板组件	0	0	0	0	0	0
碳粉盒	0	0	0	0	0	0

3690b

0：表示在此部件所用的所有同类材料中，所含的此有毒或有害物质均低于 SJ/T11363-2006 的限制要求。

X：表示在此部件所用的所有同类材料中，至少一种所含的此有毒或有害物质高于 SJ/T11363-2006 的限制要求。

注：引用的“环保使用期限”是根据在正常温度和湿度条件下操作使用产品而确定的。

Restriction on Hazardous Substances statement (Turkey)

Türkiye Cumhuriyeti: EEE Yönetmeliğine Uygundur

Restriction on Hazardous Substances statement (Ukraine)

Обладнання відповідає вимогам Технічного регламенту щодо обмеження використання деяких небезпечних речовин в електричному та електронному обладнанні, затвердженого постановою Кабінету Міністрів України від 3 грудня 2008 № 1057

Restriction on Hazardous Substances statement (Vietnam)

“Các sản phẩm của công ty Hewlett-Packard tuân thủ Thông tư 30/2011/TT-BCT quy định tạm thời về giới hạn hàm lượng cho phép của một số hóa chất độc hại trong sản phẩm điện, điện tử”

E Regulatory information

- [Regulatory Notices](#)
- [VCCI statement \(Japan\)](#)
- [Power cord instructions](#)
- [Power cord statement \(Japan\)](#)
- [EMC statement \(Korea\)](#)
- [GS statement \(Germany\)](#)
- [European Union Regulatory Notice](#)
- [Additional statements for wireless products](#)
- [Anonymous usage information storage](#)

Regulatory Notices


Regulatory model identification number

For regulatory identification purposes, your product is assigned a Regulatory Model Number. The Regulatory Model Number for your product is VCVRA-1212. This regulatory number should not be confused with the marketing name (HP Officejet Pro X451 MFP Series, HP Officejet Pro X551 MFP Series, etc.) or product numbers (CN459A, CN463A, CN596A, CV037A etc.).

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If this equipment is not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

 **NOTE:** Any changes or modifications to the printer that are not expressly approved by HP could void the user's authority to operate this equipment.

Use of a shielded interface cable is required to comply with the Class B limits of Part 15 of FCC rules.

For further information, contact: Manager of Corporate Product Regulations Hewlett-Packard Company 3000 Hanover Street Palo Alto, Ca 94304 (650) 857-1501

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

VCCI statement (Japan)


この装置は、クラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。取扱説明書に従って正しい取り扱いをして下さい。

VCCI-B

Power cord instructions

Make sure your power source is adequate for the product voltage rating. The voltage rating is on the product label. The product uses either 100-127 Vac or 220-240 Vac and 50/60 Hz.

Connect the power cord between the product and a grounded AC outlet.

 **CAUTION:** To prevent damage to the product, use only the power cord that is provided with the product.

Power cord statement (Japan)

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。

EMC statement (Korea)

B급 기기
(가정용 방송통신기기)

이 기기는 가정용(B급)으로 전자파적합등록을 한 기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

GS statement (Germany)

Das Gerät ist nicht für die Benutzung im unmittelbaren Gesichtsfeld am Bildschirmarbeitsplatz vorgesehen. Um störende Reflexionen am Bildschirmarbeitsplatz zu vermeiden, darf dieses Produkt nicht im unmittelbaren Gesichtsfeld platziert werden.

European Union Regulatory Notice

Products bearing the CE marking  comply with the following EU Directives:

- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- Ecodesign Directive 2009/125/EC, where applicable



CE compliance of this product is valid only if powered with the correct CE-marked AC adapter provided by HP.

If this product has wired and/or wireless telecommunications functionality, it also complies with the essential requirements of the following EU Directive:

- R&TTE; Directive 1999/5/EC

Compliance with these directives implies conformity to applicable harmonized European standards (European Norms) that are listed in the EU Declaration of Conformity issued by HP for this product or product family and available (in English only) either within the product documentation or at the following website: www.hp.com/go/certificates (type the product number in the search field).

The compliance is indicated by one of the following conformity markings placed on the product:

	For non-telecommunications products and for EU harmonized telecommunications products, such as Bluetooth® within power class below 10mW.
	For EU non-harmonized telecommunications products (If applicable, a 4-digit notified body number is inserted between CE and !).

Please refer to the regulatory label provided on the product.

The telecommunications functionality of this product may be used in the following EU and EFTA countries: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, and United Kingdom.

The telephone connector (not available for all products) is intended for connection to analogue telephone networks.

Products with wireless LAN devices

Some countries may have specific obligations or special requirements about the operation of Wireless LAN networks such as indoor use only or restrictions of the channels available. Please make sure that the country settings of the wireless network are correct.

France

For 2.4-GHz Wireless LAN operation of this product, certain restrictions apply: This product may be used indoors for the entire 2400-MHz to 2483.5-MHz frequency band (channels 1 to 13). For outdoor use, only the 2400-MHz to 2454-MHz frequency band (channels 1 to 7) may be used. For the latest requirements, see www.arcep.fr.

The point of contact for regulatory matters is:

Hewlett-Packard GmbH, Dept./MS: HQ-TRE, Herrenberger Strasse 140, 71034 Boeblingen, GERMANY

Additional statements for wireless products

FCC compliance statement—United States

Exposure to radio frequency radiation

⚠ CAUTION: The radiated output power of this device is far below the FCC radio frequency exposure limits. Nevertheless, the device shall be used in such a manner that the potential for human contact during normal operation is minimized.

In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 in)) during normal operation.

Notice to users in the US and Canada

⚠ CAUTION: When using IEEE 802.11a wireless LAN, this product is restricted to indoor use, due to its operation in the 5.15- to 5.25-GHz frequency range. The FCC/Industry Canada requires this product to be used indoors for the frequency range of 5.15 GHz to 5.25 GHz to reduce the potential for harmful interference to co-channel mobile satellite systems. High-power radar is allocated as the primary user of the 5.25- to 5.35-GHz and 5.65- to 5.85-GHz bands. These radar stations can cause interference with and/or damage to this device.

Australia statement

This device incorporates a radio-transmitting (wireless) device. For protection against radio transmission exposure, it is recommended that this device be operated no less than 20 cm from the head, neck, or body.

Brazil ANATEL statement

Este equipamento opera em caráter secundário, isto é, não tem direito à proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário (Res. ANATEL 282/2001).

Canadian statements

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

⚠ WARNING! Exposure to Radio Frequency Radiation The radiated output power of this device is below the Industry Canada radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact is minimized during normal operation.

To avoid the possibility of exceeding the Industry Canada radio frequency exposure limits, human proximity to the antennas should not be less than 20 cm (8 inches).

Japan statement

この機器は技術基準適合証明又は工事設計認証を受けた無線設備を搭載しています。

Korean statement

당해 무선설비는 운용 중 전파혼선 가능성이 있음

Taiwan statement

低功率電波輻射性電機管理辦法

第十二條 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Mexico statement

Aviso para los usuarios de México

La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada. Para saber el modelo de la tarjeta inalámbrica utilizada, revise la etiqueta regulatoria de la impresora.

Anonymous usage information storage

The HP cartridges used with this printer contain a memory chip that assists in the operation of the printer.

In addition, this memory chip stores a limited set of anonymous information about the usage of the printer, which might include the following: the date when the cartridge was first installed, the date when the cartridge was last used, the number of pages printed using the cartridge, the page coverage, frequency of printing, the printing modes used, any printing errors that might have occurred, and the printer model.

This information helps HP design future printers to meet our customers' printing needs. The data collected from the cartridge memory chip does not contain information that can be used to identify a customer or user of the cartridge or their printer.

HP collects a sampling of the memory chips from cartridges returned to HP's free return and recycling program (HP Planet Partners: www.hp.com/hpinfo/globalcitizenship/environment/recycle/). The memory chips from this sampling are read and studied in order to improve future HP printers. HP partners who assist in recycling this cartridge might have access to this data, as well.

Any third party possessing the cartridge might have access to the anonymous information on the memory chip. If you prefer to not allow access to this information, you can render the chip inoperable. However, after you render the memory chip inoperable, the cartridge cannot be used in an HP printer.

If you are concerned about providing this anonymous information, you can make this information inaccessible by turning off the memory chip's ability to collect the printer's usage information:

To disable the usage information function

1. On the printer control panel, touch **Setup**.
2. Select **Preferences**, and then select **Cartridge Chip Information**.
3. Touch **OK** to turn off usage information collection.



NOTE: To re-enable the usage information function, restore the factory defaults.



NOTE: You can continue to use the cartridge in the HP printer if you turn off the memory chip's ability to collect the printer's usage information.

F How do I?

- [Connect the product on page 29](#)
- [Use the product with Windows on page 39](#)
- [Use the product with Mac on page 45](#)
- [Paper and print media on page 49](#)
- [Ink cartridges on page 59](#)
- [Print on page 71](#)
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/* rijndael-alg-fst.c

*

* @version 3.0 (December 2000)

*

* Optimised ANSI C code for the Rijndael cipher (now AES)

*

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/* HMAC-SHA-224/256/384/512 implementation

* Last update: 06/15/2005

* Issue date: 06/15/2005

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/* FIPS 180-2 SHA-224/256/384/512 implementation

* Last update: 02/02/2007

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zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.3, July 18th, 2005

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The data format used by the zlib library is described by RFCs (Request for
Comments) 1950 to 1952 in the files <http://www.ietf.org/rfc/rfc1950.txt>
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