

Maintenance and troubleshooting guide

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1 Safety precautions

Before using your printer, read the following safety precautions to make sure you use the equipment safely.

General safety guidelines

- Refer to installation instructions before connecting the printer to the supply.
- There are no operator-serviceable parts inside the printer. Refer servicing to qualified service personnel.
- Turn off the printer, unplug both power cords from the power outlets, and refer servicing to HP qualified service personnel in any of the following cases:
 - The power cord or plug is damaged.
 - Liquid has entered the printer.
 - There is smoke or an unusual smell coming from the printer.
 - The printer has been dropped or the drying or curing module damaged.
 - The printer's built-in Residual Current Circuit Breaker (Ground Fault Circuit Interrupter) has been repeatedly tripped.
 - Fuses have blown.
 - The printer is not operating normally.
- Turn off the printer and unplug both power cords from the power outlets in either of the following cases:
 - During a thunderstorm
 - During a power failure

Electrical shock hazard

MARNING! The drying and curing modules operate at hazardous voltages capable of causing death or serious personal injury.

The printer uses two power cords. Unplug both power cords before servicing the printer. The printer must be connected to earthed mains outlets only.

To avoid the risk of electric shock:

- Do not attempt to dismantle the drying and curing modules or the electrical control cabinet.
- Do not remove or open any other closed system covers or plugs.
- Do not insert objects through slots in the printer.

NOTE: A blown fuse may indicate malfunctioning electrical circuits within the system. Have the system checked by qualified HP service personnel, and do not attempt to replace the fuse yourself.

Heat hazard

The drying and curing subsystems of the printer operate at high temperatures and can cause burns if touched. To avoid personal injury, take the following precautions.

- Do not touch the internal enclosures of the printer's drying and curing modules. Even after opening the window latch that disconnects drying and curing power, the internal surfaces could be hot.
- Take special care when accessing the substrate path.

Fire hazard

The drying and curing subsystems of the printer operate at high temperatures. Contact qualified HP service personnel if the printer's built-in Residual Current Circuit Breaker (Ground Fault Circuit Interrupter) is repeatedly tripped.

To avoid the risk of fire, take the following precautions.

- Use the power supply voltage specified on the nameplate.
- Connect the power cords to dedicated lines, each protected by a branch circuit breaker according to the rating of the wall socket. Do not use a power strip (relocatable power tap) to connect both power cords.
- Use only the power cords supplied by HP with the printer. Do not use a damaged power cord. Do not use the power cords with other products.
- Do not insert objects through slots in the printer.
- Take care not to spill liquid on the printer.
- Do not use aerosol products that contain flammable gases inside or around the printer.
- Do not block or cover the openings of the printer.
- Do not attempt to dismantle the drying or curing module, or the electrical control cabinet.
- Load substrates that can be used at an operating temperature of up to 125°C (257°F), and have autoignition temperatures above 250°C (482°F).

Mechanical hazard

The printer has moving parts that could cause injury. To avoid personal injury, take the following precautions when working close to the printer.

- Keep your clothing and all parts of your body away from the printer's moving parts.
- Avoid wearing necklaces, bracelets and other hanging objects.
- If your hair is long, try to secure it so that it will not fall into the printer.
- Take care that sleeves or gloves do not get caught in the printer's moving parts.
- Avoid standing close to the fans, which could cause injury and could also affect print quality (by obstructing the air flow).
- Do not touch gears or moving rolls during printing.

Heavy substrate hazard

Special care must be taken to avoid personal injury when handling heavy substrates.

- Handling heavy substrate rolls may require more than one person. Care must be taken to avoid back strain and/or injury.
- Consider using a forklift, pallet truck or other handling equipment.
- When handling heavy substrate rolls, wear personal protective equipment including boots and gloves.

Ink handling

Your printer does not use solvent inks and does not have the traditional problems associated with them. However, HP recommends that you wear gloves when handling ink system components.

Warnings and cautions

The following symbols are used in this manual to ensure the proper use of the printer and to prevent the printer from being damaged. Follow the instructions marked with these symbols.

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

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

Label Explanation Risk of burns. Do not touch the internal enclosures of drying and curing modules of the printer. Risk of burns. Do not touch the drying enclosure of the printer. Even after opening the window latch, which disconnects the power to the drying and curing modules, the internal surfaces could be hot. Electric shock hazard. The printer has two input power cords. A voltage is still present in the drying and curing modules after the main switch is turned off. There are no operator-serviceable parts inside the printer. Refer servicing to qualified service personnel. Disconnect all power cords before servicing. See installation instructions before connecting to the supply. SEE INSTALLATION INSTRUCTIONS Ensure that the input voltage is within the printer's rated voltage BEFORE CONNECTING TO THE SUPPLY. range. The printer requires two dedicated lines, each protected by a branch circuit breaker according to the rating of the wall socket outlet. Use only earthed mains outlets and the power cords supplied by HP with the printer. Risk of trapped hands. Do not push the roll while loading. Lift the loading table to ease the spindle into the printer.

Warning labels

Label	Explanation
	Risk of trapped fingers. Do not touch spindle gears while moving.
DO NOT PUT OBJECTS ON TOP	Do not put objects on top of the printer. Do not cover the fans.
	You are recommended to wear gloves when handling ink cartridges, printhead cleaning cartridges and the printhead cleaning container.

2 Printer status

Check printer status

You can check the current status of the printer in the following ways:

- The Embedded Web Server displays the status of the printer, the loaded substrate and the ink system.
- The front panel displays the ink levels by default; otherwise, you can see the ink levels by selecting the the Ink System icon 3. In addition, the most important current alert, if any, is displayed in the front panel.

Check the status of the ink system

- 1. Access the Embedded Web Server (see the User's guide).
- 2. Go to the Supplies page on the **Main** tab.

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

The traffic light shows whether maintenance is required. For further information, click View details.

Check the status of the ink cartridges

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

Click the + sign for more details, or use the ink menu.

You can also view the status of the ink cartridges in the Embedded Web Server.

Ink menu procedure

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

Check the status of a printhead

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

- 1. On the front panel, select the 🔊 icon, then select **Printhead information**.
- 2. Select the printhead for which you want to see information.
- 3. The front panel shows the following information:
 - Colors
 - Product name
 - Product number
 - Serial number
 - Status (See <u>Front-panel error messages on page 45</u>.)
 - Volume of ink it has used
 - Warranty status

You can also use the Embedded Web Server to check the printhead status and the warranty status.

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

Check the file system

It is possible to check the integrity of the file system on the printer's hard disk, and automatically correct any errors. You are recommended to do this about once every six months, or if you notice any trouble in accessing files on the hard disk.

To execute the file system check, go to the front panel and select the 🐒 icon, then select **File system check**.

If the printer is aware of damage to the file system, for instance after a severe software problem, it may start a file system check automatically. This can take about half an hour.

Check printer usage statistics

To check your printer-usage, statistics are available.

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

Printer statistics with the Embedded Web Server

- 1. Access the Embedded Web Server (see the User's guide).
- 2. Go to the Usage page on the Main tab.

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Printer alerts

The printer can communicate two types of alerts:

- **Errors:** When the printer is unable to print.
- **Warnings:** When the printer needs attention for an adjustment, such as a calibration, preventive maintenance or ink cartridge replacement.

Printer alerts appear in the front panel and in the Embedded Web Server.

• **Front-panel display:** The front panel shows only one alert at a time, which is judged to be the most important. It generally requires the user to press the OK key for confirmation, but in the case of a

warning, it disappears after a while. Some alerts reappear when the printer is idle and there is nothing more important to report.

• **Embedded Web Server:** The alert displayed in the front panel also appears in the top right corner of the Embedded Web Server window.

An alert may require you to perform a maintenance operation; see <u>Hardware maintenance on page 11</u>.

The following alerts require a service engineer:

- Service Maintenance Kit 1
- Service Maintenance Kit 2
- Service Maintenance Kit 3

3 Firmware update

The printer's various functions are controlled by software that resides in the printer, also known as firmware.

From time to time, firmware updates from Hewlett-Packard become available. These updates increase the printer's functionality and enhance its features.

Firmware updates can be downloaded from HP's Web site (<u>http://www.hp.com/go/graphic-arts/</u>) and installed in your printer using the printer's Embedded Web Server.

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

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In the Embedded Web Server, select the **Setup** tab and then **Firmware update**.

Follow the on-screen instructions to download the firmware file and store it on your hard disk. Then select the downloaded file and click **Update**.

If you experience very slow progress while uploading the firmware file to the printer, the reason could be that you are using a proxy server. In that case, try bypassing the proxy server and accessing the Embedded Web Server directly.

- In Internet Explorer 6 for Windows, go to Tools > Internet Options > Connections > LAN Settings, and select the Bypass proxy server for local addresses check box. Alternatively, for more precise control, click the Advanced button and add the printer's IP address to the list of exceptions, for which the proxy server is not used.
- In Firefox 3.0 for Windows, go to Tools > Options > Network > Connection > Settings, and select the
 Direct connection to the Internet check box. Alternatively, when the Manual proxy configuration
 check box is selected, add the printer's IP address to the list of exceptions, for which the proxy server is
 not used.
- In Firefox 2.0 for Linux, go to Edit > Preferences > Network > Connection > Settings, and select the
 Direct connection to the Internet check box. Alternatively, when the Manual proxy configuration
 check box is selected, add the printer's IP address to the list of exceptions, for which the proxy server is
 not used.

4 Hardware maintenance

For the tasks in this chapter, you may need the User Maintenance Kit that was provided with your printer.

Align the printheads

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

You may also be recommended to align the printheads to solve a print-quality problem.

Automatic alignment

First make sure that you have a roll of opaque, white substrate loaded in the printer. Colored substrates, glossy canvas, and transparent materials such as translucent bond, clear film, tracing substrate, and vellum are not suitable for automatic printhead alignment; for these substrates, you should align the printheads manually (see <u>Manual alignment on page 11</u>).

To request printhead alignment from the front panel (if the alignment is not performed automatically), select the \Im icon, then select **Image quality maintenance** > **Align printheads** > **Auto PH alignment**.

To request printhead alignment from the Embedded Web Server, select the **Setup** tab, then select **Align printheads** > **Automatic PH alignment** > **Print**.

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

Manual alignment

To request a manual printhead alignment from the front panel, select the 🔊 icon, then select **Image quality** maintenance > Align printheads > Manual PH alignment > Print alignment pattern.

To request manual printhead alignment from the Embedded Web Server, select the **Setup** tab, then select **Align printheads > Manual PH alignment > Print**.

The printer prints 17 rows labelled from A to Q. Inspect the print and write down the number of the straightest line in each row (for example, A:9).

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When you have done this, enter the correction values into the front panel or the Embedded Web Server.

To enter the correction values in the front panel, select the (3) icon, then select **Image quality maintenance** > **Align printheads** > **Manual PH alignment** > **Enter correction values**. Enter each value into the window labelled with the same letter as the corresponding pattern.

To enter the correction values in the Embedded Web Server, select the **Setup** tab, then select **Align printheads** > **Manual PH alignment**, and enter each value into the window labelled with the same letter as the corresponding pattern.

Clean the electrical connections on a printhead

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

A carriage interconnect wiper is included with your printer in the User Maintenance Kit.



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

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



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

2. Open the carriage interconnect wiper.



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



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



- 5. Open the printhead carriage latch and extract the printhead that is causing the problem, as indicated on the front panel. See the *User's guide*.
- 6. Insert the carriage interconnect wiper into the printhead slot at the back. Wipe the electrical contacts by inserting the tool between the electrical connections at the back of the slot and the steel spring, with the sponge facing away from you and towards the electrical contacts. Try to avoid picking up any ink deposit that may have accumulated on the bottom surface of the slot.
 - **CAUTION:** If the carriage remains in the central part of the printer for more than 7 minutes, it attempts to return to its home position to the right.



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



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



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



- **CAUTION:** Do not touch the surface of the printhead that contains the nozzles, because the nozzles are easily damaged.
- **10.** After waiting a few moments to allow both connectors to dry, replace the printhead into the printhead carriage. See the *User's guide*.
- **11.** After completing the cleaning process, open the carriage interconnect wiper by pulling on the sponge tab.



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



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



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

Clean the exterior of the printer

Use a damp sponge or a soft cloth and a mild household cleaner such as non-abrasive liquid soap to clean the outside of the printer and all other parts of the printer that you regularly touch as part of normal operation (for example, ink cartridge drawer handles).

There may be some dampness from condensation under the fans of the curing module, which should be wiped with a dry cloth.

WARNING! To avoid an electric shock, make sure that the printer is turned OFF and unplugged before you clean it. Do not let water get inside the printer.

CAUTION: Do not use abrasive cleaners on the printer.

Clean the platen

You should clean your printer's platen every few months, or when necessary.

NOTE: If you print on wide substrate after having printed on narrower substrate, you might find that the left side of the platen has become dirty. If this contaminated section of the platen is not cleaned, it might leave marks on the back of the substrate.

WARNING! Be careful not to damage the substrate-advance sensor when cleaning the platen. The sensor is the very small rectangular window (less than 1 square centimeter) found close to the third pinchwheel from the right. See <u>Clean the substrate-advance sensor window on page 18</u>.

Follow these instructions to clean the platen.

- 1. Unload all substrate from the printer. See the User's guide.
- 2. Turn off the printer and wait until it has cooled down, then unlock and open the printer window.



3. With a dry brush, remove ink deposits from the cutter groove. A brush is available in the User Maintenance Kit.



4. With the same dry brush, remove ink deposits from the platen surface.



5. Use a clean, absorbent lint-free cloth that has been slightly dampened with isopropyl alcohol to wipe loosened ink deposits from the platen.

NOTE: Isopropyl alcohol is not provided in the User Maintenance Kit.



- **CAUTION:** Do not use commercial cleaners or abrasive cleaners. Do not wet the platen directly, because you will leave too much moisture behind.
- 6. Use the damp cloth to clean the cutter ramp.



7. Use a dry cloth to clean the exposed part of the wheels. Ideally, you should clean the entire circumference of these wheels.



- 8. Remove the isopropyl alcohol and the cloth from the vicinity of the printer.
- **9.** Wait three or four minutes to let the alcohol evaporate, before turning on the printer and reloading the substrate.

Clean (recover) the printheads

To clean the printheads (which often enables them to recover from problems), go to the printer's front panel and select the 🔊 icon, then select **Image quality maintenance** > **Clean printheads**. Specify which printheads you would like to clean. You can clean all of the printheads or only some of them. Select from these options:

- Print test plot
- Clean all
- Clean LC-C
- Clean Y-MK
- Clean LM-M

Cleaning all printheads takes about 5 minutes. Cleaning any two printheads takes about 3 minutes.

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

Clean the substrate-advance sensor window

The substrate-advance sensor is the very small rectangular window (less than 1 square centimeter in size) close to the third pinchwheel from the right.

HP recommends that you clean the substrate-advance sensor window whenever you clean the print platen and if you are experiencing print quality issues.

- 1. Unload the substrate by using the front panel procedure. See the User's guide.
- **2.** Turn off the printer and wait until it has cooled down.
- **3.** Wipe the sensor with one of the cotton swabs provided in the User Maintenance Kit, slightly dampened with isopropyl alcohol, to remove dried ink.



If the sensor window is heavily coated with dried ink, you may need to apply some pressure while wiping, helping the cotton to absorb the ink. Continue cleaning with fresh swabs until the cotton stays clean and the sensor window looks clean. When reflecting ambient light, a clean sensor shows a blue-colored reflection that should extend uniformly across its whole surface. You can see this reflection by moving closer and slightly changing your angle of view.

- 4. Remove the isopropyl alcohol and the cotton swabs from the vicinity of the printer.
- 5. Wait three or four minutes to let the alcohol evaporate, before turning on the printer and reloading the substrate.

Clean and lubricate the carriage rail

NOTE: Under some workflows, or/and site conditions such as in warm ambient temperature, which are above the printer's operation specification (above 30°C(86°F)), or if there is significant ambient dust; the lubrication of the slider rods can be reduced or affected, which can in turn affect the performance of the printer.

NOTE: A visual explanation of the procedure to clean and lubricate the carriage rail can be found here: http://www.hp.com/go/L25500/videos

- **1.** To gain access to the carriage, go to the front panel and select the **%** icon, then select **Carriage rail lubrication**.
- 2. Unlock and open the window.
- 3. Clean the carriage rail using a lint-free cloth dampened with Isopropyl alcohol. Take care to clean the whole rail, including the part under the left cover.
- **NOTE:** Isopropyl alcohol is not provided in the Maintenance Kit.
- **CAUTION:** Isopropyl alcohol is highly flammable. Observe the manufacturer's safety precautions.
- **NOTE:** If you are in an area (such as California) that regulates VOC cleaning and maintenance fluids, instead of isopropyl alcohol please use a VOC-certified cleaner such as a properly diluted Simple Green All-Purpose Cleaner.
- **CAUTION:** Do not use commercial cleaners or abrasive cleaners.

CAUTION: While cleaning, be careful not to damage the metal strip located on top of the rail.



- 4. Wait until the rail is dry, then close the window. The carriage moves to the center of the printer so that you can reach the part of the rail under the right cover.
- 5. Unlock and open the printer window.

- 6. Clean the carriage rail area under the right cover as described in step 3.
- 7. Take the bottle of oil from the Maintenance Kit that is supplied with your printer (a replacement kit can be ordered if necessary).
- 8. Deposit a very thin zig-zag trickle of oil along the rail on both sides of the carriage. There is a video showing the process here: <u>http://www.hp.com/go/L25500/videos</u>



NOTE: While lubricating, be careful not to drop oil on the metal strip located on top of the rail.

- 9. Clean the substrate jam reflector using a lint-free cloth dampened with distilled water. If you find dried ink that you cannot remove, try using a lint-free cloth dampened with Isopropyl alcohol.
- **NOTE:** If you are in an area (such as California) that regulates VOC cleaning and maintenance fluids, instead of isopropyl alcohol please use a VOC-certified cleaner such as a properly diluted Simple Green All-Purpose Cleaner.



- **10.** Press **OK** at the front panel.
- **11.** Close and lock the window.
- 12. The Carriage Assembly moves along the rail to distribute the oil along the rail.
- **13.** The Front Panel prompts for confirmation that the lubrication processes has been done. Press **OK** to confirm.

Maintain the ink cartridges

During the normal lifetime of a cartridge, no specific maintenance is required. You should replace a cartridge when it has reached its expiration date. See the ink cartridge information on the front panel for the expiration date.

Move or store the printer

If you need to move your printer or store it for an extended period of time, prepare it correctly to avoid possible damage.

- 1. Do not remove the ink cartridges, printheads or printhead cleaning cartridge.
- 2. Make sure that no substrate is loaded.
- 3. Make sure that the printhead carriage is located in the service station (at the right end of the printer).
- 4. Make sure that the **Ready** message appears on the front panel.
- 5. Turn off the power by using the Power button on the front panel.
- 6. Also switch off the two power switches at the rear of the printer.
- 7. Disconnect the two power cables and any cables that connect the printer to a network, a computer, or a scanner.
- 8. If you have a take-up reel installed, remove the take-up reel sensor and cable-housing unit from the foot of the printer stand. For your convenience, you can place the sensor and cable-housing unit on the printer-stand crossbar and use the blue, plastic screw to affix the housing unit to the leg of the stand, while you move the printer (see the following graphic). When reinstalling the housing unit, make sure that the wheel on the foot of the printer stand is pointing forward.



- **NOTE:** If the printer or ink cartridges are moved from a cold location to a warm and humid location, water from the atmosphere can condensate on the printer parts and cartridges and can result in ink leaks and printer errors. In this case, HP recommends that you wait at least 3 hours before turning on the printer or installing the ink cartridges, to allow the condensate to evaporate.
- 9. To avoid ink leakage, keep the printer upright at all times and do not turn it upside down or on its side. Cover the top of the ink funnel with tape, and clean the tube from the printhead cleaning container.
- **10.** For correct environmental storage conditions, see the specifications in the *User's guide*.

Service maintenance

During the life of your printer, components that are used constantly can wear out.

To avoid having these components degrade to the point that the printer breaks down, the printer keeps track of the number of cycles that the printer carriage makes across the axis of the printer, and also monitors the total quantity of ink used.

The printer uses these numbers to track the need for service maintenance, and displays one of the following messages on the front panel:

- Service Maintenance Kit 1
- Service Maintenance Kit 2
- Service Maintenance Kit 3

These messages mean that some components are nearing the end of their lives. You can continue printing for quite some time, depending on your use of the printer. However, HP strongly recommends that you call your service representative and arrange for a service maintenance visit. The service engineer can then replace the worn parts on-site, which will prolong the life of the printer.

The benefits of arranging a service engineer's visit when these messages appear on the front panel are two-fold:

- The printer components can be replaced at a time that is convenient for you, and so will not disturb your daily workflow.
- During a service maintenance visit, the service engineer replaces several parts at once. This eliminates the need for repeat visits.

Use the printhead status plot

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

Print the printhead status plot

To print the printhead status plot:

- 1. Use the same substrate type that you were using when you detected a problem.
- 2. Check that the selected substrate type is the same as the substrate type that is loaded into the printer.
- 3. On the printer's front panel, select the 🔅 icon, then select **Image quality maintenance** > **Print all test plots**.

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

Interpret the printhead status plot

The print consists of small dashes, one for each nozzle on each printhead.



For each individual colored pattern, make sure that most of the dashes are present.

Corrective action

- 1. Clean any faulty printheads. See <u>Clean the printheads on page 37</u>. Then reprint the printhead status plot to see whether the problem has been solved.
- 2. If the problem persists, clean the printheads again, and reprint the printhead status plot to see whether the problem has been solved.
- 3. If the problem continues to persist, replace any persistently faulty printheads. See the User's guide.

What to do if problems persist

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

- Try selecting a higher print-quality option in your RIP software.
- Check that your printer firmware is up to date. See <u>Firmware update on page 9</u>.
- Check that you have the correct settings in your software program.
- Call your service representative. See <u>When you need help on page 51</u>.

5 Troubleshoot print-quality issues

General advice

Use the following approach when you have any print-quality problem:

- To achieve the best performance from your printer, use only genuine HP supplies and accessories, whose reliability and performance have been thoroughly tested to give trouble-free performance and best-quality prints. For details of recommended substrates, see the *User's guide*.
- Make sure that the substrate type that you select on the front panel, and in your RIP software, is the same as the substrate type that is loaded in the printer. Make sure that the substrate type has been calibrated.
- **CAUTION:** If you have the wrong substrate type selected, you could experience poor print quality and incorrect colors, and perhaps even damage to the printheads.
- Make sure that you are using appropriate print-quality settings in your RIP software.
- Make sure that you are using the correct ICC profile for your substrate and print-quality settings.
- Make sure that your environmental conditions (temperature, humidity) are in the recommended range.
 See the User's guide.
- Make sure that your ink cartridges and printheads have not passed their expiration dates. See <u>Maintain</u> the ink cartridges on page 20.
- Avoid touching the substrate while printing is in progress.

Graininess



- The printheads may be misaligned. This is likely if you have not aligned the printheads for a long time, or if there has been a substrate jam. Align the printheads if necessary (see <u>Align the printheads</u> <u>on page 11</u>). You can check whether it is necessary by using the printhead status plot (see <u>Use the</u> <u>printhead status plot on page 22</u>).
- If you are printing with eight or more passes, the substrate advance may need adjustment. See <u>Adjust</u> the substrate advance on page 27.
- If graininess is more visible in dark or saturated colors, there may be a problem of ink coalescence. Try the following suggestions.

- Use a higher number of passes: you will probably see less grain with ten or more passes.
- Lower the ink quantity.

If the problem persists, call your service representative. See <u>When you need help on page 51</u>.

Horizontal banding

Try the following remedies if your printed image suffers from added horizontal lines as shown (the color may vary).



- If bands affect mostly dark or saturated colors, or only area fills near the edges of the substrate, the cause could be insufficient drying of the ink. Try the following suggestions.
 - Reduce the ink quantity.
 - Increase the number of passes.
- If bands affect all colors across the width of the printed image, and you are using no more than six passes, the cause is probably a substrate advance problem. Use the front panel to adjust the substrate advance on the fly. If you have dark bands, increase the substrate advance; if you have light bands, decrease it. When you find the right adjustment, store the value in the RIP for future prints on the same substrate.

Another cause could be a fiber attached to one of the printheads. Remove the printheads one at a time and remove any fibers that you see attached to them.

- If bands affect only some colors, the cause could be a defective printhead.
 - Print the printhead status plot (see <u>Use the printhead status plot on page 22</u>). If necessary, clean the printheads (see <u>Clean (recover) the printheads on page 18</u>). If the problem persists, clean them again.
 - If the problem persists, try aligning the printheads (see <u>Align the printheads on page 11</u>). If necessary, try aligning them manually.
 - If the problem persists, print the printhead status plot again. Identify the printhead with the greatest number of blocked nozzles, and replace it.
- If bands affect most of the colors, the printheads could be misaligned. This is likely if you have not aligned the printheads for a long time, or if there has been a substrate jam. Align the printheads if necessary (see <u>Align the printheads on page 11</u>). You can check whether it is necessary by using the printhead status plot (see <u>Use the printhead status plot on page 22</u>).
- If banding occurs mostly in black areas, create a new color profile using pure black and not a mixture of other colors. See your RIP documentation.

If the problem persists, call your service representative (see *the User's guide*).

Adjust the substrate advance

The substrate advance sensor measures the advance of the substrate and compensates for irregularities at every pass of the printheads. However, to fine-tune the quality of your print, you may need to calibrate the rate at which the substrate advances. The substrate advance determines the placement of dots on the substrate. If the substrate is not advanced correctly, light or dark bands appear in the printed image and the grain in the print may increase.

You can modify the substrate advance with the Substrate Advance parameter in the RIP's substrate preset.

On the front panel, select the select image quality maintenance > Substrate advance calibration > Print adjustment plot. The printer prints a substrate-advance adjustment image.



2. The calibration image consists of several columns with a number at the bottom of each one. Locate the lightest of the columns and enter its number into the RIP's Substrate Advance parameter for the current substrate preset. The value chosen in this example should be "-6".

Substrate advance adjustment on the fly

If you are using no more than six passes, you can fine-tune the substrate advance while printing: select the icon, then select **Image quality maintenance** > **Substrate advance calibration** > **Adjust substrate advance**. Select a value of change from –10 mm/m to +10 mm/m (or mils/inch). To correct light banding, decrease the value. To correct dark banding, increase the value.

If you are using eight passes or more, a wrong advance adjustment will not produce banding but graininess, which is harder to assess visually. Therefore, in this case you are recommended to use only the adjustment plot.

When you have chosen a value and pressed OK, the rest of your job will be printed with that value, but it will be reset to zero at the end of the job. Add the value found to the Substrate Advance value in the RIP preset to print all future jobs with the new setting.

A simpler and faster way to adjust the substrate advance while the printer is printing is by pressing the Move Substrate button on the front panel, which then displays the following instructions.

Adjust substrate advance

- √ 0.7 mm
- ▲ to correct dark banding
- ▼ to correct white banding

Press ĸ to save or 🗠 to quit

As you modify the setting, the new setting is applied immediately to the current job by the printer. When you press OK to save the value, it is saved in the printer to be used throughout the current job.

Vertical banding

If vertical bands of different colors (and sometimes of different graininess) appear in the first 200 mm of the print, this is probably caused by the curing process of the previous print, which may have distorted the substrate. In this case:

- 1. Set the extra bottom margin to 100 mm.
- 2. If the problem persists, set the extra bottom margin to 200 mm. This margin will apply only to jobs that start printing when the printer is idle, and when the cutter is disabled.
- 3. If the problem persists, decrease the warm-up drying temperature in steps of 5°C.

If vertical banding affects the whole of the print, the drying temperature may be too high.

- 1. Reduce the drying temperature in steps of 5°C, down to a minimum of 40°C.
- If the problem disappears but then there is bleeding, coalescence or not enough durability, try using more passes or less ink.
- **3.** If the problem persists, restore the drying temperature to its original value and select unidirectional printing in the RIP.

Misaligned colors



If the colors are misaligned in any direction, the printheads may be misaligned. This is likely if you have not aligned the printheads for a long time, or if there has been a substrate jam. Align the printheads if necessary (see <u>Align the printheads on page 11</u>). You can check whether it is necessary by using the printhead status plot (see Use the printhead status plot on page 22).

Lack of sharpness

If text, lines or solid areas are rough or blurred, the printheads may be misaligned. This is likely if you have not aligned the printheads for a long time, or if there has been a substrate jam. Align the printheads if necessary (see <u>Align the printheads on page 11</u>). You can check whether it is necessary by using the printhead status plot (see <u>Use the printhead status plot on page 22</u>).

Black areas look hazy

If black areas look hazy or not sufficiently black, try these suggestions.

- Increase the number of passes.
- Laminate the print.

Subtle stains or uneven appearance

Subtle color differences may be seen on some substrates if they are stored partially covered after printing. In the period immediately after printing, such substrates should be stored either totally covered or totally uncovered. It may be advisable to avoid the prolonged contact of two printed faces. This problem tends to disappear if the substrate is left uncovered for some time.

Alternatively, some individual rolls of substrate may have a defective coating. The solution in this case is to use another roll.

The ink smudges when touched, or looks oily

These symptoms suggest that the curing temperature was too low.

If you see the problem only in the first 200 mm of the print, increase the warm-up curing temperature in steps of 5°C until the problem disappears. If you cannot solve the problem this way, increase the number of passes.

If the problem affects the whole print, increase the curing temperature in steps of 5°C until the problem disappears. If you cannot solve the problem this way, increase the number of passes.

If the oily finish appears minutes or hours after printing, do not store the prints with printed faces touching each other. Consider using the take-up reel.

The total length of the print is wrong or inconsistent

As the substrate is heated during the drying and curing processes, some substrates will shrink after the image has been printed. This may be inconvenient if the print has to be framed or if several prints are to be to be tiled one next to the other.

As a general rule, you can expect the following percentages of shrinkage:

- Photorealistic: less than 0.4%
- Paper-Solvent, Paper-Aqueous: less than 0.5%
- Self-adhesive: less than 1.2%
- Banner: less than 3% shrinkage (if you disable the substrate-advance sensor, less than 7%)

The framing problem may be solved by printing a sample and adjusting the length of the image in the RIP. You may reuse this value for all your future prints with the same substrate, although special care must be taken when using banners, as the shrinkage may vary up to 1% depending on the amount of ink used in the print.

You can expect the following variations from one print to another:

- Photorealistic, Paper-Solvent, Paper-Aqueous: less than 0.4%
- Self-adhesive: less than 0.7%
- Banner: less than 1%

To solve the tiling problem and improve the repeatability of the printed length, you are recommended to ensure that the substrate-advance sensor is enabled in the RIP's substrate preset, as this will improve the stability of the prints over time. You are also recommended to tile together areas with similar amounts of ink. If this is not possible, print the areas with different amounts of ink as different jobs and modify the length of the job with less ink in the RIP to match its length with the job with high ink content.

6 Troubleshoot substrate issues

The substrate cannot be loaded successfully

Here are a few things to check if you cannot successfully load the substrate.

- The substrate might be loaded at an angle (skewed or mislocated). Make sure that the right edge of the substrate is aligned with the roll on the input spindle.
- The substrate might be crumpled or warped, or have irregular edges.
- If the substrate jams in the substrate path to the platen, the leading edge of the substrate might not be straight or clean. Remove the initial 2 cm (1 in) of substrate from the roll and try again. This might be necessary even with a new roll of substrate.
- Make sure that the spindle is correctly inserted.
- Make sure that the substrate is correctly loaded on the spindle, and that it loads over the roll towards you.
- Make sure that the substrate is wound tightly.

The substrate has jammed

When a jam occurs, the **Possible substrate jam** message usually appears in the front panel, with one of several error codes (see <u>Front-panel error messages on page 45</u>).



If you are trying to load a very thin or very thick substrate, remember to follow the special procedure described in the *User's guide* for loading such substrates.

Check the substrate path

- This problem can occur when a roll has finished and the end of the roll is stuck to the cardboard core. If this has happened, cut the end of the roll away from the core. Then feed the substrate through the printer, and load a new roll.
- Otherwise, follow the procedure described under <u>Check the printhead path on page 31</u>

Check the printhead path

1. Turn off the printer at the front panel, then also switch off the power switch at the rear.



2. Wait for the printer to cool down, then unlock and open the printer window.



3. Try to move the printhead carriage out of the way.



4. Lift the substrate-adjustment lever as far up as it will go.



5. Carefully remove any of the jammed substrate that you can lift up and out from the top of the printer. Cut the substrate if necessary.



- 6. Carefully pull the remainder of the roll down and out of the printer.
- 7. Lower the substrate-adjustment lever, check that there is no substrate left in the printer (especially not in the curing module), then close and lock the window.
- 8. Turn on the printer.
- 9. Reload the roll.
- **10.** If some substrate continues to cause an obstruction within the printer, it can often be cleared by loading a rigid substrate type into the printer.
- **11.** If you find that you have print-quality problems after a jam, try realigning the printheads. See <u>Align the</u> <u>printheads on page 11</u>.

Avoiding substrate jams

Substrate jams may be caused by loading the substrate with too much skew: do not ignore the warning message that appears during the loading process in this case.

They may also be caused by not enough vacuum suction in the printing zone. If you decide to increase the suction, do not exceed the following limits: 20 mmH_20 for banners, 35 mmH_20 for vinyl, and 50 mmH_20 for other substrate families.

The substrate is deformed or wrinkled

If your substrate is deformed or wrinkled by the drying and curing process, change the temperature settings before printing the next job, and advance the substrate, using the Move Substrate key on the front panel, so that the next job will be printed on undamaged substrate.

If the problem appears only at the beginning of the print, try the following suggestions.

- Disable the automatic cutter.
- Go to the front panel and select the [¬] icon, then Substrate handling options > Extra bottom margin.
 Set the margin 100 mm. If that is not enough, try 200 mm. This extra margin will apply only to jobs that start printing when the printer is idle and when the cutter is disabled.
- Decrease the warm-up drying temperature in steps of 5°C, without reducing it below the drying temperature.

The automatic cutter does not work

The automatic cutter is disabled when the take-up reel is in use. To use the cutter, disable the take-up reel on the front panel by selecting the \square icon, then selecting **Take-up reel** > **Disable take-up reel**.

Also check that the cutter is enabled: select the \square icon, then **Substrate handling options**

NOTE: The cutter is automatically disabled for some of the heaviest substrate types, which it cannot cut.

Take-up reel substrate jam

If the substrate is severely damaged on the take-up reel spindle, do not use the printer's cutter to cut and remove the substrate. Instead, cut the substrate manually as close as possible to the printer window, then remove the roll.

If the problem remains after removing the substrate jam, unload the take-up reel from the front panel and load it again.

Take-up reel does not wind

Predictably, if the take-up reel is not winding as anticipated, the printed output is likely to end up on the floor. If the printer recognizes a problem with the take-up reel, it interrupts the print job until the issue is corrected. If the printer does not recognize a problem, the job continues to print. The following table highlights possible issues and solutions.

Take-up reel LED status	Issue	Print job interrupted?	Possible cause	Possible solution
Blinking quickly	Take-up reel is not winding	Yes	The sensor beam was blocked for more than 3 seconds.	Make sure that the take- up reel sensors are not blocked by a strip of substrate or any objects. See the following graphic. Make sure that the collection bin is placed behind the foot brace. Also ensure that the take-up reel power
				switch is in the On position.
Blinking slowly	Take-up reel is not winding	No	The sensor cables are loose or unplugged.	Ensure that the sensor cables are correctly secured.
Solid red	Take-up reel is not winding	No	There is too much resistance on the take- up reel motor.	Ensure that the substrate is not winding too tightly. A loop- shaping core should be inserted and hanging as shown in the User's guide.
Solid green	Take-up reel is not winding	No	The take-up reel power switch is in the Off position	Ensure that the take-up reel power switch is in the On position.
Solid green	Take-up reel is winding in the wrong direction	No	The take-up reel wind- direction switch is in the wrong winding position.	Flip the take-up reel wind-direction switch to the correct position.
			After 3 seconds, the printer recognizes the problem and interrupts the print job. See the first error listed in this table.	

The following graphic shows the take-up reel sensors and cable.



- 1. Take-up reel sensor
- 2. Take-up reel sensor and cable housing unit

7 Troubleshoot ink-system issues

Cannot insert an ink cartridge

- 1. Check that you have the correct type of cartridge (model number).
- 2. Check that the colored label on the cartridge is the same color as the label on the slot.
- 3. Check that the cartridge is correctly oriented, the arrow on the front of the ink cartridge should face upwards.

CAUTION: Never clean inside the ink cartridge slots.

Cannot insert a printhead

- 1. Check that you have the correct type of printhead (model number).
- 2. Check that you have removed the orange protective caps from the printhead.
- 3. Check that the colored label on the printhead is the same color as the label on the slot.
- 4. Check that the printhead is correctly oriented (compare with the others).
- 5. Check that you have closed and latched the printhead cover.

Cannot insert the printhead cleaning cartridge

Check that the printhead cleaning cartridge has the correct model number and is correctly oriented.

Front panel recommends reseating or replacing a printhead

- 1. Remove the printhead and check that it is free from physical damage and from ink stains on the electrical connections.
- 2. If necessary, clean the electrical connections between the printhead and the carriage. See <u>Clean the</u> <u>electrical connections on a printhead on page 12</u>.
- 3. Reinsert the printhead into the carriage and check the front panel message.
- 4. If the problem persists, insert a new printhead.

Clean the printheads

Periodic printhead cleaning is performed automatically, as long as the printer is kept turned on. However, you should clean the printheads if you are experiencing poor image quality and cannot resolve the issues by other methods. This ensures that there is fresh ink in the nozzles and helps to prevents nozzle clogs.

If you have printed the printhead status plot, you know which colors are failing. Clean the pair of printheads that are not performing adequately. If you are not sure which printheads to clean, clean all of the printheads.

To clean the printheads, go to the printer's front panel and select the 🔊 icon, select **Image quality maintenance** > **Clean printheads**, then select which printheads you want to clean. You can clean all of the printheads or only some of them. Your choices are:

- Print test plot
- Clean all
- Clean LC-C
- Clean Y-MK
- Clean LM-M

Cleaning all printheads takes about 5 minutes. Cleaning any two printheads takes about 3 minutes.

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

Align the printheads

Precise alignment between printheads is essential for color accuracy, smooth color transitions, and sharp edges in graphical elements. Your printer has an automatic printhead alignment process which runs whenever a printhead has been reseated or replaced.

In the case of a substrate jam, if you have used a custom substrate, or if you are experiencing problems with color accuracy; you might need to align the printheads. See <u>Align the printheads on page 11</u>.

NOTE: If you experience a substrate jam, HP recommends that you reseat and align the printheads.

 $-\dot{\Omega}$ TIP: Use the same substrate you intend to print on to align the printheads.

MARNING! Colored substrates, glossy canvas, and transparent materials such as translucent bond, clear film, tracing paper, and vellum are not suitable for aligning the printheads. However, if you must perform printhead alignment with a material that is not supported, make sure you use a material with the same thickness as the material you are going to use for printing.

Reinsert printheads procedure

1. If the printhead alignment process is running and the wrong substrate is loaded, press the Cancel button on the front panel.

CAUTION: Do not print if the printhead alignment process has been canceled.

2. Load the substrate you want to use. Photo paper is recommended for the best results.

WARNING! Colored substrates, glossy canvas, and transparent materials such as translucent bond, clear film, tracing paper, and vellum are not suitable for aligning the printheads. However, if you must perform printhead alignment with a material that is not supported, make sure you use a material with the same thickness as the material you are going to use for printing.

3. Remove and reinsert all of the printheads. See the *User's guide*. This starts the printhead alignment process.

NOTE: Make sure the printer window is closed during printhead alignment.



4. The process takes about 6 minutes. Wait until the front panel shows that the process is complete before using the printer.

NOTE: A calibration image is printed during the printhead alignment process. The front panel shows if there were any errors in the process.

Image Quality Maintenance menu procedure

- 1. Load the substrate you want to use. Photo paper is recommended for the best results. Plain; bond; and thin, coated substrates are acceptable, but provide marginal results.
 - WARNING! Colored substrates, glossy canvas, and transparent materials such as translucent bond, clear film, tracing paper, and vellum are not suitable for aligning the printheads. However, if you must perform printhead alignment with a material that is not supported, make sure you use a material with the same thickness as the material you are going to use for printing.
- Go to the front panel and select the icon, then select Image quality maintenance > Align printheads
 Auto PH alignment. The printer verifies that a sufficient amount of substrate exists to perform printhead alignment.
- **3.** If the substrate type that is loaded is acceptable for printhead alignment, the printer performs the alignment and prints an alignment pattern.
 - **NOTE:** Make sure the printer window is closed during printhead alignment.



4. The process takes about 5 minutes. Wait until the front panel shows that the process is complete before using the printer.

Scan errors during alignment

If the alignment process fails, a **Scanning problems** message appears on the front panel. This indicates that the alignment was not completed successfully. Therefore, the printheads are not aligned and the alignment should be repeated before printing. The problem might be because of one of the following scenarios:

- The type of substrate used in the printhead alignment process was not acceptable. Repeat the alignment process using one of the recommended substrate types.
- The printheads are not clean. Clean the printheads. See <u>Clean the printheads on page 37</u>.
- The printer window was open during the printhead alignment process. Repeat the alignment process with the printer window closed.

If the problem persists after following the recommended remedies, try replacing all of the printheads. If the problem persists after replacing the printheads, a failure in the scanning system may exist.

8 Troubleshoot other issues

The printer cannot get an IP address

If your network has no DHCP server, the printer cannot automatically retrieve an IP address. In this case, you must set the printer's IP address manually, in the following way.

- Select the P icon, then select Connectivity > Gigabit Ethernet > Modify information > TCP/ IP > IPV4 settings > Config method > Manual.
- 2. From the IPV4 Settings menu, select Manual settings > IP address.
- 3. Enter the IP address that you wish to use, and press the OK key when finished.

Cannot access the Embedded Web Server

If you have not done so already, please read the instructions in the User's guide.

- **1.** Go to the front panel and select the \square icon.
- 2. Select Connectivity > Advanced > Embedded Web Server > Allow EWS > On.
- 3. Go to the front panel and select the 💾 icon, then select **Connectivity** > **Gigabit Ethernet** > **View** information.
- 4. The information should read: **IP enabled: Yes**. If it does not, you might need to use a different connection.

If you still cannot access the Embedded Web Server, turn the printer off with the Power button on the front panel and then turn it on again.

If you experience very slow progress while trying to access the Embedded Web Server, the problem could be that you are using a proxy server. Try bypassing the proxy server and accessing the Embedded Web Server directly.

- In Internet Explorer 6 for Windows, go to Tools > Internet Options > Connections > LAN Settings, and select the Bypass proxy server for local addresses check box. Alternatively, for more precise control, click the Advanced button and add the printer's IP address to the list of exceptions, for which the proxy server is not used.
- In Firefox 3.0 for Windows, go to Tools > Options > Network > Connection > Settings, and select the
 Direct connection to the Internet check box. Alternatively, when the Manual proxy configuration
 check box is selected, add the printer's IP address to the list of exceptions, for which the proxy server is
 not used.
- In Firefox 2.0 for Linux, go to Edit > Preferences > Network > Connection > Settings, and select the Direct connection to the Internet check box. Alternatively, when the Manual proxy configuration check box is selected, add the printer's IP address to the list of exceptions, for which the proxy server is not used.

The printer is not printing

Possible reasons why a file you have sent from your computer is not printing when expected, include the following:

- There may be a problem with the electrical power. If the printer is not performing and the front panel does not respond, check that the power switch at the rear is on, the residual current circuit breakers are up, the power cable is correctly connected, and the electrical socket is providing power.
- Unusual electromagnetic phenomena may exist, such as strong electromagnetic fields or severe electrical disturbances. Such occurrences can cause the printer to behave strangely, or even stop working. Turn off the printer by using the Power button on the front panel, wait until the electromagnetic environment has returned to normal, then turn the printer on again. If the problems persist, call your service representative.
- One of the following substrate scenarios may exist:
 - The substrate name that appears on the front panel does not reflect the substrate that is loaded in the printer.
 - There is not a sufficient amount of substrate on the loaded roll to print the entire job.

Under these conditions, one print job might be printed, while another print job is held in the print queue. To resolve this issue, unload the roll from the printer and load a new roll, using the front panel to guide you through the process.

The software program slows down or stalls while generating the print job

Large quantities of data might be necessary to generate a high-quality large-format print job. This can cause your software program to slow down significantly or stall. Lowering the print resolution may help to avoid this scenario, however, lowering the print resolution reduces image quality.

The printer seems slow

Here are some possible explanations.

- If you request the highest possible print quality in the RIP, printing will be relatively slow compared with draft-quality printing.
- Check that the substrate loaded in the printer belongs to the substrate family that appears on the front panel.
- Is your printer connected to a network? Check that all components used in the network (network interface cards, hubs, routers, switches, and cables) are capable of high-speed operation. Is there a lot of traffic from other devices on the network?
- Are the printheads in good condition? Printing time tends to increase when a printhead needs cleaning. Check the printhead status on the front panel or through the Embedded Web Server. Clean or replace printheads if necessary.
- Does your image contain high-density black fills? That may increase printing time.

See also the information about printer states in the User's guide.

Cannot access files on the hard disk

If you have trouble accessing files on the printer's hard disk, consider running a file system check. See <u>Check</u> the file system on page 7.

Communication failures between computer and printer

Some symptoms are:

- The front-panel display does not show the **Receiving** message when you have sent an image to the printer.
- Your computer shows an error message when you try to print.
- Your computer or printer stalls when transferring data.
- Your printed output shows random or inexplicable errors (misplaced lines, partial graphics, and so on).

To solve a communication problem:

- Make sure that you have selected the correct printer in your RIP.
- Remember that large images usually require more time to receive, process, and print.
- If the printer is connected to your computer through any other intermediate devices, such as switch boxes, buffer boxes, cable adapters, or cable converters, remove the intermediate device and try connecting the printer directly to your computer.
- Try another interface cable.

"Out-of-memory" error message

There is no direct relationship between the size of a file in your computer and the amount of memory needed to print the file. Because of file compression and other factors, it is difficult to estimate how much memory is needed to print a job. It is possible that the printer will lack sufficient memory to print a certain job, despite having printed larger jobs in the past. Adding memory to your printer is one solution.

The platen rollers squeak

If you notice that the platen rollers are squeaking, call HP support for help: <u>http://welcome.hp.com/country/</u><u>us/en/wwcontact_us.html</u>

9 Front-panel error messages

Under certain circumstances, a front-panel error message appears. Follow the advice in the Recommendation column to resolve the error.

If an error message appears on the front panel that is *not* included in this list, and you are in doubt of the correct response, call your service representative. See <u>When you need help on page 51</u>.

Message	Recommendation
[Color] cartridge has expired	Replace the cartridge. See <u>When you need help on page 51</u> .
[Color] cartridge is missing	Insert a cartridge of the correct color. See <u>When you need help on page 51</u> .
[Color] cartridge is out of ink	Replace the cartridge. See When you need help on page 51.
[Color] printhead #[n] error: not present	Insert the correct printhead. See <u>When you need help on page 51</u> .
[Color] printhead #[n] error: please remove	Remove the incorrect printhead and insert a new printhead of the correct type (color and number). See <u>When you need help on page 51</u> .
[Color] printhead #[n] error: replace	Remove and reinsert the same printhead, or try cleaning the electrical connections. If the problem persists, remove the non-functional printhead and insert a new printhead. See the <i>User's guide</i> .
[Color] printhead #[n] error: reseat	Remove and reinsert the printhead; try cleaning the electrical connections. If necessary, insert a new printhead. See <u>Front panel recommends reseating or replacing a printhead</u> on page 37.
[Color] printhead #[n] out of warranty	The printhead's warranty has ended, because of the length of time it has been in operation or because of the volume of ink used. See the <i>Legal Information</i> .
[Color] printhead #[n] warranty warning	The printhead's warranty may be invalidated by the use of the wrong kind of ink. See the Legal Information.
[Warning] internal failure: Unable to create print	The internal print files are not available in the printer. Load the internal print files through the Embedded Web Server.
Clean OMAS or disable it at the RIP	Either the substrate-advance sensor is covered with dried ink or dust and needs to be cleaned, or the current substrate is not supported by the substrate-advance sensor, and you are advised to disable it for this substrate.
IO error	Restart the printer. If the problem persists, call your service representative. See <u>When</u> you need help on page 51.
IO warning	Try again; if the problem persists, call your service representative. See <u>When you need</u> help on page 51.
PDL Error: Ink system not ready	Clean the printheads. See <u>Clean the printheads on page 37</u> .
PDL Error: Job clipped	The image is too large for the substrate or for the printer. Load larger substrate if possible, or reduce the image size.
PDL Error: memory full	Restart the printer and try resending the job; if necessary, reduce the complexity of the job.
PDL Error: out of substrate	Load more substrate.

Table 9-1 Text messages

Table 9-1 Text messages (continued)

Message	Recommendation
PDL Error: parsing error	The print job is unintelligible to the printer. Try to recreate and resend it. Check your cable connections.
PDL Error: print mode error	The substrate type or print quality specified for the job are incorrect. Change the loaded substrate type or the print settings.
PDL Error: printing error	Try sending the job again.
PDL Error: virtual memory full	Restart the printer and try resending the job; if necessary, reduce the complexity of the job.
Replace [color] cartridge	Replace the cartridge. See <u>When you need help on page 51</u> .
Reseat [color] cartridge	Remove and reinsert the same cartridge. See <u>When you need help on page 51</u> .
Update: failed. Invalid file	Make sure that you have selected the correct firmware update file. Then try again to perform the update.

Under certain circumstances, a front-panel numeric error message appears. Follow the advice in the Recommendation column to resolve the error.

If an error message appears on the front panel that is *not* included in this list, turn off the printer and then turn it back on. If the problem persists, call your service representative. See <u>When you need help</u> on page 51.

Error code	Recommendation
15.1	The printer is unable to warm up within a preset time limit. Check that the ambient temperature and input voltage are within printer specifications. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
15.2	The printer is unable to cool down within a preset time limit. Check that the ambient temperature is within printer specifications. Check that all fans are working and unblocked. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
15.3	Excessive heat in the drying module. Check that all fans are working and unblocked. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
15.4	Insufficient heat in the drying module. Check that the ambient temperature is within printer specifications. If the problem persists, call your service representative. See <u>When you need help</u> on page 51.
15.5	Infrared sensor error. Check that all fans are working and unblocked. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
15.6	The drying module has been operating at maximum power for too long. Check that the ink density is not too high. Check that the ambient temperature is within printer specifications. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
15.7	The ambient temperature is too low for the printer to work reliably.
16.1	The printer is unable to warm up within a preset time limit. Check that the ambient temperature and input voltage are within printer specifications. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
16.2	The printer is unable to cool down within a preset time limit. Check that the ambient temperature is within printer specifications. Check that all fans are working and unblocked. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
16.3	Excessive heat in the curing module. Check that all fans are working and unblocked. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .

Table 9-2 Numeric error messages

Table 9-2 Numeric error messages (continued)

Error code	Recommendation
16.4	Insufficient heat in the curing module. Check that the ambient temperature is within printer specifications. If the problem persists, call your service representative. See <u>When you need help</u> on page <u>51</u> .
16.5	Infrared sensor error. Check that all fans are working and unblocked. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
16.6	The curing module has been operating at maximum power for too long. Check that the ink density is not too high. Check that the ambient temperature is within printer specifications. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
16.7	The ambient temperature is too low for the printer to work reliably.
21:03	Turn off the printer using the front panel and the power switch at the rear. Disconnect the power cords. Reconnect the power cords and turn the printer on again. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
21.2:10	Printhead cleaning cartridge error. Turn the printer off, remove the printhead cleaning cartridge and check whether the cloth can be manually advanced by using the white gears on its right-hand side. If so, reinsert it. If not, try a new printhead cleaning cartridge. Turn the printer on. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
24:03	The setup procedure has been not been completed. Restart the printer, then restart the setup procedure from the beginning.
26.n:01 (where n = the ink cartridge number)	Remove the ink cartridge and reinstall it in the printer. If the error persists, replace the cartridge with a new one. If the problem persists, call your service representative. See <u>When you need help</u> on page <u>51</u> .
26.n:10 (where n = the ink cartridge number)	A bad contact has been detected in the ink cartridge. Remove the cartridge and reinstall it in the printer. If the problem persists, replace the cartridge with a new one. If problem still persists, call your service representative. See <u>When you need help on page 51</u> .
29:01	The printhead cleaning cartridge is not inserted correctly. Open the printhead cleaning cartridge door on the right side of the printer, make sure that the printhead cleaning cartridge is correctly seated, then close the door. If the problem persists, replace the printhead cleaning cartridge. If the problem persists, replace the printhead cleaning cartridge. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
32:01	The take-up reel is disconnected. If you want to use the take-up reel, turn off the printer and ensure that all take-up reel cables are connected (sensor cables, printer cable). If you do not want to use it, you may need to unload the substrate manually from the take-up reel. Remember to cut the paper first, either manually or by pressing the <u>Move substrate</u> key.
32:01.1	This error occurs when there is a small amount of substrate printed, less than 79 in (200 cm) long. Check that there is no obstacle between the take-up reel optical sensors; that the substrate is attached to the take-up reel spindle; and that the take-up reel switch is in the correct position. If necessary, use the take-up reel arrow keys to wind the substrate; then press OK to resume printing.
32:01.2	This error occurs when there is a small amount of substrate printed, less than 70 in (178 cm) long. The take-up reel sensor detects that the loop shaper is (incorrectly) at the bottom of its path, even though the spindle motor has been rotating for more than 3 seconds. The most probable cause of this error is that you have forgotten to set the switch direction or tape the substrate to the spindle core, when the substrate reaches the floor and blocks the take-up reel's infrared sensors. Check that there is no obstacle between the take-up reel optical sensors; that the substrate is attached to the take-up reel spindle; and that the take-up reel switch is in the correct position. If necessary, use the take-up reel arrow keys to wind the substrate; then press OK to resume printing.
32:02	This error occurs during printer initialization, to warn you that the take-up reel has been disconnected while the printer was turned off. It also occurs if you try to enable the take-up reel, but it is not connected to the printer. Connect the take-up reel to the printer and press OK to continue.
32.1:01	A take-up reel error has occurred. Make sure that the substrate is adequately taped to the take-up reel spindle core, then make sure that the winding direction is correctly set.
32.2:01	The take-up reel can not be detected. Make sure that the take-up reel sensor cable is correctly connected.

Table 9-2 Numeric error messages (continued)

Error code	Recommendation
41:03	Turn off the printer using the front panel and the power switch at the rear. Disconnect the power cords. Open the window and check for any visible obstacles restricting the movement of the drive roller. If there is a wrinkled mass of substrate in the substrate path, lift the substrate adjustment lever and clear the obstruction. Reconnect the power cords and turn the printer on again. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
42:03	Turn off the printer using the front panel and the power switch at the rear. Disconnect the power cords. Open the window and check for any visible obstacles restricting the movement of the printhead carriage. If there is a wrinkled mass of substrate blocking the carriage, lift the substrate adjustment lever and clear the obstruction. Reconnect the power cords and turn the printer on again. If the problem persists, call your service representative. See <u>When you need help</u> on page 51.
46:03	Turn off the printer using the front panel and the power switch at the rear. Disconnect the power cords. Reconnect the power cords and turn the printer on again. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
61:01	The file format is incorrect and the printer cannot process the job. Try the following remedies:
	• Turn off the printer by using the Power key on the front panel and the power switch at the back of the printer. Disconnect the power cord, then reconnect the power cord and turn on the printer.
	• Make sure that the graphic language setting is correct. See the <i>User's guide</i> .
	Resubmit the file to the printer.
	• Check that your printer firmware is up to date. See <u>Firmware update on page 9</u> .
	If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
63:04	An input/output problem has occurred with the network card. Try the following remedies:
	• Make sure that the network cable is correctly connected to the network card.
	• Check that your printer firmware is up to date. See <u>Firmware update on page 9</u> .
	If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
71:03	An "out of memory" failure has occurred. HP recommends that you remove any unnecessary files from the printer's hard disk through the Embedded Web Server.
73:03	Turn off the printer using the front panel and the power switch at the rear. Disconnect the power cords. Reconnect the power cords and turn the printer on again. Check that the printer has the latest firmware version. If not, update the firmware to the latest version. If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
74:01	An error occurred when uploading the firmware update file. Try the following remedies:
	• Turn off the printer by using the Power key on the front panel and the power switch at the back of the printer. Disconnect the power cord, then reconnect the power cord and turn on the printer.
	• Try again to upload the firmware update file to the printer. See <u>Firmware update on page 9</u> .
	If the problem persists, call your service representative. See <u>When you need help on page 51</u> .

Table 9-2 Numeric error messages (continued)

Error code	Recommendation
76:03	A "disk out of space" has occurred. Try the following remedies:
	• Turn off the printer by using the Power key on the front panel and the power switch at the back of the printer. Disconnect the power cord, then reconnect the power cord and turn on the printer.
	Resubmit the file to the printer.
	• HP recommends that you remove any unnecessary files from the printer's hard disk through the Embedded Web Server.
	• Perform an Electrically Erasable Read-Only Memory (EEROM) reset and then resubmit the file to the printer.
	If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
77:04	An Embedded Web Server internal software error has occurred. Try the following remedies:
	• Turn off the printer by using the Power key on the front panel and the power switch at the back of the printer. Disconnect the power cord, then reconnect the power cord and turn on the printer.
	• Check that your printer firmware is up to date. See <u>Firmware update on page 9</u> .
	If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
78.1:04	The printer has no substrate preset for this substrate. Follow the firmware upgrade procedure to update the printer with the latest substrate presets.
78.2:01	The end of roll has been detected. If this is not the case, unload and reload the substrate.
81:01, 81:03, 86:01	Open the printer window and make sure that there are no obstacles restricting the movement of the drive roller. If the substrate has jammed and is restricting the movement of the drive roller, see <u>The substrate has jammed on page 31</u> . If the problem persists, call your service representative. See <u>When you need help on page 51</u> .
86:11	Open the window and check for any visible obstacles restricting the movement of the printhead carriage. If there is a wrinkled mass of substrate blocking the carriage, lift the substrate adjustment lever and clear the obstruction. If the problem persists, call your service representative. See <u>When</u> you need help on page 51.
91:02	The HP Instant Support troubleshooting tool has detected that at least one printhead has been replaced without any specific error, and without having been cleaned. You are advised to try cleaning a printhead before replacing it.

10 When you need help

Introduction

HP Customer Care offers award-winning support to ensure that you get the most from your HP Designjet. HP Customer Care provides comprehensive, proven support expertise and new technologies to give you unique end-to-end support. Services include setup and installation, troubleshooting tools, warranty upgrades, repair and exchange services, phone and Web support, software updates, and self-maintenance services. For more information about HP Customer Care, go to: http://www.hp.com/go/graphic-arts/.

Documentation

The following documents are provided with your printer, and can also be downloaded from http://www.hp.com/go/L25500/manuals/.

- Site preparation guide
- Installation guide
- User's guide
- Maintenance and troubleshooting guide (this document)
- Legal information

HP Instant Support

HP Instant Support Professional Edition is HP's suite of troubleshooting tools that collect diagnostic information from your printer and match it with intelligent solutions from HP's knowledge bases, allowing you to resolve problems as quickly as possible.

To start an HP Instant Support session, click on the link in the **Support** tab of your printer's Embedded Web Server.

To use HP Instant Support, the following conditions must be met:

- Because HP Instant Support is accessible only through the Embedded Web Server, you must have a TCP/ IP connection to your printer.
- Because HP Instant Support is a Web-based service, you must have access to the World Wide Web,

HP Instant Support is currently available in English, Korean, Simplified Chinese, and Traditional Chinese.

For more information about HP Instant Support, go to: <u>http://www.hp.com/go/ispe/</u>.

HP Customer Care Centers

Help is available to you by telephone. What to do before you call:

- Review the troubleshooting suggestions in this guide.
- Review your RIP's documentation, if relevant.
- Please have the following information available:
 - The printer you are using: the product number and the serial number, found on the label on the door of the electrical compartment
 - If there is an error code on the front panel, note it down; see <u>Front-panel error messages</u> on page 45
 - The printer's Service ID
 - The RIP you are using, and its version number
 - The software application you are using, and its version number
 - The text displayed by the Embedded Web Server when you select Help > About

You can find the appropriate telephone number for your country in the list below.

Country	Telephone number	Operating hours
North America		
USA and Canada	+1 800 334 5144	Mon–Sun, 0:00–23:59 for most products
Europe, Middle East and Africa		
Algeria	021 67 67 67	8:30–18:00 GMT
Austria	08 1000 1000	8:00–17:00
Bahrain	800 00 171	8:00–18:00
Belgium	078 600 600	8:00–17:00
Bulgaria	2 976 95 62	9:00–18:00
Croatia	1 6060 200	8:30–17:30
Cyprus	800 9 2649 (toll-free)	9:00–17:00
Czech Republic	2 61 307 310	8:00–18:00
Denmark	70 11 77 00	8:00–17:00
Egypt	202 532 5222	7:00–17:00
Estonia	6 813 823	9:00–17:00
Finland	0203 53 232	8:00–17:00
France	0826 10 4949	8:00–18:00
Germany	01805 25 81 43	8:00–18:00
Greece	800 9 2649 (toll-free)	9:00–17:00
	801 11 CALL HP (225547)	
Hungary	1 382 1111	8:30–18:00
Iceland	+45 70 10 80 25 (no local number)	Mon–Sun, 0:00–23:59
Ireland	1890 946 500	8:00–18:00
Israel	09 830 4848	9:00–18:00
Italy, San Marino, Vatican City	02 3859 1212	8:00–17:00

Country	Telephone number	Operating hours
Kuwait	+971 4 366 2020 (no local number)	9:00–19:00 GMT+4
Latvia	7 030 721	9:00–18:00
	800 80 12 (toll-free)	
Lebanon	+971 4 366 2020 (no local number)	9:00–19:00 GMT+4
Liechtenstein	0848 802 020	8:00–17:00
Lithuania	5 210 3333	8:00–17:00
	800 10 000 (toll-free)	
Luxembourg	27 303 303	8:00–17:00
Monaco	+33 1 7301 8475	8:00–18:00
Morocco	22 40 47 47	8:30–18:00 GMT
Netherlands	0900 117 0000	8:00–17:00
Nigeria	01 271 1999	7:00–16:00 GMT+1
Norway	800 62 800	8:00–17:00
Oman	+971 4 366 2020	9:00–19:00 GMT+4
Poland	22 5666 000	8:00–17:00
Portugal	213 164 164	9:00–18:00
Qatar	+971 4 366 2020 (no local number)	9:00–19:00 GMT+4
Romania	21 315 4442	8:00–17:00
Russia (Moscow)	495 797 3520	9:00–18:00
Russia (St Petersburg)	812 346 7997	9:00–18:00
Saudi Arabia	800 897 1444	8:00–18:00
Slovak Republic	2 6820 8080	8:00–17:00
Slovenia	1 230 74 20	8:00–16:00
South Africa	086 000 1030	8:00–17:00
Spain	902 010 333	8:30–17:30
Sweden	077 130 3000	8:00–17:00
Switzerland	0848 802 020	8:00–17:00
Tunisia	23 926 000	8:30–18:00 GMT
Turkey	212 444 71 71	8:30–18:00
Ukraine	44 490 3520	8:00–17:00
United Arab Emirates	800 4520	9:00–19:00
	04 366 2020	
United Kingdom, Gibraltar	0870 842 2339	8:00–18:00
West African and other French-speaking countries	+212 22 40 47 47	9:00–17:30 GMT
West African and other English-speaking countries	+234 1 271 1999	8:30–17:30
Yemen	+971 4 366 2020 (no local number)	9:00–19:00 GMT+4

Country	Telephone number	Operating hours
Asia and Pacific		
Australia	13 10 47	Mon–Fri, 9:00–17:00
	+61 3 8877 5000 (international)	
China	800 810 3888	Mon–Fri, 8:30–17:30
Hong Kong	+852 3002 8555	Mon–Fri, 8:30–17:30
India	1800 112 267 (toll-free)	Mon–Fri, 9:00–18:00
	+91 80 3030 6363 (international)	
Indonesia	+62 21 350 3408	Mon–Fri, 8:00–17:00
Japan (hardware)	0120 742 594 (toll-free)	Mon–Fri, 8:45–17:30
	03 3335 9810 (from mobile)	
	+81 3 3335 9810 (international)	
Japan (software)	0120 014 121 (toll-free)	Mon–Fri, 9:00–17:00
	03 5347 3089 (from mobile)	
	+81 42 643 4007 (international)	
Korea	1588 3003	Mon–Fri, 9:00–18:00, Sat 9:00–13:00
Malaysia	1800 88 8588 (toll-free)	Mon–Fri, 8:30–17:30
	+603 7712 4458 (international)	
New Zealand	0800 664 747	Mon–Fri, 8:30–18:00
	+64 0800 449 553 (international)	
Philippines	+63 2 867 3551	Mon–Fri, 8:30–17:30
Singapore	6272 5300	Mon–Fri, 8:30–17:30
Taiwan	(02) 8722 8000	Mon–Sat, 9:00–18:00
	0800 010 055 (toll-free)	
Thailand	+66 2 353 9000	Mon–Fri, 8:30–17:30
Vietnam	+84 8 823 4530	Mon–Fri, 8:00–12:00, 13:00–17:00
Latin America and Caribbean		
Anguila	1 800 711 2884	
Antigua	1 800 711 2884	
Argentina	0800 555 5000	
	54 11 4708 1600	
Aruba	800 8000	
	800 711 2884	
Bahamas	1 800 711 2884	
Barbados	1 800 711 2884	
Belize	811 1 800 711 2884	
Bermuda	1 800 711 2884	

Country	Telephone number	Operating hours
Bolivia	800 100 193	
	5411 4708 1050 (Arg)	
Brasil	0 800 709 7751	
	11 4004 7751	
British Virgin Islands	1 800 711 2884	
Cayman Islands	1 800 711 2884	
Chile	800 360 999	
	562 436 2610 (Santiago)	
Colombia	01 8000 51 HP INVENT (01 8000 51 4746 8368)	
	571 602 9191 (Bogota)	
Costa Rica	0 800 011 0524	
Curaçao	001 800 872 2881	
	800 711 2884	
Dominica	1 800 711 2884	
Dominican Republic	1 800 711 2884	
Ecuador	1 999 119 (Andinatel)	
	1 800 225 528 (Pacifitel)	
	800 711 2884	
El Salvador	800 6160	
	1 800 711 2884	
French Antilles	0 800 990 011	
	800 711 2884	
French Guiana	0 800 990 011	
	800 711 2884	
Grenada	1 800 711 2884	
Guadeloupe	0 800 990 011	
	800 711 2884	
Guatemala	1 800 999 5105	
Guyana	159	
	800 711 2884	
Haiti	183	
	800 711 2884	
Honduras	800 0 123	
	800 711 2884	
Jamaica	1 800 711 2884	

Country	Telephone number	Operating hours
Martinique	0 800 990 011	
	877 219 8671	
Mexico	01 800 4746 8368 (01 800 HP INVENT)	
	52 55 5258 9922	
Montserrat	1 800 711 2884	
Netherlands Antilles	001 800 872 2881	
	800 711 2884	
Nicaragua	1 800 0164	
	800 711 2884	
Panama	001 800 711 2884	
Paraguay	009 800 541 0006	
	5411 4708 1050 (Arg)	
Peru	0 800 10 111	
	511 411 2443 (Lima)	
Puerto Rico	1 877 232 0589	
	787 474 8570	
	1 281 927 4301	
St Kitts & Nevis	1 800 711 2884	
St Lucia	1 800 478 4602	
St Martin	1 800 711 2884	
St Vincent and the Grenadines	1 800 711 2884	
Suriname	156	
	800 711 2884	
Trinidad & Tobago	1 800 711 2884	
Turks & Caicos Islands	01 800 711 2884	
US Virgin Islands	1 800 711 2884	
Uruguay	0004 054 177	
	5411 4708 1050 (Arg)	
Venezuela	0 800 HP INVENT (4746 8368)	
	58 212 278 8666 (Caracas)	
Caribbean (contingency)	1 281 927 4300 (not toll-free; call-back may be available)	
Central America (contingency)	1 281 927 4303	

Service information

The printer can produce on request a list of many aspects of its current status, some of which may be useful to a service engineer trying to fix a problem. There are two different ways to request this list:

- In the Embedded Web Server, select the **Support** tab and then **Troubleshooting** > **Printer information**.

You can request the whole list, which takes a significant time to generate; or you can request specific parts of it. If in doubt, you are recommended to request the whole list (select **All pages**).

If you need to send the list by e-mail, you can save the page as a file from your Web browser, and later send the file. Alternatively, from Internet Explorer you can send the page directly: select **File > Send > Page by E-mail**.

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