DESIGNJET L28500 printer series

Introductory information

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Other sources of information

The *User's guide* to your printer is available on the DVD that comes with your printer. That guide provides information on the following topics:

- Introduction
- Connectivity and software instructions
- Basic setup options
- Handling the substrate
- Substrate settings
- Retrieving usage information
- The ink system
- Print options
- Accessories
- Printer status
- Firmware update
- Hardware maintenance
- Troubleshooting print-quality issues
- Troubleshooting substrate issues
- Troubleshooting ink-system issues
- Troubleshooting other issues
- Front-panel error messages
- When you need help
- Printer specifications
- Summary of common printing problems

Further information is available at HP's support Web site, http://www.hp.com/go/L28500/support/.

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North America: Hewlett Packard, MS POD, 11311 Chinden Blvd, Boise, ID 83714, USA.

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Asia, Pacific: Hewlett-Packard, POD, P.O. Box 200, Alexandra Post Office, Singapore 911507.

Please include your product number, warranty period (found on your serial number label), name and postal address.

General safety guidelines

- There are no operator-serviceable parts inside the printer except those covered by HP's Customer Self Repair program (see http://www.hp.com/go/selfrepair/). Refer servicing of other parts to qualified service personnel.
- Turn off the printer and call your service representative in any of the following cases.
    - A 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 has been damaged.
    - The printer's built-in Residual Current Circuit Breaker (Ground Fault Circuit Interrupter) has been repeatedly tripped.
    - The printer is not operating normally.

- Turn off the printer in either of the following cases.
  - During a thunderstorm
  - During a power failure

Electrical shock hazard

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

Ensure that the power is disconnected from the branch circuit breaker of the PDU, and that the printer's main power switch is off, before servicing the printer.

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.
- Test the functionality of the Residual Current Circuit Breaker (RCCB) every 6 months.

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. Call your service representative 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.
- An electrician is required for the setup and configuration of the building's electrical system used to power the printer, and for printer installation. Make sure that your electrician is appropriately certified according to local regulations and supplied with all the information regarding the electrical configuration.
- The electrician should connect the power cord as specified in the *Site preparation guide* and *Assembly instructions*. Three-phase lines are required, each protected by a branch circuit breaker. The power cable is not provided with the printer.
- 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 in the printer body that are provided for ventilation.
- Do not attempt to dismantle the drying or curing module, or the electrical control cabinet.
- Ensure that the operating temperature of the substrate, as recommended by its manufacturer, is not exceeded. If this information is not available from the manufacturer, be sure to use only substrates suitable for operating temperatures of 125°C (257°F) or higher.
- Do not load substrates with auto-ignition temperatures below 250°C (482°F). See note below.

NOTE: Test method based on EN ISO 6942:2002; Evaluation of materials and material assemblies when exposed to a source of radiant heat, method B. The test conditions, to determine the temperature when the substrate starts ignition (either flame or glow) were: Heat flux density: 30 kW/m², copper calorimeter, K type thermocouple.

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.

The front panel
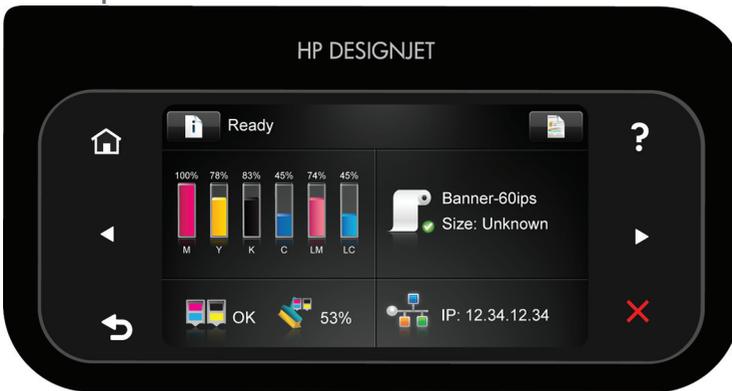
The front panel has a large central area to display dynamic information and icons. On the left and right sides you can see up to six fixed icons at different times. Normally they are not all displayed at the same time.

Left and right fixed icons

- Press 🏠 to return to the home screen.

- Press ? to view help about the current screen.

- Press ◁ to go to the previous item.

- Press ▷ to go to the next item.

- Press ↩ to go back to the previous screen. This does not discard any changes made in the current screen.

- Press ✕ to cancel the current process.

Home-screen dynamic icons

The following items are displayed only on the home screen.

- Press ⓘ to view information about printer status, change printer settings, or initiate actions such as loading substrate or replacing ink supplies. A smaller warning icon appears if there are actions that need to be performed.

- To the right of the above button is a message showing the printer status or the most important current alert. Press this message to see a list of all current alerts, with an icon indicating the severity of each alert.

- Press to view information about the job that is currently printing.
- Most of the central part of the screen is divided into four parts, summarizing the state of the ink cartridges, the substrate, the printheads and printhead cleaning kit, and the network. For more information on any of these, press that part of the screen.

If the printer is left idle for some time, it goes into sleep mode and switches off the front-panel display. To change the time that elapses before sleep mode, press , then , then **Setup** > **Front panel options** > **Sleep mode wait time**. You can choose various times between 30 and 240 seconds.

The printer wakes from sleep mode and switches on the front-panel display whenever there is some external interaction with it.

Front-panel error codes

If you see an error code that does not appear here, and you feel in doubt about the correct response, or if the recommended action does not seem to solve the problem, consult the *User's guide*. Turn the printer off, then on again. If necessary, call your service representative.

Error code	Recommendation
14.32:01, 14.52:01, 14.72:01	Check the Residual Current Circuit Breakers at the back of the printer. Check the input voltage(s).
14.33:01, 14.53:01, 14.73:01	Check the input voltage(s).
14.34:01, 14.54:01, 14.74:01	Check the input voltage(s).
14.35:01, 14.55:01, 14.75:01	Check the input voltage(s).
15.01:00, 16.01:00	The printer is unable to warm up within a preset time limit. Decrease the warm-up temperature by using the **Warm-up drying temp offset** (15.01:00) or the **Warm-up curing temp offset** (16.01:00) options in the RIP substrate profile. Check that the ambient temperature and input voltage(s) are within printer specifications.
15.02:00, 16.02:00	The printer is unable to cool down within a preset time limit. Increase the cool-down temperature by using the **Cool-down drying temp offset** (15.02:00) or the **Cool-down curing temp offset** (16.01:00) options in the RIP substrate profile. Check that the ambient temperature is within printer specifications. Check that all fans are working and unblocked.
15.03:00, 16.03:00	Excessive heat in the printer. Reduce the drying power by using the **Minimum drying power** (15.03:00) option in the RIP substrate profile. Reduce the drying or curing temperatures by using the **Drying temp** (15.03:00) or **Curing temp** (16.03:00) options in the RIP profile. Check that the ambient temperature is within printer specifications. Check that all fans are working and unblocked.
15.04:00, 16.04:00	Insufficient heat in the printer. Check that the ambient temperature is within printer specifications.
15.05:00, 16.05:00	Infrared sensor error. Check that all fans are working and unblocked.
15.06:00, 16.06:00	The printer has been operating at maximum power for too long. Check that the ink quantity is not too high. Check that the ambient temperature is within printer specifications.
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.
24:03	The setup procedure has not been completed. Restart the printer, then restart the setup procedure from the beginning.

Error code	Recommendation
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.
27.n:01 (where n = the printhead slot number)	The calibration was not performed because one or more printheads are malfunctioning. Use the printhead status plot to find out which printheads are malfunctioning, and replace them.
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.
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 substrate first.
32:01.2	This error occurs when the tension bar stays in one of its sensor trigger positions for more than 8 seconds. The most likely causes of this error are as follows. • The 1-2 TUR button is activated but substrate has not been taped to the TUR yet. • The wrong TUR winding direction (1-2 TUR button) has been selected. • Something is blocking the movement of the tension bar. • The substrate is not following the correct path along the tension bar and diverter bar.
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.
41:03	Open the printer window and make sure that there are no obstacles restricting the movement of the drive roller. If there is a substrate jam, consult the *User's guide* to clear the jam.
42:03	Turn off the printer using the front panel and the power switch at the rear. 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. Turn the printer on again.
44:10	The waste management fan has failed.
44.1:01	The waste management system cable is disconnected; the cable from the printer cover to the interconnect could be disconnected too.
44.2:01	A switch has failed. Check the waste management system: the ink tube assembly should be connected and the ink filter door closed.
44.4:01	There is noise in the signal of the waste management system. Check that the connector is properly connected.
50:01	OMAS navigation failure. 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.
52:01	Problem with the drop detector. Check that the ink funnel is correctly installed. Use the 'Replace ink maintenance kit' process to access the funnel. Check that there is no obstruction (such as substrate) in the funnel that could block the detector signal.

Error code	Recommendation
61:01	The file format is incorrect and the printer cannot process the job. Try the following remedies. • Make sure that the RIP supports the printer and that the printer driver is installed in the RIP. • Check that you are using the latest version of your RIP. • Resubmit the file to the printer. • Check that your printer firmware is up to date.
61:08.2	The job contains format errors or incorrect setting values. Resend the file to the printer.
61:09	Unexpected end of job; communication lost with RIP. Check that all relevant cables are properly connected and check whether the RIP has displayed any error message. Resend the file to the printer.
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.
63:05	The job is reaching the printer too slowly. The printer cancels the job if there are long pauses of more than 20 s. Try the following remedies: • Make sure that a 1 Gigabit Ethernet card is correctly installed in the computer with the RIP. • Check the RIP for any error messages. Check that the computer with the RIP is working correctly and has the minimum specification required by the RIP. Check that the hard disk is neither full nor excessively fragmented. • Check whether the option **RIP while printing** is enabled. This option can cause slow printing if the computer is not sufficiently powerful. • Try reducing the resolution of the job or increasing the number of passes.
71:03	Out of memory. Switch the power off from the rear of the printer and disconnect the power cord. Reconnect the power cord and power on the printer.
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.
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.
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 back tension is lost. This could be due to a loose roll core or an imminent end of roll. If these are not the causes, try unloading and reloading the substrate.

Error code	Recommendation
81:01, 81:03	Open the printer window and make sure that there are no obstacles restricting the movement of the drive roller. If there is a substrate jam, consult the *User's guide* to clear the jam.
82:01	There may be a substrate jam, or a dirty carriage reflector. Try cleaning the carriage reflector. If there is a substrate jam, consult the *User's guide* to clear the jam.
86:01	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. Check that the carriage rail is clean and lubricated. If not, clean and lubricate it according to the instructions in the *User's guide*.
98:03	One or more printheads are malfunctioning. Use the printhead status plot to find out which printheads are malfunctioning, and replace them.