



# HP Latex 1500 Printer

## Introductory Information

### What is it?

The HP Latex 1500 Printer allows you to print signs and graphics on a wide range of flexible materials up to 3.20 m (126 in) wide. The printer uses water-based HP Latex Inks to provide high quality, durable output.

This introductory document includes legal notices and safety instructions, describes the printer software, and lists error messages that you may encounter.

### Where is the user's guide?

The following documents are available for your printer, and can be downloaded from <http://www.hp.com/go/latex1500/manuals>

Site preparation guide, site preparation checklist, installation guide, introductory information (this document), user's guide, legal information, limited warranty.

### Legal notices

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You can find the expressly provided HP Limited Warranty and Legal Information applicable to your product in the start menu on your PC and/or in the CD/DVD provided in the box. For some countries/regions a printed HP Limited Warranty is provided in the box. In countries/regions where the warranty is not provided in printed format, you may request a printed copy from:  
<http://www.hp.com/go/orderdocuments>

### Safety precautions

Before using your printer, read the following safety precautions and operating instructions to make sure you use the equipment safely. You are expected to have the appropriate technical training and experience necessary to be aware of hazards to which you may be exposed in performing a task, and to take appropriate measures to minimize the risks to yourself and to others. Operations must be supervised at all times.

#### General safety guidelines

**WARNING:** The information provided by the printer status beacon is only for information purposes and is not related to any safety provision or safety states. Warning labels on the printer must be always considered when operating the printer and prevail against any of the status indicated by the printer status beacon.

Turn off the printer, using the Branch Circuit Breakers located in the building's Power Distribution Unit (PDU), and call your service representative in any of the following cases:

- The power cord is damaged.
- The drying or curing enclosures are damaged.
- The printer has been damaged by an impact.
- Liquid has entered the printer.
- There is smoke or an unusual smell coming from the printer.
- 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.
- There is any mechanical or enclosure damage.

Turn off the printer using the Branch Circuit Breakers in either of the following cases:

- During a thunderstorm
- During a power failure

Take special care with zones marked with warning labels.

### Electrical shock hazard

Warning: The internal circuits, the drying and curing modules operate at hazardous voltages capable of causing death or serious personal injury.

Turn off the printer using the Branch Circuit Breakers located in the building's Power Distribution Unit (PDU) before servicing the printer. The printer must be connected to earth at mains outlets only.

To avoid the risk of electric shock:

- Do not attempt to dismantle the drying and curing modules, or the e-cabinet except during hardware maintenance tasks. In that case, follow the instructions strictly.
- 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 Circuit Breaker (RCCB) every year (refer to the procedure below).

Note: A blown fuse may indicate malfunctioning electrical circuits within the system. Call your service representative, and do not attempt to replace the fuse yourself.

### Checking the functionality of the Residual Circuit Breakers (RCCBs)

Following standard Residual Current Circuit Breaker (RCCB) recommendations, it is recommended that the RCCBs are tested on a yearly basis. The procedure is as follows:

1. Turn off the built-in computer using the Internal Print Server's **Shutdown** button (or, in Print Care, select **Printer tools** > **Power options** > **Shutdown**). Do not turn off the printer from the mains switch or the circuit breakers.  
Caution: The shutdown process takes some time to complete. Wait until the green Power Enabled light is off before proceeding.
2. Once the computer is off, test that the RCCB works correctly by pressing the test button.
  - If the RCCB does not trip when the test button is pressed, this indicates that it has failed. The RCCB must be replaced for safety reasons; call your service representative to remove and replace the RCCB.
  - If the RCCB trips, this indicates that it is working correctly; reset the RCCB to its normal on state.

### 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.
- Connect the power cords to dedicated lines, each protected by a branch circuit breaker according to the information detailed in the Site Preparations documentation.
- Do not insert objects through slots in the printer.
- Take care not to spill liquid on the printer. After cleaning, make sure all components are dry before using the printer again.
- Do not use aerosol products that contain flammable gases inside or around the printer. Do not operate the printer in an explosive atmosphere.
- Do not block or cover the openings of the printer.
- Do not attempt to modify the drying or curing module, or the e-cabinet.
- Ensure that the operating temperature of the substrate recommended by the manufacturer is not exceeded. If this information is not available, ask the manufacturer. Do not load substrates that cannot be used at an operating temperature above 125°C (257°F).
- Do not load substrates with auto-ignition temperatures below 250°C (482°F). See note below. No ignition sources are close to the substrate.

**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/m<sup>2</sup>, Copper calorimeter, K type thermocouple.

- Proper maintenance and genuine HP consumables are required to ensure that the printer operates safely as designed. The use of non-HP consumables (foams, filters, printhead cleaner roll, and inks) may present a risk of fire.

- The LED's array supports, beam and enclosures can reach high temperatures. To avoid the risk of fire, take the following precautions:
  - Take special care with zones marked with warning labels.
  - Do not place objects covering LED's arrays supports, beam and enclosures.
  - Take care not to spill liquid on the accessory. After cleaning, make sure all components are dry before using the printer.
  - Do not attempt to modify LED's array supports, beam and enclosures;

#### **Heat Hazard**

The drying and curing subsystems of the printer operate at high temperatures and can cause burns if touched. LED's array (optional) supports, beam and enclosures can reach high temperatures. To avoid the risk of burns, take the following precautions:

- Do not touch the internal enclosures of the printer's drying and curing modules and vapor removal thermal blankets.
- Take special care when accessing the substrate path.
- Take special care with zones marked with warning labels.
- Do not place objects covering LED's arrays supports, beam and enclosures.
- Do not attempt to modify LED's array supports, beam and enclosures;
- Remember to let the printer cool down before performing some maintenance operations.

#### **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 and in-line slitters:

- 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.
- Do not operate the printer with covers bypassed.
- Do not touch in-line slitters during printing.
- Handle in-line slitters with care and store them safely into their box when not used with the printer.
- Risk of cutting your fingers! Uninstall the in-line slitters when manipulating the curing module or accessing the substrate path.
- Take care when using the air gun. When used for cleaning purposes, make sure to use it according to the local regulations since additional safety provisions may apply.

#### **Light radiation hazard**

UV radiation can be emitted from the LED's array in compliance with the requirements of the exempt group of IEC 62471:2006 Photobiological safety of lamps and lamp systems. However, you are recommended not to look directly for a long time at the output LEDs lights while they are on.

#### **Sound pressure level**

The sound pressure level could exceed 70 dBA in some print modes. Hearing protection may be required.

#### **Chemical hazard**

Safety data sheets identify ink ingredient and ventilation requirements to ensure any airborne exposure is adequately controlled.

Current printer ink systems material safety data sheets are available at: <http://www.hp.com/go/msds>.

Air conditioning and ventilation should meet with local environmental and health and safety (EHS) guidelines and regulations. To see more detailed information, please refer to the "Ventilation and air conditioning" section included in the site preparation guide, available at: <http://www.hp.com/go/latex1500/manuals>.

#### **Heavy substrate hazard**

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

- Handling heavy substrate rolls always requires two people. Care must be taken to avoid back strain and/or injury.
- Always use a forklift, pallet truck, or other handling equipment to lift substrates. The printer has been designed to be compatible with many of these devices.
- Always wear personal protective equipment including boots and gloves.

**Ink handling and condensates**

HP recommends that you wear gloves when handling ink system components and condensates.

**Ventilation and air conditioning**

As with all equipment installations, to maintain ambient comfort levels, air conditioning and ventilation in the work area should take into account that the printer produces heat.

Air conditioning and ventilation should meet local environmental, health, and safety (EHS) guidelines and regulations. For a more prescriptive approach to adequate ventilation, refer to the ANSI/ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) 62.1-2013 Ventilation for Acceptable Indoor Air Quality. An example minimum exhaust rate of 2.5 L/s.m<sup>2</sup> (0.5 cfm/ft<sup>2</sup>) of fresh air for “copy, printing rooms” is specified.

**Note:** The ventilation and air conditioning units should not blow air directly onto the printer.

**Note:** Maintaining positive air pressure in the print production room will help prevent dust from entering the room.

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**Printer software**

The HP Internal Print Server is provided with your printer and is already installed in the printer's built-in computer. It displays printer alerts and a summary of printer status, manages print jobs, and must be used to interact with the printer in various ways.

The HP Print Care program is provided with your printer and is already installed in the printer's built-in computer. It displays printer status and history in detail, and helps you to maintain the printer and solve any problems that may arise.

A Raster Image Processor (RIP) should be run on a separate computer; it cannot be installed on the printer's built-in computer. It is not provided with the printer and should be obtained separately.

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**Printer messages**

Occasionally you may see messages such as the following in the Internal Print Server window. There are two types: text messages, which are more informative, and messages containing numerical codes, which mean that the printer has detected a problem or malfunction. When one of these messages appears, please follow any instructions provided by the printer, and consult the table below. If you feel in doubt about the correct response, or if you have followed the recommendation but the problem persists, call your service representative.

Message or code	Recommendation
[Color] cartridge has expired	Replace the cartridge.
[Color] cartridge is altered	Replace the cartridge.
[Color] cartridge is low on ink	Be ready to replace the cartridge soon.
[Color] cartridge is missing	Install the correct cartridge.
[Color] cartridge is non-HP ink	You are recommended to install an HP cartridge for best performance.
[Color] cartridge is out of ink	Replace the cartridge.
[Color] printhead is missing	Install the correct printhead.
{Color} printhead out of warranty	The printhead's warranty has ended, because of the length of time it has been in operation, because of the volume of ink used, or because non-HP ink has been used in the system. See the limited warranty document.
An error has occurred in printhead detection	Remove the printhead, clean any ink from the electrical connectors on the printhead (do not try to clean the nozzles), and reinsert the printhead.
Checking file system	After a dirty power off, the printer performs a file system check, which will take some minutes.
Checking printer	The printer is completing checks and cool-down cycle after finishing a job.
Clean drop detector spittoon	Clean the ink deposits.

Message or code	Recommendation
Cleaner roll jam	Go to the Internal Print Server and select the Ink System menu, then <b>Check cleaner roll</b> . Pull out the printhead cleaning roll assembly, raise the pinchwheels, wind the roll forward manually, then lower the pinchwheels and push the assembly back into the printer.
Color calibration cancelled because of scanning errors	The color calibration chart could not be scanned successfully with the current substrate.
Connecting	The Internal Print Server is connecting to the printer.
Connecting printer, please wait	The Internal Print Server is starting the printer.
Disconnected	The printer is shut down or not detected.
FW upgrade post actions	The firmware update is being performed.
Ink drying	The printer is drying the last passes of a job after printing it.
Ink system not ready to print	Please wait a while. If the printer does not recover, restart it.
Job canceled due to lack of data received from the IPS	If the problem persists, check the configuration of the Internal Print Server computer.
Line sensor calib. error: substrate too small	Load a larger substrate.
Low cleaner roll	Be ready to replace the printhead cleaning roll soon.
Lower lever	Lower the substrate pressure handles.
Maintenance #N advised. Please contact HP	You are advised to contact your service representative.
No substrate loaded	Load substrate.
Please close safety sensor	An open safety circuit has been detected, and should be closed in order to continue working.
Please press rearm button	Press the blue, blinking button to finish the printer's start-up procedure.
Please release emergency stop	An emergency button has been pressed, and must be released to continue working.
Preparing to print	The printer is performing checks and warm-up prior to printing.
Printer cannot carry on printing	Check that the three-phase power supply is working and that the ambient temperature is within the normal range. This problem can also be caused by holes in the substrate, by reflective or transparent substrates, or by a dirty or faulty temperature sensor.
Printer cannot cool down	If the ambient temperature is within the normal range, this problem may be caused by removing the substrate too quickly after printing. Try leaving the substrate in the printer until temperatures settle down after printing.
Printer cannot warm up	Check that the three-phase power supply is working. This problem can also be caused by holes in the substrate, by reflective or transparent substrates, or by a dirty or faulty temperature sensor.
Printheads not aligned	Align the printheads.
Printhead replacement incomplete	The printhead replacement process was unsuccessful.
Printing	The printer is printing.
Ready	The printer is ready to receive and print a job.
Remove {color} printhead	Remove the printhead.

Message or code	Recommendation
Replace {color} cartridge	Replace the cartridge.
Replace {color} printhead	Replace the printhead.
Replace aerosol filter	Replace both aerosol filters.
Reseat {color} cartridge	Reseat the cartridge.
Reseat {color} printhead	Reseat the printhead.
Select substrate name in the IPS	Select the name of the loaded substrate in the Internal Print Server.
Starting	The printer is being detected while starting up.
Substrate jam: remove substrate	Remove all substrate from the printer (see the user's guide).
Substrate may be detached from the rear spindle or slippage detected. Substrate will be unloaded.	See the user's guide.
System error	The printer has a system error. In the alert window, you should see the numerical code of the system error.
Very low cleaner roll	Be ready to replace the printhead cleaning roll very soon.
10.04.XX:YY	Problem with e-cabinet fuses. You may need to run a subsystem diagnostic to confirm that fuse replacement is required.
10.06.09:40	The emergency stops and/or safety relay have been activated. Check that the emergency stops are not activated. If the problem persists, run a diagnostic to identify the issue.
51.01.00:92	The main window is open. Close the window to continue printing. If the problem persists, run a diagnostic to identify the issue.
51.02.00:92	The front cover is open. Close the front cover to continue printing. If the problem persists, run a diagnostic to identify the issue.
51.03.00:92	The loading table is not closed. Close the loading table to continue printing. If the problem persists, run a diagnostic to identify the issue.
51.04.00:92	The emergency stops and/or safety relay have been activated. Check that the emergency stops are not activated. If the problem persists, run a diagnostic to identify the issue.
86.01.00:01	Carriage movement failure. Ensure that maintenance routines are up to date, then perform <b>Reinitialize Carriage</b> from the Internal Print Server. Also perform the carriage-rail cleaning process.

The above table includes the most significant numerical codes. If you receive an error code that is not in the table, follow the instructions in the message.

## HP Latex 1500 Printer (Under RMN: BCLAA-1606)

Specification	
Power	10kW
Frequency	50 / 60 Hz
3∅ ~AC Voltage	200 - 240 / 380 - 415 V
Current Max	48 A / 30 A