



HP Latex 1500 Printer
HP Latex 3000 Printer Series

Double-sided Day Night Kit User Guide

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Edition 1

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Safety notice

Read and follow the operating and safety instructions before starting the printer.

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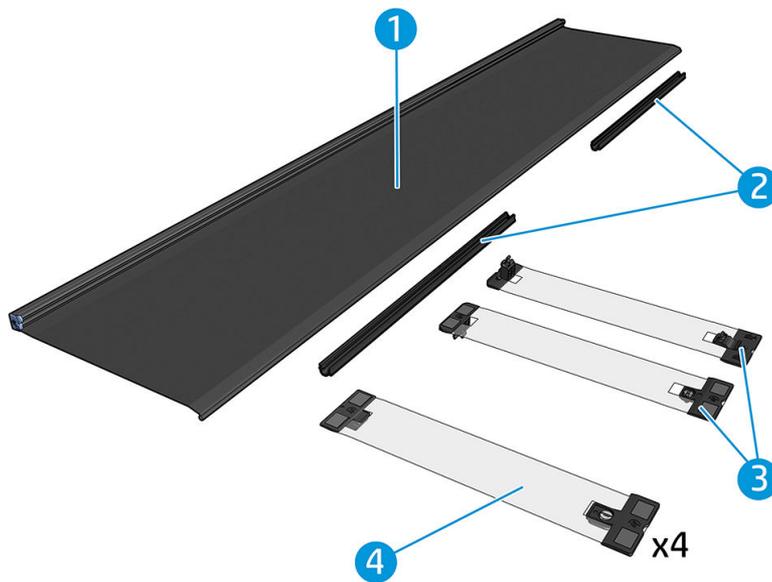
1 HP Latex Double-sided Day Night Kit

The HP Latex Double-sided Day and Night Kit allows to easily print on translucent substrate double-sided prints for outdoor advertising with better color appearance in any light—frontlit during the day or backlit at night.



 **NOTE:** This video applies to HP Latex 1500 and HP Latex 3000 printer series.

Kit components



1. Platen substrate protector, 2 units
2. Tensioners, 6 units
3. Double-sided Day Night Kit substrate edge holders, 2 units and 10 extra strips
4. 3000 series only: Regular substrate edge holders, 4 units and 20 extra strips

 **IMPORTANT:** Once the Double-sided Day Night Kit is installed in your 3000 series printer, you should remove the original edge holders, and use instead the edge holders provided with the kit. New regular edge holders and Double-sided Day Night Kit edge holders are provided.

When printing a double-sided backlit job, information can be found in the Internal Print Server about how to load/unload the substrate.

Introduction

Roll-to-roll configuration is the only one supported for double-sided printing. Double-sided printing cannot be performed if the dual-roll spindle is in use.

Double-sided jobs must be defined as a pair of ripped images:

- Side A is the first image to be printed.
- Side B is the second image to be printed, and is done so on the reverse of side A. Side B is always automatically mirrored. By default, side B assumes the image is the same as side A. There is the option to specify a different image for side B.



IMPORTANT: For double-sided backlit the maximum render resolution supported for side B is 300 ppi.

Double-sided backlit print instructions

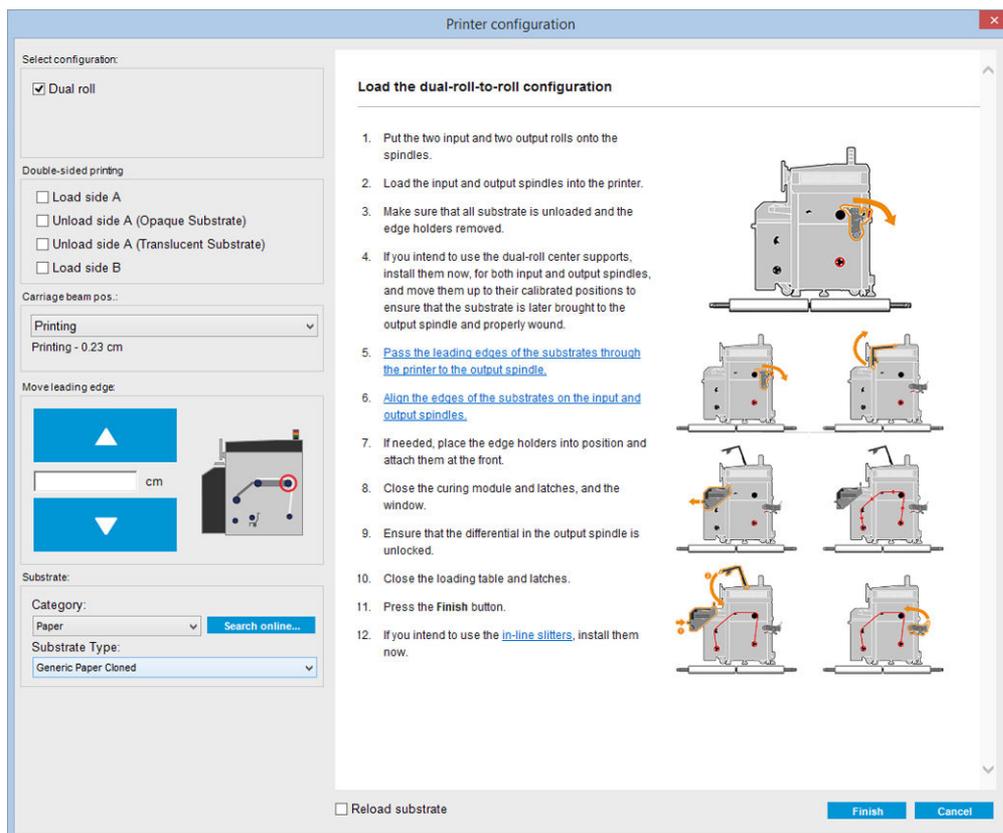
Double-sided backlit printing basic steps:

Front (side A): Select and load the substrate roll for printing

1. Select a roll of a material suitable for double-sided backlit printing. The material should be translucent (it should let some light pass through when backlit). For double-sided printing of blockout (opaque substrate), see the printer's user guide at <http://www.hp.com/>.

 **IMPORTANT:** Make sure the platen substrate protector is not installed, if it is; uninstall it. If not, the substrate advance sensor cannot see the substrate, which will affect advance and overall print quality.

2. In the Internal Print Server, click **Load Substrate** and select **Roll to Roll** configuration, **Single Roll** (uncheck the **Dual Roll** option) and check the **Load Side A** option. Pass the substrate through the substrate path taking care to center it as much as possible, then attach it to the output spindle core.



3. To select the substrate you're using, you have two options:
 - **Option 1:** Select a generic substrate type. Click the **Substrate Type** drop-down list and select the loaded substrate. Suitable generic substrates for side A backlit are **Generic Side A Translucent PVC Banner** (for PVC backlit banners) or **Generic Side A Translucent Paper** (for backlit papers).
 - **Option 2:** Download customized settings for your specific substrate. Click the **Search online** button and look for your specific substrate brand and name.

Substrate:

Category: Textile Search online...

Substrate Type: MESH_WS_TEST

Remaining substrate: cm

Substrates for Double-sided Day Night application are named using the following convention:

- *<substrate name>* – For dual side/Day&night mode – Side A
- *<substrate name>* – For dual side/Day&night mode – Side B

If you find your substrate in this window, you should then download and install both substrates, for printing sides A and B.

Online substrate manager:

Classification	Substrate Name	Brand	Type	Sub Type	Applications	Status
HP	Blue Back Billboard Paper - Copy	HP	Paper	Outdoor Wet Strength paper	Light boxes, Wall covering, Digital fine art, Flags, Design, Vehicle wraps, Posters, Photo Specialty, Soft signage, PORPOS, Outdoor banners	Download
HP	HP Professional Satin Photo Paper	HP	Paper			Download
HP	HP Universal Heavyweight Coated Paper	HP	Paper			Download
HP	HP Everyday Adhesive Matte Polypropylene	HP	PP and other films	PP Self-Adhesive	Display panels, Soft signage, PORPOS	Download
HP	HP Everyday Satin Canvas	HP	Textile	Canvas	Photo enlargements, Posters, Trade show and event displays, POP and retail displays, Art reproductions	Download
HP	HP Everyday Satin Canvas	HP	Textile	Canvas	Photo enlargements, Posters, Trade show and event displays, POP and retail displays, Art reproductions	Download
3M Commercial Graphics Division	Paragraphics B - For dual side/Day&night mode - Side B	3M Commercial Graphics Division	PVC Banner	Backlit PVC	Outdoor banners, Light boxes	Download
3M Commercial Graphics Division	Paragraphics B - For dual side/Day&night mode - Side A	3M Commercial Graphics Division	PVC Banner	Backlit PVC	Outdoor banners, Light boxes	Download
3M Commercial Graphics Division	U180CV-10	3M Commercial Graphics Division	Self adhesive	Cast vinyl	Soft signage, PORPOS, Outdoor banners, Flags, Billboards, Posters, Building wraps	Download
3M Commercial Graphics Division	LX480CV-0	3M Commercial Graphics Division	Self adhesive	Cast vinyl	Outdoor banners, Floor graphics, Billboards, Displays, Photo enlargements, Vehicle wraps, Posters, Building wraps, Soft signage, PORPOS	Download
Ashblom	Chantafiche 200JE	Ashblom	Paper	Coated paper for waterbased and solvent inks	Billboards, Posters, General Commercial Printing	Download
Ashblom	Chantafiche 201 Extrascroll	Ashblom	Paper	Coated Matt	Posters, Double-sided, Display panels, Light boxes	Download
Ashblom	Chantafiche 201 Extrascroll - For dual side/Day&night mode - Side A	Ashblom	Paper	Coated Matt	Posters, Double-sided, Display panels, Light boxes	Download
Ashblom	Chantafiche 201 Extrascroll - For dual side/Day&night mode - Side B	Ashblom	Paper	Coated Matt	Double-sided, Display panels, Light boxes, Posters	Download
Ashblom	Chantafiche 250 JE	Ashblom	Paper	Coated paper for waterbased and solvent inks	Displays, Posters, PORPOS	Download
Ashblom	EasyLife TM MABM41100	Ashblom	Wallcovering	Non Self-Adhesive Non Woven Wallcovering	Wall covering	Download
Agprint	AHD2115	Agprint	Wallcovering	Paper based Wallcovering	Wall covering	Download
Agollo	066 FrontE EX-340gen 300x500 matt	Agollo	PVC Banner	FrontE PVC	Building wraps, Display panels, Outdoor banners	Download
Avery Dennison	MPI 1104	Avery Dennison	Self adhesive	Cast vinyl	Billboards, Vehicle wraps, Building wraps, Fleet graphics, PORPOS, Window graphics	Download
Avery Dennison	MPI 2000	Avery Dennison	Self adhesive	Calendered vinyl (polymeric)	Design, Displays, PORPOS	Download
Avery Dennison	MPI 2800	Avery Dennison	Self adhesive	Calendered vinyl (polymeric)	Vehicle wraps, Posters, Fleet graphics, Soft signage, PORPOS, Displays	Download
Avery Dennison	MPI 3000	Avery Dennison	Self adhesive	Calendered vinyl (monomeric)	Vehicle wraps, Posters, Fleet graphics, PORPOS	Download
Avery Dennison	MPI 3001 Quickmount	Avery Dennison	Self adhesive	Calendered vinyl (monomeric)	Flags, Displays, Vehicle wraps, Posters, Fleet graphics, Soft signage, PORPOS	Download
Avery Dennison	MPI 5002	Avery Dennison	Self adhesive	Calendered vinyl (monomeric)	Vehicle wraps, Fleet graphics, Window graphics	Download
Berger	4364-6666 be tex Samba Double FR	Berger	Textile	Polyester banners and displays	Display panels, Soft signage	Download
Banner	4442-MJ Canvas Banner Mattex	Banner	Textile	Canvas	Flags, Posters, Soft signage, PORPOS, Point-to-Point Displays	Download

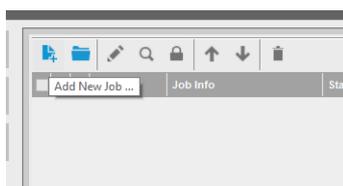
- Click **Finish** to start the automatic substrate load checks. Wait until the load process ends before continuing.

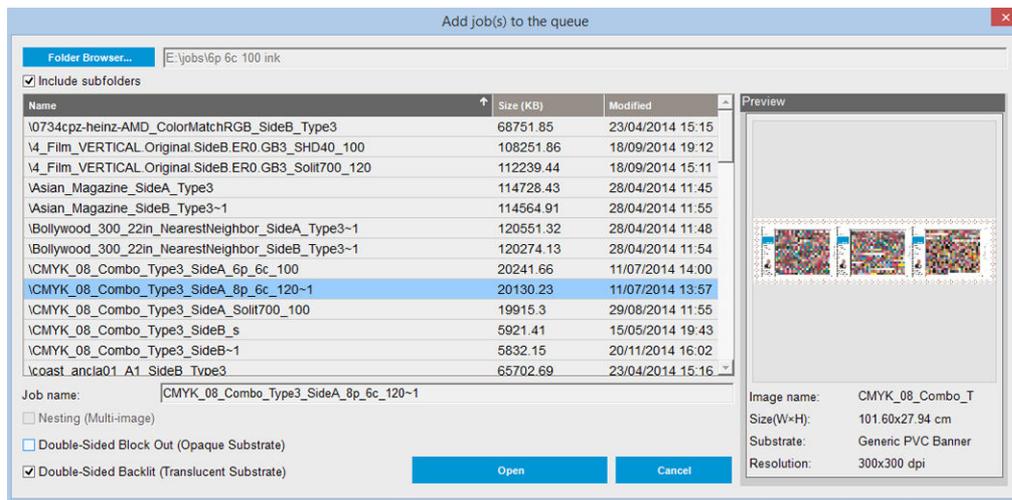
Preparing the image content for double-sided backlit printing

 **NOTE:** You can rasterize the images in the RIP at a maximum of 300 ppi (600 ppi images are not supported for side B).

Create a double-sided backlit job

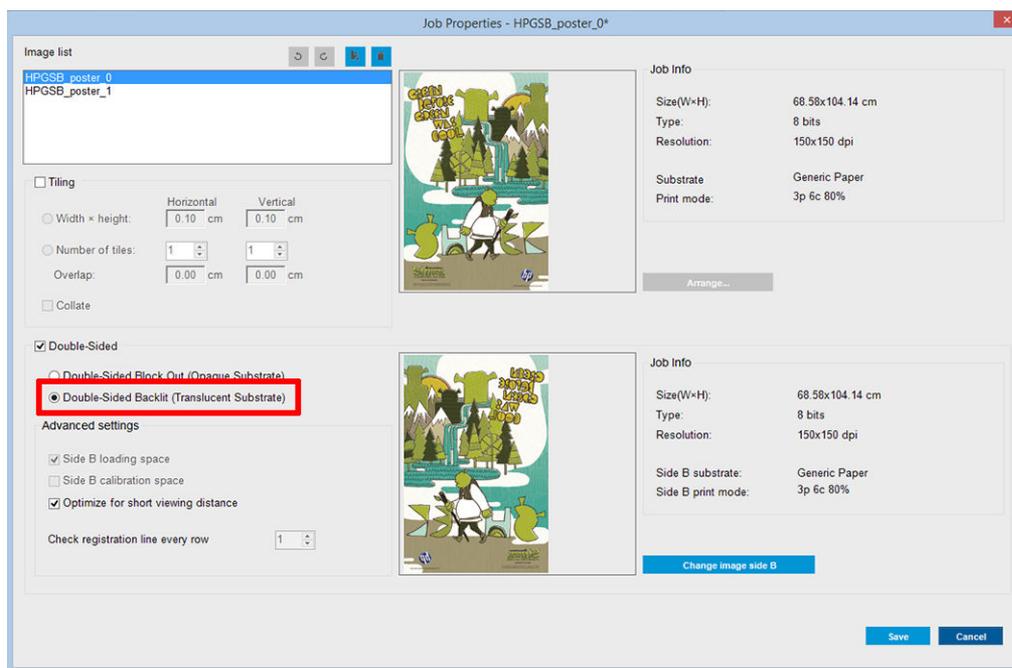
- In the printer's Internal Print Server, click **Add Job**, and select the job from the corresponding folder.





You can start the double-sided print from here, or by following the process described next.

2. Select **Double-Sided Backlit (Translucent Substrate)**.



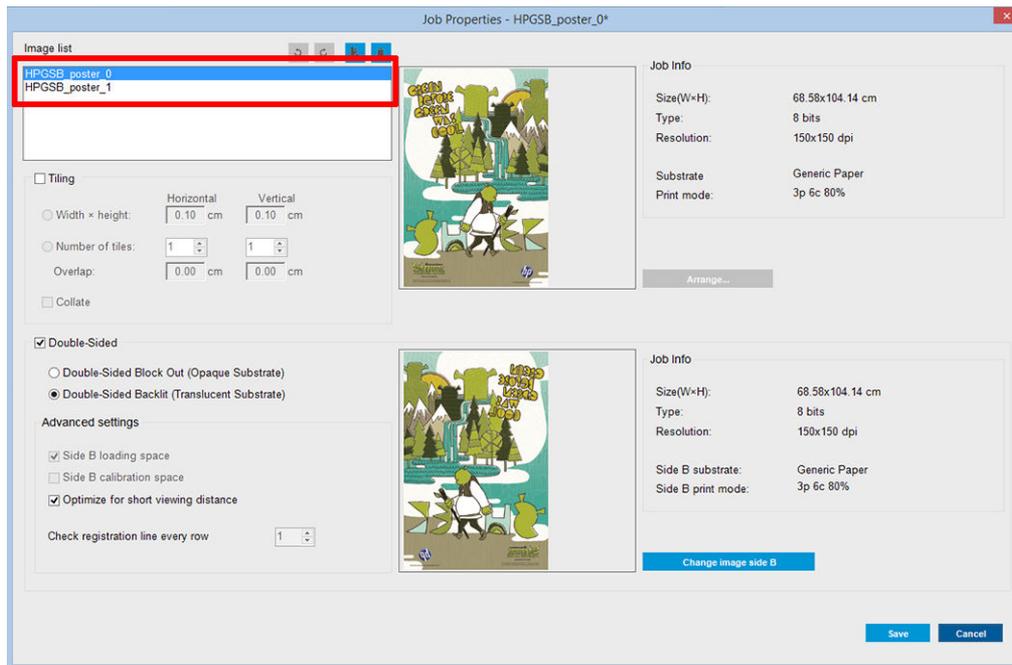
3. Select the loaded substrate, and **Side A** print mode.

IMPORTANT: Before printing side A, select the substrate type and print mode for printing side B. You can select a suitable substrate type by:

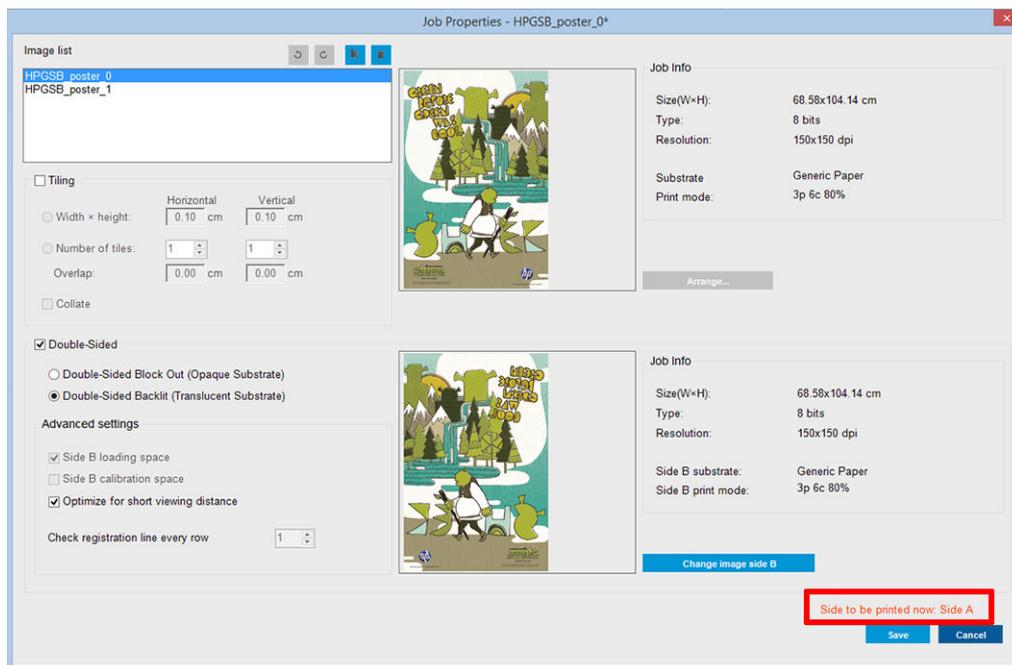
- **Option 1:** Selecting a generic substrate type: **Generic Side B Translucent PVC Banner** (for PVC backlit banners) or **Generic Side B Translucent Paper** (for backlit papers).
- **Option 2:** Using a custom substrate type previously downloaded using the **Search online** option:

<substrate name> – For dual side/Day&night mode – Side B

- The same image is printed on the front and back by default. If you want to specify a different image for the back, select the image name at the top left part of the dialog window or at the corresponding option at the bottom right of the image.



- Make sure that the bottom right part of the job menu indicates: **Side to be printed now: Side A**. If not, select **A** in the Print: drop-down list.



- Click **Save** to close the dialog window.

Print on the front (side A)

- Select the job just created in the Internal Print Server job queue.

 **IMPORTANT:** Before printing side A, select the substrate type and print mode for printing side B. You can select a suitable substrate type by:

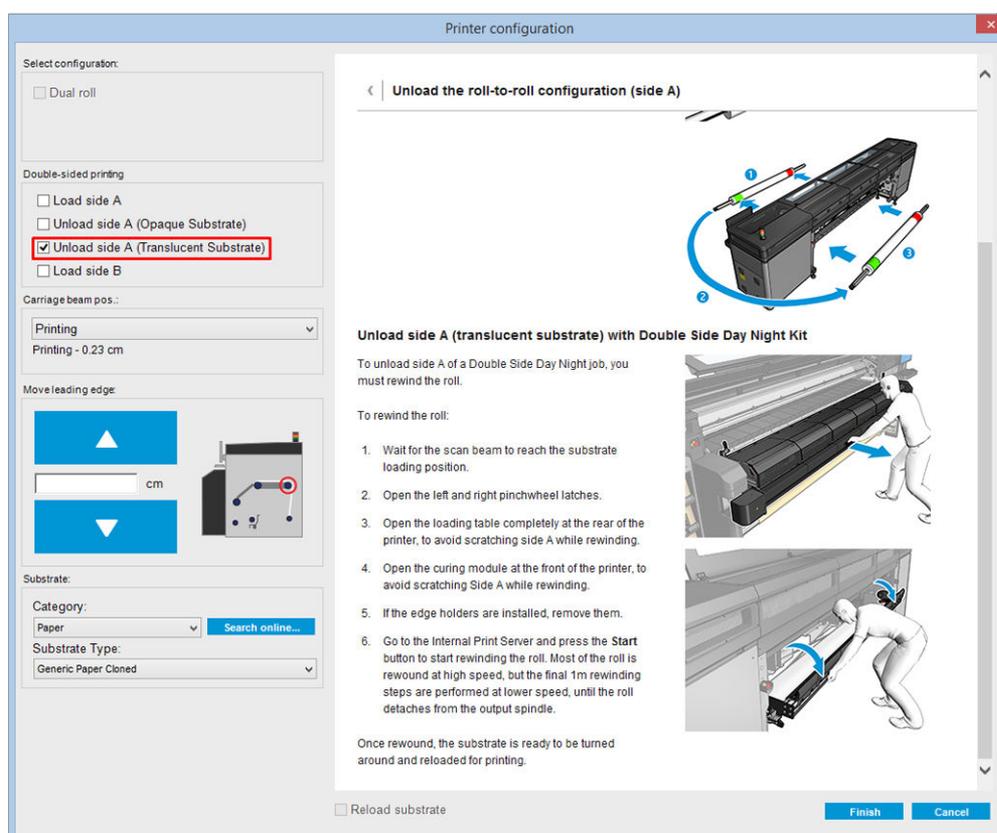
- **Option 1:** Selecting a generic substrate type: **Generic Side B Translucent PVC Banner** (for PVC backlit banners) or **Generic Side B Translucent Paper** (for backlit papers).
- **Option 2:** Using a custom substrate type previously downloaded using the **Search online** option:

<substrate name> – For dual side/Day&night mode – Side B

2. Click **Print**. The carriage positions itself over the substrate and the platen backlight illumination level automatically adjusts according to substrate translucency so that the registration marks can be correctly detected while printing side B. If the substrate is not translucent, an error appears and printing will not start (remember that for double-sided printing of blockout substrates a different workflow should be followed, see the printer's user guide at <http://www.hp.com/>). Registration marks are printed on side A all along the sides of the substrate and also across the substrate at the beginning of each copy—only if copies have been selected in the Internal Print Server. If copies are selected in the RIP, only lateral registration marks will be printed. For best results, select copies in the Internal Print Server.
3. Wait for side A to finish printing.

Rewind the roll before printing on the back (side B)

1. Click the **Load Substrate** button to open the dialog window. The printer alerts that the substrate will be unloaded. Click **Yes** to proceed..
2. Check the **Unload Side A (Translucent Substrate)** option in the substrate load dialog window.

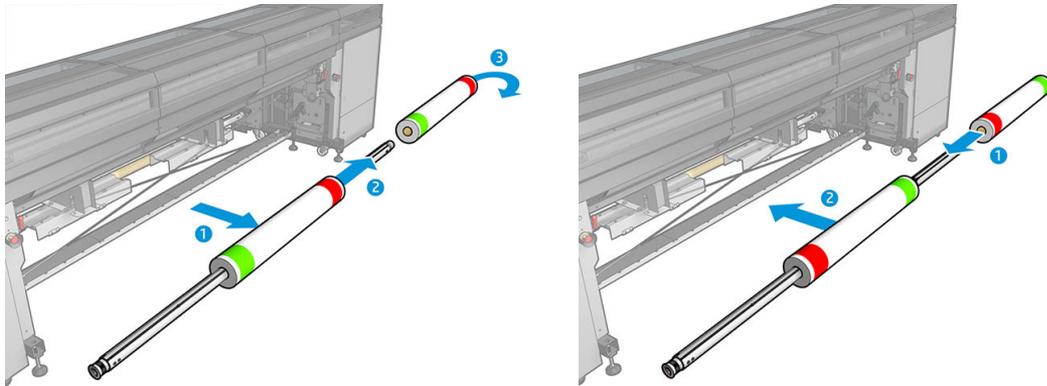


 **IMPORTANT:** Carefully follow the instructions shown in the Substrate Dialog window.

3. Click **Finish** to start the roll rewind process. The substrate rewinds into the input spindle.

Load the substrate roll for printing on the back (side B)

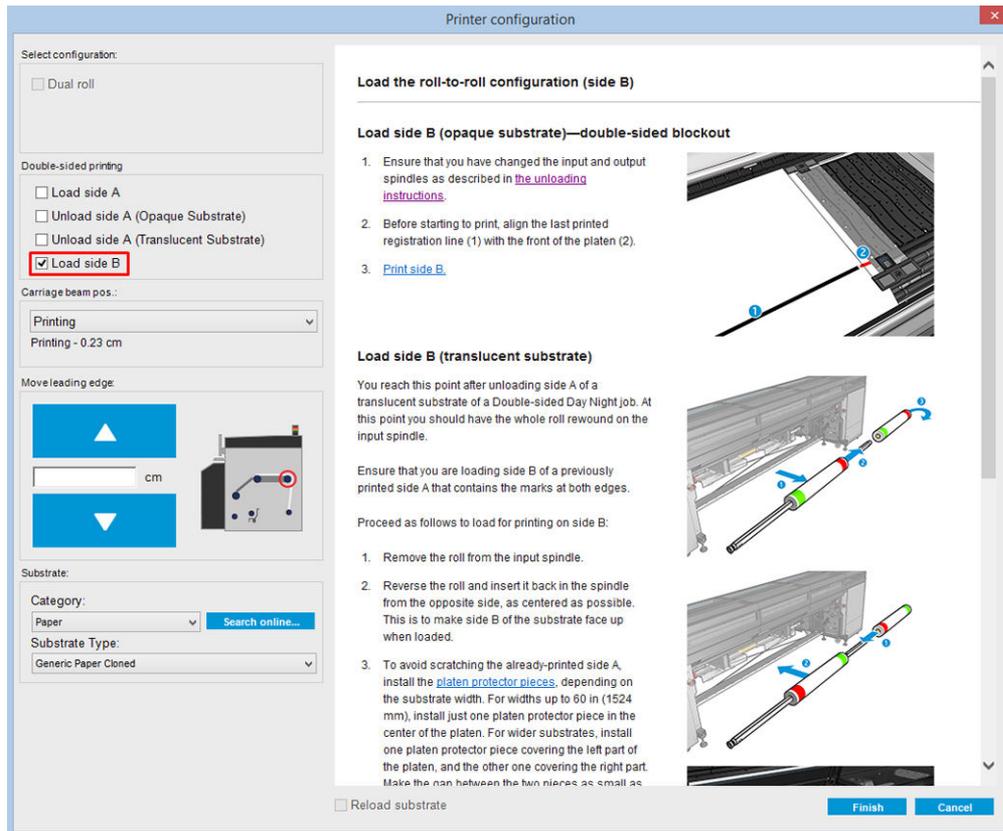
1. Install the platen substrate protector. See [Double-sided Day Night Kit platen substrate protector installation on page 9](#).
2. Disinflate the input spindle to loosen the roll. Open the spindle latches at both ends.
3. Remove the roll from the spindle, turn it around 180 degrees and replace it onto the spindle from the opposite end. Side B is now the substrate side facing up and exposed to be printed.



 **NOTE:** If your printer is an HP Latex 3000 printer series, what you see may be slightly different.

4. Reinflate the input spindle.
5. Feed the substrate through the substrate path and reattach it to the output spindle, aligning it correctly so as to be straight from input to output.

6. Check **Load side B** in the Load Substrate window, and click **Finish**.

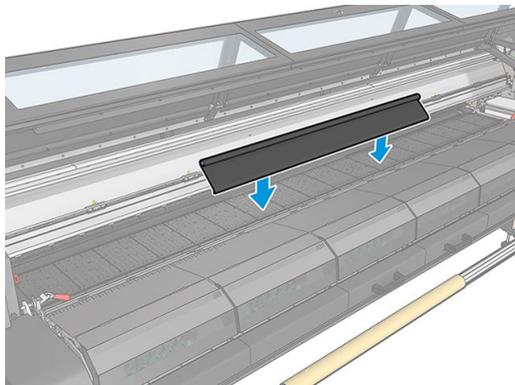


NOTE: The carriage beam position is automatically raised in case its current height is not safe for scanning edges with the platen substrate protector installed. It is then automatically lowered or raised to the previous position at the end of the substrate load process.

When using the Double-sided Day and Night Kit some elements need to be installed to print side B of a job:

Double-sided Day Night Kit platen substrate protector installation

1. Place the protector on the platen and drop the far side of the protector on the far side of the platen, in the space between the platen and the roller; it is magnetic and will attach itself. Nevertheless make sure it is attached to the base and not to the LED guide.

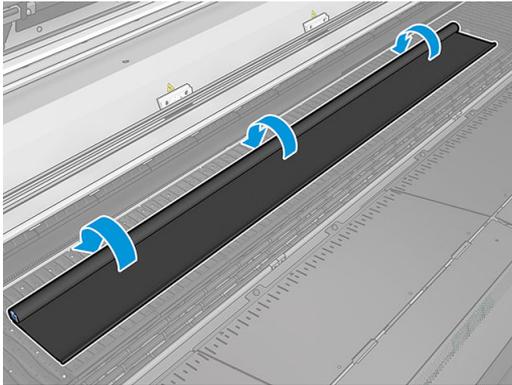


2. Unroll the platen substrate protector fabric covering all the platen. Try to cover all the platen with the protector, or use two protectors. It is important to try to cover at least all the printed content.

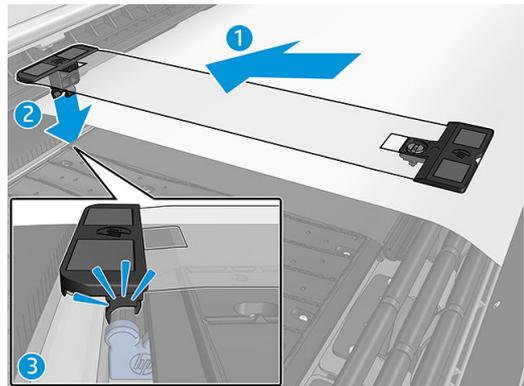
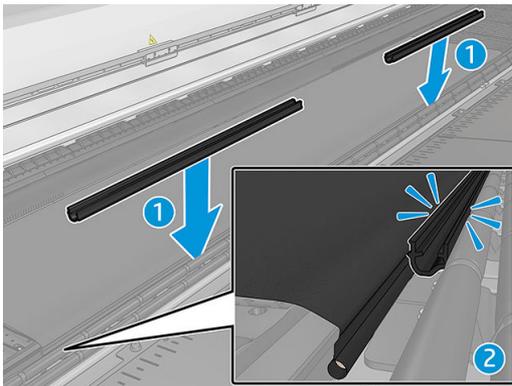
IMPORTANT: Place the platen protector with the label face down, in contact with the platen.



THIS SIDE SHOULD FACE DOWN



3. To provide the correct tension to the platen protector, place the tensioner element between the platen and the diverter wheels. Make sure the fabric is flat, with no wrinkles.



See also the installation video:

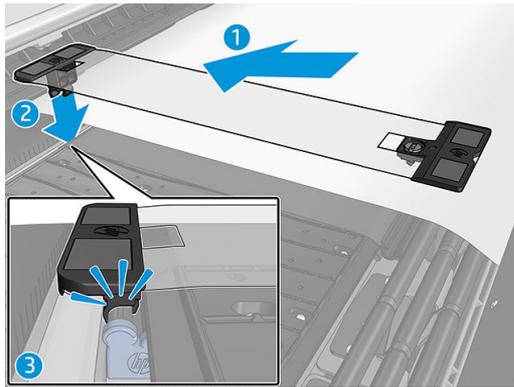


4. Use the regular edge holders to secure the protector; if necessary also use the Double-sided Day Night Kit edge holders to secure the substrate edges.

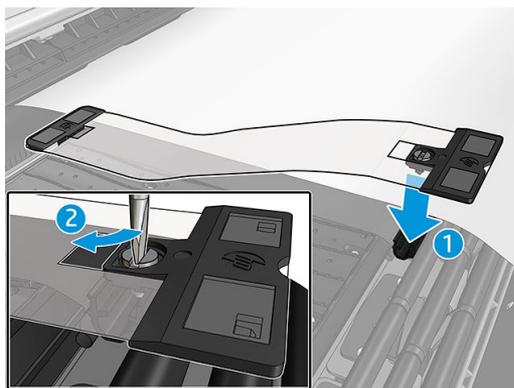
Double-sided Day Night Kit edge-holder installation

1. Standing in front of the printer, place the edge holder onto the far side of the platen at the furthest edge of the platen substrate protector.

- Clip the edge holder onto rear side of the platen substrate protector situated between the printer platen and Double-sided Day Night platen light.

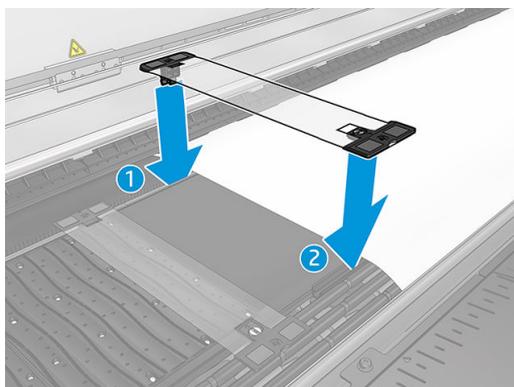


- Attach the other side of the edge holder to the protector tensioner, covering the edge of the substrate.



- Provide the correct tension to the edge holder using a flat screwdriver.

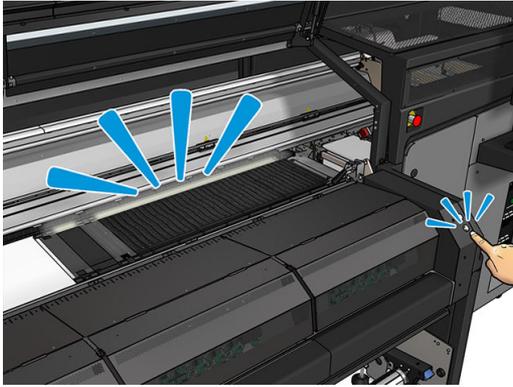
 **NOTE:** If the edges of the protector extend beyond the substrate, use the regular edge holders to hold the protector. If required, use the Double-sided Day Night Kit specific edge holders to hold the substrate. If the protector is hidden below the substrate, use the regular edge holders to hold the substrate.



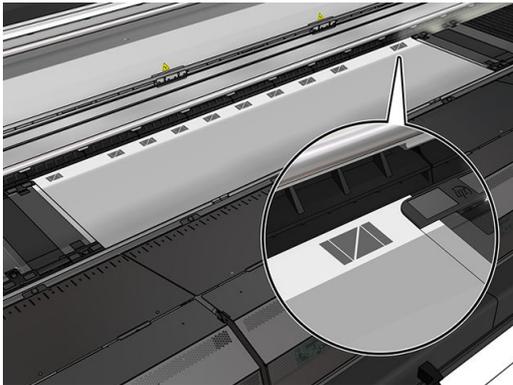
Substrate positioning to enable proper registration marks scan

- Turn on the platen backlight button in the Internal Print Server or on the printer. The substrate is now backlit and the content printed on Side A can be seen in the illuminated area.

 **NOTE:** If your printer is an HP Latex 3000 printer series, the platen backlight can be switched on only at the Internal Print Server.

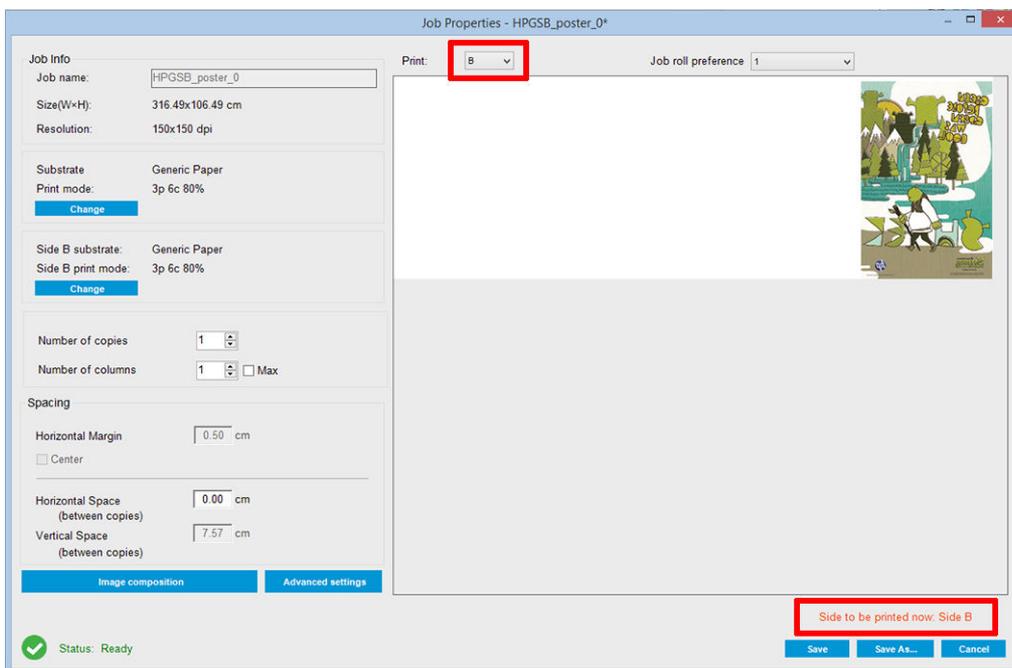


- Using the arrows in the Internal Print Server, move the substrate so that all of the top row registration marks at the beginning of the copy are completely visible in the illuminated area.



Print on the back (side B)

- Click your double-sided job in the job queue and select **Edit**.
- Select **B** in the **Print** drop-down list. The bottom right part of the job menu states: **Side to be printed now: Side B**.



- Click **Save**.

4. Click the double-sided job in the queue, and then click **Print**.
5. The carriage moves to the rightmost registration mark, and the substrate advances until the first registration mark is detected. The carriage now scans the complete width of the substrate to detect the top-row registration marks. If correct, printing of side B commences, and the print preview shows the progress; if not, a warning message appears to indicate that the marks could not be detected, and printing will not start.
6. The system automatically maintains side B with side A registration. Registration quality can be checked after the curing zone.

LED proofing lights



Risk of burns

For more safety information, see the printer's user guide

The set of lights allows the visual inspection of the image printed on-press. It is comprised of two lights:

- Front light: Mounted underneath the New Universal Mounting Beam (UMB), illuminating the print output for frontal visual assessment.
- Back light: Two strips of LED illuminating from the rear of the substrate output, providing an on-printer light source for visually assessing backlit prints; no need to stop the printer to view in a light box.

The LED proofing lights can easily be managed and switched on and off from the Internal Print Server and also by pressing the corresponding buttons at the right of the printer.

 **NOTE:** If your printer is an HP Latex 3000 printer series, the lights can be switched on only from the Internal Print Server.

 **IMPORTANT:** LED proofing lights will switch off after a time out.

 **CAUTION:** LED proofing lights can reach high temperatures, use caution when approaching and working close to LED strips.

CAUTION: You are recommended not to look directly at the LEDs while they are on.

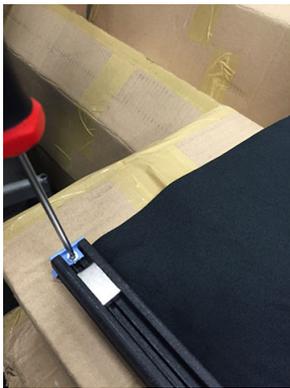
2 Hardware maintenance

Replace the Double-sided Day Night Kit platen substrate protector

You may need to replace the fabric of the platen substrate protector if it becomes damaged or dirty.

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

1. To remove the fabric from the guide, remove one blue cover at either of the two ends with a screwdriver.



2. Remove the old fabric from the guide and dispose of it.



 **IMPORTANT:** Consult your local authorities to determine the correct manner in which to dispose of waste.

 **NOTE:** You can find the Material Safety Data Sheets (MSDS) of the ink in <http://www.hp.com/go/msds>.

3. Take the new fabric and insert it in the guide.



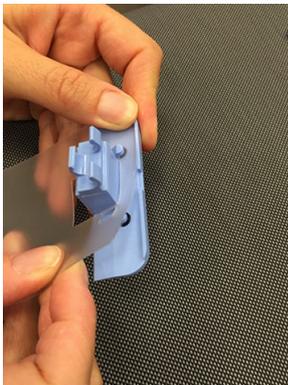
 **IMPORTANT:** Make sure that you place it in the correct position.

Replace a Double-sided Day Night Kit substrate edge holder

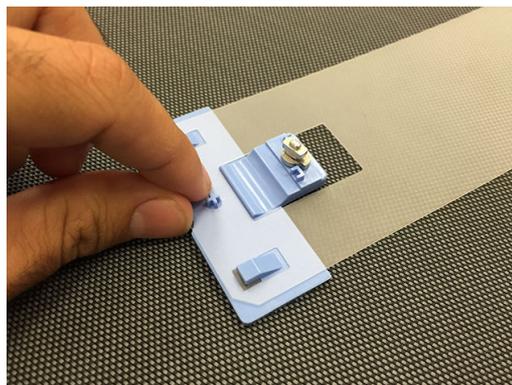
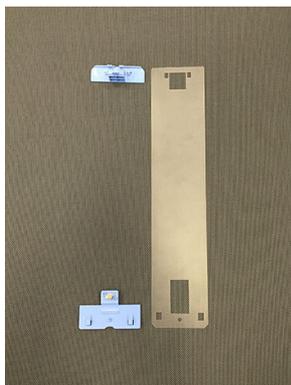
You may need to replace an edge-holder strip if it is broken or deteriorated.

Replacement (1500 printer)

1. If the edge holder is installed in the printer, remove it from the platen.
2. Remove the damaged strip from the ends of the edge holders.



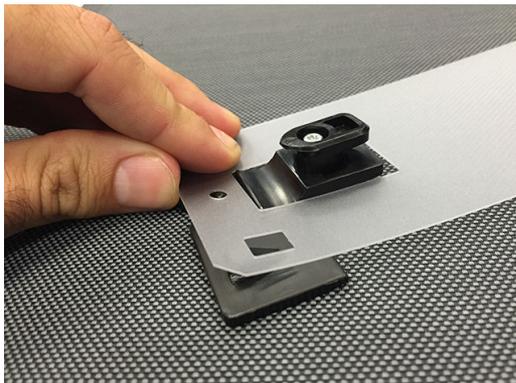
3. Take one of the strips provided with the kit and attach the plastic end pieces to it. The soft surface should be face up and the roughened surface face down, to be in contact with the paper once the edge holder is installed in the printer.



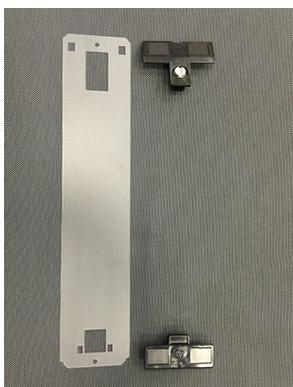
4. Replace the edge holder on the platen, if you intend to use it.

Replacement (3000 printer series)

1. If the edge holder is installed in the printer, remove it from the platen.
2. Remove the damaged strip from the ends of the edge holders.



3. Take one of the strips provided with the kit and attach the plastic end pieces to it. The soft surface should be face up and the roughened surface face down, to be in contact with the paper once the edge holder is installed in the printer.



4. Replace the edge holder on the platen, if you intend to use it.

Clean Double-sided Day Night Kit lights



Risk of burns



Crush hazard



Risk of trapped fingers



Hazardous moving part



Electric shock hazard

For more safety information, see the printer's user guide

After a long time using the Double-sided Day Night Kit, you are recommended to clean the lights and elements installed with the kit.

Before cleaning the lights or other components, ensure that the printer is not printing and unload any loaded substrate, then turn off the printer in the correct way for maintenance operations..

Clean the platen lights diffuser

1. Open the front window and locate the diffuser that covers the platen lights.
2. Remove the diffuser by pulling the hole at either end with a screwdriver or similar tool. Be careful not to damage the LED strip.
3. Clean the diffuser with a clean cloth or a piece of cellulose paper 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 use a VOC-certified cleaner such as a properly diluted Simple Green All-Purpose Cleaner.

4. Reinsert the diffuser, lifting it through the corresponding groove in the LED array profile. You can start at either side. Pull the hole at each end with a screwdriver or similar tool. Be careful not to damage the LED strip.
5. Close the window.

Clean the output lights

1. Locate the output lights at the output side of the printer.
2. Clean them with a clean cloth or a piece of cellulose paper 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 use a VOC-certified cleaner such as a properly diluted Simple Green All-Purpose Cleaner.

3 Print Care diagnostics

Diagnostics for operator

90. Double-sided Day Night checks and installation

1. 90001 Electronic check
 - If the kit is uninstalled you will not be able to run this diagnostic.
 - This diagnostic allows you to check the connectivity with the electronic parts in the kit.
2. 90002 Lights check
 - If the kit is uninstalled you will not be able to run this diagnostic.
 - This diagnostic allows you to switch the printer lights on and off, and provides feedback.
3. 90003 Buttons check (HP Latex 1500 printer only)
 - If the kit is uninstalled you will not be able to run this diagnostic.
 - This diagnostic allows you to check whether the printer's physical buttons work properly.
4. 90004 Scanning check
 - If the kit is uninstalled you will not be able to run this diagnostic.
 - This diagnostic allows you to check whether the Double-sided Day Night scanning system works properly.
 - This diagnostic will perform two scans over the platen. One with the print-zone backlight off and one with the print-zone backlight on.



NOTE: To run this diagnostic, you must have the scan beam in printing position and no substrate loaded.

90. Double-sided Day Night Calibrations

1. 90021 Offsets calibration
 - If the kit is uninstalled you will not be able to run this diagnostic.
 - This diagnostic allows you to change the calibration offset values for side B.
2. 90022 Substrate edge to fiducial distance configuration
 - If the kit is uninstalled you will not be able to run this diagnostic.
 - This diagnostic allows you to change the white distance between the substrate edge and the fiducial.



NOTE: Changing this value with side A already printed could cause issues when printing side B.

4 System errors and alerts

Under certain circumstances, a numeric error code appears on the front panel. Follow the recommendation below to resolve the error. If the recommendation does not seem to solve the problem, call your support representative.

The error codes listed here are in addition to those appearing in the main HP Latex printer documentation. If an error code appears on the front panel that is not included in either list, turn off the printer and then turn it back on. If the problem persists, call your support representative.

System errors

Message	Recommendation
90.02.01:01 Platen back light error (service station)	The printer cannot detect light from print-zone back light 1 (service station side) when trying to adjust it. Check that the LED bar is working properly and that there is nothing covering it. If the problem persists, call your support representative.
90.02.02:01 Platen back light error (ink supply station)	The printer cannot detect light from print-zone back light 2 (ink supply station side) when trying to adjust it. Check that the LED bar is working properly and that there is nothing covering it. If the problem persists, call your support representative.
90.06.00:01 Double-sided Day Night Kit line sensor not working.	Line sensor (Double-sided Day Night Kit) malfunction. Run diagnostic Double-sided Day Night Checks and Installation > Scanning check to troubleshoot the issue. If the problem persists, call your support representative.

Alerts

Alert	Recommendation
Substrate too opaque	The loaded substrate is too opaque for Double-sided Day Night printing. This application relies on a certain level of transparency to work.
Fiducials not found.	Fiducial row not found. Use the Move Substrate buttons to position the first fiducial row on the print-zone back light line and try again. If the problem persists, call your support representative.
Fiducial reading error	Cannot read fiducial row properly. Check the sharpness of the white line inside the fiducial marks printed on side A. If a general defect is found, it can affect the reading. Align printheads and reprint side A.
Top Row Left Fiducial measurement failed.	Left-side fiducial measurement failed. Check whether the edge holder is too close to the marks, and ensure that the fiducial line is not too skewed. If so, correct it by reloading the substrate. You can also check that the platen protector is correctly positioned, not projecting any shadow that could affect the measure.
Top Row Right Fiducial measurement failed.	Right-side fiducial measurement failed. Check whether the edge holder is too close to the marks, and ensure that the fiducial line is not too skewed. If so, correct it by reloading the substrate. You can also check that the platen protector is correctly positioned, not projecting any shadow that could affect the measure.

Alerts (continued)

Alert	Recommendation
Some fiducials not found. Printing canceled.	The printer cannot follow the fiducial line. Ensure that the selected substrate is correct and that the Side B print mode has not changed since Side A was printed. If it has changed, set the original Side B print mode and try again.
Fiducial measurement failed during printing	Fiducial line reading lost. If maintained, this situation could compromise registration accuracy between both sides. Supervision is recommended until readings are restored or until you decide to cancel.



NOTE: The above table includes the most significant numerical codes and messages. If you receive an error or alert that is not in the table, follow the instructions in the message.