



HP Latex 5x0 and 3x0 Printer Series

TECHNICAL DOCUMENT. Understanding contone printers

June 2018

Contone printers

The intention of this document is to explain the differences between halftone and contone printers.

Halftone printers

On halftone printers, the RIP is responsible for the full color workflow (steps 1, 2, 3 and 4 in [Figure 1](#)).

In this kind of printer, only the drop placement is managed.

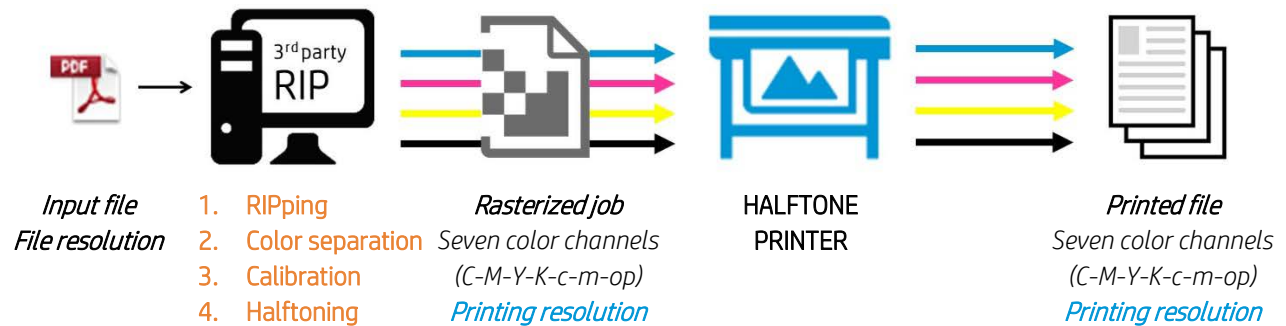


Figure 1 – Halftone printer

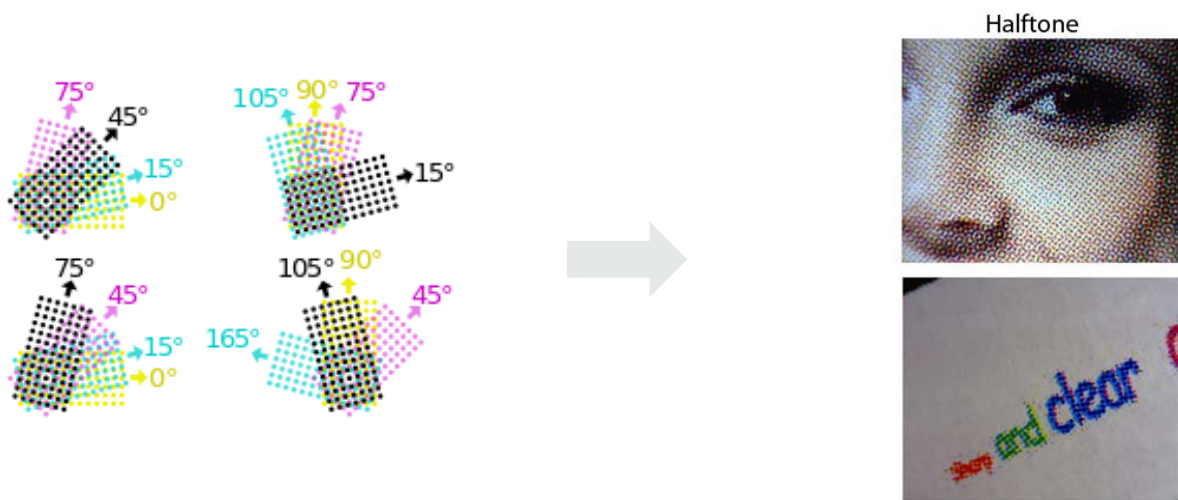


Figure 2 - Halftone of typical screen angles.

Contone printers

HP Latex 300 and 500 Printer Series are **contone printers**. On these types of printers, the **color management** is handled by the RIP software. The RIPPed image is sent to the printer. Sent files include a limited number of channels (CMYK).

The printer then does color separations, calibration and halftoning, generating the seven color ink drops (CMYKLcLm + Opt) used for printing.

The following figure shows a **contone color workflow**:

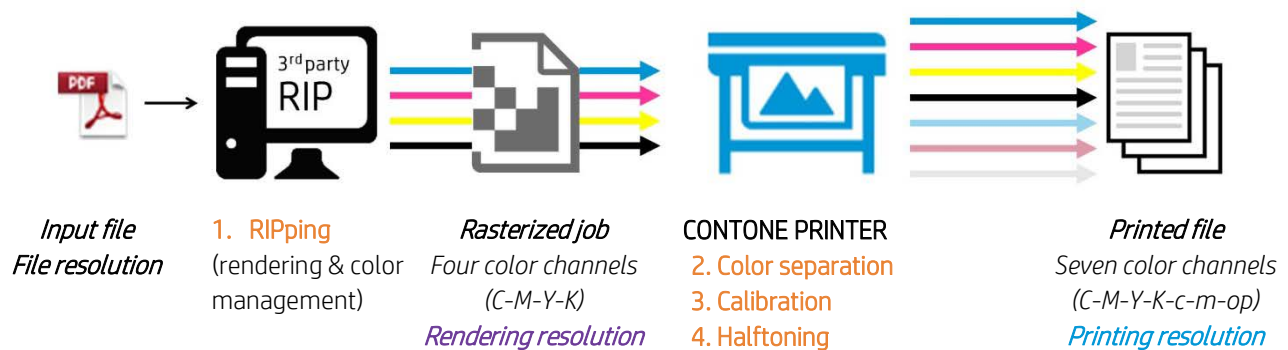


Figure 3 – Contone printer

On contone printers, the **resolution of the input file** is transformed into the job **Render resolution**. Once in the printer, the color pipeline transformations result in a **Print resolution** that can be the same or higher than the render resolution.

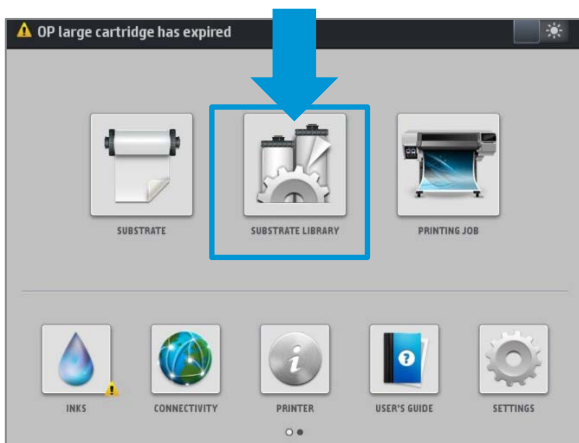
How to configure 1200 dpi print mode

While the HP Latex 500 allows a rendering resolution of 1200 dpi, the HP Latex 300 has a maximum rendering resolution of 600 dpi.

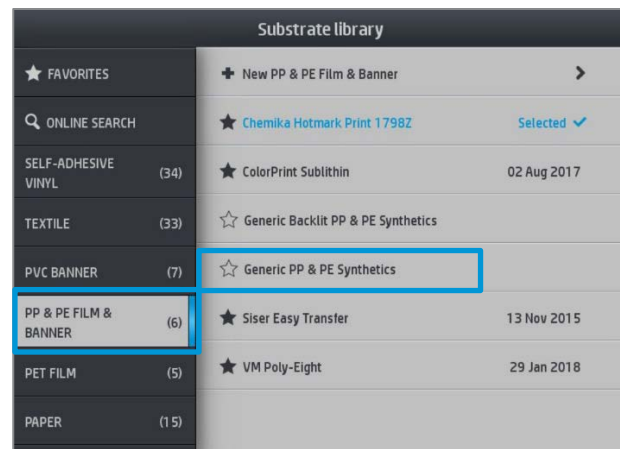
However, both HP Latex Printer Series can achieve a printing resolution of 1200 dpi (available in the 18-pass print mode only).

If you intend to use it, ensure that you have a frontlit substrate preset selected for this print mode:

1. Select *substrate library*

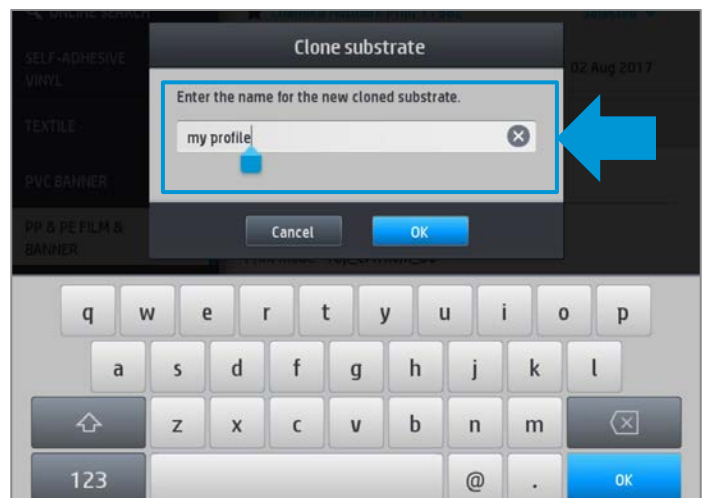
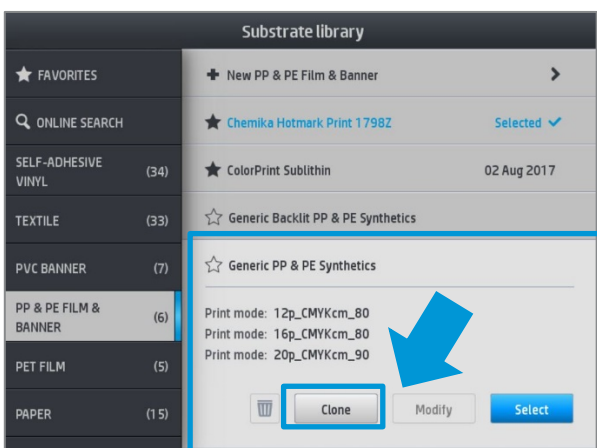


- Clone or edit an existing frontlit media profile.
- In the example case, clone a **generic** media profile.

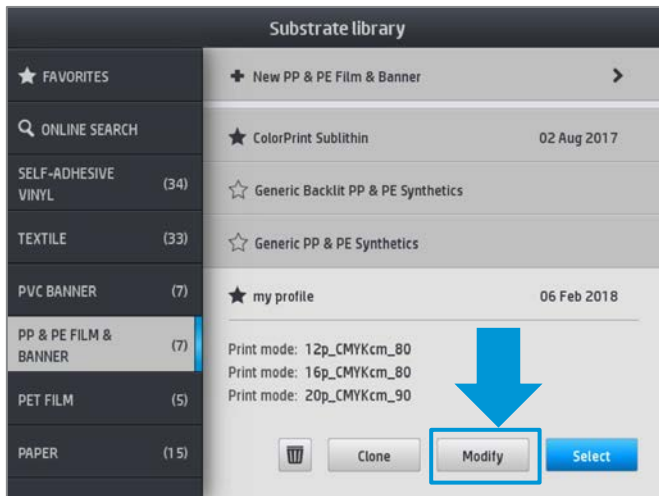


2. Choose media profile and select *done*

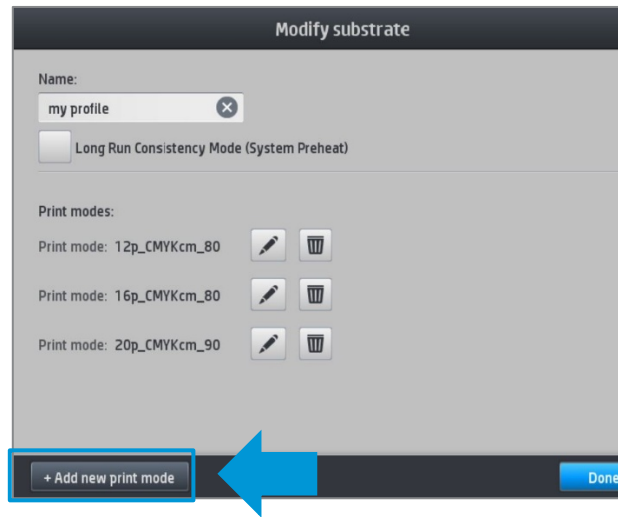
- Write the new media profile name.
- In the example case “*my profile*”.



3. Modify the created media profile “my profile”

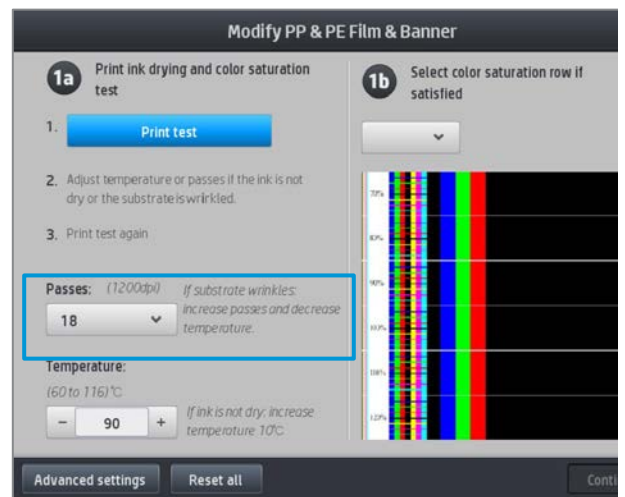
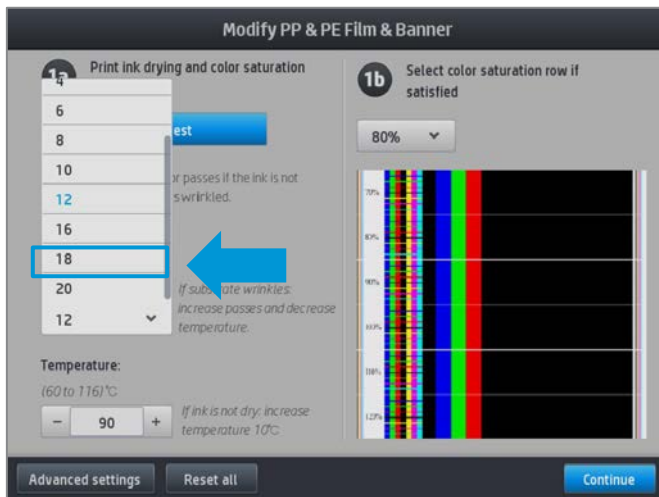


4. Add new print mode

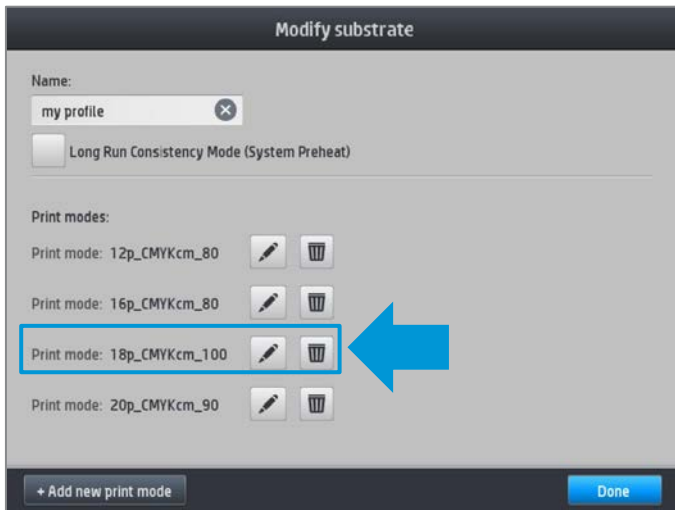


5. Create 18-pass print mode

- The system will inform you of the 1200 dpi print mode.



6. The new 18-pass print mode is added to the media profile



Synchronize the media profile to your RIP. You can see **some examples with different RIPs** on the following pages.

In the case of L5x0, you will see the rendering resolution of 1200 dpi print mode. In the case of L3x0, the 18-pass print mode will appear as 600 dpi. But both achieve a printing resolution of 1200 x1200 dpi.

ONYX

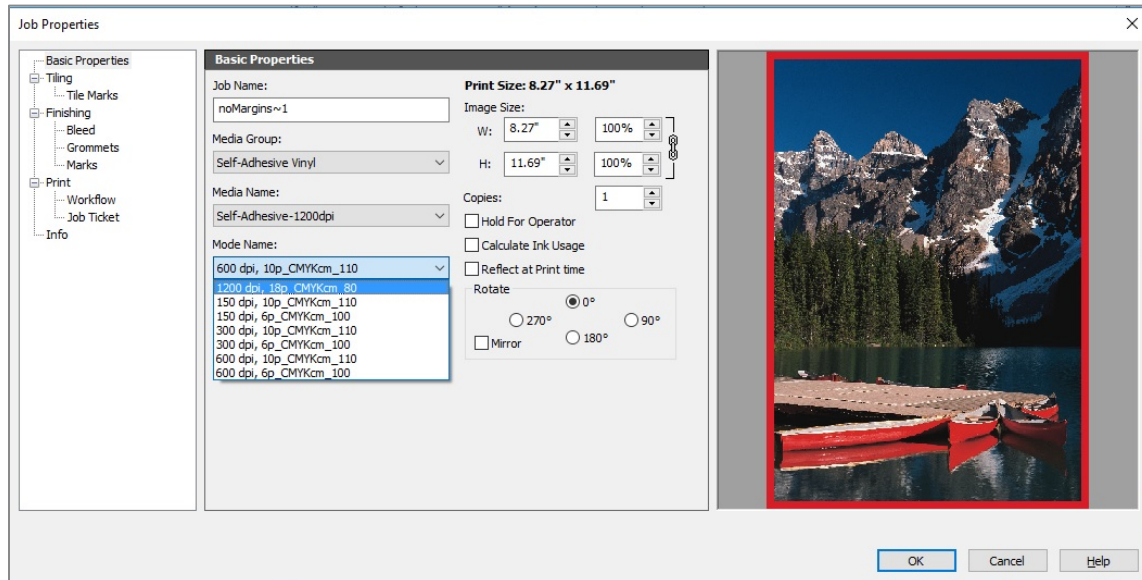


Figure 4 – Onyx general view

CALDERA

The following figure shows the 1200 dpi rendering resolution for 18-pass backlit media created with the HP Latex 500 Printer Series.

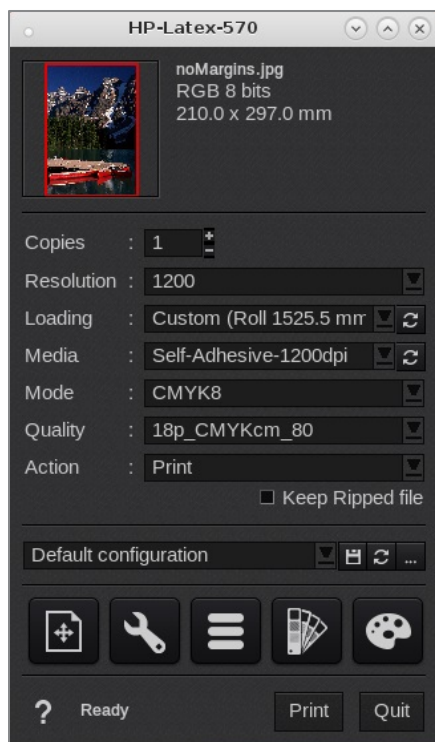


Figure 5 – 1200 dpi print mode available in Caldera

SAI

The following figure shows the 1200 dpi rendering resolution for 18-pass backlit media created with the HP Latex 500 Printer Series.

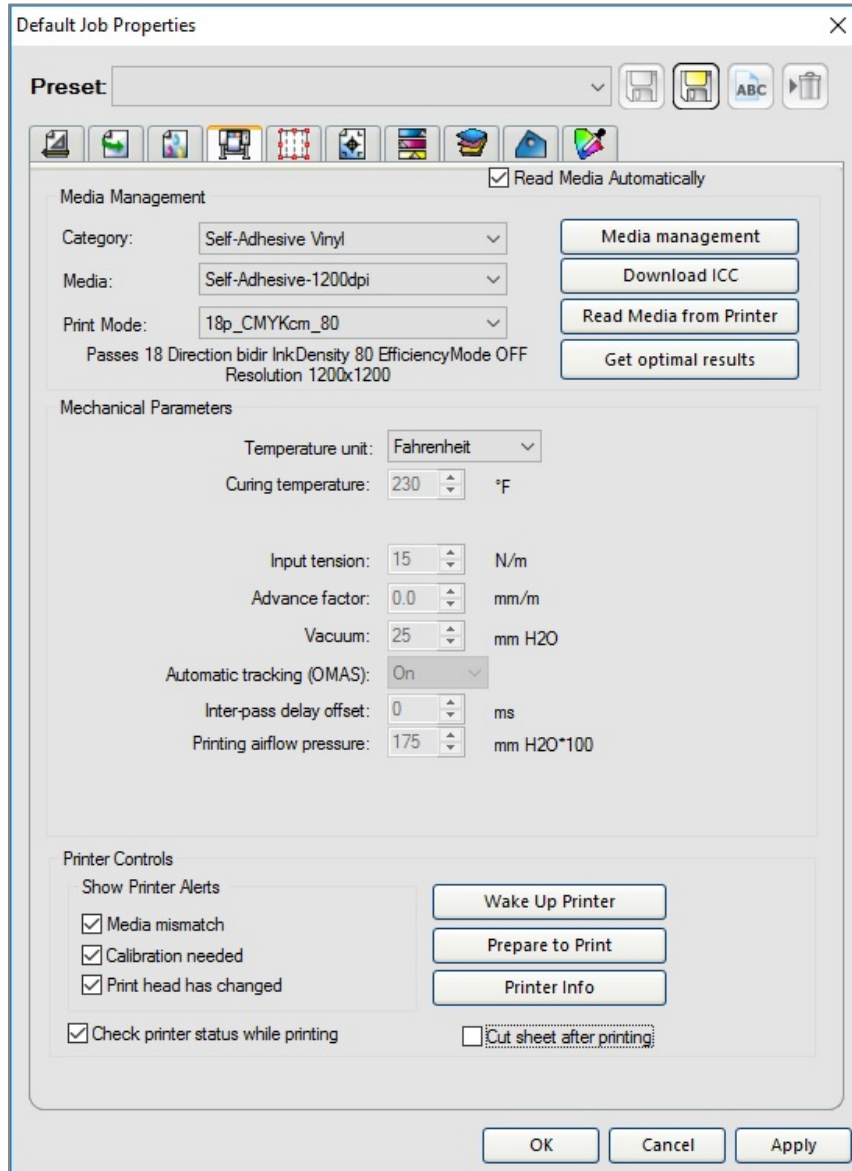


Figure 6 – Print mode configuring in SAI