HP Latex 700/700W/800/800W

Printer Description

HP Large Format Printing
Software Development Kit

Version 1.0

Version history

Version	Date	Description
0.1	Jan 2018	▪ First version for Printer
0.2	Jan 2018	▪ Removed User Cases. ▪ Fixed Format.
0.3	Jan 2018	▪ Added White Printing use case ▪ Added Printing Workflow use case
0.4	Feb 2018	▪ Updated Printing workflow ▪ Updated 700/700W/800/800W SKUs ▪ Added Rip job ticket
0.5	Feb 2018	▪ Added appendix of supported and working HPLFPSDK methods.
0.6	March 2018	▪ Adjust the supported API and changed the select raster configuration workflow
0.7	September 2018	▪ Updated the paper mode information
0.8	November 2018	▪ Updated SKUs table columns
0.9	November 2018	▪ Added Reservoir tanks information ▪ Cutter not supported from SDK ▪ Added product Numbers
0.10	March 2019	▪ Added Continuous Printing use case. ▪ Added Double Side printing use case. ▪ Added Spit bars use case.

0.11	September 2019	▪ Including printing in sandwich mode specifications. ▪ Reference to getIccProfileSideB ▪ HP Latex 700/700W/800/800W ModelNames.
0.12	October 2019	▪ Fixing documentation regarding overcoat ink setting.
0.13	October 2019	▪ Tailgating explanation fixed ▪ Maintenance supplies section included.
0.14	November 2020	▪ Removing Dual side printing ▪ Adjusting printer capabilities
1.0	February 2021	▪ First HP Latex 700/700W/800/800W Printer Description Public version

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Introduction

This document is intended for software developers. It describes general rules for implementing a driver for the HP Latex 700/700W/800/800W printer. Including specific recommendations of which kind of feature, it should offer.

HP Latex 700/700W/800/800W printer is the first Latex Low Volume printer supporting the 4th Latex inks generation. It is a new firmware platform, using ICF compression for data format reception and supporting also in-printer embedded ripping engine.

However, at this point there is not support direct TIFF or PDF submission through the SDK.

The complete software development kit offered for this printer is:

- **Printer Description:** the present document. Provides specific integration guidelines for the HP Latex 700/700W/800/800W printers.
- **HP LFP Status Raster Library:** also known as SDK 2.0. This is the unified library that allows to get printer and job status, accounting, printer media information, manage jobs, trigger media calibration and compressing the job raster data into the accepted format (including the job ticket information).
- **HP WallArt Job Queue Interface**: provides the documentation required for integrating a RIP software with HP WallArt solution: job automation and printing WallArt PDF protected jobs.
- **Job Accounting and Printer usage**: schemas and documentation of printer XML interfaces for getting printer status, usage and accounting.

General Printer Description

Printing Technology

The HP Latex 700/800 Printer Series use the **HP Latex Ink technology Gen 4**. HP Latex printing allows wider application versatility and higher profit potential than eco-solvent. A wide range of flexible coated and uncounted materials can be printed: vinyls, banners, films, papers, textiles, canvas, wallpaper and more.

SKU's names

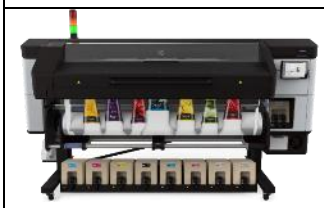
Printer	Product Name SDK model name	Product Number	Length / Max. roll weight	Inks
	HP Latex 700	Y0U22A	64 in 42Kg	**1 liter** ink cartridges (C M Y K lc lm Op Oc)
	HP Latex 700 W	Y0U23A	64 in 42Kg	**1 liter** ink cartridges (C M Y K lc lm Op Oc W)
	HP Latex 800	Y0U21A	64 in 55Kg	**3 liter** ink cartridges (C M Y K lc lm Op Oc)
	HP Latex 800 W	3XD61A	64 in 55Kg	**3 liter** ink cartridges (C M Y K lc lm Op Oc W)

Table 1 SKU Names

All SKU includes media load accessory, textile kit and wiper roller. HP Latex 700W, 800 and 800 W supports hot swap as well.

Differences printer models

Features		HP Latex 700	HP Latex 700 W	HP Latex 800	HP Latex 800W
Length		64 inches	64 inches	64 inches	64 inches
Throughput		27 sqm/h - 35sqm/h	27 sqm/h - 35sqm/h	35 sqm/h – 45 sqm/h	35 sqm/h – 45 sqm/h
Ink set	C-M-Y-K-LC-LM-OP-OC	C-M-Y-K-LC-LM-OP-OC	C-M-Y-K-LC-LM-OP-OC	C-M-Y-K-LC-LM-OP-OC-W	C-M-Y-K-LC-LM-OP-OC
	1L	1L	1L+3L(Optional)	1L+3L(Optional)	1L
Sync media list and get/set ICC profiles		Yes	Yes	Yes	Yes
Media input		One roll	One roll	One roll	One roll

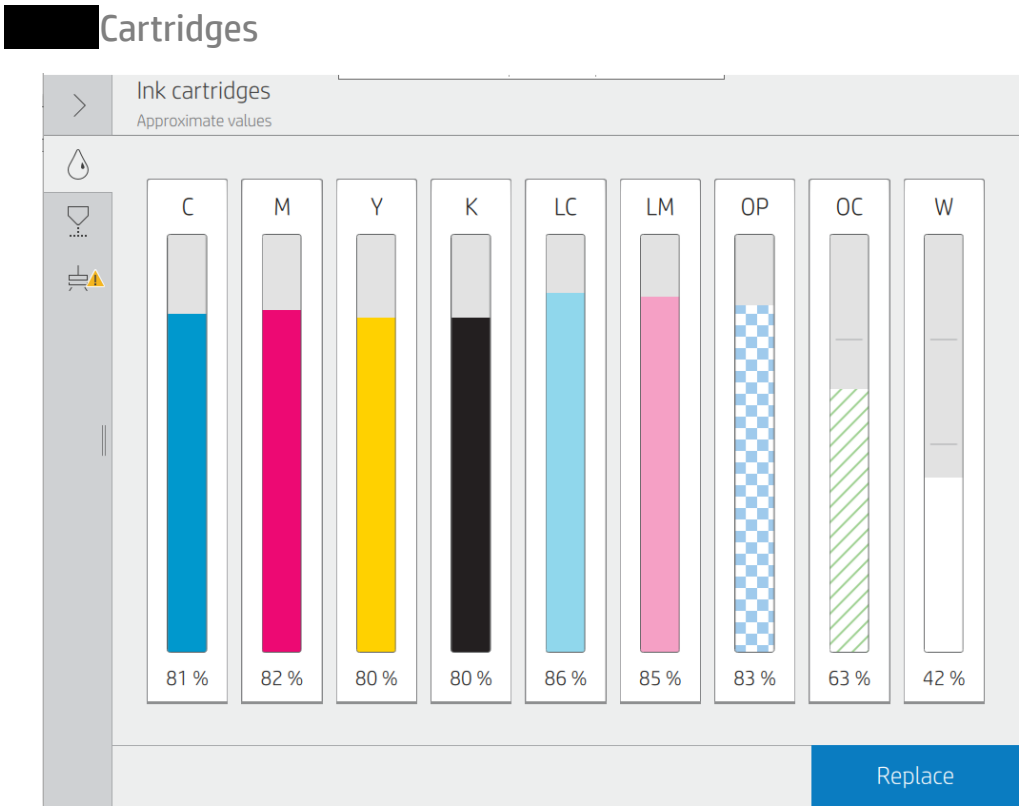
Table 2 - Differences between HP Latex printer models

Connectivity

HP Latex 700/700W/800/800W printers use **Ethernet 10/100/1000 Base T** connectivity, through Gigabit Ethernet. For better connectivity and communication, the printer to RIP PC connectivity should allow the usage of these ports: **80,443, 8085, 8086 and 9100**.

The printer can support multiple network protocols simultaneously, including TCP/IPv4 and TCP/IPv6. For security, it includes features to control IP traffic to and from the printer. It is recommended to configure printer **IPv6**, **proxy** and **enable Internet Connection** using the connectivity settings at the printer front panel.

Ink Supplies



HP Latex 700 : 6 Color cartridges (Cyan, Magenta, Yellow, Black, Light Cyan, Light Magenta) + 1HP Latex Optimizer + 1 HP OverCoat.

HP Latex 700 W: 7 Color cartridges (Cyan. Magenta, Yellow, Black, Light Cyan, Light Magenta, White) + 1 HP Latex Optimizer + 1 HP OverCoat.

HP Latex 800: 6 Color cartridges (Cyan, Magenta, Yellow, Black, Light Cyan, Light Magenta) + 1HP Latex Optimizer + 1 HP OverCoat.

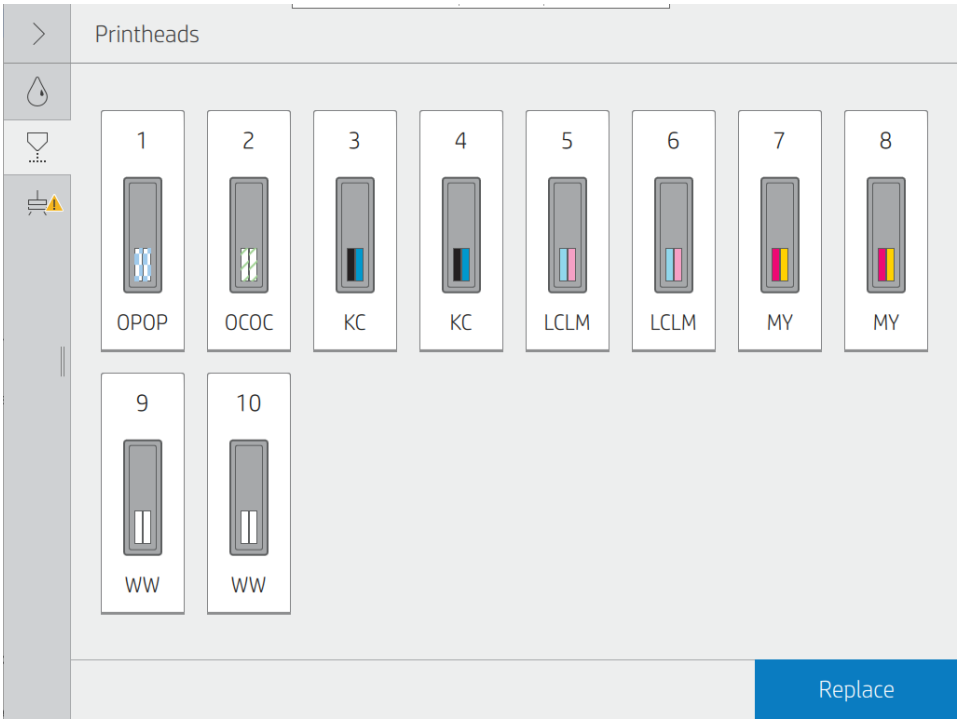
HP Latex 800 W: 7 Color cartridges (Cyan, Magenta, Yellow, Black, Light Cyan, Light Magenta, white) + 1HP Latex Optimizer + 1 HP OverCoat.

[redacted]Reservoir tanks

Reservoir tanks, also known as intermediate tanks, are installed between printheads and cartridges. These tanks allow hot-swapping and continuous printing. Ink will be stored in the reservoir to keep printing while replacing a cartridge without ever stopping the printing job.

The SDK does not report the reservoir tanks information as they are not intended to be shown on any external application.

[redacted]Printheads



- HP Latex 700 / 800 8 Printheads (1 HP Latex Optimizer, 1 Overcoat, 2 light cyan/light magenta, 2 cyan/black, 2 magenta/yellow)
- HP Latex 700W/800W 10 Printheads (1 HP Latex Optimizer, 1 Overcoat, 2 light cyan/light magenta, 2 cyan/black, 2 magenta/yellow, 2 white/white)
- Up to 1200 x 1200 dpi printing resolution
- 12 pl ink drop size

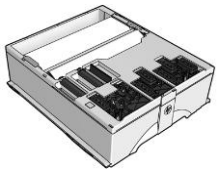
Maintenance Supplies

HP Latex 700/800 has 3 different supplies that helps the printer to keep working correctly. Those supplies information can be retrieved with the IInfoManager::getMaintenanceSystem function of the SDK and should be shown on the user interface.

Sample getMaintenanceSystem output in XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<MaintenanceSystem>
    <MaintenanceCartridges>
        <MaintenanceCartridge id="MaintenanceCartridge0">
            <IsPresent>true</IsPresent>
            <Overview>
                <LocalizedId language="en_US">Maintenance Cartridge</LocalizedId>
                <StatusList>
                    <Status>Ready</Status>
                </StatusList>
                <MostRelevantStatus>Ready</MostRelevantStatus>
                <LocalizedStatus language="en_US">Ready</LocalizedStatus>
                <LevelPercentage>75.7249</LevelPercentage>
            </Overview>
        </MaintenanceCartridge>
    </MaintenanceCartridges>
    <LiquidTanks>
        <LiquidTank id="LiquidTank0">
            <IsPresent>true</IsPresent>
            <Overview>
                <LocalizedId language="en_US">Distilled water tank</LocalizedId>
                <StatusList>
                    <Status>Unknown</Status>
                </StatusList>
                <MostRelevantStatus>Ok</MostRelevantStatus>
                <LocalizedStatus language="en_US">OK</LocalizedStatus>
                <LiquidType>Distilled Water</LiquidType>
                <Level units="pl">3900000000000</Level>
                <Capacity units="pl">3900000000000</Capacity>
            </Overview>
        </LiquidTank>
    </LiquidTanks>
    <CondensationCollectors>
        <CondensationCollector id="CondensateCollector0">
            <IsPresent>true</IsPresent>
            <Overview>
                <LocalizedId language="en US">Condensation collector</LocalizedId>
                <Status>Ready</Status>
                <LocalizedStatus language="en_US">Ready</LocalizedStatus>
                <Capacity units="pl">2500000000000</Capacity>
                <Level units="pl">222000000000</Level>
            </Overview>
        </CondensationCollector>
    </CondensationCollectors>
</MaintenanceSystem>
```

[redacted] Maintenance Cartridges



The maintenance cartridge is used to clean and maintain the printheads, ensuring the best possible print quality and to seal the printheads when they are not in use, preventing from drying out. If printer run out of this supply, it will not able to print.

[redacted] Liquid Tanks

Stores distilled water used in maintenance and cleaning task of several printer components.

[redacted] Condensation Collectors

This component allows printer to increase its printing speed. Its status or level is not going to be provided to third party applications.

Media

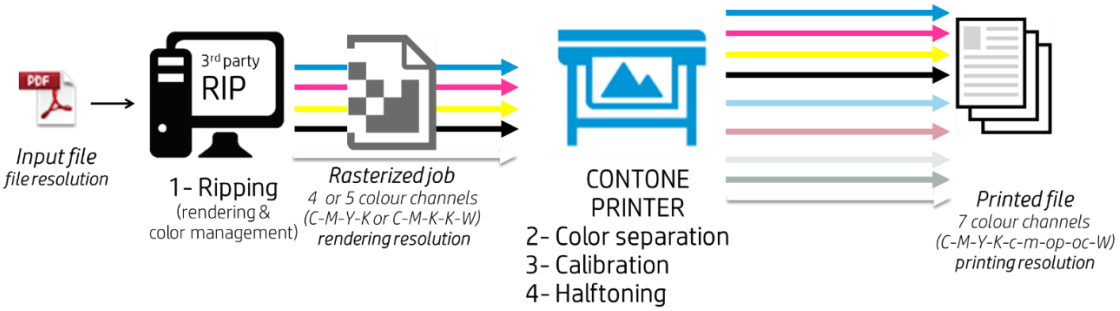
In the HP Latex 700/800, the list of available media and its print modes is dynamic and can be retrieved from the printer through the SDK (HP Status and Raster Library, IMediaManager interface). These printers contain a list of media's distributed by six different **media categories**. Each media could have several print modes. Defined each one by the number of passes, the number of colorants (CMYK, CMYKcm or CMYKcmW ink colors), the white mode and the maximum ink density.

Media preset information is located inside the printer and not in the RIP itself. RIP should have the printer media information synchronized and update it every time there is a change in the printer media list. HP Latex 700/800 SDK provides **Media flexibility,** Create/Clone/Modify and Delete a custom media **needs to be done on the printer's front panel or using HP Cloud services**. SDK allows the **media sharing** among different printers and application: exchanging media profiles among a fleet of printers, and also exporting and importing media profiles between Host and Printer.

Media Technical Specifications	Handling	Roll feed; take-up reel; wiper roller; roll lifter; automatic cutter (for vinyl, paper-based media, backlit polyester film	
	Media types	Banners, self-adhesive vinyls, films, fabrics, papers, wallcoverings, canvas, synthetics, mesh, textiles	
	Roll size	254 to 1625-mm (10 to 64-in) rolls (580 to 1625-mm (23 to 64-in) rolls with full support)	
	Roll weight	55 kg (121 lb)	
	Roll diameter	250 mm (9.8 in)	
	Thickness	Up to 0.5 mm (19.7 mil)	
	Margins (top x bottom x left x right)	Standard roll	5 x 5 x 5 x 5 mm (0.2 x 0.2 x 0 x 0 in)
		With edge holders	5 x 5 x 7 x 7 mm (0.2 x 0.2 x 0.28 x 0.28 in)
		With Ink collector	5 x 5 x 0 x 0 mm (0.2 x 0.2 x 0 x 0 in)
		Scanning margins	127 x 5 x 5 x 5mm

Printing color workflow

HP Latex 700/800 printers are contone printers. This is the only color workflow this printer will accept, sending either CMYK, CMYKW and CMYKWCMYK raster layout for printing jobs.


Input file
file resolution
3rd party
RIP
1- Ripping
(rendering &
color management)
Rasterized job
4 or 5 colour channels
(C-M-Y-K or C-M-K-K-W)
rendering resolution
CONTONE
PRINTER
2- Color separation
3- Calibration
4- Halftoning
Printed file
7 colour channels
(C-M-Y-K-c-m-op-oc-W)
printing resolution

Use Cases

Synchronization of Printer Media Profiles

The RIP should make sure it has the latest media information by comparing his media information counter with the one currently defined in the printer. Comparing the counters improves the media synchronization performance as RIP will not copy the complete media information if the counter is same.

To provide this synchronization the printer will offer read access to two kinds of version counters:

1. **Media list counter**: One value per printer. This is formation can be obtained with *IMediaManager::getMediaInformationCounter*.
2. **Media counters:** One value per media in the printer. Please, note that Generic medias cannot be modified, and the counter will be always 0. This is formation can be obtained with *IMediaManager::getMediaCounterList*.
    - **2.1.** Media counter
    - **2.2.** Media revision

The **media list counter** will change every time that:

- Create / Delete / Clone any media.
- After installation of a Media package (OMES importation)
- After a firmware upgrade: its value will be reset to 0
- Whenever a **media counter** or media revision changes

The **media counter** (also referred as short media counter) version will change every time that:

- A media is renamed
- Create / rename / delete a mode (also referred as print mode) inside this media
- Modify a print mode (nº of passes, ink density, efficiency mode, or advanced media parameter)
- Whenever an ICC profile is modified (its **ICC profile version** will be increased)
- Media calibration is performed

The **media revision** will change only for medias downloaded from Online Media Search. If a new version of the media exists on the Online Media Search sever, printer will advise user and he/she could download it. Media downloaded will be installed using the same media ID but a newer media revision.

To obtain all the media information, the RIP should use *IMediaManager::getMediaInformation*. This call provides a localized list of media available on the printer, along with paper modes and other media settings information.

Supported raster formats and paper modes

To generate a printable raster, three sets of configuration parameters must be used:

- The printer type to create the job packer
- The raster configuration
- The paper mode selectors

The HP 700/700W/800/800W has a job packer type of: RasterStream_BANDS_ICF4

The HP 700/700W/800/800W support rasters layouts with the following features:

- Planar

- Contone
- CMYK+W

Rasters at 300, 600 or 1200 dpi are possible. The raster resolution (raster format) must be the same as the rendering resolution.

Resolution downscale is not available: the printer cannot use a printing resolution lower than the raster resolution. Upscale is available: the printer can use a printing resolution higher than the raster resolution (300->600, 600->1200).

[redacted] Use of the HPLFPSDK library (recommended usage)

The list of paper modes per media is provided by the printer's firmware.

The HPLFPSDK proposes an API to retrieve this list of paper modes (also known as printmodes) per media.

This API will return, for each paper mode:

- the list of raster formats supported for that paper mode: <SupportedRasterConfigs>
- the set of "selectors" (key X value) to be passed in the pageSettings::setSelector API to select the paper mode: <Selectors>

```
<paperModeList:PaperMode Name="High Quality" AllowedResolutions="300,600" RecommendedResolution="600" Identification="a419ba7792b44ac0602fb20b6ccd550c78000f23" Description="IQ" DefaultMode="false" HorizResolution="600" VertResolution="1200" PrintModeId="-1" IccProfile="true" Passes="8" WhiteMode="NA" InkDensity="50">
<paperModeList:Selectors>
<SelectorList:Selector key="Passes" value="8"/>
<SelectorList:Selector key="InkDensity" value="120"/>
<SelectorList:Selector key="InkDensityB" value="120"/>
<SelectorList:Selector key="ColorMode" value="CMYKLITES"/>
<SelectorList:Selector key="WhiteMode" value="SPOT"/>
</paperModeList:Selectors>
<paperModeList:PropertyList/>
<paperModeList:SupportedRasterConfigs>
<paperModeList:SupportedRasterConfig Key="PLANAR-CMYK-8-300-RasterStream_BANDS"/>
<paperModeList:SupportedRasterConfig Key="PLANAR-CMYK-8-600-RasterStream_BANDS"/>
</paperModeList:SupportedRasterConfigs>
</paperModeList:PaperMode>
```

In the raster config information per paper mode, there is a description of the format to be used as a reference for the rendering process.

```
<papermodeList:SupportedRasterConfig Key="PLANAR-CMYK-8-1200-RasterStream-BANDS"/>
```

In the raster config information, a “key” value is also available that can be used when using the HPLFPSDK library, it fully describes the raster format and the printer type. This “key” value can be used to create the JobPacker and start the raster creation.

PLANAR-CMYK-8-1200-RasterStream-BANDS

- PrinterType: BANDS
  - Format: CMYK
  - Rendering resolution: 1200dpi
  - Contone:
  - Chunky: NO (PLANAR type)

In the selector information per paper mode, there is the list of the selectors that must be programmed through the PageSettings::setSelector API to get the printer to select the paper mode. All selectors must be programmed.

An example of XML output containing this information is provided as part of the documentation for reference. Please note that this paper mode list is dependent of a firmware version, it could change from version to version, even though this is not the intent of the design. It is recommended to use the paper mode / raster format information provided by the HPLFPSDK

Example of hardcoded values (not recommended)

The use of hardcoded values to program the raster or select the paper mode is not recommended. The list of paper mode varies from media to media. And the list of paper modes, raster formats, selectors can vary from printer firmware version to printer firmware version and even between printers, because the paper modes can be created from the front panel by the user.

The intent of design is to not modify these parameters in a new firmware release, but still there is no warranty this would not happen. The hardcoded parameters can therefore lead to unexpected behavior.

The following values are given for reference, instead of using hardcoded values please use the process detailed in the HPLFPSDK documentation.

The raster format key is a rather stable data. For a printer model, it should not vary from release to release. The “key”:

- PLANAR-CMYK-8-1200-RasterStream_BANDS: for render 300 dpi, for any paper mode
- PLANAR-CMYK-8-1200-RasterStream_BANDS: for render 600 dpi, for 600dpi and 1200dpi paper modes
- PLANAR-CMYK-8-1200-RasterStream_BANDS: for render 1200 dpi, for 1200 dpi paper modes

Color management

The type of color management is specified for each page of a job, in the IPageSettings parameter. To set the job management option, use the IPageSettings::setColorSpace function.

In the HP 700/700W/800/800W, only one option is available:

- DEVICECALIBRATED

DEVICECALIBRATED option is chosen and the printer will assume the color management is left to be done by the software application (RIP) and will not apply color management. The job will be printed as it is, that is, as a device CMYK color space.

The other option, not available for this printer is SRGB. If it is chosen and the printer won’t take care of the color management and will assume the job is sent in sRGB color space.

Paper modes list

As explained, the paper mode list is provided directly by the printer through the SDK.

For reference a paper mode list is provided as part of the documentation as an XML file.

The “user selectors” that can be used by the user to choose the paper mode appear with their values on the first list of each paper mode entry of the paper modes list.

```
<paperModeList:PaperMode Name="High Quality" AllowedResolutions="300,600" RecommendedResolution="600" Identification="a419ba7792b44ac0602fb20b6ccd550c78000f23" Description="IQ" DefaultMode="false" HorizResolution="600" VertResolution="1200" PrintModeId="-1" IccProfile="true" Passes="8" WhiteMode="NA" InkDensity="50">
```

ICC Profiles

The HP Latex 700/800 printers supports the getIccProfile, setIccProfile and deleteIccProfile APIs to manage the ICC profiles of the different media.

Also, HP Latex 700W and 800W supports getIccProfileSideB, setIccProfileSideB and deleteIccProfileSideB APIs to manage the ICC profiles of the side B of sandwich jobs. It is necessary to apply the correct ICC profile on each side.

```
virtual Types::Result  getIccProfile(const char *mediaKey, const char *selectorList, char **IccProfile, size_t &lenIccProfile) = 0;

virtual Types::Result  setIccProfile(const char *mediaKey, const char *selectorList, const char *iccName, const char *profileContents) = 0;

virtual Types::Result  copyIccProfile(const char *mediaKey, const char *srcSelectorList, const char *destSelectorList) = 0;

virtual Types::Result  deleteIccProfile(const char *mediaKey, const char *selectorList) = 0;

virtual Types::Result setIccProfileSideB(const char *mediaKey, const char *selectorList, const char *iccName, const char *profileContents) = 0;

virtual Types::Result  getIccProfileSideB(const char *mediaKey, const char *selectorList, char **IccProfile, size_t &lenIccProfile) = 0;

virtual Types::Result deleteIccProfileSideB(const char *mediaKey, const char *selectorList) = 0;
```

Printing Workflow

To generate a job for 700/700W/800/800W with the SDK, is needed to follow these steps:

- Create an IDevice object with the printer name and the IP
- Gets a new IJobPacker with the job packer type RASTERSTREAM_BANDS. That will configure the raster stream library to package ICF bands jobs. Using the method **IJobPacker::createJobPackerUsingPackerType**.
- Get from the IJobPacker a new IJobSettings object using getJobSettingsContainer where the RIP shall fill the desired job settings.
- Creates a new job with the **JobPacker::newJob** using the JobSettings object.

For each job page the RIP must do the following steps:

- Gets from the JobPacker a new IPageSettings object using getPageSettingsContainer where the RIP shall sets all the desired page settings and selects the paper mode using the paper mode selectors and the **IPageSettings::setSelector** function.

- Creates a new page **using IJobPacker::addPage** with the former IPageSettings object.
- Start a new raster before adding the raster with **IJobPacker ::startRaster**
- For each raster band of the current page, the RIP must invoke to **IJobPacker:: addRasterDataRSBuffer**
- Ends the raster data using **IJobPacker::endRaster** with the id of the current page.
- Ends the current page using **IJobPacker::endPage** with the id of the current page.

If there is no more pages in this job, use the **IJobPacker::endJob**

White Printing

HP Latex 700W and 800W supports white printing, these are the use cases that supports:

- "Spot"
- "Underflood"
- "Overflood"
- 3 layers sandwich: "SW3L"

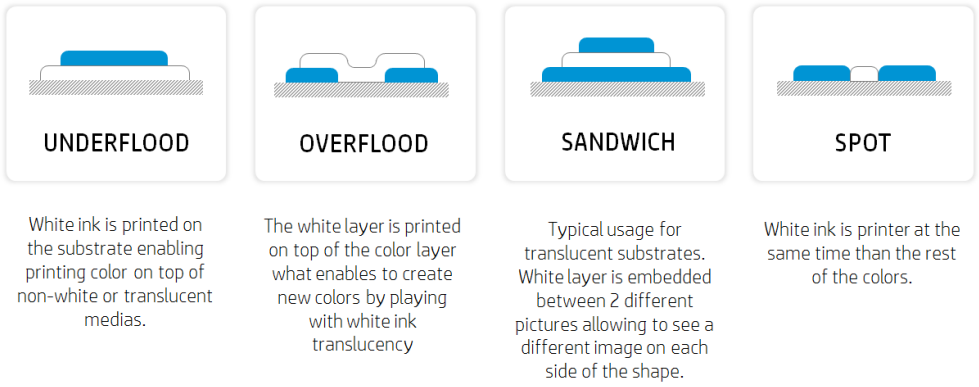


Figure 1 White Printing Supported modes

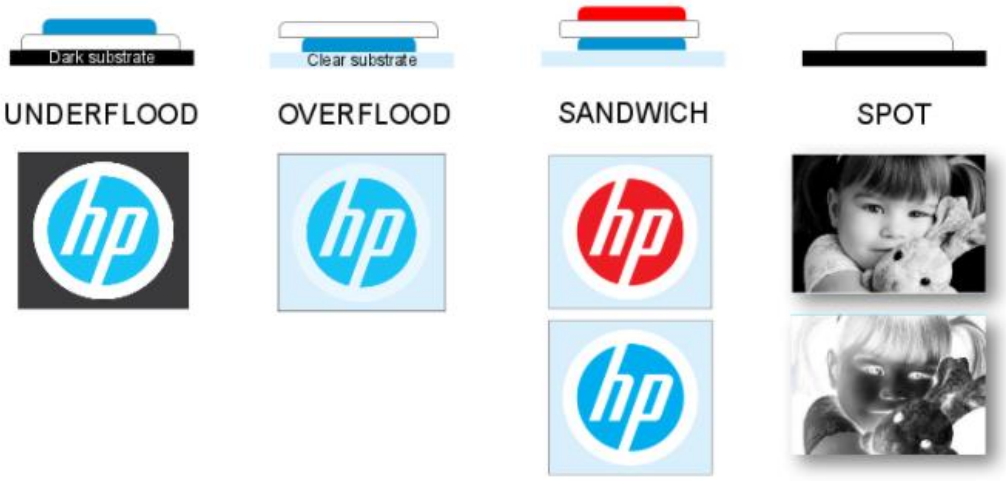


Figure 2 White Printing Supported modes explained

Where blue layer would be side A and red layer would be side B.

The White printing option has the following printing options:

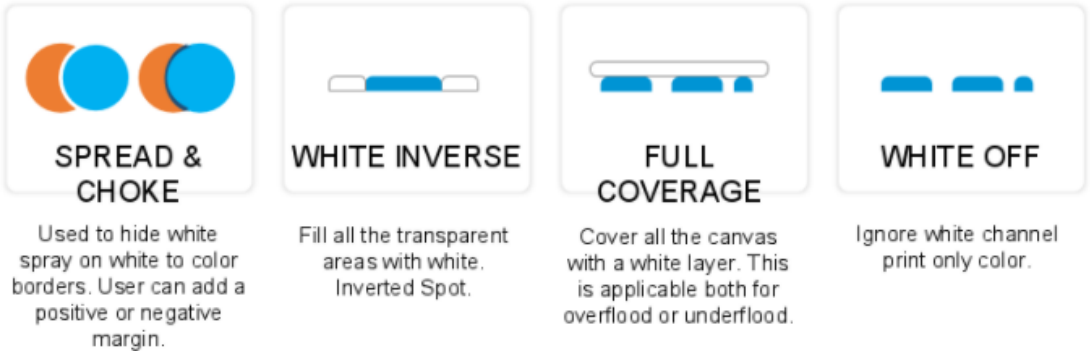


Figure 3 White Printing options

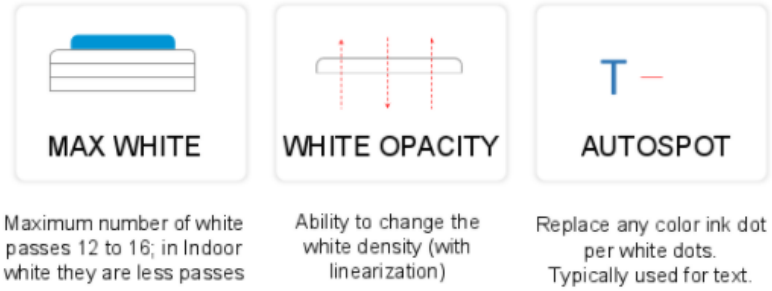


Figure 4 White Printing options

[redacted] White printing integration

For these configurations the RIP generates the raster image with 5 channels (8 bits/pixel for each) and use the HP LFP SDK for creating a raster planar image ICF compressed (5 data planes for SPOT, Underflow and Overflood white modes and 9 data planes for sandwich jobs) that contains the job ticket settings.

For Underflood and Overflood jobs, the SDK client should invoke to addPreview() two times per page to include the coloured layer preview and the white layer preview in black and white mode.

For sandwich jobs, the SDK should invoke to addPreview() three times. 2 coloured layers and intermediate white layer.

The preview order must be as following. The first introduced preview corresponds with the layer that touch the media surface (side A), the second one will be the intermediate layer and the third will be the B side.

For an image of 4x11 pixels, the input raster of the RIP to the SDK for a white image before ICF compression should be as follows:

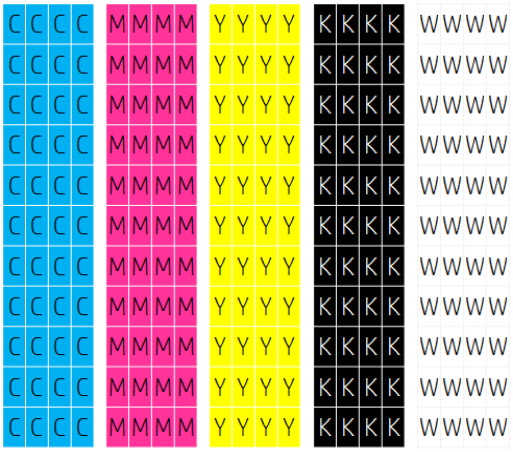


Figure 5 Image raster layout example

The fifth raster plane will always correspond to the white layer, independently of the type of white.

In case of sandwich modes, SDK client must introduce 9 colour planes as stated on the following image:

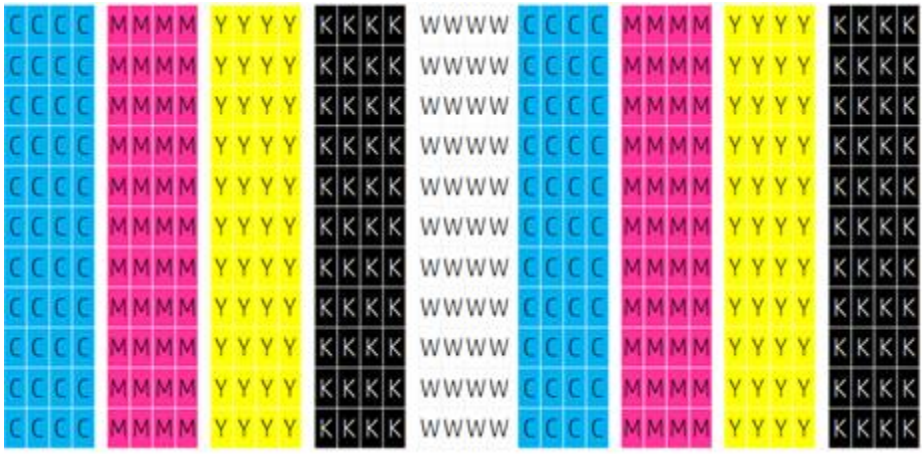


Figure 6 Sandwich raster data example

The RIP will use the SDK 2.0 API using the following workflow (also defined in the SDK 2.0 user manual):

1. Create an IDevice object with the printer name and the IP
2. Gets a new IJobPacker with the job packer type `RASTERSTREAM_BANDS_ICF4`. That will configure the raster stream library to package ICF bands with 4 colours compression mode jobs in planar mode.
3. Get from the IJobPacker a new IJobSettings object using getJobSettingsContainer where the RIP shall fill the desired job settings.
4. Creates a new job with the JobPacker using the JobSettings object.
5. For each job page the RIP must do the following steps:
6. Gets from the JobPacker a new IPageSettings object using getPageSettingsContainer where the RIP shall sets all the desired page settings and selects the papermode using the printmode selectors and the IPageSettings::setSelector function.
7. Creates a new page using IJobPacker::addPage with the former IPageSettings object.
8. For each raster band of the current page, the RIP must invoke to IJobPacker::addRasterDataRSBuffer introducing every channel data for the current band on the RSBuffer structure.
9. Ends the raster data using IJobPacker::endRaster with the id of the current page.

10. Ends the current page using IJobPacker::endPage with the id of the current page.
11. If there is no more pages in this job, use the IJobPacker::endJob.

RIP job ticket (job & page settings at the SDK2.0)

Below you can find a list of the different settings that could be applied to the job sent through the SDK using a jobPacker.

- **MediaId:** substrate key e.g. 0012203
- **Print Mode Selectors:** this are the identifiers of a given media print mode.
    - **INKDENSITYB**: L4, L5, L6, L7, L8, L9, L10, L11, L12, L13, L14, L15, L16, L17, L18, L19, L20, L21, L22, L23, L24, L25, L26
    - **INKDENSITY**: L4, L5, L6, L7, L8, L9, L10, L11, L12, L13, L14, L15, L16, L17, L18, L19, L20, L21, L22, L23, L24, L25, L26
    - **EXTENDEDPM**: XPM0, XPM1, XPM2, XPM3, XPM4, XPM5, XPM6, XPM7, XPM8, XPM9, XPM10, XPM11, XPM12, XPM13, XPM14, XPM15, XPM16, XPM17, XPM18, XPM19
    - **WHITEMODE**: SPOT, UF, OF, SW3L
    - **COLORMODE**: CMYKLITES, CMYK, CMYKLITESW
- **Overcoat:** sets if the overcoat ink will be used or not. To enable the RIP feature “optimize for lamination” this setting should be set as OVERCOAT_OFF.
- **JobName:** name of the job that should be shown on FP and accounting
- **Job copies:** number of copies set at the SDK coming from RIP. RIP only sends one, and SDK duplicates.
- **TimeStamp:** time of the job generation at RIP.
- **JobUuid:** unique identifier of the RIP job generated.
- **Cutter:** job will use the X cutter of the printer (Not Supported. Must be activated on Front Panel).
- **PrintingOrder:** if true, you can order first page on top or last page on top
- **DualSide:** sideA, sideB options. This feature is not supported on this printer.
- **BorderlessMethod:** if job could be printed in borderless, RIP specifies it and SDK/FW applies it.
- **BottonMargin, LeftMargin, RightMargin, TopMargin**: margins that RIP specifies to the SDK for adding raster margins.
- **MarginLayout, MarginType:** different ways of specifying margins from RIP to the SDK/FW.
- **AutomaticContentAligment**: if you want center, right or left. RIP specifies and SDK/FW applies
- **MediaDestination, MediaSource:** identifies the rols of job input and output
- **Lenght, Width**: of the given raster file
- PrintArea
- OutputRenderIntent
- RenderMode
- ColorSpace: always set as DEVICE_CALIBRATED
- RenderingResolution

- RetMode
- **UserName:** name of the user. It could be associated to a pc user, or if proceeds to the account correspondent to them.
- **AccountId:** Identifier for associating jobs to a give user account
- **ApplicationName:** Name of the 3rd party SW used for submitting the jobs (e.g. PIDXXXX)
- **ApplicationVersion**: version of the 3rd party SW used for submitting the jobs (e.g. v1-windows7)
- **ApplicationUuid:** Unique identifier of a given job submission software instance. So, if we have 2 different onyx RIPs printing to the same printer, each one could retrieve only their job submitted using this identifier. Right now, it is not used, but it could be used for allowing external software to request specific jobs submitted by them (Skylon is doing it).
- **ProjectId:** Identifier of a give project - for grouping jobs

Please note that the **White opacity** is not an explicit setting is an information embedded on the white layer values.

More details about all job settings offered to RIP developers for 700/700W/800/800W could be found at the SDK capabilities file. This capabilities file should be used for automating the RIP driver generation.

Spit Bars

Printing a job along with spit bars are to improve the image quality and avoid the image quality issues encountered during large format printing.

There is no interface to configure the Spit Bars trough the SDK, the RIP must set up the spit bars.

In order to have full flexibility, following are the guidelines RIP applications to provide to user to submit the job along with the spit bars.

Spitbars should be disabled by default at RIP application. If required user can enable spitbars and configure the position and width of the bars.

Continuous tailgating & job reorder print mode based

[redacted]Tailgating

HP Latex 700/800 includes an internal job queue and it can automatically handle the job tailgating feature. There is no tailgating job setting like older HP Latex printers.

[redacted]Job reordering print mode & media based

For improving tailgating printing performance, RIP should reorder job at the queue based on its print mode. Sending together jobs which share the same print mode and media.

Recommended RIP integration for job reordering

For avoiding user confusion, it is recommended to create at the **printer job queue level** a **configurable setting** (checkbox) which enable/disable the **job reordering** based on its media & print mode.

[redacted]Printer states during printing process job data sending

RIP should use the recommendations given at the end of “Sending a job to the printer chapter” for sending jobs to the printer and supporting tailgating (also known “nesting on the fly”).

The printer states followed printing one individual job are the following:

- **Ready (cold):** The printer is powered on but has not printed yet, and the heaters are not turned on.
- **Preparing to print**: The printer is warming up the heaters and preparing the printheads to print. This takes 1 to 6 min. It is not required if printer is already warm up.
- Printing
- **Drying:** This takes 1.5 to 5 min.
- **Finishing:** The printer is cooling down and preparing for stand-by. This takes 0.5 to 5 min.

If **tailgating** is enabled & **jobs** sent have the **same media, print mode,** and **resolution** printer will **skip drying** and **finishing** state, **printing all jobs continuously.** During this process, printer status reported will be only “Printing”.

Appendix A: HPLFPSDK Supported API

HPLFPSDK for HP Latex 700/700W/800/800W

Table 3 Methods supported by HPLFPSDK

HPLFPSDK method	Supported	Working
init	Yes	Yes
terminate	Yes	Yes
getVersion	Yes	Yes
getNetworkPrinters	Yes	Yes
getNewPrinter	Yes	Yes
discardPrinter	Yes	Yes
deleteBuffer	Yes	Yes
setLogLevel	Yes	Yes
getSupportedPrinterModels	Yes	Yes
isPrinterModelSupported	Yes	Yes

Table 4 Methods supported by HPLFPSDK

HPLFPSDK::IDevice	Supported	Working
getPrinterModel	Yes	Yes
createJobPacker	Yes	Yes
discarjobPacker	Yes	Yes
createSolPacker	Yes	Yes
discardSolPacker	Yes	Yes
getMediaManager	Yes	Yes
getRemoteManager	Yes	Yes
getInfoManager	Yes	Yes
getAccountingManager	Yes	Yes
getUsageManager	Yes	Yes

getCapabilities	Yes	Yes

Table 5 Methods supported by HPLFPSDK

HPLFPSDK::IUsageManager	Supported	Working
getPrinterUsageInfo	Yes	Yes
HPLFPSDK::IAccountingManager	**Supported**	**Working**
getJobAccountingInfo	Yes	Yes
getJobAccountingInfoByDate	Yes	Yes
getJobAccountingInfoByNumber	Yes	Yes
HPLFPSDK::IInfoManager	**Supported**	**Working**
getAlertStatus	Yes	Yes
getDrawersStatus	Yes	Yes
getDrawerStatus	Yes	Yes
getInkCollectionUnitStatus	No (not supported in this printer)	No (not supported in this printer)
getInkSlotGroupStatus	Yes	Yes
getInkSlotStatus	Yes	Yes
getInkSystemStatus	Yes	Yes
getInputDeviceStatus	Yes	Yes
getInputDevicesStatus	Yes	Yes
getPrintheadSlotsStatus	Yes	Yes
getPrintheadSlotStatus	Yes	Yes
getOutputDeviceStatus	Yes	Yes
getOutputDevicesStatus	Yes	Yes
getPrinterConfiguration	Yes	Yes
getPrinterStatus	Yes	Yes
getMaintenanceSystem	Yes	Yes
getMaintenanceCartridgesStatus	Yes	Yes

getLiquidTanksStatus	Yes	Yes
getPreventiveKitsStatus	Yes	Yes
subscribeToAlertStatus	Yes	Yes
subscribeToDrawerStatus	Yes	Yes
subscribeToDrawersStatus	Yes	Yes
subscribeToInkSlotGroupStatus	Yes	Yes
subscribeToInkSlotStatus	Yes	Yes
subscribeToInkSystemStatus	Yes	Yes
subscribeToInputDevicesStatus	Yes	Yes
subscribeToInputDeviceStatus	Yes	Yes
subscribeToOutputDevicesStatus	Yes	Yes
subscribeToPrintheadSlotStatus	Yes	Yes
subscribeToPrintheadSlotStatus	Yes	Yes
subscribeToPrintersStatus	Yes	Yes
unsuscribe	Yes	Yes
HPLFPSDK::IRemoteManager	Supported	Working
cancelPrintJob	No (not supported in this printer)	No (not supported in this printer)
deletePrintJob	No (not supported in this printer)	No (not supported in this printer)
formFeedAndCut	No (not supported in this printer)	No (not supported in this printer)
getFolderCapability	No (not supported in this printer)	No (not supported in this printer)
getJobStatus	Yes	Yes
getJobStatusList	Yes	Yes

getSolStandard	Yes	Yes
pauseJobQueue	No (not supported in this printer)	No (not supported in this printer)
pausePrintJob	No (not supported in this printer)	No (not supported in this printer)
prepareToPrint	No (not supported in this printer)	No (not supported in this printer)
promotePrintJob	No (not supported in this printer)	No (not supported in this printer)
reprintJob	No (not supported in this printer)	No (not supported in this printer)
resumeJobQueue	No (not supported in this printer)	No (not supported in this printer)
resumePrintJob	No (not supported in this printer)	No (not supported in this printer)
setJobAccID	No (not supported in this printer)	No (not supported in this printer)
triggerAdvanceCalibration	No (not supported in this printer)	No (not supported in this printer)
triggerCalibration	No (not supported in this printer)	No (not supported in this printer)
triggerInkDensityCalibration	No (not supported in this printer)	No (not supported in this printer)
wakePrinter	Yes	Yes
HPLFPSDK::IMediaManager	Supported	Working
getMediaInformation	Yes	Yes
getMediaInformationCounter	Yes	Yes
getSupportedPrintmodes	No (not supported in this printer)	No (not supported in this printer)
createCustomMedia	No (not supported in this printer)	No (not supported in this printer)
createNewMedia	No (not supported in this printer)	No (not supported in this printer)
createPaperMode	No (not supported in this printer)	No (not supported in this printer)

getMediaCounterList	Yes	Yes
deleteCustomMedia	No (not supported in this printer)	No (not supported in this printer)
deletePaperMode	No (not supported in this printer)	No (not supported in this printer)
setMediaPropertiesToDefault	No (not supported in this printer)	No (not supported in this printer)
modifyPaperMode	No (not supported in this printer)	No (not supported in this printer)
setMediumProperties	No (not supported in this printer)	No (not supported in this printer)
setMediumPropertiesEx	Yes	Yes
getIccProfile	Yes	Yes
copyIccProfile	Yes	Yes
deleteIccProfile	Yes	Yes
setIccProfile	Yes	Yes
getMechanicalProperties	Yes	Yes
setIdentificationProperties	Yes	Yes
getIccProfileVersion	Yes	Yes
uploadMediaPreset	No (not supported in this printer)	No (not supported in this printer)
downloadMediaPreset	No (not supported in this printer)	No (not supported in this printer)
getLookUpTable	Yes	Yes
getIccProfileSideB	Yes	Yes
deleteIccProfileSideB	Yes	Yes
setIccProfileSideB	Yes	Yes
HPLFPSDK::ISolManager	Supported	Working
getJobContainer	Yes	Yes
newJob	Yes	Yes
endJob	Yes	Yes
JobCancel	Yes	Yes
getNumberOfPlanes	Yes	Yes
getPageSettingsContainer	Yes	Yes

addPage	Yes	Yes
addPreview	Yes	Yes
startRaster	Yes	Yes
startRasterKey	Yes	Yes
addRasterData	Yes	Yes
addRasterDataRSBuffer	Yes	Yes
endRaster	Yes	Yes
getJobPackerType	Yes	Yes
getStatus[1]	Yes	Yes
HPLFPSDK::IJobPacker	Supported	Working
getJobSettingsContainer	Yes	Yes
getPageSettingsContainer	Yes	Yes
newJob	Yes	Yes
endJob	Yes	Yes
jobCancel	Yes	Yes
addPage	Yes	Yes
addPreview	Yes	Yes
endPage	Yes	Yes
startRaster	Yes	Yes
addRasterData	No	No
addRasterDataRSBuffer	Yes	Yes
endRaster	Yes	Yes
getJobPackerType	Yes	Yes
getState	Yes	Yes

[1] The getStatus API should not be called after a print or a scan operation. Calling it before any operation in older firmwares may cause the printer to block and then require a restart