

# HP DESIGNJET Zx100 SERIES PRINTERS

This document contains useful information on how to incorporate HP Designjet Zx100 printers into an EFI XF workflow. It also provides useful tips on how best to achieve Fogra Proof Certification and SWOP/GRACoL Certification using an HP Zx100 series printer.

## Special printer features

### Measuring device

The HP Designjet Zx100 printers have an embedded Eye-One measuring device with a UV-cut filter which measures black backing. Please be aware that this can have an effect when measuring media with optical brighteners.



Be careful when measuring proofs against the ISOcoated reference print provided. It was created with no UV cut and with white backing.

**NOTE:** The embedded measuring device cannot be used as an independent device. It can only be used in conjunction with printer calibration or with LinTool/Color Manager and Color Verifier. It is not possible to insert a printed chart manually into the printer for measuring.

### Closed-loop calibration

Printers of the HP Designjet Zx100 series support closed-loop calibration, a special standard HP feature which returns the printer to its original profiled state.

Closed-loop calibration is a quick and easy way to perform a printer linearization. It is very similar to the re-linearization tools available in LinTool/Color Manager. However, it is recommended that you use the closed-loop calibration feature which has been developed especially for your printer model.

It is important to calibrate your printer at regular intervals to ensure consistent color at all times. A calibrated printer is absolutely essential to obtain Fogra Proof Certification. This is especially true if you are using the printer to obtain Fogra certification. It is advisable to perform a printer calibration whenever you insert new print media, replace ink cartridges or if the printer has not been used for a few days.

## Inks

All printers of the HP Designjet Zx100 series use HP Viverna pigmented inks. HP Designjet Z2100 and Z6100 are eight-ink printers, the Z3100 model supports eleven different color inks, plus gloss enhancer.

Gloss enhancer prints an additional glossy, transparent surface on the paper. Printed areas reflect light differently from non-printed areas, so using this setting can help you create a uniform glossy look for your printouts. It can also reduce the bronzing effect sometimes seen in black and white prints.

There are two settings available: FullPage and EconoMode. In EconoMode, only the non-printed and faintly printed areas of the media receive a glossy coating.



Gloss enhancer profiles are not provided on the profiles CD. If you want to print with gloss enhancer from EFI XF, you must first create an appropriate media profile in LinTool or Color Manager. See [“Implementing in LinTool/Color Manager”](#) on page 3 for further information. Alternatively, media profiles for a number of HP substrates are available for download from the online profiles updater.

**NOTE:** You should be aware that gloss enhancer affects color reproduction. If you select a media profile in EFI XF that was created with gloss enhancer activated, you must ensure that the appropriate ink type is also selected on the Quality tab for the output device.

## Preparing the printer

### Firmware

Before using the printer with EFI XF ensure that firmware version 4.0.0.4 or later is installed.

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#### TO CHECK WHICH FIRMWARE VERSION IS INSTALLED AT THE PRINTER'S CONTROL PANEL

- 1 At the printer's control panel, press the Menu button.
- 2 Click the Information button.
- 3 From the menu, select View printer information.

Alternatively, you can display the installed firmware version via the Internet.

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#### TO CHECK WHICH FIRMWARE VERSION IS INSTALLED VIA THE INTERNET

- 1 In your browser, enter <http://xx.xxx.xx.xx> (where xx.xxx.xx.xx stands for the printer's IP address).
- 2 Click the Support tab.
- 3 From the help links, click Service support.
- 4 Click Printer information.

## At the printer's control panel

Before using the printer with EFI XF:

- Select the media inserted in the printer.
- Perform a printer calibration.

**NOTE:** The media setting should be appropriate for the media profile you select in EFI XF. In each subfolder of ...EFI\EFI XF Profiles you will find a readme file that tells you the correct media setting to make. For Fogra Proof Certification or SWOP/GRACoL Certification, it is recommended that you use the media HP Premium Instant-dry Photo Gloss in order to make use of the biggest possible color gamut.

## Implementing in LinTool/Color Manager

### Creating a media profile

Due to the embedded measuring device it is possible to measure charts that span the full width of the HP Zx100 printers. Charts are provided for each printer size: 17", 18", 24" and 44". These charts are located in subfolders of the folder ...EFI XF\Client\Color Manager Charts\HP\_Zx100.

During profiling, LinTool/Color Manager automatically outputs the charts located in the folder HP\_Zx100. By default, the charts for 17" are located in this folder. Therefore, to create a media profile for a different printer size you first need to copy the required charts up a level from the appropriate subfolder.



The charts for all printer sizes have the same names, so be careful that you copy the charts from their subfolders and do not move them to the HP\_Zx100 folder by mistake. If you move the original files, they will be overwritten the next time you copy charts to the HP\_Zx100 folder.

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### TO CREATE A MEDIA PROFILE IN LINTOOL/COLOR MANAGER

- 1 In EFI XF make sure that HP\_Zx100 is set up as the linearization device.

**NOTE:** When an HP Zx100 printer is set up as an output device in EFI XF, all printed charts are measured automatically. It is not possible to insert a printed chart manually into the printer for measuring.

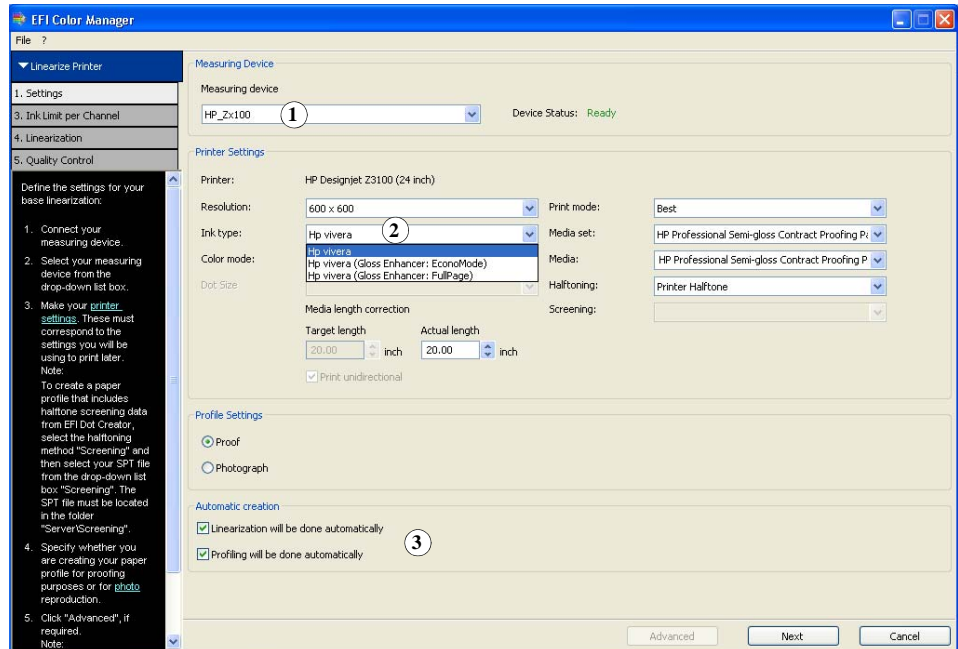
- 2 On the Page Layout tab, make sure that Minimal media consumption is NOT selected for the workflow.

Selecting this setting could cause some charts to be rotated for printing. The embedded measuring device is not able to detect the color patches of rotated charts.

### 3 Start LinTool/Color Manager and select the tool Create Base Linearization.

#### Base linearization settings

- 1 Measuring device
- 2 Ink type
- 3 Automatic/manual creation



**NOTE:** The setting Total Ink Limit has been removed from this dialog. The optimum total ink limit is predefined for each media.

### 4 Make sure that HP\_Zx100 is selected as the measuring device.

### 5 Select the desired ink type.

Here you define whether you want to create a profile for use with or without gloss enhancer. HP vivera means no gloss enhancer. HP vivera (Gloss Enhancer: FullPage) ensures that the full printable area of the media will receive an additional glossy coating. The EconoMode setting specifies that only the printed areas of the media will be coated with gloss enhancer.

### 6 Specify whether you want to create your base linearization and media profile manually or automatically.

The check box Linearization will be done automatically instructs LinTool/Color Manager to create a base linearization without any user intervention. If you do not select the check box, you will have to proceed manually from one step to the next. This is useful if you want to make advanced settings along the way.

By selecting the check box Profiling will be done automatically, you can also instruct Color Manager to go on to create a media profile automatically once the base linearization has been created. Upon completion, the media profile is copied automatically to the folder ...EFI\EFI XF Profiles\My Profiles and is immediately available for selection in EFI XF.

**NOTE:** This check box is not available for users of LinTool.

**7 Click Next.****8 Click Print.**

The first chart is printed and output partway out of the printer. After approximately five minutes, the chart is automatically fed back into the printer for measuring.

**NOTE:** Five minutes is the default drying time. However, drying times of up to one hundred minutes are possible. You can adjust the drying time for the output device on the Special tab in EFI XF.

## Optimizing a media profile

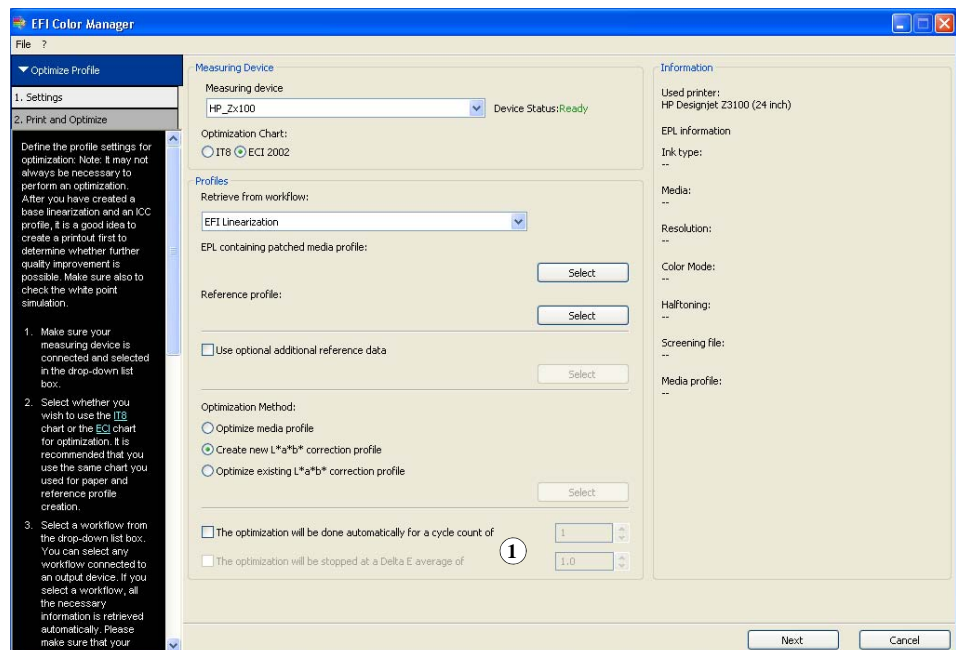
The embedded measuring device can also be used to optimize media profiles.

### TO OPTIMIZE AN EXISTING MEDIA PROFILE

#### 1 Start LinTool/Color Manager and select the tool Optimize Profile.

#### Optimizer settings

##### 1 Automatic optimization



#### 2 Specify whether you want your media profile to be optimized manually or automatically.

The check box **The optimization will be done automatically for a cycle count of ...** enables you to define a set number of optimization cycles. LinTool/Color Manager will perform the defined number of cycles without any user intervention. If you do not select the check box, you will have to proceed manually from one step to the next.

By selecting the check box The optimization will be stopped at a Delta E average of ..., you can also define a Delta E value. In this case, LinTool/Color Manager will stop optimizing if the Delta E value is reached before the defined number of optimization cycles has been completed or if the optimization result deteriorates.

## Implementing in Color Verifier

The embedded measuring device of the HP Zx100 printers can also be used to measure and verify color accuracy in Color Verifier. Print jobs are submitted automatically from EFI XF to Color Verifier when you make the following settings in EFI XF.

- On the Color Verifier bar, select the check box Use Color Verifier.
- On the Layout bar, click the Marks tab and select the control strip HPZx100.tif.

**NOTE:** When an HP Zx100 printer is set up as an output device in EFI XF, all printed control strips are measured automatically when Color Verifier is incorporated into your workflow. It is not possible to insert a printed control strip manually into the printer for measuring.

**NOTE:** If you output a job ticket as well as the control strip, make sure that you print one above the other. You will find the appropriate setting on the “Marks” tab.

## Fogra Proof Certification and SWOP/GRACoL Certification

This section contains some useful tips on how to profile HP printers of the Zx100 series for 39L Fogra Proof Certification or SWOP/GRACoL Certification.

- Insert the media into the printer and perform a printer calibration. As the printer prints in CMYK contone mode, the total ink limit can only be affected via the choice of print media. We recommend that you use HP Premium Instant-dry Photo Gloss. Make sure to select the correct media both at the printer control panel and in EFI Color Manager.
- This means that, by selecting a print media, you have already taken the first step towards setting the total ink limit. To limit the amount of ink per channel we recommend that you choose values nearing 100%. This is particularly important for Magenta, while cyan can be slightly less than 100% in order to neutralize the gray balance.
- As the printer is prone to display a “paunch” in the dot gain for Black, we recommend that you set the dot gain to 8%. All other color channels can be set to values of between 10% and 12%.
- When you have finished creating your media profile, it is a good idea to perform a profile optimization of one or two cycles.
- At the current time, we recommend that you use an auxiliary measuring device for the final evaluation and verification. Fogra currently uses an X-Rite Spectroscan device, SWOP/GRACoL measures with an X-Rite DTP70.