HP DesignJet Z6, Z9 Printer Supplement

This document bridges the gap between the Fiery XF documentation and the HP DesignJet Z6, Z9 documentation.

Refer to the Installation section before you connect the printer to a computer. Please refer also to the documentation shipped with your printer, which you can find here as well.

Printer Configuration:

The printer driver supports the printers: HP DesignJet Z6 and HP DesignJet Z9.

Fiery XF Model	Description
HP DesignJet Z6 RGB	• 6 HP Color Inks (Cyan, Magenta, Yellow, Matte Black, Photo black, Chromatic Red) • Variants: 1. Z6dr 44in (double roll) 2. Z6 44in 3. Z6 24in • The correct variant can be selected from Printer Discovery. • Postscript models don't need a separate variant.
HP DesignJet Z9 RGB	• 9 HP Color Inks (Cyan, Magenta, Yellow, Matte Black, Photo black, Gray, Chromatic Red, Chromatic Green, Chromatic Blue) • New accessory option with Gloss Enhancer (E) • Variants: 1. Z9dr 44in (double roll) 2. Z9 44in 3. Z9 24in • The correct variant can be selected from Printer Discovery. • Postscript models don't need a separate variant.

System requirements are as follows:

- The driver is only available for Windows.
- Products based on Fiery XF technology: Fiery XF 7.1
- As license, you need XF Output Option XXL
- The following outgoing TCP ports shall not be blocked by a firewall: 80, 8085, 8086, 8090, 9100. Windows blocks most ports if it considers a network as 'Public'.

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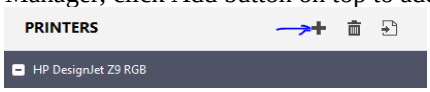
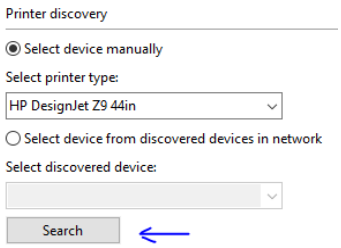
When you configure the XF output device the first time:

1. Make sure the printer is on.

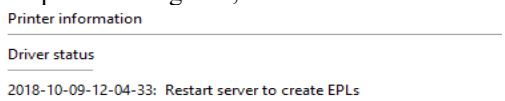
2. In Fiery Command WorkStation, please do the following: Right click on server, click Server Manager. In Server Manager, click Add button on top to add a device, HP DesignJet Z6 RGB or HP DesignJet Z9 RGB.



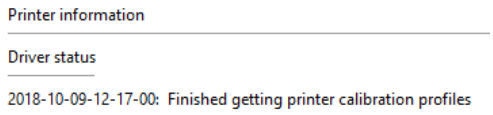
3. Configure IP address and click finish, then go to special settings tab and select the variant from Select device manually list. Alternatively, enter any IP address other than 127.0.0.1 and when device is added, go to special settings, press Search button and select one device from list.



4. In special settings tab, wait for driver status to change to “Restart server to create EPLs”. Then restart the server.



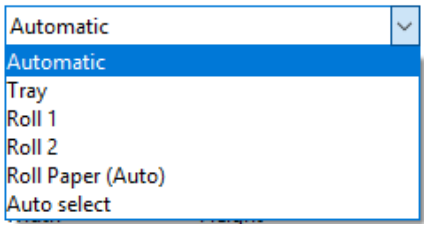
5. After restart, wait for driver status to change to.



6. Select the epl you want. Print anything. It should print without fail.
7. Now your Fiery XF system is ready.

Media source setup:

Following options are available for media source for a double roll model.



Roll1, Roll2, Tray are self-explanatory.

Automatic: This media source is default. The driver takes media from the roll/tray in the printer that has same media loaded as that used to process the job.

Roll Paper(Auto): Using this media source will allow the printer to choose the best fit media from any roll.

Auto select: Using this media source will allow the printer to choose the best fit media from any roll/tray.

When is server restart required:

1. When profiles are synchronized using the Download button and you need to use Color Tools, please restart the server. Although EPLs get created and you can print using those EPLs, if you want to do a new Calibration using Color Tools, then Color Tools needs server to restart to use the new media information. See details about Download button in special settings section.

Operation:

You can manage media profiles using the HP DesignJet Utility. The HP DesignJet Utility enables you to manage your printer or printers from a computer with a TCP/IP connection.

HP Color Center, available from the HP DesignJet Utility on the Z9 Series, comes included with the printer and allows the users to re-profile existing media and to profile new, third party media.

The XF printer driver reads the media information from the printer and creates XF Calibration sets for all media types found on the printer.

Device Connection and Configuration:

The XF printer driver automatically retrieves information per configured IP address. For all bidirectional data acquired from the printer, there is a backup file in the XF server's data folder. The names of these backup files follow the scheme HpPrinter_Type_IPaddress_.xml, e.g. HpPrinter_MediaInfo_10.210.116.45_.xml.

The XF printer driver creates the XF Calibration sets in the folder, e.g.

"C:\ProgramData\EFI\EFI Media Profiles\Automatic_10.210.116.45"

and writes all output into this folder.

When you upgrade the printer, or make changes to media information in printer.

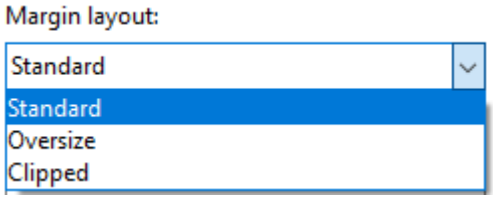
- Please go to special settings tab, click on Download button under Profile synchronization. All media information and profiles will be downloaded and new XF calibration sets will be created.
- Wait 3 minutes for the downloading of profiles and re-creation of calibration sets. Observe Driver Status section in special settings tab to check when all profiles have been downloaded and XF calibration sets created.

  2018-10-09-12-17-00: Finished getting printer calibration profiles

- No need to restart server. You can start using new profiles immediately.

Margin settings:

Margins will only be applied when margin layout is set to Standard under Margin settings in special settings tab.



Additional margins can be added from Job editor. These values will be added to the minimum margins as specified below.

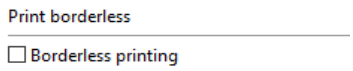
1. Standard layout margins and borderless printing:

Below are the supported margins:

Sheet Margins (mm)		Roll Margins (mm)	
Top	5	Top	5
Bottom	17	Bottom	5
Left	5	Left	5
Right	5	Right	5

- **Borderless Printing**: There are two options for doing borderless printing. Since firmware version JGR_06_19_41.2, Scaling in RIP will not be cut properly in printer and there will be marginal white strips on the edges. To get cutting accuracy, Scaling in Printer option should be used.

    1. Scaling in RIP: This option can be used when Print borderless option is selected in special settings tab. Using this option will preserve scale, content and paper size but may add edge white stripes.

    2. Scaling in Printer: This option can be used when Printer scaling is turned on in Margin settings in special settings tab. Using this option will preserve paper size and will not add edge white stripes but scale and content will not be preserved.

2. Oversize: Image is printed on a page slightly larger than the size that you have selected. If you cut off the margins, the remaining page is the size you selected, with no margins between your image and the edges of the paper. If image size is A4, loaded media on printer should be (A4 + 3-5 mm extra on all sides).

3. Clipped: Image is printed on a page equal to the size that you have selected, but image needs to have some borders around (5 mm). The printer uses the border for its margins and you get a page size that is equal to what was selected in the driver. If image size is A4, loaded media size on printer should be A4.

Media Type:

The media type is the most important key to a number of important settings. The list of available media types comes from the latest media information that the XF printer driver has acquired from the printer.

If the media type of a print job does not match the media type actually loaded in the printer, the XF printer driver will refuse printing. This is a safety measure to avoid damaging the medium.

Resolutions:

Following rendering resolutions are supported for these printers.

1. 300 x 300.
2. 600 x 600.
3. 1200 x 1200.

These resolutions are contone data resolutions and affect only the level of detail. The actual print resolution is higher.

Print Mode:

Print mode is the key to select print quality settings.

The print mode names in these drivers are formatted as follows.

(Quality)|P (PassCount)|Sp (Speed)|Bp (Bit per pixel)|(Direction)|Gl (Gloss)|E (Econofast)

e.g. here is one print mode. DRAFT|P 4|Sp 60|Bp 2|unidir|Gl OFF|E OFF

Note: Econofast is not available for all media types.

Special settings:

The special settings tab in these drivers have options laid out as follows. All settings above Job settings can only be viewed in Server Manager and not in Job editor.

- Print borderless: This is used to toggle between printing borderless by using RIP scaling or printing with borders.

- Printer information: This section has four sub sections. This section is used to display dynamic information regarding driver, printer, ink and alerts. The information is updated automatically and refreshing the tab is not required.
  1. Driver status: This area shows information about current and recent activities in driver. The time stamp shows the time at which last activity happened. This is useful to see when profiles have been downloaded, if media information changed, if given commands were successful and other status messages.

  2. Printer status: This area shows the information about current status of the connected printer.

  3. Alerts: This area shows last alert as coming from the printer with a time stamp of the alert when it came.

  4. Ink status: This area shows information about current ink availability in the printer with the corresponding amount left of ink in percentage.

  5. Media details: This section shows information about loaded media on the printer.

  6. Printer configuration: This area shows information about the current configuration of the printer.

- Printer discovery: This section has two options:
  1. Select device manually: This list holds all the supported variants of selected device. This option is useful when IP address of printer is known and is already set in Media tab. Then selecting one of the supported variants will load correct media sizes and tray, rolls for that variant on next server restart. By default, the variant with highest number of trays, rolls and size is selected.

  2. Select device from discovered devices in network: This option is useful when server is connected to the same network as the printer. Then pressing the Search button will find and list all the available models with their IP address in the network. Select one of listed printers to use it to print.

- Profile synchronization: This section has two buttons. If driver is busy while synchronization is requested, then a message will pop up saying “Driver is busy. Try again after some time.”.
  1. The Upload button will take one XF calibration set and one icc profile and uploads the icc profile to the printer using the settings in the XF calibration profile. This is useful in case of portable icc profiles creation. More details can be found below in creating ICC profiles section.

  2. The Download button is used to get all media information and profiles from printer and then create XF calibration sets. This is useful whenever media information or printer configuration has been changed and printer and RIP need to be synchronized.

- Job settings: This section has four options.
  1. Job status and accounting: When this option is on, the job sent will be tracked for the status in the printer and job status will only show printed when job is finished printing in the printer. The status of job can be seen in warning section in Job editor.
     This option also allows for job accounting information to be collected and can be accessed from CWS when a job is right clicked and “Job Details” option is clicked.
     When this option is off, neither job status will be tracked, nor job accounting information will be collected.

2. Validate job media type and size: When this option is on, the media type and size of job will be matched with that loaded in printer, and job will error out if there is any mismatch in media type or job media size is larger than that loaded in printer.

3. RIP and send to printer without writing to spool file: This option when on, will rip the data and send the same data directly to printer for printing, using HP sdk. This option should be enabled only for debugging purpose. Enabling this option is not recommended in non-debugging scenarios.

4. Write sdk output to file: This option when on and job is processed, driver will write raw data to a file in "C:\ProgramData\EFI\EFI XF\Server\Output" folder. The file name will be same as job name and have extension ".rs". This file can then be sent to printer directly for printing using HP utility.This option should only be used for debugging, Fiery XF doesn't print any job when this option is on.

- Calibration type: There are three options for Z9, and two options for Z6. Pressing the trigger button will start calibration. If driver is busy while calibration is requested, then a message will pop up saying "Driver is busy. Try again after some time.".
  1. Color calibration: Selecting this option does an internal color calibration using the attached spectrophotometer in the Z9 printers only. This option is not available in the other variants because there is no spectrophotometer for those variants.
  2. Printhead alignment calibration: Selecting this option does a print head alignment calibration. This calibration requires media of full width.
  3. Paper advance calibration: Selecting this option does a paper advance calibration.

- Horizontal clean cut: Pressing the "cut" button will do a clean cut of taped end of the paper. If driver is busy while calibration is requested, then a message will pop up saying "Driver is busy. Try again after some time.".

- Cut: There are two types of cutter available, the usual in line cutter, called X cutter and a vertical cutter called V trimmer. The V trimmer is only available when the double roll variant is selected. Also, V trimmer needs at least 1cm of margin on left and right side.

- Margin settings: There are three sub-sections to this special setting.
  1. Printer scaling: This option when on will do a scaling in the printer itself. The left image position is preserved, so the extra overspray is added to the right. This means that the center of the image will be shifted slightly to the right.
  2. Margin layout: This option is explained in Margin settings section above.
  3. Alignment: This option allows to select alignment of image in the paper.

- Rendering intents: The settings here allow to select the print color render mode and color space.
  1. Print render mode: This option allows selection of the actual colors in which to print.
  2. Color space: This option allows selecting which color space to use while rendering the input. Device calibrated means RIP will handle the color management and printer will only print the data sent. Standard RGB means printer expects the rendering to be done in sRGB color space and will handle data accordingly. It is recommended to use Device calibrated RGB with Fiery XF.

- Enhancement settings: These settings allow selecting enhancement options for print area.

- Log level: This setting can be used to change log level of sdk and rip. Since this is a global setting, log level can be changed from any printer. Logs are generated in "C:\ProgramData\EFI\EFI XF\Server\Log"

Creating Profiles:

1. Before you start.

Media manufacturers sell specific media for HP DesignJet printers. Please refer to the printer's operation manual for useful links.

Drying and curing depends on the overall amount of ink, especially in fast print modes.

Before you start make sure you have done the usual image quality maintenance tasks.

2. Create a custom media.

In the HP DesignJet Utility, you can create a new media profile entry for your medium. You can also clone an existing entry and modify it.

Once you have created the custom media and print modes, please do the following

1. Press the Download button in Profile synchronization. All new profiles will be downloaded and all old profiles will be deleted.
2. You can use the profiles immediately. No need to restart.

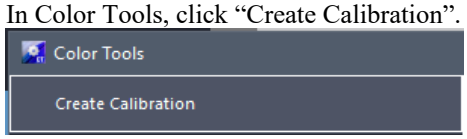
3. Create the ICC profile.

There are several ways to create the ICC profile.

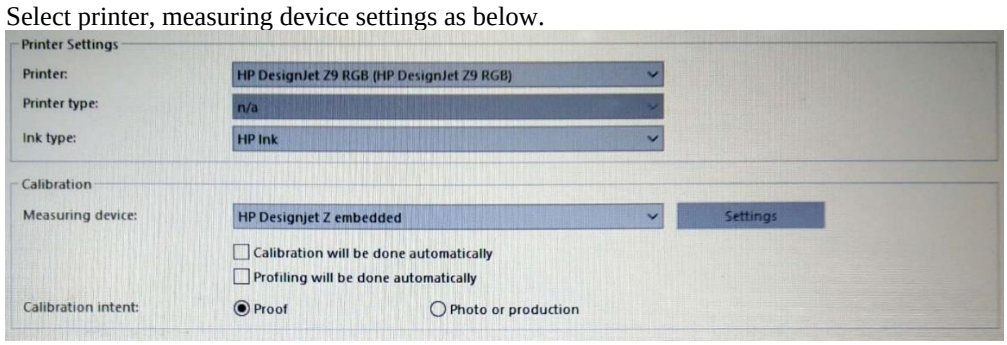
- Create a portable ICC profile on the printer.

  You can create the ICC profile on the printer during the creation of the media profile entry as described above. The ICC profile is a property of the media that is part of the media profile entry.

- Create an ICC profile using embedded spectrophotometer.
  In Color Tools, click "Create Calibration".



  Select printer, measuring device settings as below.



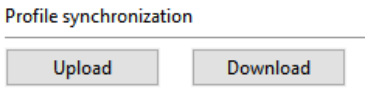
  Select the media type, resolution, print mode and click Next.
  In next page, click Print. Wait till job finishes printing. Measuring data will be collected and it8 file will created for the calibration.
  Go to next page, Create media profile. Save epl and icc.

- Create an ICC using external spectrophotometer.

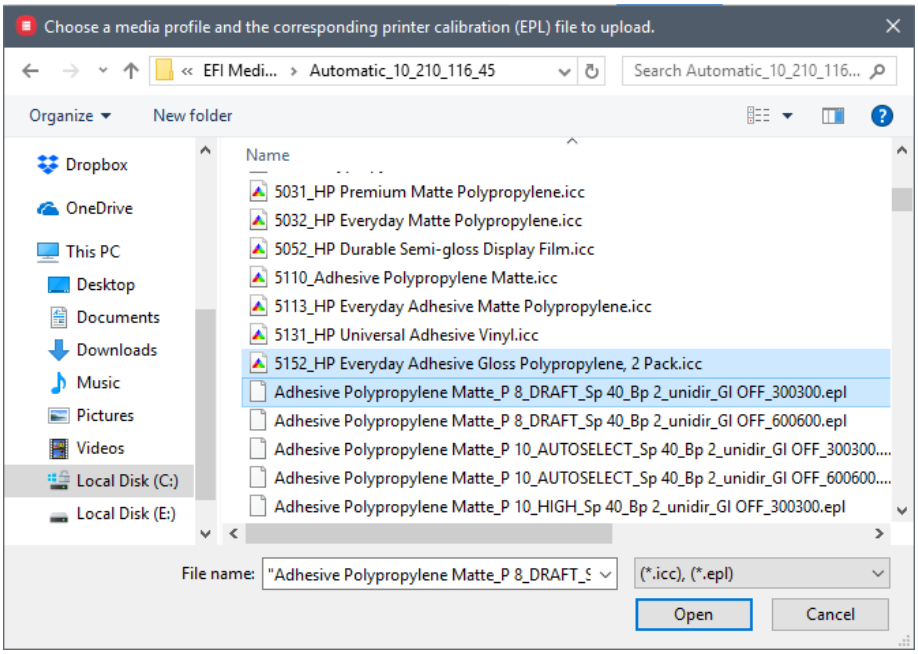
  Same as above only, select the measuring device from the Measuring device list. Once print is done, start the measurement manually, and it8 file will be created at the end of measurement. Then create media profile.

Upload an ICC profile onto the printer:

In Server Manager, go to special settings tab. Click the Upload button.

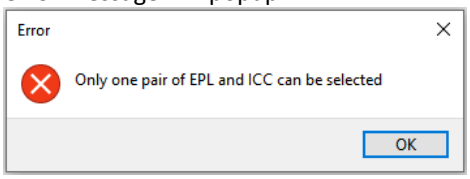
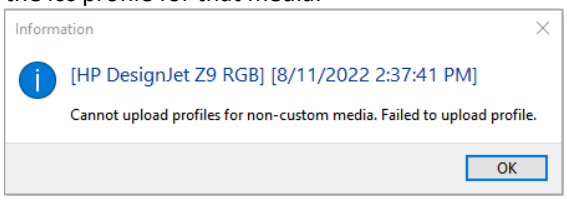


1. A window will open, which allows selection of an epl and the icc profile that needs to be uploaded.
2. Copy the epl whose settings, viz. media type and print mode, you want to use to upload the icc file.
3. The name of an epl mentions the media type and print mode.
4. Paste the epl in the same folder as the icc file you want to upload.
5. Select both the epl and icc file together and click “Open”.
6. The icc file will be uploaded to the printer and will be used as the profile of the media whose epl was used to upload.



Error messages while uploading profile:

1. If only icc or only epl is chosen, else if more than one pair of epl and icc is chosen in the dialog, then following error message will popup.



2. Profiles should not be changed for non-custom media. If user attempts to upload an icc profile to a non-custom media, following error will popup. User should create a custom media in printer before changing the icc profile for that media.