HP Designjet Tips and Tricks

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HP Designjet Tips & Tricks

Objectives

- How to set-up an optimal digital workspace
- Understand how to optimize your HP Designjet
- Understand how media and ink choices affect your print output
- Basic understanding of HP Designjet ePrint and Share
- Basic understanding of the AutoCAD WS plot option
- Understand the features of the HP Designjet printer driver
- Understand basic printing set-up from AutoCAD, Revit and Inventor
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- HP Designjet Printer History and Support
- Troubleshooting common issues
- Technologies that help to maximize print productivity
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<th>Designjet Family</th>
<th>Launch Date</th>
<th>EOL Support Date</th>
<th>Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designjet 600</td>
<td>1994, 1994</td>
<td>2000</td>
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<td>1997</td>
<td>April 2010, (DJ 430 E size – C4714A)</td>
<td>Only one model</td>
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<td>Designjet 5000</td>
<td>2001</td>
<td>2007</td>
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<td>Designjet 500</td>
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<td>Designjet 800</td>
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# HP Designjet Models That Are Still In Use

<table>
<thead>
<tr>
<th>Designjet Family</th>
<th>Launch Date</th>
<th>EOL Support Date</th>
<th>Supported</th>
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<tbody>
<tr>
<td>Designjet 4000</td>
<td>2004</td>
<td>2014</td>
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<td>Designjet 4500, 4200 Scanner, 4500MFP</td>
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<td>Designjet 90, 70</td>
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<td>2011</td>
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<td>Designjet Z3100</td>
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<td>2013</td>
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<td>Designjet T1100</td>
<td>2007</td>
<td>2014</td>
<td>Yes</td>
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<td>Designjet T1120, T1120MFP</td>
<td>2009</td>
<td>2015</td>
<td>Yes</td>
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<td>Designjet T610</td>
<td>2007</td>
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<tr>
<td>Designjet 820MFP</td>
<td>2006</td>
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<tr>
<td>Designjet 815MFP</td>
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<td>Designjet cc800ps</td>
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<td>Designjet T1200</td>
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<tr>
<td>Designjet T770HDV</td>
<td>2009</td>
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<tr>
<td>Designjet Z6100</td>
<td>2010</td>
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Troubleshooting Common Problems

• Print color does not match my screen color
  • Workspace set-up
  • Monitor calibration
  • Printer tools & calibration
  • Media and Ink Choices
  • My new printer does not match my old printer
Color of Print Does Not Match My Screen

Questions to ask yourself:

• What is my workspace lighting?
• Is my monitor calibrated?
• Is my printer calibrated?
• Are you using HP Inks?
• Do you have the correct media profile chosen?
• Are you using the correct printer driver?
Color of Print Does Not Match My Screen

Work environment

- Ambient lighting (Turn down the lights)
- Display brightness (5000-5500K)
- Room colors (Dark is better)
- Workstation (HDMI connection is better)
- Graphics Card
- Calibration (Calibrate every two weeks)
- Use a display that is up to the job! (You are an artist, use artists tools)
Monitor Calibration

- Monitor often is the only visual reference of an image before it is printed.
- All data in the digital creative workflow needs to be displayed on the monitor.
- The challenge is to make sure that all the data throughout the workflow, from input to final output, is the same or as closest to the image on the Monitor.
- The difference in color reproduction between various monitors is one of today's largest problems.

<table>
<thead>
<tr>
<th></th>
<th>ColorMunki Display</th>
<th>i1Display Pro</th>
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<tbody>
<tr>
<td>MSRP:</td>
<td>$189</td>
<td>$269</td>
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<tr>
<td>Target Markets:</td>
<td>Photo &amp; Design</td>
<td>Pro-photo, Design, Prepress, &amp; Publishing</td>
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<tr>
<td>User Proficiency Level:</td>
<td>Serious enthusiast to professional</td>
<td>Professional</td>
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<tr>
<td>UI Focus:</td>
<td>Simplicity but professional quality</td>
<td>Color precision with high level of speed, options and controls</td>
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<tr>
<td>Key Features:</td>
<td>Accuracy on new displays technologies</td>
<td>Highest accuracy on new displays technologies</td>
</tr>
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<td></td>
<td>Better display to print matching</td>
<td>Better display to print matching</td>
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<td>Projector profiling</td>
<td>Projector profiling</td>
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<td></td>
<td>Ease of use</td>
<td>Advanced options &amp; workflows</td>
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<td>Pantone optimization</td>
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<tr>
<td></td>
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<td>Quality Analysis</td>
</tr>
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</table>
Color of Print Does Not Match My Screen

Printer tools and calibration

Read your user documentation

Let your printer help you
Color of Print Does Not Match My Screen

Printer tools and calibration

- Print quality defects can be caused by the following reasons:
  - Print heads in bad shape
  - Misaligned print heads
  - Incorrect paper advance (select printers only)
- Corrective actions are available for each of these reasons:
  - Cleaning print heads
  - Aligning print heads
  - Calibrating paper advance

In order to simplify the task, Designjets T and Z series include a Print Quality troubleshooting wizard
Color of Print Does Not Match My Screen

Printer tools and calibration

HP Utility
Download from www.hp.com – Support and Drivers
Color of Print Does Not Match My Screen

Printer tools and calibration

- Clean print heads
- Align print heads
- Calibrate color
Color of Print Does Not Match My Screen

Media and Ink
HP Media

HP media is designed to optimize output from HP Designjet printers

If your HP Designjet printer utilizes Dye Ink (111r, 130, T series, 4xxx, 1xxx) use **swellable** media.

- Not waterfast
- *Long* dry-time
- Not compatible with pigment inks

Swellable

**Examples of Swellable Media**
- HP Premium Plus Satin Photo Paper
- HP Premium Plus Gloss Photo Paper
- HP Universal Semi-gloss Photo Paper
- HP Universal High-gloss Photo Paper

If you print on **swellable** media using a Dye based ink system, the image will fade very fast.

If you print on **porous** media using a Pigment base ink system, the ink may never dry.

PROBLEM SOLVING

If your HP Designjet printer utilizes Pigment Ink (Z2100, Z3100, Z5200, Z6100, Z6200) use **porous** media.

- Water-fast
- *Instant* dry-time
- Dyes and pigments compatible

Porous

**Examples of Micro-Porous Media**
- HP Everyday Pigment Ink Gloss Photo Paper
- HP Everyday Pigment Ink Satin Photo Paper
- HP Universal Instant-dry Semi-gloss Photo Paper
- HP Universal Instant-dry Gloss Photo Paper
- HP Premium Instant-dry Satin Photo Paper
- HP Premium Instant-dry Gloss Photo Paper
- HP Professional Satin Photo Paper
### HP Designjet Ink

<table>
<thead>
<tr>
<th>Designjet Model</th>
<th>Dye Based Color Ink (CYM)</th>
<th>Pigment Based Black</th>
<th>Pigment Based Latex</th>
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<tbody>
<tr>
<td>Designjet 110plus/510</td>
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<td>Designjet T620, T770, T1100, T1120, T1200, T790, T1300, T2300</td>
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<td>Yes</td>
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<tr>
<td>HP Designjet Z2100, Z3100, Z3200</td>
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<tr>
<td>HP Designjet Z5200, Z6100, Z6200</td>
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<tr>
<td>HP Designjet L25500, L26500, L28500</td>
<td></td>
<td></td>
<td>Yes</td>
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<tr>
<td>HP Designjet 4000, 4500, 4020, 4520</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>HP Designjet 130</td>
<td>Yes</td>
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</tbody>
</table>

#### Dye Ink
- Ultra small & water soluble – give brighter, vibrant colors
- Ultra small size – penetrates paper, therefore high-gloss possible
- Highly-exposed individual molecules – rely on paper for protection
- (if any) from light and air

#### Pigment Ink
- Non water soluble solid particles can potentially have very good light-fastness
- Forming smooth high-gloss film difficult
- Long-term pen reliability more difficult plain paper colors are dull,
- not vibrant

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**Autodesk University**

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Getting the right colors

My colors do not match my previous Designjets

• Newer Designjet printers have better inks and color management systems than older models, providing a better match to the screen.
• This means that, by default, their colors will be different from previous models.
• In order to provide backwards compatibility, emulation modes are included:
  • Designjet 4000/4500 emulates Designjet 1050/1055
  • Designjet Z6200, Z6100 emulates Designjet 5500 and Designjet 1050
  • Designjet T2300, T1300, T1200, T1100, T790 emulate Designjet 1050 and Designjets 500/800
Saving paper and ink

- Remove top/bottom blank areas
- Auto-rotate
- Nesting
- Saving ink
Saving paper

*Remove top/bottom blank areas*

Image on Workstation screen

REMOVE TOP/BOTTOM BLANK AREAS
Saving paper

Auto-rotate

It rotates the drawing only if:
- It fits on the loaded roll with no clipping
- It saves paper
Saving paper

*Nesting*

- Nesting
  - Placing pages side by side on the paper, rather than one after the other
  - Avoids wasting paper
  - Can be accessed through
    - Front panel
    - The EWS
- Designjet T2300PS, T1300PS and Z6200PS adds two new nesting features
  - Nesting in optimized order
  - Crop lines when nesting
Saving Ink

- Make sure you have selected the correct media profile
- Print in normal mode for final versions
- Economodes – Switch on economode in printer driver
- Newer print models – use minimal ink usage during service routines
Troubleshooting Common Problems

• Clipping
• Out of memory
Clipping

- Clipping may occur for the following reasons:
  - Incorrect page size selected
  - Incorrect orientation selected (portrait or landscape)
  - Incorrect margins setting
  - Incorrect scaling

To troubleshoot:
Check the concept preview to see where clipping will occur. It will also show the page size and the effective printable area.
Out of memory

- Out of memory problems can happen in different stages of the printing workflow
- The symptoms can be:
  - A explicit message in the computer or the printer
  - Slow performance of the computer or the printer
  - Missing content from the output
Resolving Out of Memory problems

The following settings help solving different causes behind out of memory issues:

In the driver:
- Advanced tab → Send job as bitmap
- Advanced tab → Max. Application resolution = 300dpi

In the application:
- Properties → Graphics → Raster graphics
- Lower the resolution of OLE objects and shaded viewports
Technologies that help to maximize productivity

- Job management technologies
- Cost tracking
- HP Designjet ePrint and Share
- Printing from AutoCAD WS
Processing Print Job Options

**In-printer versus PC**

**In-printer processing architecture**
- Low traffic over the network
- Print and process at the same time
- Job queue in printer
- Low computer load while spooling files

**Raster/in-computer processing architecture**
- Dense traffic over the network
- Print one job at a time
- No job queue
- High computer load while spooling files
Processing Print Job Options

*In-printer versus PC*

Free up your workstation

Send and print jobs reliably over the network
Job management

A job queue allows to:

- Manage job priorities
- Manage the printer from the desktop
- Free user’s computers from the task of queuing jobs
- Parallel processing and printing

But how can you handle situations where:

- Different papers are needed for different jobs in the queue
- The queue is full but an intervention on the printer is needed?
Job management

Pausing the queue
- Pauses the queue of jobs
- Enables user to replace consumables, load media, or perform other activities to prepare the printer for unattended printing
- To continue printing, use the “Release” option that appears in the same menu
Job management

Job alerts for Designjet T790, T1300, T2300eMFP, T7100

- If configured to do so, the printer will hold jobs if the paper requirements can’t be met for:
  - Paper type
  - Paper size (clipping)
  - Paper source (sheet vs. roll)
- An alert will be issued
- Held jobs won’t be printed until:
  - The user continues them proactively through the Front Panel, the Embedded Web Server, or the Printer Utility
  - The required paper is loaded
Cost tracking

www.hp.com/go/designjet/accounting

- Workgroup Designjet printers allow users to track and report precise consumption and cost data per:
  - Job
  - User
  - User group
  - Type of plot (ink coverage)
What is HP Designjet ePrint & Share?

Experience cloud printing from virtually anywhere—a conference room, the job site, or even home—using HP Designjet ePrint & Share. This free web service makes it easy to access and print large-format documents, using your tablet, smartphone, laptop, or printer touchscreen.
You can plot your files to any HP ePrinter and HP Designjet ePrinter.
Must have HP Designjet ePrint and Share account (free).
Manage your printers from HP Designjet ePrint and Share.
AutoCAD WS: iPad App Workflow

Select “Share with” icon and “Plot”

- To access plot options tap in Output arrow icon.
- Two options available: Share by email, or Plot.
Selecting Plot shows menu.
Plot can be to PDF, DWF, or to print to an HP ePrinter.
Tap Add HP ePrinter to start connecting printers.
HP Designjet Printer Settings with AutoCAD

- Which drivers should you use?
- Print workflow from AutoCAD
- Creating custom media sizes
Which drivers should be used?

Available drivers for HP Designjet printers

There are no HDI drivers for HP Designjet printers. Windows HP-GL/2 and Raster drivers are optimized to work with AutoCAD through a special SW module in the application.
Which drivers should be used?

1. If HP-GL/2 is available, always use it
   - HP-GL/2

2. If HP-GL/2 is not available, use the Raster driver
   - Raster

3. Use the PS3 driver as a third option
   - Adobe PostScript
Optimized drivers

- Installed via the standard Windows installation process
- Common User Interface for all applications, including Autodesk products
- Interfaces transparently with Autodesk products
- Better line quality than standard Windows drivers
- HP provides the best-in-class Autodesk integration working directly with Autodesk engineers

"HP has developed the only Windows large-format printer driver optimized for AutoCAD combining high quality and performance in the technical market"
PC3 files

Printed driver settings
- Print quality
- Paper source and type
- Color options
- etc.

AutoCAD plotter configuration
- Filter page sizes
- Raster and OLE object resolution
- Plotter calibration

AutoCAD Plotter configuration file

PC3
Filter paper sizes

- You can select which ones you want in:
  - Plot dialog -> Printer properties ->
  - Plotter configuration editor -> Filter paper sizes

- You can restore it later by rechecking the boxes
Creating and sharing custom page sizes
Creating and sharing custom page sizes

- Custom page sizes created from the driver are local. This means that they can only be accessed from the computer where the page size was created, even if the driver is shared.
Creating and sharing custom page sizes

- A user with administrative rights can create custom sizes in the server that will be shared to client workstations by using the following process:
  1. Go to Start → Printers and Faxes
  2. Go to File → Server properties
  3. In the “Forms” tab, create a new Form with the desired custom size

- This form will be available in the driver and shared to client workstations, enabling the previous PC3 file sharing workflow
Printing From Autodesk Products

• Printing from AutoCAD
• Printing from Inventor
• Printing from Revit
Printing from AutoCAD

A Few Notes:

1. You can just print directly to printer without setting up PC3 files (plotter configuration files) or other drawing templates, but most users do not do this since you have very little control over output.

2. Not as intuitive as other Autodesk packages.

3. HDI (Heidi Device Interface) drivers are no longer needed – since 2009.
Printing from AutoCAD

Step 1: Select Output then Page Set-up Manager then New
Printing from AutoCAD

Step 2: Name new page set-up
Printing from AutoCAD

Step 3: Select device and other options
Printing from AutoCAD

Step 4: Select Plot
Printing from AutoCAD

Step 5: Review set-up
Printing from AutoCAD

Step 6: Properties- Device and Document Settings
Printing from AutoCAD

Step 7: Custom Properties
Printing from AutoCAD

Step 7: Print
Printing from Inventor

A few notes:
1. Typical workflow is not directly from Inventor to printer
   a. Usually will convert to a DWG and then print.
   b. Combine multiple parts and sections to one page to print
Printing from Inventor

Step 1: Select Inventor Icon and then Print - Print
Printing from Inventor

Step 2: Select Printer - driver first window
Printing from Inventor

Step 3: Properties - Paper/Quality
Printing from Inventor

Step 3: Properties - Features
Printing from Inventor

Step 3: Properties - Color
Printing from Inventor

Step 3: Properties - Services
Printing from Inventor

Step 3: Properties - Advanced
Printing from Inventor

Step 4: Print
Creating a Drawing & Printing in Inventor

Step 1-2: Create New Sheet & Name New Sheet
Creating a Drawing & Printing in Inventor

Step 3: Add items to sheet
Creating a Drawing & Printing in Inventor

Step 4: Position the item on the sheet
Creating a Drawing & Printing in Inventor

Step 5: Select Inventor Icon and Print-Print
Creating a Drawing & Printing in Inventor

Step 6: Print Driver first window
Creating a Drawing & Printing in Inventor

Step 7: Properties
Creating a Drawing & Printing in Inventor

Step 8: Print
Printing from Revit

A few notes:

1. Projects are based off project templates
2. One model per discipline- not many dwg files
3. Ribbon interface- not buttons/icons/commands
4. No special drivers or pc3 file creation before printing
Printing from Revit

Step 1: Create Sheet
Printing from Revit

Step 2: Drag View onto Sheet
Printing from Revit

Step 3: Select Revit Icon, then Print-Print
Printing from Revit

Step 4: Select Printer - Driver First Window

![Print window](image)
Step 5: Select what to print

Printing from Revit

View/Sheet Set

- Printer: HP Designjet T120
- Status: Ready
- Type: HP Designjet T120
- Where: HPDSJTPORT 1
- Name: Set 1

- Combine multiple selected views/sheets
- Create separate files. View/sheet
- Name: C:\Users\person\Documents

Print Range

- Current window
- Visible portion of current window
- Selected views/sheets
- Set 1

- Sheet: A104 -Unnamed

Show

- Sheets
- Views

Options:
- Save
- Save As...
- Revert
- Rename...
- Delete
- Check All
- Check None
Printing from Revit

Optional Step: In-session set-up
Printing from Revit

Step 6: Properties - Paper/Quality
Printing from Revit

Step 6: Properties - Features
Printing from Revit

Step 6: Properties - Color
Printing from Revit

Step 6: Properties - Services
Printing from Revit

Step 6: Properties - Advanced
Printing from Revit

Step 7: Print
Printing from Revit

Final Step: Printing
Questions?