

Guide to HP-GL/2 on the NovaJet® 500/630/700 Series Printers

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Revision History

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Other reference materials

In addition to this guide, the following additional documentation is included with your printer:

README First! booklet - provides detailed instructions on where to go help and a listing of available resources..

Quick Start Guide - Tells you how to assemble and install the printer's hardware.

NovaJet System CD-ROM - In addition to this HP-GL/2 Guide, the system CD-ROM contains:

- Printer Reference Guide, which provides complete reference information regarding the printer's options;
- Quality Primer, a guide to help you get high-quality output from your NovaJet printer;
- Maintenance Guide, instructions for maintaining your NovaJet printer;
- Maintenance Poster, a graphical reminder of the most important procedures for maintaining your NovaJet printer;
- Menu Tree Poster, a graphical reminder of the menu structure of your NovaJet printer; and
- sample image files.

Manual conventions



Indicates a procedure for you to follow in order to perform a specific function. Read the accompanying explanatory text before following the step-by-step procedure.



Indicates a warning. Ignoring the warning can damage the printer or result in an unsatisfactorily printed image.



Indicates a tip or suggestion that can make using the printer easier or improve your printed images.

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Guide to HP-GL/2 on the NovaJet 500/630/700 Series Printers

This guide discusses setting printing parameters generally used with vector-based files, including palette selection, printer control, rotation, reprints, nesting and ink limit.

ENCAD's implementation of HP-GL/2 supports vector/raster merge and conforms to "The HP-GL/2 and HP RTL Reference Guide, Third Edition" by Hewlett-Packard Company (Addison-Wesley, 1997, ISBN 0-201-31014-7). Please refer to this guide for detail on HP-GL/2 commands.

CAD printing modes

Your printer offers several print modes which let you make tradeoffs between speed and quality. The procedure for selecting print modes is described in the NovaJet Printer Reference Guide on the system CD-ROM.

The print mode you use depends on various factors, such as your drawing application, whether you're printing in color or monochrome, and what type of media you're using. Each print mode directly affects the printing speed and quality of the image you print, so you should understand the differences.

Draft or Production modes are suited for line drawings and drawings with light solid fills, the types of images created by most CAD users. These modes are not recommended for continuous tone printing images, because bleeding may occur in areas of heavy fills or dark shading when printed with these modes.

Printing vector data

When printing vector data, you can control certain options from your software application, or you can assign control to the printer and set its options. Whether you assign control to the software (the default) or the printer depends on your personal preferences. You might choose to override software control because the software is not providing the features you want.

Accessing HP-GL/2 features

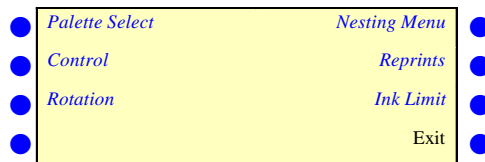
The following functions are available from the HP-GL/2 menu: palette select, printer vs. software control, rotation, reprints, nesting and ink limit.



To access HP-GL/2 features

- 1 From the main menu, press Setup Menu/HP-GL/2 Menu.

The HP-GL/2 menu displays with further options.



Palette select

Palette select lets you choose either the HP-GL/2 or AutoCAD palette. Both palettes allow 256 active colors with eight colors predefined. The predefined colors for each palette are shown in the following table.

	HP-GL/2	AutoCAD
Pen 0	White	White
Pen 1	Black	Red
Pen 2	Red	Yellow
Pen 3	Green	Green
Pen 4	Yellow	Cyan
Pen 5	Blue	Blue
Pen 6	Magenta	Magenta
Pen 7	Cyan	Black



To choose a palette type

- 1 From the main menu, press Setup Menu/HP-GL/2 menu/Palette Select.
- 2 On the Palette Select menu, choose either AutoCAD or HP-GL/2 and press OK.

Control

Control determines whether certain printing parameters are set in the software application or overridden by the printer's front panel. Control overrides the following parameters of the HP-GL/2 header file: repeat plot (RP) and enable auto cutter (EC).

Repeat Plot: With Control set to Printer, the printer will ignore RP commands in the plot file and only print one plot. From the printer's front panel you can specify additional copies using the Reprints menu.

Enable Auto Cutter: With Control set to Printer, the printer will ignore EC commands in the plot file and will not automatically cut after each plot. From the printer's front panel, you can enable automatic cutting or initiate a command for a single cut.

- ✓ Do not override software control when sending merged raster/vector data to the printer.



To set control

- 1 From the main menu, press Setup Menu/HP-GL/2 menu/Control.
- 2 On the Control menu, choose either Software or Printer and press OK.

Rotation

The printer automatically prints an image with the long side on the paper axis. To better fit images and save media, you can use the Rotation option to turn vector files counterclockwise 90 degrees at a time. If the rotation specified won't fit on the media or contains raster images, it will not be rotated. When the Rotate value is set to AUTO, the algorithm will automatically rotate the plot if it determines that the rotation will save media (regardless of whether Nesting is enabled). If Rotate is set to 0, the plot will not be rotated. The Control function does not override the RO command in the plot file.

Note: Rotation is supported for HP-GL/2 files only. It is not supported for RTL files.



To rotate the image

- 1 From the main menu, press Setup Menu/HP-GL/2 menu/Rotation.
- 2 From the Rotation menu, choose the rotation angle (0, 90, 180, 270, auto) and press OK.

Reprints

You can print up to 99 copies of a specific vector file. When Reprint is set to 0, only one image is printed.



To make multiple prints

- 1 From the main menu, press Setup Menu/HP-GL/2 menu/Reprints.
- 2 On the Reprints menu, enter the number of reprints (0 to 99) and press OK.

Nesting

Nesting allows the user to save media by printing multiple plots along the horizontal width of the media. This feature makes the most efficient use of consumables and reduces the time required to print multiple plots.

When nesting is active, HP-GL/2 plots will be stored within the printer, accumulating in a *nest*. Printing will only begin when a nest becomes full, when a nesting timeout occurs, if printer memory is exhausted, or when a plot that is incompatible with the current nest is received.

A nest is full when the printer determines that no further jobs can be fitted across the page.

Nest timeouts are governed by the Nest Time parameter, which is set via the printer's front panel.

If the printer runs out of memory, the current nest will be printed immediately, so that memory may be reclaimed for use by new plots.

An incompatible plot is either a non-HP-GL/2 plot or an HP-GL/2 plot which has different job characteristics than the current nest, such as quality, dpi, or margins.

If any of the following plot parameters are different between one plot and the next, the last plot will be incompatible with the current nest, causing the nest to begin printing immediately.

Parameters which are monitored for Nest compatibility:

- Print quality;
- Number of passes;
- Print direction;
- Speed;
- Color mode;
- DPI;
- Dry time;
- Margins;
- Wipe on/off; and
- Media Save.

The following parameters will not affect nesting:

- Ink limiting;
- Replots;
- If Auto Rotation is enabled, then the nesting algorithm is free to rotate the plot if it determines that doing so will save media. Plots are sequentially fitted across the page from right to left; and
- The HP-GL/2 EC command can be used to control cutting. If any plot in a nest has the cutter enabled, the plotter will cut after the nest.



To enable nesting

- 1 From the main menu, press Setup Menu/HP-GL/2 menu/Nesting Menu.
- 2 On the Nesting menu, choose Nest On or Off and press OK.

Nest wait time

Nesting Wait Time is the amount of time the printer waits for the next plot to fill the current nest.

The printer will begin printing whenever the printer has been idle for the specified time interval. The time is reset whenever a print job is received.



To define nesting wait time

- 1 From the main menu, press Setup Menu/HP-GL/2 menu/Nesting Menu.
- 2 On the Nesting menu, choose Nest/On and press OK.
- 3 On the Nesting menu, choose Nest Time.
- 4 On the Nest Time menu, choose the Nest Time (30 seconds, 1 minute, 2 minutes) and press OK.

Ink limit

The printer can assign an ink limit to polygon fills and wide vectors. This helps prevent bleeding when printing on inexpensive inkjet media. The default for this option is On. If you are using high quality media, this option may not be needed and can be turned off.



To enable the ink limit

- 1 From the main menu, press Setup Menu/HP-GL/2 menu/Ink Limit.
- 2 In the Ink Limit menu, choose On and press OK.

HP-GL/2 Test File

To assist in diagnosing potential problems with your printer, we have placed an HP-GL/2 test file in the printers ROM memory. The colors that print on the test file are the RGB values for those colors as defined in AutoCAD. Front Panel settings for Ink Reduction and Ink Limiting have no effect on this file. All other printer options such as Number of Passes and Carriage Speed are available.



To print the test file

- 1 From the main menu, press Utility Menu/Service Menu/Test Print.