PLEASE READ: Important information about installing and using this driver!

Before you can produce a plot, you must install and set up this driver software on your hard disk using the instructions included in this document. This document also contains plotter- and software application-specific information to help you achieve the best quality and performance when plotting with this driver.

We strongly recommend that you read this document before proceeding with driver installation and set up. In addition to installation (section 1.0) and set up instructions (section 2.0), this document includes information about how the driver works with specific plotters and software applications (sections 3.1 and 3.2), troubleshooting hints (section 3.3), and how to get help if you need it (section 4.0).

NOTE: This document is also available as a file on your driver disk called "HPDRIVER.WRI." You can view the file on your computer screen and you can print it.

Instructions for Installing and Using
The HP Plotter Driver (HP-GL/2 and HP RTL)
for Microsoft® Windows 3.0/3.1   (v1.1)

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Introduction

This driver supports the following HP plotters:

Plotter Name	Model Number
HP DesignJet Plotters	C1633A, C1633B
HP DesignJet 600 Plotters	C2847A, C2848A
HP DesignJet 650C Plotters	C2858A, C2859A
HP DraftMaster SX Series Plotters	7595B, 7595C
HP DraftMaster RX/MX Series Plotters	7596B, 7596C/7599A, 7599B
HP DraftPro Plus Plotters	C3170A, C3171A
HP 7550B Graphics Plotter[1]	7550B
HP 7600 Series Plotters[1]	240D, 240E, 250, 255, and 355

[1] If you're using one of these plotters, choose "Hewlett-Packard HP-GL/2 Plotter" as your plotter during driver installation.

Although there are older plotter drivers with similar names, please note that in the Windows 3.0/3.1 environments you should only use *this* driver to plot with the devices listed above (with the one exception noted below). Older drivers use a less-efficient graphics language and have limited features and settings.

Note to AutoCAD™ Release 11/12 for Windows users

The only exception to the above paragraph is that we don't recommend using this Hewlett-Packard driver when you're running AutoCAD Release 11/12 for Windows. Instead, use the Autodesk driver that was automatically loaded when you installed AutoCAD. Refer to section 3.2.1, "AutoCAD Release 11/12 for Windows users: use the Autodesk driver instead of this one," to verify that you're using the recommended driver.

1.0   Installing the driver software

1.1 Which installation method should you use?

There are two ways to install this driver software on your computer:

>   Use the driver's quick "install" program,

     OR

>   Use the standard Windows method.

We recommend using the driver's "install" program, which is the fastest installation method. The "install" program also automatically increases the Transmission Retry to 900 seconds. This increase is necessary to ensure that you'll be able to plot complex drawings or text, which can take a long time to be transmitted from your computer to your plotter.

If you prefer to use the standard Windows method, refer to the following sections in your Microsoft Windows User's Guide: "Installing a Printer Driver Not Supplied with Windows" and "Selecting a Printer Port." You can find these instructions in Chapter 5 of the Windows 3.0 edition, and in Chapter 6 of the Windows 3.1 edition.

If you use the standard Windows method, you'll need to manually increase the Transmission Retry to 900 seconds. To access this setting in Windows 3.0, choose Control Panel, Printers, then Configure. In Windows 3.1, choose Control Panel, Printers, then Connect.

1.2 Installing with the driver's quick "install" program (recommended method)

During installation you must have at least 2 MB of disk space available on your hard drive. We also recommend using a 386- or 486-based computer with at least 2 MB of RAM.

Step 1. With the driver disk inserted in your floppy drive and with Microsoft Windows running, select Run from the File menu (in the Windows Program Manager).

Step 2. In the Command Line box, type "b:\install" (or substitute the name of the floppy drive containing your disk for "b"), then click the OK button to continue.

    NOTE: If you don't have at least 2 MB of available hard disk space, you will get an error message at this point. Clear some hard disk space on your computer, then restart the installation at Step 1.

Step 3. When the "Hewlett-Packard HP-GL/2 Plotter Driver Installer" dialog box is displayed, enter the appropriate settings (described below) for your plotter.

Plotter: Select your plotter from this drop-down list box. The HP DesignJet plotter is the default device.

NOTE: Select "Hewlett-Packard HP-GL/2 Plotter" only if you have one of the following plotters:

HP 7550B Graphics Plotter
HP 7600 Series Plotter

Port: Select your plotter's port from this drop-down list box. LPT1 is the default port.

NOTE: Be sure to choose the correct port here (the one you'll be using with the selected plotter), before completing the set up instructions later in this document. The driver settings are saved with the selected Port name, so if you change the port after setting up, you'll be starting over with the driver's default settings.

Use Print Manager: When this check box is selected (default, an "X" appears in it), the Windows Print Manager controls printing in the background while you continue to work with your software applications in the foreground.

When this check box is deselected (no "X"), your software application plots directly to your local plotter or to the network (without using the Windows Print Manager). If you plot without Print Manager, you can't work with your computer until your file is completely delivered to the network plotter or until it finishes plotting on your local plotter.

Set As Default Printer: When this check box is not selected (default, no "X"), the default output device in the Printers dialog box will not be changed.

When this check box is selected (an "X" appears in it), the plotter chosen in the above Plotter drop-down list box will be set as the default output device in the Printers dialog box in the Windows Control Panel.

Step 4. Click the OK button to begin installation. The installation process takes less than a minute. The Copying File box shows the files being transferred to your hard disk.

Step 5. When installation of your selected plotter is complete, one of the following things will happen, depending on which version of Windows you're running:

> **If you're running Windows 3.0**, a message box tells you that the driver has been installed successfully. Click OK, then remove the driver installation disk and continue with the instructions in the next section on setting up the driver.

OR

> **If you're running Windows 3.1**, you'll be asked if you want to install another plotter (click Install) or complete the installation (click Done). If you click Install, continue from Step 3. If you click Done, a message box tells you that the driver has been installed successfully. Click OK, then remove the driver installation disk. Continue with the instructions in the next section on setting up the driver.

2.0 Setting up the driver software

This section contains a detailed description of the plotter driver's settings, which can be changed by accessing several dialog boxes.

There are two different sets of instructions: section 2.2, "Setting up with Windows 3.0 applications (and Windows 3.1 applications *without* the Windows Print Setup dialog box)," and section 2.3, "Setting up with Windows 3.1 applications that use the Windows Print Setup dialog box."

If you're running Windows 3.0, you should *always* use the set up instructions in section 2.2.

If you're running Windows 3.1, it's important for you to read the following section, "Which set up instructions should you use? (For Windows 3.1 users only)," to determine which set up instructions to use.

The terms "local" and "global" are used throughout this section to describe the effect of changing the driver settings. When the term *local* is used, it means that changing the driver setting affects only the current software application (the one from which you're viewing the driver setting). When changing a driver setting has a *global* effect, all currently-running applications are affected by the change.

If you find that you have questions or need help during the set up process, refer to section 4.0, "Getting help," near the end of this document.

2.1 Which set up instructions should you use? (For Windows 3.1 users only)

Here's why you need to decide which section to use:

1) Windows 3.1 dialog boxes have many distinct differences from those in Windows 3.0.

    AND

2) If you're running Windows 3.1 with a software application that wasn't created with an important Windows 3.1 feature - the use of the Windows Print Setup dialog box that lets you make *local* (vs. *global*) changes to your driver settings - your driver dialog boxes and settings will look virtually the same as if you were running Windows 3.0.

If you're running Windows 3.1, perform this quick test now to determine if the application you'll be plotting from has the Windows Print Setup dialog box.

NOTE: *This test is the only way we've found to determine which dialog boxes will be displayed, and therefore, which driver set up instructions Windows 3.1 users should use. The version number and release date of your software application do not accurately predict whether or not the application has the Windows Print Setup dialog box.*

Step 1. From within your software application (important!), and with your HP plotter selected as the output device, display the dialog box your application uses to set up output devices for printing.

Every software application has a different access method, so you may need to refer to your application's user guide to locate this dialog box. Generally, you can access this dialog box from the File menu in your application by first choosing Print, Print Setup, or Printer Setup, then clicking the Setup button.

Step 2. Determine which one of the two dialog boxes is displayed: the Windows *Print Setup* dialog box or the driver's *Setup* dialog box.

The title bar of the Windows *Print Setup* dialog box says "Print Setup." The *Print Setup* dialog box has the following settings (and sometimes other settings as well): Default Printer, Specific Printer, Orientation, Paper Size, and Paper Source.

The title bar of the driver's *Setup* dialog box says "Setup: (plotter name) on (port name)." The *Setup* dialog box has these settings: Media Size, Media Source, Print Quality, Orientation, and Copies.

Now refer to the following recommendations on which driver set up instructions to use. Use one set or the other, *not* both sets of instructions.

> **If the *Print Setup* dialog box was displayed** when you ran the above test, use the instructions in section 2.3, "Setting up with Windows 3.1 applications that use the Print Setup dialog box."

OR

> **If the *Setup* dialog box was displayed** instead, use the instructions in section 2.2, "Setting up with Windows 3.0 applications (and Windows 3.1 applications *without* the Print Setup dialog box)."

2.2 Setting up with Windows 3.0 (and Windows 3.1 applications without the Windows Print Setup dialog)

There are three dialog boxes associated with this driver: Setup, User-defined Size, and Options. Each dialog box has several user-changeable settings that you may want to change, depending on your particular driver set up needs. Use the following procedure for driver setup:

Step 1. Read through the first few paragraphs in sections 2.2.1, 2.2.2, and 2.2.3, which describe the three dialog boxes.

Step 2. Follow the instructions for accessing each of the three dialog boxes.

Step 3. When you've displayed a dialog box on your computer screen, make a note of the settings in that dialog box you want to change.

Step 4. Read through the parts of this section that describe the settings you want to change, then make the appropriate changes. For example, if you want to change the Media Size setting in the Setup dialog box, refer to section 2.2.1.2.2, "Media Size."

NOTES: 1) Changing any of the settings in these dialog boxes has a *global* effect on all currently-running applications. 2) If you assign your plotter to a different port, you'll need to reset the driver settings.

2.2.1 Setup dialog box

This is the main dialog box you'll use for the set up process. This dialog box also gives you access to two other dialog boxes, User-defined Size (through an option in the Media Size drop-down list box) and Options (through the Options button), which are described in subsequent sections.

2.2.1.1 Accessing

You can access this dialog box from within your software application, or from the Windows desktop. Here's how:

> From within your application, try choosing Print, Print Setup, or Printer Setup from the File menu, then try clicking the Setup button. This procedure is application-specific.
OR

> From the Windows 3.0 desktop, choose the Control Panel, choose Printers, click the Configure button, then click the Setup button.

OR

> From the Windows 3.1 desktop, choose the Control Panel, choose Printers, then click the Setup button.

2.2.1.2 Changing the settings

This dialog box has six settings: Plotter Type, Media Size, Media Source, Print Quality, Orientation, and Copies.

2.2.1.2.1 Plotter Type

The Plotter Type setting indicates the selected plotter.

To change the Plotter Type setting, highlight another selection in the drop-down list box. The setting that's selected the first time you access this dialog box (after installing the driver) reflects the plotter choice you made during installation.

NOTE: If you're running Windows 3.1, there's no Plotter Type setting. You can change the selected plotter by choosing another Default Printer in the Printers dialog box in the Windows Control Panel. If you want to use an HP plotter not listed in the Printers dialog box, run the driver's install program again and install the new plotter. Refer to section 1.2, "Installing with the driver's quick install program (recommended method)," for installation instructions.

2.2.1.2.2 Media Size

The Media Size setting indicates the size of the media you've loaded in the plotter. The default Media Size is "ANSI A 8 1/2 x 11 in." Several other standard-size options are included, plus a "User-defined" option.

NOTE: If you're using an HP 7550B Graphics plotter, you should only choose from the following Media Sizes: ANSI A, ANSI B, ISO A3, and ISO A4.

To change the Media Size setting, highlight another option in the drop-down list box.

NOTE: You must select a Media Size regardless of whether you have a sheet or a roll loaded.

Choose the "User-defined" option if the dimensions of the media you've loaded are not listed among the Media Size settings, or if you want to produce a long-axis plot (refer to section 3.2.4, "Long-axis plotting," for more information). When you select the "User-defined" option, the User-defined Size dialog box will be displayed. Refer to section 2.2.2, "User-defined Size dialog box," for more information.

Driver Media Size vs. Application Drawing Size

The Media Size setting in the plotter driver interacts with the drawing size settings in your software application to determine how your plotted output will look. Drawing size is usually determined by one or more settings in your software application, such as "Size" and "Scale," through a Page Setup or similarly-named command in the File (or other) menu. While Media Size indicates the physical dimensions of the media you're plotting with, drawing size controls where your drawing will appear within the confines of the indicated Media Size.

It's important that the driver's Media Size setting and the application's drawing size setting are exactly the same. Read the examples below to understand what happens under different circumstances.

NOTE: There's one exception to the following examples. If you're using an HP DesignJet 600 or 650C plotter *with the Inked Area feature selected* (default), your plots will be truncated at the end of the inked area of the drawing with only the margin added; the selected media size - whether specified in the driver or in the application - will have no affect on the actual plot size. For example, if your drawing has an inked area of 4.5 inches and 1-inch margins all around, the resulting plot will be 6.5 inches long.

Example 1: If you set Media Size to "ANSI A 8 1/2 x 11 in," and set the drawing size to 8 1/2 x 11 inches in your application, your 8 1/2 x 11-inch drawing will be plotted in the center of the A-size media.

Example 2: If you set Media Size to "ANSI E 34 x 44 in," and set the drawing size to 8 1/2 x 11 inches in your application, your 8 1/2 x 11-inch drawing will be plotted in one corner of the E-size media.

Example 3: If you set Media Size to "ANSI A 8 1/2 x 11 in," and set the drawing size to 11 x 17 inches in your application, your 11 x 17-inch drawing will be clipped to the 8 1/2 x 11-inch Media Size.

NOTES: 1) Some applications use different margin settings than this driver, which could result in your plots being clipped even though you've chosen the same drawing size and Media Size. If you have this problem, do **one** of the following: a) adjust your application's margin settings (if the application allows) to match the driver's margin settings for your plotter selection (refer to section 3.1.2, "Plotter margin settings using this driver") **or** b) scale down the size of the drawing in your application, **or** c) increase the Media Size driver setting and load a larger media size.

   2) Some applications have a maximum plot size limit. If your application has such a limit, your drawing will be truncated at the limiting dimensions. For example, CorelDRAW limits drawings to 18.0 x 18.0 inches (457 x 457 mm); if you specify a larger Media Size in the driver - "ANSI E 34 x 44 in," for example - your 18.0 x 18.0-inch drawing will be plotted in one corner of the E-size media.

2.2.1.2.3 Media Source

The Media Source setting indicates whether you've loaded a single sheet or a roll of media in your plotter, and if a roll, the width.

To change the Media Source setting, highlight another selection in the drop-down list box. For example, if you've loaded an E-size roll, select "36 inch Roll."

NOTES: 1) If you've loaded a roll size that isn't displayed, choose "Sheet."
   2) You must select a Media Source regardless of whether you have a sheet or a roll loaded.

2.2.1.2.4 Print Quality

The Print Quality setting indicates the quality level at which your plots will be produced (i.e., Draft, Final, or Enhanced). The Enhanced quality level is only available when one of the HP DesignJet 600 or 650C plotters is selected.

To change the Print Quality setting, highlight another selection in the drop-down list box.

HP DesignJet, DesignJet 600, and DesignJet 650C Users

Each time you send a plot, the plotter's front panel quality level is changed to match this Print Quality setting. This means that anyone who 1) is networked to your plotter and 2) doesn't have a plotter driver with a print quality setting will be affected by the front panel change caused by your plot. To avoid this problem, the affected users should always check the plotter's front panel quality level before plotting.

HP DraftMaster and DraftPro Plus Users

The driver's Final quality level corresponds to the Quality print quality level in these plotters.

HP 7600 Series Users

When using the 240D and 240E models, there's no difference between the Draft and Final quality levels.

2.2.1.2.5 Orientation

The Orientation setting indicates which way the Media Size you've selected will be oriented: portrait or landscape. *Portrait* means the Media Size is taller than it is wide when you view the plotted drawing upright. *Landscape* means the Media Size is wider than it is tall when you view the plotted drawing upright.

To change the Orientation setting, click the option button you want. The icon to the left of the option buttons illustrates the selected Orientation.

NOTES: 1) Some applications include their own orientation setting that overrides the driver's Orientation setting. Check to see if your application has an orientation setting, and be sure that the driver's orientation setting always matches it.

2) When you want to produce a landscape-oriented plot using the largest size media your plotter supports, you'll need to change the margin settings for your plotter type. Refer to

section 3.1.2.1 for instructions.

2.2.1.2.6 Copies

The Copies setting allows you to produce up to 99 plots of each drawing. To change the Copies setting, type in a new number between 1 and 99, inclusive.

2.2.2 User-defined Size dialog box

Use this dialog box instead of the other Media Size options in the Setup dialog box when:

> The dimensions of the media you've loaded are not listed among the Media Size options,

    OR

> You want to produce a long-axis plot. (Refer to section 3.2.4, "Long-axis plotting," for more information.)

2.2.2.1 Accessing

To access this dialog box, select "User-defined" from the Media Size drop-down list box in the previously-described Setup dialog box.

2.2.2.2 Changing the settings

This dialog box has three settings: Units, Length, and Width.

When entering Width and Length values, refer to the following table for the range of acceptable values (inclusive), which are based on the plotter type you selected in this driver. *The Length setting must always be greater than or equal to the Width setting*.

Driver-selected Plotter Type[1]	Width Range	Length Range[2]	
HP DesignJet Plotters	8.3 to 36.1 in	8.3 to 109.2 in	
		(211 to 917 mm)	(211 to 2773 mm)
HP DesignJet 600 Plotter (C2847A)	8.3 to 24.6 in		8.3 to 109.2 in
	(211 to 625 mm)		(211 to 2773 mm)
HP DesignJet 600 Plotter (C2848A)	8.3 to 36.1 in		8.3 to 109.2 in
		(211 to 917 mm)	(211 to 2773 mm)
HP DesignJet 650C Plotter (C2858A)	8.3 to 24.6 in		8.3 to 109.2 in
	(211 to 625 mm)		(211 to 2773 mm)
HP DesignJet 650C Plotter (C2859A)	8.3 to 36.1 in		8.3 to 109.2 in
		(211 to 917 mm)	(211 to 2773 mm)
HP DraftMaster Plotters (all)	8.2 to 36.5 in		8.2 to 109.2 in
		(208 to 927 mm)	(208 to 2773 mm)
HP DraftPro Plus Plotter (C3170A)	8.2 to 25.0 in		8.2 to 63.0 in
	(208 to 635 mm)		(208 to 1600 mm)
HP DraftPro Plus Plotter (C3171A)	8.2 to 36.2 in		8.2 to 63.0 in
	(208 to 919 mm)		(208 to 1600 mm)
Hewlett-Packard HP-GL/2 Plotter	8.3 to 36.1 in	8.3 to 109.2 in	
		(211 to 917 mm)	(211 to 2773 mm)

[1] If you're using an HP 7550B Graphics plotter, you should only choose from the following Paper Sizes: ANSI A, ANSI B, ISO A3, and ISO A4.

[2] If your application has a maximum length value, your plots will be limited to that value even if you enter a higher Length value in the driver.

2.2.2.2.1 Units

The Units setting indicates the units of the Length and Width dimensions you will enter (see below).

To select a Units setting, click the option button you want (millimeters or inches).

2.2.2.2.2 Width

The Width setting indicates either the width (shorter dimension) of the custom-size media you've loaded, or the width of the media you've loaded for a long-axis plot.

To enter the Width setting, type a number in the units you selected above.

NOTE: Always enter the shorter dimension for Width.

2.2.2.2.3 Length

The Length setting indicates either the length (longer dimension) of the custom-size media you've loaded, or the length you want your long-axis plot to be.

To enter the Length setting, type a number in the units you selected above.

NOTE: Always enter the longer dimension for Length.

2.2.3 Options dialog box

This dialog box is device-specific. If your selected Plotter Type in the Setup dialog box is one of the following devices (also called thermal inkjet or TIJ), you can lighten or darken your plotted output with the Darkness setting.

TIJ devices: HP DesignJet Plotter
                        HP DesignJet 600 Plotter (C2847A)
                        HP DesignJet 600 Plotter (C2848A)
                        HP DesignJet 650C Plotter (C2858A)
                        HP DesignJet 650C Plotter (C2859A)

NOTE: The TIJ devices listed above don't have pen parameter settings in the driver because they don't have pens in a carousel (they have pen cartridges) and they don't have the ability to plot in color. However, the TIJ plotters can convert color in raster images to grayscale values. Refer to sections 3.1.3, "HP DesignJet plotter notes," and 3.1.4, "HP DesignJet 600 plotter notes," for more information.

If your selected Plotter Type is one of the remaining devices below, the Options dialog box lets you change the Pen Number, Color, and Type settings.

Non-TIJ devices: HP DraftMaster SX Series
                    HP DraftMaster RX/MX Series
                    HP DraftPro Plus Plotter (C3170A)
                    HP DraftPro Plus Plotter (C3171A)
                    Hewlett-Packard HP-GL/2 Plotter

Refer to the appropriate section below for your selected Plotter Type.

2.2.3.1 Options dialog box for TIJ devices

To access the Options dialog box, click the Options button in the previously-described Setup dialog box. (Refer to section 2.2.1.1, "Accessing," for instructions on accessing the Setup dialog box.)

2.2.3.1.1 Darkness

The Darkness setting controls the lightness or darkness of your plotted output. You might find this setting useful if you're working with a scanned image in your application.

The default Darkness setting is in the middle of the intensity bar. To choose another setting, click on another spot to the left (lighter) or right (darker) of the middle setting. There are five Darkness setting choices. To restore the default setting, click the Default button.

2.2.3.2 Pen Options dialog box for non-TIJ devices

To access the Options dialog box, click the Options button in the previously-described Setup dialog box.

Before using the settings in this dialog box, you may want to refer to your plotter's user guide for a table of pen colors and types available for your plotter type and media type (e.g., paper, vellum, polyester film).

This driver offers 8 Pen Numbers, 10 Colors, and many pen Types to choose from. The first time you open this dialog box, the default pen settings listed in the following table will be displayed. If you want to recover the defaults at any time after changing the pen settings, click the Default button.

Pen Number	Color	Type
1	Black	P.3
2	Blue	P.3
3	Red	P.3
4	Green	P.3
5	Orange	P.3
6	Brown	P.3
7	Yellow	P.3
8	Violet	P.3

2.2.3.2.1 Pen Number

Select a Pen Number to change its Color and/or Type. Or select multiple Pen Numbers to change more than one Pen Number to the same Color or Type.

To select a Pen Number, click it. If you click another Pen Number, the first one will remain selected. To deselect a Pen Number, click it again.

2.2.3.2.2 Color

The Color setting lets you select a new color for the highlighted Pen Number(s).

To change the Color setting, choose a new one from the Color menu. Choose from Black, Blue, Red, Green, Orange, Brown, Yellow, Violet, Red-violet, and Aqua.

Colors that aren't available for the selected pen Type are grayed, and can't be selected. When changing a pen's Color and Type, you may need to change the Type setting first.

How Color-Mapping Works

To decide which Pen Number will be selected for plotting, the driver compares the HLS (Hue, Lightness, and Saturation) value of the colored object in your application to the HLS values of the driver's pen Colors. The colored object will be plotted with the driver pen Color that has the *closest* HLS value. The plotted color may be *very different* from the color you've selected in your application because 1) the driver has only a few colors to select from, and 2) some applications don't accurately display the colors you've selected in your drawing.

HP 7600 Series Users

For best color-mapping results, we recommend the following: 1) select "Plotter" (not "Software") as the source of pen parameters on the plotter's front panel, 2) define a new front panel pen palette with 8 pens and choose from the front panel Color Numbers listed below, and 3) assign the same Pen Number/Color settings to this driver, e.g. if Pen Number 1 on the front panel is assigned to front panel Color Number 3 (green), be sure that Pen Number 1 in the driver is also assigned to the driver's Color green.

Recommended 7600 Front Panel Color Numbers	Equivalent Driver Color	Driver's RGB Value
1	Black	0,0,0
2	Red	255,0,0
3	Green	0,255,0
4	Yellow	255,255,0
5	Blue	0,0,255
6	Red-violet	255,0,255
7	Aqua	0,255,255
165	Brown	255,192,0
474	Orange	255,128,0
518	Violet	128,0,255

2.2.3.2.3 Type

The Type setting lets you choose a new type for the selected Pen Number(s).

To change the Type setting, choose a new one from the Type menu.

Types that aren't available for the selected pen Color are grayed, and can't be selected. When changing a pen's Color and Type, you may need to change the Color setting first.

HP 7600 Series Users

The Type setting has no effect on these plotters.

2.3 Setting up with Windows 3.1 applications that use the Windows Print Setup dialog box

There are five dialog boxes associated with this driver: Print Setup, Print, Setup, User-defined Size, and Options. Each dialog box has several user-changeable settings that you may want to change, depending on your particular driver set up needs. Use the following procedure for driver setup:

Step 1.   Read through the first few paragraphs in sections 2.3.1, 2.3.2, 2.3.3, 2.3.4, and 2.3.5, which describe the five dialog boxes.

Step 2.   Follow the instructions for accessing each of the five dialog boxes.

Step 3.   When you've displayed a dialog box on your computer screen, make a note of the settings in that dialog box you want to change.

Step 4.   Read through the parts of this section that describe the settings you want to change, then make the appropriate changes. For example, if you want to change the Paper Size setting in the Print Setup dialog box, refer to section 2.3.1.2.4, "Paper Size."

NOTE: If you assign your plotter to a different port, you'll need to reset the driver settings.

2.3.1 Print Setup dialog box

This is the main dialog box you'll use for the set up process. The settings in this dialog box are *local*, so changing them won't affect other applications.

This dialog box also gives you access to the Options dialog box (through the Options button), which is described in a subsequent section.

2.3.1.1 Accessing

To access this dialog box from within your application, try choosing Print, Print Setup, or Printer Setup from the File menu, then try clicking the Setup button. This procedure is application-specific, so you may need to consult your application's user guide.

2.3.1.2 Changing the settings

This dialog box has four settings: Default Printer, Specific Printer, Orientation, and Paper Size.

NOTE: When setting up with this dialog box, you'll also need to select a Media Source in the Setup dialog box as described in section 2.3.3.2.2, "Media Source."

2.3.1.2.1 Default Printer

The Default Printer setting indicates the default plotter selected in the Windows Control Panel. The current setting is shown in parentheses.

If you want to plot using the current default plotter, click the Default Printer option button.

If you want to change the default plotter to another device (which will affect all of your currently-running applications), change it in the Printers dialog box; to access the Printers dialog box, select Printers from the Windows Control Panel.

2.3.1.2.2 Specific Printer

The Specific Printer setting indicates the plotter selected for the current application.

To select the Specific Printer setting (instead of the Default Printer setting), click the Specific Printer option button. To change the Specific Printer setting, select another plotter name from the drop-down list box.

2.3.1.2.3 Orientation

The Orientation setting indicates which way the Paper Size (see below) you select will be oriented: portrait or landscape. *Portrait* means the Paper Size is taller than it is wide when you view the plotted drawing upright. *Landscape* means the Paper Size is wider than it is tall when you view the plotted drawing upright.

To change the Orientation setting, click the option button you want. The icon to the left of the option buttons shows the selected orientation.

NOTES: 1) Some applications include their own orientation setting that overrides the driver's Orientation setting. Check to see if your application has an orientation setting, and be sure that the driver's orientation setting always matches it.

2) When you want to produce a landscape-oriented plot using the largest size media your plotter supports, you'll need to change the margin settings for your plotter type. Refer to section 3.1.2.1 for instructions.

2.3.1.2.4 Paper Size

The Paper Size setting indicates the size of the media you've loaded in the plotter. The default Paper Size is "ANSI A 8 1/2 x 11 in." Several other standard-size options are included, plus a "User-defined" option.

NOTE: If you're using an HP 7550B Graphics plotter, you should only choose from the following Paper Sizes: ANSI A, ANSI B, ISO A3, and ISO A4.

To change the Paper Size setting, highlight another option in the drop-down list box.

NOTE: You must select a Paper Size regardless of whether you have a sheet or a roll loaded.

Choose the "User-defined" option if the dimensions of the media you've loaded are not listed among the Paper Size settings, or if you want to produce a long-axis plot (refer to section 3.2.4, "Long-axis plotting," for more information). Refer to section 2.3.4, "User-defined Size dialog box," for instructions on changing the "User-defined" setting.

Driver Paper Size vs. Application Drawing Size

The Paper Size setting in the plotter driver interacts with the drawing size settings in your software application to determine how your plotted output will look. Drawing size is usually determined by one or more settings in your software application, such as "Size" and "Scale," through a Page Setup or similarly-named command in the File (or other) menu. While Paper Size indicates the physical dimensions of the media you're plotting with, drawing size controls where your drawing will appear within the confines of the indicated Paper Size.

It's important that the driver's Paper Size setting and the application's drawing size setting are exactly the same. Read the examples below to understand what happens under different circumstances.

NOTE: There's one exception to the following examples. If you're using an HP DesignJet 600 or 650C plotter *with the Inked Area feature selected* (default), your plots will be truncated at the end of the inked area of the drawing with only the margin added; the selected media size - whether specified in the driver or in the application - will have no affect on the actual plot size. For example, if your drawing has an inked area of 4.5 inches and 1-inch margins all around, the resulting plot will be 6.5 inches long.

Example 1: If you set Paper Size to "ANSI A 8 1/2 x 11 in," and set the drawing size to 8 1/2 x 11 inches in your application, your 8 1/2 x 11-

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inch drawing will be plotted in the center of the A-size media.

Example 2: If you set Paper Size to "ANSI E 34 x 44 in," and set the drawing size to 8 1/2 x 11 inches in your application, your 8 1/2 x 11-inch drawing will be plotted in one corner of the E-size media.

Example 3: If you set Paper Size to "ANSI A 8 1/2 x 11 inches" and set the drawing size to 11 x 17 inches in your application, your 11 x 17-inch drawing will be clipped to the 8 1/2 x 11-inch Paper Size.

NOTES: 1) Some applications use different margin settings than this driver, which could result in your plots being clipped even though you've chosen the same drawing size and Paper Size. If you have this problem, do **one** of the following: a) adjust your application's margin settings (if the application allows) to match the driver's margin settings for your plotter selection (refer to section 3.1.2, "Plotter margin settings using this driver") **or** b) scale down the size of the drawing in your application **or** c) increase the Media Size driver setting and load a larger media size.

2) Some applications have a maximum plot size limit. If your application has such a limit, your drawing will be truncated at the limiting dimensions. For example, CorelDRAW limits drawings to 18.0 x 18.0 inches (457 x 457 mm); if you specify a larger Media Size in the driver - "ANSI E 34 x 44 in," for example - your 18.0 x 18.0-inch drawing will be plotted in one corner of the E-size media.

2.3.2. Print dialog box

There are only two driver-related settings in this dialog box: Copies and Print Quality; any other settings that appear in this dialog box are related to and controlled by your software application. The Copies and Print Quality settings are *local*.

NOTE: Some applications don't have this Print dialog box. If your application doesn't have it, refer to section 2.3.3, "Setup dialog box," for instructions on changing the Print Quality and Copies settings.

2.3.2.1 Accessing

To access this dialog box from within your software application, choose Print from the File menu.

2.3.2.2 Changing the settings

Although this dialog box may contain several settings, only two of them are related to this driver: Print Quality and Copies. Therefore, they are the only settings discussed here.

2.3.2.2.1 Print Quality

The Print Quality setting indicates the quality level at which your plots will be produced. The supported plotters have Draft, Final, and Enhanced quality levels available; you'll notice, however, that the application-controlled Print Quality options are different, usually Draft, Low, Medium, and High. Here's how these settings "map" to the actual plotter quality levels:

Print dialog box Print Quality options	Equivalent plotter quality levels
Draft	Draft
Low	Draft
Medium	Final
High[1]	Enhanced[1]

[1] The Enhanced quality level is only available when one of the HP DesignJet 600 or 650C plotters is the selected plotter type.

For example, if you want to plot with your plotter's Final quality level, select the Medium option for Print Quality.

To change the Print Quality setting, highlight another selection in the drop-down list box.

HP DesignJet, DesignJet 600, and DesignJet 650C Users

Each time you send a plot, the plotter's front panel quality level is changed to match this Print Quality setting. This means that anyone who 1) is networked to your plotter and 2) doesn't have a plotter driver with a print quality setting will be affected by the front panel change caused by your plot. To avoid this problem, the affected users should always check the plotter's front panel quality level before plotting.

HP DraftMaster and DraftPro Plus Users

The driver's Final quality level corresponds to the Quality print quality level in these plotters.

HP 7600 Series Users

When using the 240D and 240E models, there's no difference between the Draft and Final quality levels.

2.3.2.2.2 Copies

The Copies setting allows you to produce up to 99 plots of each drawing. To change the Copies setting, type in a new number between 1 and 99, inclusive.

2.3.3 Setup dialog box

The title bar of this dialog box includes the name of the default plotter that's selected in the Printers dialog box in the Windows Control Panel.

The settings in this dialog box are *global*; they are the default values for all of your currently-running applications. If you prefer to make only *local* changes (affecting only your current application), you can change these settings in the Print Setup and Print dialog boxes instead.

This dialog box also gives you access to two other dialog boxes, User-defined Size (through an option in the Media Size drop-down list box) and Options (through the Options button), which are described in subsequent sections. Refer to sections 2.3.4 and 2.3.5, "User-defined Size dialog box" and "Options dialog box," for more information.

2.3.3.1 Accessing

To access this dialog box from the Windows desktop, choose the Control Panel, choose Printers, then click the Setup button.

2.3.3.2 Changing the settings

This dialog box has five settings: Media Size, Media Source, Print Quality, Orientation, and Copies.

Orientation works the same way as the Orientation setting described previously in section 2.3.1, "Print Setup dialog box."

Copies works like the Copies setting described previously in section 2.3.2.2.2, "Copies."

The Media Size, Media Source, and Print Quality settings are described below.

2.3.3.2.1 Media Size

The Media Size setting works very much like the Paper Size setting described in the previous section 2.3.1, "Print Setup dialog box." The only difference is in the way the "User-defined" option works.

In the Print Setup dialog box, you could select "User-defined" from the Paper Size drop-down list box, but you couldn't change its value. In the Setup dialog box, you can select and change the "User-defined" value.

When you select "User-defined" from the Media Size drop-down list box, the User-defined Size dialog box is displayed. Refer to section 2.3.4, "User-defined Size dialog box," for more information.

2.3.3.2.2 Media Source

The Media Source setting indicates whether you've loaded a single sheet or a roll of media in your plotter, and if a roll, the width.

To change the Media Source setting, highlight another selection in the drop-down list box. For example, if you've loaded a D-size roll, select "24 inch Roll."

NOTES: 1) If you've loaded a roll size that isn't displayed, choose "Sheet."
2) You must select a Media Source regardless of whether you have a sheet or a roll loaded.

2.3.3.2.3 Print Quality

The Print Quality setting indicates the quality level at which your plots will be produced (i.e., Draft, Final, or Enhanced). The Enhanced quality level is only available when one of the HP DesignJet 600 or 650C plotters is selected.

To change the Print Quality setting, highlight another selection in the drop-down list box.

HP DesignJet, DesignJet 600, and DesignJet 650C Users

Each time you send a plot, the plotter's front panel quality level is changed to match this Print Quality setting. This means that anyone who 1) is networked to your plotter and 2) doesn't have a plotter driver with a print quality setting will be affected by the front panel change caused by your plot. To avoid this problem, the affected users should always check the plotter's front panel quality level before plotting.

HP DraftMaster and DraftPro Plus Users

The driver's Final quality level corresponds to the Quality print quality level in these plotters.

HP 7600 Series Users

When using the 240D and 240E models, there's no difference between the Draft and Final quality levels.

2.3.4 User-defined Size dialog box

Use this dialog box instead of the other options in the Paper Size setting (Print Setup dialog box) or Media Size setting (Setup dialog box) when:

> The dimensions of the media you've loaded are not listed among the other options,

    OR

> You want to produce a long-axis plot. (Refer to section 3.2.4, "Long-axis plotting," for more information.)

2.3.4.1 Accessing

To access the User-defined Size dialog box, select "User-defined" (last option) from the Media Size drop-down list box in the Setup dialog box. (To access the Setup dialog box from the Windows desktop, choose Control Panel, choose Printers, then click the Setup button.)

2.3.4.2 Changing the settings

This dialog box has three settings: Units, Length, and Width.

When entering Width and Length values, refer to the following table for the range of acceptable values (inclusive), which are based on the plotter type you selected in this driver. *The Length setting must always be greater than or equal to the Width setting.*

Driver-selected Plotter Type[1]	Width Range	Length Range[2]
HP DesignJet Plotters	8.3 to 36.1 in (211 to 917 mm)	8.3 to 109.2 in (211 to 2773 mm)
HP DesignJet 600 Plotter (C2847A)	8.3 to 24.6 in (211 to 625 mm)	8.3 to 109.2 in (211 to 2773 mm)
HP DesignJet 600 Plotter (C2848A)	8.3 to 36.1 in (211 to 917 mm)	8.3 to 109.2 in (211 to 2773 mm)
HP DesignJet 650C Plotter (C2858A)	8.3 to 24.6 in (211 to 625 mm)	8.3 to 109.2 in (211 to 2773 mm)
HP DesignJet 650C Plotter (C2859A)	8.3 to 36.1 in (211 to 917 mm)	8.3 to 109.2 in (211 to 2773 mm)
HP DraftMaster Plotters (all)	8.2 to 36.5 in (208 to 927 mm)	8.2 to 109.2 in (208 to 2773 mm)
HP DraftPro Plus Plotter (C3170A)	8.2 to 25.0 in (208 to 635 mm)	8.2 to 63.0 in (208 to 1600 mm)
HP DraftPro Plus Plotter (C3171A)	8.2 to 36.2 in (208 to 919 mm)	8.2 to 63.0 in (208 to 1600 mm)
Hewlett-Packard HP-GL/2 Plotter	8.3 to 36.1 in (211 to 917 mm)	8.3 to 109.2 in (211 to 2773 mm)

[1] If you're using an HP 7550B Graphics plotter, you should only choose from the following Paper Sizes:
ANSI A, ANSI B, ISO A3, and ISO A4.

[2] If your application has a maximum length value, your plots will be limited to that value even if you enter a higher Length value in the driver.

2.3.4.2.1 Units

The Units setting indicates the units of the Length and Width dimensions you will enter (see below).

To select a Units setting, click the option button you want (Millimeters or Inches).

2.3.4.2.2 Width

The Width setting indicates either the width (shorter dimension) of the custom-size media you've loaded, or the width of the media you've loaded for a long-axis plot.

To enter the Width setting, type a number in the units you selected above.

NOTE: Always enter the shorter dimension for Width.

2.3.4.2.3 Length

The Length setting indicates either the length (longer dimension) of the custom-size media you've loaded, or the length you want your long-axis plot to be.

To enter the Length setting, type a number in the units you selected above.

NOTE: Always enter the longer dimension for Length.

2.3.5 Options dialog box

This dialog box is device-specific. If your selected plotter is one of the following devices (also called thermal inkjet or TIJ), the Options dialog box allows you to lighten or darken your plotted output with the Darkness setting.

TIJ devices: HP DesignJet Plotter
              HP DesignJet 600 Plotter (C2847A)
              HP DesignJet 600 Plotter (C2848A)
              HP DesignJet 650C Plotter (C2858A)
              HP DesignJet 650C Plotter (C2859A)

NOTE: The TIJ devices listed above don't have pen parameter settings in the driver because they don't have pens in a carousel (they have pen cartridges) and they don't have the ability to plot in color. However, the TIJ plotters can convert color in raster images to grayscale values. Refer to sections 3.1.3, "HP DesignJet plotter notes," and 3.1.4, "HP DesignJet 600 plotter notes," for more information.

If your selected plotter is one of the remaining devices below, the Options dialog box allows you to change the Pen Number, Color, and Type settings.

Non-TIJ devices: HP DraftMaster SX Series
HP DraftMaster RX/MX Series
HP DraftPro Plus Plotter (C3170A)
HP DraftPro Plus Plotter (C3171A)
Hewlett-Packard HP-GL/2 Plotter

Refer to the appropriate section below for your selected plotter.

There are two ways to access the Options dialog box:

> Click the Options button in the previously-described Setup dialog box to make changes to the *local* Options settings,

OR

> Click the Options button in the previously-described Print Setup dialog box to make changes to the *global* Options settings.

2.3.5.1 Options dialog box for TIJ devices

2.3.5.1.1 Darkness

The Darkness setting controls the lightness or darkness of your plotted output. You might find this setting useful if you're working with a scanned image in your application.

The default Darkness setting is in the middle of the intensity bar. To choose another setting, click on another spot to the left (lighter) or right (darker) of the middle setting. There are five Darkness setting choices. To restore the default setting, click the Default button.

2.3.5.2 Pen Options dialog box for non-TIJ devices

Before using the settings in this dialog box, you may want to refer to your plotter's user guide for a table of pen colors and types available for your plotter type and media type (e.g., paper, vellum, polyester film).

This driver offers 8 Pen Numbers, 10 Colors, and many pen Types to choose from. The first time you open this dialog box, the default pen settings listed in the following table will be displayed. If you want to recover the defaults at any time after changing the pen settings, click the Default button.

Pen Number	Color	Type
1	Black	P.3
2	Blue	P.3
3	Red	P.3
4	Green	P.3
5	Orange	P.3
6	Brown	P.3
7	Yellow	P.3
8	Violet	P.3

2.3.5.2.1 Pen Number

Select a Pen Number to change its Color and/or Type. Or select multiple Pen Numbers to change more than one Pen Number to the same Color or Type.

To select a Pen Number, click it. If you click another Pen Number, the first one will remain selected. To deselect a Pen Number, click it again.

2.3.5.2.2 Color

The Color setting lets you select a new color for the highlighted Pen Number(s).

To change the Color setting, choose a new one from the Color menu. Choose from Black, Blue, Red, Green, Orange, Brown, Yellow, Violet, Red-violet, and Aqua.

Colors that aren't available for the selected pen Type are grayed, and can't be selected. When changing a pen's Color and Type, you may need to change the Type setting first.

How Color-Mapping Works

To decide which Pen Number will be selected for plotting, the driver compares the HLS (Hue, Lightness, and Saturation) value of the colored object in your application to the HLS values of the driver's pen Colors. The colored object will be plotted with the driver pen Color that has the *closest* HLS value. The plotted color may be *very different* from the color you've selected in your application because 1) the driver has only a few colors to select from, and 2) some applications don't accurately display the colors you've selected in your drawing.

HP 7600 Series Users

For best color-mapping results, we recommend the following: 1) select "Plotter" (not "Software") as the source of pen parameters on the plotter's front panel, 2) define a new front panel pen palette with 8 pens and assign only the front panel Color Numbers listed below, and 3) assign the same Pen Number/Color settings to this driver, e.g., if Pen Number 1 on the front panel is assigned to front panel Color Number 3 (green), be sure that Pen Number 1 in the driver is also assigned to the driver's Color green.

Recommended 7600 Front Panel Color Numbers	Equivalent Driver Color	Driver's RGB Value
1	Black	0,0,0
2	Red	255,0,0
3	Green	0,255,0
4	Yellow	255,255,0
5	Blue	0,0,255
6	Red-violet	255,0,255
7	Aqua	0,255,255
165	Brown	255,192,0
474	Orange	255,128,0
518	Violet	128,0,255

2.3.5.2.3 Type

The Type setting lets you choose a new type for the selected Pen Number(s).

To change the Type setting, choose a new one from the Type menu.

Types that aren't available for the selected pen Color are grayed, and can't be selected. When changing a pen's Color and Type, you may need to change the Color setting first.

HP 7600 Series Users

The Type setting has no effect on these plotters.

3.0 Helpful hints for plotting with this driver

Read the following sections to learn how to achieve the best quality and performance when plotting with this driver. These sections include plotter notes, application notes, and troubleshooting hints.

3.1 Plotter notes

After reading the first two sections about font support and margin settings (which apply to all plotter types supported by this driver), please read one of the subsequent sections about your plotter type.

3.1.1 Font support and recommendations

The method of font generation the plotter uses depends on which Windows version you're using, which plotter you have, and which font you've selected in your document or drawing.

For best plot results from most plotters, we recommend using any of the standard Windows vector fonts (Modern, Roman, and Script) in *Windows 3.0* and TrueType fonts in *Windows 3.1*.

The only exception to the above recommendations applies to HP DesignJet 650C users: when using these plotters with either Windows version, you can achieve best results with the standard Windows raster fonts (Courier, Helv, Symbol, System, Terminal, and Tms Rmn) and Adobe® Type Manager (ATM) fonts.

The following tables summarize this driver's font support for each version of Windows.

Font Type Selected in Document/ Drawing	Pen Plotters and Electrostatics (All DraftMasters, DraftPro Plus, 7600 Series, and 7550B)	Inkjet plotters (DesignJet, DesignJet 600, and DesignJet 650C plotters)
Any standard Windows vector font (Modern, Roman, Script)[1]	Yes	Yes
Any standard Windows raster font (Courier, Helv, Symbol, System, Terminal, Tms Rmn)[3,4]	Yes[2]	Yes
Adobe Type Manager (ATM) fonts [4]	No	Yes[5]
TrueType fonts	No[6]	No[6]
Intellifont Type fonts (TypeDirector, Intellifont-for-Windows)	No	No

[1] These fonts are recommended for Windows 3.0 users with all plotters except the HP DesignJet 650C.

[2] Plots using the plotter's internal stick fonts, which recreate the font characters on your computer screen by drawing them with a series of line segments. The stick font characters may be somewhat cruder-looking than the font characters you see on your computer screen. When plotting with these types of fonts, be sure to *turn off Adobe Type Manager (ATM)* or you won't get any font output at all.

[3] When rotated using the pen plotters and electrostatics, these fonts will be converted to the plotter's internal stick fonts.

[4] These fonts are recommended for Windows 3.0 users with the HP DesignJet 650C plotter.

[5] With all plotters except the HP DesignJet 650C, multi-page documents plot very slowly and may appear to "hang up" the plotter. If this happens, try using one of the standard Windows vector fonts instead.

[6] Windows 3.0 does not support TrueType fonts.

Font Type plotters Selected in Document/ Drawing	Pen Plotters and Electrostatics (All DraftMasters, DraftPro Plus, 7600 Series, and 7550B)		Inkjet (DesignJet, DesignJet 600, and DesignJet 650C plotters)
Any standard Windows vector font (Modern, Roman, Script)	Yes	Yes	
Any standard Windows raster font (Courier, Helv, Symbol, System, Terminal, Tms Rmn)[2,3]	Yes[1]	Yes	
Adobe Type Manager (ATM) fonts[3]	No	Yes[4]	
TrueType fonts[2,5]	Yes	Yes	
Intellifont Type fonts (TypeDirector, Intellifont-for-Windows)	No	No	

[1] Plots the Arial font, a TrueType, sans serif font. When your files have these standard Windows raster fonts in them, be sure to _turn off Adobe Type Manager (ATM)_ or you won't get any font output at all.

[2] When rotated using the pen plotters and electrostatics, these fonts will be converted to the plotter's internal stick fonts.

[3] These fonts are recommended for Windows 3.1 users with the HP DesignJet 650C plotter.

[4] With all plotters _except_ the HP DesignJet 650C, multi-page documents plot very slowly and may appear to "hang up" the plotter. If this happens, try using a TrueType font or one of the standard Windows vector fonts instead.

[5] These fonts are recommended for Windows 3.1 users with all plotters _except_ the HP DesignJet 650C.

3.1.1.1 Note to ATM font users (version 2.5 only)

Use the instructions below to change one of the default selections in the ATM Control Panel; if you don't, bitmapped text may not be plotted, or objects may be misplaced in your plots.

Step 1. Open the ATM Control Panel in Windows.

Step 2. Click on the check box next to "Print ATM fonts as graphics;" an "X"

should appear in the box to indicate that this option is now selected.

Step 3. Click the Exit button to exit the ATM Control Panel.

3.1.2 Plotter margin settings using this driver

The following table lists the margin settings for each plotter type *when using this driver*. Some of the margin settings are different when you're not using this driver. For best plotting results, make sure the margin settings in your application match the driver's margin settings for the selected plotter type. Also, be sure to read the "Special Case" section following the table.

Plotter type selected in this driver	Driver Margin settings
HP DesignJet Plotters	Top and bottom = 17.0 mm (.67 in) Left and right = 5.0 mm (.20 in)
HP DesignJet 600 Plotters	Top and bottom = 17.0 mm (.67 in) Left and right = 5.0 mm (.20 in)
HP DesignJet 650C Plotters	Top and bottom = 17.0 mm (.67 in) Left and right = 5.0 mm (.20 in)
HP DraftMaster SX Series Plotters	Top, left, and right = 17.0 mm (.67 in) Bottom = 41.0 mm (1.6 in)
HP DraftMaster RX/MX Series Plotters	Top, left, and right = 17.0 mm (.67 in) Bottom = 41.0 mm (1.6 in)
HP DraftPro Plus Plotters	Top, left, and right = 15.0 mm (.59 in) Bottom = 39.0 mm (1.5 in)
Hewlett-Packard HP-GL/2 Plotter (driver selection for the HP 7550B Graphics Plotter and the HP 7600 Series Plotters)	(see paragraph and table below)

The "Hewlett-Packard HP-GL/2 Plotter" selection is a special case. It has different margin settings depending on which paper size and orientation are used. Refer to the table below; when a paper size other than the four sizes listed below is used, the margin settings are all 0 mm.

Orientation Setting in driver	ANSI A, ISO A4 paper loaded	ANSI B, ISO A3 paper loaded
Landscape	Top = 5.1 mm (.20 in) Bottom = 16 mm (.62 in) Right = 13 mm (.52 in) Left = 13 mm (.52 in)	Top = 13 mm (.52 in) Bottom = 13 mm (.52 in) Right = 5.1 mm (.20 in) Left = 16 mm (.62 in)
Portrait	Top = 13 mm (.52 in) Bottom = 13 mm (.52 in)	Top = 5.1 mm (.20 in) Bottom = 16 mm (.62 in)

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Right = 16 mm (.62 in)   Right = 13 mm (.52 in)
Left = 5.1 mm (.20 in)   Left = 13 mm (.52 in)

3.1.2.1 SPECIAL CASE: For users who want to produce a landscape plot with the
largest media size their plotter supports

This special case requires that you reverse the above indicated margins as follows: the top margin should be entered as the right margin and vice versa, and the bottom margin should be entered as the left margin and vice versa.

For example, if you have an E-size DesignJet 600 plotter and you want to produce an
E-size plot in landscape orientation, you would enter the following margin settings:

    Top = 5.0 mm (.20 in)
    Bottom = 5.0 mm (.20 in)
    Left = 17.0 mm (.67 in)
    Right = 17.0 mm (.67 in)

3.1.3 HP DesignJet plotter notes

When using one of these plotters, please keep the following notes in mind:

*   **Always select pen parameter source = "Software."**

Be sure to set the front panel's source of pen parameters to "Software" to ensure that this driver will work correctly.

To check the plotter's front panel setting, select "Source" from the Pen Parameters menu. If the front panel says, "Source=Software," you don't need to change anything. If it says anything else, press **Enter**, use **Down Arrow** to scroll to "Software," then press **Enter**.

*   **Colored objects are plotted with gray values.**

Because the source of pen parameters is always set to "Software" when using this driver, the driver will convert a colored object to black or to one of the plotter's nine shades of gray based on the HLS (Hue, Lightness, and Saturation) value of the color selected in your software application. *The plotter's front panel pen settings are ignored.*

The available gray values in percentages of black are: 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, and 100% (black).

*   **Rasterized drawings can't be rotated from the plotter's front panel.**

Due to rotate buffer memory limitations, rasterized drawings (e.g., drawings with heavy area fill and shading that you've scanned into your

application) can't be rotated using the front panel Rotate feature. If you want to rotate a plot that contains rasterized data, we recommend rotating it from within your application.

NOTE: If you're running Windows 3.1, one way to tell if you have rasterized data in your plot is if you have used Object Linking and Embedding (OLE).

3.1.4 HP DesignJet 600 and DesignJet 650C plotter notes

When using one of these plotters, please keep the following notes in mind:

* **Always select pen parameter source = "Software."**

Be sure to set the front panel's source of pen parameters to "Software" to ensure that this driver will work correctly.

To check the plotter's front panel setting, select "Palette" from the Pen Settings menu. If the front panel says, "Palette=Software," you don't need to change anything. If it says anything else, press **Enter**, use **Down Arrow** to scroll to "Software," then press **Enter**.

* **Colored objects are plotted with gray values (DesignJet 600 only).**

Because the source of pen parameters is always set to "Software" when using this driver, the driver will convert a colored object to black or to one of the plotter's nine shades of gray based on the HLS (Hue, Lightness, and Saturation) value of the color selected in your software application. *The plotter's front panel pen settings are ignored.*

The available gray values in percentages of black are: 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, and 100% (black).

* **Rasterized drawings can't be rotated from the plotter's front panel.**

Due to rotate buffer memory limitations, rasterized drawings (e.g., drawings with heavy area fill and shading that you've scanned into your application) can't be rotated using the front panel Rotate feature. If you want to rotate a plot that contains rasterized data, we recommend rotating it from within your application.

NOTE: If you're running Windows 3.1, one way to tell if you have rasterized data in your plot is if you have used Object Linking and Embedding (OLE).

* **The autorotate feature is disabled.**

The HP DesignJet 600 and 650C plotters have an automatic rotation feature that rotates plots on roll media when rotating will conserve media. The autorotate feature is disabled when you use this plotter driver.

* **Expanded margins are not available.**

The HP DesignJet 600 and 650C plotters have an Expanded margin feature that increases the plottable area. When you use this driver, the Expanded margin feature is not available.

3.1.5 HP DraftMaster SX/RX/MX Series and HP DraftPro Plus plotter notes

When using one of these plotters, please keep the following notes in mind:

* **Expanded margins are not available.**

   The HP DraftMaster and DraftPro Plus plotters have an Expanded margin feature that increases the plottable area. When you use this driver, the Expanded margin feature is not available.

* **Always select Drawing Size = "Soft."**

   Be sure to set the front panel's Drawing Size to "Soft" to ensure that this driver will work correctly.

   To change the front panel setting, press the **Page Format** button, select "Drawing Size," then scroll to "Soft" and press the **Enter** button.

* **Pen width accuracy is best up to .35 mm.**

   For best accuracy, use only pens up to 0.35 mm wide. When used with this driver, larger pen widths may not meet the accuracy specifications stated in the *HP DraftMaster User's Guides*.

* **Rasterized patterns are converted to solid fills (HP DraftMaster Series   plotters only).**

   If your drawing has an object with a rasterized pattern, it will be plotted as a solid fill.

* **When you rotate TrueType fonts and standard Windows raster fonts (Courier, Helv, Symbol, System, Terminal, Tms Rmn), they're converted to the plotters internal stick fonts.**

   Some applications allow you to rotate text. However, if you're using one of these plotters and one of these fonts, the rotated text will be converted to the plotter's internal stick fonts.

* **Make sure the Widelines feature is "ON" (HP DraftMaster Series plotters only)**

   The front panel of these plotters has a Widelines feature that you can access through the **Plotter Setup** menu. For best line-plotting results, this feature should always be turned on. If this feature is turned off, your plotted lines will be narrower than the widths you specified in your application.

If you're using an SX or RX model: press the **Plotter Setup** button, select **Widelines**, scroll to **ON**, then press **Enter**.

If you're using an MX model: Press the **Plotter Setup** button, select **Widelines**, specify the user for whom you want to turn on the **Widelines** feature, press **Enter**, scroll to **ON**, then press **Enter** again.

* **Fill pattern background colors aren't plotted (HP DraftMaster Series plotters only).**

Only a foreground color will be plotted when using one of these plotters. The background color will look like a white fill.

3.1.6 HP 7550B Graphics plotter notes

* **When installing this driver, be sure to select "Hewlett-Packard HP-GL/2 Plotter" as the plotter type.**

* **Rasterized patterns are converted to solid fills.**

If your drawing has an object with a rasterized pattern, it will be plotted as a solid fill.

* **When you rotate TrueType fonts and standard Windows raster fonts (Courier, Helv, Symbol, System, Terminal, Tms Rmn), they're converted to the plotters internal stick fonts.**

Some applications allow you to rotate text. However, if you're using one of these plotters and one of these fonts, the rotated text will be converted to the plotter's internal stick fonts.

* **Only four media sizes are available.**

You should only choose from the following Media Sizes: ANSI A, ANSI B, ISO A3, and ISO A4.

* **Make sure the Widelines feature is "ON."**

The front panel of these plotters has a Widelines feature. For best line-plotting results, this feature should always be turned on. If this feature is turned off, your plotted lines will be narrower than the widths you specified in your application.

To verify that Widelines is turned on: Press **Next Display** until **Wideline** appears, press **Wideline**, press **f4** until **Wideline** is toggled into the "ON" position, press **Enter**, then press **Next Display**.

*   Fill pattern background colors aren't plotted.

Only a foreground color will be plotted when using one of these plotters. The background color will look like a white fill.

3.1.7 HP 7600 Series plotter notes

When using one of these plotters, please keep the following notes in mind:

*   This driver limits support to vector data only: raster data (RTL) is not supported.

*   When installing this driver, be sure to select "Hewlett-Packard HP-GL/2 Plotter" as the plotter type.

*   Follow these recommendations for best color-mapping results:

1) Select "Plotter" (not "Software") as the source of pen parameters on the plotter's front panel.

2) Define a new front panel pen palette with 16 pens and choose from the front panel Color Numbers listed below.

3) Assign the same Pen Number/Color settings to this driver, e.g., if Pen Number 1 on the front panel is assigned to front panel Color Number 3 (green), be sure that Pen Number 1 in the driver is also assigned to the driver's Color green.

Recommended 7600 Front Panel Color Numbers	Equivalent Driver Color	Driver's RGB Value
1	Black	0,0,0
2	Red	255,0,0
3	Green	0,255,0
4	Yellow	255,255,0
5	Blue	0,0,255
6	Red-violet	255,0,255
7	Aqua	0,255,255
165	Brown	255,192,0
474	Orange	255,128,0
518	Violet	128,0,255

*   Rasterized patterns are converted to solid fills.

If your drawing has an object with a rasterized pattern, it will be plotted as a solid fill.

3.2 Software application notes

3.2.1 AutoCAD Release 11/12 for Windows users: use the Autodesk driver instead of this one

When using AutoCAD Release 11/12 for Windows, we recommend plotting with the Autodesk driver that was automatically loaded when you installed AutoCAD. Follow the steps below to ensure that you've selected the recommended driver in AutoCAD.

Step 1. From the AutoCAD main menu, choose "Configure AutoCAD" from the Utilities menu.

Step 2. Read the text to the right of "Plotter." If it says, "Hewlett-Packard HP-GL/2 V1.0 ADI 4.1 - By Autodesk," the plotter configuration is correct and you don't need to do anything else; if it says something different, continue with the next step.

Step 3. Press **Enter** and type **5** to select "Configure plotter."

Step 4. Type **Y** to the question, "Do you want to select a different one?," and type **6** to select "Hewlett-Packard HP-GL/2 V1.0 ADI 4.1 - By Autodesk."

Step 5. Answer any remaining questions and return to the main menu. Be sure to save the configuration changes you just made.

3.2.2 Users of paint and image-processing applications (such as Aldus PhotoStyler, Publisher's Paintbrush)

Because of the large amount of data involved, plotting large-format raster images (such as scanned images) will proceed slowly.

3.2.3 Some applications have an overriding orientation setting

The following table lists some commonly-used applications with their own orientation setting that overrides the driver's Orientation setting. (In applications, the orientation setting can usually be found by selecting Page Setup, Print, or a similarly-named command from the File menu.) *When using these and other applications with an orientation setting, you should match the driver's Orientation setting to the orientation setting in the application.*

Some applications with an overriding orientation setting
CorelDRAW
Microsoft Excel for Windows
Microsoft Word for Windows

3.2.4 Long-axis plotting

The long-axis feature allows you to produce plots up to 109.2 inches (2773 mm) long with this driver. Long-axis plotting is possible if both the plotter and the application support this feature.

All the supported plotters except the HP 7550B support long-axis plotting. The HP DraftPro Plus supports long-axis plotting, but long-axis plots are limited to 63.0 inches (1600 mm).

Below is a list of some commonly-used Windows applications that support long-axis plotting. If your application isn't in this list, refer to your application user's guide to find out if long-axis plotting is supported.

Some applications that support long-axis plotting
Arts & Letters
CADVANCE
Micrografx Designer
Microsoft Project*

* Although this application supports long-axis plotting, plot length is limited to 62 inches (1575 mm).

To produce a long-axis plot, you must enter the long-axis plot Length in the User-defined Size dialog box.

NOTE: Your application may require other setting changes as well; refer to your application user's guide for more information.

To access the User-defined Size dialog box in *Windows 3.0*, choose the Control Panel from the Windows Main Group, choose Printers, click the Configure button, click the Setup button, then select the last option in the Media Size drop-down list box, "User-defined."

To access the User-defined Size dialog box in *Windows 3.1*, choose the Control Panel from the Windows Main Group, choose Printers, click the Setup button, then select the last option in the Media Size drop-down list box, "User-defined."

3.2.5 CorelDRAW users

If you're using CorelDRAW with this driver, you can only produce A- and B-size plots from a TIFF drawing.

3.2.6 Excel users with DesignJet Series plotters

When you want multiple copies of a plot, we recommend using the DesignJet's front panel to set the number of copies you want *instead of* using the Excel print dialog box. Refer to your DesignJet plotter user's guide for instructions.

3.2.7 Microsoft Project users

The default margins in Microsoft Project's Page Setup dialog box are too small for the plotters this driver supports. To remedy this problem, we recommend that you refer to the table in section 3.1.2 of this document and enter the margins for your plotter type into Microsoft Project's Page Setup dialog box.

3.2.8 Lotus 1-2-3 users

When specifying more than one text color in a spreadsheet, we recommend that you only use a white background. If you try to shade the background with a different color than white, you may not get the color you want when using this driver.

3.3 Troubleshooting

This section lists some common problems and their solutions.

* **If the top and/or bottom of plots is missing (clipped)**

   1) Make sure the driver's Media Size setting is exactly the same as the drawing size you've specified in your application.

   OR

   2) Do **one** of the following: a) Adjust the margin settings in your application to match the driver's margin settings for the selected plotter type (see section 3.1.2, "Plotter margin settings using this driver"), **or** b) scale down the size of the drawing in your application, **or** c) increase the Media Size driver setting and load a larger media size.

* **If the driver's Orientation setting seems to have no affect on plots**

   Your application may have an orientation setting that overrides the Orientation setting in this driver. We know that the following applications work this way, and there may be others as well: Microsoft Excel for Windows, Microsoft Word for Windows, and CorelDRAW. Be sure to match the driver's Orientation setting to the application's orientation setting.

* **If plotting text produces unexpected results**

   Refer to section 3.1.1, "Font support and recommendations," to learn about this driver's font support for each version of Windows and each plotter type.

* **If plots won't rotate using the plotter's front panel Rotate feature (HP DesignJet and HP DesignJet 600 plotter users only)**

   Your plot may have rasterized data in it. Due to rotate buffer memory limitations, rasterized drawings (e.g., drawings with heavy area fill and shading that you've scanned into your application) can't be rotated from the plotter's front panel. Try using your application's rotate feature.

*   **If your plotter is unusually slow or appears to be "hung up"**

1) Make sure you're using the recommended font type for your version of Windows. Refer to section 3.1.1, "Font support and recommendations," for more information. Multi-page documents plot very slowly and may appear to "hang up" the plotter. If this happens, try using one of the TrueType fonts (available in Windows 3.1 only) or one of the standard Windows vector fonts instead.

AND

2) Check the Orientation and Media Size settings in the driver. If you're plotting in *landscape* mode on the largest media size of your plotter, plotting may be very slow. If you want to plot faster, change the driver's Orientation setting to *portrait*, and rotate the drawing 90 degrees in your application.

*   **If your computer displays a timeout message before all plot data has been received by the plotter**

Try increasing the Transmission Retry value to 900 seconds. To access this setting In Windows 3.0, choose Control Panel, Printers, then Configure. To access this setting in Windows 3.1, choose Control Panel, Printers, then Connect.

*   **If filled and overlapping objects are plotted incorrectly
(HP DesignJet and HP DesignJet 600 plotters only)**

Only the HP DesignJet 600 plotters are capable of plotting both rasterized data *and* overlapping objects correctly all the time. The HP DesignJet plotters are raster-capable, but they can't plot overlapping objects correctly and they have more raster limitations than the later-model HP DesignJet 600 plotter.

*   **If filled and overlapping objects aren't plotted the way you expected
(HP DraftMaster series plotters, HP DraftPro Plus plotters, and HP 7550B Graphics plotters only)**

Pen plotter technology doesn't allow merge control of filled, overlapping objects. If you have two (or more) overlapping objects in your drawing, the intersecting area will be plotted with the fill patterns from *all intersecting objects*.

*   **If polygon objects are incompletely plotted
(HP DraftMaster series plotters and HP 7550B Graphics plotters only)**

You probably ran out of polygon buffer memory before the plot was finished. Try shrinking the size of the object before plotting again.

***   If the plotter is drawing a filled object and performance seems unacceptably slow
(HP DraftMaster series plotters and HP 7550B Graphics plotters only)**

When filled objects have outside borders with wide line widths, these plotters may perform more slowly. Try reducing the border to the smallest acceptable line width to improve performance.

*   If the plotter you want to use isn't displayed in the Windows 3.1 Control Panel (Printers dialog box)

Run the driver's install program again and select the new Plotter type. Refer to section 1.2, "Installing with the driver's quick "install" program (recommended method)," for instructions.

*   If the driver settings have unexpectedly changed back to their default values

You may have changed the Port assignment for the selected plotter. If so, the driver settings you made are saved with the previous Port selection. You can either make the setting changes again, or change back to the previous Port.

***   If plotted colors look different than expected
(HP DraftMaster SX/RX/MX Series, HP 7600 Series, and HP 7550B plotters only)**

This driver doesn't provide exact color matching. When using one of the HP 7600 Series plotters, follow the recommendations in section 3.1.7, "HP 7600 Series plotter notes."

*   If the plotted drawing size is smaller than the driver's Media Size setting

1) Make sure that the driver's Media Size setting is exactly the same as the drawing size you've specified in your application.

AND

2) Your application may have a maximum plot size limit. If so, your drawing will be truncated at the limiting dimensions. For example, CorelDRAW limits drawings to 18.0 x 18.0 inches (457 x 457 mm); if you specify a larger Media Size in the driver - "ANSI E 34 x 44 in," for example - your 18.0 x 18.0-inch drawing will be plotted in one corner of the E-size media.

*   **If plotted gray shades look different than expected
    (HP DesignJet and HP DesignJet 600 plotters only)**

Make sure the source of pen parameters is set to "Software" on the plotter's front panel. Refer to section 3.1.3, "HP DesignJet plotter notes," or section 3.1.4, "HP DesignJet 600 plotter notes," for instructions.

*   **If the plotter's Expanded margin feature doesn't work
    (HP DesignJet 600 and HP DraftMaster plotter users only)**

This driver doesn't support the Expanded margin feature.

*   **If pattern fills aren't being plotted
    (HP DraftMaster Series plotters, HP DraftPro Plus plotters, and HP
    7550B Graphics plotters only)**

The pattern fill (e.g. cross-hatching) you selected in your application is a raster pattern. Since pen plotter technology doesn't allow output of raster patterns, your pattern won't plot and it will look like the object has a solid fill. We recommend changing the pattern to a solid color in your application before plotting again.

*   **If the background color of a pattern fill isn't being plotted
    (HP DraftMaster series plotters, HP DraftPro Plus plotters, and HP
    7550B Graphics plotters only)**

Only a foreground color will be plotted when using one of these plotters. The background color will be a white fill.

*   **If plotted lines don't have the expected widths
    (HP DraftMaster Series plotters and HP 7550B Graphics plotters only)**

Turn on the **Widelines** feature on the front panel of your plotter, then try plotting again.

If you're using a DraftMaster SX or RX model: Press the **Plotter Setup** button, select **Widelines**, scroll to **ON**, then press **Enter**.

If you're using a DraftMaster MX model: Press the **Plotter Setup** button, select **Widelines**, specify the user for whom you want to turn on the **Widelines** feature, press **Enter**, scroll to **ON**, then press **Enter** again.

If you're using an HP 7550B plotter: Press **Next Display** until **Wideline** appears, press **Wideline**, press f4 until **Wideline** is toggled into the "ON" position, press **Enter**, then press **Next Display**.

4.0 Getting Help

Both on-line Help and customer service help are available for this driver.

4.1 On-line Help

If you need help while setting up your driver, you can access the on-line Help topics for the driver by clicking the Help button in the driver dialog boxes described in this document.

To display a topic, click it. To print, select Print Topic from the File menu.

4.2 Customer support

If you find that you have questions about the driver while you are installing it or setting it up, you can call the HP Customer Support Center for help in the United States.

HP Customer Support Center
7 a.m.-4 p.m. (Mountain Standard Time)
Monday through Friday
(208) 323-2551

Outside of the United States, contact your local authorized Hewlett-Packard dealer for customer support.