



AutoCAD™ Drivers for HP Plotters

Step-by-Step Guide

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Section 1

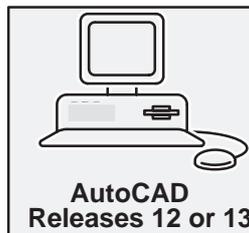
AutoCad Releases 12 and 13 Driver for HP Plotters – Step by Step Guide

Introduction

What is the AutoCAD Release 12 and 13 Driver for HP Plotters?

This driver is for AutoCAD Releases 12 and 13 users, enabling them to produce successful plots from their CAD drawings on the HP plotters and printers listed below. References in this guide to “your plotter” mean any HP-GL/2 device from this list, including the HP LaserJet III and 4 *printers*.

It is an HP-GL/2 driver.



AutoCAD Release 12 and 13 Driver for HP Plotters



Inkjet plotters:	HP DesignJet series plotters HP PaintJet XL300 plotters in HP-GL/2 mode
Pen plotters:	HP DraftMaster series plotters HP DraftPro Plus plotters
Laser printers:	HP LaserJet III printers in HP-GL/2 mode HP LaserJet 4 printers in HP-GL/2 mode

Which versions of AutoCAD?



The disks which came in the same package as this guide, labelled:

HP-GL/2 Driver for AutoCAD
Releases 10,11,12 & 13 (v 3.3)
for MS-DOS

and:

HP-GL/2 Driver for AutoCAD
Releases 12 & 13 (v 3.3)
for Windows

contain drivers for the following versions of AutoCAD:

- AutoCAD 386 10* for MS-DOS
- AutoCAD 386 11* for MS-DOS
- AutoCAD 12 for MS-DOS
- AutoCAD 12 for Windows
- AutoCAD 13 for MS-DOS
- AutoCAD 13 for Windows

* If you are installing a driver for one of these AutoCAD releases you should read the section of this document titled:

AutoCAD 386 Releases 10 and 11
Driver for HP Plotters
Installation and Configuration Guide

starting on page 55.

Using this manual

Installation

In order to ensure a successful installation of the driver, go through the Tasks 1*, 2, and 3 in chapter 2.

* Note that there are two versions of Task 1, one for AutoCAD for Windows users and one for AutoCAD for MS-DOS users. For a particular installation you should complete the appropriate Task 1 and proceed to Task 2.

Reference

The rest of the manual is for reference only.

- Chapter 3 on page 27, offers some reminders for day-to-day plotting.
- Chapter 4, Troubleshooting, on page 31 offers some solutions to possible problems.
- In your day-to-day use of AutoCAD, you will probably use the HPCONFIG dialog boxes quite often, and so there is a field-by-field explanation in chapter 5, starting on page 40.
- The very last section of this manual explains where to get more information.

———— Initial tasks

Initial tasks

Task 1: Installing a driver for your AutoCAD release for Windows

Task 1: Installing a driver for your AutoCAD release for Windows

If you are installing a driver for an MS-DOS version of an AutoCAD release go to page 9, otherwise read on.

To install the driver

- 1 Ensure that your computer is:
 - running Windows, and
 - not running AutoCAD.

- 2 Take the disk labeled

HP-GL/2 Driver for AutoCAD
Releases 12 & 13 (v 3.3)
for Windows
and insert it in your PC's flexible disk drive.

- 3 In **Windows 3.1**, get to the Program Manager window, and open the **File** menu and select **Run...**

In **Windows '95** and **Windows NT**, click on **Start** and select **Run...**

- 4 In the **Run** dialog box, enter the name of your flexible disk drive and the command **install**.

- 5 When you see the "**HP AutoCAD Drivers Installation**" dialog box, you will see that the installation process has found your AutoCAD installations and is ready to install an appropriate driver. Select one of these installations from the list or enter the pathnames for ACAD.EXE and ACAD.CFG (ACADNT.CFG for Windows 95 and Windows NT), and click on **Continue**.
(If you want to install the driver for other AutoCAD installations you can repeat this installation procedure)

Example

(Type/choose the part in **bold** and press <Enter>)

Run...

Run...

a:install

The driver installation process is automated from this point onwards and you will be informed when the installation has been completed. How to configure AutoCAD to use the driver is described in Task 2 starting on page 10.

Task 1: Installing a driver for your AutoCAD release for MS-DOS**Task 1: Installing a driver for your AutoCAD release for MS-DOS**

To complete the installation you will need to know:

- the version of AutoCAD you are installing a driver for. (If you have more than one version of AutoCAD you will need to repeat this process.) If you are unsure about which release of AutoCAD you have, you can find out by loading AutoCAD and reading the opening screen, the AutoCAD release is stated there.
- the path and name of the batch file that is used to start AutoCAD:

What do you type to start AutoCAD?:

ACADR12 <Enter>

or ACADR13 <Enter>

Name of file is:

ACADR12.BAT

ACADR13.BAT

To install the driver

- 1 Take the disk labeled
HP-GL/2 Driver for AutoCAD
Releases 10,11,12 & 13 (v 3.3)
for MS-DOS
and insert it in your PC's flexible disk drive.
- 2 Get to the DOS prompt. (For example, quit AutoCAD; you may also need to re-boot your system in DOS mode.)
- 3 Enter the name of your flexible disk drive.
- 4 Enter **install**.
- 5 Press <Enter> to continue.
- 6 Select your version of AutoCAD for MS-DOS.
- 7 Press <Enter> to accept the default filename, or type your path and filename if non-default.

Example

(Type/choose the part in **bold** and press <Enter>)

C:>

C:>**a:**

A:>**install**

ACADR12.BAT or
ACADR13.BAT

The driver installation process is automated from this point onwards and you will be informed when the installation has been completed. How to configure AutoCAD to use the driver is described in Task 2 starting on page 10.

Initial tasks

Task 2: Configuring the software

Task 2: Configuring the software

NOTE: The commands CONFIG and HPCONFIG, explained in this task, are *not* commands at the DOS prompt, but commands, or menu options, *within* AutoCAD.

Overview

CONFIG

The terminology in AutoCAD's **CONFIG** menus assumes that you are adding, configuring or deleting "plotters". But what you have received from HP is a single driver which gives you access to many plotter models, as well as to the HP LaserJet III and 4 printers. For the purposes of the list of available "plotters" in AutoCAD's **CONFIG** menu, we have called this driver:

Hewlett-Packard HP-GL/2 Devices v3.3, ADI 4.2 – by HP

HPCONFIG

HPCONFIG allows you to create, select and modify configuration files which can be used with any device in CONFIG. HPCONFIG provides you with a configuration file called "NO file". This configuration is suitable for a wide range of plotting requirements and in many cases you do not need to enter any configuration settings in order to plot your drawings satisfactorily.

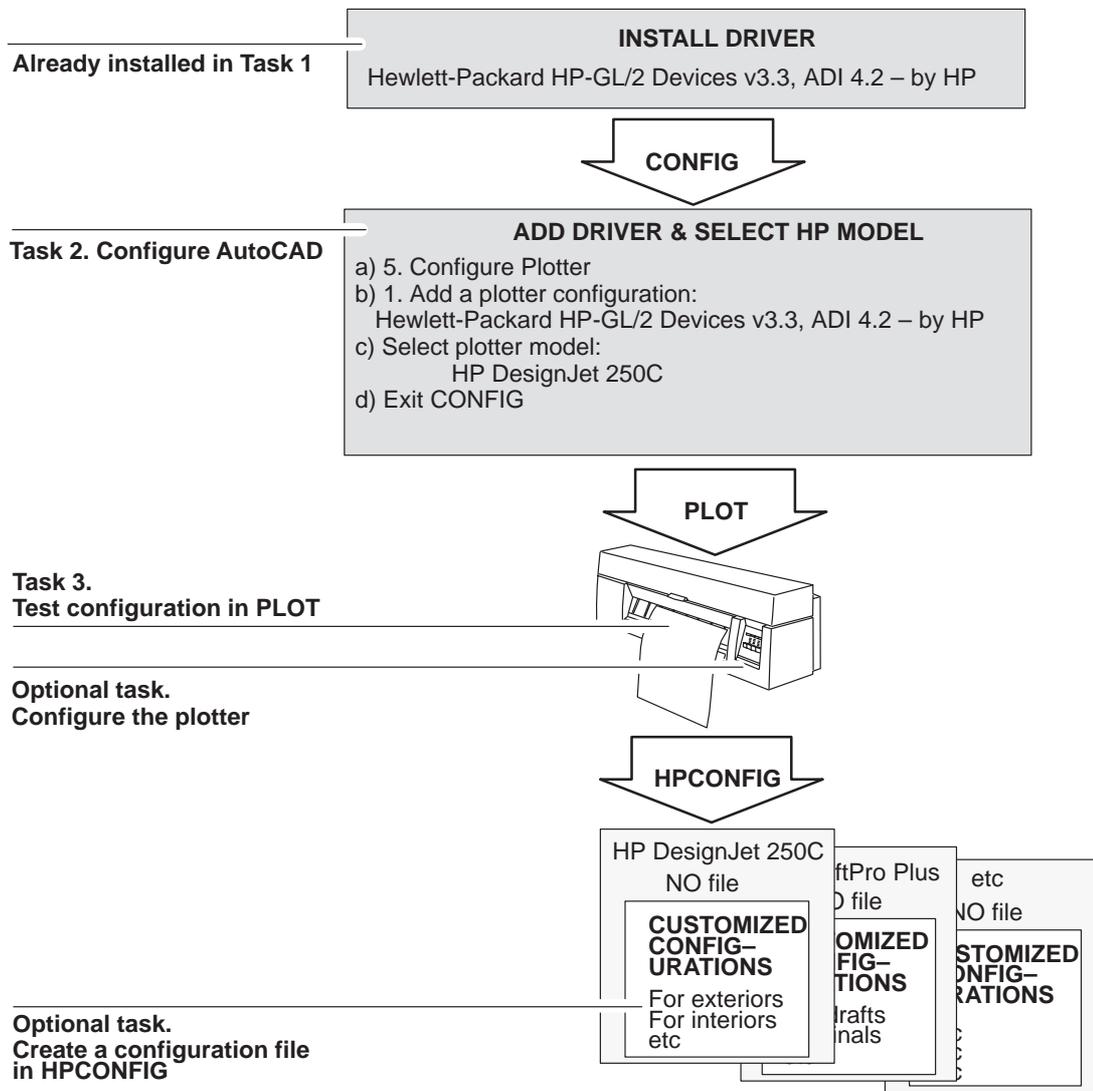
Before you can configure your HP-GL/2 driver using HPCONFIG you should have configured AutoCAD to use the:

Hewlett-Packard HP-GL/2 Devices v3.3, ADI 4.2 – by HP

driver using the CONFIG command.

Task 2: Configuring the software

Overview of tasks to configure the software



INITIAL TASKS

Task 3.
Test configuration in PLOT

Optional task.
Configure the plotter

Optional task.
Create a configuration file in HPCONFIG

All the tasks are explained one by one, starting on the next page.

You will find a detailed explanation of all the dialog boxes in the **HPCONFIG** command in "HPCONFIG field-by-field" in chapter 5, starting on page 40.

Initial tasks

Task2: Configuring the software

Use CONFIG to add the new plotter driver and select a HP plotter model

If you have several HP plotters, just select one of them at this stage.

- 1 At the AutoCAD command line, enter:

CONFIG

- 2 From the Configuration Menu, select:

5. Configure plotter

- 3 From the Plotter Configuration Menu, select:

1. Add a plotter configuration

- 4 From the list of available “plotters” (they are actually drivers), select :

Hewlett-Packard HP-GL/2 Devices v3.3, ADI 4.2 – by HP

- 5 Select your plotter model from the list of supported devices.

- 6 At the question “Is your plotter connected to a serial or parallel port?”, enter:

S (for serial) or
P (for parallel)

If in doubt, refer to the setup instructions in your plotter’s documentation and to your PC manual.

- 7 *(For HP DesignJet 230, 250C, 330, 350C, 700, 750C and 750C Plus plotters and 755CM printers on Windows 3.1 and 95 and MS-DOS, and for HP DesignJet 200 and 220 plotters and HP DraftPro Plus plotters on MS-DOS)*

At the prompt “Please specify if HP DesignJet 200 is connected directly on your PC or on a network”, or similar message, enter:

1 (for a direct connection) or
2 (for a network connection)

IMPORTANT. If, later on, you physically change your connection type, you must run CONFIG again to update it.

Task 2: Configuring the software

AutoCAD for Windows 3.1 or 95 users:

If your DesignJet 230, 250C, 330, 350C, 700, 750C, 750C Plus or 755CM is connected directly, you will be able to see the plotter status information in HPCONFIG at plot time. See under "Plotter Status" in chapter 5, starting on page 50.

AutoCAD for MS-DOS users:

If your DesignJet 200, 220, 230, 250C, 330, 350C, 700, 750C, 750C Plus or 755CM is connected directly, you will be able to see the plotter status information in HPCONFIG at plot time. However, the information will not be updated as the status changes. Only the status at the time of request will be displayed. See under "Plotter Status" in chapter 5, starting on page 50.

- 8 At the prompt "Enter port name", enter:

e.g. COM1 for a serial port
e.g. LPT1 for a parallel port

If in doubt, refer to your PC manual.

- 9 AutoCAD then displays the default configuration for the driver. You can customize this later, and so at the question "Do you want to change anything?", enter:

N

- 10 At the prompt "Enter a description for this plotter", whatever you enter will become available as a plotter when you subsequently use PLOT or CONFIG. So enter for example:

HP DesignJet 220 on LPT2
or HP DesignJet 650C on LPT1
or HP DraftPro Plus for mechanical drawing
or Plotter in the drawing office
etc.

IMPORTANT. Do *not* leave the description blank.

- 11 To exit CONFIG, saving your changes:

At the Plotter Configuration Menu,	press <Enter>
At the Configuration Menu,	press <Enter>
At the prompt "Keep configuration changes?",	press <Enter>

- 12 We recommend that you test your new configuration by plotting a drawing. The procedure to do this is given in the following section.

Initial tasks

Task3: Test the plotter configuration in PLOT

Task 3: Test the plotter configuration in PLOT

- 1 Make sure that media is loaded in your plotter.
- 2 Open a simple drawing in AutoCAD. There are many .DWG files to choose from in AutoCAD's tutorial sub-directory.
- 3 At the command line, enter PLOT.
- 4 In the **Plot Configuration** dialog box, click on **Device and Default Selection**.
- 5 In the dialog box that appears ...



... select the plotter description you just added in CONFIG.

- 6 Click on:
OK
- 7 In the **Plot Configuration** dialog box, check that:
 - the **Paper Size** matches your loaded media,
 - the scale (under **Rotation and Origin**) is what you want, and
 - **What to plot** corresponds to the area you really want to plot.

Task3: Test the plotter configuration in PLOT

- 8 Click on:
OK

The drawing should be plotted on your plotter using the default .HPC file – **NO file**, automatically selected for you in HPCONFIG.

If no plot appears at all, then there is a problem with the interface between plotter and PC – either the cable connection itself or the interface settings. To check either, refer to the setup instructions in your plotter’s documentation. Did you select the correct interface port in CONFIG?

If the content, scale or position of the plot is not as you expected, then you can customize the configuration – see “Optional Task: Configure HP-specific settings in HPCONFIG”, starting on page 21.

Optional Task: Configuring the plotter

General points

- As a general rule, any feature switched ON on the plotter overrides any equivalent setting in AutoCAD. For example, in inkjet plotters, if **Merge** (or **Merge Control**) is set to ON, then this overrides whatever is set in AutoCAD via HPCONFIG's **Pens** dialog box.
- The plotting area available (media size minus margins) varies with the plotter, because the margins vary. For a specification of margins and plotting areas, see each plotter's *User's Guide*, or the notes below.

The information given here is a reminder of some important items that are specific to some plotter models and relevant to users of AutoCAD Releases 12 and 13.

Inkjet plotters

HP DesignJet 6xx and 7xx series

- For best performance, choose a parallel interface. Serial is also available.
- To check or reconfigure any of the following, use the plotter's front panel menus:
 - **Rotate (Page Format menu)**
 - **Mirror (Page Format menu)**
 - **Merge (Pen Settings menu)**
 - **Pen settings: width, density (shade) (Pen Settings menu)**

IMPORTANT: If you want AutoCAD's pen settings to be used, the setting in the plotter's **Pen Settings / Palette** menu must be **software**; otherwise, the settings on the plotter's front panel will be used.

- For larger and more detailed drawings, your plotter may need extra memory. A guide to the required size of memory expansion module is the size of your largest plot (.PLT) files when you plot to file. Always choose a module size such that the total memory available in the plotter is larger than the largest plot file you want to output. The one exception is smooth-rendered plots, which may be output with less memory than the size of the file.

Optional Task: Configuring the plotter

- You can produce long-axis plots with these plotters.
- These plotters have an optional small margins mode. To use it, select **Smaller** (series 7xx) or **Expanded** (series 6xx) in the **Page Format / Margins** plotter menu. You can use this only for roll media.
- **Recommended plotting areas.** The table on the next page lists the correct plotting areas you should set in AutoCAD Releases 12 and 13 for standard media sizes. Set these as USER sizes in the **Size...** dialog box, accessible from the **Plot Configuration** dialog box. Using these sizes will ensure optimal media savings when you use the plotter's nesting feature. If standard sizes are not required, set **Page Format / Size** to **Inked Area** for best results.

The plotter's front panel menu will tell you the maximum x and y values for the sheet that is currently loaded in the plotter. This information is recorded in the **Utilities / Statistics** menu of the plotter's front panel.

HP DesignJet 2xx and 3xx series plotters

- For best performance, choose a parallel interface. Serial is also available.
- To check or reconfigure any of the following, use the plotter's setup sheet:
 - Serial interface settings: baud rate, parity
 - Graphics language (default "HP-GL (7586B), HP-GL/2" is OK)
 - Rotate
 - Mirror
 - Merge
 - Color/Mono
 - Pen settings: width, density, color

IMPORTANT: If you want AutoCAD's pen settings to be used, the setting on the plotter's setup sheet must be "from software"; otherwise, the settings on the setup sheet will be used.

- For larger and more detailed drawings, your plotter may need extra memory. A guide to the required size of memory expansion module is the size of your largest plot (.PLT) files when you plot to file. Always choose a module size such that the total memory available in the plotter is larger than the largest plot file you want to output. The one exception is smooth-rendered plots, which may be output with less memory than the size of the file.

<i>For HP DesignJet series plotters only</i>	Media size (and orientation of media)	Plotting area (width x height) by orientation of drawing			
		inches		millimeters	
		landscape	portrait	landscape	portrait
ANSI media	A (portrait)	9.66 x 8.1	8.1 x 9.66	245 x 205	205 x 245
	A (landscape)	10.6 x 7.16	7.16 x 10.6	269 x 182	182 x 269
	B (portrait)	15.7 x 10.6	10.6 x 15.7	397 x 269	269 x 397
	B (landscape)	16.6 x 9.66	9.66 x 16.6	421 x 245	245 x 421
	C (portrait)	20.7 x 16.6	16.6 x 20.7	524 x 421	421 x 524
	C (landscape)	20.6 x 15.7	15.7 x 20.6	549 x 398	398 x 549
	D (portrait)	32.7 x 21.6	21.6 x 32.7	829 x 548	548 x 829
	D (landscape)	33.6 x 20.7	20.7 x 33.6	854 x 525	525 x 854
	*D (roll)	64.0 x 23.6	23.6 x 64.0	1625 x 599	599 x 1625
	E (portrait)	42.7 x 33.6	33.6 x 42.7	1084 x 854	854 x 1084
*E (roll)	64.0 x 35.6	35.6 x 64.0	1625 x 904	904 x 1625	
Architectural media	A (portrait)	10.7 x 8.60	8.6 x 10.7	271 x 219	219 x 271
	A (landscape)	11.6 x 7.66	7.66 x 11.6	295 x 195	195 x 295
	B (portrait)	16.7 x 11.6	11.6 x 16.7	423 x 295	295 x 423
	B (landscape)	17.6 x 10.7	10.7 x 17.6	447 x 271	271 x 447
	C (portrait)	22.7 x 17.6	17.6 x 22.7	576 x 447	447 x 576
	C (landscape)	23.6 x 16.7	16.7 x 23.6	600 x 423	423 x 600
	D (portrait)	34.7 x 23.6	23.6 x 34.7	880 x 600	600 x 880
	D (landscape)	35.6 x 22.7	22.7 x 35.6	904 x 576	576 x 904
	E1 (portrait)	40.7 x 29.6	29.6 x 40.7	1033 x 752	752 x 1033
E (portrait)	46.7 x 35.6	35.6 x 46.7	1185 x 904	904 x 1185	
ISO media	A4 (portrait)	10.3 x 7.87	7.87 x 10.3	263 x 200	200 x 263
	A4 (landscape)	11.3 x 6.93	6.93 x 11.3	287 x 176	176 x 287
	A3 (portrait)	15.2 x 11.3	11.3 x 15.2	386 x 287	287 x 386
	A3 (landscape)	16.1 x 10.3	10.3 x 16.1	410 x 263	263 x 410
	A2 (portrait)	22.0 x 16.1	16.1 x 22.0	560 x 410	410 x 560
	A2 (landscape)	23.0 x 15.2	15.2 x 23.0	584 x 386	386 x 584
	A1 (portrait)	31.8 x 23.0	23.0 x 31.8	807 x 584	584 x 807
	A1 (landscape)	32.7 x 22.0	22.0 x 32.7	831 x 560	560 x 831
	* not DesignJet 2xx series	A0 (portrait)	45.5 x 32.7	32.7 x 45.5	1155 x 831

HP PaintJet XL300 plotters in HP-GL/2 mode

- The HP PaintJet XL300 must be allowed to finish a plot before starting another plot with a parallel cable. If you try to plot a second drawing before the plotter finishes a plot, the HP PaintJet XL300 will reset itself, clear its memory and terminate the original plot.
- To configure the HP PaintJet XL300 as a serial device, the switches should all be set to the DOWN position.

Pen plotters

HP DraftPro Plus plotters

- For best performance, choose a parallel interface. Serial is also available.
- The HP DraftPro Plus plotter has an optional expanded mode (**Page Format / Expand**) which allows plotting in the pinch wheel area, and therefore increases the plotting area. Lines drawn in this area are subject to smearing when the wheels pass over wet ink.
- You cannot render drawings on the HP DraftPro Plus plotter.

HP DraftMaster series plotters

- For interface options (serial and HP-IB parallel are both available), see the plotter's *Setup Guide*.
- The HP Draftmaster plotters have an optional expanded mode (**Page Format / Expand**) which allows plotting in the pinch wheel area, and therefore increases the plotting area. Lines drawn in this area are subject to smearing when the wheels pass over wet ink.
- You can produce long-axis plots with an HP DraftMaster plotter. The plotter's *User's Guide* explains how to ensure that the registration marks for frame-to-frame alignment are detected.
- You cannot render drawings on the HP Draftmaster series plotters.

Initial tasks

Optional Task: Configuring the plotter

LaserJet printers **HP LaserJet III and 4 printers in HP-GL/2 mode**

- **Serial Interface.** For serial interfaces on the LaserJet III, only 9600 baud / no parity or 19200 baud / no parity are available.
- **Memory.** HP LaserJet printers must have a minimum of 2MB of total memory to work with this driver.
- **Page Protection.** The factory default setting for Page Protection is OFF. This sets aside a minimum amount of Image Memory which will cause the HP LaserJet to display the error message “Printer Overrun” for all but the smallest plots. Only a portion of your drawing will be plotted. Setting Page Protection to “LTR/A4” should eliminate this problem. See the User’s Guide that came with your HP LaserJet for an explanation of Page Protection.
- **Legal Paper Size.** If you want to plot a drawing longer than the 10.5 in of letter-size paper, you will have to install your legal-size paper tray and set Page Protection to “LEGAL”. If you don’t have a legal-size tray, you can manually feed the legal-size sheets into the printer. You must set your printer for manual feed before you send the plot. A good time to do this is when AutoCAD tells you to “Position paper in plotter.” If you do use manual feed, the HP LaserJet will display what size paper to feed it. See the User’s Guide for your HP LaserJet for details of how to set up the printer for manual feed. Getting full-size plots on legal-size paper will also require more memory.

Optional Task: Configure HP-specific settings in HPCONFIG

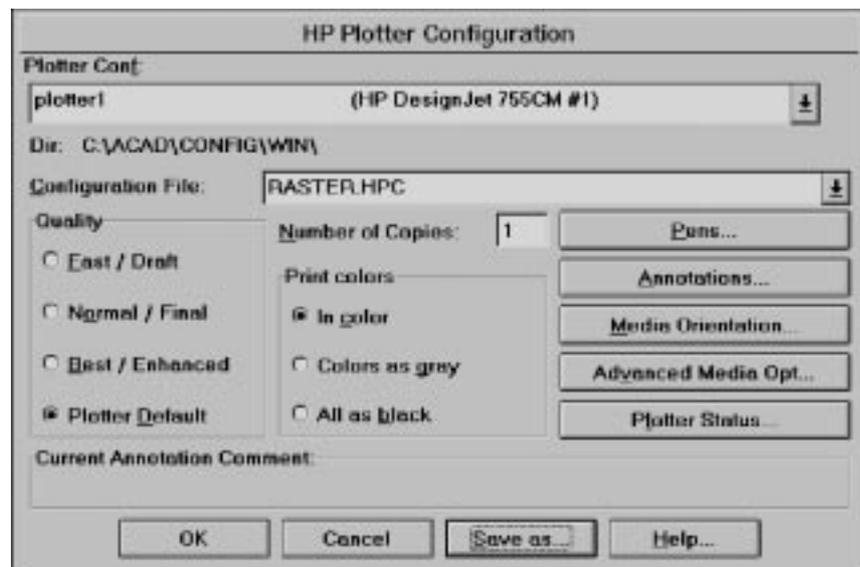
Optional Task: Configure HP-specific settings in HPCONFIG

What you did in Tasks 1 and 2 was to make available to AutoCAD the *default* configuration file for your selected HP plotter model, automatically selecting the **NO file** setting. This is a valid plot configuration file and will allow you to output drawings on your plotter. If you want to create your own configuration file (.HPC) we recommend that you read the steps that follow to learn how to do so and see it entered in the **Configuration File:** drop-down list.

- 1 At the AutoCAD command line, enter:

HPCONFIG

- 2 In the dialog box that appears ...



... you will see in the **Plotter Conf:** field the description and name of the plotter model you entered in CONFIG, it will be followed by a serial number e.g. #1. Plotters of the same model are given a serial number, if you install a second HP DesignJet 755CM for example it will be #2 and so on.

Initial tasks

Optional Task: Configure HP-specific settings in HPCONFIG

- 3 The other fields of this dialog box allow you to modify the plot attributes which make up a (.HPC) file. Some important ones are listed here with details of how you can access them and what their options are.
 - Number of Copies:** number of plots at plot time.
 - Quality:** fast/draft, normal/final, best/enhanced or use the plotter default setting
 - Media orientation:** click on the **Media Orientation...** button and you will see two columns of graphics for different media loadings. Select the graphic which corresponds to your situation.
 - Pen settings:** click on the **Pens...** button to view/enter the plot merge control, line ends and joins, area fills and raster pattern settings.
 - Plot data:** click on the **Annotations...** button to view/enter data which is added to the plot at plot time, such as date/time, filename, crop marks, and user entered comment.
 - Clip warnings:** click on **Advanced Media Options...** button to view/set the warnings which are displayed at the time of plotting.
 - Margin settings:** click on **Advanced Media Options...** button to view/set the driver's expanded margins and expand to media settings.

After selecting the attributes which are appropriate to your configuration and printing needs, go to step 4.

A more complete description of the HPCONFIG dialog boxes is given in chapter 5, "Reference" starting on page 40.

- 4 To store your selection in your currently selected configuration file click on OK. If your currently selected configuration file is **NO file** you must create your own file. Click on either **OK** or **Save As...** and you will see the **Save Attributes File Name** dialog box. Type the new file name in the **File:** box and click on **OK**. The name you just entered will now be displayed in the **HP Plotter Configuration** dialog box.

A particular configuration file is displayed only when the device selected in **Plotter Conf:** is the same HP model as the file was created for, for example, an HP DesignJet 650C.

Optional Task: Configure HP-specific settings in HPCONFIG**Creating different configurations for the same plotter**

Using the procedure explained above, you can create any number of different configurations for the same plotter model – for example, one for exteriors, one for interiors; one for drafts, one for final copies; one for landscape plots, one for portrait plots; etc.

Remember:

- Always save the configuration with a unique .HPC filename in HPCONFIG.
- For a particular plotter, the default configuration file for plots will be the same as the one selected in HPCONFIG.
- You can select an other configuration file (.HPC) on a plot by plot basis at plot time by using **Change Device Requirements**. (The selected configuration file reverts back to the default after each plot.)

Creating configurations for a plotter of a different model

Only those configuration files which were created for plotters of the same model as the currently selected plotter are shown in the **Configuration File:** list.

Consequently, to create a configuration file for a plotter of a model other than the one which is currently selected, you need to scroll through the list in **Plotter Conf:** and make it the selected plotter.

If the model you want is not in the **Plotter Conf** list, quit HPCONFIG and execute CONFIG to create a configuration for the new model, as described on page 12.

Initial tasks

Optional Task: Configure HP-specific settings in HPCONFIG

Restoring the previous configuration

The previous version of a .HPC file is always available as a .BAK file. So, if you overwrite an HPCONFIG configuration by mistake, just rename the .BAK file to a .HPC file (see below), and it will become available in HPCONFIG.

For example, imagine you created a customized configuration and called it TEST.HPC, and then changed something and saved the change by mistake. To recover the old version:

- 1 While still in AutoCAD you can enter the shell-out command “sh”.
- 2 At AutoCAD’s “OS Command” prompt, press **<Enter>**.
- 3 Change to the drive and directory where the AutoCAD configuration is kept and re-name the .BAK version of the file to a new name with the extension .HPC. For example, enter:

```
C:  
CD\ACADR12 (the default directory where the AutoCAD  
configuration is kept)  
REN TEST.BAK TEST1.HPC  
EXIT (to return to AutoCAD)
```

- 4 Enter HPCONFIG.
- 5 Among the configuration files would be:

```
TEST.HPC (the changed configuration)  
TEST1.HPC (the original configuration)
```

Optional Task: Configuring for rendered plots (For inkjet plotters and LaserJet printers)

To render a plot is to apply variable shading to surfaces in order to give a three-dimensional appearance to the drawing.

Rendering is only available with this driver when used with AutoCAD Release 12 for MS-DOS and Release 13 for MS-DOS.

Before you can use the HPRENDER and HPMPLOT commands you must first have configured AutoCAD using the RCONFIG command. See your AutoCAD documentation for information on the RCONFIG command.

These AutoCAD releases include their own rendering routine, RENDER. However, we strongly recommend that, rather than this, you use the rendering routine supplied as part of this driver, HPRENDER.

HPRENDER

HPRENDER's features are geared specifically to HP plotters. Additionally, and unlike RENDER, HPRENDER lets you specify the page size. How to configure the software for use of HPRENDER, and how to render a drawing, are explained in the online help system, which can be found by entering HPRENDER and clicking on the help button.

HPMPLOT

To plot a drawing which contains a rendered viewport, but which is otherwise not rendered, use the HPMPLOT routine, which is also provided as part of this driver. How to use HPMPLOT is explained in the online help system, which can be found by entering HPMPLOT and clicking on the help button.

Troubleshooting

If you have problems specific to HPRENDER or HPMPLOT, see the Troubleshooting section in the online help system.



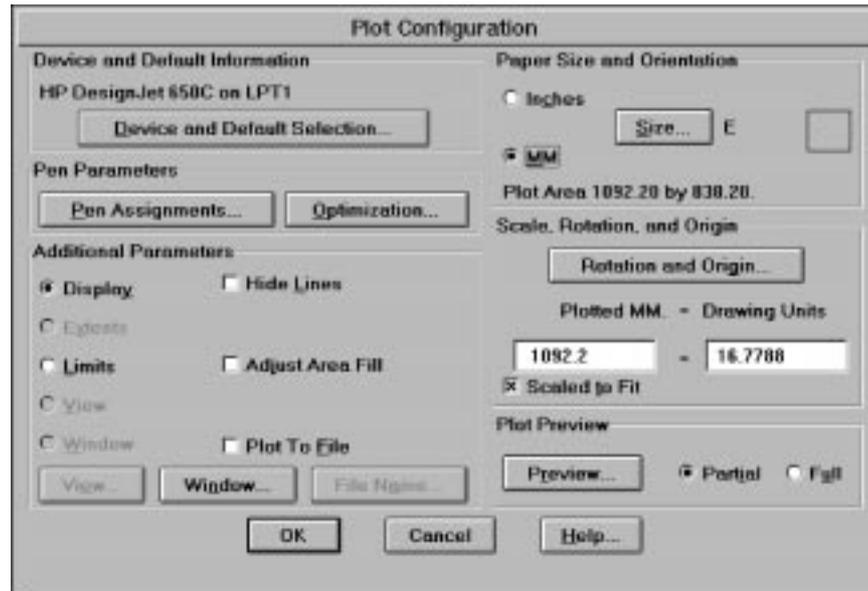
Day-to-day plotting

Day-to-day plotting

Plotting a normal (non-rendered) drawing

Plotting a normal (non-rendered) drawing

- 1 Enter the PLOT command to get to AutoCAD's **Plot Configuration** dialog box:



- 2 The plotter configuration currently selected is the one shown in the **Device and Default Information** box – in the example above, **HP DesignJet 650C on LPT1**. If you want to change it, click on **Device and Default Selection...**
- 3 If you are using a non-standard media size, click on **Size ...** to specify the plotting area as a **USER SIZE**.

Plotting area = media size – margins

For margins, refer to your plotter documentation.

- 4 We recommend that, if you are in any doubt about what will be physically plotted, you select a full preview in the **Plot Preview** box.

Plotting a rendered drawing

Enter the HPRENDER command.

HPRENDER is explained in the online help system.

Note: HPRENDER will only work with an AutoCAD release for MS-DOS.

Plotting paper space with one viewport rendered

Enter the HPMPLOT command.

HPMPLOT is explained in the online help system.

Note: HPMPLOT will only work with an AutoCAD release for MS-DOS.

Whether to configure the software or the plotter

Many of the features available in AutoCAD and in HPCONFIG are also available on the plotter – pen settings, number of copies, merge, etc. On the plotter, these may be available in the front-panel menus, in the setup sheet or elsewhere, depending on the plotter model.

To help you decide whether to set a parameter on the software or on the plotter, here are some considerations:

- Do you understand which setting will take priority: software or plotter? It's not always the same answer. For advice, look up the feature either in this manual (chapter 2, page 16 and chapter 5, "HPCONFIG field-by-field") or in your plotter User's Guide.
- If your plotter is on a network, or is used by several colleagues in any other way, do you want to affect just your plots or all their plots? If it's just yours, then you should configure the software.
- Do you want to experiment with a plot while it is plotting, for example by changing the plot quality? This would be easier to set on the plotter.
- Do you want to define a set of parameters for regular use in certain circumstances? For example, when plotting a drawing for a customer, you may always want final plot quality, scaled to fit, with specific pen settings. This would be easier to set on the software, by creating a special .HPC file.
- How quickly do you want to make the change? It's likely to be quicker on the software.
- How permanent do you want the changes to be? Temporary changes are likely to be easier to reset on the software.

Troubleshooting

If you can't solve your problem with the advice in this chapter, try the Troubleshooting topics in the driver's online help system.

If you see the message “Out of environment space”

It is not uncommon in AutoCAD installations to have a large number of environment variables set. This may result in the above error message. This message is usually seen when you boot your computer, or when executing a batch file that sets new variables. When you see this message, you need to increase the amount of memory your computer reserves for its environment variables.

To increase the amount of memory reserved for environment variables, you need to add or modify the SHELL command in your CONFIG.SYS file. The CONFIG.SYS file is located in the root directory of the boot drive, usually drive C. The CONFIG.SYS file may be modified with an ASCII editor. The following is a typical SHELL statement used to increase the environment size to 512 bytes:

```
shell=c:\command.com /p /e:512
```

Environment memory may be conserved by setting environment variables to NULL when running DOS applications that do not need them. The most convenient method to NULL out environment variables is to add “SET envname=” statements to the end of batch files used to start applications. For example, here is a typical .BAT file for an AutoCAD Release 12 installation:

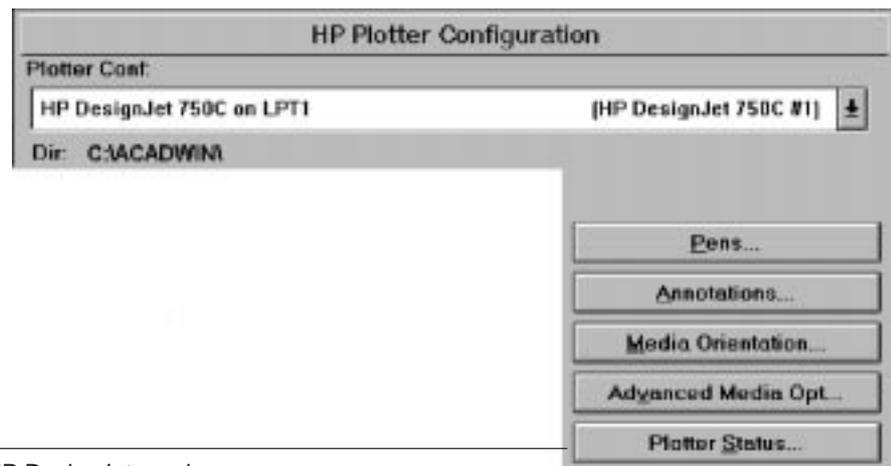
```
1.      @echo off
2.      cls
3.      echo ... One moment please, loading AutoCAD Release 12...
4.      set acad=c:\acad\support;c:\acad\fonts;c:\acad\ads
5.      set acadcfg=c:\acad
6.      set acadrv=c:\acad\drv;c:\acad\drv\hpgl2
7.      set rhpadi=c:\acad\drv\hpgl2\rhprt1.exp
8.      c:\acad\acad %1 %2
9.      set acad=
10.     set acadcfg=
11.     set acadrv=
12.     set rhpadi=
13.     cls
```

When AutoCAD is exited, lines 9 through 12 reclaim the environment space that was consumed by the commands on lines 4 through 7.

If you see the message “Plotter is not ready ...”

- Check the plotter’s front panel. If it doesn’t show that the plotter is ready (either by displaying “Ready” or, for plotters without a display, by the equivalent light being on), then investigate with the help of the plotter’s documentation.
- In the case of:
 - AutoCAD for Windows 3.1 or 95 users with an HP DesignJet 230, 250C, 3xx, and 7xx series, and
 - AutoCAD for MS-DOS* users with HP DesignJets 2xx, 3xx, and 7xx series, and HP DraftPro Plus plotters,

you can check the plotter’s status by using the “Plotter Status” dialog box in HPCONFIG.



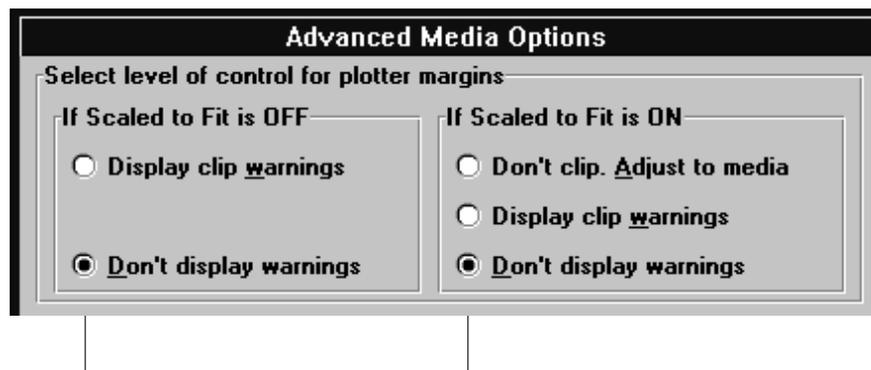
Available with some HP DesignJets and AutoCAD versions only, see above.

*The plotter’s status is not updated when using AutoCAD for MS-DOS, it is only valid at the time of request.

If you see the message “Specified area ... is too large for loaded paper ...”

This is a clip warning at plot time. You may see this message even if a full preview showed no problems, because the plotting areas for HP plotters are different than those assumed by AutoCAD for each standard media size.

- You can specify the correct plotting areas – see “If the plot is clipped” later in this chapter.
- If the area you are plotting contains space at the top and right of the image, continue plotting – there may be no clipping.
- To skip clip warnings at plot time, choose the appropriate option in HPCONFIG:



Select the required control options for clipping

- If you simply don't want any clipping – even if the size of the plot has to be automatically adjusted to the size of the loaded media – *and* you have selected **Scaled to fit** using AutoCAD's **Plot** command, then click on **Don't Clip. Adjust to media.**

If you see the message “Unable to open file ...”

- Check that the file exists by looking in both the current directory and the directory where the driver was installed (e.g. ACADR13/DRV). How you look for the file depends on what type of file it is, but you could use DOS in all cases.
 - Check that, in the file CONFIG.SYS (usually in the root directory), the FILE and BUFFER statements contain values equal to or greater than 40.
-

If the command HPCONFIG or HPRENDER or HPMPLOT does not work

- These are commands in AutoCAD, not in DOS!
- HPRENDER and HPMPLOT are commands in AutoCAD for MS-DOS, not in AutoCAD for Windows!
- If they don't work in AutoCAD for MS-DOS:
 - If you have successfully used them before, try quitting AutoCAD (after saving your work) and re-entering AutoCAD.
 - If they have never worked, there may be a line missing in the ACAD.ADS file, which would have been added automatically as part of the installation of the driver software. ACAD.ADS is normally in AutoCAD's program subdirectory. A line similar to the following should appear in this file:

```
C:\ACAD\DRV\HPMPLOT.EXP
```

If it is not there, add it.

If you have overwritten a configuration (.HPC) file by mistake

- There is always a backup copy of the previous version of the .hpc files. See “Restoring the previous configuration” in chapter 2, page 24.

If the plot is clipped

This indicates a discrepancy between the actual plotting area on the loaded media and the plotting area as understood by your AutoCAD.

- Check the actual plotting area for the media size you have loaded.

Plotting area = media size – margins

You can find all the relevant information in your plotter User's Guide or, for HP DesignJet series plotters, in chapter 2, page 18 of this manual.

- Check what AutoCAD understands to be the plotting area. This is shown in the **Paper Size** dialog box, accessible by entering PLOT and clicking on **Size ...**. AutoCAD's assumed margin areas are *generally wrong* for HP plotters.
- Check that the graphic selected in the **Media Options** dialog box in HPCONFIG matches the orientation of the media loaded in your plotter.
- Check all the selections in the **Rotation and Origin** dialog box accessible from the **Plot Configuration** dialog box (via PLOT).
- Before retrying the plot, use Full Preview in the **Plot Configuration** dialog box.

To ensure your plot is not clipped, do one of the following:

- Specify the plotting area as a USER SIZE in AutoCAD's **Paper Size** dialog box,
- Select **Scaled to Fit** in AutoCAD's **Plot Configuration** dialog box *and* select **Don't clip. Adjust to loaded media** in HPCONFIG's **Advanced Media Options** dialog box.

If the plot's orientation is wrong

- The best way to ensure that your output appears in the required orientation (landscape or portrait) is to use HPCONFIG's **Media Orientation** dialog box. See chapter 5, "HPCONFIG field-by-field", page 48, noting especially step 3.
- Before retrying the plot, use Full Preview in the Plot Configuration dialog box.

If the entire plot is in one quadrant of the correct plotting area

- The plotter's graphics language should be configured as HP-GL/2. For an explanation of how to check or change the plotter's graphics language, see your plotter's *Setup Guide* or *User's Guide*.

If the output is distorted or unintelligible

- If you are using a serial interface between the plotter and your computer, make sure the plotter's serial interface settings (baud rate and parity) match the current settings on AutoCAD. To check or change the plotter's settings, see your plotter's *Setup Guide* or *User's Guide*.

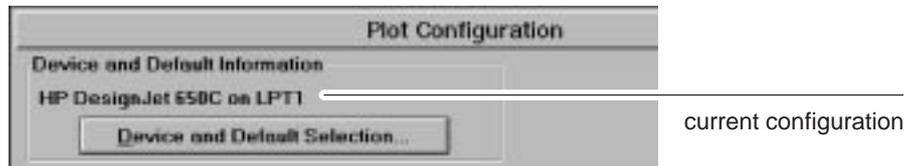
If pen settings (e.g. line widths) seem to have no effect

- In some HP plotters, you need to specify whether the pen settings are to be taken from the software (in this case, from AutoCAD) or from a setting made on the plotter. For example, in the HP DesignJet 250C, pen settings are part of the setup sheet. Make sure this setting is as you require, referring if necessary to the plotter's documentation.

If HPCONFIG settings generally seem to have no effect

Maybe the .HPC file, which you have created in HPCONFIG, is not being used at plot time. To check which plot configuration file is used as default you can:

- enter the PLOT command, select **Device and Default Selection** from the **Plot Configuration** dialog box and with the appropriate plotter selected, click on **Show Device Requirements....** The default configuration file is shown in the **Current configuration:** field.
- alternatively, enter the HPCONFIG command, and ensure that when you select the appropriate output device, the **Configuration File:** field displays the .HPC file you want to use as default.





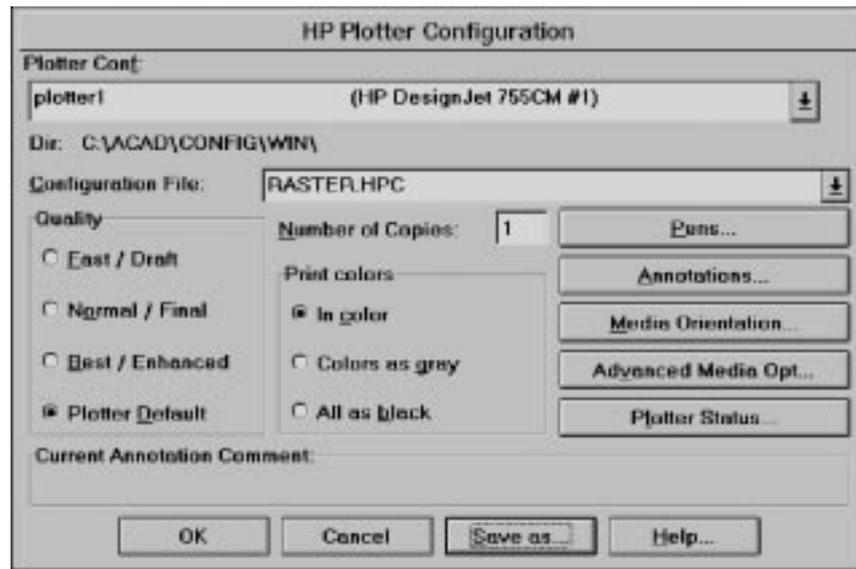
Reference

Reference

HPCONFIG field-by-field

HPCONFIG field-by-field

HP Plotter Configuration



All the information in this dialog box, and in the other dialog boxes that you can access from here, relates to the plotter selected at the top – in the above example, **HP DesignJet 755CM**.

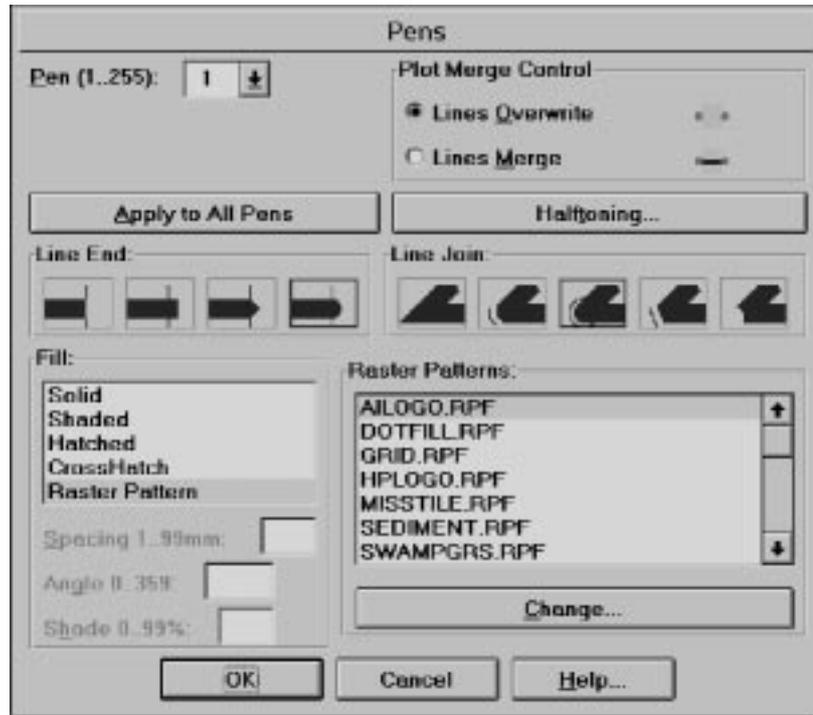
In order to ...	Do this ...
Change the plotter selected	Scroll through the list of plotter configurations, and click on one.
Change the configuration file selected	Scroll through the list of configuration files, and click on one.
Add a customized plotter configuration file	Choose an existing configuration file, for example NO file , as a default, make your changes and then click on Save as... . The next dialog box asks you to name your new file.

Other Fields	Explanation
Number of Copies	Enter the number of copies you want from each AutoCAD Plot command.
Print Quality	Select a quality level, or accept the plotter's default. Higher quality output takes longer to plot. Not all options are available for all plotters.
Print colors	In color – will produce a full color plot. Colors as gray – will convert the colors in your drawing to shades of gray. All as black – will convert all the colors of your drawing to black.
Pens ... Annotations ... Media Orientation ... Advanced Media Options ... Plotter Status ...	Click to go to the next dialog box.

Reference

HPCONFIG field-by-field

Pens



This dialog box lets you define pen attributes for the pen numbers you specify. Most pen plotters have eight pens, numbered 1 through 8, which will be activated as the following pen numbers defined here: 1 through 8, 9 through 16, etc. Inkjet plotters have no physical pens, but attributes you define here will be assigned to “logical pens”.

In order to ...	Do this ...
Change the number of the pen you are defining	Click on the arrow and scroll or select the pen number, or enter the number in the box.
Have your specification apply to all pens	Click on Apply to all pens .
Other Fields	Explanation
Plot Merge Control* (applies to all pens)	Select Lines Overwrite to make intersecting areas show only the last entity plotted. Select Lines Merge to make intersecting areas show all lines and fills. This setting will apply only if Merge is <i>off</i> on the plotter. If Merge is <i>on</i> on the plotter, it overrides this setting.
Area Fill Generation (for pen plotters)	Plotter – (Best Lockout Time) Area fills are generated in the plotter, this selection results in the shortest period of time your computer is busy and unavailable. AutoCAD – (Best Plotting Time) Area fills are generated by AutoCAD, this selection results in the shortest period of time your plotter takes to draw your plot. The Fills menu is unavailable with this selection.
Line End	Select the shape for line ends. Round ends are recommended for most AutoCAD plots.
Line Join	Select the shape for line joins. Round joins are recommended for most AutoCAD plots.
Fill	Select a fill pattern. It will apply to TRACES, PLINES, DONUTs and ELLIPSEs. Raster Pattern means the pattern whose filename is currently selected on the right. This setting will apply only if, on the plotter, Pen Settings or Pen Palette is set to “from software”.
Spacing, Angle, Shade	These specifications apply to the fill option currently selected above.

* except pen plotters

Reference

HPCONFIG field-by-field

Raster Patterns*	<p>The files named on the right (GRID5.RPF etc) contain some pre-defined patterns which you can choose as your fill selection. To apply one, first select Raster Pattern from the Fill options. The highlighted file is the current one. To change it, do one of the following:</p> <ul style="list-style-type: none">– Click on another in the list– Click on Change to select from the files in a different directory.
Halftoning*	<p>Halftoning refers to the appearance of vectors drawn by the plotter in all colors <u>except</u> the seven primary plotter colors: red, green, blue, cyan, magenta, yellow, and black. Depending on the model of plotter, you may select Pattern or Scatter.</p>

* except pen plotters

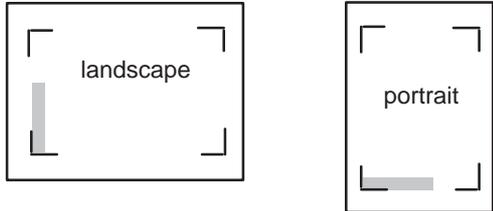
Annotations



This dialog box enables you to define text or crop marks to be plotted. The crop marks will be drawn:

- in addition to the drawing,
- by pen number 7 (default black 2.54 mm),
- on all plots using this configuration file.

Annotations are positioned as follows:



- text (the annotations specified in the dialog box)
- ┌ crop marks (positions examples only)

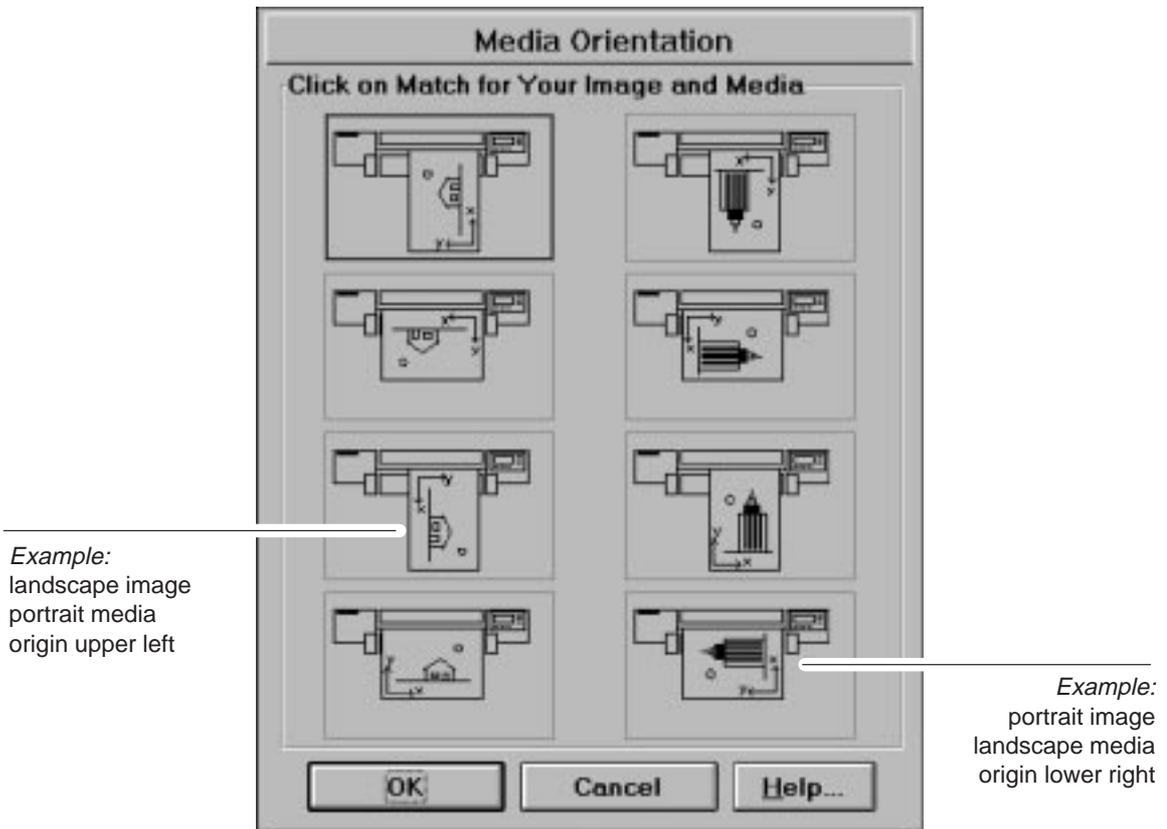
IMPORTANT: Annotations shift your plot by 12.5 mm (0.5 in), which is not included in the width and height specification in the PLOT command.

Reference

HPCONFIG field-by-field

Fields	Explanation
Drawing Filename	Select to include the plot filename and pathname.
Plot Date/Time	Select to include the date and time the plot began.
Driver Info	Select to include the driver name, plotter model and configuration filename.
Crop Marks	Select to include crop marks at the corners of the plotting area.
Comments	Up to 50 characters to appear as annotated text.

Media Orientation



This dialog box lets you make sure that your drawing is plotted in the correct orientation on the media.

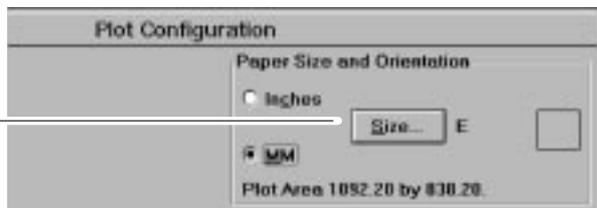
(In the examples above, the media is physically aligned to the right edge of the plotter because it is an HP DesignJet 600. For correct alignment, see your plotter User's Guide.)

Reference

HPCONFIG field-by-field

- 1 Identify which of the eight pictures matches your requirement.
 - Is your on-screen image:
 - landscape (width > height)?
... then left-hand column
 - portrait (width < height)?
... then right-hand column
 - Is the physical orientation of the media loaded in your plotter:
 - landscape?
 - portrait?
 - (Pen plotters only) Where do you want the biggest margin?
 - Where do you want the origin?
- 2 Click on the correct picture.
- 3 **IMPORTANT.** If the orientation of your plotted copy should be in *portrait* orientation, then, at plot time, you must enter a suitable USER size with width less than height:

For portrait media,
click here to enter size.



Advanced Media Options



This dialog box helps you avoid clipped plots.

- 1 Decide what you want to happen when AutoCAD's **Scaled to fit** option (in the **Plot Configuration** dialog box) is ON, and what should happen when it is OFF.
- 2 *When it is OFF*, decide whether you want to be warned on-screen that your plot will be clipped. Click on the appropriate box.

When it is ON, AutoCAD's standard estimate of the plotting area may not be correct for your plotter. To scale to fit the real plotting area, choose **Don't clip. Adjust to media**. If you don't choose this, you can decide whether you want to be warned on-screen that your plot will be clipped. Click on one of the three boxes.

The driver cannot access all plotter models to see what size media is loaded. If it cannot access your plotter, it will use the standard plotting area for the media size identified in the **Plot Configuration** dialog box, as long as this is a standard media size.

Field	Explanation
Plotter Margins	For plotters with an expanded margin feature, click on either OFF or ON, to match the current setting on the plotter. This setting is used by the driver to calculate the real plotting area.

Reference

HPCONFIG field-by-field

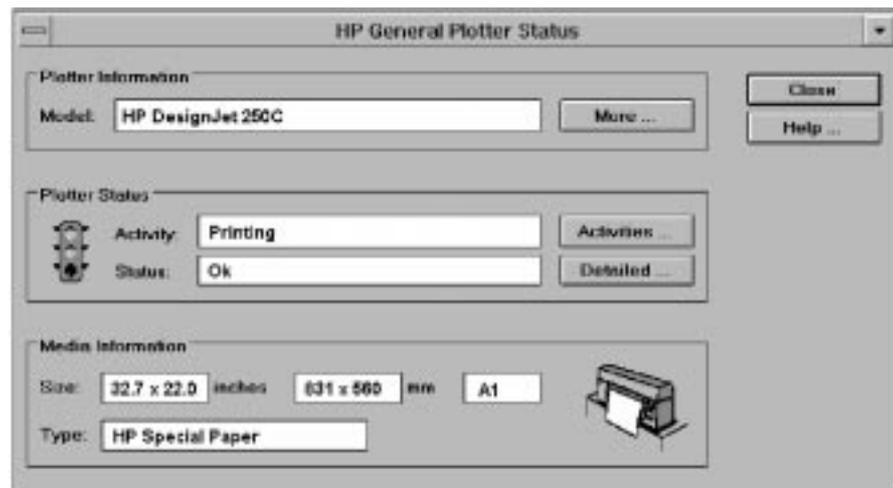
Plotter Status

This dialog box lets you track the progress of your plots as they are processed by the plotter. It also provides information about the media loaded in the plotter: size, dimensions and type.

The Plotter Status dialog box for both MS-DOS and Windows 3.1 and 95 versions is available as follows:

- HP DesignJets 230, 250C, 3xx, and 7xx series (connected via a parallel port only) used with AutoCAD 12 or 13 for Windows, see below.
- HP DesignJets 2xx, 3xx, and 7xx series and HP DraftPro Plus plotters, used with AutoCAD 12 or 13 for MS-DOS. (When using AutoCAD for MS-DOS, the plotter's status is not updated, it is only valid at the time of request.)

HP General Plotter Status – Windows environment

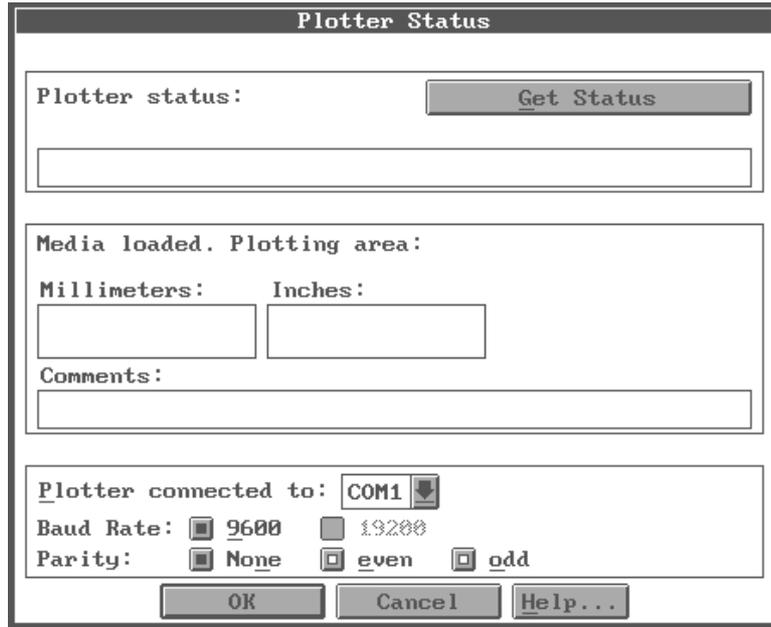


The following dialog boxes can be accessed from the one above:

Click on...	Dialog box opened...
More...	Plotter Information
Activities...	Plotter Activity
Detailed...	Plotter Status

For information on the content and uses of these dialog boxes you should refer to the online help system either from the **HP General Plotter Status** window or from the **Help...** button in a particular dialog box.

Plotter Status – MS-DOS environment



This dialog box shows the current status of the plotter – media loaded, lever/cover position, plotter ready/not ready, etc. Below is an explanation of the important fields in this dialog box:

Field	Explanation
Get status:	Click on the button if you want to see the latest status. (The status is <i>not</i> monitored continuously).
Media loaded	The plotting area of the media currently loaded in the plotter.
Comments	More about the size of the media loaded (A4, A3, roll-feed), and the status of the request for information.

Reference

HPCONFIG field-by-field

Plotter connected to:

Using this combo box, you can select the port to which the plotter is physically connected.

Baud Rate, Parity

This shows the serial interface *only for getting the plotter's status in this dialog box*. The initial settings are the defaults for this plotter.

IMPORTANT. Any change you make here does *not* change the interface settings in AutoCAD. If you want to change AutoCAD's settings, use CONFIG.

IMPORTANT. The **Plotter connected to**, **Baud rate**, and **Parity** settings must match those of the physical selection. Otherwise **Get Status** cannot obtain data from the plotter.

Where to find more information

Online help	HPCONFIG, HPRENDER and HPMPLOT have online help.
Driver documents	<p>This <i>Step-by-Step Guide</i> covers the basic tasks for the most common requirements.</p> <p>The driver installation disk may also include a README.TXT file with additional information not included in this <i>Step-by-Step Guide</i>.</p>
AutoCAD documents	<p><i>AutoCAD Interface, Installation and Performance Guide</i>. Section:</p> <ul style="list-style-type: none"> Protected-mode ADI Plotter Drivers <p><i>AutoCAD Reference Manual for your release</i>. Sections:</p> <ul style="list-style-type: none"> Plot command Limits command <p><i>AutoCAD Customization Manual for your release</i>. Sections:</p> <ul style="list-style-type: none"> ACADDRV Environment Variable Custom Menus
Plotter information	<p>Each of the HP plotters and printers supported by this driver is supplied with its own documentation: <i>User's Guide</i>, <i>Setup Guide</i> etc. Relevant information to be found in these manuals includes:</p> <ul style="list-style-type: none"> interface specifications (for example default serial interface parameters) other default hardware settings supported media sizes margins plotting areas (media size minus margins) plot control features such as rotate and mirror
Help	If have specific problems, contact either your authorized AutoCAD dealer or your HP Customer Support Center.

Section 2

AutoCAD 386 Releases 10 and 11 Driver for HP Plotters – Installation and Configuration Guide

General Information

You can refer to any of these documents for more information:

- *AutoCAD Installation and Performance Guide* (varies with release)
- *AutoCAD Reference Manual* (Plotting chapter) (varies with release)
- Documentation supplied with your plotter

The drivers delivered with your HP plotter can be summarized as follows:

Diskette label:	For AutoCAD Release:	Driver Filename:	Driver type and version:	Mode:	Graphics Language:
HP-GL/2 Driver for AutoCAD Releases 10,11,12 & 13 (v 3.3)	Release 13 for Windows	PLHPGL2.DLL	ADI 4.2	Protected	HP-GL/2
	Release 13 for DOS	PLHPGL2.EXP			
	Release 12 for Windows	PLHPGL2.DLL			
	Release 12 for DOS	PLHPGL2.EXP			
	386 Release 11 and 386 Release 10	PLPHPGL2.EXP	ADI 4.1		

If you are unsure about which release of AutoCAD you have, you can find out by loading AutoCAD and reading the opening screen; the AutoCAD Release is stated here.

If you need more help with AutoCAD, contact your authorized AutoCAD dealer. If any problem persists, or if a repair is needed, contact the HP dealer or HP Sales and Support office where you purchased the plotter.

Introduction

This short guide explains how to install the ADI 4.1 HP-GL/2 driver (PLPHPGL2.EXP) and set up AutoCAD 386 Releases 10 and 11 for your HP plotter.

Note: In all instructions, type only the text in **bold** face.

Read this section – it is important

- AutoCAD supports parallel connections and therefore, where possible, we **strongly recommend that you configure AutoCAD and your HP plotter to use a parallel rather than a serial connection.**
- If you intend to use serial communications between your computer and the plotter, you should make sure the plotter's parity setting is EVEN.

Before you begin

Here's what you should have already completed before you install the driver:

- The installation of AutoCAD
- Plotter setup, using the instructions which were delivered with the plotter.

Installing the ADI 4.1 HP-GL/2 plotter driver

Follow these step-by-step instructions to install the driver software, and enable AutoCAD to use it.

To complete this procedure you only need to know the path to the directory where your version of AutoCAD has been installed, e.g. C:\ACAD

The step-by-step instructions below assume:

- that you want to install your drivers in a directory named C:\ACAD. If you have chosen a different location you should substitute it in the following instructions.
- that you will use drive A. If you are using drive B, substitute B for A. (If there is one flexible disk drive, it is drive A. If there are two, the upper one is drive A and the lower one drive B.)

Note: In all instructions, type only the text in **bold** face.

- 1 Insert the diskette labelled:

HP-GL/2 Driver for AutoCAD
Releases 10, 11, 12 & 13 (v 3.3)
for MS-DOS

supplied with the plotter into the flexible disk drive on your computer (usually drive A:).

- 2 Get to the DOS prompt. (For example, quit AutoCAD; you may also need to re-boot your system in DOS mode.)
- 3 Type the following to change the active drive to A:

A: [Return]

The DOS prompt will change to:

A:\>

- 4 Type the following to begin installation:

install [Return]

- 5 When prompted select the “AutoCAD Releases 10/11 386” entry and press **[Return]**.
- 6 When prompted, enter the drive and directory in which you want the driver installed, to accept the default, C:\ACAD\, press **[Return]**.

You will see a list of files as they are transferred from the disk onto your hard disk.

- 7 You will see a screen of text which describes the driver you have just installed and a reference to a .DOC file which provides important reference information. Read this screen and press **[Return]**.
- 8 You have now completed the driver installation procedure; however you must now make the drivers available to AutoCAD.
- 9 If you created a batch file ACAD386.BAT when you installed AutoCAD continue with this step, otherwise go to the following step. If you start AutoCAD by typing ACAD386 the above file name is correct; if not, insert the filename you use in the instructions below:
 - a load the ACAD386.BAT file into a text editor (e.g. MS-DOS[®] Edit, Windows[®] Notepad)
 - b add the following as a new line just before the last line of text:

set plpadi=c:\acad\plphpgl2.exp[Return]
 - c Save the file and exit the text editor.
 - d Skip the following step.
- 10 Type the following line at the C:\ACAD> prompt in order to rename the driver so that AutoCAD can automatically find it:

copy plphpgl2.exp adiplot.exp [Return]

You are now ready to configure AutoCAD to use the ADI 4.1 HP-GL/2 driver. The following section contains the details of the necessary configuration steps.

Configuring AutoCAD 386 Release 10/11 for use with your HP plotter

This section steps you through the standard configuration questions asked by AutoCAD and, in some cases, advises you on which selection to make.

Some of these questions are asked again when you select the “Plot a drawing” option from the Main Menu of AutoCAD; the answers you give here are used to establish a set of default values displayed at plotting time.

- 1 Start AutoCAD in the usual way.
- 2 Press **[Return]** when AutoCAD prompts you.
- 3 When the “Main Menu” is displayed, type **5** to select Configure AutoCAD, then press **[Return]**.
- 4 When the current configuration is displayed, press **[Return]**.
- 5 When the “Configuration menu” is displayed, type **5** to select Configure Plotter, then press **[Return]**.
- 6 When the current plotter selection is displayed and you are asked if you want to select a different one, type **Y** and press **[Return]**.
- 7 When the list of available plotters is displayed, type **2** to select ADI P386 driver and press **[Return]**.
- 8 When asked to select from the supported models, type the number corresponding to your plotter and press **[Return]**.
- 9 When prompted, type the number of copies to be made of each plot, then press **[Return]**. We recommend that you type **1**. If you require multiple copies of a particular plot you can specify the number at plot time – the next step explains how you can do this.
- 10 When asked if you would like the option to override the default number of plots, typed in the step above, before each plot type **Y** or **N** to indicate your choice, then press **[Return]**. We recommend that you type **Y** so that you’ll be asked for the number of plots to be made at each plot time. If you think that you will ever want multiple copies of a plot, type **Y**.
- 11 If the device you selected in step 7 has roll feed capability, you will see a question regarding long axis plotting. Type **Y** or **N** to indicate your choice, then press **[Return]**.

- 12 Depending on the device you selected in step 7, you may be asked if you would like to change line weight #20, type **Y** or **N** to indicate your choice, then press **[Return]**.

If you answer **Y**, you can enter a new value, this new value should be less than 25.0 mm. The default thickness is 4.0 mm. The weight value you enter will be the thickness of the line assigned to pen speed 20.

- 13 When asked if your plotter is connected to a serial (sometimes called RS-232-C) or parallel (sometimes called Centronics) port, type **S** or **P** to indicate your choice, then press **[Return]**. A list of standard port names is then displayed.

If you haven't yet connected your plotter to your computer, refer to the plotter's documentation for instructions and information on how to verify that the connection has been properly made.

Hewlett-Packard *strongly recommends* that, where possible, you use the plotter's parallel port.

- 14 When prompted, type the name of the port on the computer to which the plotter is connected, then press **[Return]**.

If you don't know which port name to enter refer to your computer documentation to identify its ports. Serial ports are referred to as COM1, COM2 etc; parallel ports as LPT1, LPT2 etc.

- 15 When asked if you want to calibrate your plotter, type **N**, (unless you have a HP DraftPro Plus, see below) then press **[Return]**.

Some HP plotters, such as the HP DraftPro Plus, do not perform self-calibration, if you have one of these devices, type **Y**, then press **[Return]**. Perform the "software-only" calibration offered here by AutoCAD.

- 16 When asked if you want to write the plot to a file, type **Y** or **N** to indicate your choice, then press **[Return]**. If you type **N**, AutoCAD will send your plots to the plotter at plotting time. If you type **Y**, each time you execute a plot from AutoCAD you will get a prompt for a plot filename in which to store the plot. In this case the plot is *not* sent to the plotter. To send a stored plot file to the plotter you can either:

- use AutoCAD's SHELL command to allow the use of MS-DOS commands without exiting AutoCAD, or
- exit AutoCAD, then type the following (with your actual pathname, filename and portname) at the MS-DOS prompt:

mode portname: 9600,E,7,1,P (for serial ports only e.g. COM1, COM2 etc.)

copy/b C:\pathname\filename portname (for serial and parallel ports)

- 17 When prompted to enter the size units, type either **I** for inches or **M** for millimeters, then press **[Return]**. All plot specifications will be in the size unit you enter.

- 18 When prompted to enter the plot origin, type your choice in the displayed units, then press **[Return]**.
- 19 Depending on the device you selected in step 7, you may be prompted to enter the width and height of your plotting area, choose values which are recommended in your plotter documentation according to media size, margins and size unit you entered in step 17 above. (*Don't use the values in the table displayed by AutoCAD; they could cause your plot to be clipped.*) Type the width, type a comma, type the height, then press **[Return]**.

Note: If you later decide to use a different media size, you can enter the new dimensions while using AutoCAD's PLOT command.
- 20 When prompted to enter the angle of rotation, type **0**, then press **[Return]**. The three other choices may cause your plot to be clipped. Later, if you need to rotate a plot it is better to enter the angle while using the PLOT command.
- 21 When prompted to enter the pen width, type your choice, then press **[Return]**. The pen width referred to here is the distance between the parallel lines that form area fills (hatch marks) in your plots. Pen width is not the same as line weight. Refer to the online document PLPHPGL2.DOC on your driver disk for more information on line weights.
- 22 When asked if you want to adjust area fill boundaries for pen width, type **Y** or **N** to indicate your choice, then press **[Return]**.

If you type **Y**, AutoCAD will, if necessary, adjust the boundaries of polygons with the area fills to take account of the value you entered in step 19. If you type **N**, it will not adjust the boundaries.
- 23 When asked if you want to remove hidden lines, type **Y** or **N** to indicate your choice, then press **[Return]**. This feature is not affected by the plotter driver you installed.
- 24 When prompted to specify the scale, enter your response, then press **[Return]**. This feature is not affected by the plotter driver you installed; for more information, refer to the *AutoCAD Reference Manual* (Plotting chapter).
- 25 If you selected a raster device, such as DesignJet, LaserJet or HP 7600, in step 8 you will be prompted to select a type of line end, enter your choice then press **[Return]**. Round ends provide the best results for most AutoCAD plots.
- 26 Also for raster devices, you will see a prompt to select a type of line join, enter your response and press **[Return]**. Round joins provide the best results for most AutoCAD plots.
- 27 Finally for raster devices, you will be prompted to select a type of merge control, enter your response then press **[Return]**.
- 28 Press **[Return]** to exit to the Main Menu.
- 29 When asked if you want to keep the configuration changes, press **[Return]**.

- 30 To verify the current configuration, type **5** to select Configure AutoCAD, then press **[Return]**. The displayed AutoCAD configuration will state the currently selected driver (ADI P386 plotter) and the name of your HP plotter.

The current configuration will also list the model you selected and which input/output port you have configured.

This completes the required part of the configuration.

There is a document file called PLPHPGL2.DOC on the “HP-GL/2 Driver for AutoCAD Releases 10,11,12 & 13” disk. Part of this document file provides reference information on the use of AutoCAD with a range of HP plotters. We recommend that you print a hard-copy of this file. The instructions in the section titled “Printing the installation and...” detail how to do this.

You are now ready to plot using the AutoCAD PLOT command. Refer to your AutoCAD manual for more information on using this command.

Important

Hewlett-Packard recommends that while using the PLOT command you enter some user plot dimensions in the “USER SIZE” configuration menu *and* have them selected at plot time. The recommended plot dimensions when using standard media sizes are given in your plotter documentation or can be calculated as:

$$\text{media size} - \text{plotter margins} = \text{maximum plot dimensions}$$

Note: If cut sheet media is used with plotters such as the HP DesignJet series or HP DraftMaster series with the rollfeed option, always load media in portrait orientation. For HP DraftPro Plus and HP DraftMaster SX/RX/MX without rollfeed, you can load media in either landscape or in portrait orientation (where physically possible.) However the dimensions used for the “USER” sizes specification must be consistent with a landscape perspective e.g. the “width” dimension must be greater than the “height” dimension.

To verify that the installation and configuration was successful you should send a plot to your plotter, the following section provides brief guidelines.

Sending a sample plot from AutoCAD to your plotter

Having used the driver to configure AutoCAD for your plotter, you can test the configuration immediately by plotting from AutoCAD any sample plot. (If you haven't yet created any plots of your own in AutoCAD, there is usually a selection of sample plots in the C:\ACAD\SAMPLE subdirectory.)

Before you send the plot, make sure that the plotter is ready and you have loaded some fresh media.

If your plotter does not start plotting, check:

- the plotter's front panel for any error message,
- the AutoCAD screen for any error message,
- the physical connection between the computer and the plotter.

If the pen settings seem to have no effect

In some HP plotters, you need to specify whether the pen settings are to be taken from the software (in this case AutoCAD) or from settings made on the plotter. For example, in the HP DesignJet 250C this is part of the Setup Sheet. Make sure this setting is as you require, referring if necessary to the plotter's documentation.

If the output is distorted or unintelligible

- If you are using a serial interface between the plotter and your computer, make sure the plotter's serial settings (baud rate and parity) match the current settings on AutoCAD. To check or change the plotter's settings, refer to the documentation which came with your plotter.

Printing the installation and usage document for ADI 4.1

Go to the directory in which the R10/11 driver has been installed. The default name of this directory is C:\ACAD.

Issue the command:

PRINT PLPHPGL2.DOC

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