

¹APD (Aldus Printer Description)
 LPD (Letraset Printer Description)
 MPD (Manhattan Printer Description)
 PDX (Printer Description Extension)
 PPD (PostScript Printer Description)
 WPD (Windows Printer Definition)

The PostScript™ language computer code created by software applications is often called device independent. This means that the same code for a page description can be sent to different PostScript language printers and will produce the best output that that device can provide, whether it is a laser printer, a slide film recorder, an imagesetter or whatever. Though the page description is device independent, PostScript language printer drivers insert device specific information that is specific to the set of features available on the target printer. (Page size is one of the most common examples.) How does the printer driver find out about the device specific feature set of a printer? It gets this information through printer support files. Most users are familiar with printer support files through their acronyms: APDs, LPDs, MPDs, PPDs, PDXs, and WPDs.¹

Generally, once the printer support files are obtained and placed in the proper location on the computer, most users need not think about them again. But an understanding of printer support files is particularly handy for advanced PostScript users who may have reasons for editing them.

A short history

Adobe Systems, Inc. (the creator of the PostScript page description language) realized very early on in the development of PostScript that printer support files would be necessary. They began to develop a specification for something called PostScript printer description files or PPDs. PPDs contain device (printer) specific information on halftoning, color, printer memory, page sizes, paper & film handling, and error messages, among other things. However, the first commonly used printer support files were released by Aldus Corporation for use with PageMaker® 2.0. These files contain a subset of the data in a PPD and are called Aldus Printer Description files or APD's.²

²Adobe originally planned on calling their printer description files APDs too. (They wanted it to stand for Adobe Printer Description). To avoid confusion between the two file types, Adobe settled on the name PPD.

Aldus introduced APDs before Adobe introduced PPDs simply because Aldus needed a solution for PageMaker 2.0, and, PageMaker 2.0 was ready before Adobe could finish the complex PPD specification that it had planned. APDs were used up until version 4.1 of PageMaker for the Macintosh. APDs are no longer used by current Aldus software applications because they contain no information on color separation. In 1989, when Aldus introduced its color separation program PrePrint® 1.0, it began to use Adobe's PPDs.

³The current Adobe PPD specification is version 4.1 which was released in April of 1993. Those interested in getting a copy of the specification should call the Adobe Developer Support Hotline at 415-961-4111.

When Adobe completed the 3.0 version of the PPD specification,³ they added a way to include extra information in a PPD file, but without actually editing the PPD itself. The reasoning behind this is that PPDs are regularly revised by Adobe. If users were to customize their PPDs, they wouldn't be able to replace them with Adobe-revised PPDs without losing all of the changes that they had made to them. Aldus Corporation took advantage of this change in the PPD specification to create Printer Description Extension files or PDXs. PDX files are another type of printer support file that may contain only a few lines of code.⁴ Aldus introduced PDXs to allow users to make small edits in PPDs without having to edit the actual file.

⁴APDs and PPDs may be several pages in length.

There were three specific changes that Aldus envisioned users making: font additions, transfer curve changes for the purpose of calibration, and custom paper sizes. But in the same way that APDs became obsolete, PDXs are

Software program	Printer support file used
<i>Adobe:</i>	
Illustrator 3.2*	PPDs
Photoshop 2.0*	PPDs
Separator 3.0.4	PPDs
<i>Aldus:</i>	
FreeHand 3.1	PPDs & PDXs**
PageMaker 5.0	PPDs
PrePrint 1.6	PPDs
PressWise 1.0b	PPDs
<i>Others:</i>	
DesignStudio 2.0	LPDs
Ready,Set,Go! 6.0	MPDs
QuarkXPress 3.2	PDFs
Windows apps.	WPDs
*Will only use PPDs in the next release	
**Support PPDs when the files are printed with Adobe Separator	

also nearing extinction. Alternate ways of making these three changes have come about which make PDXs less vital. For example, calibration programs are now widely available, and, are much easier and more reliable than calibrating with a PDX. In addition, custom paper sizes may now be created in Aldus software applications through a menu option.

Printer drivers that support PPDs

Adobe:
 PSPrinter 8.0 and up
 Adobe's Microsoft Windows driver (ADOBEPS.DRV ver. 2.0 and up)
 Transcript Version 4.0 and up
 (This is a Unix product)

Apple:
 LaserWriter 8.0 and up

With their current suite of products, Aldus has found it more practical to standardize on the Adobe PPD specification. In addition, Aldus' development of production tools to automate the inclusion of added information into PPDs has hastened the end of PDXs.

Other manufacturers have made their own printer support files too. Printer Description Files or PDFs were created by Quark Inc. for use with QuarkXPress.® PDFs serve the same purpose as PPDs but were introduced by Quark to work within the user interface of QuarkXPress. Letraset Printer Description files or LPDs were first introduced to work with DesignStudio™. Letraset has since sold their interest in DesignStudio back to Manhattan Graphics which markets the program as Ready,Set,Go! and calls the files Manhattan Printer Description files or MPDs. PC users will be familiar with Windows Printer Definition files or WPDs which are used by many applications using the Microsoft Windows™ 3.1 graphical user interface. WPDs are derived from PPDs. The chart to the left shows the current state of printer support file usage by common desktop publishing products. The chart above and to the right shows the printer drivers that support PPDs.

Who makes them?

⁵One result of having Adobe supply printer support files is that it leaves PostScript clone raster image processor (RIP) users out of the loop. If printer support files exist for clone RIPs, they must be obtained from the RIP manufacturer. However, in many cases Adobe-approved printer support files work not only for the chosen device, but for similar ones as well.

In the early days of the PostScript page description language, it was somewhat unclear as to who held the ultimate responsibility for creating printer support files. Printer manufacturers had the information about their output devices, but many assumed that it was Adobe's responsibility to make the printer support file. Software program developers needed the files, but unless they took the bull by the horns (as Aldus did), they could only ask for them and wait. And while Adobe did not want to create the printer support files, they did want to approve them.

Today, the picture is much clearer. Printer manufacturers submit printer support files to Adobe for approval. Then, Adobe gives the approved printer support files to software application developers who need them for their programs.⁵ Adobe does generate PPDs for certain new printer products when they are involved in the custom development of the product.

Up-to-date printer support files

The review period imposed by Adobe is necessary to assure the quality of PPD files, but sometimes it means that printer support files are unavailable for newly released printers. PostScript users who want the latest printer support files can obtain them through a number of sources:

- **Through Linotype-Hell** – Linotype-Hell raster image processors (RIPs) are delivered with a disk containing the most current printer support files at the time of the RIP's release. Linotype-Hell customers can get the latest printer support files by calling the parts department at 1-800-633-1900. There are two disks: the Printer Support Disk for the Macintosh™ and the Printer Support Disk for the PC platform. There is a small charge for both of these diskettes.

Printer support files are also posted on the Linotype-Hell service bulletin board which is open to Linotype-Hell service contract customers and

Linotype-Hell User Group members. The bulletin board operates 24 hours a day (except for back-up and maintenance Friday from 9 am to 12 noon eastern standard time). The baud rate is 9600 and the modem number is 516-434-7877. The printer support files are in the Downloads directory.

- **Through other sources** – Printer support files are also available through many electronic bulletin board systems. For example, on CompuServe a variety of printer support files are found in the Desktop Publishing Forum. For Macintosh versions, the files are found in the Mac DTP Utilities library, for PC versions, the files are in the PC DTP Utilities library. PPDs also are posted by Adobe in the Adobe Forum in Library 9: Printers/Typesetters.

Internet users can get PPDs from Adobe through the mail archive server, ps-file-server@adobe.com, or through anonymous FTP.

Microsoft users can get WPDs through the Microsoft Download Service. WPDs for Linotype-Hell products are contained in a self-expanding file called LINO.EXE. (The number for the download service is 206-936-6735.)

Editing a printer support file

There are a number of reasons why someone might want to edit a printer support file: to add page sizes, to update the memory size of a printer, or even to add a custom halftone dot shape. Most printer support files can be read and edited with a word processing program.

Most people edit the actual APD or PPD file, but theoretically users can also create a small file to include just the desired information. This kind of file is called a local customization file and is described in greater detail in the Adobe PPD specification. Unfortunately, it doesn't work consistently in practice even with the most recent version of Adobe Separator.

The best way to learn about how local customization files work is to look at a PDX. In it you will see a command called "include". This command assigns the information in the PDX to a specific PPD.

Editing hints

Editing printer support files can be an extremely frustrating process which may involve a fair amount of trial and error experimentation. Here are a few helpful hints when editing a printer support file:

- Don't edit a printer support file unless you know what you are doing!
- Don't edit an original PPD! Work from a copy. Save it as text.
- The changes you make to a printer support file may or may not be recognized by the software program that you are using. This will depend not only on the program, but on the printer driver. This is the main reason why editing printer support files is so frustrating. You have to test to see if any changes will be acknowledged.
- The most common edit that users make to an imagesetter printer support file is to add a page size. To add a page size you must make changes in three places in the file: PaperDimension, ImageableArea, and PageSize.
- Don't worry about editing lines of code that begin with "**%". They are comments and are ignored by the computer. They are there to help humans understand the code. You may want to include your own comments to help you understand what it was that you did. Start your comments with the characters "**%". Think of a comment as a message to some individual in the distant future who is trying to figure out what it was that you did. Don't go overboard. Unnecessary comments take up space.
- Remember that PostScript dimensions are usually in points unless otherwise stated. Divide by 72 to convert these measurements to inches. Multiply your own values in inches by 72 to convert them to points. For example, "860 1296" describes a page that is 860 by 1296 points (which is

equal to 11.94 x 18 inches). Conversely, an 8.5 by 11 page would be 612 by 792 in points.

- You can't edit a PDF or a WPD. And, you can only create a local customization file for printer support files that were created based on the Adobe 3.0 (or higher) PPD specification.
- Screening filters in Linotype-Hell RIPs (since the RIP 30) may ignore changes made to dot shape, screen ruling, screen angle, and transfer curves. If you want to make edits and have these edits apply, you must use the Linotype-Hell Utility to set the screening method to Default.

Microsoft Windows & WPDs

Currently all applications that run under Microsoft Windows 3.1 use WPDs along with the Windows PostScript language printer driver developed by Microsoft. If you are using WPDs and the Windows printer driver then there are a few things that you need to consider. WPDs are a little different from other printer support files. One difference is that they have been compiled using the C computer language. This means that the result is not a human readable text file. Unfortunately, many WPD users would like to edit WPDs, and this makes it impossible.

On top of that, at high resolution the current Windows printer driver may not allow you to select certain large page sizes. The best workaround for this frustrating problem is to choose a low resolution setting (perhaps 635 dots per inch) in the print setup menu. (Don't actually change the imagesetter resolution!) This has the effect of allowing you to choose larger page sizes. And, since changing this selection will not change the actual resolution, it basically just tricks Windows into thinking a lower resolution setting is in use.⁶

⁶This is not an ideal solution as some software applications use this information to decide how accurately to calculate the positioning of marks on a page. Still, whether the positions are based on 1/635th of an inch or 1/2540th of an inch, they will still be extremely accurate.

Adobe Systems is currently working on a PostScript language printer driver for Windows 3.1. This driver will use PPDs and should solve this problem. Call the Adobe End-User Hotline for more information (1-800-833-6687).

Microsoft's PostScript driver for Windows is called PSCRIPT.DRV and is located in the \WINDOWS\SYSTEM directory usually found on your C: drive (along with the companion file PSCRIPT.HLP). If you do not have the WPDs or the Windows drivers, the best thing to do is to check either the Linotype-Hell service bulletin board, or, to download them from the Microsoft Download service (see description on the previous page). It is important to note that the WPDs currently supplied by Microsoft are somewhat different than the WPDs available from Linotype-Hell. The Microsoft WPDs allow user-defined page sizes, but versions are not available for all Linotype-Hell RIPs.

Conclusion

Editing a printer support file so that it does what you want requires a little bit more than a general interest in PostScript. But it gives you the power to make some changes that otherwise would be impossible.

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