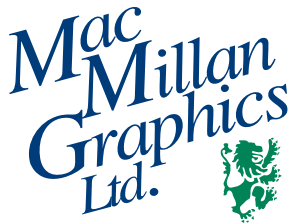# The PDF Workflow: Preparing Documents for Print

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It has been more than a decade since Adobe announced PDF version 1.0 at Comdex Fall 1992 and won the "Best of Comdex" award. Originally an internal project of Adobe Systems conceived by founder John Warnock, PDF was developed for office communication use so document files could be displayed on any computer using any operating system.

Adobe Acrobat, the tool to create and view PDF files, was first released in June 1993. Early PDF adoption came from the corporate setting, including the Internal Revenue Service, which distributed forms as PDF files. As adoption spread, support for multimedia functionality (adding audio or video data to a PDF document) was added, followed by features needed by the prepress community, then the ability to link PDF files to HTML pages on the Internet. The acceptance of PDF is best indicated by the widespread use of Adobe Reader – by 2003, over 100 million copies had been downloaded from the web.

What is a PDF file?

PDF is an acronym for *Portable Document Format.* PDF files are used between software applications to exchange data that describes documents. PDF files can also be used to create electronic documents, archive data, and prepare interactive documents such as electronic forms that capture data and store it in a database.

A PDF file can be recognized by its extension (.pdf) and by its icon.
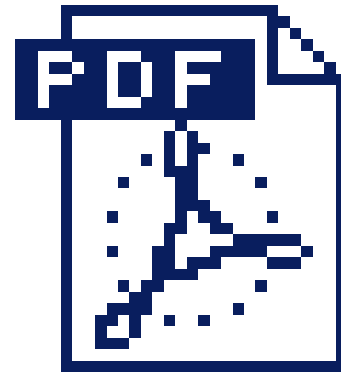
PDF files can be viewed with Adobe Reader, which can be downloaded for free from the Adobe web site.

A PDF file has a number of advantages over a native application file:

- *It is cross platform.* No matter what computer workstation or operating system or application was used to create the file, it can be viewed on any other workstation exactly as it was intended to be seen.

- *It is independent of any output device.* A PDF file can be printed on any output device (though output may not be optimized for every device).

- *It is compact.* PDF files support sophisticated compression algorithms that keep the file size to a minimum.

- *It supports non-document elements.* A PDF file can contain audio or video files, links to web pages or e-mail addresses, and thumbnail views of pages.

- *It can be made secure.* The creator of a PDF file can set security options to password-protect the file, forbid content changes, or disable the *file print* option.

Acrobat is a suite of software developed by Adobe Systems to generate, view, and manipulate PDF files. When new specifications are developed for PDF files, a new version of Acrobat is released.

There are other file formats – PostScript, HTML (Hypertext Markup Language), and XML (eXtensible Markup Language), for example – that perform a similar function to PDF. However, PDF is the standard file format in the graphic arts industry.

What are the steps to create a PDF file?

A PDF file is created in four steps:

1. Create the document page(s) in any application.

2. Configure a PostScript printer driver with a PostScript printer description (PPD) file. (A PPD file describes the fonts, paper size, resolution, and other standard features of a PostScript printer and is required for correct printing of the document.)

3. Generate a PostScript file that includes embedded fonts.

4. Convert the PostScript file to a PDF.

It is becoming increasingly common for software applications – especially those from Adobe – to include a feature within the application to create a PDF. However, not all of these will produce a PDF file suitable for commercial printing.

The most reliable method for creating a PDF from a PostScript file is to use Adobe Distiller (part of the Acrobat program suite). However, Distiller 3.x fails to embed 14 fonts (four Courier fonts; four Times Roman fonts; four Helvetica fonts; symbol and Zapf Dingbats). Distiller 4.x honors TrueType font licensing restrictions and may not embed fonts containing those restrictions.

PDF Writer, a print driver for the Macintosh and Windows operating systems that is also part of the Acrobat suite, is easy to use, but does not handle Encapsulated PostScript (.eps) files correctly for commercial print. Instead of including the PostScript code of the .eps file in the PDF, PDF Writer includes only the preview data (resolution = 72 dpi). This is too low for commercial printing.

Jaws PDF Creator by Global Graphics is a competing product to Acrobat that is available as a stand alone program and also is used in Quark XPress 6.0. PDF files generated by Jaws PDF Creator can subsequently be altered with Jaws PDF Editor, Adobe Acrobat products, or other third party PDF tools.

A good PDF file begins with a good native file

As versatile as a PDF file is in avoiding file output problems, it cannot eliminate all possible errors. If the native application file was created incorrectly; if it contains non-printing or low resolutions graphics; or if it uses the RGB color space; these errors will transfer to the PDF file.

To promote high quality PDF files, use this checklist when creating your document pages:

- Set the page size equal to the document's final page size after trimming.

- Select PostScript fonts as a first choice; use TrueType and other alternates only if a comparable PostScript font is not available.

- When using font characteristics (such as bold or italic), select the actual font rather than applying a style.

- Scan images at 300 dpi at the size they will appear in the document.

- Crop images in an image editor (Adobe Photoshop, Adobe Illustrator, Macromedia FreeHand, and CorelDRAW).

- Avoid hairlines.

- Draw frames using the frame tool rather than building them out of four lines.

- Set screens and tints at a minimum of 5% and maximum of 95%.

- Delete blank pages.

- Extend any image that will bleed to 1/8th inch beyond the trim line.

"It is becoming increasingly common for software applications – especially those from Adobe – to include a feature within the application to create a PDF."

"Generate a PostScript file that includes embedded fonts."

- Use the correct color space (CMYK or Pantone).

Also remember that PDF files are, by definition, print-ready. Although they can be edited using Acrobat and plug-ins, if changes need to be made, it is best to return to the native application, make the changes, and make a new PDF.

Here at **MacMillan Graphics**, we use a PDF workflow. We will be glad to help you prepare your files for submission in PDF – just call **(513) 248-2121** with questions or comments.

Q. *What is a soft proof?*

A. The term *soft proof* refers to a proof presented as a PDF file and viewed on a monitor rather than as hard copy. A soft proof has several advantages over a hard proof:

- It can be transmitted over the Internet, substantially reducing the lag time between when the proof is ready for viewing and it is delivered to you.

- It can be easily shared with others in your organization.

- It can be viewed in color.

- Proofing turnaround time can be substantially shortened.

By providing you with a PDF soft proof, we are using technology to our mutual advantage. We have found that PDF soft proof files are generally small enough to be sent as an attachment to e-mail, or we can provide a hot link to our ftp site where you can download the file.

Q&A
questions and answers

Making a PDF from Word

In general, we prefer that you give us PDF files rather than a file created in an office application such as Word. We do, however, need you to understand some of the limitations of Word files that have been made into PDFs so you will construct the Word file to produce the best results.

We recommend that you avoid using PDF Writer to create a PDF from Word. Instead, create a PostScript file and use Distiller to create the PDF. When you install Acrobat, it will add macros to Word, Excel, and PowerPoint so that when you select *export to PDF* as an option, Word, Excel, or PowerPoint will create a PostScript file and launch Distiller.

Also be aware that Word uses the RGB color space exclusively. Therefore, regardless of how a PDF file is created from Word (via PDF Writer or via Distiller), the PDF color space will always be RGB. If your document is printing in a single color on an offset press, the RGB color space will be converted to gray scale during raster image processing and a single, composite press plate produced.

If, however, your document is designed to print in more than one color, we will have to manually operate on the PDF file to designate the colors before we produce press plates. This manual color separation works well for type, but may not for graphics. A full color Word metafile graphic, for example, cannot be separated into its component colors, either in Word or after the file has been made into a PDF.

TRICKS & tips

The PDF Workflow: Preparing Documents for Print
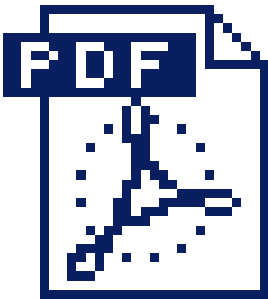
Please Route to the Printing Buyer

Booklet Page Management

Idea Corner

"How we assemble the printer spread depends on the total number of pages in the booklet..."

When your document is a booklet rather than a brochure or flyer, it often requires an extra prepress step called *page imposition*. Page imposition is the arrangement of individual pages on a press sheet so the finished pages will be in order when the booklet is assembled.

When you are creating the pages for your booklet and working sequentially from page to page, you are creating a *reader spread* – pages presented in the order they will be read. During the prepress step of page imposition, we change your reader spread into a *printer spread* by assembling individual pages to print on the press sheet. How we assemble the printer spread depends on the total number of pages in the booklet and the size of the press sheet.

In general, it is much easier for us to change a reader spread to a printer spread if the file format is PDF. This is because PDF is an object-oriented data format, so all the information that defines each page is available on that page. In contrast, because in a PostScript files are serially processed by the raster image processor, moving a page to a new location may prevent the file from processing correctly.

The best advice we can give you is to call us at *(513) 248-2121* for instructions when you are planning a booklet.