

Q: So, was is PAR911 ?

A: A PDF, Acrobat, Reader project progress and support site.
In a word, it is a staging area.

Adobe Postscript vs PDF: go for or dialup PAR911



WHY DO WE OFFER TWO PRINTING TECHNOLOGIES?
HOW DO THEY DIFFER?

By David Evans

For people who aren't experts in the area of high-end digital imaging, the differences between Adobe® PostScript® and PDF (Portable Document Format) might be a bit foggy. In fact, you've likely heard people touting PDF as the replacement for PostScript. Have you ever wondered why? Let's start with a definition of what PostScript and PDF are at a very fundamental level. We'll take a quasi-technical look at both, after which the mists will vanish and all will be revealed.

A matter of language:

First, let's look at PostScript. PostScript is a page description language - a programming language, much like those that software engineers use to build applications. In fact, you can do an experiment to prove this to yourself. In Adobe Illustrator®, create a new document and draw a box. Save this file, and open it in a word processor. What you'll see is a "program," written in the PostScript language, that defines the dimensions of a page and draws a box on it.

In the earliest days of PostScript, drawings could be created only by manually typing in the PostScript language. Programmers would read the PostScript Language Reference Manual, type PostScript "code" into a text file, and then send it to the printer to be "processed" (more on that in a moment). Illustrator was the first "graphical PostScript interface," much in the same way that Microsoft® Windows 1.0 put a graphical user interface on top of MS/DOS. Illustrator allows the designer to draw with graphic tools while it automatically writes a PostScript program in the background.

So, we've established that PostScript is a language, like BASIC, Fortran, or C++. But unlike these other languages, PostScript is a programming language designed to do one thing: describe extremely accurately what a page looks like.

Every programming language needs a processor to run or execute the code. In the case of PostScript, this processor is a

combination of software and hardware which typically lives in a printer, and we call it a **RIP - a Raster Image Processor**. A RIP takes in PostScript code and renders it into dots on a page. So a PostScript printer is a device that reads and interprets PostScript programs, producing graphical information that gets imaged to paper, film, or plate.

As an aside, **AGM - the Adobe Graphics Model** used by InDesign™ - is also a RIP: It actually processes the PostScript instructions and "prints" the results to the screen instead of to paper. Compared to page layout applications from other vendors, which use a bitmapped preview, this is a much more press-accurate way of doing things. It's "real" WYSIWYG - what you see on screen is an accurate preview of how the file will print. This is a terrific benefit!

So, if PostScript is a programming language and a RIP is what processes this language, then what is an Encapsulated PostScript File, or EPS? Simply, an **EPS file is** a PostScript program, saved as a single file that includes a low-resolution preview "encapsulated" inside of it, allowing some programs to display a preview on the screen. InDesign doesn't need this preview because it has a RIP built in, which allows it to open PostScript (and Illustrator) files natively.

One way to use PostScript is to print a file to disk and save it as one single PostScript file which can be sent on to a print service provider. Another is to create EPS files as a way to save and distribute graphics. This is where many people get confused. When you hear people say that PDF is a "replacement" for PostScript, what they most likely mean is that PDF is a replacement for saved PostScript files and EPS files. PDF is not a replacement for the PostScript language or the PostScript processors that live inside of printers, imagesetters, and platesetters.

A smarter format:

With a solid understanding of PostScript under our belt, let's look at PDF. PDF is a particular file format, like EPS or native Illustrator files. It just so happens that PDF is built largely on the PostScript language, but it has been taken one step further. PostScript, as I said, was designed to describe a page. PDF does that as well, but beyond this, PDF can also contain information not only related to how a page looks, but also can describe how it behaves and what kind of information is contained in the file. So PDF is a file format that is smarter than EPS. A PDF file can

contain fonts, images, printing instructions, keywords for searching and indexing, job tickets, interactive hyperlinks, movies, and so on.

An added benefit:

So why is PDF more advanced than PostScript? A PDF file is actually a PostScript file which has already been interpreted by a RIP and made into clearly defined objects. These objects are viewable on screen not in code, but in visual objects that everyone can see. Because these files are already interpreted by the RIP, they can be more reliable than an EPS or a .PS file when printed. Additionally, because EPS files and .PS files can be easily converted to PDF and viewed on screen, print service providers can benefit from seeing the file after interpretation but before they send it to their printing devices. This may allow them to see errors in a file before wasting paper, film, or plates. This can be a terrific timesaver for people who run service bureaus or operate printers, and the result is that files print faster, more accurately, and with fewer errors.

In order for a PDF file to be printed, however, the printer still needs to render the PDF objects to the page, and a PostScript printer is still the most reliable way to do this. Some PostScript printers understand not only the PostScript language, but also PDF files natively. And some printers, using a technology we call **Extreme**, actually convert all jobs into a PDF file prior to printing. (Agfa, Creo, Heidelberg, and Scitex have all announced print workflows based on Extreme.)

Adobe Acrobat® - our tool for enriching and modifying a PDF file - can print PDF to non-PostScript printers by interpreting the PDF file into that printer's language. But these languages aren't as reliable or accurate as true Adobe PostScript, so professionals use a PostScript processor for best results.

Happily ever after:

The moral to this story is that PDF can be used as a replacement file format for EPS, and that PDF can be used as a delivery format for sending complete publications to press. It is also suitable for soft-proofing, distribution on the Internet, and file archiving, as it is completely self-contained. But to print PDF, it is best to print to a device with true Adobe PostScript capabilities to get the highest quality output.

Most service bureaus that are "PDF-friendly" will have third-party applications that take PDF files and impose them, trap them,

preflight them, and send them to the RIP. As these tools become more powerful, more people will begin delivering PDF files for printing. Of course, Adobe applications will continue to support EPS files as part of a professional publishing workflow, but the next time you export that file out of your favorite drawing tool, or are ready to send your job to your prepress operator, think about sending a PDF file instead. If you work with your printer and plan properly, you're likely to be very pleased with the result.

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