



# Fundamental Photoshop

Using Photoshop's new vector-like abilities

BY BEN WILLMORE

Photoshop 6.0 introduced us to a new way of thinking about graphics. It used to be that Adobe Illustrator was used to create crisp-edged images, and Photoshop was the choice for more photographic images, but now that distinction has been blurred.

It used to be that everything created in Photoshop was made out of pixels, which are really tiny squares of solid color placed on a grid. The resolution setting of the file (also known as the pixels per inch, or the ppi setting) would determine how large these pixels would appear when printed. If the pixels were too large, then the printed image would appear jaggy, or pixelated.

In Photoshop 6.0, you are no longer limited to pixel-based images (also known as raster images, which is just a fancy word to describe an image made from pixels). Now you can combine your photographic images with crisp-edged graphics that used to be the exclusive domain of Adobe Illustrator.



Left: images created in Photoshop are made from square pixels placed on a grid. Right: Illustrator graphics are made from paths, which allow them to always appear smooth when printed to a PostScript printer.

Graphics in Illustrator have always been created using paths instead of pixels. With a path, you can define a flowing shape and, when you print it to a PostScript printer, it will always look crisp, never jaggy. You can even scale from the size of a postage stamp to the size of a billboard and it will still appear crisp when printed. That's why most logos are created using Illustrator.

These paths originated when a Frenchman named Paul Etienne Bézier came up with a system for describing the smooth shape of modern automobile bodies using Bézier curves

(named after him) instead of pixels. This type of graphic is also known as a vector graphic and is the foundation of how Illustrator defines shapes.

Vector graphics are limited to crisp-edged objects and will look their best when printed to a PostScript printer. If they are printed to a non-PostScript printer, such as an inexpensive inkjet, then they will appear very jaggy, as the printer is not capable of understanding the vector information and therefore prints only the low resolution on-screen preview. The problem with this type of graphic is that it's impossible to create soft-edged images that fade out into something else, and you're usually limited to solid colors or simple gradients.

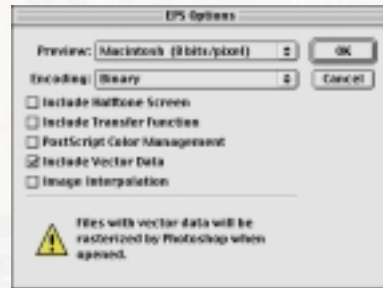
There are three ways you can incorporate these Illustrator-like features into Photoshop. The Text tool in Photoshop 6.0 produces a special Type layer that contains vector information, just like what's used in Adobe Illustrator. You can also use the new Shape tools to create geometric shape layers that will be defined as paths. Finally, you can create a path using the Pen tool and then use that information to limit where a layer is visible by choosing Layer>Add



This image is split in half vertically. The top half shows what the image would look like if created in previous versions, or if printed to a non-Postscript printer in 6.0. The bottom shows the result using a Postscript printer.

Layer Clipping Path. With all three of these options, the edges will appear crisp when printed to a PostScript printer.

When you save your image, you'll be presented with a dialog box full of options. If you choose EPS or PDF file format, you'll have the choice to include the vector data with the file. With that option turned on, you can load the image into a page layout program (like Adobe InDesign) and the areas of the image that were created using paths will print with crisp edges on a PostScript printer.



Be sure to check the Include Vector Data box so your graphics will remain crisp.

You have to be careful though. If you reopen your EPS or PDF file in Photoshop, you'll lose the vector information and everything will be made from pixels. To prevent that, I usually keep the original Photoshop file around just in case I need to make changes. And, when I send these files to others, I warn them not to open the EPS or PDF files in Photoshop.

This radical new feature is extremely useful and a giant leap for Photoshop. ■

Ben Willmore is the founder of Digital Mastery, a training firm that presents the national seminar "Photoshop Mastery." Ben provides hundreds of free Photoshop tips and tutorials on his Web site [www.digitalmastery.com](http://www.digitalmastery.com).