

## **FILE FORMATS**

### **Photoshop format (PSD)**

Photoshop format (PSD) is the default file format and the only format, besides the Large Document Format (PSB), that supports most Photoshop features. Because of the tight integration between Adobe products, other Adobe applications such as Adobe Illustrator, Adobe InDesign, Adobe Premiere, Adobe After Effects, and Adobe GoLive can directly import PSD files and preserve many Photoshop features. For more information, see Help for the specific Adobe applications.

When saving a PSD, you can set a preference to maximize file compatibility. This saves a composite version of a layered image in the file so it can be read by other applications, including previous versions of Photoshop. It also maintains the appearance of blended layers in the future.

In Photoshop, 16-bits-per-channel and high dynamic range 32-bits-per-channel images can be saved as PSD files.

### **BMP format**

BMP is a standard Windows image format on DOS and Windows-compatible computers. BMP format supports RGB, Indexed Color, Grayscale, and Bitmap color modes. You can specify either Windows or OS/2® format and a bit depth up to 32 bits per channel for the image. For 4-bit and 8-bit images using Windows format, you can also specify RLE compression.

BMP images are normally written bottom to top; however, you can select the Flip Row Order option to write them from top to bottom. You can also select an alternate encoding method by clicking Advanced Modes. (Flip Row Order and Advanced Modes are most relevant to game programmers and others using DirectX.)

### **GIF**

Graphics Interchange Format (GIF) is the file format commonly used to display indexed-color graphics and images in Hypertext Markup Language (HTML) documents over the World Wide Web and other online services. GIF is an LZW-compressed format designed to minimize file size and electronic transfer time. GIF format preserves transparency in indexed-color images; however, it does not support alpha channels.

### **JPEG format**

Joint Photographic Experts Group (JPEG) format is commonly used to display photographs and other continuous-tone images in hypertext markup language (HTML) documents over the World Wide Web and other online services. JPEG format supports CMYK, RGB, and Grayscale color modes, and does not support alpha channels. Unlike GIF format, JPEG retains all color information in an RGB image but compresses file size by selectively discarding data.

A JPEG image is automatically decompressed when opened. A higher level of compression results in lower image quality, and a lower level of compression results in better image quality. In most cases, the Maximum quality option produces a result indistinguishable from the original.

## **PDF**

Portable Document Format (PDF) is a flexible, cross-platform, cross-application file format. Based on the PostScript imaging model, PDF files accurately display and preserve fonts, page layouts, and both vector and bitmap graphics. In addition, PDF files can contain electronic document search and navigation features such as electronic links. PDF supports 16-bits-per-channel images. Adobe Acrobat also has a Touch Up Object tool for minor editing of images in a PDF. For more information about working with images in PDFs, see Acrobat Help.

Note: The Touch Up Object tool is mainly for last-minute revisions to images and objects. It's best to do image editing in Photoshop before saving as PDF.

Photoshop and ImageReady recognize two types of PDF files: Photoshop PDF files and Generic PDF files. You can open both types of PDF files; however, you can save images only to Photoshop PDF format.

Photoshop PDF files Created using the Photoshop Save As command. Photoshop PDF files can contain only a single image.

### **Photoshop PDF**

format supports all of the color modes (except Multichannel mode) and features that are supported in standard Photoshop format. Photoshop PDF also supports JPEG and ZIP compression, except for Bitmap-mode images, which use CCITT Group 4 compression.

Generic PDF files Created using applications other than Photoshop, such as Adobe Acrobat and Adobe Illustrator. They can contain multiple pages and images. When you open a Generic PDF file, Photoshop rasterizes the image.

## **PNG format**

Developed as a patent-free alternative to GIF, Portable Network Graphics (PNG) format is used for lossless compression and for display of images on the web. Unlike GIF, PNG supports 24-bit images and produces background transparency without jagged edges; however, some web browsers do not support PNG images. PNG format supports RGB, Indexed Color, Grayscale, and Bitmap mode images without alpha channels. PNG preserves transparency in grayscale and RGB images.

## **Adobe Digital Negative format (DNG)**

Adobe Digital Negative (DNG) is a file format that contains the raw image data from a digital camera and metadata that defines what the data means. DNG, Adobe's publicly available, archival format for camera raw files, is designed to provide compatibility and decrease the current proliferation of camera raw file formats. The Adobe Camera Raw plug-in can save camera raw image data in the DNG format. For more information about the Adobe Digital Negative (DNG) file format, visit [www.adobe.com](http://www.adobe.com) and search on the term "Adobe Digital Negative." You'll find comprehensive information and a link to a user forum.

## **TIFF**

Tagged-Image File Format (TIFF, TIF) is used to exchange files between applications and computer platforms. TIFF is a flexible bitmap image format supported by virtually all paint, image-editing, and page-layout applications. Also, virtually all desktop scanners can produce TIFF images. TIFF documents have a maximum file size of 4 GB. Photoshop CS supports large documents saved in TIFF format. However, most other applications and older versions of Photoshop do not support documents with file sizes greater than 2 GB.

TIFF format supports CMYK, RGB, Lab, Indexed Color, and Grayscale images with alpha channels and Bitmap mode images without alpha channels. Photoshop can save layers in a TIFF file; however, if you open the file in another application, only the flattened image is visible. Photoshop can also save annotations, transparency, and multiresolution pyramid data in TIFF format.

In Photoshop, TIFF image files have a bit depth of 8, 16, or 32 bits per channel. You can save high dynamic range images as 32-bits-per-channel TIFF files.