

## File Types & Their Uses

When working with a print or electronic designer (electronic designers design things to be displayed on a monitor, TV, etc), one may encounter the need to work with the designer by providing them with multiple types of files. There are many different types of digital files but they fit into two categories, bitmap and vector. It will benefit those in collaboration with the designer to know the common file types. Once one understands the differences, identifying (by simply analyzing the file suffix: .png, .jpg, etc) the files a designer may need from you becomes easy and time is saved because the designer will not need to explain the file types.

### **BMP**

The BMP (Bitmap) file type is the most basic of digital images. This file type can be used by print and electronic designers.

Bitmap is also a broad term describing any image made up of pixels (small square dots that can be viewed on any screen type). It can be used for electronic design but it must be converted for use in print materials. Most of the file types discussed below are BMP files.

### **TIFF**

The TIFF (Tagged Image File Format) file is the optimal bitmap file type for printing but is far too large for the web. Although, one will not usually have possession of this file type because it is usually the designer who creates it – the designer will create this file type from other files using a program that can manipulate bitmap images, usually Adobe Photoshop. When the TIFF file is etched onto a printing plate (a flat piece of vinyl or aluminum that transfers ink to the paper), the printing plate will more accurately print the digital image.

### **PSD**

The PSD (Adobe Photoshop) file is a file that can be used for print but cannot be used for the web. Although, one can convert Photoshop files into many different bitmap file types that can be put on the web. Also, amazingly if there are paths (2D lines) created within the Photoshop file, one can even export a vector file.

### **JPEG**

The JPEG (Joint Photographic Experts Group) is used very often on the web but should not be used for print (although it can be converted to a print friendly format), due to a lack of necessary data needed to create an accurate printing plate from the JPEG – what the photo looks like on the computer screen will not look the same when printed.

### **PNG**

The PNG (Portable Network Graphics) file was created to replace the GIF file. It can replicate far more colors than a GIF but has a larger file size. Despite this file size it is used on the web very often.

### **GIF**

The GIF (Graphic Interchange Format) file is a file used extensively for the web (largely because it is enabled to have a transparent background if needed) but not at all for print. It only supports 256 colors, far less than needed to accurately replicate colors on print. When putting a logo or some other solid colored graphic on a website, the GIF is a good file format to use.

### **EPS**

The EPS (Encapsulated PostScript) file is a raw vector file and can be read by any vector editing program. This file is excellent

for print but will not work for the web. A Vector file can be well described by first describing a bitmap file. When one zooms in on a bitmap file, one will notice many squares of solid color. Basically, every bitmap file is composed of tiny squares (pixels) that are a solid color. When these tiny squares of color are put together and one stands back to see, they make up the entire image. A vector file on the other hand, is not made up of tiny squares of color. When a vector graphic is zoomed in on, it will never lose its quality. It will always be crisp, while a bitmap will look grainy and jagged when zoomed in on.

### **AI**

An AI (Adobe Illustrator) file is also a vector graphic and like the EPS can be used for print but will not work on the web. Adobe Illustrator is usually used to create logos and graphics for anything. Illustrator can even export its vector images into bitmap images. For this reason, providing the designer with this type of file is very valuable, when it comes to graphics. Also, it's interesting to note that one can convert a bitmap file into a vector too.

When working with a designer, whether print or electronic, knowing and understanding these file types will help you communicate with the designer and save you and the designer time. Time can be saved by someone working with the designer by saving graphics and digital pictures based on their file type or usability. Are the images bitmaps or vectors? What file types will be usable for the web and what file types are usable for print? Also, time will be saved when talking to the designer because the designer won't need to explain all these terms.

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