



Image file formats

Whether your organisation primarily uses images to keep its website fresh or to add panache to printed materials, choosing the right format for the job helps ensure that your graphics maintain a high-quality appearance. Here's a breakdown of the formats you need to know about.

What is a file format?

If you look at the name of any image file, you'll notice something like ".jpg" at the end of it. That indicates the format in which your file has been saved. There are several file formats commonly used, the main differences between them has to do with compression.

What is compression and how does it work?

The process of compressing a photo involves removing information that you're not likely to notice with the naked eye. Subtle gradations between colours, or fine details in the dark areas of your photo may be lost due to compression.

Why is image quality important for file size?

The lowest quality setting (or the most compressed) is best for e-mail and sharing over the Internet. The highest (the least compressed) is ideal for printing and archiving.

File formats:

JPEG

Joint Photographic Experts Group (JPEG) files provide full 24-bit colour. One drawback to saving photos as JPEGs is that the images will degrade each time you save them. This is known as a "lossy" type of compression. That's why

it's important to save a high-quality original and then edit copies of that file. You can also save your JPEG as a different file type using photo editing software. While most users won't be able to see much difference between a moderately compressed JPEG and the original uncompressed image, a heavily compressed JPEG will appear blurry and make individual pixels noticeable. The JPEG format is optimized for use with photographs, particularly those to be posted on a website.

TIFF

Though Tagged Image File Format (TIFF) files can be saved completely uncompressed for maximum quality, you can also apply a lossless compression algorithm decrease file size. "Lossless" means that no matter how many times you save the image, it will not degrade. If this format is an option within the software you're using, it's ideal for archiving high-quality copies of your photos.

Because TIFFs offer a high colour depth and an uncompressed option, they are a superior format for printing high-resolution photographs or other pixel-based (raster) images. The vast majority of free and commercial graphics-editing applications allow you to save images in the TIFF format. The TIFF format supports full 24-bit colour.

At a glance:

JPEG: good for online use as can be saved at small sizes.

TIFF: used for printed materials as the quality is kept high.

RAW: hi-end camera file, needs to be saved to different format before use.

GIF: used for simple web graphics due to small size.

PNG: used for more sophisticated web graphic files.

BMP: Default Microsoft file, needs to be saved to different format before use.

EPS: Best format for vector based graphics, typically logos.

PDF: Document created of a finished job to send to printers or for sharing.

PSD: Photoshop file, usually saved to different format before use.

If you want to know more, just ask!

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RAW

Most point-and-shoot and DSLR cameras offer JPEG file formats. Higher end DSLR and professional-grade cameras offer RAW file formats too. This file format is best for archiving because no compression has been applied. It is the purest format available. Every bit of information collected from a camera's sensor has been preserved. The drawback is that the file size can be monstrously large, easily upwards of 30MB to 40MB per photo.

GIF

Commonly used on Web pages, Graphics Interchange Format (GIF) files are unlike many other popular image formats in that they only support up to 8 bits of colour depth (or 256 colours). However, since the GIF format uses lossless compression, it does not noticeably degrade the original image.

Because GIFs contain fewer colours than other image formats, they are best suited for Web graphics with a limited colour range, such as site navigational buttons and headers. However, the fact that GIFs use less colour than other formats also make them smaller, meaning they'll load faster in the user's Web browser.

PNG

Originally developed to replace the GIF format, Portable Network Graphics (PNG) files employ lossless compression. But unlike GIFs, PNG files can be saved in 24-bit mode to achieve a much wider range of colour.

PNG can be a better choice than GIF for designing graphics for a site with a design that may change or for creating images that might be repurposed on multiple sites. This is because PNG supports variable transparency, meaning that individual pixels can have different degrees of transparency. Since GIFs only let you have one totally transparent colour, the site's background colour must match the transparent colour in the GIF. If the background colour changes, the GIF will display cosmetic flaws.

BMP

Bitmap (BMP) files are the default image format used by Microsoft operating systems and by Windows' built-in Paint accessory. Typically, BMPs do not use compression and range in resolution from one bit (black and white) to 24 bits (16.7 million colours). BMPs should probably be avoided unless you just want a quick way to save images to your local machine for personal reference.

EPS

Encapsulated Post Script (EPS) files are one of the industry-standard formats used in professional printing. Graphics applications including Adobe

Photoshop and Illustrator will output EPS files. EPS is an ideal format for printing vector-based graphics, which build images using geometry rather than pixels. Because vector graphics don't use pixels like raster graphics do, a print shop can resize them as many times as necessary without worrying that the quality will degrade. An EPS file makes a good choice for printing graphics such as logos or other jobs that don't contain many photographs. Adobe Illustrator saves vector-based images as EPS files.

PDF

While it's more of a general file type than a dedicated image format, Adobe's Portable Document Format (PDF) can be put to good use in both print and Web-based projects. Because they can preserve both textual and graphic information, PDFs can be a good format for converting printed materials such as your organization's direct-mail newsletter into something that's readable on the Web. And since Adobe's PDF-reading program, Acrobat Reader, is free to download and use, content saved as a PDF will be accessible to a large percentage of site visitors. PDFs are also efficient for smaller professional print jobs, since you can send all the images, text, and fonts to the print shop in a single document. However, to produce high-resolution PDFs that will appear professional when printed, your organization will need to purchase a program such as Adobe Acrobat Standard.

PSD

PSD (Photoshop Document) is the proprietary file format Adobe Photoshop uses to save projects, which can contain any combination of photographs, graphics, and text. Finalized PSDs are usually saved as another format, such as GIF or TIFF, before being posted to the Web or sent to a professional printer. If your organization works with a freelance graphic designer, it might be a good idea to get copies of the PSD files in addition to the final graphics. That way, if you ever need to make changes at some point during the road, you can modify the original files in Photoshop.

If in doubt, always save your files at the largest size you can and keep the original file. Your designer will be able to save the file to its optimum size according to its application. Also, remember to make amends to a copy of the file, not the original!