

GIF vs. JPG: When To Use What

Graphics in their natural state are too big to be quickly downloaded over the Web, so you have to compress them. The standard compression formats are GIF and JPG (compression, by the way, doesn't shrink the dimensions of your graphics, it just reduces the size of the file).

Is GIF or JPG the better format to use? The resounding answer is: It depends. It depends on:

- the type of image you're working with
- how small you want your image file to be
- the way you want your graphic to download



Good JPG

One of your primary considerations is the type of image you're working with. Photographs and graphics with lots of color fields, and particularly colors that blend and fade into one another, are best served by JPG. The reason for choosing JPG for images with more complex color patterns is that this format enables you to save images with millions of colors, whereas the GIF option restricts you to 256 colors.

For example, a photograph of President Bush visiting the site of the World Trade Center attack should be formatted in JPG (at left).

Another important issue is file size. JPG permits a greater degree of compression than GIF, enabling quicker downloading times for larger images. And JPGs appear to retain almost complete image quality for most photographs.

As a demonstration, this photo showing students at a prayer service has been compressed as a JPG (left) and as a GIF (right). Those dots you see in the GIF are called "dithering," and they come from that format's characteristic adjusting of pixels within a graphic to simulate the display of colors not in the GIF's color palette.



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But don't write off the GIF just yet. For one thing, the JPG format does not work well for graphics that contain large fields of color - these color fields can break up and fragment and look terrible. The main factors that you can tweak in a GIF are color depth, color palettes, dithering, and transparency.

So, as opposed to JPG, if your image has flat color fields, and especially text, like a locator map of Manhattan, it will compress well in the GIF format.

Here are a few more details to consider when working with the GIF format.

Color Depth

The more colors your graphic uses, the more file space the color information will take up. This color information is denoted in either of two ways: bit depth or simply the number of colors. GIFs can use as many as 256 colors, which is known as 8-bit color, or as little as two colors (black and white), known as 1-bit color. You want the color depth as low as you can get it and still have your graphic look good.

Color Palettes

Your GIF file includes the values of all the colors that make up the image. When you create the image, you can choose which palette you want to use. The Web palette, which consists of the 216 colors that are common to both Mac and Windows palettes, so your image will display correctly on both platforms.

GIF-related programs often give you some other palette choices. One other palette of note is the "Adaptive" palette, which looks at your image and constructs a palette related to the colors you've used. This is worth checking out because an Adaptive palette deals well with gradients. When choosing, your best bet is to try both the Web and Adaptive palettes and see for yourself which looks the best.

Dithering

When GIFs reduce an image's color depth, you'll often see gradients turn into bands of color. If you don't like these color bands, you can use "dithering" to insert little dots of color that smooth the transitions (thereby creating the illusion of blended colors). Dithering does, however, make your file size bigger.

Transparency

You can pick a single color in your GIF and have that color become invisible when the image appears on a Web page so the page's background shows through.

Finally, GIFs can also be animated. Poor old JPGs just have to stand still.



Good GIF

RULE OF THUMB

Graphic = GIF

Photo = JPG