

JPG, TIFF, GIF—Photo Formats Explained

<http://www.compukiss.com/basics/photo-formats-explained.html>

If you send or receive pictures by e-mail or have a digital camera, you've heard about various picture file formats like TIFF, JPEG, and GIF. Each of these formats is very different, so let's delve into the properties of each so you can better work with and display your photographs.

In order to understand photo file formats, you must understand a little about compression. Compression is a technology that reduces the size of a file. Uncompressed photos are very large data files. Various methods of compression are used to make the files smaller so they can be transmitted over the Internet more quickly and stored using less space. There are two basic types of compression for image files, lossy and lossless. Lossless compression doesn't lose any image data, while lossy compression results in the loss of image data every time the image is saved. Two very different animals to be sure.

There are many different image file formats, but the three most common are the ones we will address today: GIF, TIFF, and JPEG.

Incidentally, GIF and JPEG and TIFF are the names of the file types. They also become the file extensions for these file formats--that is, the 3 characters to the right of the period in the complete file name. So you can recognize the type of file by its computer name. .gif for GIF, .jpg for JPEG, and .tif for TIFF.

GIF files are lossless. GIF stands for "**G**raphics **I**mage **F**ormat," or "**G**raphics **I**nterchange **F**ormat". It is one of the main formats used on the Web. It is a compressed format that has only a maximum of 256 colors. It is appropriate for logos, icons, and buttons. GIF images look good on a computer screen, but because they are limited to 256 colors, they are unsuitable for printed photographs. So if you send your images by e-mail, the recipient of a GIF file will see the picture clearly on the screen, but will not be happy with the picture when printed.

TIFF files come in several versions, but the most common is the uncompressed TIFF. An uncompressed TIFF file will capture all of the data from a camera's image sensors. There is no loss and no degradation. Many digital cameras can take photos in TIFF format. The problem is that these files are so large that two or three can fill up the camera memory card. Because of their large size, it is not a good idea to e-mail uncompressed TIFF files.

JPEG is a format that was developed by the **J**oint **P**hotographic **E**xperts **G**roup. It has become very popular and is the format that most digital cameras use as their default format. **Listen Up!!** JPEG, although the most common format used in digital cameras, uses lossy compression. That means that every time you save the file the picture quality degrades. Although the degradation is minor, multiple saves can result in a noticeable loss of quality. If you use your photo program to lighten the photo one day, then decide to crop it the next day, then go back and add more contrast, the photo has been saved at least three times, and will not be as clear and crisp as the original. Once the photo quality has been lost, the original quality cannot be restored.

The solution to this degradation problem is easy. When you save your JPEG photos to a CD or your other archive medium save them as TIFF files. You can do this with most photo software, or with Windows XP. (*note: you cannot do this with www.photoshop.com*) Then if you decide to edit a photo, you can make changes without any loss of quality. If you want to edit a JPEG photo, do the work all at one time and save the file only once when the task is complete. If you are using a photographic software program that uses its own proprietary file format like PhotoShop or Paint Shop, you can usually save your photos in the program's file format without any loss of quality. You will, however, need to have that program to open and view the files later.

One more thing to note about JPEG images. A digital camera can often be set to take several different qualities of JPEGs. The lower the quality, the more compression and the smaller the file size. So you can fit more photos on a memory card if you use the lowest quality JPEG. However, when you print that photo, it will not look as good as a photo taken at a higher quality. You cannot improve the picture quality once the photo is taken. So always take your photos at one of highest qualities if you can. You never know when you will snap that fantastic photo that you want to print out for all your friends!