

FILE FORMATS

File Format Name: Graphics Interchange Format

File Extension: .gif (sometimes known as compuserve GIF)¹

Date Introduced: 1987; revised 1989

Dates in Use: 1987-present (2004)

Variations: Basic; Interlaced – where “image is stored as a series of scanlines, interleaved so that the image seems to resolve as it loads;” Transparent, in which “one of the colour indexes in the GIF image is defined as being transparent;” Animated, wherein “[a] series of GIF images concatenated so they play back in a manner similar to a movie.”²

Developers: CompuServe; Unisys (of necessary LZW[Lempel-Ziv Welch] algorithm)³

Open Source/Proprietary: While it began as proprietary, particularly due to the LZW compression algorithm developed by Unisys, the patent has now expired.

Associated Operating System: Either Mac or Windows.

Associated Application: Supported by most web browsers. In Mac: Preview and in Windows: Photo Editor.⁴

Associated Media:

Compression: The LZW compression algorithm is what is used to store the image data within GIF, but is lossless.⁵ However, since it only supports 255 colors per frame, for full-color photos, it does require lossy quantization.⁶

Primary Usage: Image format. Suitable particularly for images with sharp edges and few gradations of color (i.e. cartoons, line art and text).⁷

Risks: Until this past year, when the patents related to GIF/LZW had expired, there was always running the risk of not paying required fees, and then facing legal action brought

¹ “GIF image format,” www.soapplab.auckland.ac.nz/info/formats.gif.htm. Accessed 10/5/2004.

² www.soapplab.auckland.ac.nz/info/formats.gif.htm. This website demonstrates each of these variations as well.

³ GIF was initially devised “for transmitting graphical images over phone lines via modems.” “Format Descriptions,” www.cs.sfu.ca/CourseCentral/365/li/material/notes/Chap3/Chap3.2/Chap3.2.html. Accessed 10/3/2004.

⁴ www.sharpened.net/helpcenter/extensions.php. Accessed 10/5/2004.

⁵ “CompuServe GIF (Graphics Interchange Format) image file format” <http://www.geocities.com/marcoschmidt.geo/gif-image-file-format.html>. Accessed 9/24/2004

⁶ www.fact-index.com/g/gr/graphics_file_format.html. Accessed 10/3/2004.

⁷ “What is the GIF graphics file format?” <http://kb.indiana.edu/data/adpn.html?cust=2339137.6656.30>. Accessed 9/26/2004

by Unisys (which they were apparently willing to do).⁸ As it stands now, it is the de facto standard.⁹ Additionally, since it is “an 8-bit (and under) indexed file type only offering a range of 256 (or less) different colours (these can either be a standard selection or a[n] image-dependent selection by user-choice)...works best for use with vector images using block colours, such as graphics, logos and banners.¹⁰ The Tasi website also advises caution when using GIF due to the LZW lossless compression, and more specifically its patent, even though it has expired.¹¹

Conservation Actions: One of the oldest image file formats, having withstood the patent hell brought on by Unisys (PNG-Portable Network Graphics was developed in hopes of completely doing away with GIF due to patent issues), GIF seems stable enough to be utilized with little anxiety.

Other Sources

“What is LZW and what are the issues surrounding it?”
<http://kb.indiana.edu/data/aghf.html?cust=300082.78371.30>. Accessed 9/26/2004

Appendix B: Summary of Technical Standards.
http://www.archives.gov/research_room/media_formats/digital_imaging_and_optical_disk_storage_appendix.html#appb. Accessed 9/29/2004.

“Introduction.” <http://www.w3.org/Graphics/GIF/spec-gif87.txt>. Accessed 9/26/2004.

⁸ Michael C. Battiliana, “The GIF Controversy: A Software Developer’s Perspective,”
<http://cloanto.com/users/mcb/19950127giflzw.html>. Accessed 9/24/2004.

⁹ “Table: Common Image File Formats.”
www.library.cornell.edu/preservation/tutorial/presentation/table7-1.html. Accessed 9/18/2004.

¹⁰ “Choosing a File Format,” www.tasi.ac.uk/advice/creating/format.html. Access 10/5/2004.

¹¹ www.tasi.ac.uk/advice/creating/format.html.