geoGIF
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Update

Version 1.2 of geoGIF fixes a bug version 1.1 had with handling GIFs larger then 640 pixels wide. Also, a bug was fixed that caused the system to crash if an error occurred on the output drive (oops!).

Introduction

geoGIF is a GIF data stream to geoPaint file converter. It uses an advanced dithering technique to produce excellent quality monochrome results. geoPaint or a geoPaint file viewer may be used to view the results.

Use

Operation of geoGIF is simple. Upon opening geoGIF from the desk top, the user will immediately be presented with a files dialog box. This dialog box will list the first 160 non-GEOS files ending in '.GIF' (case is not important). The standard DRIVE and DISK icons are provided. A file may be selected by clicking on it, by clicking on the icons at the bottom of the dialog box (if more than seven files are present), or by using the UP/DOWN cursor key. A selected file may be opened by clicking on the OPEN icon, by double clicking on the file, or by hitting the RETURN key.

When a file is opened, geoGIF will first verify that it is a GIF data stream. If it is a valid GIF data stream, geoGIF will prompt the user for the output geoPaint file name. This defaults to the original GIF file name minus the '.GIF' suffix.

Next, the user will be provided with some information about the GIF data stream in a 'Screen Descriptor' information box and decoding will begin. Information and progress for each image in the data stream is provided on screen in. When the conversion is complete, the user will be returned to the files dialog box.

When you have converted all the GIFs you want, select CANCEL from the files dialog box to return the the deskTop. You may then use geoPaint or a geoPaint file viewer to view or print the files.

Dithering Technique

geoGIF uses a dithering technique known as error distributed dithering (specifically, it is a Stucki dither). This is generally considered to be the dithering technique that produces the best results. One disadvantage is speed; the dithering slows geoGIF down more than anything else. Considering the results though, geoGIF runs at a fairly respectable speed. Another disadvantage is the amount memory required; GEOS doesn't give applications much room to begin with. After you subtract off the memory needed for decoding the GIF and the memory needed for dithering, very little room is left for the code itself. The biggest disadvantage is that error distributed dithering requires that the raster lines of the images must be in sequential format; the only way to support interlaced images when using error distributed dithering is to buffer half the image. Due to memory constraints, this certainly isn't feasible.

Multi-image GIFs

There is no reason why a GIF data stream must contain only one image (although most do). GIF was designed to allow multiple images per data stream. Unlike most decoders for 8-bit Commodore computers, geoGIF correctly supports multi-image GIFs (MIGs).

Interlaced images

Version 1.2 of geoGIF does not support interlaced images. This is due to the dithering technique used. A later version of geoGIF may support interlaced images, or I may provide a utility to convert interlaced images to sequential images in the near future. This is the **ONLY** feature of the GIF87a specification not supported.

Comments

Please send your comments and suggestions. During the summer, I can usually be reached on CompuServe (72437,2702) and QLink (RandyW18).

-Randy Weems