

loaders

COLLABORATORS

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REVISION HISTORY

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Chapter 1

loaders

1.1 PPT I/O Modules

This documentation is a short description of the different ↔
file
types PPT recognizes. Click on the name below to get to the point.

[(*) = Documentation not yet complete]

C-code

IFF ILBM

Targa

JFIF/JPEG

Compuserve GIF

PNG

PNM/PGM/PPM/PBM

Datatypes

YUVN

TIFF

PPT saves the I/O modules in the PROGDIR:modules subdirectory. ↔
Any
modules ending with ".iomod" taken to be an I/O module.

NB: V2 used a completely another style of I/O module that ended in
".loader". If you happen to have these around, delete them. They're
no use to anyone anymore and PPT wouldn't even load them even if you
tried.

1.2 datatypes.iomod

REXX TEMPLATE

LOAD:
SAVE: N/A

LOAD FORMATS SUPPORTED

All picture datatypes you've cobbled your hard drive with.

SAVE FORMATS SUPPORTED

None.

EXTENSIONS SUPPORTED

None.

DESCRIPTION

This IO module will use the new OS3.0 datatypes.library in order to load images. You can find new datatypes in Aminet, in directory util/dtype.

Note that the current version of picture datatype is not equipped to handle more than 256 color images and thus all images you get have a maximum of 256 colors, even if the original image had more colors. This shortcoming has been corrected with CyberGfx picture.datatype, but so far PPT does not understand it.

NOTES

The priority of this IO module is -100, so that it won't be tried until all other image loaders have failed to recognize the image. That way your own JPEG datatypes, for example, won't come into play before PPT's internal JPEG IO module.

BUGS

Does not support the DTM_WRITE method. Is there really a need?

SEE ALSO{@ub}

Any good PD archive for a plethora of useful and useless datatypes.

1.3 Compuserve GIF

REXX TEMPLATE

LOAD:
SAVE: INTERLACED/S,TRANSPARENT/N

INTERLACED - saves an interlaced file.

TRANSPARENT - set the given color to be transparent. Color 0 is always the background color.

LOAD FORMATS SUPPORTED

GIF87, GIF89a. Interlaced images are supported. Transparent GIFs are supported from v1.1 onwards.

SAVE FORMATS SUPPORTED

GIF87, GIF89a. Interlaced images are supported.

Transparent GIFs are supported.

EXTENSIONS SUPPORTED

None.

DESCRIPTION

GIF is a very popular format in the PC environment and since it has been adopted as the standard for WWW, it has become extremely widely known. Unfortunately, UNISYS owns the patent for the LZW algorithm used in packing the image in the GIF file and decided that they wish their piece of the action and now you must pay money if you use GIF in a commercial or shareware program.

GIF will hopefully be superseded by
PNG
in the near future.

NOTES

GIF animations will produce a warning, but you can load the first image in, though. This will have to do until I finish the animation support... ;->

The GIF.iomod is not included in the main distribution archive, because I don't want Aminet to get in trouble for distributing GIF/LZW software thanks to this utterly stupid Unisys license thing. You can download this GIF.iomod from my web site.

BUGS

SEE ALSO{@ub}

PNG
,
PNG
,
PNG
, ...

1.4 Amiga IFF ILBM

REXX TEMPLATE

LOAD:
SAVE:

LOAD FORMATS SUPPORTED

Color: 1-8 bitplanes, 24 bitplanes.
HAM6, HAM8, Extra Half-Brite.
Both compressed and uncompressed images.

SAVE FORMATS SUPPORTED

Color: 1-8 bitplanes, 24 bitplanes.
HAM6, HAM8, Extra Half-Brite.
Only compressed images are supported.

EXTENSIONS SUPPORTED

Save: Annotation, Author.

Load: Annotation, Author.

DESCRIPTION

The IFF ILBM format has been the most popular format in the Amiga community. Every graphics package supports it and it is the only format that can save Amiga-specific images like Extra-Halfbrite, HAM and HAM8 (short for Hold And Modify). Also, the OS gives a good support for reading and writing IFF file formats, since the `iffparse.library` has been standard from version 2.0 onwards.

However, the compression used by the ILBM algorithm is not very efficient and thus it loses in any competition for image size. For a much better compression algorithm, use

PNG

.

Of course, if you must save a HAM/HAM8 or ExtraHalfBrite image, only ILBM gives you the possibility to save Amiga viewmodes.

NOTES

BUGS

SEE ALSO{@ub}

1.5 Joint Photographic Experts Group

REXX TEMPLATE

LOAD:

SAVE: COMPRESSIONLEVEL/N, PROGRESSIVE/S, OPTIMIZE/S

COMPRESSIONLEVEL - JPEG compression level. Must be between 0 and 100, the default is 75.

PROGRESSIVE - When this switch is on, a progressive JPEG file will be saved.

OPTIMIZE - Produces optimized files, which are smaller but which take longer to generate.

LOAD FORMATS SUPPORTED

8 bit and 24 bit JFIF files. Progressive files are supported.

SAVE FORMATS SUPPORTED

8 bit and 24 bit JFIF files. Progressive files are supported.

EXTENSIONS SUPPORTED

None.

DESCRIPTION

JPEG is a

lossy

image format, which is intended for real-world images. It is a very popular format since it produces very small files with no visible degradation.

However, I do not recommend that you use JPEG for computer-generated files, because the result may be quite bad.

Progressive JPEG files are a special case where the areas that have more detail are coded with greater resolution in the beginning, so that when, for example, the Web browser loads in the image, it can show parts of it before the image has completely been downloaded. It's a sort of interlacing scheme, only more complex.

Optimizing a JPEG file means that the iomodule tries to produce optimal encoding for the Huffman compression tables. It usually saves a few percent in the resulting file size, but can be costly in terms of memory and speed.

NOTES

This loader needs to have a JPEGTMP: assign set up before using. If the JPEG file proves to be too large (for example, progressive JPEGs) to be written or read in one go, a temporary file may be created.

BUGS

SEE ALSO{@ub}

PNG

1.6 Portable Network Graphics

REXX TEMPLATE

LOAD:
SAVE:

LOAD FORMATS SUPPORTED

8, 24 and 32 bit images. Interlacing is not supported at the moment.

SAVE FORMATS SUPPORTED

8 and 24 bit images.

EXTENSIONS SUPPORTED

None.

DESCRIPTION

PNG is the new standard, designed to replace
GIF

by the folks on
the 'Net. It offers a very good compression using the patent-free
GZIP algorithm and it supports a variety of data formats. Also,
the compression is NOT

lossy
, so no information is lost in this

format.

I heartily recommend using this format unless you have real-world images and wish to use

JPEG
for them.

NOTES

BUGS

SEE ALSO{@ub}

JPEG

1.7 Portable Bitmap Format

REXX TEMPLATE

LOAD:

SAVE:

LOAD FORMATS SUPPORTED

P2,P3,P5 and P6

SAVE FORMATS SUPPORTED

P5 and P6

DESCRIPTION

PPM is a format used by the NetPBM package. It features a simple, non-compressed format that can handle bitmaps, grayscale and truecolor images alike, both in ASCII and binary formats.

NOTES

BUGS

SEE ALSO{@ub}

1.8 TrueVision Targa

REXX TEMPLATE

LOAD:

SAVE: COMPRESS/S

COMPRESS - if this option is specified, the Targa file is compressed using a simple run-length encoding.

LOAD FORMATS SUPPORTED

8, 15, 16, 24 and 32 bit, colormapped and non-colormapped formats. Interleaved images are supported when loading.

SAVE FORMATS SUPPORTED

8 and 24 bit non-colormapped.

EXTENSIONS SUPPORTED

None.

DESCRIPTION

Targa is an old image format which is usually quite portable across machines. It is quite popular among PC-folks and is used by programs that do not wish to support very many image formats, as Targa is an extremely simple format.

NOTES

BUGS

SEE ALSO{@ub}

1.9 C-code

REXX TEMPLATE

LOAD: <NA>

SAVE:

LOAD FORMATS SUPPORTED

None.

SAVE FORMATS SUPPORTED

8 and 24 bit, with optional alpha channel.

EXTENSIONS SUPPORTED

ANNO.

DESCRIPTION

This simple saver module writes out the image in a simple format that can be compiled and included in a C-program.

The image file consists of several variables:

UWORD XX_height : height of the image

UWORD XX_width : width of the image

UWORD XX_components : # of components in the image

UBYTE XX_data[] : an array containing the image data.

If the image is a colormapped image, the following variables also exist:

UWORD XX_colors : # of colors in the image

UBYTE XX_alpha : 0, if there is no alpha channel information

UBYTE XX_cmap[] : An array containing the color map. If XX_alpha!=0, then each array element contains 4 values, in the ARGB order, otherwise just simple RGB values.

In the above descriptions, XX is replaced by the image name (with

any punctuation marks removed).

NOTES

BUGS

SEE ALSO{@ub}

1.10 Vlab YUVN

REXX TEMPLATE

LOAD:
SAVE: <NA>

LOAD FORMATS SUPPORTED

Vlab YUVN. Alpha channel extensions are not currently supported.

SAVE FORMATS SUPPORTED

EXTENSIONS SUPPORTED

ANNO, AUTH. (loading only)

DESCRIPTION

The YUVN image format is a rare format used (as far as I know) only by the VLab digitizing software by MacroSystem GmbH.

Since the format is uncompressed, this is an inefficient method of storing information, and this is why I chose not to support saving YUV. However, if you need it, drop me some mail and I'll try to support saving YUVN images in the next release.

NOTES

BUGS

Since I don't have very many YUV pictures, so I wasn't able to test this loader module thoroughly. If you have a spare VLab scanner, try to test the module as much as you can. Even better, send me some YUV images that have been saved with a variety of options.

SEE ALSO{@ub}

1.11 SGI TIFF

REXX TEMPLATE

LOAD: <NA>
SAVE: <NA>

LOAD FORMATS SUPPORTED

Striped or scanlined Greyscale, RGB, and RGBA images, with LZW and PackBits compression. No JPEG or CCITT yet.

SAVE FORMATS SUPPORTED

N/A

EXTENSIONS SUPPORTED

None.

DESCRIPTION

The TIFF image format is arguably the most versatile around. Designed by Silicon Graphics, it is meant to hold almost any kind of imaginable image. This causes it to be a very difficult format to support, as the loader module has to know a lot. At the moment, the bulk of the work is being done by the libtiff library by Sam Leffler of SGI (see the Info box of the iomod to see which library version is used).

The good thing about TIFF is that almost any professional program supports it, and it is often the only format that is accepted by professionals. This is probably due to the fact that the other two common formats, GIF and JPEG are not suited for lossless transportation of 24-bit images.

NOTES

The TIFF reader contains LZW reading/writing code, which means that it falls under the utterly stupid UNISYS patent thing. This is also why it is not included in the main archive, but you have to load it separately from my web site.

BUGS

Does not support half of the formats. Chokes if the image is larger than 32767x32767 pixels (really!). No extensions are supported. Requires a 68881 co-processor.

SEE ALSO{@ub}

1.12 Lossy image compression

Lossy image compression means that in order to achieve greater compression level, some of the information in the original image is discarded. This degradation of the image is usually not visible to the eye, since the eye can be fooled into thinking no degradation has happened. However, if the image is compressed too much, then you're gonna see some so-called artifacts in the resulting image.

1.13 "

REXX TEMPLATE

LOAD:

SAVE:

LOAD FORMATS SUPPORTED

SAVE FORMATS SUPPORTED

EXTENSIONS SUPPORTED

DESCRIPTION

NOTES

BUGS

SEE ALSO{@ub}