

RGFX-DT

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Chapter 1

RGFX-DT

1.1 main

Welcome to the IFF-RGFX Datatype 43.16

Written by Achim Stegemann © 1997-2001.

Copyright

Introduction

The Datatype

The Preferences

The Converter

Known Problems

History

Author

Credits

1.2 copyright

The IFF-RGFX format is copyright by Andreas Kleinert.

The rgfx.datatype V43 and the converter DT2RGFX is copyright by Achim Stegemann.

The datatype is freeware and can be used for any purpose !

The RGFX preferences uses MUI by Stefan Stuntz.

1.3 mui

MUI - MagicUserInterface

(c) Copyright 1993-1999 by Stefan Stuntz

MUI is a system to generate and maintain graphical user interfaces. With the aid of a preferences program, the user of an application has the ability to customize the outfit according to his personal taste.

MUI is distributed as shareware. To obtain a complete package containing lots of examples and more information about registration please look for a file called "muiXXusr.lha" (XX means the latest version number) on your local bulletin boards or on public domain disks.

If you want to register directly, feel free to send

DM 30.- or US\$ 20.-

to

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1.4 introduction

Since its beginning of the Amiga in 1986, the IFF-ILBM graphic format became the standard format on the Amiga platform.

But with todays progress in multimedia and compression technique, the ILBM format is no more up-to-date.

Here is a table, that compares advantages and disadvantages.

Disadvantages of other graphic formats:

- * The compression technique of GIF is no more free.
- * PNG produces well compressed files, but it is quit slow to decompress.
- * ILBM can't handle chunky bitmaps used with graphic cards (truecolor modes) and its compression rate is very poor.
- * JPEG produces very well compressed files, but compression technique is lossy.

Advantages of the RGFX format:

- * Uses XPK compression. With this you can produce very small files (e.g. XPK-GZIP often produces files smaller than GIF or PNG), or very fast unpacking files.
 - * Can handle planar, chunky and truecolor bitmaps.
 - * Deals with AGA, CyberGraphX and Picasso96 screen modes.
 - * Full IFF chunk support. Add your own chunks to RGFX files. The datatype won't complain about it.
 - * RGFX is well prepared for the future by using the expandable IFF technique. There might be new chunks in the future.
-

- * Very useful for lossless packing of 24-bit picture.
Currently, I don't know any lossy XPK packer, but if there exists one, RGFX ↔ might become a competitor to JPEG on the Amiga !

1.5 datatype

Minimum requirements:

- * OS 3.0
- * MC68020
- * xpkmaster.library V5
- * render.library V29 (included in the archive).

Additionally recommended:

- * CyberGraphX with picture.datatype V43

The RGFX datatype works on simple AGA Amigas as well as on Amigas equipped with a CyberGraphX compatible graphic card (full picture.datatype V43 support).

The render.library is used to convert 24-bit RGFX pictures to AGA bitmaps.

1.6 prefs

Minimum requirements:

- * OS 3.0
- * MC68020
- * MUI 3.8

The following three items affect the handling of 24-bit images.

Mode:

- > V43 CGX Mode
Enables V43 CyberGraphX mode.
If you do not have the picture.datatype V43, the datatype will fall back to ↔ V40 mode.
- > V40 AGA Mode
Truecolor images will be color reduced for AGA.

V40 Dithermode:

Enables Floyd-Steinberg dithering (recommended, (1)).
Default is 'No dithering' (0).

V40 CLUT Depth:

Depth to use for color reduction in CLUT mode.
Values are from 3 to 8 (default).

XPK-Packer:

Select the packing method, the mode and the password to be used with DTM_WRITE (↔ RAW) method.
Default is: NUKE

Currently I only support MUI for the preferences.
If you don't have MUI, you also can adjust the preferences very easy.

The ENV-variable 'Datatypes/rgfx.prefs' contains the parameter as a DOS-argument with the template 'MODE/A/N,DITHER/A/N,DEPTH/A/N,XPK/A,XPKMODE/A/N,PASSWORD'.
You can change the settings anytime either by using the 'SetEnv'-command or by using a text editor.

1.7 converter

Minimum requirements:

- * OS 3.0
- * MC68020
- * xpkmaster.library V5

With this utility, you can convert any image you have a datatype for, to the new IFF-RGFX format.
It is CLI-only !!

Template: DT2RGFX FROM/A,TO/A,XPK/A/K,MODE/K/N,PW=PASSWORD/K,VERBOSE/S

FROM: The filename of the source image.
TO: The destination filename.
XPK: The ID of an XPK-Packer. For example XPK NUKE.
I recommend to use GZIP which has best compression ratio but still fast.
MODE: The XPK-Packingmode (0 - 100).
Default is 100 (best compression).
PASSWORD: The password to be used for encryption when using an encryption modules.
VERBOSE: Verbose mode.
Print some information while converting.

1.8 problems

I don't know anything about the behaviour of this datatype on P96 systems as P96 ↵
does
not work on my Amiga. Though it works perfect with CGX, I suppose it will also run
on P96 well as P96 emulates the CGX software.

I once was reported, that the datatype sometimes wants to show pictures in HAM ↵
mode,
although the HAM mode wasn't set.
I myself don't have any problems with the datatype, so I think this is an ↵
individual problem.

True is, that HAM pictures are often displayed incorrect with CGX, but correct ↵
with AGA.

I suppose, this is a problem of the CGX emulation and not of the datatype, as ↵
other datatypes
show the same misbehaviour !

Do not rely on the CGX screenmode in the RSCM chunk as these modes can differ from Amiga to Amiga !

The only bits you can rely on are the HAM und EHB-bits set in the AGA field of the RSCM chunk.

Currently the P96 screenmode in the RSCM chunk is always set to \$FFFFFFFF (= INVALID_MODEID).

There is a bug trying to save the datatype picture with the DTM_WRITE method and IFF_RAW flag

set. Do not save remapped bitmaps as this will result in corrupt output !!

This is not my fault as PDTA_Bitmap should point to the original bitmap and not to the

remapped bitmap.

If you use datatypes.library V45, then you will now the little utility DTConvert. As DTConvert

does not use picture.datatype V43, you cannot convert truecolor pictures to RGFX. But using

up to 256 color images will work.

Anyway, to convert datatype pictures to RGFX, please ONLY use the DT2RGFX converter, as

this utility can handle them all !

1.9 history

03-Dec-97 V43.0

- * First public release.

04-Dec-97 V43.1

- * Improved planar handling in the converter and the datatype.
- * Datatype has now full error handling.

03-Mar-98 V43.2

- * Datatype is now able to reduce colors of 24-bit images with the render. library.
- * Added MUI preferences (no GadTools version, I'm too lazy for it).
- * Added NewIcons to the archive.

09-Mar-98 V43.3

- * Slightly improved handling of AGA's special screenmodes (HAM and EHB).

17-Mar-98 V43.4

- * Minor changes in the converter.
- * Improved method handling.
- * Improved DisplayID search.
- * Added DTM_WRITE (RAW) method for saving in RGFX format.
- * Should be more datatypes V45 compatible generally.

18-Mar-98 V43.5

- * Shortened file size.
- * More error handling.
- * Fixed a bug, that sometimes could lead to an exception #5 when PageWidth/ PageHeight==0.
- * Sometimes wrong modeid, when page was odd-sized.

09-Apr-98 V43.6

- * Added render.library to archive.

18-Jun-98 V43.7

- * Datatype and converter now force use of xpkmaster.library.
- * Archive contains a guide instead of a simple ascii doc.
- * Fixed a little bug in the docs and the converter.
- * Improved memory handling, therefore a bit faster.
- * Converter does not support planar or uncompressed writing anymore. Xpk-chunky is forced.
- * Includes new render.library 29.0. Datatype requires this version.

26-Jul-98 V43.8

- * Just some minor changes.

20-Oct-98 V43.9

- * Changed flags in memory allocation, so it can be used with VMM (Virtual Memory Manager).
- * Added parameter "MODE" and "PASSWORD" to the converter to select packingmode and password.
- Datatype and prefs now handles these added parameters too !
- * Fixed a bug for compressed planar pics. Wrong unpacking.
- * Fixed a bug in V40 mode. Pics with depth <=8 had wrong color palette depth.
- * Included source code in C++.
- * Improved libinit.

08-Jun-99 V43.10

- * Included new render.library 30.0
- * Requires xpkmaster.library V5.
- * Datatype checked for cybergraphics.library, which is not needed because of use of picture.datatype V43. This caused a failure on AGA machines.
- * Updated 'bug'-chapter in the guide.

06-Oct-99 V43.11

- * Added some GlowIcons.
- * General speedup.
- * Bugfix: Forgot to call a FreeBitmap.

13-Nov-99 V43.12

- * Improved V43 setup to avoid problems under Picasso96 or OS 3.5.
- * Glowicons are now default icons.

21-Jan-00 V43.13

- * Recompiled with StormC.
- * Forgot to close the cybergraphics.library

18-Sep-00 V43.14

- * Improved use of V43 features. Shouldn't allocate any ChipRAM with graphic cards.

20-Sep-00 V43.15

- * Recompiled source. Binary is a bit shorter now.

18-Jul-01 V43.16

- * Cleaned up ramlib-stuff (thx to Oliver Roberts).
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* V40-mode dithering didn't work, was just a black bitmap.

1.10 author

If you have any comments, critics, bug reports or anything else, feel free to ↔
contact me.

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Aminet: dev/misc/IFF-RGFX.lha

1.11 credits

* Andreas Kleinert for his support with IFF-RGFX.

* Timm S. Müller for the render.library.

* Roland Mainz for datatype.library V45.