

**UniversalGIO**

<b>COLLABORATORS</b>
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	<i>TITLE :</i> UniversalGIO	
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>
WRITTEN BY		January 18, 2023
<i>SIGNATURE</i>		

<b>REVISION HISTORY</b>
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# Contents

<b>1</b>	<b>UniversalGIO</b>	<b>1</b>
1.1	UniversalGIO modules for Photogenics - Overview	1
1.2	Illegal keyfiles	2
1.3	Installation	2
1.4	Supported file formats for loading	3
1.5	Usage for loading	4
1.6	Preferences for the modules	5
1.7	Usage for animation creation	6
1.8	Manual animation creation	6
1.9	Automatic animation creation and conversion with ARexx scripts	7
1.10	Animation players for the HHsYUVSq animation format	8
1.11	Shareware modalities	8
1.12	Special Thanks	9
1.13	CyberShow: flexible slideshow and viewer program	10
1.14	PhotoAlbum: Picture management for all Amigas and Dracos with at least OS3.0	10
1.15	Disclaimer, Copyright, Usage and Distribution conditions	10
1.16	Version history	12

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## Chapter 1

# UniversalGIO

### 1.1 UniversalGIO modules for Photogenics - Overview

HHsFastUniversalGioModules 4.0 -> new: now with ARexx support <-

=====

```
+-----+
| The fast and flexible loader/saver modules for Photogenics (V1.2, V2.0, ...) |
| (this module is probably NOT usable with Photogenics demo or lite versions!) |
| * fast loading of more than 20 file formats (incl. e.g. PhotoCD) |
| * support for Datatype loading |
| * downscaled loading support (load big pictures with few memory) |
| * TrueColor animation creation saver for CyberGraphX or EGS users |
| new: ->->-> automatic TrueColor animation creation and conversion |
|           with included ARexx scripts (Photogenics V2.0 or higher needed) |
+-----+
```

Please note: The demo version loads and saves only in greyscale! Please pay the shareware fee to get color loading/saving...

-> New: Order the UniversalGIO for low add-on prices with the new

PhotoAlbum  
(picture management software for all OS3.x Amigas) <-

Disclaimer, Copyright, Usage and Distribution conditions  
-> Warning:  
Illegal keyfiles

Information about the supported picture file formats

Installation

Usage for loading  
(incl. downscaled loading function)

Module preferences  
(e.g. for Datatype support or downscaled loading)

Usage for animation creation

(free  
animation players  
available as well)

ARexx scripts for automatic animation creation/conversion

Shareware modalities  
(Ordering informations for full version)

Special Thanks

Version history

## 1.2 Illegal keyfiles

Warning:

I know that illegal/modified keyfiles of this module exist. The use of such keyfiles ("nhsgiokey.library") is strictly prohibited and can lead to undefined results and problems! For a program which you use you should also be willing to pay the shareware fee. Only if enough users register I will be able to do further improvements or create other graphic applications. You can also help me by sending me illegal keyfiles of this module which you find somewhere.

The future software development depends on the honesty of all users!

I also want to point out that all keyfiles contain visible and invisible marks which allow identification of the original user even if the keyfile is modified. Keyfiles which are found to be the base of illegal modified/distributed keyfiles become invalid immediately and (beside other consequences) any future use of such keyfiles is prohibited.  
(->

Disclaimer, Copyright, Usage and Distribution conditions  
)

## 1.3 Installation

The modules can be installed automatically with the included script.

If you prefer manual installation:

To install the modules, just copy the files ending with ".gio" to your Photogenics:Data/Gio directory.

If you have Photogenics 2 or higher, the included ARexx scripts (ending with ".rx") and their icons should be copied to the Photogenics:Data/Scripts directory. This is also done by the scripts.

The name of the loader .gio module starts with a "-" so that it appears first in the list of loader modules (and usually will be tried first

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for automatic format detection). This makes sure that the fast module is used automatically instead of other modules if it can load a format. This should make your loading of many formats much faster!

The UniversalGIO module can only be used with full versions of Photogenics. It will probably NOT be usable with PhotogenicsLite or demo versions. For DataType support or downscaled loading at least Photogenics V1.2 is needed.

## 1.4 Supported file formats for loading

The loader module currently supports the following file formats:

- \* IFF-ILBM (all standard formats 1 to 8Bit, EHB, HAM6, HAM8, 24Bit)
  - \* PhotoCD (Base format 768x512 or 512x768 (portrait); linear 24Bit colors)
  - \* PPM/PGM/PBM (P1&P4 b&w, P5 grey, P6 color)
  - \* QRT (also known as dump format by PD raytracers as POV-Ray)
  - \* Targa (RLE compr.&uncompr. 1/8/15/16/24/32Bit;incl. interleaved)
  - \* PCX (compr.&uncompr. EGA1-4Bit, VGA 8Bit grey/Colormap and 24Bit)
  - \* MacPaint (b&w compressed 1Bit format; datafork only)
  - \* BMP (uncompr. 24Bit RGB,1Bit,4Bit or 8Bit Colormap; RLE compressed 8Bit,1Bit)
  - \* TIF (packbit-compr.&uncompr. 24Bit,1-8Bit grey/Color Motorola&Intel formats)
  - \* EGS7.x window iconification file format
  - \* DEEP (compr.&uncompr. 24Bit and 32Bit)
  - \* RGB formats (RGB8, RGBN, RGB5)
  - \* ACBM formats (1 to 8Bit, incl. HAM6/HAM8)
  - \* FBM formats (8Bit grey/color and 24Bit)
  - \* IFF-PBM (DPII) format
  - \* Sun raster (1Bit, 8Bit grey/color and 24Bit uncompressed)
  - \* YUV (color 1:1:1, 2:1:1, 4:1:1 and greyscale)
  - \* VLAB raw (color 1:1:1, 2:1:1, 4:1:1 and greyscale)
  - \* HHsYUVSq sequence format (sequential or random access)
  - \* HHsXRL formats (1-8Bit ColorMap incl. HAM6/8, 8Bit grey, 24Bit RGB compressed)
  - \* binary-EPS bitmaps (RGB and CMYK; this function is experimental)
  - \* TBCPlus frames&fields
- \* DataType (incl. first frame of animations with Anim-Datatypes)  
 DataTypes are only used as option (if selected in the  
     Prefs  
     for  
 the module; see below for details)

Example loading speed advantages on my configuration (see below):

ACBM: upto 2 times faster  
 BMP: upto 2.3 times faster (in addition some OS2-styles supported)  
 DEEP: upto 1.3 times faster (in addition compressed images are supported)  
 IFF-EHB: upto 2.5 times faster  
 HAM6: upto 1.5 times faster (in addition colors can be better)  
 HAM8: upto 1.7 times faster (in addition colors at left border should be correct)  
 IFF-24Bit: upto 2.4 times faster  
 IFF-8Bit: upto 2.2 times faster  
 PPM-P6: upto 2.3 times faster  
 PPM-P5: upto 3.1 times faster  
 PCX: upto 3.8 times faster (in addition special EGA/VGA styles supported)  
 PhotoCD: upto 3 times faster (in addition horizontal images are usually

loaded in correct orientation)  
 QRT: upto 1.3 times faster  
 Targa: upto 1.7 times faster (this test in RAM: due to loading problems with original loader from harddrive; in addition compressed images and other depths supported)  
 TIF: upto 3.3 times faster  
 (GIF: upto 2 times faster with DataType-Loading and a fast GIF datatype)

(only loading times compared, not displaying; my configuration: Amiga 3000; 68030/25MHz;PiccoloSD64;Photogenics 1.2;loading from Quantum harddrive; PhotoCD loading from NEC2x; Please note that loading times can differ much on other configurations)

In addition to the speed advantages, many new formats are supported as well (see above).

The fast loading functions have all been written by me in assembler and optimized for fastest speed. I did this for my famous shareware programs like the new PhotoAlbum or CyberShow etc. When new formats are implemented for my other programs (or the speed is improved further), I will usually also update the modules, which registered user can then use due to the keyfile concept.

## 1.5 Usage for loading

To load a picture in one of the internally supported formats, simply use the usual loading functions in Photogenics. As UniversalGIO appears usually first in the loader module list, it will be used if possible before other modules are tried.

If you want to use DataTypes for loading as well, you must first set an option in the modules preferences

. This has been done

because always using DataTypes would have disadvantages if you tried to load file formats which UniversalGIO does not support internally but for which you have Datatypes and which could be loaded with other Photogenics modules faster or in better quality. Due to this the DataType loading is only optional.

For downscaled loading you can also use the preferences

.

By selecting the About button when the loader is selected in the loader list you can get information about your keyfile (registered users) and the supported file formats; About and Prefs for GIO modules are only available with Photogenics V1.2 and higher! In Photogenics V2.0 and higher you should use the right mouse button in the loader list to get the button window (with Load, Prefs, About buttons) for the loader.

## 1.6 Preferences for the modules

Special note for Photogenics 2 users:

-> The module selection handling has changed. You should now select the  
-> loader or saver with the right (!) mouse button in the list to get  
-> access to the Prefs, About and Load/Save gadget for it.

Loader preferences:

Select Prefs button when the loader is selected in the loader list;  
Preferences for GIO modules are only available with Photogenics V1.2  
and higher!

- a) Datatype support: Select "On" if you want Datatypes to be used if the internal file formats of UniversalGIO fail; Please note that if this option is selected all files which are not supported internally by UniversalGIO will be tried by Datatypes which can take some additional time or lead to unwanted results (if you have a bad Datatype which then loads a picture instead of one of the original Photogenics GIOs).
- b) Downscaling factor: Select a downscaling factor (greater 1) in the range 1..16 if you want to get pictures into Photogenics in downscaled form; useful if memory is insufficient to load big pictures in full size. Please note that some of the file formats (which can not be loaded line by line) may still need full memory during loading; most formats will only need memory for reduced size. Some file formats may also support only certain downscale factors. In this case the next higher available downscaling factor will be used.

Downscaled loading is also useful in combination with automatic animation creation and conversion. If you have a collection of files which are too large for HHsYUVSg anim format, you should select a downscaling factor before starting the animation scripts.

Animation Saver preferences

If you have at least Photogenics V1.2 you can select "Prefs" options or the saver: an option allows to make file name selection permanent; if this is selected, the file name of the sequence will only be requested once (as long as the saver module is not flushed out of memory), enabling you to simply append frames by calling the saver. If you want to change the file name later, you first have to deselect this Prefs option.

For automatic animation creation you should use the included ARexx scripts (for Photogenics V2.0 and up). If used by ARexx, the animation saver supports a file name parameter as optional argument (NOT as usual filename argument; this is because Photogenics creates new files for filename arguments, but the animation saver needs to append to files as well).

ARexx Template:

```
SAVE buffernumber "HHsYUVSequence" "" animfilename
```



## 1.7 Usage for animation creation

TrueColor animation creation is supported by the separate `↔`  
`HHsYUVSequence.gio`.

You can

- 1) Automatically create animations from a directory of pictures with the  
`HHsMakeAnim.rx ARexx` script  
(Photogenics 2 needed at least)
- 2) Automatically convert an IFF-Anim into a HHsYUVS<sub>q</sub> animation with the  
`HHsConvertIFFAnim.rx ARexx` script  
(Photogenics 2 needed at least)
- 3) Create animations by  
saving each frame manually  
(usable with older Photogenics version as well)

You can play the animations with my freeware player programs

`CyberTVPlayer`  
and  
`EGSTVPlayer`  
.

Important: Image dimensions for animation creation are limited! The image width must be in the range 80..360 (the next lower even width will be used). The image height must be in the range 64..310! All frames must have the same size.

If you have a collection of much bigger images you can use the new downscaled loading option of my UniversalGIO loader module to get the images in downscaled form into Photogenics quickly...

Special note for EGS-TV users: You can load and edit sequences created with this module with EGS-TV as well. In the other way this is only possible if the sequence is of the right kind (color, sequential mode, half frame/LoRes). EGS-TV is a program only usable with the EGS graphic system. Maybe in future I will have a similar program for AGA and CyberGraphX. Anyone interested?

## 1.8 Manual animation creation

Using the animation saver module manually:

- a) Create a new sequence

Just save the picture which you want to become the first frame of your animation with the HHsYUVS<sub>q</sub>.gio saver. In the file requester you should select a new filename. The GIO module will then try to create a sequence with this name.

- b) Append a frame to a sequence
-

Just save the picture which you want to append to an animation with the HHsYUVSg.gio saver. In the file requester you should select the filename of the animation to which the frame should be appended.

New: If you have at least Photogenics V1.2 you can select "Prefs" options for the saver: an option allows to make file name selection permanent; if this is selected, the file name of the sequence will only be requested once (as long as the saver module is not flushed out of memory), enabling you to simply append frames by calling the saver. If you want to change the file name later, you first have to deselect this Prefs option. This option should be esp. useful if a future version of Photogenics becomes available with ARexx support, so that automatic appending of multiple frames becomes possible (this is already possible with ImageFX and XiPaint for which I have created similar modules).

Important: You can only append images of the correct size to a sequence. Differently sized images can not be saved in one sequence. Please scale or crop the images to the size of the first frame in the sequence.

## 1.9 Automatic animation creation and conversion with ARexx scripts

The ARexx functions are only supported in Photogenics V2.0 and higher. ←

With older versions of Photogenics you can't use the ARexx scripts.

You can start the ARexx scripts from the Macros/Run Macro menu entry or start them by double clicking on their icon on Workbench. In both cases the directories will be asked on the Photogenics screen. If you want to use the scripts more often, you can install them with the "Install a macro" function in Photogenics to the function keys.

- a) Automatic animation creation from a directory of pictures with  
\*\*\* HHsMakeAnim.rx \*\*\*:

HHsMakeAnim.rx will ask for a source directory and a destination file. You can specify a pattern in the source directory requester as file name (e.g. pictures.????) to load only specific files from the directory. This is important if there are other files (like icons, readmes or such) in the directory as well. The script will then load all pictures (or all pictures matching your pattern) in the source directory (in alphabetical order) and create/append them into the HHsYUVSg animation. Please note that all pictures should have the same size!

- b) Automatic conversion of IFF-Anims into HHsYUVSg format with  
\*\*\* HHsConvertIFFAnim.rx \*\*\*:

HHsConvertIFFAnim.rx will ask for a source animation and a destination file. You should only specify IFF-Animations as source, as the Photogenics ANIM loader is used. If you want to convert animations from other formats (e.g. CDXL animations) you can change the script to use another animation loader in Photogenics. Currently you must also specify the number of frames which should be converted, as currently it seems to be impossible to get the number of frames from Photogenics 2.0 in the ARexx script. If you

specify more frames than exist in the animation, the ANIM loader may load at the beginning again or load empty frames, but it does currently (unfortunately) not bring up any error requester. Many IFF animations are designed for loop playback and have identical first and last frames. For such animations you should specify one frame less than the total number of frames, as HHsYUVSg format does not need identical frames to play the animation as loop. You can obtain the number of frames in an animation with good viewers or picture management programs. My CyberShow Professional and PhotoAlbum can read animations and inform you about the number of frames if you have the OS3.1 animation datatypes. If you want to convert more frames than can be specified in the requester, you can modify the script to use a higher maximum value (Photogenics requires to set a maximum value for number requesters).

## 1.10 Animation players for the HHsYUVSg animation format

You can play the TrueColor animations (HHsYUVSg format) with the following free player programs:

### 1) CyberTVPlayer

Usable on all Amigas with at least OS3.0. Displays in TrueColor or HighColor on graphic boards with CyberGraphX or in reduced color (slow) on AGA Amigas.

### 2) EGSTVPlayer

Usable on Amigas with EGS software installed; displays in TrueColor under the EGS environment on EGS compatible graphic boards.

Both should be available on Aminet in gfx/board. If you order the module you will also receive the latest version of CyberTVPlayer or EGSTVPlayer.

## 1.11 Shareware modalities

### Registration of UniversalGIO Modules

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UniversalGIO is Shareware. This means that you have to register with me, the author, and pay a shareware fee if you want to use it for more than 4 weeks. The unregistered version does also only load and save in greyscale. After registration you receive a keyfile together with the latest full version. The keyfile disables all restrictions. The keyfile concept allows you to use later demo version (which can e.g. appear on Aminet) as full versions.

The cheapest way to order the module is to order it together with one of my applications

PhotoAlbum  
(the new intuitive and fast  
picture management software for all Amigas with at least OS3.0;  
incl. TrueColor support for CyberGraphX) or  
CyberShow  
(the fast  
slideshow presentation and viewer program for all Amigas with at  
least OS3.0; incl. TrueColor support for CyberGraphX). The add-on  
price for the module is then only 10DM or 7US\$.  
Please make use of this special offer if possible!

If you just want to order the module, the following prices are valid:

UniversalGIO for new users: 20DM (in europe) or 18US\$ (outside europe)  
UniversalGIO for registered users of one of my other modules or  
programs like PhotoAlbum, CyberShow: 15DM (europe) or 14US\$  
(see registration form for other accepted currencies)

(Special note for users in germany only: Wenn Sie schon registrierter Benutzer  
eines meiner Shareware-Programme sind und sich Ihre Anschrift nicht  
geändert hat, können Sie die Module direkt per Überweisung bestellen.  
Als Verwendungszweck geben Sie bitte "UniversalGIO für ...." an, wobei Sie  
das Programm was Sie schon haben und die Registriernummer angeben.  
Zusätzlich möglichst auch noch Name/Anschrift; die Bankverbindung:  
Konto-Nr. 5740147 BLZ 310 500 00 Stadtpark. Mönchengladbach)  
(No bank transfers from outside germany!)

To register you must send in the filled in and signed registration form  
(included in demo version) and send it to my address together with the  
shareware fee as cheque, banknotes or pay by (international!) postal  
order / postal money order

My adresse: Helmut Hoffmann  
Rubensstraße 4  
D-41063 Mönchengladbach

Deutschland

After registration you receive your keyfile and the latest  
version of the program. The keyfile allows usage of later  
demo versions as full version. Please allow some time  
for handling/delivery. Usually this will be done very quickly  
(only few days), but under raw circumstances it can take upto  
some weeks.

By the way: Similair modules are available for ImageFX (FastIFXModules)  
and XiPaint (XiPaintModule) as well.

## 1.12 Special Thanks

My special thanks go to Mr. J. Ralph and Almathera for their kind support  
and to the registered UniversalGIO users all over the world.

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### 1.13 CyberShow: flexible slideshow and viewer program

CyberShow Professional is my universal image viewer featuring SlideShow presentation (incl. transition effects) and much more. It offers a great range of parameters and configurability to be used in every kind of image viewing task.

The loading functions are nearly identical to those in the module. The system requirements are also similar: CyberShow can be used on all Amigas (and Dracos) with at least OS3.0. The maximum picture viewing quality can be reached in conjunction with graphic boards used under CyberGraphX.

Demo version e.g. available on Aminet: "gfx/board/cybershow###lha"

### 1.14 PhotoAlbum: Picture management for all Amigas and Dracos with at least OS3.0

New: -->>> PhotoAlbum <<<<<

```
+-----+
| The fast and intuitive picture management software for all Amigas with OS3.x: |
| * Supports upto 256 colors on AGA Amigas |
| * Supports TrueColor/HighColor on graphic boards with CyberGraphX |
| (TrueColor displaying supported for thumbnails and full picture windows) |
| * Supports more than 20 picture formats (incl. PhotoCD, IFF, JPeg (incl. |
| Progressive), TIF, PCX, BMP, Targa, PPM, YUV, ... and DataTypes) |
| * Open any number of picture windows incl. fast scrolling and zooming |
| functions, conversion functions, direct transfer functions, ... |
| * Font sensitive picture subtitles and gadget bar (fonts configurable) |
| * Many options can be configured (by Tooltypes or in menus) |
| * Support of several preview file formats (highly compressed to save space |
| or uncompressed for high speed access etc.) |
| * Functions for creation of picture databases across multiple volumes |
| * Configurable thumbnail cache memory * Editable picture comments |
| * new: now finer JPeg scaling (optional) to better fit pictures in frames |
+-----+
```

Demo version e.g. available on Aminet: "gfx/misc/photoalbum###lha"

The loading functions are nearly identical to those in the module. The system requirements are also similar: PhotoAlbum can be used on all Amigas (and Dracos) with at least OS3.0. The maximum picture viewing quality can be reached in conjunction with graphic boards used under CyberGraphX.

### 1.15 Disclaimer, Copyright, Usage and Distribution conditions

Disclaimer  
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This software (program and documentation) is provided "as is" and comes with no warranty, either expressed or implied. The author is in no way responsible for any damage or loss that may occur due to direct or indirect usage of this software. You use this software entirely at your own risk.

#### Copyright and Distribution

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HHsFastUniversalGioModules (modules and documentation) is copyright by

Helmut Hoffmann  
Rubensstrasse 4  
D-41063 Moenchengladbach  
Germany

The demo version may be freely distributed and used as long as the following conditions are met:

- 1) All files have to be kept together
- 2) No file may be modified or crunched/packed.

The only official way to distribute the demo packed is the original universalgio.lha archive.

The modules may not be disassembled or analysed. The limitations integrated in the demo version may under no circumstance be removed or bypassed.

- 3) Distributors may only charge for the duplication process (including media) and not for the software. These charges may not exceed the following limits:
  - a) Demo on a PD-disk: 7\$ (US-dollar) including postage&packing (in Germany: 10DM)
  - b) Demo on a PD-CD-ROM: 40\$ (US-dollar) including postage&packing (in Germany: 60DM)
  - c) Demo on a BBS/Mailbox/ftp-site or other electronically callable system: Maximum charge 3\$ (US-dollar) (in Germany: 5DM) for downloading

Anyway, it must be made explicitly clear to the buyer, that he does not pay for the modules (demo) itself but only for the duplication service.

- 4) It is not allowed to distribute this demo with any commercial product without a written permission by me. One exception is the distribution of the demo version with products not exceeding the above price limits (e.g. a cover-disk magazine for 7\$ or less).

The following companies have my explicit permission to distribute the demo with their products: Almathera, Ingenieurbüro Helfrich, MacroSystem.

- 5) The registered version may not be redistributed. It may only run on one machine per registration. It is allowed to make a backup copy of the original disk.
-

## 1.16 Version history

### Version history

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- V1.0 (5th aug. 95): Initial release supporting 20 file formats and DataTypes
- V1.1 (21th aug. 95): First full version release (incl. revised documentation)
- V2.0 (29th aug. 95): Support new file formats: binary-EPS bitmaps (RGB,CMYK) and TBCPlus frames/fields
- V2.1 (20th sep. 95): Show Datatype specific ID string during Datatype loading
- V3.0 (27th sep. 95): Support downscaled loading as option  
Included GIO saver module to create HHsYUVSg animations  
(for playback you can use CyberTVPlayer or EGSTVPlayer)
- V3.1 (28th sep. 95): HHsYUVSg animation saver extended by Prefs option to make sequence file selection permanent
- V3.2/a (9th oct. 95): Extended TIF loader to support "Intel" byte order files and more variants
- V3.3 (15th nov. 95): Extended IFF loader to support 0-length chunks  
Added support to load partially defective files
- V3.4 (20th feb. 96): Extended IFF loader to accept unusual sized color maps
- V3.5 (24th march 96): Changed PCX loading for more compatibility
- V3.6 (29th april 96): Extended PCX loading for even more compatibility
- V3.6a (28th june 96): Converted documentation to Amiga-Guide format
- V4.0 (21th july 96): Added ARexx argument support to HHsYUVSg animation saver  
Included ARexx scripts for automatic animation creation from directories of pictures (makeanim.rx) and conversion of IFF-Anims (convertiffanim.rx); all ARexx functions need at least Photogenics V2.0  
Changed HHsYUVSg animation saver to accept images of odd width (will be cut off to next lower even width)  
Fixed bug in HHsYUVSg saver error handling