

User's Manual

# GraphicConverter 10.7.1

Programmed by Thorsten Lemke

Manual by Hagen Henke

Sales:  
Lemke Software GmbH  
PF 6034  
D-31215 Peine

Tel: +49-5171-72200  
Fax: +49-5171-72201  
E-mail: [support@lemkesoft.com](mailto:support@lemkesoft.com)

Elbsand Publishers

In the PDF version of this manual,  
you can click the page numbers in the  
contents and index to jump to that particular page.

© 2001-2018 Elbsand Publishers, Hagen Henke. All rights reserved.

Sales: Lemke Software GmbH, PF 6034, D-31215 Peine; [www.lemkesoft.com](http://www.lemkesoft.com)

This book including all parts is protected by copyright. It may not be reproduced in any form outside of copyright laws without permission from the author. This applies in particular to photocopying, translation, copying onto microfilm and storage and processing on electronic systems.

All due care was taken during the compilation of this book. However, errors cannot be completely ruled out. The author and distributors therefore accept no responsibility for any program or documentation errors or their consequences.

This manual was written on a Mac using Adobe FrameMaker 8.

Almost all software, hardware and other products or company names mentioned in this manual are registered trademarks and should be respected as such. The following list is not necessarily complete.

Apple, the Apple logo, and Macintosh are trademarks of Apple, registered in the United States and other countries. Mac and the macOS logo are trademarks of Apple. Lumix is a trademark of Panasonic.

Copyright for all pictures in manual and on cover: Hagen Henke except for ECW and mr-SID example pictures. Example pictures of ships, Berlin and Hamburg in the chapters Picture Package and Collage by Detlef Großpietsch. Example picture shadow function: Designed by Freepik.com.

Third Parties Components:

- ExifTool used with permission of Phil Harvey
- Photo CD mark licensed by Kodak
- ECW Compression/Decompression Earth Resource Mapping Pty Ltd.;  
LuraWave-Technology © 2000 LuraTech GmbH © 2000 Images compressed by LuraWave
- XMP toolkit © Adobe Systems Incorporated and others. All rights reserved.  
The original version of this source code may be found at <http://adobe.com>
- RCWebColorPicker © 2006 Carl Lindberg
- NeuQuant © 1994 Anthony Dekker
- DDS and ACE import with the help of Martin Wright
- BioFormats library licensed from Glencoe Software
- JPEG 6 © 1998 Thomas G. Lane, updated to 6c by Bruce Barthon
- Remote Control Wrapper, a library of classes by Martin Kahr
- Sparkle framework by Andy Matuschak
- Crashreporter framework by Uli Kusterer
- webp format sdk Copyright © 2010, Google Inc. All rights reserved.

Typesetting: Hagen Henke

Version 6.3, Meissen, Germany 2019

## Contents

### Introduction

Welcome to GraphicConverter .....	6
System Requirements .....	6
Installation .....	6
Update .....	11
Auto Save and Fullscreen Mode .....	11
macOS 10.9 Mavericks .....	14
Support .....	16
This Manual .....	16
Starting the Program and Opening a Picture .....	17
Converting a Picture with Save as... .....	21
Saving and Closing .....	26
Save a Copy as... .....	26
Batch Conversion with Convert & Modify .....	27
Automatic Conversion .....	58
Work Environment .....	60

### Internet

Preparing Pictures for the Internet .....	73
Save for web.....	78
Comparing Pictures .....	79
Pictures in E-mails .....	81
Pictures in mobile phones.....	85
Slices.....	85
Photo Albums on the Internet (Catalog) .....	87
Cloud services .....	98
Uploading and Downloading Documents .....	98

### On Paper

Paper Format .....	99
Printing .....	99
Multiple printing with Pickture Package .....	103
Layouts with the Collage function .....	105
Print Catalog .....	108
Print Folder.....	112

### Processing Pictures

Non-destructive image editing with the Cocooner .....	113
Color correction with Color Balance .....	115
Color correction with Xe8472.....	116
Pure Carbon Filter.....	118

Color Range .....	120
Highlights and Shadows .....	121
Cropping for Photo Prints .....	122
Picture Size .....	126
Scanning with GraphicConverter .....	132
Using the Stamp for Touching Up .....	133
Importing Pictures from Digital Cameras .....	134
Cropping .....	138
Free-form select with the Green Screen technology .....	140
Rotate .....	140
Unsharp Mask and Sharpen Edges .....	146
Enhance local Contrast .....	149
Brightness, Contrast, Saturation .....	150
Vignetting Correction .....	152
Operator .....	153
Color Correction .....	155
Color Management with Profiles and ColorSync .....	157
Selection .....	165
Removing Red Eyes .....	173
Undo .....	176
RGB and CMYK .....	176
Torn Effect .....	178
3D Effect .....	179
Transparency .....	184
Zoom .....	185
Levels .....	187
Colors, Modes and Colorize .....	189
Invert .....	198
Mirroring .....	199
Shadow .....	200
Unskew .....	202
Tilt Shift Effect (Miniature Effect) .....	204
White Correction .....	205
Creating a GIF animation .....	205
User defined filters .....	209
Color Permutations .....	209
Alpha Channels .....	215
Layers .....	218
Text in Pictures .....	220
Face Recognition .....	223
Deep Data .....	227

## Viewing & Sorting

The Browser .....	228
Pictures on your iPod .....	281
Slide show .....	282
Find duplicate files.....	296

## Special

Batch Functions.....	299
Geo Coordinates .....	306
Set or export GPS data .....	309
Images from Videos.....	312
Feathering.....	313
Fisheye .....	
Align images.....	313
DRIMaker instead of HDR.....	314
Focus Stacking .....	315
Overlay .....	315
Recording Points for Determining Measurements.....	316
Color Blindness .....	316
Touch Bar.....	317
AppleScript.....	317
Automator.....	321
Terminal.....	321
Troubleshooting .....	322
Shortcuts .....	324
Important formats .....	325
Supported Formats .....	338
New in GraphicConverter .....	338
Index.....	425

# Introduction

After dealing with installation of the program, the first section of this manual looks at the most important functions for everyday use.

## Welcome to GraphicConverter

GraphicConverter converts pictures into other picture formats allowing you to use graphics files from other computer systems, for example. The most important functions are:

- Converting the most frequent Atari, Amiga, UNIX, Organizer and IBM graphics formats to and from Macintosh formats. Numerous format-related parameters can be configured (page 21).
- Image editing
- Multiple conversion (page 27)
- Importing Pictures from Digital Cameras (page 134)
- Browser for quick viewing of all pictures contained in a folder (page 228)
- Slide show (page 282)
- Automatic creation of Internet pages with picture indices for download (page 87)
- Picture processing including dithering (e.g. from page 189)
- Remove red eyes (page 173)
- Simple text conversion (page 30)
- Print pictures indices (page 108)

We wish you all the best in your work with GraphicConverter.

## System Requirements

GraphicConverter 9.7 or newer requires macOS X 10.8 or newer. [Click here to download](#) older versions of GraphicConverter for almost any older macOS.

## Installation

*Summary:* Copy GraphicConverter onto your hard drive and start the program. GraphicConverter is a multi-language program that starts in the language set in the **International** section of the **System Preferences**. The languages available are: German, English, French, Danish, Sweden, Italian, Spanish, Japanese, Chinese (simplified), Chinese (traditional), Czech, Dutch, Catalan and Russian.

This manual is stored inside the GraphicConverter program file that is a so-called package. Packages can be opened by selecting **Show Package Contents** from the context menu in the Finder. They then work in the same way as folders. All documentation for GraphicConverter is under the path **Contents / Resources**. If you want to install a newer

version of the documentation, simply overwrite the old file with the new one. You may not change the names.

**In macOS X**, plug-ins are copied to the **Library / Application Support / GraphicConverter / Plug-ins** folder. User plug-ins are copied to the **Users / ~ / Library / Application Support / GraphicConverter / Plug-ins** folder. The tilde character ~ stands for the name of the respective user. User plug-ins are only available to the respective users. One very easy way to install plug-ins is to drag them onto the GraphicConverter program icon. After a query, they will be automatically copied into the correct folder.

macOS X already supports a large number of USB scanners. Connect your scanner via USB (not FireWire) and select **File / Scan / Scan with Image Capture...** If you want to use the functions of the software supplied with the scanner, please follow the instructions in the scanner documentation. For further information see p 132 onwards.

## Step By Step Installation

You may have downloaded GraphicConverter from the Internet or received it on a CD or you bought a license from the Mac App Store. Please read the paragraph that applies to you below.

**Possibility 1: You downloaded GraphicConverter from the Internet:** Double-click the file, which has been downloaded, if a window with a volume image does not open automatically.

A volume image is a volume, which can be used like a normal volume, even though it only exists in the RAM. The following volume image appears on the desktop:



## Installation

Double-click the volume image to open it.



In macOS X, drag the GraphicConverter folder into the **Applications** folder on your hard drive. Installation is not complete. To delete the volume image from the RAM, click it and press Command-E (Eject).

Open the Programs folder on your hard drive and start the GraphicConverter program by double-clicking. To make opening GraphicConverter easy, we recommend dragging the program file into the dock. Alternatively you can drag the file to the Desktop while holding down the Command and Option keys to create an alias via which you can start the program.



**Possibility 2:** You purchased GraphicConverter in the Mac App Store. In this case, GraphicConverter will be installed automatically.



The Mac App Store is not a Web site, but instead a program that is pre-installed on your computer from macOS 10.6 (January 2011). You will receive a message in the Mac App Store program as soon as an update is available. The update is installed automatically with one click. You can install GraphicConverter on all Macs on which your iTunes account is active.

The Mac App Store will supply a version that supports sandboxing. This technology increases the protection against malware, but brings along a few limitations:

- The folder for Apple scripts must be created manually.
- mrSID import is not possible.
- ecw import is not possible.
- To display directories in the browser, you sometimes need to select them via the **File/Browse Folder...** command or move them to the favorites using drag and drop.
- It is not possible to export the iPhoto library into the normal folder structure.

One further limitation to the version from the Mac App Store is that newer versions are delayed considerably because of Apple's testing process.

If you want to avoid these limitations, you can obtain a normal serial number for the normal version of GraphicConverter (available for download from [www.lemkesoft.com](http://www.lemkesoft.com))

## Installation

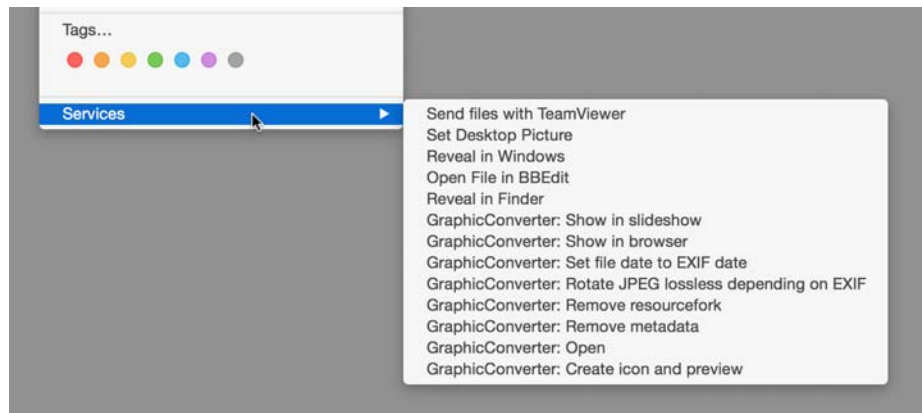
free of charge. Send the receipt that you received from Apple by e-mail to: support@lemkesoft.com. We will then send you a serial number by e-mail.

If you installed the normal version of GraphicConverter first, you will need to drag it to the Trash before installing the sandboxing version from the Mac App Store. After installing the sandboxing version, you can drag the normal version out of the Trash again, for example, to a subfolder in the program folder. You can use both versions parallel and also start them simultaneously.

If, for example, you have received a promocode for GraphicConverter because you are a journalist, click **Redeem** under **Quick Links** at the bottom right of the start page of the Mac App Store. GraphicConverter will start downloading immediately after you enter the promocode since the code contains the information about which program should be downloaded.

## GraphicConverter services

In the Finder you can use some functions of GraphicConverter via the sub menu of **Services** from the context menu. The mouse has to be over a picture file. When your computer starts the Finder reads the services of all installed programs and shows them in the context menu.



## Installing Plug-Ins

Copy plug-ins into the **Library / Application Support / GraphicConverter / Plug-Ins** folder and restart GraphicConverter if it was already running. The plug-ins need to be carbonized, i.e. suitable for macOS X. Carbon plug-ins are currently only available for some scanners. Plug-ins, which should only be available to one user, are copied to the **Users / ~ / Library / Application Support / GraphicConverter / Plug-ins** folder. The tilde character stands for the name of the respective user. You can check your user name in the System Preferences in the **Login** section of the **Login dialog** tab. It is in the **Name** box. User plug-ins are only available to the respective users.

Please see **Scanning with GraphicConverter** from page 132 for further information.

## Installing TWAIN

The TWAIN driver is integrated in GraphicConverter. Simply install the TWAIN module for your scanner software (see page 132), which you open in GraphicConverter via **File / Scan / Select TWAIN Scanner (Data Source)**. This module needs to support 64 bit. If there is not a TWAIN module for your scanner, you can try to use the TWAIN SANE Interface for macOS that can be downloaded at: <http://www.ellert.se/twain-sane/>

## Update

GraphicConverter is constantly being revised. You will automatically receive messages about updates when an Internet connection is present and can install them automatically with a click. If you have not been online much for a while, you can search for updates with **GraphicConverter / Check for Updates...** or on the [www.lemkesoft.com](http://www.lemkesoft.com) pages. We recommend that you always use the latest version. **All updates are free** with a few exceptions. Your registration and default settings are not affected. If you bought GraphicConverter from Apple's Mac App Store, you will receive notification from the store as soon as an update is available for automatic installation.

## Auto Save and Fullscreen Mode

Under macOS 10.7 Lion, the new options include **Auto Save** and **fullscreen mode**. **Auto Save** can be disabled in the GraphicConverter **Preferences** under **Save / General**.

If you shut down your computer under Lion and have programs open at that moment, these will be launched automatically on the next start of your computer with all windows opened which were open when you shut down. After quit and relaunch of a Program the windows will be opened again too. You can disable this option in the **System preferences** under **General** in macOS 10.7. If you leave this option active you can exclude GraphicConverter in the GraphicConverter **Preferences** part **General / Misc / Upon Launch: Restore last Windows**.

Under Lion, if you shut down your computer while programs are still open, they will be automatically restored when the computer is restarted and all windows that were open at the last shut down will be re-opened. In macOS 10.7, you can disable this option under **System Preferences / General**. If you leave this option enabled, you can exclude GraphicConverter by disabling the **Upon Launch: Restore last Windows** option in the **General / Misc** section of the GraphicConverter **Preferences**.

## Auto Save

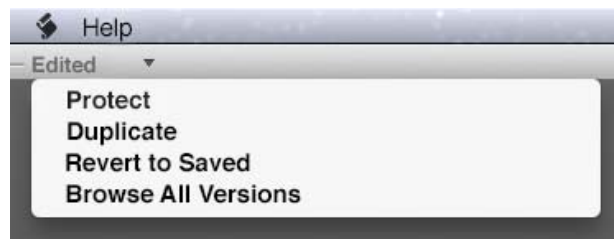
With **Auto Save**, changes to an open image are always saved automatically in the background. Therefore the latest editing progress is always available even after a crash. However, the main advantage is that you no longer have to worry about saving because the files are saved automatically. You can therefore switch off your computer at any time

## Auto Save and Fullscreen Mode

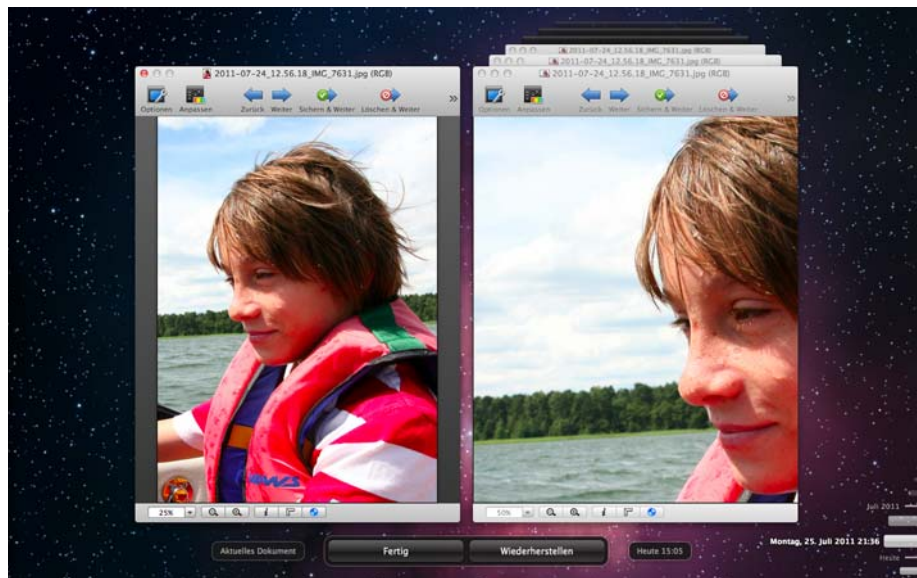
without warning messages for unsaved documents appearing. The Auto Save option is disabled in GraphicConverter by default. You can enable Auto Save in the **Preferences / Save / General** with **Features: Support auto save and versions**.

The Auto Save functions have been changed in newer versions of macOS. For more information please see the end of this chapter.

In the **File** menu, **Save...** has become the **Save a Version** command. The difference between the commands is that **Save** overwrites the open file so that only the modified version is available. **Save a Version** saves the current editing progress. The previously saved versions are, however, archived automatically and can be opened again at any time. To do this, click the filename in the window title and select **Browse All Versions...** from the pop-up menu that opens. Alternatively you can select **File / Revert to Saved**.



Similar to the TimeMachine display, all older versions of the file will now be displayed on the right next to the current version. On the right-hand side of the screen, you can choose which of the older versions you want to display.



Click the required time bar or drag the time bars while holding down the mouse button to browse. Click **Restore** to make the selected version the current document. If you select the wrong version, you can repeat the process to find the right version since all versions are kept.

Auto Save helps you during your work by adding **Edited** to the filename in the window title, which appears as soon as you modify the image. If you want to prevent further modifications, select **Lock** from the window title pop-up menu. **Locked** will appear instead of **Edited**.

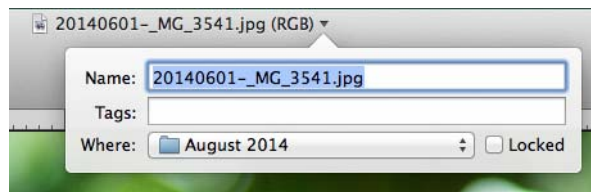
Protected files can also be unlocked again via the pop-up menu for the window title with **Unlock**. We recommend creating a protected version once you have reached an editing stage that you want to keep. If you do not edit a file for two weeks, macOS Lion will automatically change the status to **Locked**. Select **Unlock** when you want to edit the file again.

Alternatively you can create a new version of the file that is not protected and needs to be saved under a new name like a new file with **Duplicate**. The save command will therefore become available for this file in the File menu.

**File / Export...** allows you to save a file under a new name like before with **File / Save As...**

Since automatic saving can inadvertently take up a large amount of hard drive space and slow down further work when you are working with larger files, you can disable it in the **Preferences** under **Save / General**. The usual commands, for example, **Save**, **Save As...** etc. will then appear in the **File** menu. If necessary, use another hard drive and TimeMachine to keep versions of your files.

**Changes in macOS 10.9 Mavericks:** The functions **File / Save** and **Save as** are available again. The function **File / Save a Version** is no longer available. **File / Save** now saves a version. **File / Revert To / Last Opened - Date** or **Browse All Versions** go back to the original version or a newer one.



The **Duplicate** function is available from the file menu. In the name dialog is a checkbox for **locking** the file and you can apply a **Tag** or edit the name of the file. You can move the file to another folder with the **Where** PopUp-Menu which is handy especially for moving to or from the **iCloud**.

## Fullscreen mode

Click the green circle with the diagonal double arrow in the top left corner of the window to activate full-screen mode in which GraphicConverter fills the whole screen so you can concentrate on the current document.



The menu bar is also hidden.



Move the mouse cursor to the top edge of the screen to display the menu bar again. To end full-screen mode, click the green circle again or press the Escape key.

If, for example, you open a browser and an image and look at it in full-screen mode, you can switch back and forth between the image and the browser by wiping with four fingers sideways to the right or left on the trackpad. The **Swipe between full-screen apps** option in the **System Preferences / Trackpad** should not be disabled in this case.

## macOS 10.9 Mavericks

GraphicConverter supports the new features of Mavericks. The new technology App Nap saves a lot of energy, as programs in the background get frozen. Especially MacBooks benefit of that technology as the battery life extends by about one hour.

Another interesting new feature are the tags that can be defined and assigned in the Finder. The tags are the advanced labels which had fixed colors. You can select any color for a tag and change it later. Additionally tags have names that can be changed too. You

can and should change the tag „Red“ to „Projects“ or „Family“ any time. These tags will be displayed in GraphicConverter's Browser like the labels were before. You can copy the tags to the metadata of your pictures via the context menu.

## Large Picture Files

Support for 64-bit is new in version 8 of GraphicConverter. It allows you to open and edit very large image files like, for example, panorama views. Please note that you require sufficient RAM for the picture since the macOS will otherwise transfer parts of the data to the hard drive. The transfer of data will slow down editing considerably.

64-bit support will not essentially accelerate picture processing. You can expect an approx. 5% increase in speed for standard processing. 64-bit technology shows its real advantages when you open images with file sizes of one gigabyte or more, edit them with filters and then save them. The reason for this is that old 32-bit systems can only use four gigabytes of RAM while modern 64-bit systems can address up to 16 million terabytes of RAM.

## Sandbox and Gatekeeper

Apple has introduced Sandbox technology with macOS 10.7 Lion to protect your data against malicious programs and data theft. Programs that have integrated Sandbox protection cannot access all services on your computer and on your network.

The Sandbox version of GraphicConverter cannot, for example, read the data in your address book nor send e-mails by itself. It is unfavorable that the access to the hard disk is blocked except the picture folder. This means that you need to drag folders that are outside the picture folder onto the GraphicConverter icon to display the contents. You can not open the folders from the file tree on the left side of the browser. A list of all restrictions can be found on our website:

<https://www.lemkesoft.de/en/products/graphicconverter/mac-app-store/>

Apple's Mac App Store only supplies Sandbox versions of applications. Programs without Sandbox technology will still run without limitations under the macOS, however. If you purchased GraphicConverter through the Mac App Store and would rather have a version without Sandbox technology, please contact our support by e-mail and include your purchase receipt. You will then receive a license number for the version without Sandbox technology that you can download from our Web site [www.lemkesoft.com](http://www.lemkesoft.com) free of charge.

Gatekeeper is an Apple system that, from OS 10.8 Mountain Lion, ensures that only signed programs can be installed and started. All programs that originate from a developer who is registered with Apple will get the signature without any checks by Apple. GraphicConverter is signed for Gatekeeper. Under macOS 10.8 Mountain Lion, you can enable Gatekeeper in the **System Preferences / Security & Privacy** to increase protec-

tion against malware. Gatekeeper and Sandbox have nothing to do with each other even though they both handle the security of your system.

## **Support**

If you have questions on GraphicConverter or have problems (see also page 322), it is best to contact us by e-mail:

support@lemkesoft.com

If, in your country, support is available in your language through a distribution partner, a corresponding entry will appear in the Help menu so you can send an e-mail.

You can solve most problems by deleting the preference file (see p 322). Please limit your attachments to 100 kB as we receive a very large number of e-mails. If you want to attach a larger sample file, please ask us first. Please remember that problems can often be indicated with a small section of a picture.

We are always glad to hear about any problems and new formats. We would like to thank all users who have helped in the further development of GraphicConverter by sending us information and bug reports.

We prefer e-mails as a support medium because of the time factor.

Thorsten Lemke and Lemke Software GmbH accept no liability for damages and consequential damages (hardware, loss of data etc.) resulting from the use of the GraphicConverter program.

## **This Manual**

The best way to work with the PDF version of this manual is if you display the file with the Apple Preview software under macOS X. A search box is then provided in the drawer on the right-hand edge of the window allowing you to quickly search for terms that are not listed in the index. Click one of the hits to access the corresponding page. The search term appears on the page with a colored background. You will find "Preview" in the program folder.

In the PDF version of this manual, you can click the page numbers in the index and the contents as well as any cross references to jump to the corresponding page.

We have organized this manual so that you can read it from start to finish and get to know GraphicConverter and its capabilities. We have put conversion and important topics like the Internet at the start after Installation and Support. Chapters on the functions that are most frequently needed follow: Scanning a picture, sharpening, optimizing



brightness and contrast etc. Please use the extensive index on the last pages to find specific sections.

## Starting the Program and Opening a Picture

Double-click the program icon to start GraphicConverter. The **First Steps** dialog appears where you can select one of the basic options.

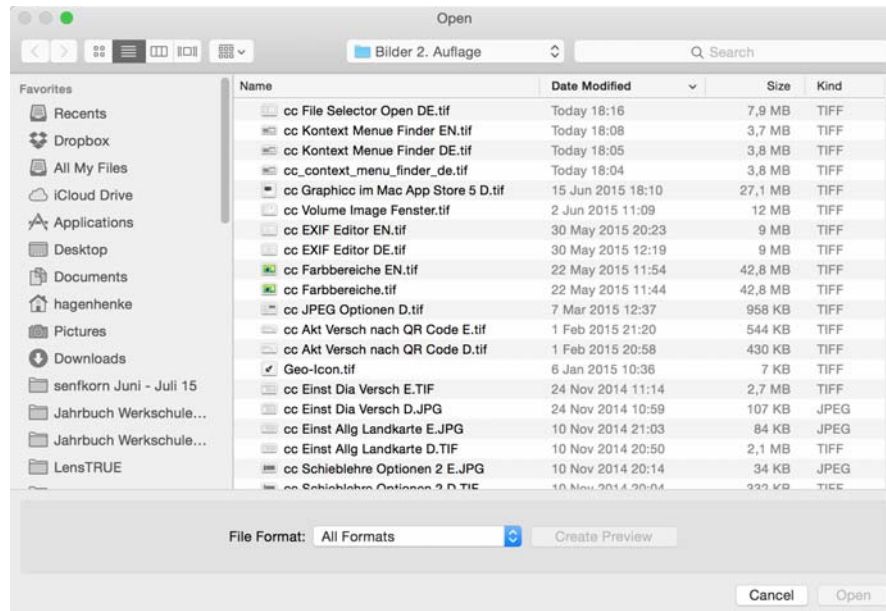


**Create a new image** opens an empty image window whose size you can specify in a dialog.

The following three features open the file selector allowing you to select an image to open or a folder to browse or display as a slide show. **Do a batch conversion** opens a Browser window in convert mode. You can access the options listed in this dialog at any time via the **File** menu. Choose **Open an image...** and click **OK**. Alternatively you can deselect **Show this dialog on startup** and click **OK**. You can then access the file selection dialog with **File / Open....**

## Starting the Program and Opening a Picture

The file selection dialog opens. It may be different to the one shown depending on your macOS version (the screenshot is taken from Max OS X 10.2).



Alternatively you can use the browser option to open files if the small preview icons in the list are too small. Select the folder containing the picture you want to open with **File / Browse Folder**. A browser window opens where a larger preview of all the pictures can be displayed. Open a picture in GraphicConverter by double-clicking one of the preview pictures. For further information, see the chapter Browser on page 228.

The program Default Folder from [www.stclairsoft.com](http://www.stclairsoft.com) is a useful enhancement for the file selection dialog as it shows an enlarged preview under the file selection dialog in all programs.

Use the **All available** filter to display all files and folders. If you select a format from the **Filter** pop-up menu, only pictures with this format are displayed.

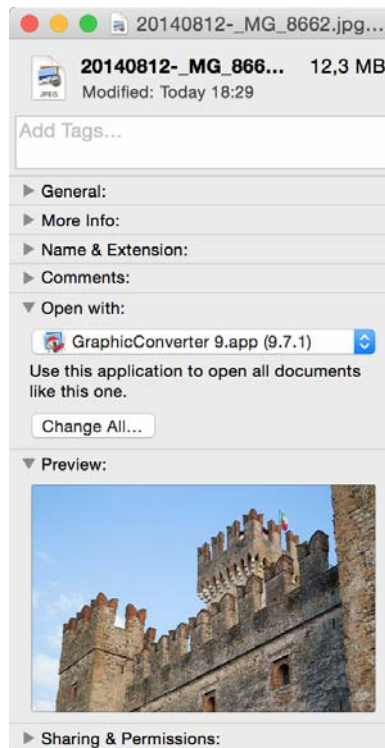
The technical document information for the selected picture is displayed below the preview picture. The documentation information is shown and hidden together with the preview picture.

If a picture does not contain a preview, you can create one with **Create Preview**.

The options in the upper part of the file selection dialog are used for quicker navigation and are part of the macOS. You will find instructions in the documentation for your computer or your macOS package.

If you want to open a certain format, for example, all TIFF pictures, in GraphicConverter (even if the pictures were created with another program) when you double-click the files in the finder, you can configure this using the information dialog in the finder. Click a TIFF picture and press Command-I to open the information dialog. Click the triangle next to **Open with**. Select the current version of GraphicConverter from the pop-up menu. Click

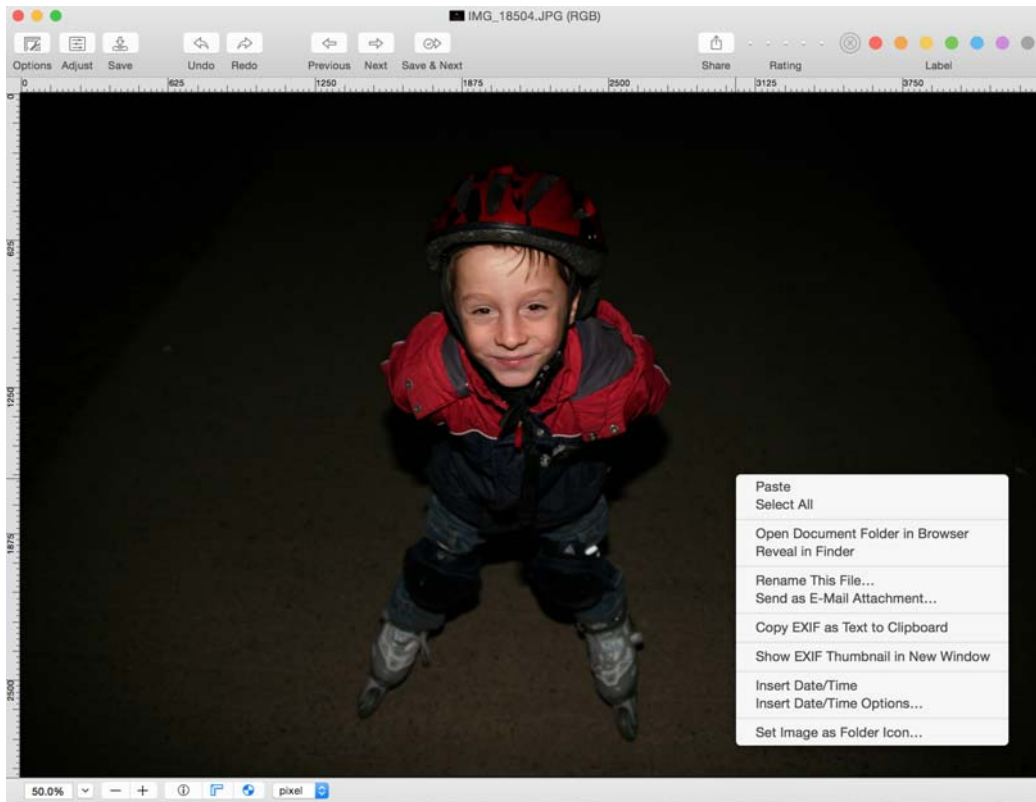
the **Change All** button to open TIFF pictures with GraphicConverter in future by double-clicking.



Repeat this procedure for each file format that you want to open with GraphicConverter by double-clicking. Simply click an image file with the corresponding format in the Finder and repeat the process. This replaces the **Preview** program that would otherwise be started for pictures without a creator.

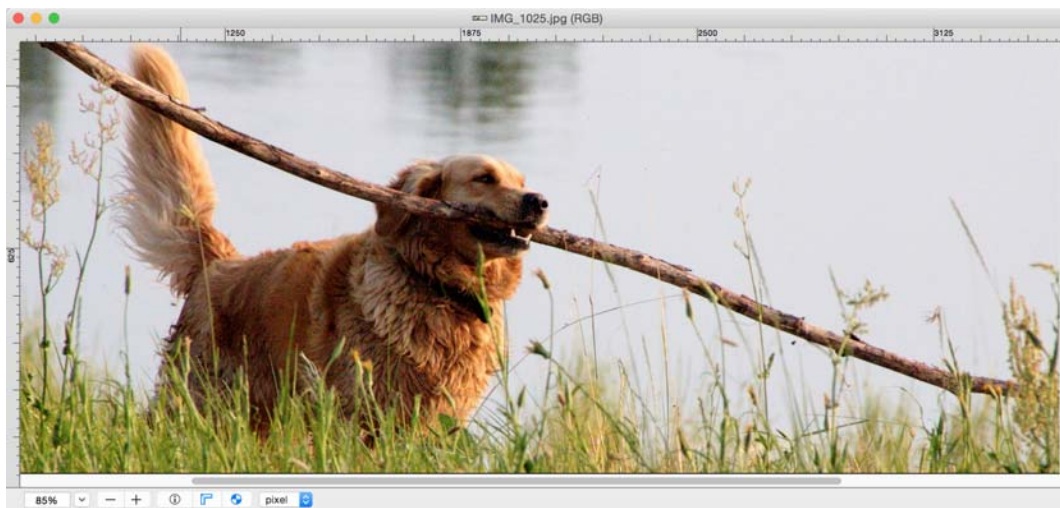
## Starting the Program and Opening a Picture

An open image is shown in a window. In the context menu, which you open by Ctrl-clicking the image, you will find different options that are explained in more detail in the respective chapters.



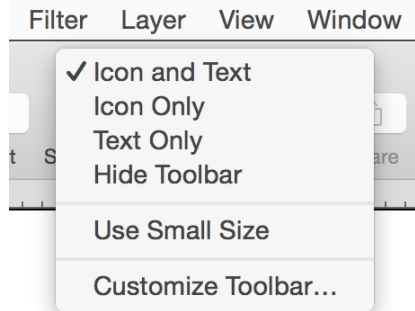
You can modify the filename with **Rename this file...** The change immediately affects the file on the hard drive and in the RAM.

In the **General / Display Windows** section of the Preferences, you can display rulers. You can set the ruler units to cm, for example, with a pop-up menu.

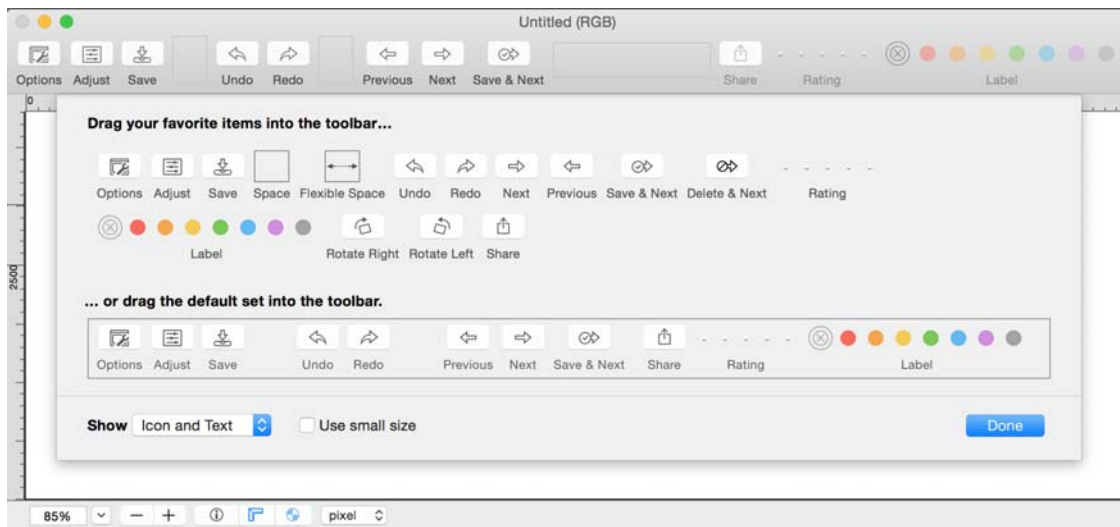


Please note that the values in cm, mm etc. depend on the resolution. Therefore change the resolution beforehand to 300 dpi for offset printing or to 180 dpi for printing on inkjet printers via the **Picture / Resolution...** dialog.

Right-clicking or Control-clicking the title bar of a picture allows you to call up a customize dialog via the context menu.



The customize dialog allows you to set up direct access to the labels, the **Share** function for online services, the navigation tools and functions for **Adjust** brightness etc. with their options. Select **Customize Toolbar** from the same context menu to open the dialog shown below.



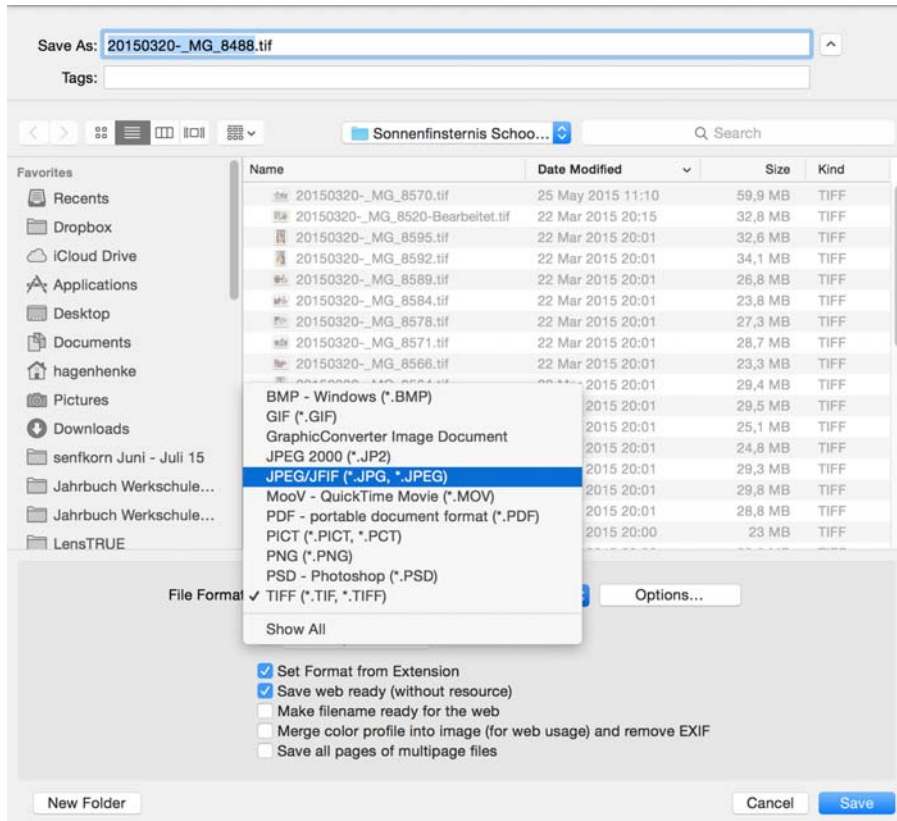
Drag additional icons from the dialog onto the toolbar or remove the icons by dragging them downwards off the toolbar. The browser toolbar can be customized in the same way, see p 229 onwards.

## Converting a picture with Save as...

*Summary:* Select **File / Open**, then the target format in the **File / Save as...** dialog and save.

## Converting a picture with Save as...

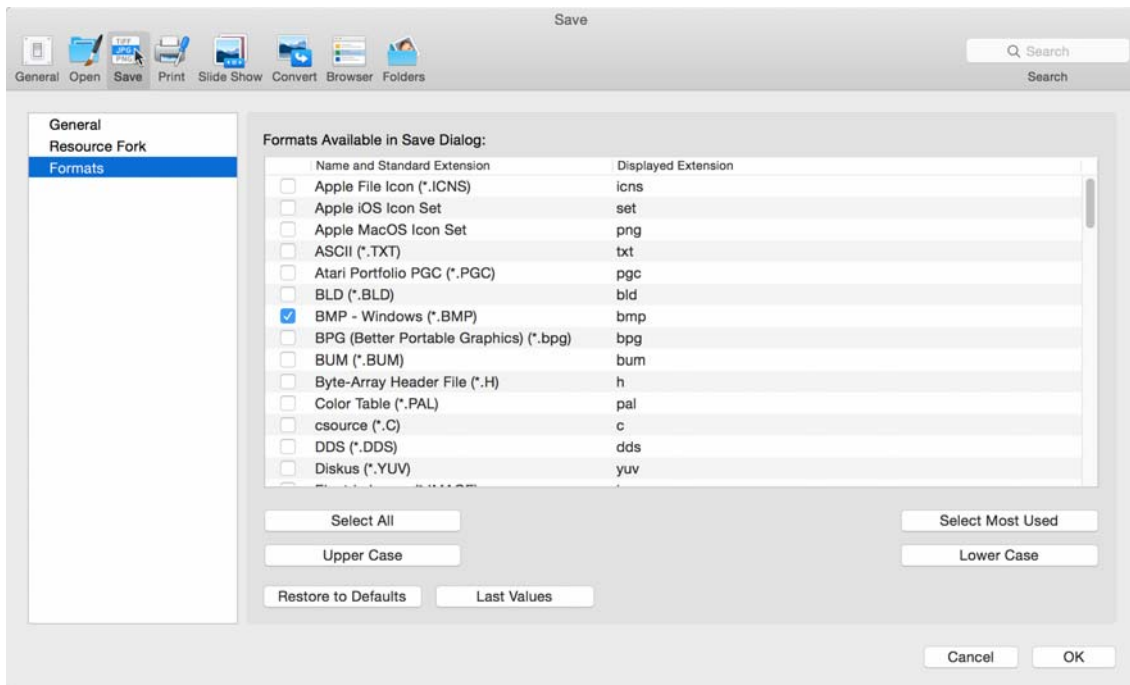
1. Open the picture to be converted with **File / Open**. If pictures have already been opened using this option, they can be opened again quickly from the **File / Open Recent** submenu.
2. Select **File / Save as...** to convert the picture. The file selection dialog may appear different in older macOS versions. The necessary options are also available in the old file selection dialog, however.



3. Select the required target format in the **Format** pop-up menu. If you need an unusual format, select **Show All** and open the pop-up menu again. Now all export formats will be shown. If you have a small monitor, you may need to scroll to reach the upper or lower entries as the list is very long. To scroll, position the cursor without clicking the black triangles at the very top or bottom in this pop-up menu. The further the arrow is positioned over the end of the list, the faster it scrolls.

In the **Preferences** in the **Save / File Formats** section, you can choose the formats to

show on this pop-up.

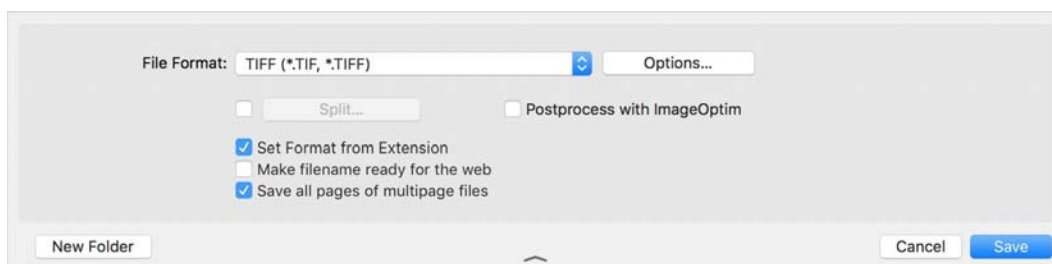


The uppercase and lowercase options allow you to specify whether the extension should be inserted as uppercase or lowercase letters.

*Professional tip:* You can enable the **Set Format from Extension** option in the file selection and simply add the format extension when writing the filename. For example, **.tif**. Make sure there is a period in front of the format extension. GraphicConverter then saves in the required format without the format having to be selected from the pop-up menu.

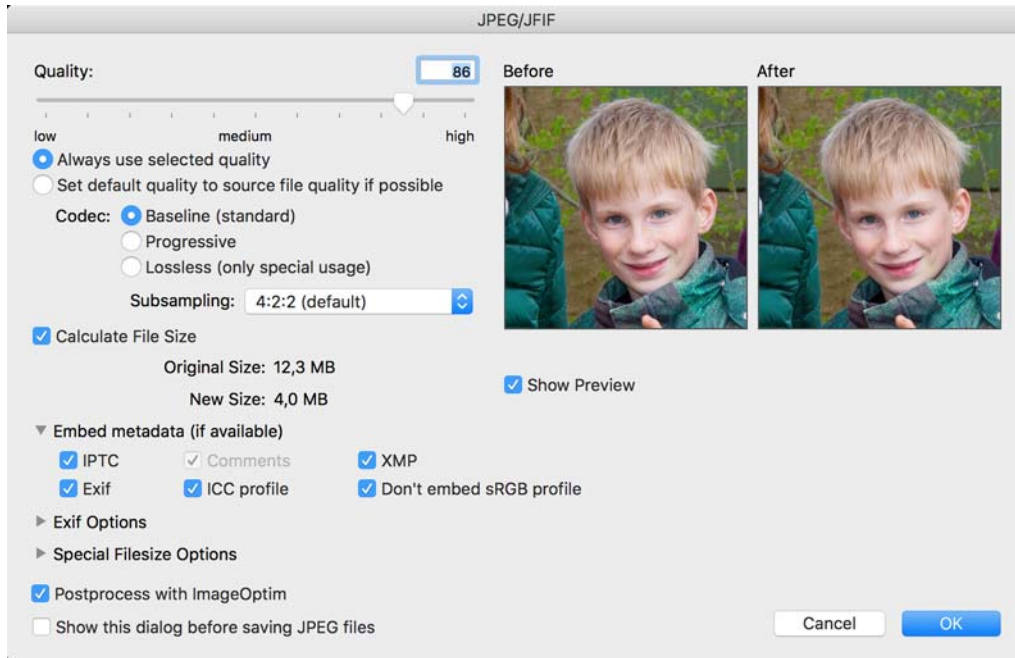
4. Save the picture under the required name. The file is then converted to the selected format.

There are other options available in the **Save as...** file selection dialog. The **Options...** button is particularly powerful as the corresponding parameters can be selected with this option for the selected format. A completely different dialog appears depending on the format.



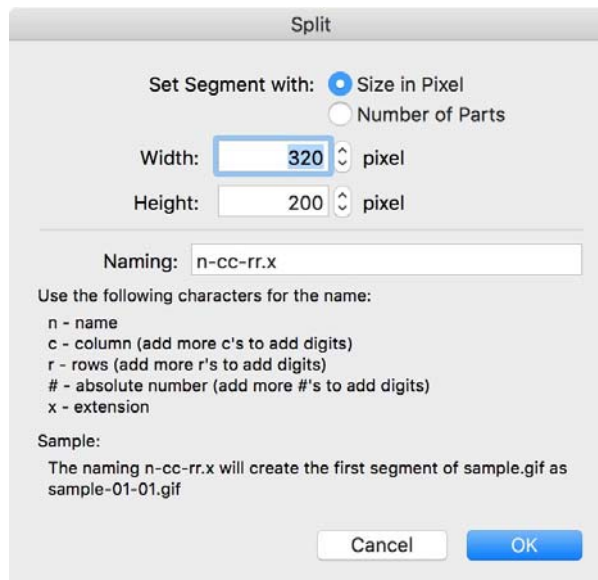
## Converting a picture with Save as...

The **Options...** button allows you to select any compression rate for JPEG pictures and other pictures.



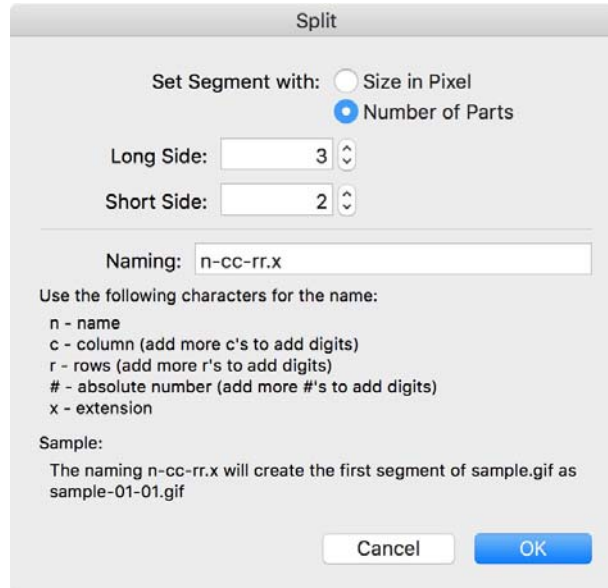
**Split...** makes several pictures from one picture that each contain part of the larger picture. Enable the option by selecting the check box in front of the button. If you click the split button in the file selection, a dialog opens where you can set the segments according to size or number.

For example, if you want to split a picture with a width of 960 pixels into three parts widthways, enter 320 pixels as the width for the segments.





If you select the **Set segments with Number of parts** option, you can enter the number of segments for the **long side** and the **short side**.



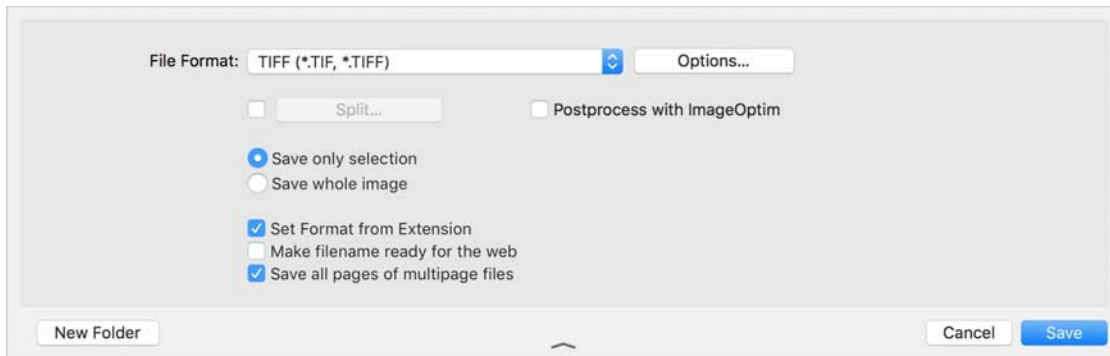
The individual files are automatically given a numbered name. The scheme for the automatically created name is shown in the **Naming** box. The “n” stands for the file **name** of the source file and should not be changed. The letter “c” stands for column and “r” stands for row. You can then determine the position of each individual picture using the file-names. The “x” at the end of the name is automatically replaced by the respective format extension.

**Postprocess with ImageOptim** can minimize file size additionally. Unnecessary color profiles and junk metadata are deleted and compression parameters get optimized without sacrificing quality. To be able to use this option you need to install the program ImageOptim which you can download from: <https://imageoptim.com>.

You can also specify in the file selection dialog whether just the current selection should be saved. The two additional **Save only selection** and **Save picture with selection** options are only available in the file selection dialog if you have made a selection. **Save only selection** saves a picture containing just the selection.

## Saving and Closing

If the selection is not rectangular, a picture is created in which the selection fits. **Save picture without selection** saves the picture as if there were no selection. A selection that is simply an outline without content cannot be saved.



**Set Format from Extension** allows you to set the format by entering the extension with the filename and not by selecting it from the pop-up menu. For example, if you write **Rose.tiff**, the file is automatically saved in TIFF format.

**Make filename ready for the web** changes special characters like ä to ae and replaces blancs with underscores.

**Save all pages of multipage files** should be enabled if you want to save all pages in multipage files. Disable this option to save just the first page.

## Saving and Closing

The current picture is saved with **File / Save**. Option-clicking the red ball at the top left of the window closes all open GraphicConverter windows. This option is part of the macOS and is available in all programs. The current window is closed with **File / Close**. **Save All** saves all windows. **Force Save All** saves all windows with the settings that you selected for the first picture. This option is useful, for example, when you have scanned in a large number of individual pictures and want to save them. You can also save to **UFS partitions** under macOS X.

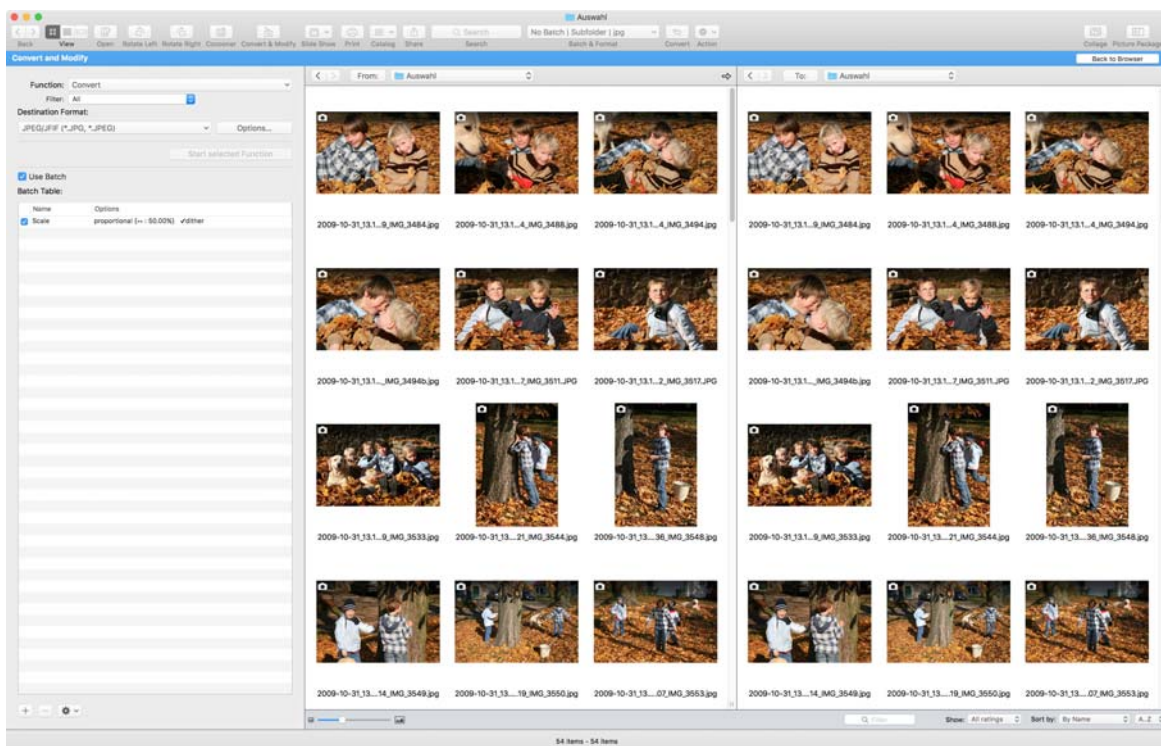
## Save a Copy as...

**Save a Copy as...** allows you to save a copy of the picture in a different format while you are still editing it. The format of the open picture is not changed, only the saved file has another format.

## Batch Conversion with Convert & Modify

If you need to convert a number of pictures at the same time, the **File** menu contains a useful option called **Convert & Modify** that saves you having to open and save each picture individually. You can also switch to the Convert & Modify window with an icon in the top section of the browser. Batch actions, such as **Scale**, that are run on all pictures in a directory, can also be defined using **Use Batches**.

Select one or more files or a folder whose content should be converted by clicking in the previews on the middle section of the Convert & Modify window. A shift-click selects all files between the one you previously selected and the one you click. Command-Clicks deselect single files or add unselected files like in the Finder of the macOS. Files in subfolders are also converted. The folder structure is copied too.



In the preview section on the right, open a target directory where the converted files should be saved. Use the pop-up menus above the lists or drag and drop the required folders from the Finder to the list sections to select the directories. Click the arrow above the previews to set the source path as the target path. This is useful when the target folder is a subfolder of the source folder. In this case, you only have to open the target folder. The desktop must **not** be selected as the target.

You can also open pictures in a multiple conversion window, for example, to check details.

You can find tutorial videos on GraphicConverter and the Convert & Modify window on our YouTube channel: <https://www.youtube.com/user/lemkesoft>.

GraphicConverter can edit more than 32,766 files per folder. Only the macOS limits the maximum number to around 4 million. If you want to convert a large number of files, you should make sure that your hard drive has enough space for the files being written. In addition, approximately 3 gigabytes space should be left for the operating system files to be on safe side. If more space is needed than available, the file system on your hard drive can become damaged meaning all files are unreadable.

Data rescue programs like DiskWarrior or Data Rescue can make the data readable again in some cases. To avoid loss of data, you should therefore always make a backup, for example, on an external hard drive and make sure that you have sufficient hard drive space. We recommend FoldersSynchronizer as a good low-cost solution for backups, TimeMachine from macOS 10.5 and, as a professional solution Retrospect from [www.retrospect.com](http://www.retrospect.com). We recommend managing large image stocks on external hard drives. If you define the target folder on a different drive to the source drive during conversion, the speed increases as the write/read heads do not constantly have to change position.

If you select a folder as the source, GraphicConverter creates a file with the name of the source folder in the target directory and, if necessary, saves the converted files in subfolders. A new folder is not created in the target folder if one or more files are selected as the source. In this case, the converted files are saved straight to the target directory.

Select the format you require for the conversion under **Destination Format**. Start the multiple conversion by clicking **Start selected Function**.

If you select a file format in the **Show** pop-up menu, only pictures with this format are displayed. All files are only displayed when you select **All Files** as well as **Geotagged and untagged, Files and folders** and **All ratings**.

Different settings, for example, compression, can be made for each target format using **Options...**

For some functions of Convert & Modify there is noted modifies source in brackets. These functions change the source files without creating new files in the destination folder. Therefore you can ignore the right hand section of the window. The destination folder must not be identical with the source folder. Select another folder. The content of this folder will not be changed.

### **In the Function pop-up menu, you can choose further functions:**

#### **Conversion – General**

**Catalog (HTML for WWW usage)...** is explained in detail in the chapter **Photo Albums on the Internet** from page 87. You can put pictures on the Internet as a download album with a few mouse clicks using the **Catalog** option.

Alternatively, you can create and print catalogs with **File / Catalog / Print...** (see **Split** splits large pictures into several small pictures, see p 24).

Overview pictures are created with **Catalog (selected destination format)...**, i.e. several catalog pictures are obtained that have small previews and the names of the selected pictures in the selection list on the left. The format selected is used. When you click this button, a dialog opens where you can select settings such as size, color depth, color, font, etc. for the catalog.

**Convert** converts the selected pictures in the destination format. Select the format of the source files if you want to use the batch function only.

**Convert only first File in each Folder** makes sense if, for example, you need only a preview for every folder that reflects it's content.

### Specific

**Convert CRW to 48 Bit PSD file...** converts CRW images into 48 Bit Photoshop files. CRW is the RAW format of some Canon Cameras.

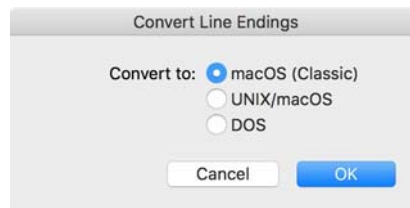
**Convert GIFs to one GIF Animation** creates a GIF animation from GIF pictures.

**Convert HPGL to PDF (vectors)** creates vector PFD files from HPGL files in order to keep the file size small.

**Convert Image/Movie to Movie** creates a movie from the source pictures or movies.

With **Convert Left/Right JPGs to MPOs** you can convert 3D-JPGs for the left and right eye in MPO files.

You can use **Convert Line Endings** to convert just the ends of the lines. A dialog where you can select the target format opens.

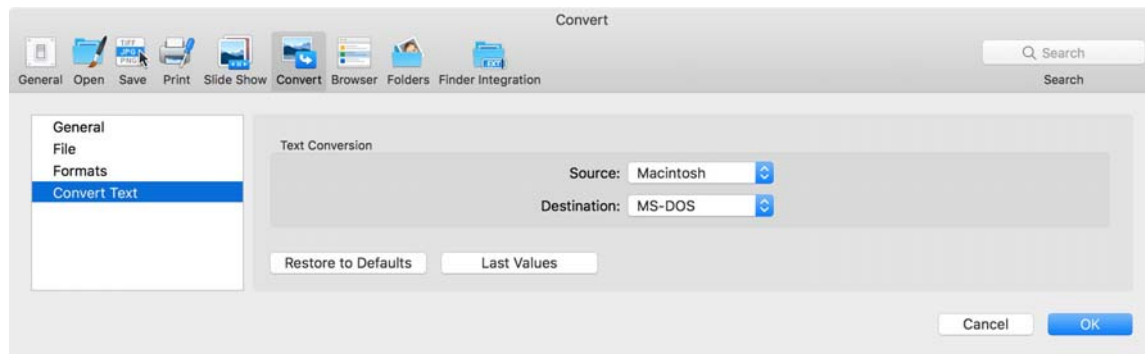


**Convert PICT to PDF (vectors)** converts PICT images with vector content into vector PDFs without dithering them.

You can use **Convert Photo RAW to 16 Bit TIFF** or **Convert Photo RAW to EXR** to convert RAW files from Canon cameras in CR2 format to 16 bit TIFF or Open EXR files used in movie industries to achieve high dynamic range (HDR) effects. The converted files contain the unchanged RAW data without gamma correction or white ballance as recorded by the sensor.

**With Convert SVG to PDF (vectors)** you can preserve vectors in SVG pictures when converting to PDF.

**Convert text** starts the text conversion that only works with ASCII texts and not, for example, Word texts. All text files selected in the source directory are converted using the converter selected under **GraphicConverter / Preferences** in the **Convert / Convert Text** section, for example, all CRs are replaced by CR and LF when converting from Macintosh to MS-DOS. Special characters such as foreign characters are also converted.



Specify the format of the source text under **Source** and the required destination format under **Destination**.

**Convert WMF to PDF (vectors)** you can preserve the vectors in WMF pictures when converting to PDF.

**Convert ai/ps to PDF (vectors)** you can preserve the vectors in Adobe Illustrator and postscript files when converting to PDF.

**Convert to Photostrip** compiles all pictures in a horizontal strip.

### Extract – Image

**Extract Images from PDF** saves the images from a PDF as single files.

**Split JPEG Data Stream into Single JPEGs...** creates a single image from each picture in a JPEG stream file. The individual pictures are saved in the folder selected in the list on the left-hand side. If you select a Word file as the source file, all pictures contained will be written to the destination folder as files.

**Split JPX Data stream into Single JP2s...** creates a single image from each picture in a JPX stream file.

### Keyword

**Extract Keywords** extracts all keywords from the selected pictures and writes them in a text file named „keywords.txt“ in alphabetical order. The file is saved in the folder of the pictures and can contain all signs of the UTF 8 standard.

## Preview

**Extract Exif JPEG Previews** allows the Exif preview to be extracted from files and saved as an image. This is useful if you want to at least see which pictures you have lost when image files become damaged. Before you delete the data on the memory card, you should try to rescue it using a free recovery program like “Exif Untrasher” that you can download at: <http://www.bluem.net/downloads/>. We were able to save approximately 90% of the lost pictures in our tests.

With **Extract MP4 Cover Art** you can extract the small JPEG cover from an MP4 file.

With **Extract PDF Preview from Pages document** you can extract the PDF preview from a pages document.

Image files in Photo-Raw format may also contain a JPEG preview of the image that you can export with **Extract Photo RAW JPEG Previews**.

With **Extract Preview from Resourcefork**

## File / Management

**Copy** copies the files to the destination folder without changes and is useful to backup files into another folder before you start a conversion that changes the original files.

**Delete Source Raw File If No JPEG Exists in Dest Folder.** In professional workflows, RAW images are often imported from the camera and converted into JPG format. Unusable JPG images are deleted immediately. This option allows you to delete all RAW files automatically if there is no longer a JPG file with the same name — except for the extension. In the left-hand list, select the folder with the RAW images and the folder with the remaining JPG images in the right-hand list.

You can use **Move to Destination if not an Image File** to remove all files that are not images or damaged images from a source folder.

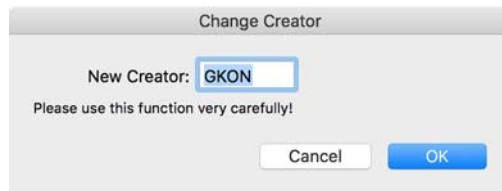
**Copy Flat...** copies pictures from many folder to one folder. The files from the first folder are renamed with the addition 000001. The files from the second folder are renamed with the addition 000002 and so on.

## Content

**Add TIFF Preview to EPSF (modifies source)** allows you to attach a preview in TIFF format to EPSF documents. Some programs can only display a preview of an EPSF file in this way.

With **Assign MP4 Cover Art as Resource Preview** you can set a contained MP4 cover as custom icon so it will be visible under macOS 10.8 and older. From macOS 10.9 the cover is displayed instead of the normal file icon automatically.

You can change the creator with **Change File Creator (modifies source)...** The Creator is used under macOS 9 to assign files to a program with which they are opened when you double-click them. GKON is the creator for GraphicConverter.



**Change TIFF Directory Offset (modifies source)...** can repair some faulty TIFF files that will no longer open.

The **Create Icon/Preview (modifies source)** option creates an icon and an overview for all selected files in the source directory.

**Delete even Pages from PDF** is useful if, for example, you want to print the odd pages first to later print the even pages on the back side.

**Delete odd Pages from PDF** is useful if, for example, you want to print the even pages first to later print the odd pages on the back side.

Conversely to **Create Icon/Preview (modifies source)** the function **Remove Resource Fork (modifies source)** deletes an existing resource for all selected files. This is useful for saving memory space for Internet usage or if you want to send pictures to PC users as they may have problems with the resource.

**Scale down MP3 Cover Art...** makes sense if, for example, the covers from your MP3 files should be displayed by a car radio that supports only small resolutions. The VW Composition Media, for example, supports only up to 500 x 500 pixels.

## **Name**

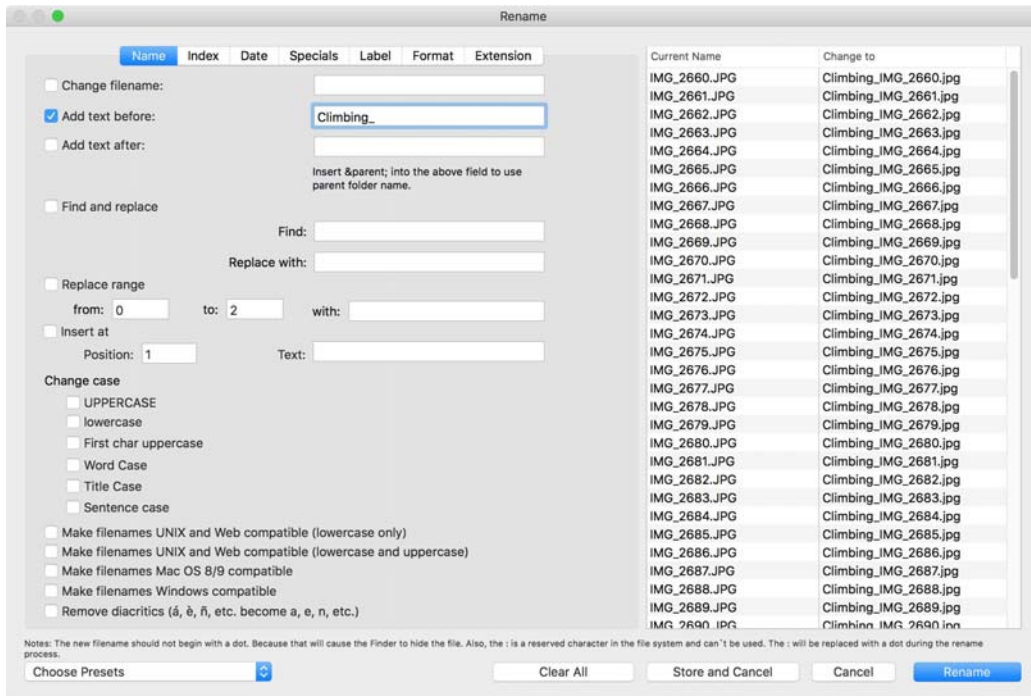
Use **Check Suffix of TIFF, JPG, PNG, PSD, MPO Format, correct and mark (modifies source)** to check whether the suffix complies with the format. If, for example, a TIFF picture has the suffix .jpg this will be changed to .tiff and the file will be marked with a label.

**Lowercase (modifies source)** changes all letters of the file name to lowercase.

For **Rename** there are an old and a new dialog available. The functions are the same. The new dialog but provides the possibility to define a sequence of rename actions in which, for example, you can use a rename action twice. In the old dialog the rename

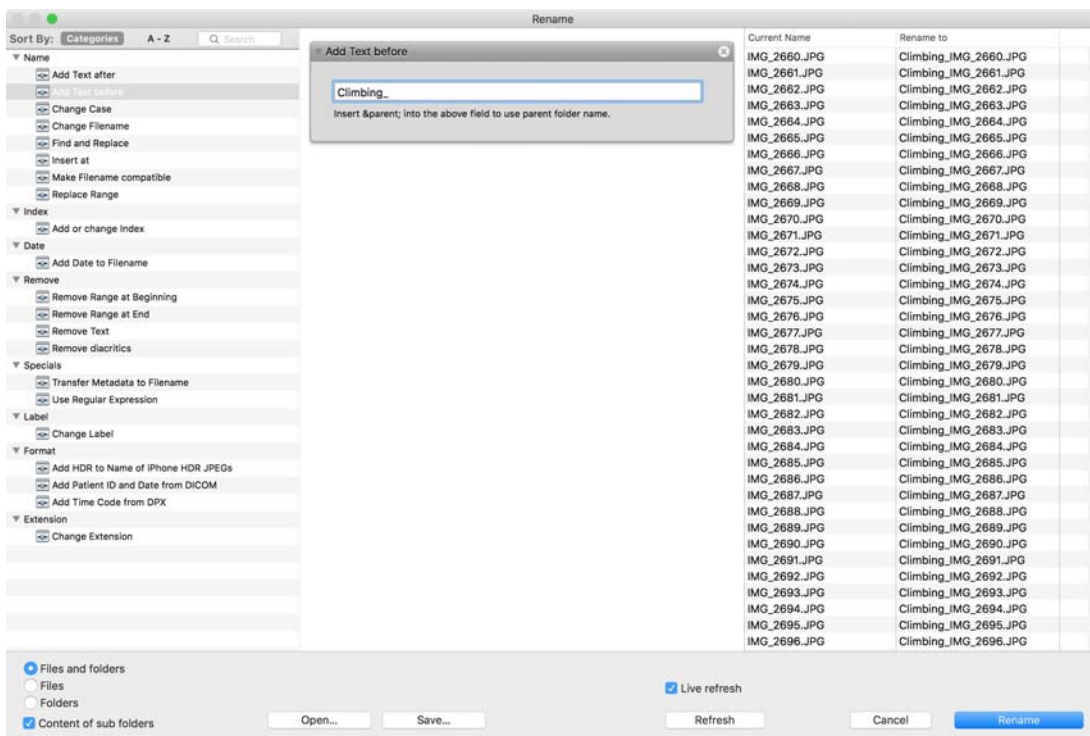


actions have been executed in the order of the tabs. The following picture shows the old dialog:



If, for example, you want to delete an index and then insert a new one it is easier to define the steps one after the other as single rename actions.

The following picture shows the new dialog. Drag the desired rename action from the left hand section in the middle section to use it or double click it:



## *Batch Conversion with Convert & Modify*

Another example of application is to make pictures usable for another program that have been saved by a video software separately. File names like „DSCN5120.jpg“ consist of three parts. The numbering is called Index. The first part is called **Name**. All letters after the dot are called **Extension**, suffix or ending.

Select the files to be renamed in the left hand section and click **Start selected Function**. A dialog opens in which the Rename button initially is disabled as first you need to activate a function.

You can opten the rename dialog from the browser too. In this case select the files to be renamed in the browser.

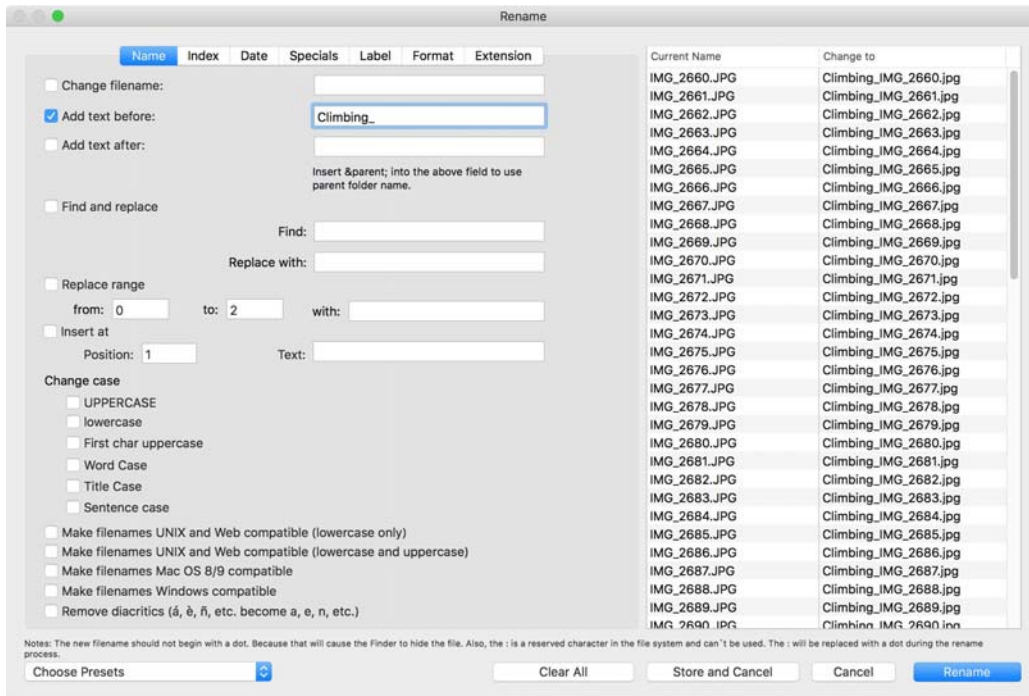
In the right hand section is dispalyed how the file names change following the current settings. If identical file names result these names will be displayed in red to warn you. The button Clear All you can turn off all checkboxes in all tabs if, for example, you want to start fresh from the beginning.

At the very button of the dialog is a pop-up menu that allows to save the current settings for later use. Select Save **current settings as...** and enter a proper name in the dialog that opens. After clicking **OK** the setting appears in the pop-up menu and can be selected. With **Save current settings** you can update the settings in the saved setting. To delete a setting choose **Delete current settings**.

### **Name**

The function **Change filename** changes the name part of the files to another text. Do not forget to activate the checkbox of the function. It is not enough to enter text into the

entry field. With **Add text before** or **Add text after** you can insert text before or after the name. In the pictured dialog you see how to add the word „**Climbing\_**“ before the **Name**.



If you want to insert the name of the parent folder, type „**&parent;**“ in the desired entry field.

With **Find and replace** you can search, for example, blanks and replace them with an underscore like in a word processor to make the file names web compatible. With **Replace range** you can, for example, replace the third to fifth character with the text you enter in the entry field. **Insert at** inserts the text at the chosen position.

With **Change case** you can change all characters to uppercase or lowercase. Select **First char uppercase** to get the first character of all words uppercase only. Word Case and Title Case change the first character of each word or sentence to uppercase.

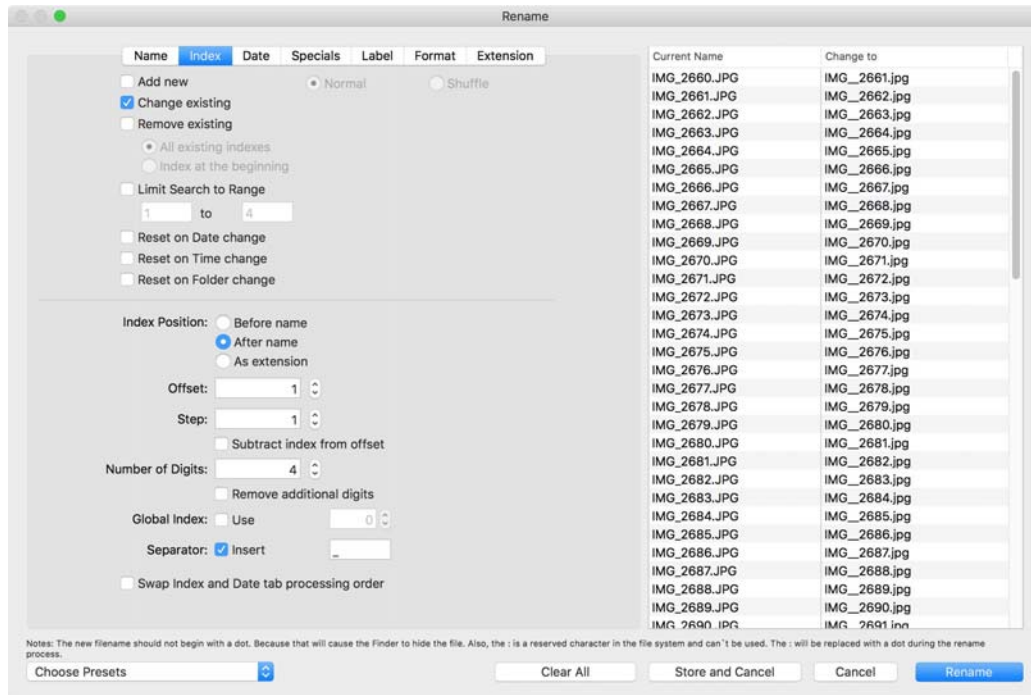
**Make filenames UNIX and Web compatible (lowercase only) / (lowercase and uppercase)** and **Make filenames OS 8/9 / Windows compatible** changes the filenames in a way they can be used under UNIX in the web, under macOS 8/9 or Windows. For **UNIX and Web** you can choose between **lowercase only** and **lowercase and uppercase**.

**Remove diacritics (á, è etc. become a, e etc.)** removes diacritics so an á becomes an a.

## Index

## Batch Conversion with Convert & Modify

Select **Change existing** in the tab **Index** to change an existing index. In our example we want to increase the index by 1 so 2660 becomes 2661 and so on. Enter 1 as the **Offset** and 4 as the number of **Steps**.



Another example: If your file names do not have any index and you want to add one, select **Add new** and **Normal**. **Shuffle** creates random values and makes sense in special cases only. If the first picture should have the number 0001 enter 0 as **Offset** and 4 as the **Number of Digits**. Select whether the index should appear **before** or **after** the **name** or if it should be the **extension**. The value for Step has to be 1. With **Subtract index from offset** the index will be subtracted from the Offset you enter.

Reset on **Date change** / **Time change** / **Folder change** makes the index start from the beginning when a change of date, time or folder appears.

**Remove existing** deletes an index at the beginning or

**Remove additional digits** deletes all digits beginning from the left that are more than the value entered for **Number of Digits**. Use this function to shorten very long indexes like, for example, 00001234.

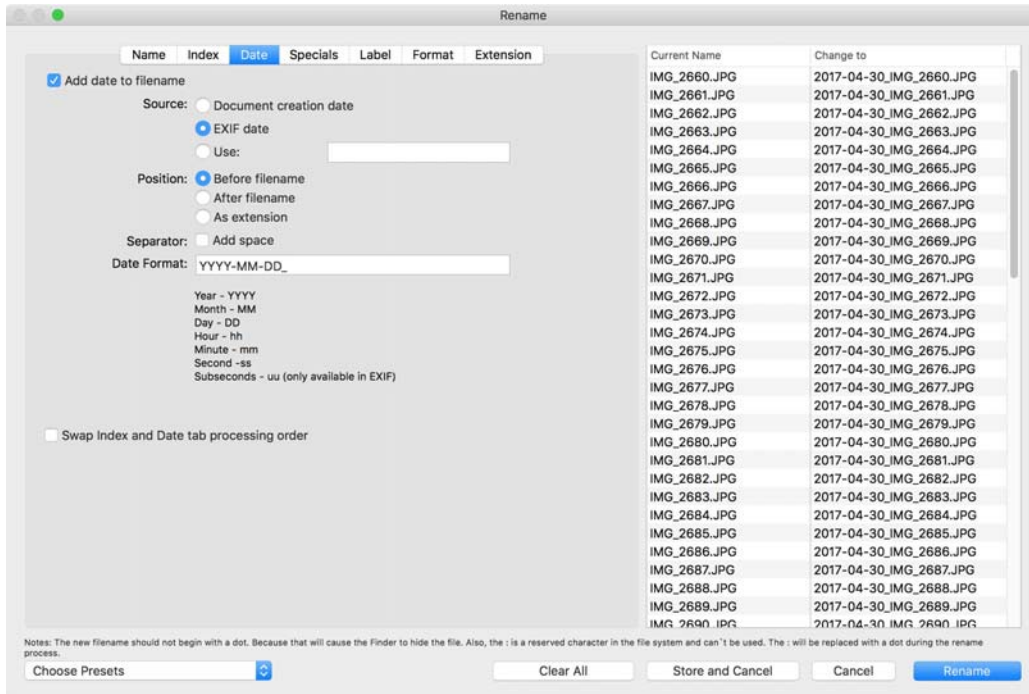
With **Global Index** you can create a continuous index for your files.

**Separator** allows you to insert one or more separators like the underscore before or after the index. Enter the character to be used as a separator in the entry field. Special characters are not allowed if you activate the option **Make filenames UNIX and web compatible** in the **Name** tab and will be replaced by an underscore.

Changing the index and name can be done automatically when converting, see p 55.

## Date

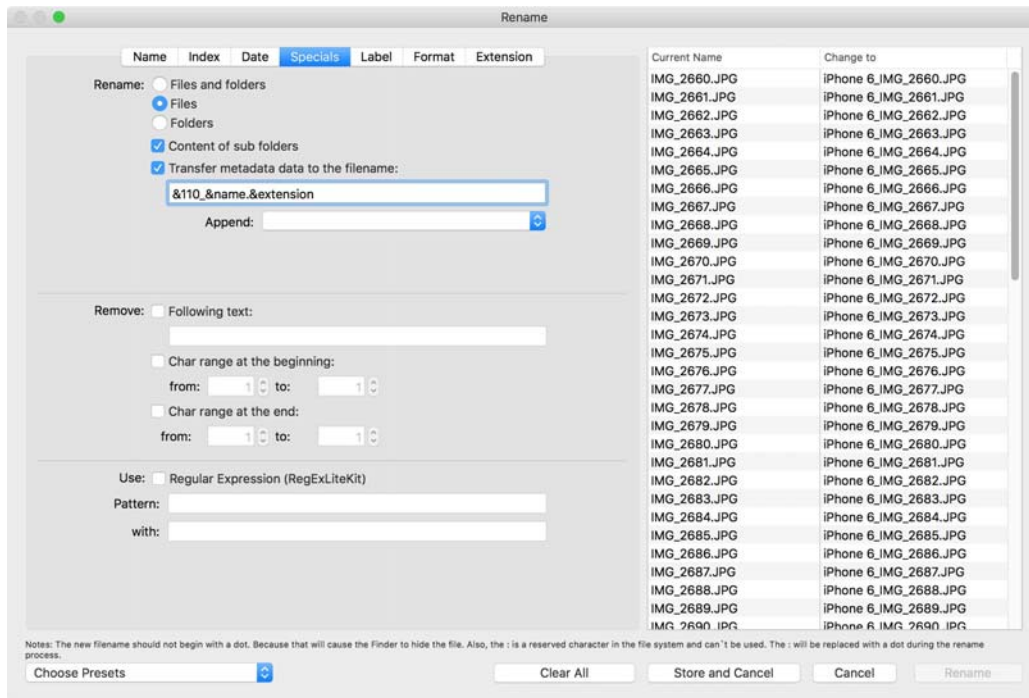
**Add Date** is often useful for photos taken with digital cameras. Enter a date or use the **Document Creation Date** or the **Exif Date** in the filename. Select whether the date should be placed **before** or **after** the name or whether it should be added **as an extension**. **Add Space** adds a space character between the date and the name. Alternatively, you can enter an underscore as the last character in the **Date Format** box.



You can select the **Date Format**. For example, if you do not want to add the time, delete the **hh.mm.ss** characters in the date format box.

## Specials

**Rename** allows you to choose whether the Exif data should be transferred only in file-names, only in folder names or in both. Activate **Content of sub folders** if you want to rename the files in sub folders too.



**Transfer metadata data to the filename** allows you to transfer Exif information content to the filename. Enter the corresponding hexcode preceded by an &. You can use the pop-up menu **Append** to insert the most popular hexcodes. You can insert further parts of the filename as plain text. You can also insert the name of the folder one or two levels higher in the file name.

For example, enter “Mountains &A001&name.&extension” to keep the original filename with the extension, insert the name of the camera model according to the Exif code A001 and place the word “Mountains” in front. The Exif hexcodes are always four-digit, for example, A001. You will find a complete list of the Exif hexcodes on page 60 onwards in the PDF file “Exif2-2.pdf”, which you can download here: <http://www.exif.org/specifications.html>.

A zero needs to be added to the front of three-digit GPS codes.

**Remove Following text** removes the text entered in the input box from the selected filenames. In our example, a space is removed after the underscore character.

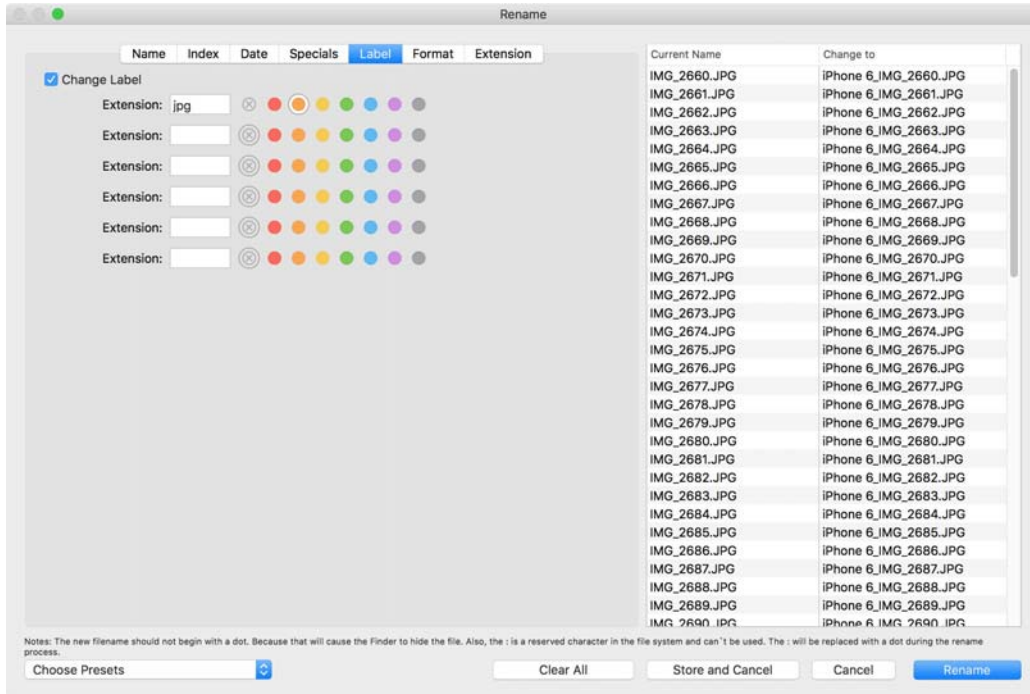
**Char range at beginning** deletes the fifth to seventh character of a filename if you enter 5 for X and 7 for Y, for example.

**Char range at end** deletes the last and last but one character of a filename if you enter 0 for X and 1 for Y, for example. The file extension is not part of the name.

With **Use Regular Expression(RegExLiteKit)** you can rename files that have a certain pattern in their names. **RegExLite** is a standard for renaming files with regular expressions. For more information please read the introduction on programming regular expressions. [http://www.regenechsen.de/phpwcms/index.php?regex\\_englisch](http://www.regenechsen.de/phpwcms/index.php?regex_englisch)  
 RegEx is also available in the dialog of **File /Slide Show with find** to let you find files that have a certain pattern in their name.

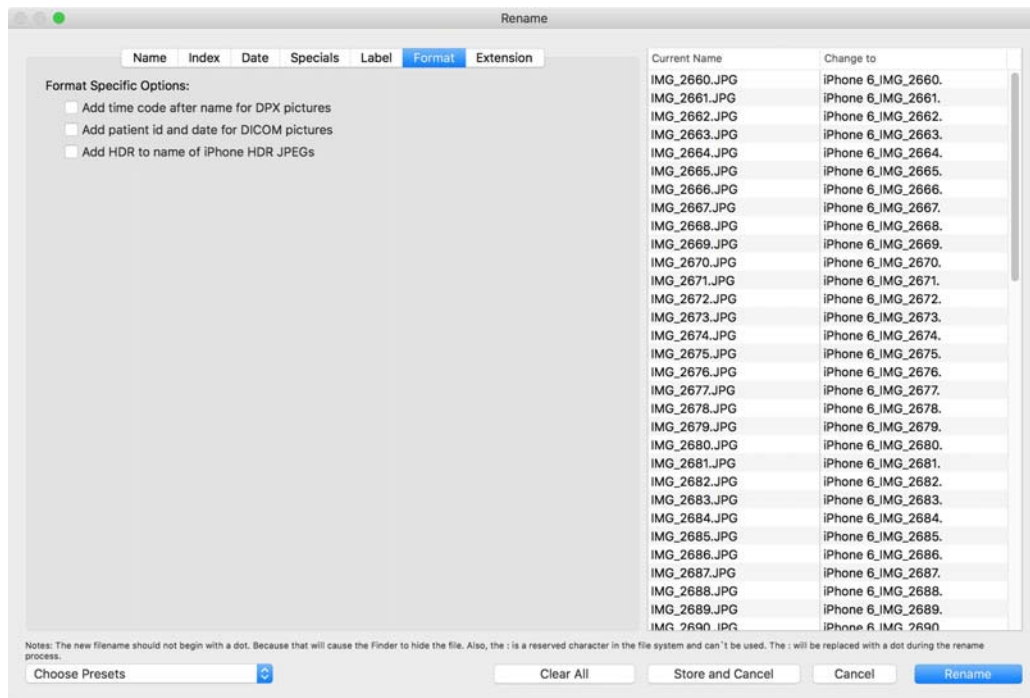
## Label

Enter the required file extensions, for example, jpg and tif, to assign the selected label to the corresponding file.



## Format

**Add time code after name for DPX pictures** reads the timecode from DPX pictures taken from professional videos and adds it to the filename. The DPX metadata is displayed in the **Information** palette on the **Comment** tab.



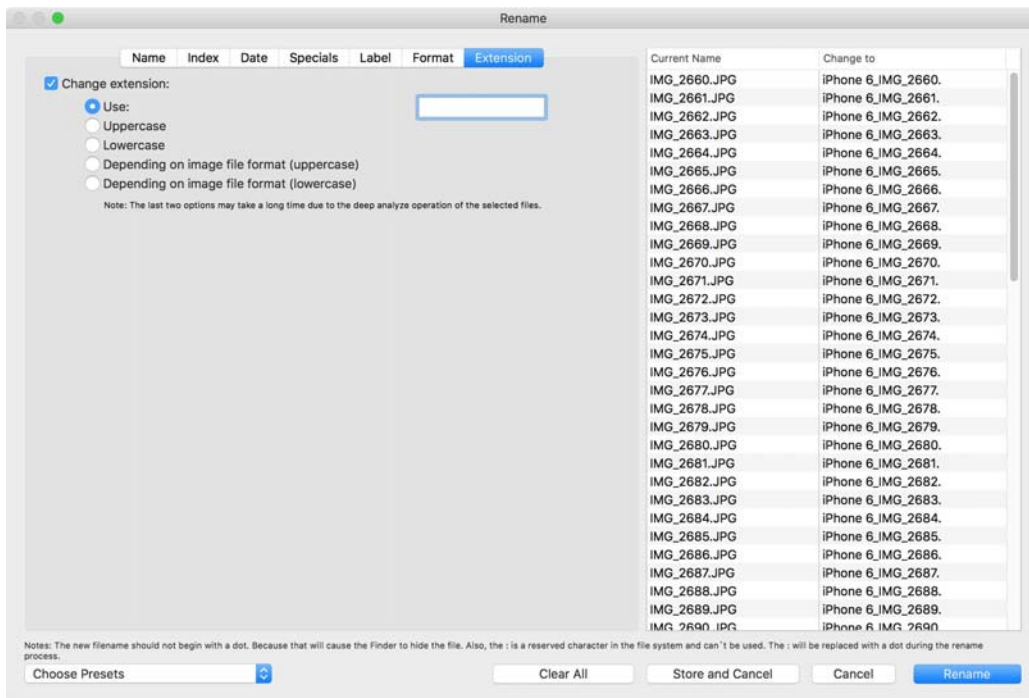
With **Add patient id and date for DICOM pictures** you can add the patient number and the date to the file name.

When you take HDR pictures with your iPhone you cannot see they are HDR from the file name. To make this possible use **Add HDR to name of iPhone HDR JPEGs**. The string „HDR“ is added to the file name.



## Extension

With **Change extension** you can change the extension manually, for example, from .jpg to .tif or from lowercase to uppercase, for example, if the extension is wrong.



Select **Depending on image file format (uppercase) / (lowercase)** if extensions are wrong and shall be corrected automatically.

Back to the popup menu:

**Uppercase (modifies source)** changes all letters of the file name to uppercase.

## Images / General

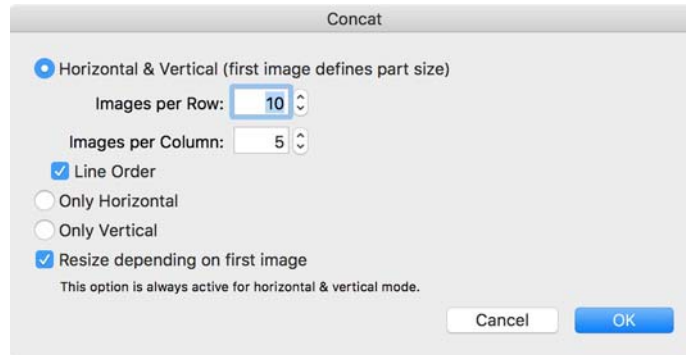
**Calculate Mean** creates a text file in which the mean values for the color channels RGB are listed. This function is useful for agencies whenever large numbers of pictures have to be viewed and sorted out if they are too bright or too dark.

**Calculate Superpalette (modifies source)** calculates an optimum color palette with 256 colors for all selected pictures. This color table is saved as a file in the target directory and can then be used for manual color reduction or color reduction using **Batch....**

Set a saved palette for a picture by selecting **Picture / Colors** and select **Options...** from the submenu. A saved table can be opened and set for the picture with **Open**.

Several picture files can be put together to make a large picture file with **Concat....** Select the files to be put together in the selection area on the left and click **Concat....** A dialog opens where you can specify how many pictures should be put together next to each other in the first "line" of the new picture and how many lines the new picture

should have. **Line Order** specifies that the top line is filled first. GraphicConverter will then continue on the left of the next line down. If you disable this option, the columns will first be filled from top to bottom starting at the left.



**Only Horizontal** joins the pictures together horizontally, i.e. next to each other. **Only Vertical** joins the pictures together vertically, i.e. one below the other. **Resize depending on first image** scales all pictures to the same height or width.

For example, with six source pictures, you can set two pictures in each line resulting in three columns. The first picture is the master picture and determines the size of the cells. It is best to put pictures of the same size together. If there are spaces left over, they will be set to white. The values for images per row and column must fit to the number of images chosen. If you choose 10 rows and 5 columns for only 6 images a huge image is produced of which most is white.

GraphicConverter cannot create virtual-reality panoramas in QuickTime format. Use programs like DoubleTake from [www.http://echoone.com](http://echoone.com) or the more professional PTMac from [www.kekus.com](http://www.kekus.com).

**Insert Black Frame into Series... (modifies source)** creates an additional black image after every photograph or topic and saves it behind the source images. In order to recognize a series you must enter how many characters of the filenames should be compared in the preferences under **Convert / File**.

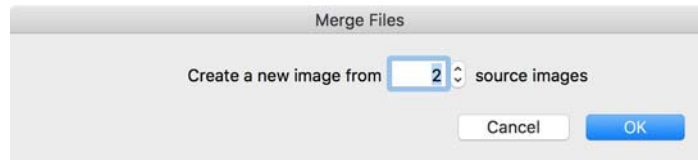
If, for example, you wanted to separate blocks of images from different photographers in a slide show you can create a black separating image using the Series detection. This

requires that the filenames within the blocks have different characters at the beginning of the filenames. If the blocks are like this:

Source	Result
IMG00001.jpg	IMG00001.jpg
IMG00002.jpg	IMG00002.jpg
IMG00003.jpg	IMG00003.jpg
	IMGZZ.jpg
and	and
DMA00001.jpg	DMA00001.jpg
DMA00002.jpg	DMA00002.jpg
DMA00003.jpg	DMA00003.jpg
	DMAZZ.jpg

The new images are given the first three characters of the source files as their name and "ZZ" is added so the new images are sorted alphabetically according to the source images. The new images are all black. Three characters need to be defined in the preferences under **Convert / File** for detection to work.

**Merge Files...** opens a dialog as soon as you click **Start selected Function** where you can specify how many pictures should be used to create a new one by merging.



Alternatively you can use the **File / Merge Folder into One Image...** option to overlap all images in a folder.

**Split...** splits pictures in several parts, see p 24.

### Specific

Select **Combine Files with Same Index to PDF...** to combine files with same pattern index into a PDF file. Such files result from sonographic devices in medical technology for example. If there is the number of the patient at the beginning of the file's name followed by a separating character, then for every patient a PDF file is being created.

You can use **Combine Folder to a Single PDF** to convert several image files into a PDF file. The source files can have different formats and are deleted when the PDF file is created. All other file types, like for example, those from movies or Internet pages, are not modified and not converted. The folder name is used as the filename for the PDF file with the extension .PDF. The preferences for the target format and the target folder are

ignored by this option. This option is useful if you want to assign patient numbers to image files, for example, as a patient number will then only need to be assigned once to the PDF file.

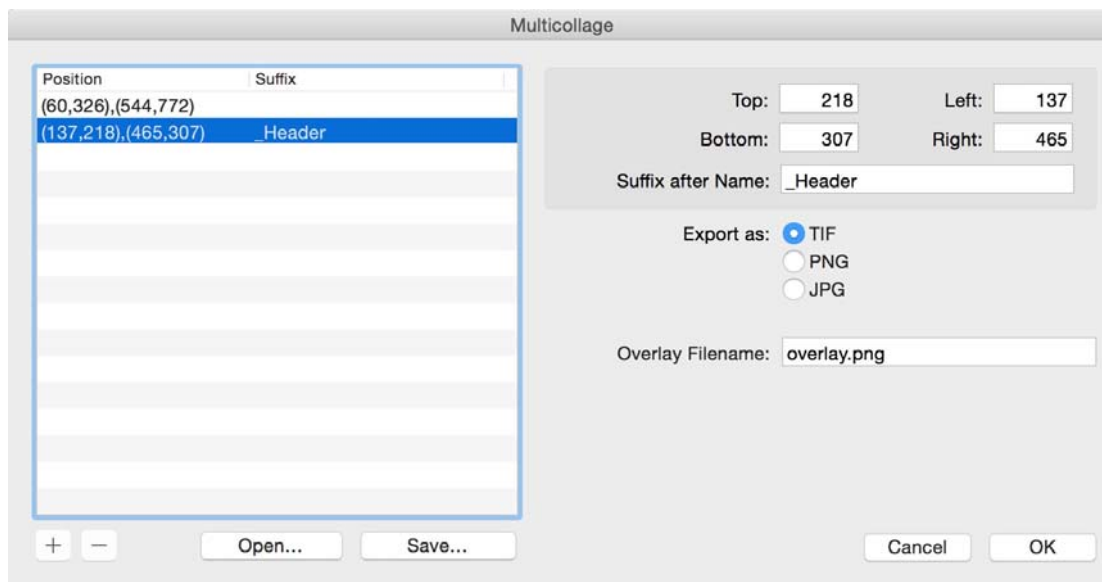
You can use **Export Image Dimensions into “dimensions.txt” file** to create a text file with a list of the picture dimensions, for example, to check your files so no file is in the list with less than 1200 pixels at the longer edge.

**Extract Image-Objects from Images...** extracts the image-objects found by macOS from 10.13 High Sierra. These can be objects or animals.

**Fix Lumix FZ20 2GB TIFs** repairs TIFF image files that were written incorrectly by the Panasonic camera model Lumix FZ20.

**JPEG lossless cropping...** allows you to cut a section out of pictures without a loss in quality as GraphicConverter does not need to compress the images again if the values for the **top left** corner of the selection rectangle as well as the **width** and **height** are a factor of 16. With some JPEGs, it is enough if the values are a factor of 8. We recommend, however, selecting values that are a factor of 16 since lossless trimming will then always work. You can also enter zero as a value. You can use this option if, for example, you want to trim the edges on a series of pictures.

**Multicollage Images...** allows you to insert images in a basis image. This is handy when, for example, you want to create many certificates showing a portrait and a winning level of every participant. Define for every image to be inserted position and size by entering the coordinates for the four corners. You can measure the coordinates with the **Position** palette.



GraphicConverter recognises the file by its suffix in the name you need to enter in the dialog. If you give no suffix the file without suffix will be used. Enter the name of the background image in the field **Overlay Filename**.

With **Multicopy Images...** you can create a collage of parts of pictures that have the same name and are in different folders. The selected files define the size.

Folder a/ contains:

test1.jpg

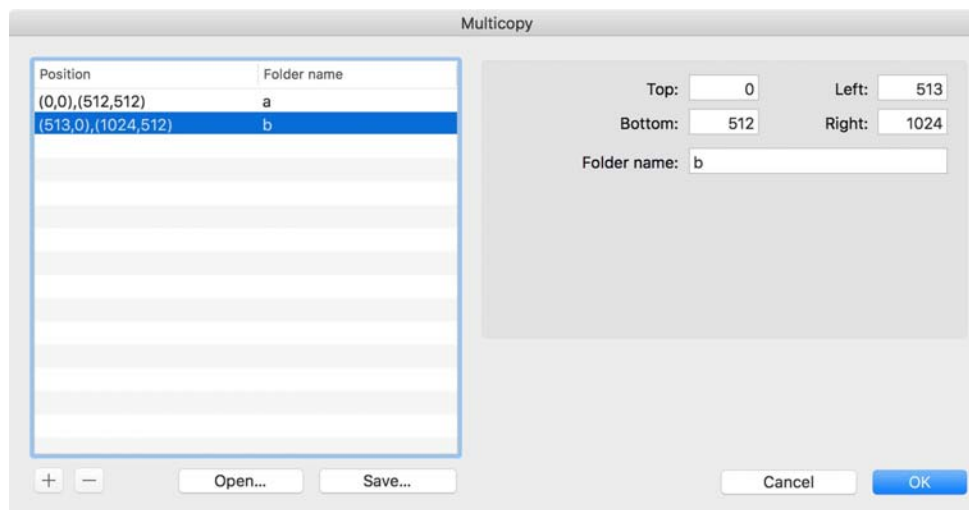
test2.jpg

Folder b/ contains:

test1.jpg

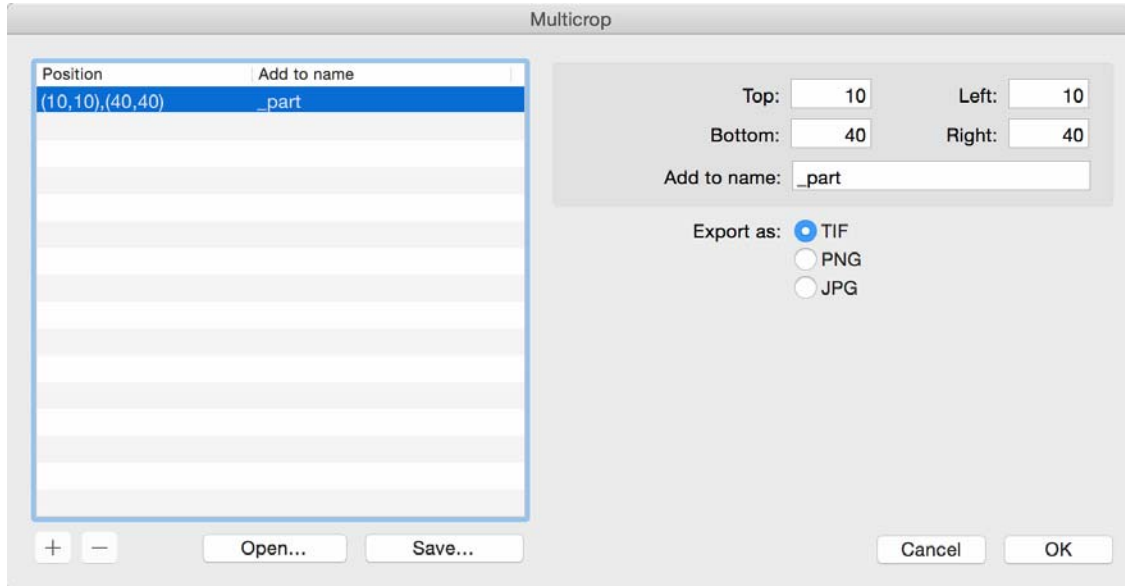
test2.jpg

The files test1.jpg and test2.jpg in folder a/ have to be selected. Define in the following dialog which part of the particular picture from folder a/ you want to copy to the empty new picture.



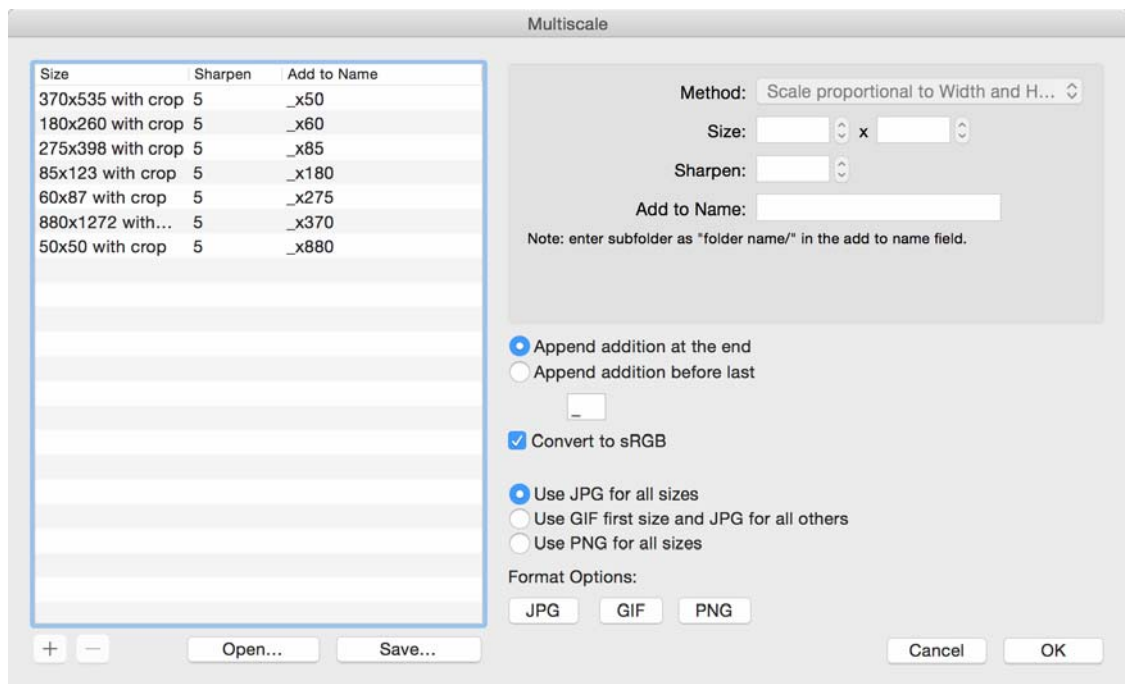
In the second line you define which part will be copied from the picture with the same name from folder b/. The copied parts always appears in the same position in the new picture which they had in the source picture. Add further lines for further folders.

**Multicrop Images...** allows to cut out parts out of one or several images and to save them.



Add new sections with the plus button and select position and size with the values for **Top**, **Left**, **Bottom** and **Right**. A suffix to the name like „\_part“ makes it easy to recognize the files.

**Multiscale...** allows you to scale images to different sizes by clicking them. This is a useful tool for product photos that appear in online shops.



Using as many lines as you require, define the target size, a sharpening value and a name extension. The extension for the name can be added **at the end** or **before the last** occurrence of the character entered in the box.

**Method** allows to select a method for scaling.

- Scale exactly to Size
- Scale proportional to Width and ignore Height
- Scale proportional to Height and ignore Width
- ✓ Scale proportional to Width and Height with cropping
- Fit into Box proportional (maybe one Side smaller)
- Scale proportional to Width and Height with black Borders
- Scale proportional to Width and Height with white Borders
- Do not scale

**Convert to sRGB** needs to be enabled if you are creating pictures for the Internet.

You can specify whether only JPGs (PNGs) will be created with **Use JPG (PNG) for all sizes** or whether to **Use GIF for first size** and JPG for all others. Click the Buttons **JPG**, **GIF** or **PNG** to set format option like quality.

**Repair TIFF...** allows you to replace a faulty directory with an intact one. This is practical if you have pictures from a digital camera that have an identical directory. If you can still open one of the pictures, use it as a master.

On the left-hand side of the Convert & Modify dialog, select the corrupt pictures and select the **Repair TIFF...** option. Click **Go** and select the master file in the file selection dialog that opens. Once you click **OK**, the directory from the master file will be written to the corrupt pictures that you should then be able to open again. Only use a picture file that is identical with the corrupt file as the master. If in doubt, create a backup of the image files beforehand.

**Resample PDF to 1 Bit...** makes sense if, for example, you scanned sheet music in high resolution and want to reduce the file size dramatically to display the pictures on an iPad.

With **Scale PDF...** you can scale PDF files losslessly, for example, from letter to half letter.

Use **Scale vcard Images down to 200 Pixels... (modifies source)** if you want to use vcards in programs that support pictures up to 200 pixels only.

Use **Split MPOs into single JPGs** to avoid quality loss from recompression. This loss of quality occurs when you open the file normally and save the pictures one by one.

## Metadata / General

When you click **Start selected Function, Remove Metadata from JPEGs...** opens a dialog where you can choose which metadata to be removed.



**XMP** is an area in which other programs, for example, Photoshop CS, write metadata like the IPTC information in XML format. This additional information can cause faults when further processed in other programs such as Photoshop 7. You can therefore delete it using this dialog. If you have problems with metadata, you should disable the XMP option in the **Open / XMP** of the **Preferences**. The files are saved to the folder selected in the right hand list.

The XMP area can also contain one or several additional images. Open the basic image and control or right click the image to open the context menu where you select **Show XMP-Thumbnail in new Window** to open the contained image(s).

**APP14** is a marker, in which some applications write data even though this marker should be kept empty.

The **JFIF Header** contains information on the resolution and possibly a preview. Deleting this header makes the file about 10 bytes smaller. This is worthwhile with large file sizes if you are preparing pictures for the Internet. First check a few sample images to see if they can still be displayed on the Internet.

**All other APP markers** are not normally written as they are not needed. Some programs also write their names or copyright information in these markers.

### Exif

You can use **Export Exif Text** if, for example, you want to transfer Exif information to a FileMaker database. A text file with the same name and the extension .txt is created for each image file listing the field name and value separated by tabs.

**Sort by Exif Camera Model** sorts the pictures according to camera model into subfolders named after the camera.



The GPS data of pictures can be transferred to files with the same names in another folder with **Transfer GPS Data**. This can make sense if the original files did not contain GPS data, then were scaled down for a project and had been added Geodata. Now the geodata is missing in the original files with full resolution.

The **Transfer RAW Exif Date to JPEG (modifies source)** option is intended for images from digital cameras that save a RAW and a JPEG file simultaneously. If the JPEG files do not contain Exif data, you can transfer the date from the RAW files to the JPEG file using this option. **Transfer RAW Exif Record to JPEG (modifies source)** allows you to transfer all Exif data.

## **IPTC**

**Convert IPTC Encoding from Mac Roman to UTF8** converts all special characters in the IPTC data like, for example, ä in a way it can be read correctly by programs that support unicode.

**Convert IPTC Encoding from Windows Latin 1 to UTF8** converts all special characters in the IPTC data like, for example, ä in a way it can be read correctly by programs that support unicode.

**Copy Comment to IPTC Caption (modifies source)** copies the comment into the IPTC caption. This is useful if you want to continue work with the data in another program that can only display the other area.

If you want to create a text file for each image file, select **Export IPTC into multiple files**.

**Export IPTC into one „metadata.txt“ file...** exports the IPTC information from the pictures selected on the left to a text file created in the destination folder. This text file is called metadata.txt. This file will not be displayed in the destination folder as .txt files are not displayed. You can change this in the **Preferences / Browser / Extension** by deleting the extension **TEXT** from the list of file types which are not displayed. The source pictures are not modified.

Select **Insert IPTC from \*.txt file** to import IPTC information into pictures. Please note the list of field names must be complete. To get a model you can use the export function.

The **Insert IPTC from \*.txt file** option adds different or the same IPTC information from a text file in all the selected pictures. This is exported from a database or can be created with an editor such as BBEdit Light. You can only insert an IPTC in JPG and TIFF images. Do not use the ASCII export for word processing. You can also create this text file by exporting the IPTC information from one or more pictures (see above).

When you are working with smaller quantities of pictures, it is easier to select the pictures in the browser and modify the IPTC info via the IPTC dialog, which you can call up

with Command-I. Alternatively, you can copy all of the IPTC information with **Edit / Copy / Copy IPTC** and paste it into one or more pictures with **Edit / Paste / Paste IPTC**.

The Convert dialog, however, allows you to quickly enter different information in large amounts of pictures. If the same text has to be entered over and over again, organize the text file accordingly with several lines of the same content. The text file should have the following structure:

```
Filename<tab>Caption<tab>Caption Writer<tab>Headline<tab>  
Special Instructions<tab>By Line<tab>By Line Title<tab>Credit<tab>  
Source<tab>Object Name<tab>Date Created<tab>City<tab>State<tab>  
Country<tab>Reference<tab>Category<tab>Sub Category<tab>  
Urgency<tab>Keywords<tab>Copyright<return>
```

The **Date Created** box should have the following format: `yyyymmdd` (year month day).

The **Sub Category** and **Keywords** boxes can contain several words separated by space characters. If another separator is needed, you can enter it in the input box next to **Separator of IPTC Keywords** in the **Convert / Convert Text/IPTC** dialog box.

There should be a number in the **Urgency** box.

All entries in the text file should be in a line separated by a tab. Line breaks are not allowed.

All source pictures and the text file should be in the same directory. Select the text file and click **Start selected Function**.

**Transfer IPTC records** can be used when, for example, you have low resolution pictures with IPTC information and want to transfer this information to the high resolution versions of the pictures. The files need to be in different folders and have the same name. Select the pictures that contain the IPTC information on the left and the folder with the pictures to which the IPTC information should be transferred from the right-hand list.

## **XMP**

**Insert XMP from \*.txt files with set XMP commands (modifies source)** imports the content of a text file with set XMP command into the XMP data of the selected pictures.

You can use **Set XMP Label Depending on Finder File Label (modifies source)** if the label will only be set as a Finder label and should be recognized in other operating systems. This requires that the software used under other operating systems evaluates the XMP data. GraphicConverter automatically sets the label in the XMP section too. If you set the label for several files at the same time, this will take a while because each file has to be opened internally. In order to work faster, this option can be disabled in the **Preferences** under the **Browser / Function** section. Then only the Finder label will be set. Use **Set XMP label depending on Finder file label** to assign an XMP label to pictures that only have a Finder label.

## IPTC/XMP

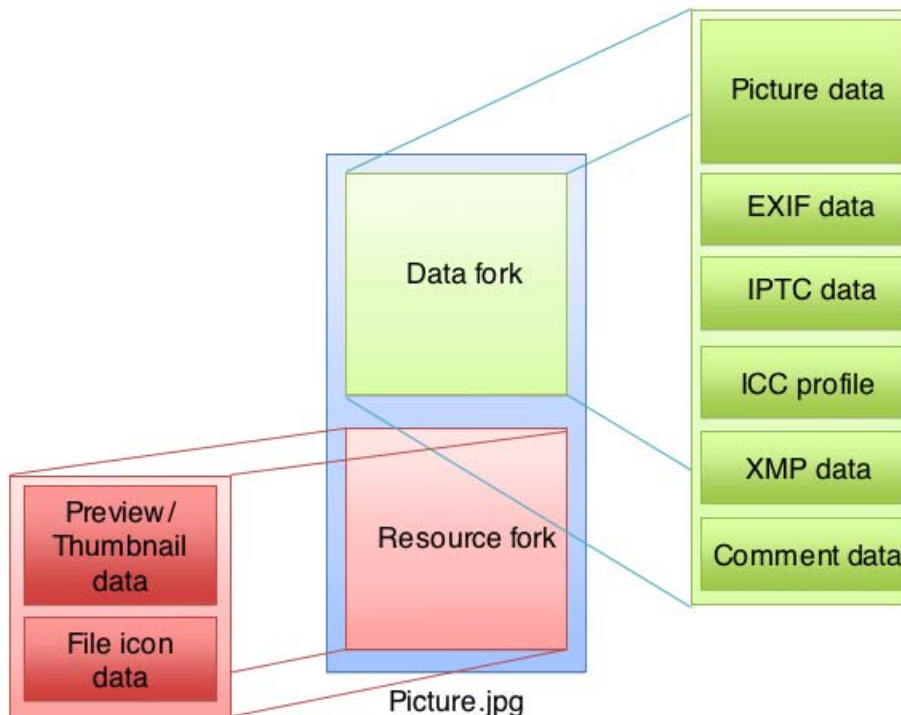
**Add XMP File as ANPA Resource (modifies source)** writes the IPTC data from a separate XMP file to the ANPA resource of the corresponding image file. Additional XMP files are written by Photoshop CS2 if an image is saved in a format like DNG or RAW that does not support metadata. The XMP files have the same name as the image file, but have the extension .xmp. As they are split into two files, the image file will be easier to read in other operating systems under which there is not an ANPA resource.

However, many programs, in the Macintosh field, in particular, cannot read the IPTC data from a separate XMP file. This is why GraphicConverter can write the IPTC data from the separate file in the ANPA resource. In the list on the left of the Convert dialog, select all images and XMP files and convert them to a format that supports IPTC data, like TIFF and JPEG, for example.

One advantage of the XMP data is that all content is encoded with Unicode, which is useful, for example, for languages like Japanese.

GraphicConverter can read the XMP data from the resource fork of PNG files that were written by Photoshop CS 3 or newer.

The following diagram shows how image files are built on a Mac:



When you copy image files from a Mac to Windows the resource fork appears as a file of its own beginning with a .\_ as name.

**Add XMP Record if Only IPTC/NAA Record Exists** also writes the IPTC data in the XMP section. This option is useful if you have already indexed your pictures and also need the IPTC data in the XMP section because the person you are sending the pictures can only read the XMP section with his/her software.

**Set IPTC/XMP Keywords from Folder Names (modifies source)** copies the folder names into the IPTC/XMP keywords.

**Set complete IPTC/XMP from stored XMP File (modifies source)** inserts IPTC/XMP data from an XMP file.

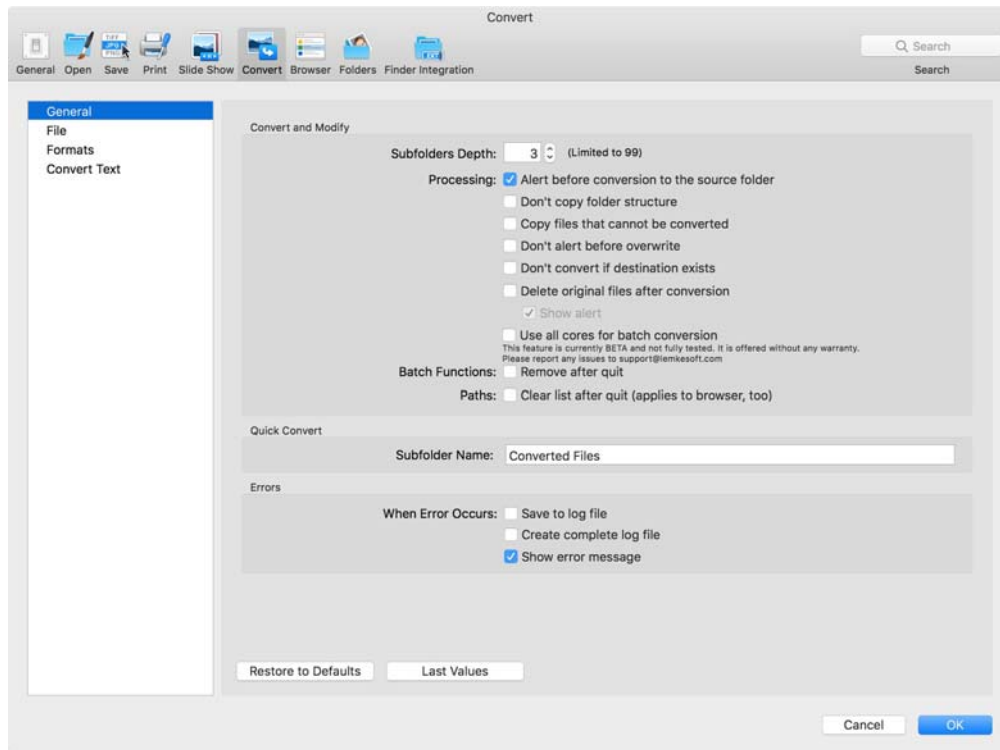
## **Preferences for Convert & Modify**

Under **Convert / File / Create Icon/Preview** in the Preferences, you can specify that an icon and a preview are created **Only if one doesn't exist**. This option saves a lot of time when you convert a number of files.

You can use **Move to Destination if not an Image File** to remove all files that are not images or damaged images from a source folder.

## Settings for Convert & Modify

In the **Convert / General** section of the **Preferences**, you can select how many subfolders out of a maximum of 99 **subfolders** should be processed in a multiple conversion. The source folder is recreated in the target directory together with its subfolders.



Leave **Alert before conversion to the source folder** enabled because it is rarely worthwhile writing the converted files in the source folder.

**Don't copy folder structure** writes all files from subfolders in the destination folder without subfolders.

Enable **Copy files that cannot be converted** if the source folder also contains HTML files, for example, that are to be copied into the target folder.

You should only select **Don't alert before overwrite** if you are sure that pictures or text will not be lost with this option.

**Don't convert if destination exists** skips files that already exist in the destination folder.

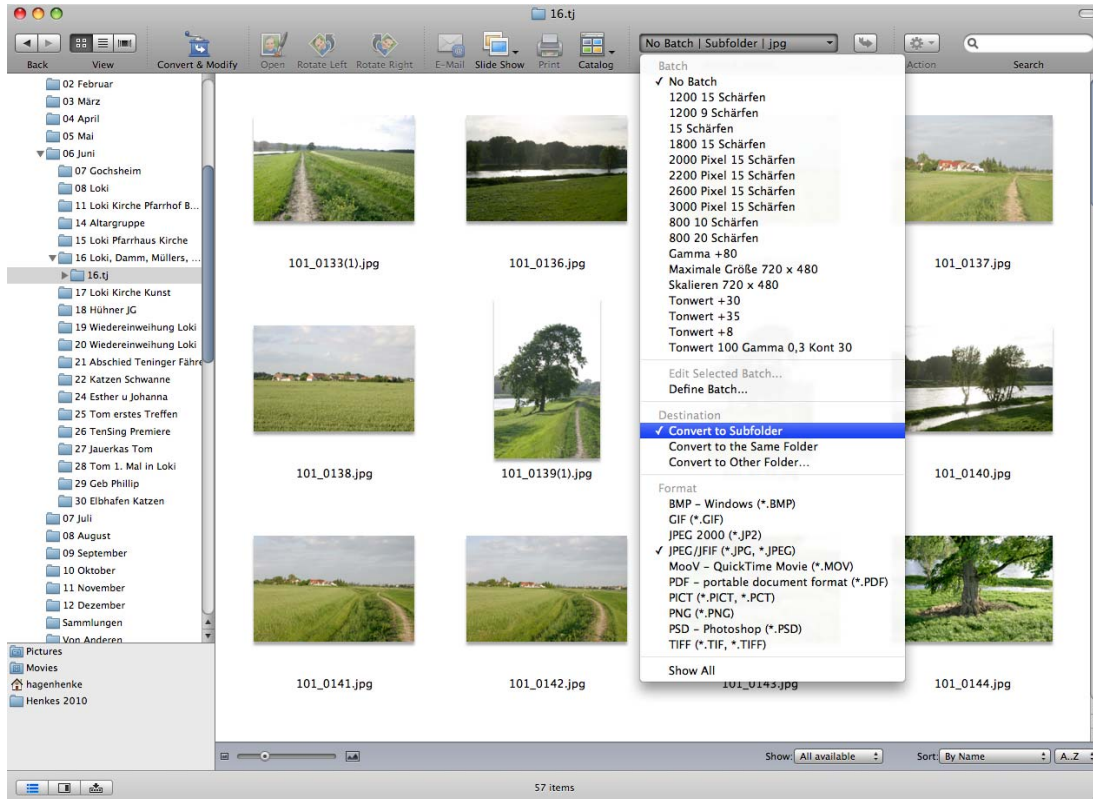
Enable the **Delete original files after conversion** option if, for example, you have copies of image files in the source folder that you would normally delete manually after the conversion. The **Show alert** suboption displays any problems that occur during the conversion.

**Use all cores for batch conversion** accelerates the conversion.

## Batch Conversion with Convert & Modify

**Batch Functions: Remove after quit** will prevent you accidentally using a batch again during the next conversion.

Under **Quick Convert: Subfolder Name**, select a name for the subfolders created automatically during convert processes that are started via the pop-up menu in the browser or via the operator.



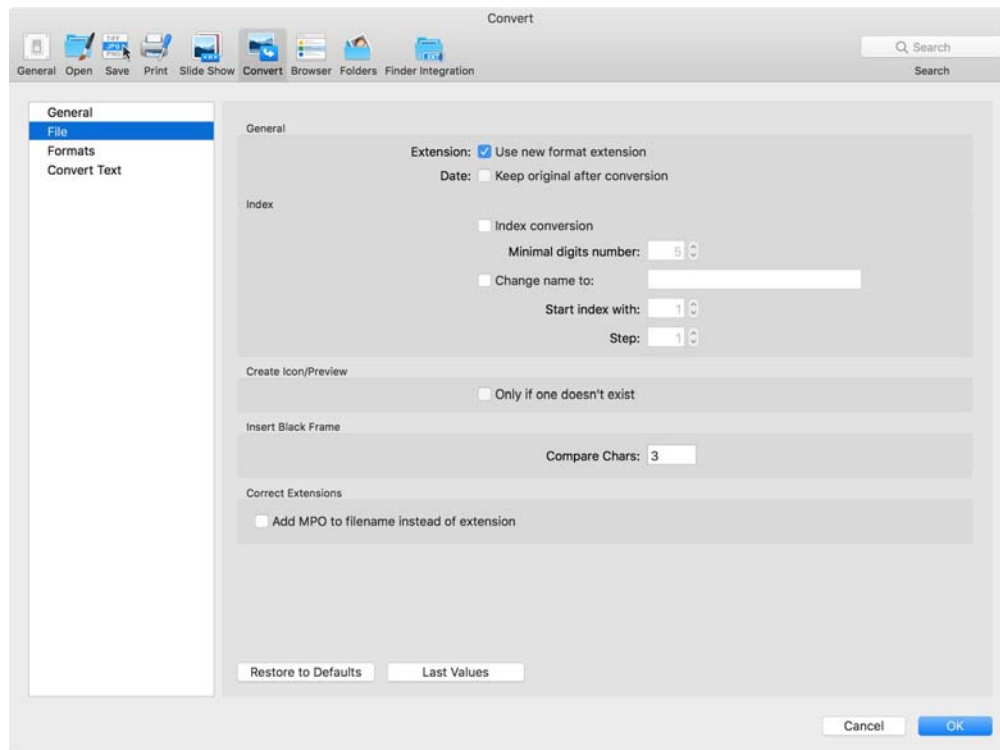
If the **When Error Occurs** option is enabled, a **log** file containing all error messages will be created on the **desktop** whenever **errors** occur during the conversion.

**Create complete log file** logs every single step of the multiple conversion process.

Select **Show error message** to get a message on the screen when an error occurs.

## Preferences / Convert / File

**Extension: Use new format extension** replaces an old format extension, which may be included in the filename of the source files, for example, .tiff, with the extension for the new format. The source files are not changed.



**Date: Keep original after conversion** leaves the original date after the file conversion.

If you need to change the **Index** and the **Name** constantly, you can enter the settings for Index and Name in the preferences.

This is useful when pictures that may have been saved as individual pictures from a video using a grabber program are the source material. These pictures may have unsuitable filenames for further editing. For example, **Name\_001.jpg** or similar. **Name** stands for any part of the filename. The number is increased by one for each of the subsequent pictures. For example, **Name\_002.jpg** etc.

The numbering should, for example, be at the start of the filename if these pictures are to be put together for a movie with Adobe Premiere.

Enable **Index conversion** to automatically move the numbering to the start of the filename. Specify how many digits the numbering should have with **Minimal Digits Number**. If you specify five digits, the first picture has the number 00001.

For example, if you specify three digits and the source pictures have a five digit numbering, GraphicConverter will then delete the first two digits.

The name within the files can be changed to a name that is entered with **Change name to**. The numbering within the filename remains unchanged unless you have enabled one of the other options. For example, if you enter "Berlin" in the box after **Use name**, file-names such as **001\_Funkturm.jpg** and **002\_Funkturm.jpg** are renamed **001\_Berlin.jpg** and **002\_Berlin.jpg**. The source pictures may also have a different name or may have just a number as the name. In our example **001.jpg** would become **001\_Berlin.jpg**.

The **Start index with** option attaches a consecutive index to all the files. For example, **001**. The value for the first picture can be freely selected. Specify how large the step to the next index value should be with **Step**. A step size of 10 and a start index of 0 will give you the series 001, 010, 020, etc.

Under **Create Icon/Preview**, you can specify that an icon and a preview are created **Only if one doesn't exist**. This option saves a lot of time when you convert a number of files.

If, for example, you show a slide show with pictures from different photographers or with different topics you can **insert a black frame** between the sections as a separator. The sections are detected by the file names. Enter the number of characters at the beginning of the file name that have to be the same to make a section.

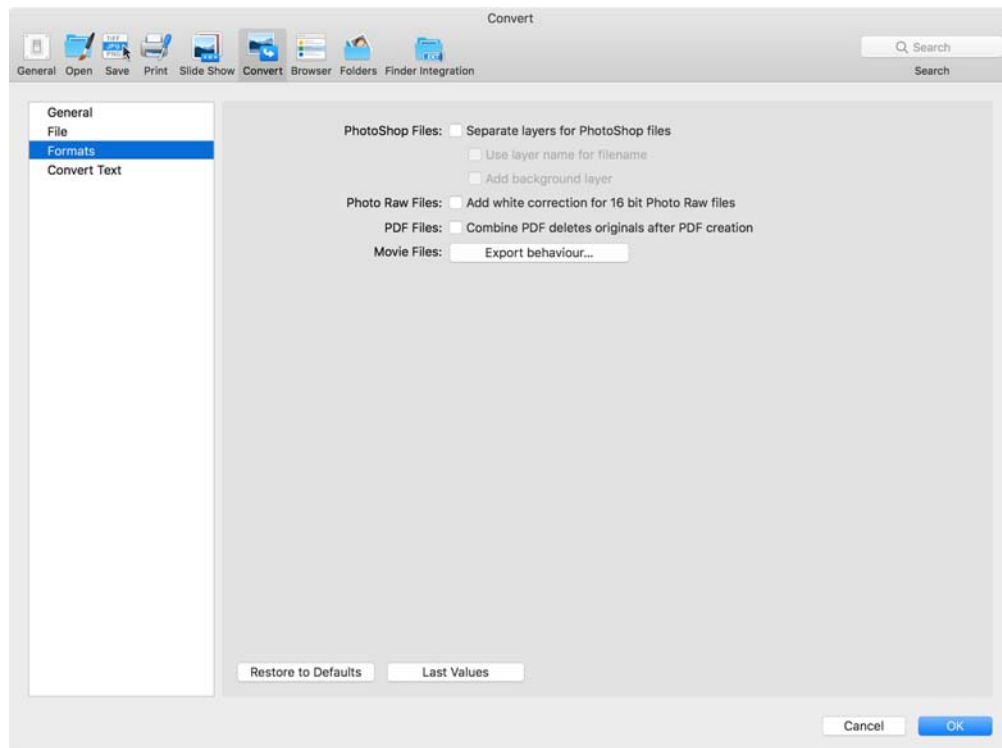
If, for example, you want to edit 3D pictures with the suffix .mpo (Multi Picture Object) in a program like Adobe Lightroom, you need to change the suffix to .jpg so Lightroom can import the pictures. After the edit you cannot recognize the files as MPO pictures any more. The option **Add MPO to filename and keep existing extension for MPO documents** adds \_mpo to the file name. The file name after the conversion is, for example, filename\_mpo.jpg.

## **Preferences / Convert / Formats**

**Photoshop Files: Separate layers of Photoshop files** allows you to open Photoshop pictures that contain several levels with separate pictures. **Use layer name for file** sets



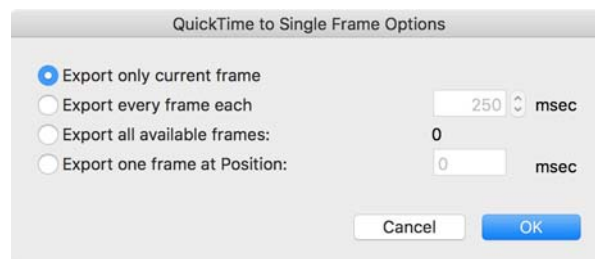
the document name to the name of the corresponding layer. **Add background layer** inserts the background layer of the Photoshop picture in each picture created.



**Photo Raw Files: Add white correction for 16 bit Photo Raw files** performs a white correction for all 16 bit Raw files.

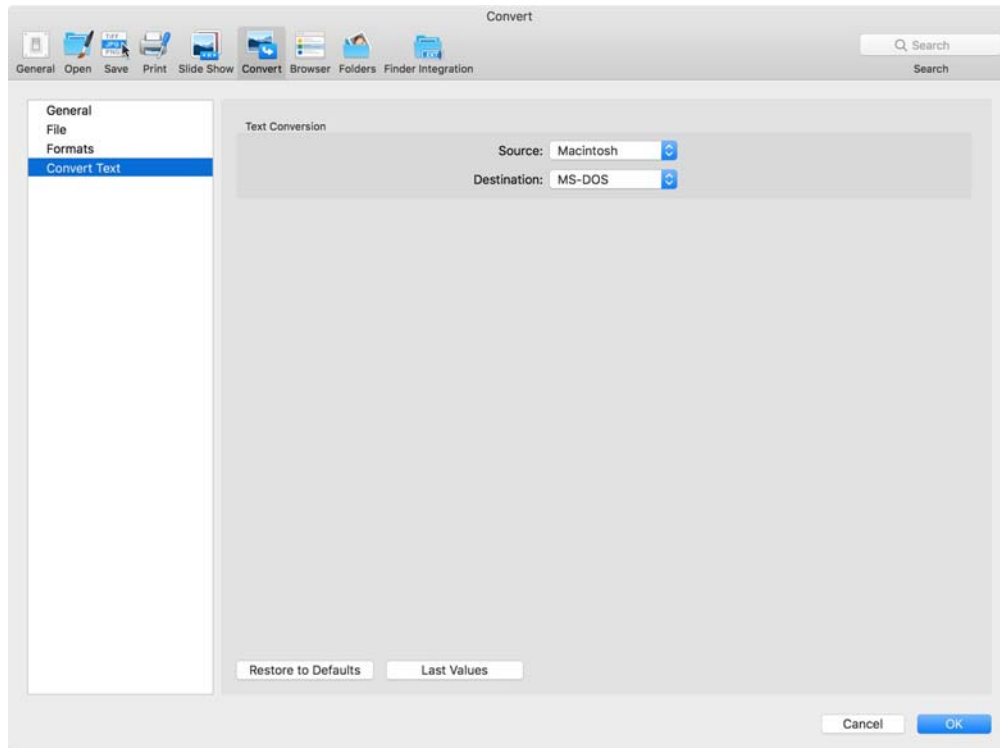
Use the **PDF Files: Combine PDF deletes originals after PDF creation** option with care as the combined file could be corrupt. Only use this option if you have saved the original files in another location.

With **Movie Files: Export behaviour...** you can choose which pictures of a movie should be exported.



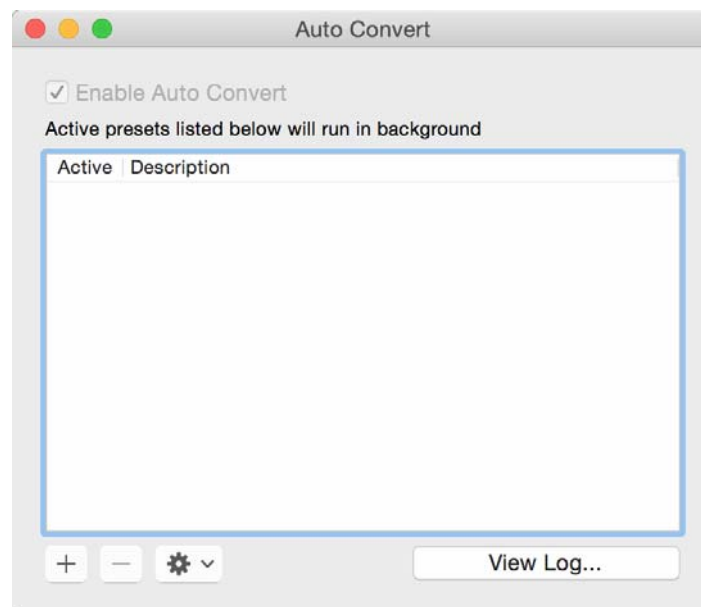
## Preferences / Convert / Convert Text

If you want to **convert text** files select **Macintosh** or **MS-DOS** coding.

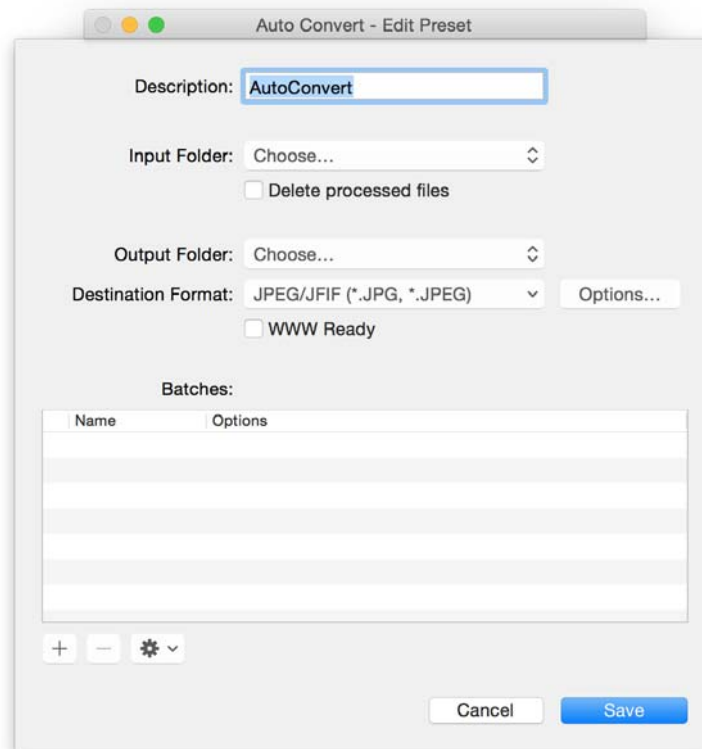


## Automatic Conversion

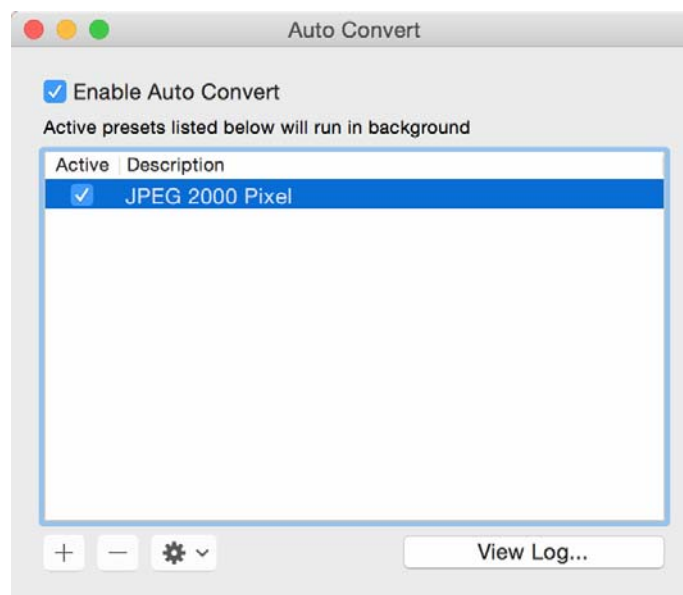
If you want to convert all pictures copied to a folder automatically you can use the Automatic Conversion. This is handy in the everyday work of editing when photographs and authors deliver pictures in different formats and color modes. Select **File / Automatic Conversion** to open the following dialog.



Click the plus sign in the lower left hand section to create a conversion. A dialog opens in which you enter the settings for your conversion.



Enter a name that reflects what the conversion does. Select an **Input Folder** and an **Output Folder** along with the **Destination Format**. Additionally you can define, save and open a Batch. Click the **Save** button in the lower right corner. Your conversion is now available from the dialog below. Activate the conversion with the checkbox and activate the automatic conversion with the checkbox in the first column.

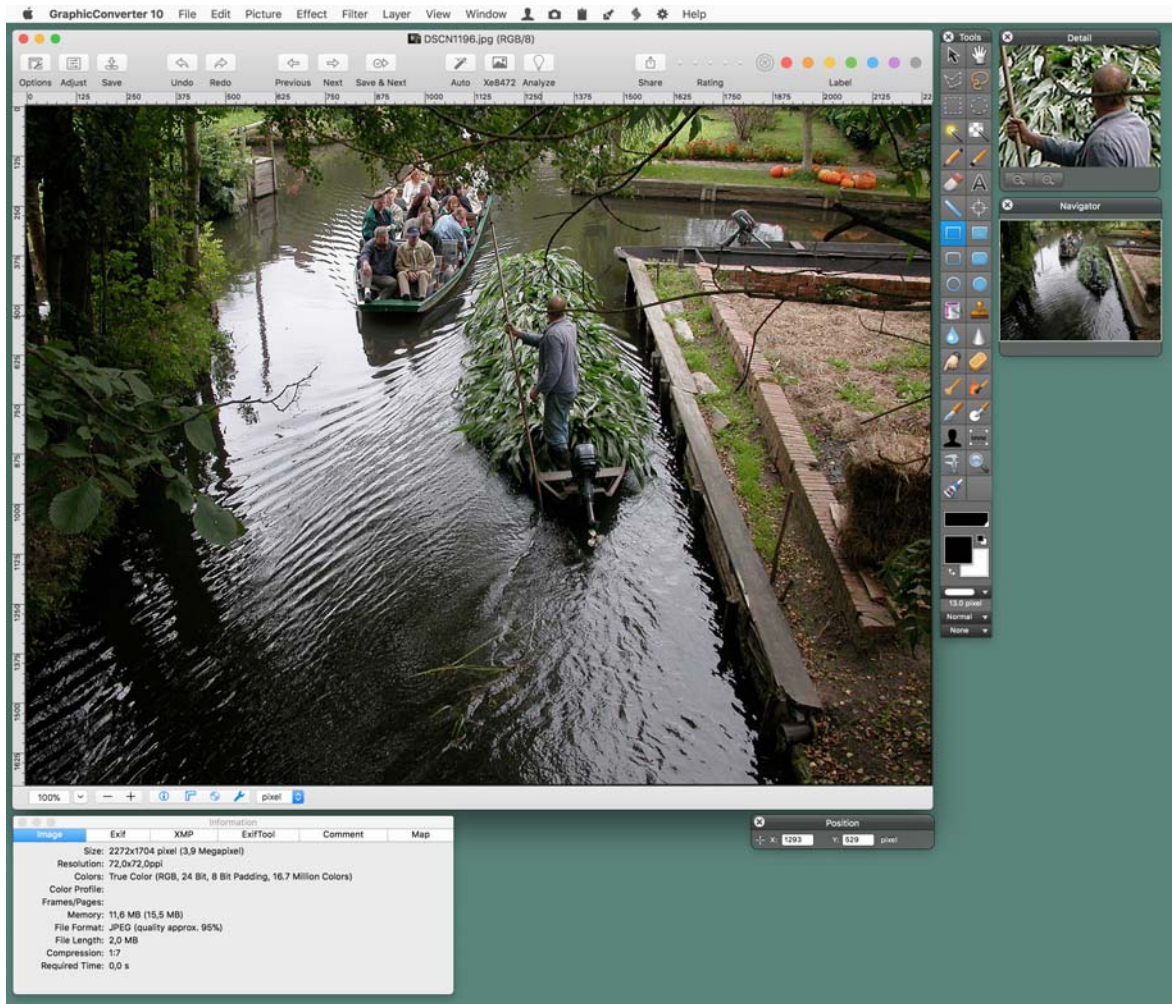


## Work Environment

You can use several automatic conversions at the same time. **View Log...** shows the details of the run conversions.

## Work Environment

When a picture is open, GraphicConverter provides information and options in palettes that can be opened under **Window**. You can hide and display the palettes with the Tab key.

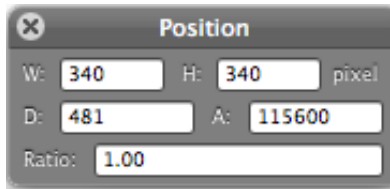


Palettes are always placed in front of windows and also in front of the current window. Open the palettes required for your work and create the ideal work environment for your needs.

The **Position** palette displays the X and Y positions of the mouse so that certain positions in the picture can be found.



While you drag open a selection, the palette will be enlarged and also show the length of the diagonals, the area and the aspect ratio of the selection. The 1 represents a square and 0.66 is about 2:3.

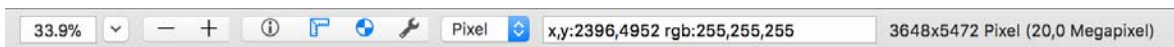


You can select the zoom level at the bottom left of the window. On the right, you can switch to the next zoom level down or up using the minus or plus sign. The zoom level is shown on the left and can be overwritten with a different value. Single-clicking the triangle opens a pop-up menu where you can select a specific zoom level. If your mouse has a scroll wheel, you can hold down the option key and zoom with the wheel. If you want to center the point under the mouse cursor during zooming, select the **Focus: Snap zoom focus to mouse position** option in the **General / Edit** section of the **Preferences**.

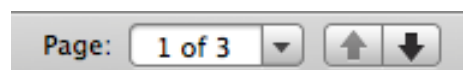


The i button opens the information pallet, the ruler displays or hides the rulers and the circle with four sections indicates whether ColorSync is enabled. Simply click this button to enable and disable ColorSync. This option is also available via **Edit / Assign Profile...** Enable and disable **Use ColorSync color matching** in the dialog that opens to display pictures with or without a color profile. The screw-wrench displays or hides the tool palette. The pop-up menu **Pixel** allows you to select the unit.

In the **Preferences** part **General / Display Windows** under **Show:** you can enable display of **Position, Color** values and pixel **Size**.

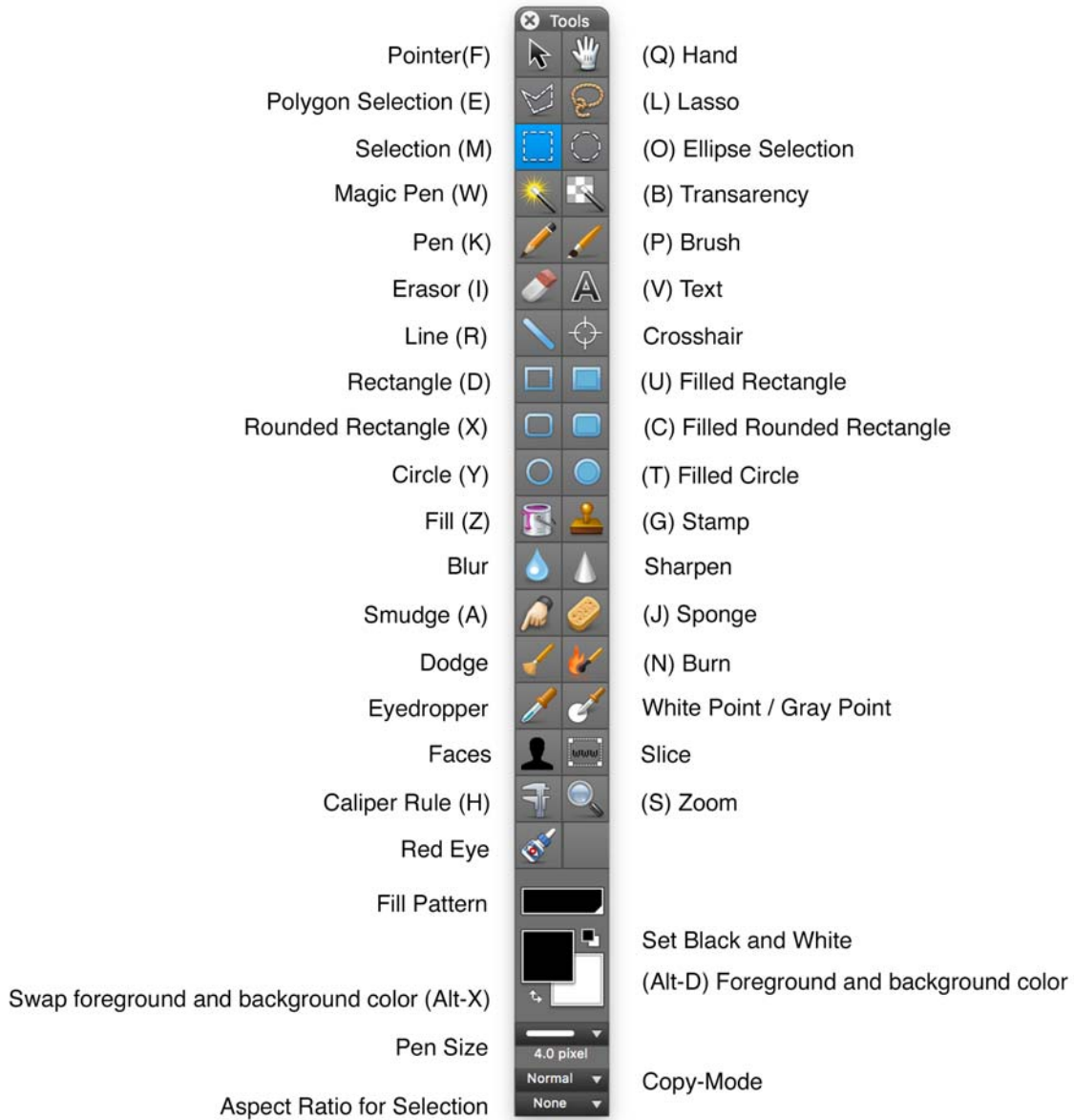


If a picture contains several pages, you can switch to the other pages with the page pop-up menu or the arrow buttons in the lower right hand corner of the window.

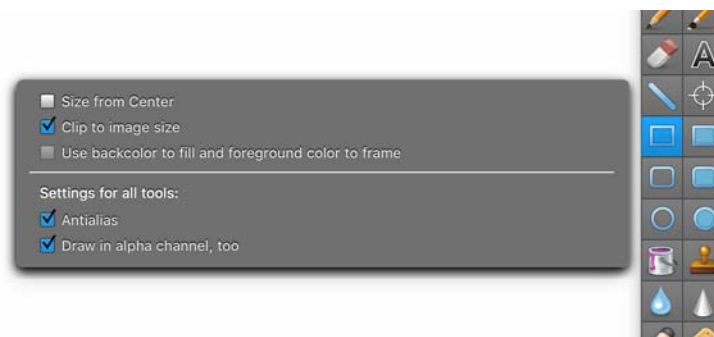


## Work Environment

Directly to the right of the picture is the most important palette, the **Toolbox**, where tools, colors and patterns can be selected.



All palettes can be shown and hidden at once with the Tab key. For most tools there is a dialog for settings you can open with a double click on the tool.



These dialogs are explained in the chapters referred to at the end of most of the following paragraphs.

You can switch between the individual tools using the keyboard. For example, pressing **V** selects the text tool. You can disable this option in the Preferences under **General / Edit**. You can check which letter is assigned to which tool in the tips that appear if you hold the mouse cursor over a tool for a moment. To let you use the key shortcuts for the tools even when the tools palette is hidden, these are listed in a submenu in the Window menu.

The **Pointer** serves for pinpointing picture features during presentations and for shifting selected contents in layers.

Select the **Hand** tool to move the picture section if the image does not fit completely in the window. Alternatively, while you are working with a different tool, you can hold down the spacebar to switch to the **Hand** tool.

**Polygon Selection** allows you to copy a contour with a series of mouse clicks to create a selection. Close the selection by pressing return regardless of the mouse cursor position. For more details, see page 171.

You can use the **Lasso** to select an object with an irregular shape, for example, a flower. As soon as you release the mouse button, a line is drawn from the current position to the starting position enclosing the selection. For more details, see page 170.

**Selection** allows you to define a square selection. If you need a specific aspect ratio, you can select one at the bottom of the toolbox using the **None** pop-up menu. For more details, see page 165.

**Elliptic Selection** allows you to make an elliptic selection, for example, around the pupil of an eye if you want to use the **Effect / Red Eye** option. Holding down the shift key at the same time creates a circular selection. For more details, see page 165.

The **Magic Pen** creates a selection that encloses all neighboring picture sections with the same color as the pixel you clicked. The tolerance normally has to be set to a value around 60 as seemingly even color areas in photos also have different color values. Double-click the magic pen to change the tolerance. For more details, see page 171.

If you click a picture with the **Transparency** tool, the color of the pixel you click will be set to transparent. Neighboring pixels with the same color will also be set to transparent. For more details, see page 184.

To set the thickness for the **Pen** use the pop-up menu at the bottom of the palette. The current foreground color is used for the color.

The **Brush** allows you to draw a stroke of brush with a thickness set in the palette you can open with a double click on the tool.

The **Eraser** deletes parts of the picture. The current background color is always set.

Click the **Text** tool to insert text in a picture. Click the image. A text box is added and you can start entering the text, see p 220.

You can draw lines with **Line**. Select the color with the foreground color and the line thickness further down in the toolbox using **Pen Size**. Holding down the Shift key allows you to draw only vertical or horizontal lines. Double click the line tool to select a style for the line. You can also create arrows.

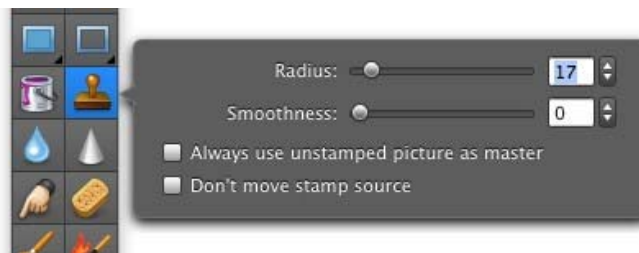
With a held click on the line tool you can select the **Crosshairs** tool you can use to mark points as often necessary in astro photography, for example, to mark a star. Double click the tool to select the number of lines, the angle or additional circles.

The **Filled Rectangle**, **Filled rounded Rectangle** and **Filled Circle** tools allow you to draw the respectively shaped areas onto the picture in the foreground color.

**Rectangle**, **Rounded Rectangle** and **Circle** allow you to draw the respectively shaped frame in the picture. Select the line thickness further down in the toolbox. The foreground color is used for the color.

The **Fill** tool sets the current color for the pixel you clicked and all neighboring pixels with the same color. To fill a larger area, the tolerance normally needs to be set to a value around 60.

The **Stamp** copies the content of an area that you option-click to any position in the picture. This option is useful, for example, for removing scratches when you are touching pictures up.



The **Blur** tool softens the parts of the picture you use it at while **Sharpen** sharpens these parts.

The **Smudge Tool** allows you to smudge parts of pictures, for example, to smooth the edges in collages. Double-clicking the tool allows you to set the size. Hold down the mouse button and drag across the picture to smudge crease lines in scanned photos or documents, for example.

Another example for use would be smudging license plates that you do not want to show when publishing photographs of your car. Smudging with the water drop is more subtle than coarsening with large pixels as is done when you select **Filter / Stilize (CI) / Pixelate**(see p 209 onwards).



The **Sponge** saturates or desaturates. You can use it to convert only parts of a picture to black and white for example.

**Dodge** and **Burn** brighten or shadow parts of the picture. These tools are often used in professional portrait photography to make faces or bodies look even more attractive.

The **Eyedropper** allows you to change the current foreground color by clicking a picture. The color at the point you click is more or less picked up. Hold down the option key to switch to the eyedropper when you are using another tool. Double-clicking the tool opens a slider at the side with which you can select the size of the eyedropper. If you set a value greater than 1, the average of the color values is displayed.



If you want to know how many pixels show a certain color, option-click the desired color in the picture. A dialog opens in which the number of pixels and the respective percentage are displayed.

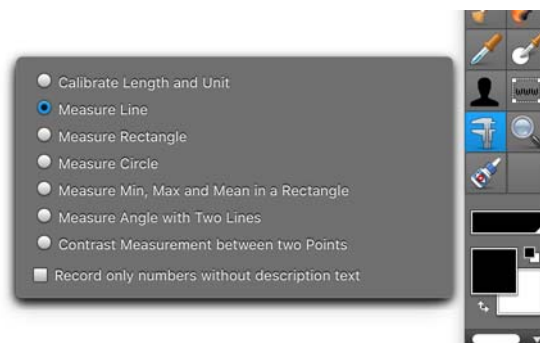
The **White Point** tool allows you to re-apply the white point of an image if the image has a color cast. Using the White Point tool, click the lightest area of the image that should actually be white. The colors will then be corrected. If there is no area in the image that should actually be white, the correction will not work in most cases.

In critical situations, we therefore recommend taking the picture with an unobtrusive piece of white paper somewhere in the shot. We have provided a short video to demonstrate this tool on the Internet at <http://www.lemkesoft.com/content/213/videos.html>

With the **Faces** tool you can draw a rectangle over a face or an animal and enter kind and name in the opening dialog.

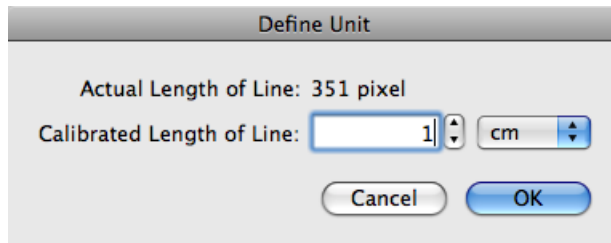
The **Slice** tool defines several areas for a picture that will have different links on the Internet. For more details, see page 85.

The **caliper rule** allows you to make different measurements in an image. Click the tool to open a pop-up menu.



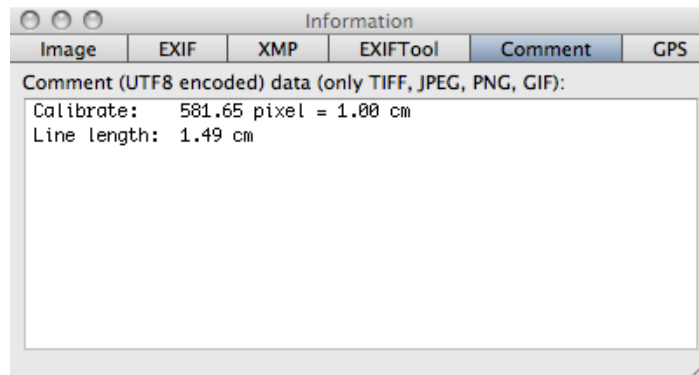
First select **Calibrate Length and Unit** to specify whether you want to measure in pixels or in a measuring unit like centimeters or inches. The mouse cursor will turn into a crosshair with which you can draw a line across the picture. If you hold down the Shift key, you can drag the line perfectly horizontal or vertical.

If your picture originates from a microscope and contains a scale, drag a line across the scale at zoom level 100%. As soon as you let go of the mouse button, a dialog giving you the length of the line in pixels will open.

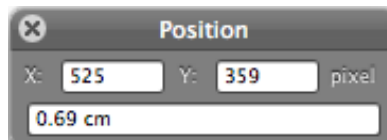


Overwrite the value, for example, with a 1 and select the required measuring unit to specify for subsequent measurements that the number of pixels originally displayed should represent one centimeter, for example. If you want to measure in pixels, leave the displayed value and select **Pixel** as the unit if it is not already set.

After calibrating, you can immediately start measuring distances with a line. The result is shown on the **Information** palette on the **Comment** tab.



There you can copy the values to use them in a word processor or in an Excel table, for example. The values are also shown on the **Coordinates** palette, which is useful when measuring and calibrating again.



In addition to the option for measuring lines, you can also measure the area of rectangles with **Measure Rectangle** and circles with **Measure Circle**. Select the corresponding options from the pop-up menu for this. **Measure Min, Max and Mean in a Rectangle** allows you to measure the brightness value of the darkest and lightest pixel. The mean

value is also displayed. This option is useful if, for example, you want to determine on pictures of bacteria cultures whether the whole area is affected, how badly the darkest area is affected and what is the average occurrence. The measured value 255 represents white and 0 represents black. The coordinates of the rectangle are also given.

With **measure angle with Two Lines** you can determine the angle with two auxiliary lines which are inserted in the upper left corner of the image. Position the lines by dragging the handles at the ends. The angle is displayed in the information pallet. You can select and copy the text in the information pallet.

With **Contrast Measurement between two points** you can now also determine the difference in brightness and contrast between two colors with the measuring tool. This is helpful if, for example, you want to check a website for W3C conformity. Double-click the measuring tool with the slide rule and select **Contrast Measurement between two Points**. Now click two points one after the other. The information pallet opens automatically and shows the measured values and the differences. You can select and copy the text in the information pallet.

Click a picture with the **Zoom** tool to switch to the next zoom level up. When you hold down the option key, you switch to the next zoom level down. For more details, see page 187.

The **Red Eye** tool allows fast correction of red and other colored eyes, for example, that occur on animals that were photographed with a flash.



Click the eyes with the tool to color them black. You can adapt the size of the tool with a slider on the lower edge of the window. If you have not installed system extensions like USB overdrive, you can change the size of the tool with Shift and the scroll wheel.

To retain reflections on the pupil when removing red eyes, you should use the **Effect / Red Eye** option instead of this tool, see p 173 onwards. This option cannot, however, be used for different colored eyes on animals since it searches for red tones to be colored dark gray.

**Fill Pattern** allows you to select a fill pattern.

**Switch to black and white** sets black and white as the **foreground and background colors**.

**Swap foreground and background color** swaps the colors over.

**Copy-Mode** allows you to select another copy mode.

**Aspect ratio for selection** allows you to select a specific aspect ratio like 10x15 to chose a ideal section for printing photos on photo paper, for example. Clicking the area allows you to select an aspect ratio from the pop-up menu. **Define User-defined...** opens the following dialog where you can enter the aspect ratios you use most.



The **aspect ratio of the image** is particularly interesting as the selection automatically has portrait format for portrait-format images.

Select **Lossless JPEG cropping (if possible)** if you want to trim JPEG images without losses. Lossless cropping is only possible with pictures that have not been modified in any other way. For more details, see p 170 onwards.

**Effect / Average** sets the whole picture to the color that matches the average of all colors. This feature is available as a batch too.

**Measure Angle with two Lines** allows you to measure the angle between two helper lines that are inserted at the top left of the picture after you select the option. You can position both lines anywhere on the picture using the handles and, after each change, the current angle is displayed in the comment box of the Information palette that opens automatically. You can copy values from the palette to edit them in other programs. The helper lines are hidden as soon as you switch to a different tool.

The **White Point** tool allows you to re-apply the white point of an image if the image has a color cast. Using the White Point tool, click the lightest area of the image that

should actually be white. The colors will then be corrected. If there is no area in the image that should actually be white, the correction will not work in most cases.

In critical situations, we therefore recommend taking the picture with an unobtrusive piece of white paper somewhere in the shot. We have provided a short video to demonstrate this tool on the Internet at <http://www.lemkesoft.com/content/213/videos.html>

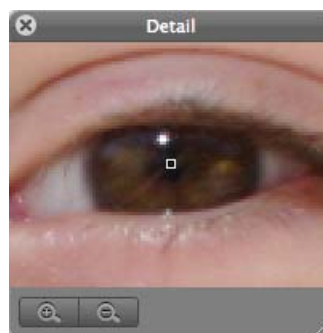
### Back to the palettes:

The **Overview** shows the complete picture. This is helpful if only part of the picture can be seen in the picture window.



The visible part is indicated in the overview by a rectangle. You can move this rectangle with the mouse to change the section shown in the picture window.

The **Detail** palette shows the section marked as an enlargement.



The zoom factor can be selected in the lower left corner using the minus and plus buttons and is displayed next to the plus button. You can change the size of the palette using the handle at the bottom right.

## Keywords

GraphicConverter supports certain **Keywords** entered on the **Comment** tab in the Information window. Some programs use these keywords to sort pictures or to search for pictures. The keywords should be entered in the **Comment** box as in the following example:

OWNER: Thorsten Lemke

COPYRIGHT: 1998

DESCRIPTION: Row of houses on canal bank

The following table shows how the keywords should be entered in the GraphicConverter **Comment** box and their counterparts in TIFF and VPB formats.

GraphicConverter Keyword	TIFF	VPB
TITLE	Not available	Title
OWNER	Artist (315)	Owner
CATEGORY	Not available	Category
DATE	Date (306)	Date
TIME	Not available	Time
DESCRIPTION	Description (270)	Description
COPYRIGHT	Copyright (0x8298)	Not available
HOST	Host (316)	Not available
SCANNER	Scanner (272)	Not available
SCANNERMAKER	Scanner Make (271)	Not available
SOFTWARE	Software (305)	Not available

The numbers are the tag IDs in TIFF format. A complete comment is always saved in the GIF, JPEG and TGA formats.

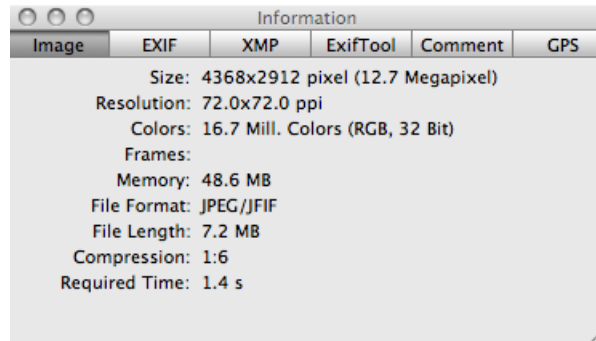
The metadata may not be disabled in the format options that can be opened in the file selection dialog when you use **Save As**.

In addition, the contents of the comments window are saved in the text section of the file resource if creation of the resource fork has been enabled in the preferences.

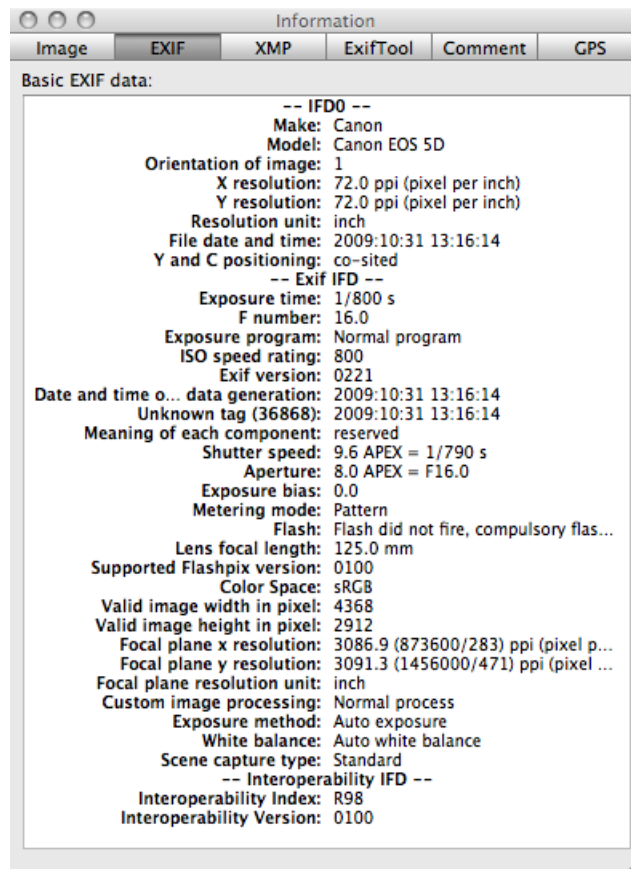
Further comments can be contained in the **IPTC Documentation Information...** that you can open via the **Window** menu.

The **Information** palette displays all technical data for the picture. You can quickly check the output size, resolution, color depth, number of pictures contained (for animation), memory requirements in RAM, format, document size on disk, degree of compres-

sion, time for opening and comments such as information on compression (for example, LZW).



You will find the Exif information for pictures taken with digital cameras on the **Exif** tab. The Exif information contains the exposure time as well as the time and date when the picture was taken. It also indicates whether a flash was used in addition to other details.



GraphicConverter displays any information that can be found in the **Comments** tab if a manufacturer does not adhere to the standard for Exif information.

The Exif information can be copied to the clipboard with **Copy Exif as Text** in the **Edit / Copy** submenu.

On the **ExifTool** tab, the Exif data is displayed in the same way as it is exported by Phil Harvey's ExifTool. Boxes that do not belong to the official Exif standard and are only used

by a particular camera manufacturer are also shown. This could include an entry giving the number of pictures taken with the camera. You will find further information on Exif-Tool here: <http://www.sno.phy.queensu.ca/~phil/exiftool/>

Further metadata can be displayed on the **XMP** tab. Photoshop CS writes this data. It is, however, only of interest for users who need metadata in XML format. The XMP data can only be saved in JPG, JP2 (JPEG 2000), PNG and TIFF image formats. When you use the JP2 and PNG formats, the most important Exif information is written in the XMP section if the file contains Exif information.

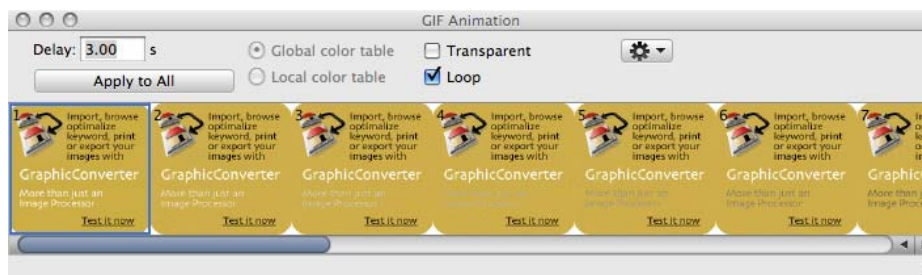
When opening images, GraphicConverter evaluates the XMP data if the IPTC information is not readable as the XMP data also contains the IPTC information among other things. When saving pictures, the XMP data is also used to write the correct IPTC information if it cannot be read upon opening. You can disable this option in the **Preferences** under **Open / XMP**.

The comments contained in the picture are displayed in the **Comment**-tab. For example, the program and the version number of the program that was used to save the picture are also included here.

You can modify the comments by clicking the text box on the palette and editing the text in the same way as you would in a word processing program. You cannot, however, select the complete text with Command-A.

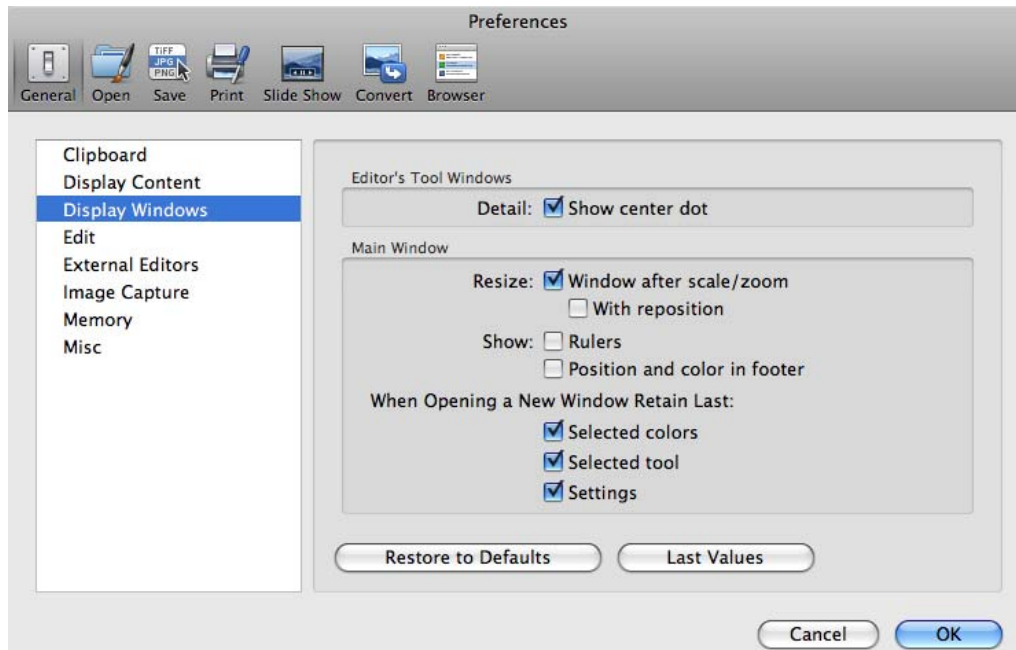
In the tab **GPS** a world map is displayed. If the selected image has geo data the position is shown by a small red cross. Click somewhere on the map to show the position in Google Earth.

Settings for the individual pictures (frames), for example, for an animation, can be made in the **GIF Animation** palette.





You can specify details for the display of windows under: **Edit GraphicConverter / Preferences...** in the **General / Display Windows** section.



**Detail: Show center dot** shows a marker in the center of the detail palette.

**Resize: Window after scale/zoom** This setting always adjusts the size of the image window so that the picture fits exactly in the window. If, for example, you reduce the zoom level, the image window will also become smaller. **With reposition** moves the image window to the top left corner of the screen.

**Show: rulers** displays rulers on the left-hand side and at the top of the image windows. The unit can be changed, for example, from pixels to cm, in the top right corner of the image window.

**When Opening a New Window Retain Last: Selected colors** keeps the foreground and background color, which would otherwise be set to black and white. **Selected tool** keeps the last selected tool. **Settings** keeps all settings, for example, even the pen width and the colors.

## Internet

The following section looks at formats, file sizes and filenames for pictures that are to be published on the Internet. Sending pictures can often be problematic. We will therefore cover this in a separate chapter entitled Tips for Sending with Different E-mail Programs.

## **Preparing Pictures for the Internet**

When preparing pictures for the Internet, you need to select the appropriate picture format, minimize the file size and optimize the filename.

### **Selecting the Appropriate Picture Format**

Only pictures in PNG, GIF and JPEG formats are used on the World Wide Web. All four formats are heavily compressed so that the Internet pages are displayed quickly to the viewer. Pictures in JPEG format can either have 16.7 million colors or 256 grayscales. JPEG format is therefore particularly suitable for photos. GIF format can only display 2 to 256 colors and is specialized in achieving higher compression rates for pictures such as pictograms, symbols and all pictures with sharp edges, for example, comics.

When preparing pictures for the Internet, you should leave ColorSync enabled. Please remember though to enable the **Merge color profile into image (for web usage) and remove Exif** option when saving with the file selection dialog. Most internet browsers display images without profiles therefore you have to merge the profile corrections into the image.

### **Display Picture from Top to Bottom**

There are different types of JPEG format as there are with GIF and PNG formats that you can select in the **Save as...** dialog with **Options...**

All three formats provide the option for pictures to be opened progressively from top to bottom in the browser with the final resolution. Alternatively the display can be selected from unsharp to sharp with the complete picture being shown straightaway.

Set the **Row Order** to **normal** for picture build-up from top to bottom independent of the format versions 87a and 89a for **GIF format**. The **Progressive** option must be disabled for **JPEG format**. The **No Row Order** option needs to be selected for PNG pictures.

## Display Content from Low to High Resolution

Surfers normally prefer pictures to appear complete as soon as sufficient data has been transferred and appear initially at a low resolution. The pictures gradually become finer as the data is transferred.



Most Web designers prefer this method as, if the Internet connection is slow, an overall impression quickly emerges after you open a page and the constantly refined pictures have the effect of an animation to a certain extent. Note that there are limitations when the Web site uses tables, as tables are usually only displayed when they have been completely transferred. Save your pictures for this display type

- in JPEG format and enable the **Progressive** option in the **Save as...** dialog under **Options...** or
- in GIF format and switch the **Row Order** option to **Interlaced** in the **Save as...** dialog under **Options...**, or
- in PNG format and enable the **Adam 7** option in the **Save as...** dialog.

Note that not all WYSIWYG HTML editors can process every variant when you are creating Web sites.

## Minimizing the File Size

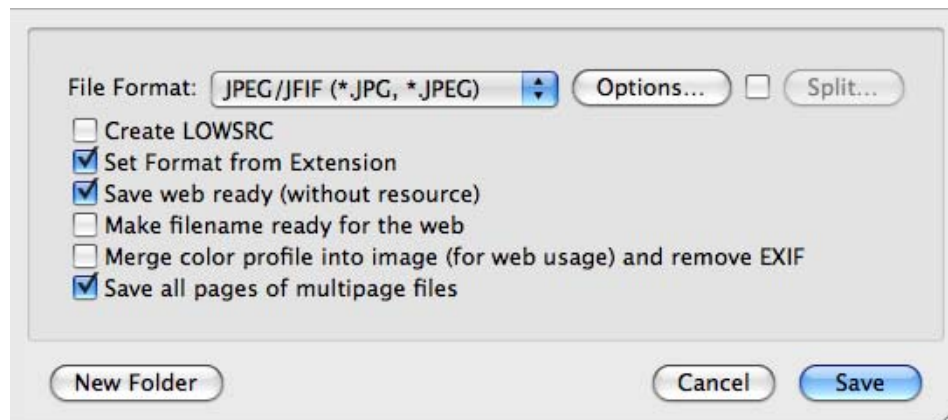
The size of a file can be affected by different factors.

- File format and compression rate
- Scope of the color palette
- Picture size

The picture size is dealt with in the chapter on page 87.

## File Format and Compression Rate

Use JPEG, GIF or PNG formats for the Internet and select the **Save web ready (without resource)** option in the file selection option.



The resource contains, for example, the preview picture that is displayed by the macOS but does not have a function on the Internet. Files without a resource are approximately 40 kB smaller than the same file with a resource. When you are working with small pictures about 40 kB, for example, saving with a resource would double the size of the file. If you check the file size in the Finder, it may often show the old value from before editing because the Finder even tends to be very slow on the fastest computers. One trick to update a Finder window is switching back and forth between the list and the icon display.

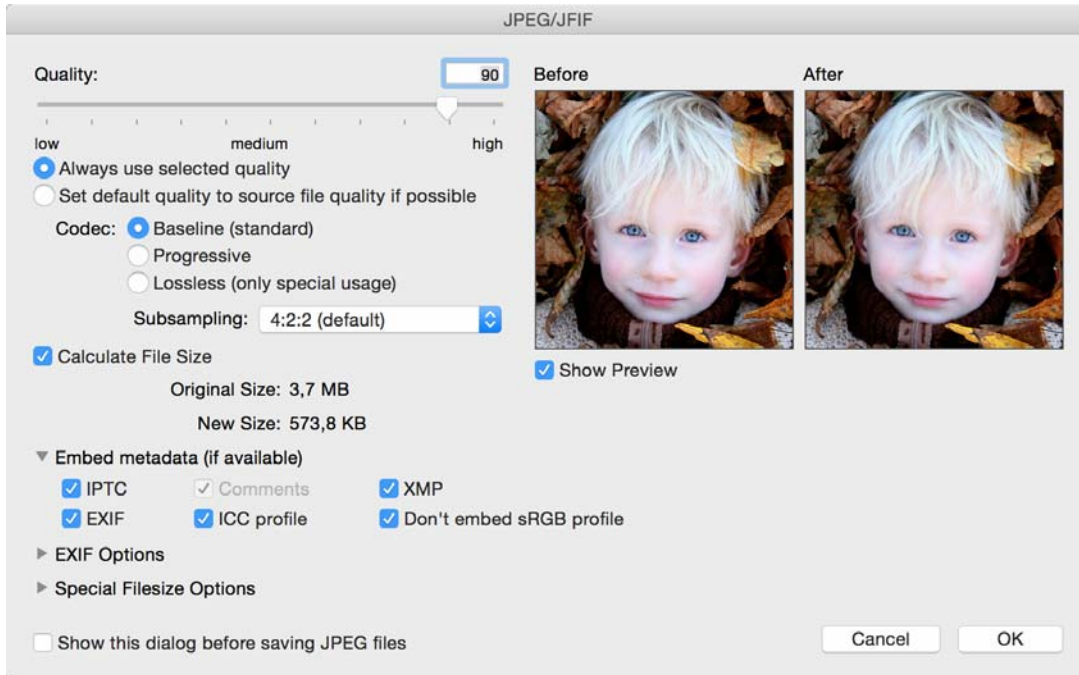
Do not forget to disable this option during the next save procedure if you are working on pictures for other purposes.

**Make filename ready for the web** changes the current filename upon saving so that it can be used on Internet servers without problems: Spaces are changed to the underscore character, special characters are replaced and all letters are written in lowercase. For example, "Next Field.jpg" becomes "next\_field.jpg". You cannot see the changes in the file selection dialog because the text in the entry box cannot be changed. The saved file will have the modified name, however.

## Minimizing JPEG Pictures

You can set a quality level when you save pictures in JPEG format. Select **File / Save as...** in the file selection option, set **JPEG/JFIF** as the format and click **Options...**. The lower the quality, the smaller the file. Data reduction is used in addition to data compression particularly for low quality levels. The dialog for selecting the quality opens automatically after you click **Save** unless you disabled this.

The compression rate of JPEG format is also very large at the highest quality level. This is why this level or a value over 80 is recommended. Try out the lower quality levels if you require small files. The loss of quality is clearly visible below the medium level (50).



The preview allows you to judge the loss of quality. The section can be moved with the mouse. Creating the preview and calculating the **file size** may take longer on slower computers.

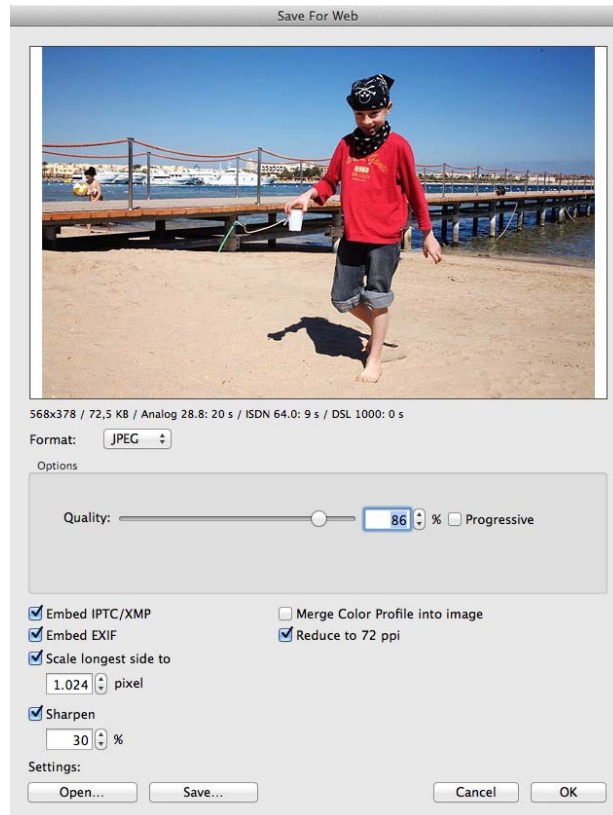
You should only select **Lossless** if you are sure that recipients of the picture can open this variant of the JPEG format. A large number of programs cannot open images in lossless JPEG format. Save your pictures in TIFF format if you want to save without losses as almost all programs can open TIFF format. Select **Baseline** as Codec in normal case. Progressive shows the picture from unsharp to sharp with the complete picture being shown straightaway. That made sense in the times of slow internet connections and is not important any more nowadays.

In the **Subsampling** pop-up menu, you should select 4:4:4 if you want to avoid picture faults (artifacts) caused by the compression. The high compression rate is achieved in JPEG images by saving one instead of four Y-values for blocks of four pixels. Use this option if you want to save an image with sharp-edged subjects, for example, lettering in JPG format, without serious picture faults. The file size will increase, however. The settings 4:2:0 and 4:1:1 are mean values.

After saving, the picture will **not** be displayed in its window at the actual quality level. You need to close and reopen the picture to see the effects of the compression on the complete picture.

## Save for web

You can also save images with **File / Save for Web**. A dialog where you can select the **Format**, **Quality** and **Progressive** opens. **Progressive** makes images display from rough to fine the more data is received when the internet connection is slow. Without this option pictures are displayed growing from the top to the bottom.



The preview picture is always displayed at zoom level 100% and can be moved with the mouse. The options for incorporating **IPTC/XMP** and **Exif** are under the preview. Leave IPTC/XMP selected if the IPTC information along with details like the keywords or other XMP information should be available to users after they have loaded the image onto their own drive. The Exif information contains the exposure time as well as the time and date when the picture was taken.

When you want to put pictures on the Internet just to display them, you should select **Merge color profile into image** as they will otherwise be displayed too light and pale by most web browsers. Safari 3.1 supports color profiles. If your web pages will be viewed with Safari 3.1 or Firefox 3.5 exclusively you do not have to merge color profile into image. Embed Exif but has to be enabled.

If you want to put pictures on the Internet for others to download, you should leave **Embed Exif** enabled. The pictures can then be exposed correctly by a photo developing service because the color space (mostly sRGB) is given in the Exif information. The **Merge color profile into image** option should be disabled as the pictures will otherwise have dou-

ble profiles. These pictures will be displayed too light and pale in Internet browsers not supporting color profiles, however.

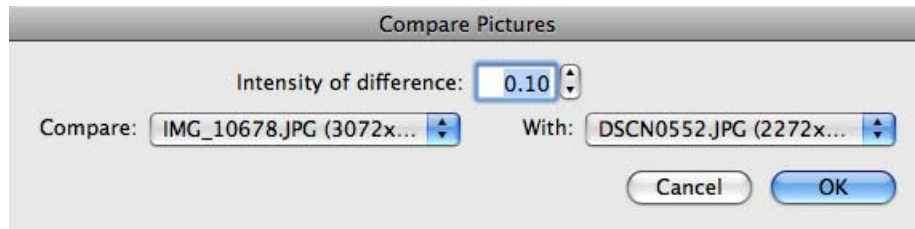
**Reduce to 72 ppi** changes the resolution entry in the file head and should always be selected.

**Scale longest side to** allows you to enter a value for the pixel size of the file you save. The value is for width when the image is landscape and for height when the image is portrait. **Sharpen** should always be enabled when you scale down. The preview shows the effect of sharpen and can be moved with the mouse..

**Make filename ready for the web** changes German umlaut characters like ä to ae and replaces spaces with underline characters.

## Comparing Pictures

You can visualize the loss of quality in a JPEG compression, for example, with **Edit / Find, compare and replace / Compare Pictures...** Open a source picture, save it as a JPEG with a different name at medium quality, for example, close it and open the JPEG file created. Now select **Edit / Find, compare and replace / Compare Pictures...**



All open pictures are listed in the lower section of the dialog. Select the pictures to be compared. The setting is automatically matched when only two pictures are opened. The higher the value you select for **Intensity of difference**, the clearer the differences are displayed. Clicking **OK** creates a new picture where everything that is identical in both pictures is displayed in black. Differences are displayed with lighter colors. You can also use this option as an effect filter.

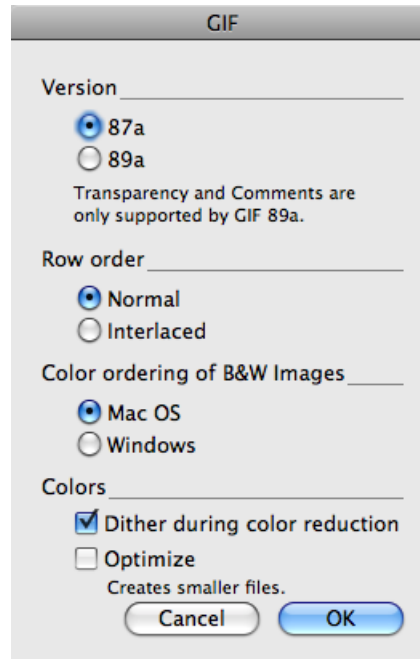
It is best to assess the loss of quality by opening the normal view of the compressed picture and, for example, positioning it next to the opened source picture. You should always create a master file of your picture in a format, such as TIFF format, that has not had data reduced when working with JPEG pictures. Data reduction is carried out again every time a JPEG picture is saved and the loss of quality is increased repeatedly.

Therefore all changes such as the basic settings for brightness should only be made in the master file. This master file remains in TIFF format in all editing stages and versions while you keep on saving new "derivatives" for your Web sites in JPEG format.

If a picture is sent to you in JPEG format, open it and then save it in TIFF format. This kind of a file is the best possible master in this situation.

## Minimizing GIF Pictures

The file size can be decreased for GIF pictures by reducing the color table. You can **Optimize Colors** under **Options** in the **Save as...** dialog. The color table is then reduced to the minimum without a loss of quality. The optimum color table would be 128 colors for 91 used colors.

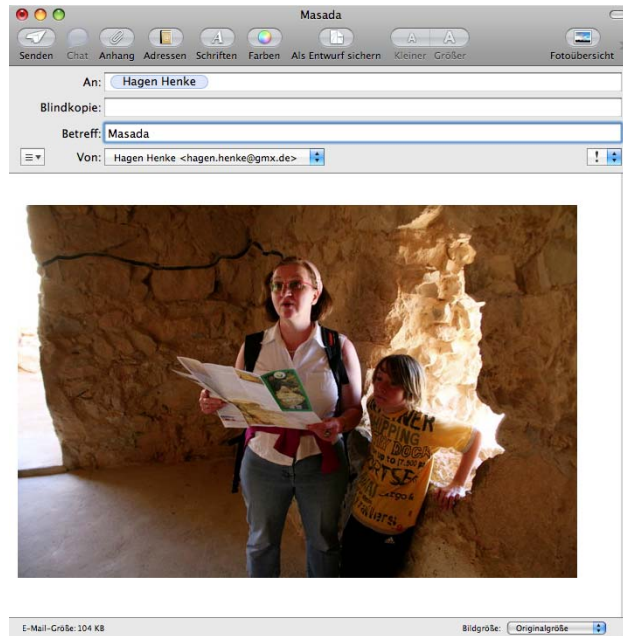


It is possible to reduce the color table further using **Picture / Colors / Change bit depth dynamically** if a greater degree of quality can be sacrificed. The picture quality is always reduced by this option. It should therefore only be used if you want to reduce the file size greatly. Try a low quality JPEG format instead.



## Pictures in E-mails

In the Browser click the e-mail button to transfer images to an e-mail program and shrink them automatically or use the context menu (see p 234). This function is also available in the context menu over an open picture and in the **File** menu.



In Apple Mail, **Actual Size** at the bottom right of the window needs to be selected as the image has already been reduced by GraphicConverter. Only use this pop-up menu if you have dragged an image that has not yet been reduced, for example, from the Finder into an e-mail window, or if you did not reduce the image during export from GraphicConverter.

If you want to send a picture as an e-mail attachment to a Windows user, limit the file extension to three characters (for example, name.jpg).

If you receive an e-mail from a Windows user that has a compressed file named "Win-mail.dat" attached, you will be able to open this file with GraphicConverter. All readable images it contains will be opened in a multiple-page document.

You should compress images in CMYK mode before sending by e-mail as e-mail programs cannot show CMYK-mode images correctly. The file is transferred correctly, but appears completely black or with the wrong colors in the e-mail program preview. If the recipient opens this kind of file in GraphicConverter or another program that supports CMYK mode, the colors will be displayed correctly again. Alternatively, you can convert the pictures into RGB mode before sending by e-mail (**Picture / Mode / RGB Color**).

The picture data needs to be encoded when you send pictures as e-mail attachments since only "normal" letters and numbers are allowed in e-mails (7 bit). A series of normal letters and numbers should be used for all other characters. Different standards have established themselves here and are not compatible with each other.

## *Pictures for your mobile phone*

Luckily you do not usually have to worry about this with modern e-mail software as the programs rectify the problem. Drag and drop your picture files into the e-mail window or use the option for adding attachments.

If your e-mail program does not automatically decode the pictures you receive, GraphicConverter can still open it as long as it is encoded using one of the following standards: Mac Binary, Mime, UUencode, yEND or Binhex (HGX). If a Mime file contains several images, GraphicConverter will save these files in a temporary folder and show them in a new browser window. Move or copy the files to a normal folder if you want to save the images permanently.

## **Pictures for your mobile phone**

Use iTunes to copy pictures to your iPhone. One simple possibility is to select a folder in iTunes, whose content is synchronized automatically.

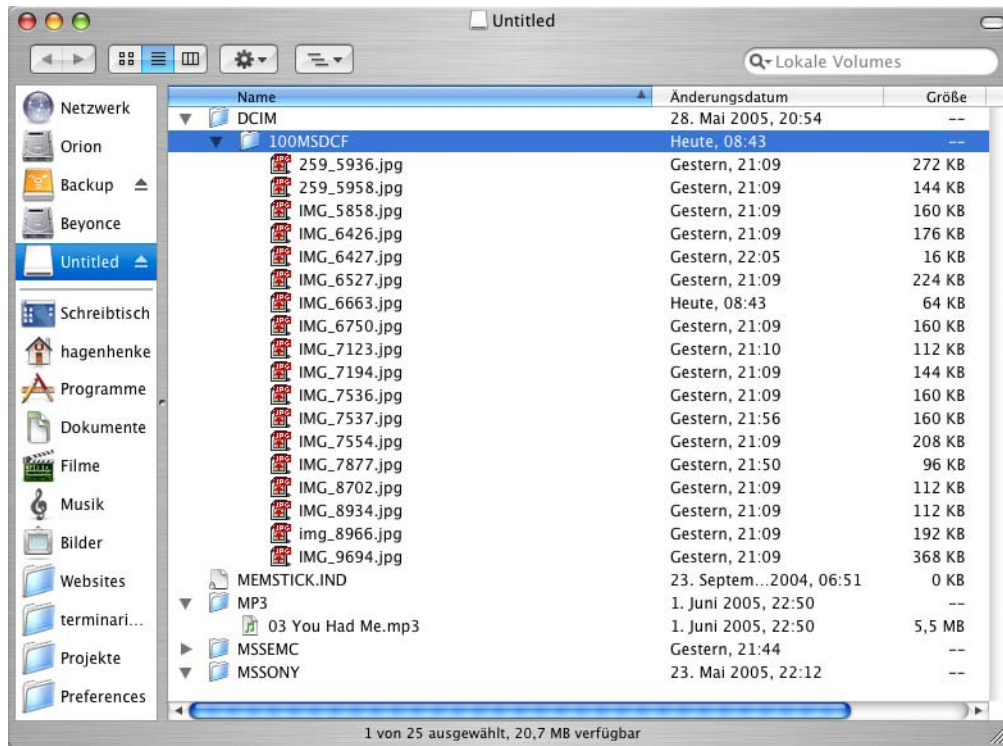
You can define this folder in GraphicConverter as a favorite using the context menu at the left-hand lower side of the browser window. Copy new pictures into this folder by dragging the files into the folder while holding the option key. If you create subfolders in this folder, the subfolders will appear as albums on your iPhone.

## **Other mobile phones**

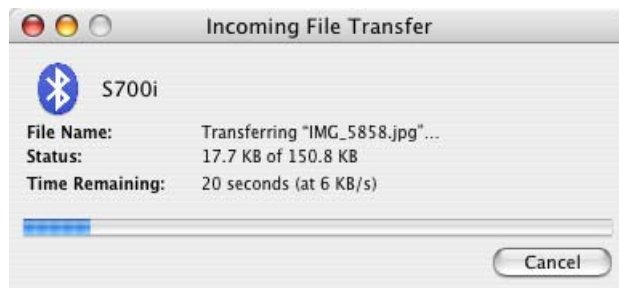
If you want to copy images onto your mobile phone so you can look at them and show them to friends at any time, you should reduce them to the size that the camera in your phone creates. The size of the pictures should be listed in the phone manual. Otherwise you can take a picture with your phone, import it into your computer and then determine the size in pixels by selecting **Picture / Size**.

There are two ways to transfer an image file from your phone to your computer. You can transfer the picture via Bluetooth or, if your phone has a memory card, remove it and

access it with your computer via a card reader. The structure of the Memory Stick Duo for the Sony Ericsson S700i is as follows:



To transfer a picture from a mobile phone with Bluetooth, select it in the phone and send it using the option for sending via Bluetooth. Activate the Bluetooth option on your Bluetooth-compatible Mac. In a Sony Ericsson S700i, you select **More / Send / Via Bluetooth**. After a security query, the message that a picture is being received will then appear in the Finder. The picture will be saved in your document folder.



## Pictures for your mobile phone

The aspect ratio of images being transferred to the phone should correspond with the display aspect ratio as much as possible. You may have to trim the image. Enter the size of the phone picture in the dialog for the aspect ratio. On the S700i, it is 1280 x 960.



Open a picture from your hard drive, which you took with a digital reflex camera, for example. Select a section with the selection tool and crop it by double-clicking inside the rectangle or by pressing Return.

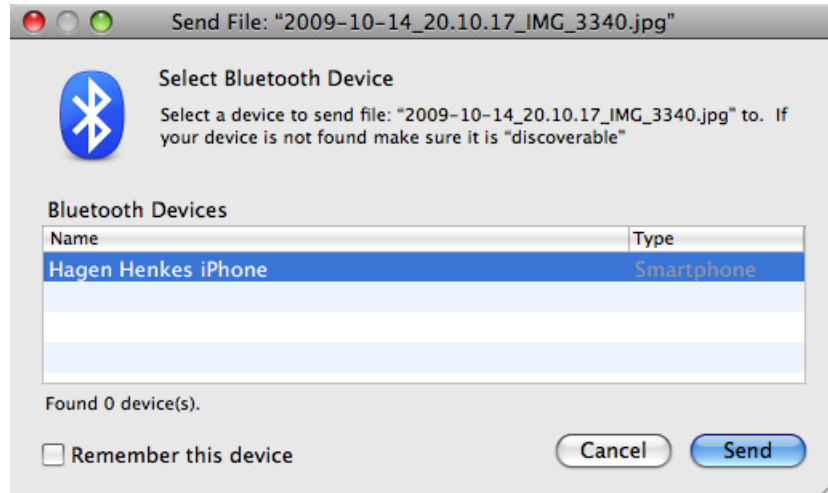
Now reduce the picture to 1280 x 960 with **Picture / Size** by entering one of the values. The other value will be calculated automatically if **Keep Proportions** is enabled. If this value is smaller than required due to rounded edges, enter another value. If the other value is slightly higher, you can trim off the extra pixels in the next step with **Picture / Size / Add/Remove Margins**.

If you reduce the pictures to the size of the display, diagonal lines become too jagged and the whole picture seems too blurred. The S700i display size is 320 x 240 pixels. Pictures with such a small size can mostly not be sharpened properly. Therefore it is better to use the size of the photo images from your mobile phone. If a picture with the large size appears too sharp on the phone, you can use a smaller version. On the S700i, the small versions have the advantage that a mini preview is displayed in the overview. The iPhone display size is 320 x 480 pixels

Turn the landscape format pictures with **Picture / Rotate / Rotate 90° Counterclockwise** to use the display optimally.

Save the picture in JPEG format in a subfolder, for example. In the file selection dialog, select the **Save web ready (without resource)** and **Merge color profile into image (for web usage) and remove Exif** options. In the options, disable **IPTC, ICC profile** and **Exif**. Transfer the picture to your mobile phone by copying it to your memory card using the Finder or transfer it via Bluetooth. Select **Send File...** from the Bluetooth menu in the Finder. A file selection window opens where you can select the picture file. You can also

select several files. After the file selection dialog, a dialog appears where you can select the receiving device. The data will be transferred after you click **Send**.



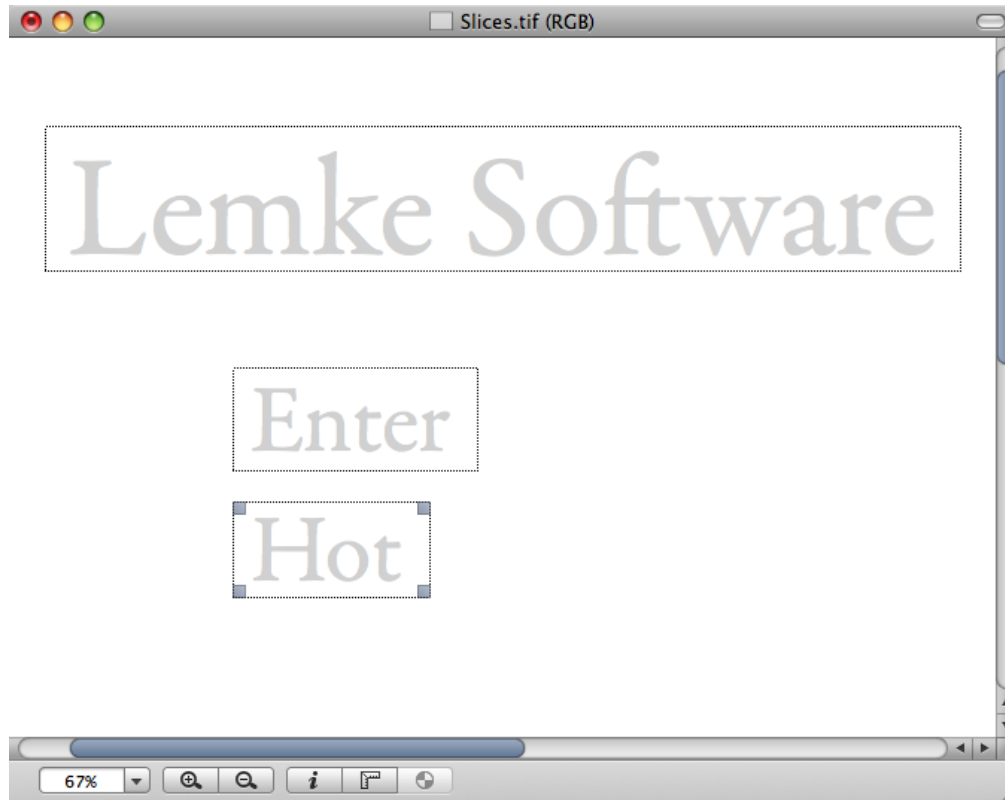
When a Bluetooth icon does not appear in the menu bar, you can set this under **System Preferences / Bluetooth**. On the Sony Ericsson S700i, you will find the pictures in the **File Manager** section and can display them from there.

## Slices

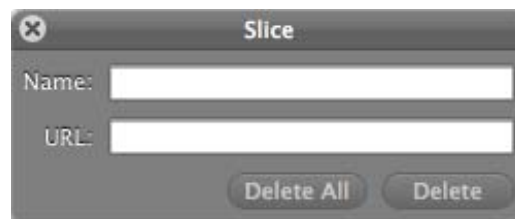
On the Internet, pictures can contain several links. Rectangular picture sections that are assigned a link can be defined with the slice tool from the toolbox (**Window / Toolbox**). Click and hold the face recognition tool to select the slices tool. Draw a rectangle over the corresponding picture sections with the slice tool. The rectangle can be moved with the

## Slices

mouse and the size adjusted with the handles. To enter a link, Control-click the required slice to open the context menu and select **Edit Slice URL...**



As soon as you select the slice tool, the slice palette opens allowing you to enter the **URL** and optionally a **Name**.

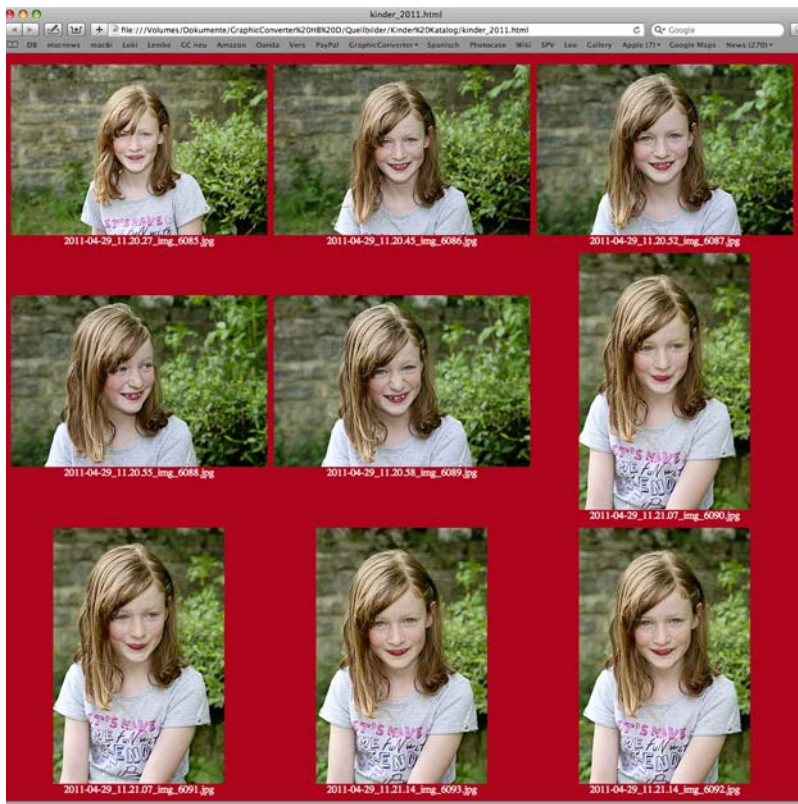


The address can be short, for example, <http://www.heidelberg.com>, or long. It is easiest to enter long addresses using the clipboard.

**Delete** deletes a clicked slice. **Delete All** deletes all slices in a picture. **Save Slices as...** creates a file that should not be copied to the web server. The file contains information about the slices and the links and is used to save slices and, for example, allows you to import them later for use in a similar picture. **Open Slice...** opens a slice file and displays the slices it contains. **Copy Slices as HTML-MAP** allows you to transfer the HTML-MAP, for example, to a word processing program for editing.

## Photo Albums on the Internet (Catalog)

You should consider offering your pictures for download on the Internet if you do not want to deal with repeat orders of photos. If you do not want to use an online service like [www.flickr.com](http://www.flickr.com), you can create catalogs for your own Web sites with GraphicConverter. Collect all source pictures in a folder that you show as a small preview on the Internet and want to offer for download, for example, in larger printable versions. Pictures that have been downloaded can be forwarded to photo labs who will print your pictures on photographic paper and send them to you.



You can create Internet pages that show the pictures as a small preview using the browser and the **Catalog... / HTML...** option. The picture name appears under each picture. Click it and a larger version of the picture will be displayed on its own page. You can download the picture by Ctrl-clicking it and selecting the save option in the context menu. Windows users can access this option by right-clicking.

Downloaded pictures can be printed using the GraphicConverter print option and many other programs.

Make sure the image filenames do not contain any special characters such as commas or foreign characters. Only letters, numbers, space characters, periods and underscores are allowed in the names of the source files. All source pictures are copied to a new folder and renamed so that they can be read on UNIX Internet servers when you create Internet pages. Space characters are replaced by underscores. Uppercase characters are changed to lowercase characters. Special characters lead to error messages. This is why they should be replaced beforehand.

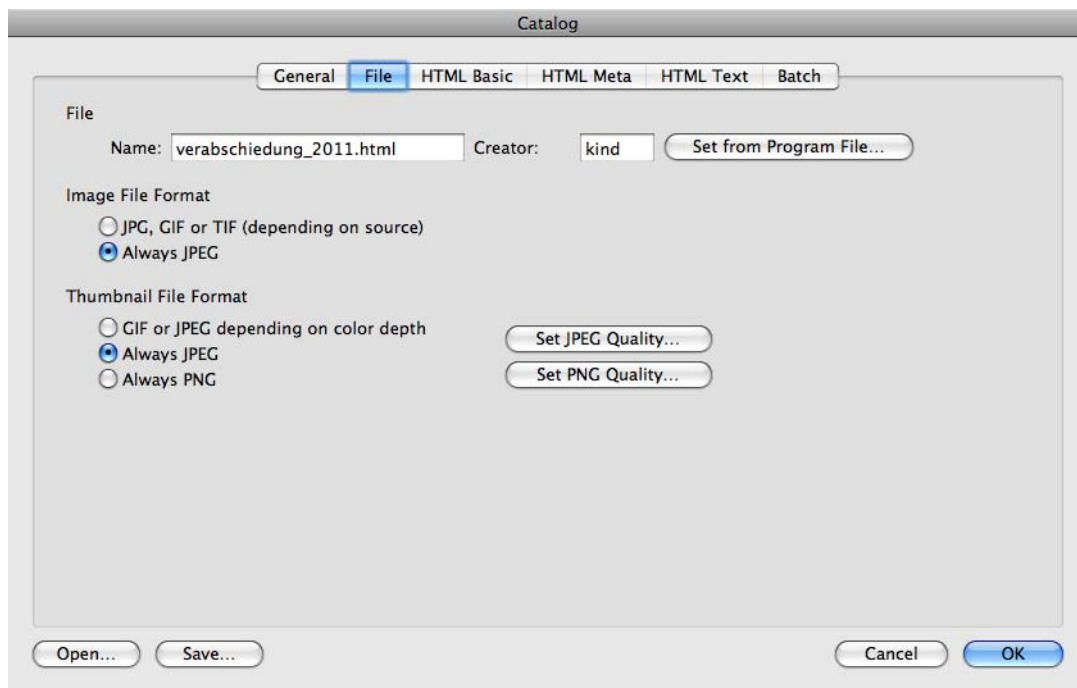
In the first step, you need to select the pictures for your Internet photo album. If you have already collected the pictures in a folder, skip the next paragraph.

If you want to use pictures from different folders in your album, you first need to copy them into a new folder. We recommend using the GraphicConverter browser. Create a new folder via the context menu on the left-hand side of the browser. Now hold down the option key and drag the pictures you require from any other folders to the new folder to copy them there.

Display the content of your picture folder in the browser and click a picture. Select all pictures with Command-A. If you only want to use a few of the pictures in your album, select the ones you want while holding down the Shift key.

Alternatively you can also make the selection in the left-hand area of the **Convert & Modify** mode. In this case, you should create and open the target folder for the Internet data on the right-hand side. You start automatic creation of the Internet data for this alternative by selecting **Catalog (HTML for WWW Usage)...** from the context menu and clicking **Go**. You will find information on the other settings in the following sections.

**Back to simple selection in the browser:** Once you have selected the pictures, click the Catalog-Icon in the browser. Select **HTML...** in this menu. No matter which way you go the following dialog opens:



Enter a filename with the extension **.html** or **.htm**. For photos we recommend selecting the **Always JPEG** option under **Thumbnail file format**. If you have comic strips mixed up with photos, select **GIF and JPEG depending on color depth**. **Always PNG** makes sense only if you want to work with the larger PNG-Files.



Set the quality of preview pictures with **Set JPEG Quality...**. The higher the quality, the larger the file. Specify the settings for PNG format pictures with **Set PNG Quality...**

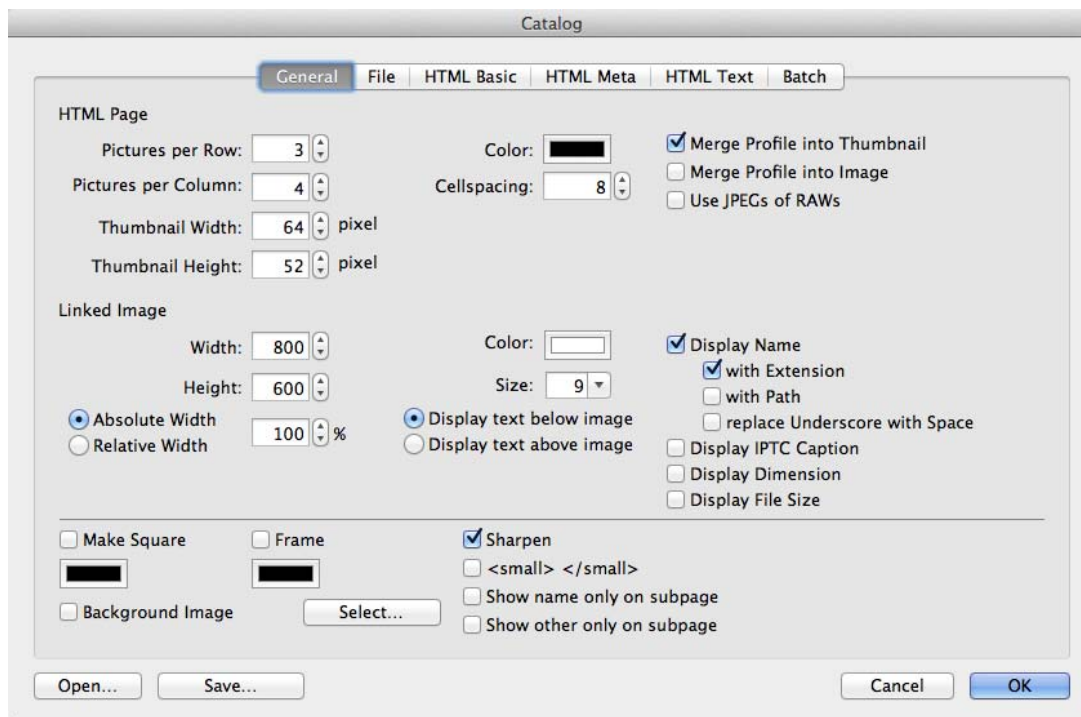
Image file format allows you to set the format of the linked large images. You can leave **JPG, GIF, PNG or TIF (depending on source)** enabled if, for example, the source images are in TIF format and you want to put the large pictures online in TIF format. Select **Always JPG** if the source images are in a different format to JPG format and if the large images should be created in JPG format.

You can also incorporate QuickTime movies in a catalog. These movies can be played on the Web site. The format of movies is not changed.

Select which creator should be entered for the HTML file with **Creator**. If you select Macromedia Dreamweaver as the creator, for example, the created files will be opened directly in Dreamweaver for editing when you double-click them. You can select a program file, for example, Dreamweaver, by clicking **Set from program file...**. GraphicConverter exports the creator and sets it for the HTML files to be created.

Several Internet pages are created if all the pictures do not fit on one page. The file-names are then always numbered except for the first: denmark.html, denmark2.html etc. The first file contains no number so you can create a standard index file "index.html".

Click the **General** tab. Select how many pictures should appear in each row or each column of the Web page with **Pictures per Row** and **Pictures per Col**.



Select the background color of the Internet pages to be created with **Color**. Click the color sample to change the color.

**Cellspacing** allows you to define a value for the spacing between images or text and the table cell lines.

You should enable **Merge Profile into Thumbnail** if you want to show images with profiles in a Web catalog since this includes the profile in the image. The image will then no longer contain, for example, the information that it needs to be displayed with the sRGB profile. Instead the colors are already corrected.

Since the large versions of the images are intended for downloading, you should only enable the **Merge Profile into Image** option if the large versions are intended for viewing on the Internet. For downloadable images, it is worthwhile keeping the profile information and not merging the profile because image files can then be further processed by a development service best in this way.

Set the size of the preview pictures and the **linked images** in the left hand section with **Width** and **Height**. All landscape format preview pictures are calculated with the set width, for example, 150 pixels. The height value is not taken into account as it specifies the height of the portrait pictures. All portrait-format images are scaled to this height. We therefore recommend to always select the same sized values. The pictures will not be the same size when the values are different.

The **Relative Width** allows you to specify a percentage for the width that the linked picture should be scaled to by the browser. 100% will scale it to the width of the browser window. The file size remains the same. Select **Absolute Width** to display the linked images in their actual size. Large pictures may, however, be larger than the visible area of the browser window.

First find out how large the preview pictures should be with a few test files. You should be able to see what is in the picture. Simply drag the created HTML file to your Web browser for an idea of how it will look on the Internet.

The font **Color** should be selected so that it is visible on the background. A black font is not visible on a black background.

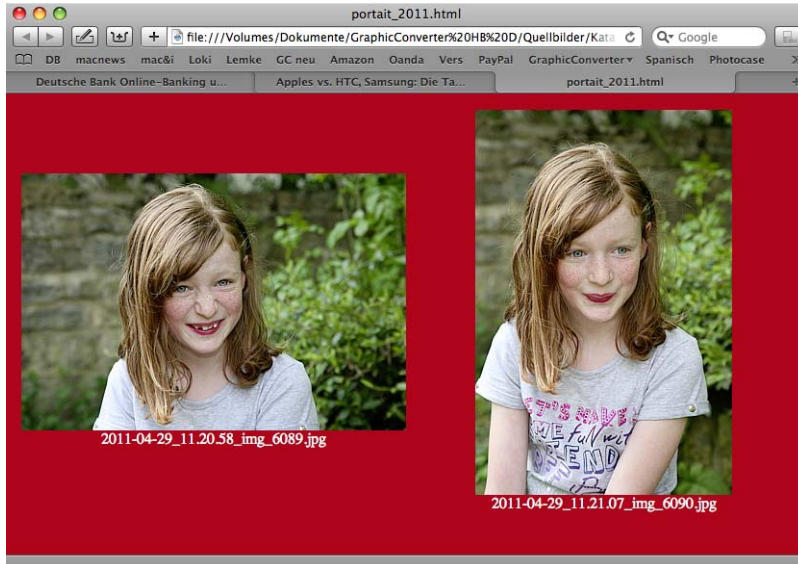
**Display Name** can be disabled. In this case, just the picture itself is a link. In addition, you can select whether the **extension, path, IPTC caption, dimensions** and **file size** should be outputted. **Display text below** or **above image** allows you to specify where the text should appear. Select **Replace Underscore with Space** if you want spaces to appear instead of underscores in the displayed filenames. The underscores will remain in the filenames of the picture files. Only the HTML code will use the spaces.

**Background Image** allows you to set a background image for the Web page you create. Click **Select...** to select an image as the background image.

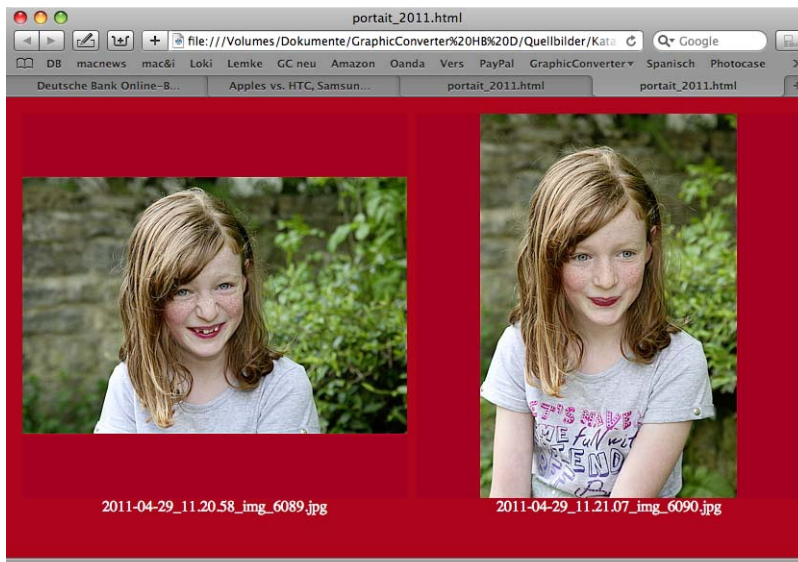
Specify whether pictures should be displayed like framed slides in a square that is always the same size with **Make Square** on the right-hand side of the dialog. The color can be selected for these "slide frames". Click the color sample to change the color.

You can draw a frame around the picture with **Frame** and set its color with **Color**. **Sharpen** should always be enabled so that the preview pictures are sharp enough.

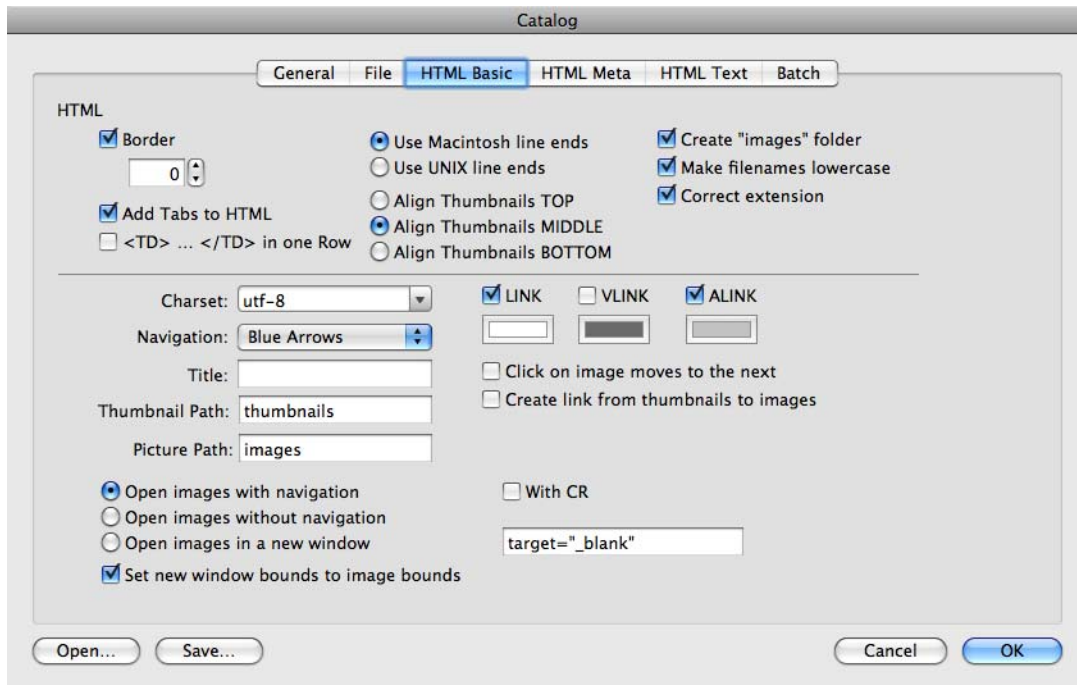
The filenames of landscape format pictures do not appear at the same height as the filenames of portrait format pictures when the **Make Square** option is disabled:



The filenames of landscape format and portrait format pictures always appear at the same height only when the **Make Square** option is enabled:



Switch to the **HTML Basic** section by clicking the tab and enter a folder name for **Thumbnail Path**. You can also leave it as the default name **thumbnails**.



A folder with this name is created in the destination directory. The preview pictures are saved in this folder.

Next to **Picture Path** enter a folder name or leave the default name **images**. A folder with this name is created in the selected destination directory. The large pictures are saved in this folder.

**HLINK** specifies the color for links that have not yet been clicked. **VLINK** specifies the color for links that have already been clicked. Click the boxes under the options to change the colors.

**Title** specifies the title of the HTML page that is shown in the window frame and appears as a bookmark when users create a bookmark (a favorite) for the page.

**Create link from thumbnails to images** creates links from the preview pictures to the large pictures. This should always be enabled as it never causes any harm and allows for intuitive operation of your Web site.

**Open images with navigation** creates pages with the large picture and links to the previous or following pages with large pictures. Another link called "Index" takes you back to the overview.

**Open pictures without navigation** creates pages with a direct link to the large picture. This is then displayed in the browser window without links to other pages. In this case, surfers can return to the overview using their browser's Back option.

**Open Images in a new window** creates links that display the large picture in a new browser window. Leave the **target-“\_blank”** entry in the entry box below it. Only HTML experts should enter other commands here.

**Set new window bounds to image bounds** ensures that the new browser windows displaying the large pictures are the same size as the picture.

Determine how thick the border should be drawn around the preview pictures with **Border**. This border shows that the picture is a link. Normally Web designers do without this edge, particularly as the color can be altered by the surfer's browser settings.

**Add Tabs to HTML** does not change the appearance of the HTML page, but makes it clearer for editing the source text in HTML editors than the disabled **<TD>...</TD> in one row** option. The options are intended to keep the HTML files as small as possible. Disable **Add Tabs to HTML** and enable **<TD>...</TD> in one row** to minimize the file size of the HTML page created. The effect is only slight, however.

Enable **Add Tabs to HTML** and disable **<TD>...</TD> in one row** to create HTML files that are clearly formatted so that they can be easily edited in the source text mode using an HTML editor. If you only edit the pages with, for example, Dreamweaver in preview mode, you will not need to format the source text tidily. In this case, select the smaller files by disabling **Add Tabs to HTML** and enabling **<TD>...</TD> in one row**.

Choose whether linked images should be saved in a new folder in the destination directory with **Create “Images” folder**.

All uppercase letters in filenames are changed to lowercase letters with **Make filenames lowercase**. This may be required for UNIX servers on the Internet.

The **Correct extension** option changes the file extension to the correct extension. If a JPEG picture has the incorrect .tif extension, this is changed to .jpg.

**Use Macintosh line ends** and **Use UNIX line ends** set the different characters at the end of the line. Use **UNIX line ends** if you want to edit the created HTML files under UNIX. Web browsers can display both versions correctly.

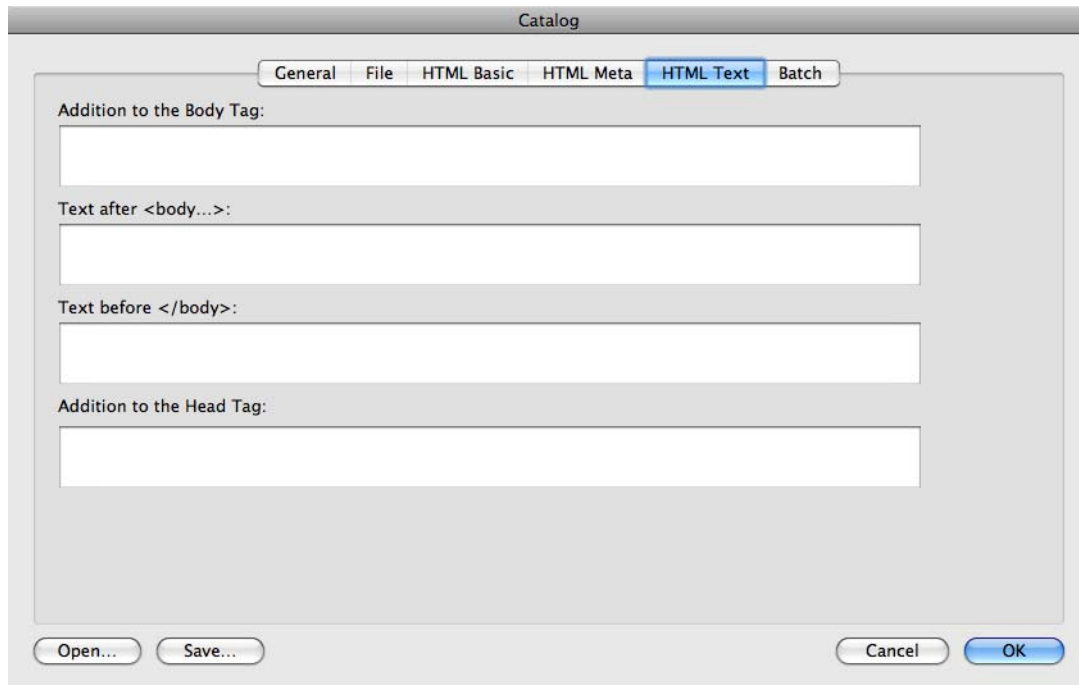
The three options **Align Thumbnails TOP, MIDDLE** and **BOTTOM** set the position of the preview pictures. This option is only useful when you have different sized preview pictures or to distinguish between portrait and landscape format. If you have portrait and landscape format pictures in your catalogue, we recommend using the **Middle** setting so that the landscape-format pictures appear in the middle of the neighboring portrait-format pictures when in vertical position.

**Charset** allows you to choose a different standard for the type set when you design a Web page in a foreign language.

The **Navigation** pop-up menu allows you to insert different-colored arrows into the HTML pages instead of **Textlinks**.

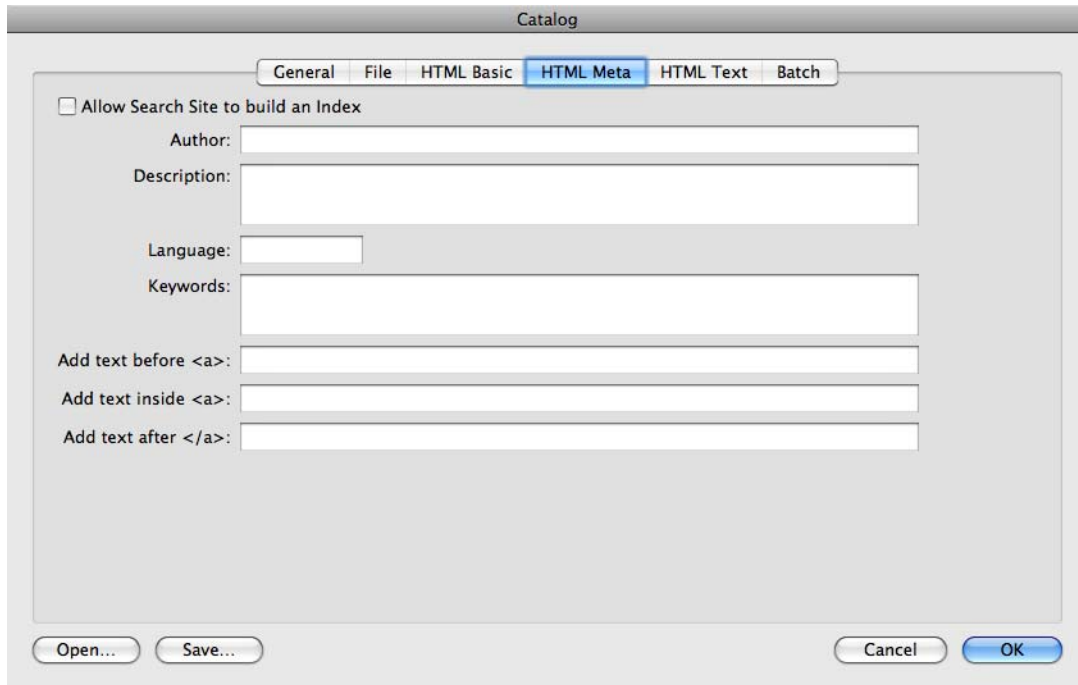
**Click on image moves to the next** only works when a single image is displayed.

On the **HTML Text** tab, you can insert additional text in various areas of the HTML page.



**Addition to the body tag** allows you to enter additional HTML tags for the body. **Text after <body...>** allows you to enter additional HTML tags after the body. **Text before </body...>** allows you to enter additional HTML tags before the body. **Addition to the head tag** allows you to enter further HTML tags for the head section.

You can enter so-called Meta tags on the **HTML Meta** tab if you want your pages to be found by search engines and displayed for corresponding search names.



The screenshot shows the 'Catalog' dialog box with the 'HTML Meta' tab selected. The dialog contains the following elements:

- Checkbox:  Allow Search Site to build an Index
- Text field: Author:
- Text field: Description:
- Text field: Language:
- Text field: Keywords:
- Text field: Add text before <a>:
- Text field: Add text inside <a>:
- Text field: Add text after </a>:
- Buttons: Open..., Save..., Cancel, OK

First enable the **Allow Search Site to build an index** option. Enter an **Author** and describe your page in the **Description** box. Enter en for English in the Language entry field.

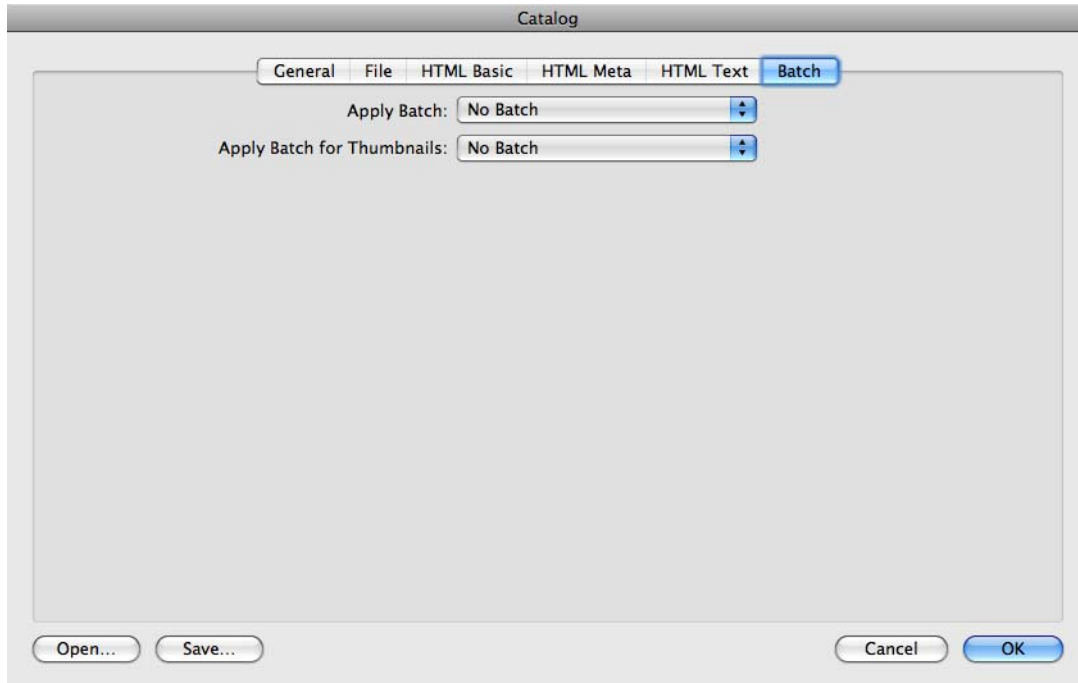
We recommend entering terms that you think might be entered as search strings by Internet surfers as **Keywords**.

You can save your settings with the **Save...** button at the bottom left and then use them again by clicking the **Open** button later on.

On the **Batch** tab, you can also select a batch for the large images and the smaller preview pictures that you defined using the Convert dialog or via the pop-up menu on the

## Creating catalog as picture

browser toolbar. This is useful, for example, if you want to add a watermark only to the large pictures.



Click **OK** to create the Internet pages and pictures.

GraphicConverter now creates one or more HTML pages and two folders for the preview pictures and the linked large pictures. If several overview pages are created, GraphicConverter inserts links at the bottom of the pages so you can switch to the next or previous page.

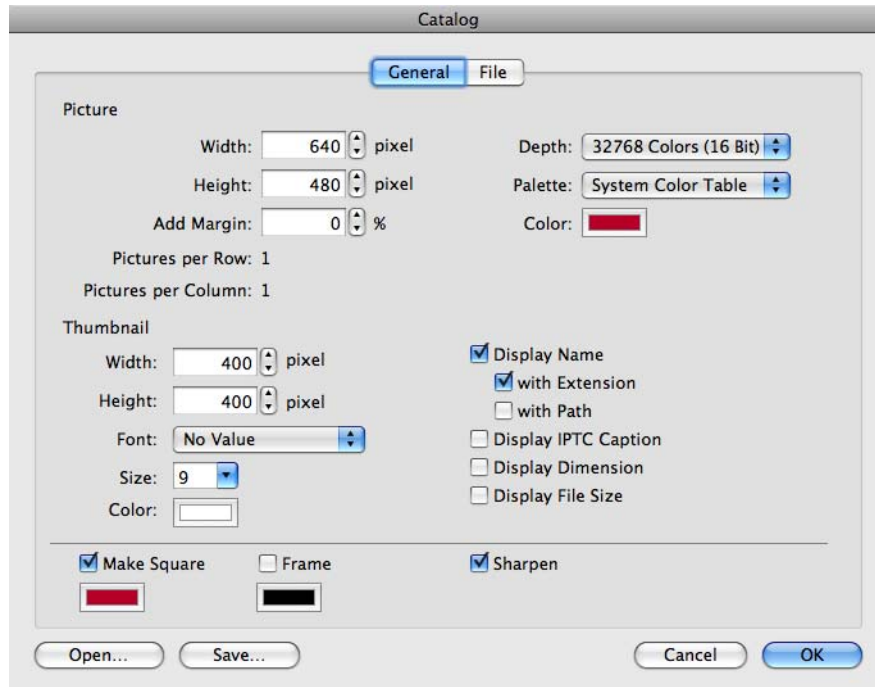
Copy the files and folders created on your Web server and set, for example, a link to the first catalog page of your homepage.

## Creating catalog as picture

To create a catalog as an image file, click **Catalog** in the browser toolbar and select **Picture...** from the pop-up menu that opens. As in an HTML catalog, the selected images



will be arranged in rows and columns. However, they will be in a large picture instead of on an HTML page.



Choose the size of the whole picture containing the thumbnails with **Picture / Width** and **Height**. If necessary, several of these large pictures will be created. For color pictures, you should select **16.4 million** for the **Depth** and **System Color Table** for the **Palette** so the quality is not reduced.

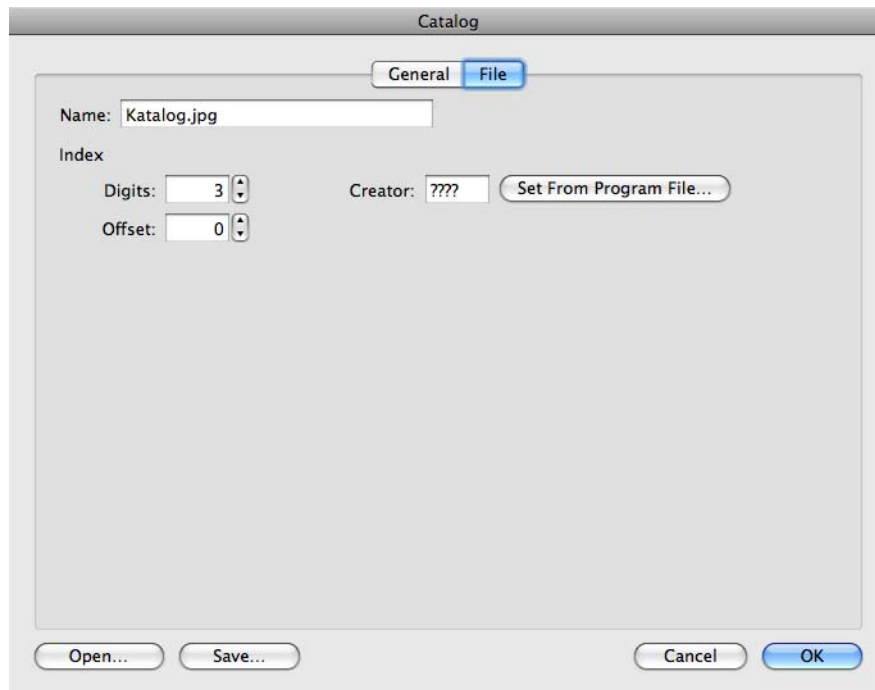
Set the background color with **Color**. **Add Margin** is useful if you want to add a white margin or if your printer cannot print up to the edges.

Select the size of the individual images with **Thumbnail**. The numbers of **Pictures per Row** and **Pictures per Column** are obtained from the values for the size of the picture and the thumbnails. These values can therefore only be influenced indirectly by changing the size of the whole picture or the thumbnails.

Next select the **Font** for the details like the filename that are displayed under the images with **Display name** etc. Avoid going above 10 pixels for the **Size** of the font as otherwise too much space is required for longer filenames. Make sure that the color of the font is not the same as the background color.

**Make Square** and **Frame** allow you to add frames to the thumbnails like slides. You always leave **Sharpen** enabled since images lose their sharpness slightly upon reduction.

You can enter the filename on the **File** tab. Use **Index** to set the **Digits** for numbering if you are creating several catalog images. In **Offset**, enter the last value created if you are adding a catalog in a further work step.



**Creator** allows you to specify which program is used to open the files when they are double-clicked in the Finder. If a different program was selected in the Finder via the information dialog for the respective file extension, it will take priority.

## Cloud Services

In the **File** menu you can open the folders of Amazon Drive, Google Drive, Microsoft OneDrive (was Sky Drive), Dropbox und Copy.com. You need to install the free client software of the regarding service. GraphicConverter scans the user folder for the regarding folder on launch. The folders must not be installed or moved to another location.

## Uploading and Downloading Documents

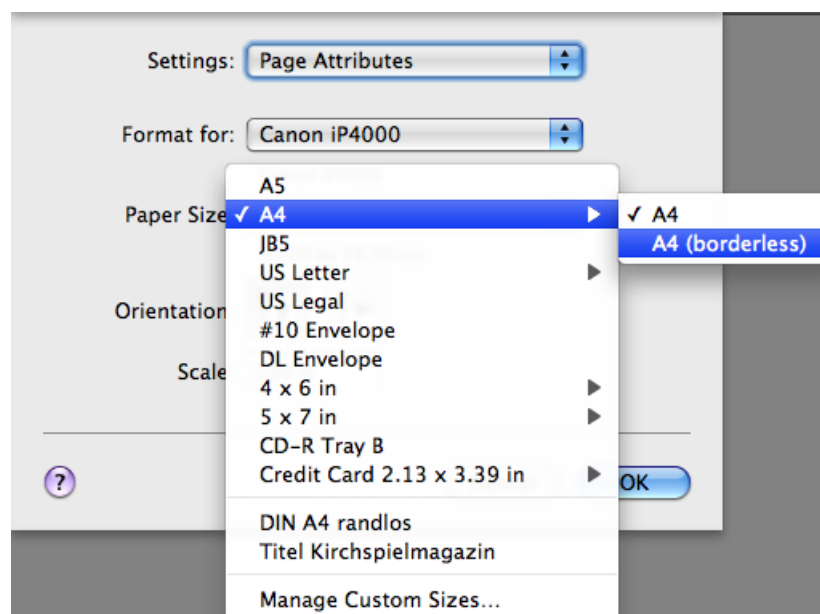
Via the action pop-up menu in the icon bar of the browser, you can access the function **Export / Upload File(s) ...**, which allows you to copy files to a web server via the ftp protocol, see p 262 onwards.

# On Paper

Digital pictures can be printed relatively cheaply on color printers. GraphicConverter offers a series of options to help you print pictures.

## Paper Format

**File / Page Setup...** opens the standard dialog for the printer. Select the inserted paper format so that GraphicConverter receives the correct information about the area to be printed. If your printer can print certain formats without margins, you need to select a special paper format for borderless printing.



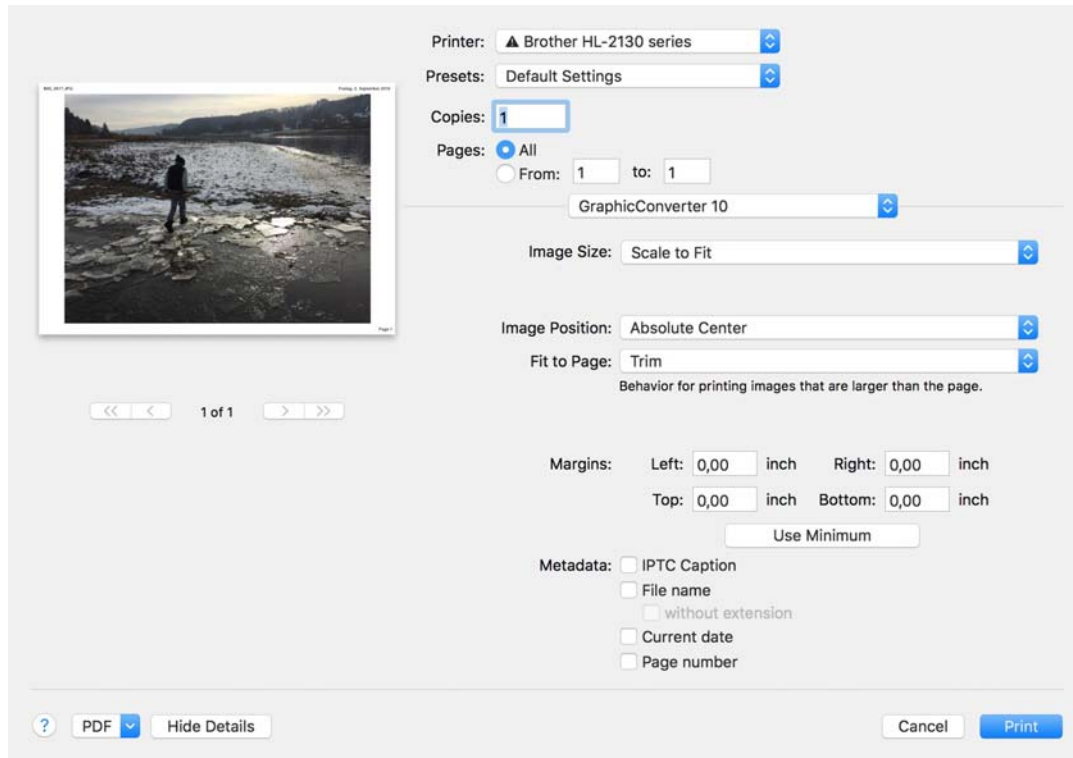
In our example, we are using a Canon i550. For borderless printing, select US Letter (borderless) or another format without margins. In the **Print Options** dialog that is described below, you need to click the **Use printer's minimum** button to allow borderless printing.

## Printing

An opened picture can be printed with **File / Print**. The dialogs for printing are displayed by the macOS and look different depending on your version of the macOS.

## Printing

The following dialog opens with a preview that takes the picture profile into consideration.



Use **Printer** to select the printer you require if several printers are connected.

You can save the current preferences via the **Presets** pop-up menu and also select and manage saved preferences.

**Copies** specifies how many copies are printed. If the image file has multiple pages, **Pages** allows you to specify whether all pages or a defined range should be printed.

The middle pop-up menu provides a variety of settings that partly depend on the printer. Select **Page Attributes** to set the paper size and the orientation.

If you select **GraphicConverter** in the center pop-up menu, the following options will be available:

The **Image Size** and **Fit to Page** options both influence the size of the printed image.

**Image Size: Original Size** prints the picture in the original size. With most digital photos, this means that only part of the image is printed. If **Fit to Page: Scale** is simultaneously selected further down, the paper format will still be filled, however. **Image Size / Custom Scale** also scales the image to the full page.

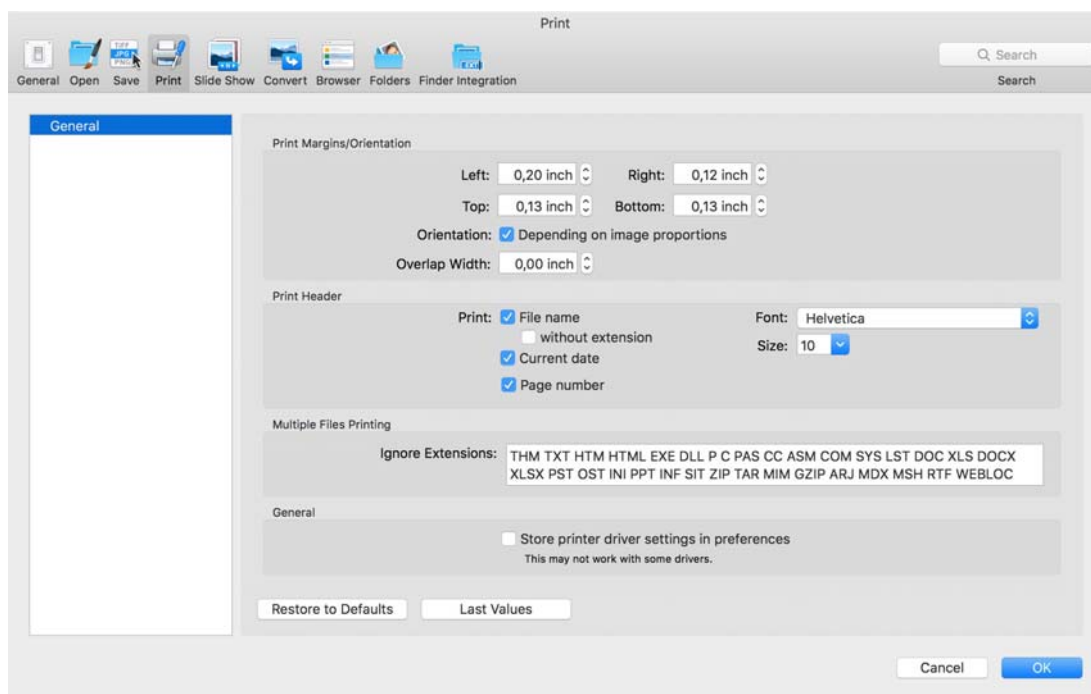
**Fit to Page: Overlap** allows you to print an image very large in tiles on several individual pages that you then stick together. **Trim** from the same pop-up menu will be rarely useful because this option only prints the center of the image.

Since GraphicConverter always leaves a margin for the filename, the page number and the date, the image cannot be printed right up to the edge. In the Preferences under **Print / General**, you can specify what data is printed. If you disable all of them, a white margin will be kept, however.

If you do not want to print the image centered on the page, you can select other positions like, for example, **Bottom-Right**, with **Image Position**. This is particularly useful if you select a value under **Image Size: Custom Scale** that makes the images considerably smaller than the paper format. If the images have a large number of megapixels, you may need to select a very small value of 5 to 10%

**File / Print Preview...** allows a larger preview. Click **Print...** to proceed to the print dialog.

In the **Preferences** in the **Print / General** section, you can enter the **Print Margins/Orientation** and use **Orientation: Depending on image proportions** to specify that portrait-format images are rotated 90 degrees so that the paper can be printed in full format.



Under **Print Header**, you can specify whether the **File name**, **Current date** and a sequential **Page number** should be printed in the header. **Font** and **Size** allow you to select a font in a specific size for the additional information.

You can edit the list of file **extensions** that are ignored in multiple files printing with **File / Print Folder**.

## Printing

macOS saves the settings of the print dialog. If the settings are lost when printing again, select **Preferences / Print / General / Store printer driver settings in preferences** to save the settings in GraphicConverter's preferences. This may not work with every printer driver.

When you print all files in a folder with **File / Print Folder...**, the folder may also contain files that are not image files and should not be printed. These files are ignored automatically if their extension is in the list of extensions to be ignored.

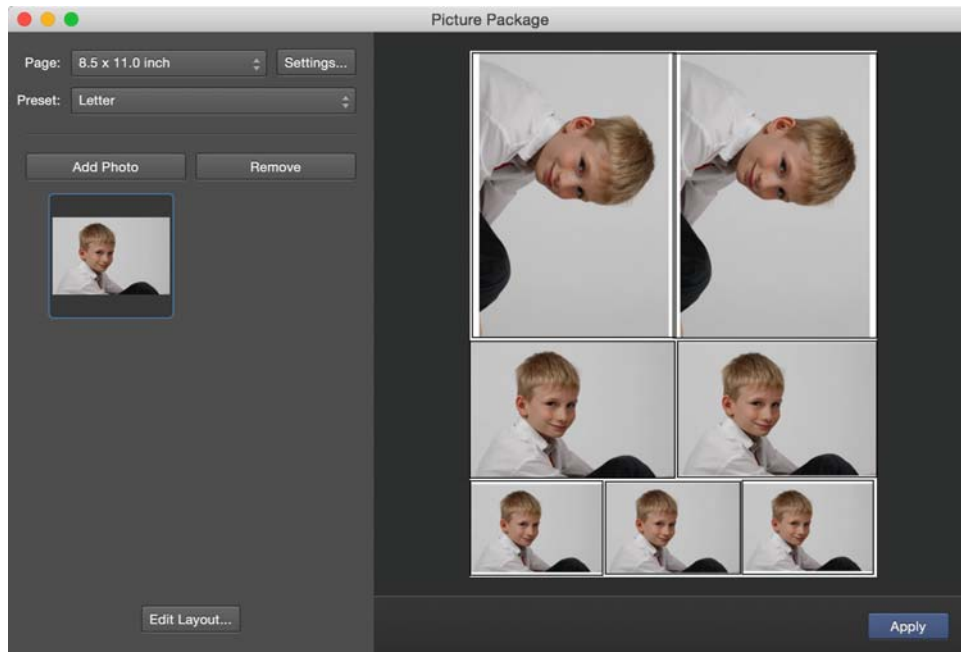
**Tip:** If the manufacturer of your printer cannot supply a driver for your macOS version, you can try using a free driver from Gutenprint: <http://gimp-print.sourceforge.net>

## Multiple printing with Picture Package

If you want to print a picture several times on a sheet of paper select the picture in the Browser and click Picture Package in the upper section of the Browser.



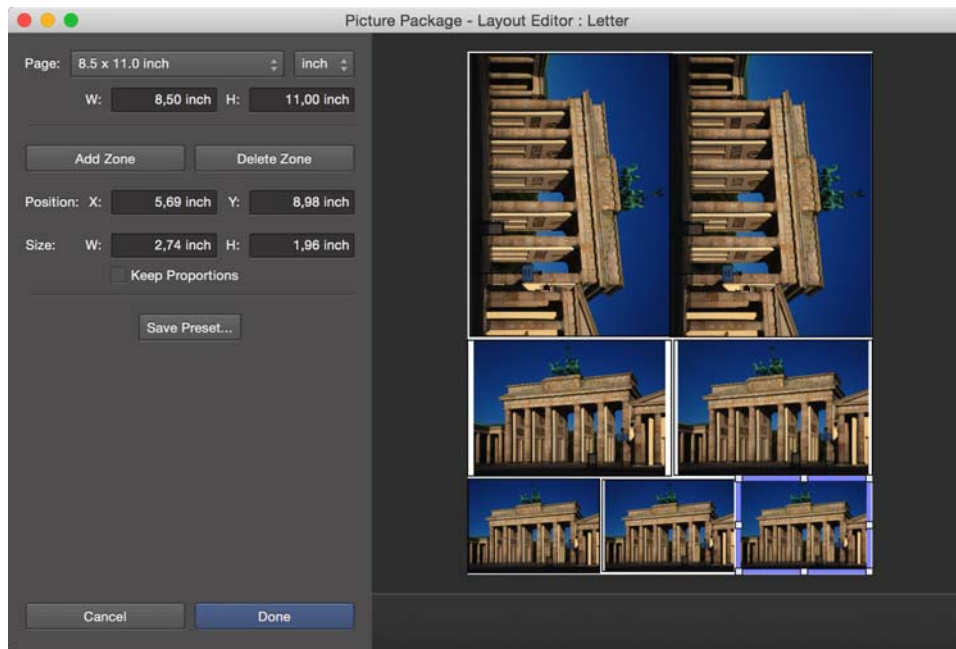
A window opens in which you can select a layout and customize it. If you select several pictures in the Browser they appear in the left hand section and can be dragged into the layout so even different pictures can be placed in the layout.



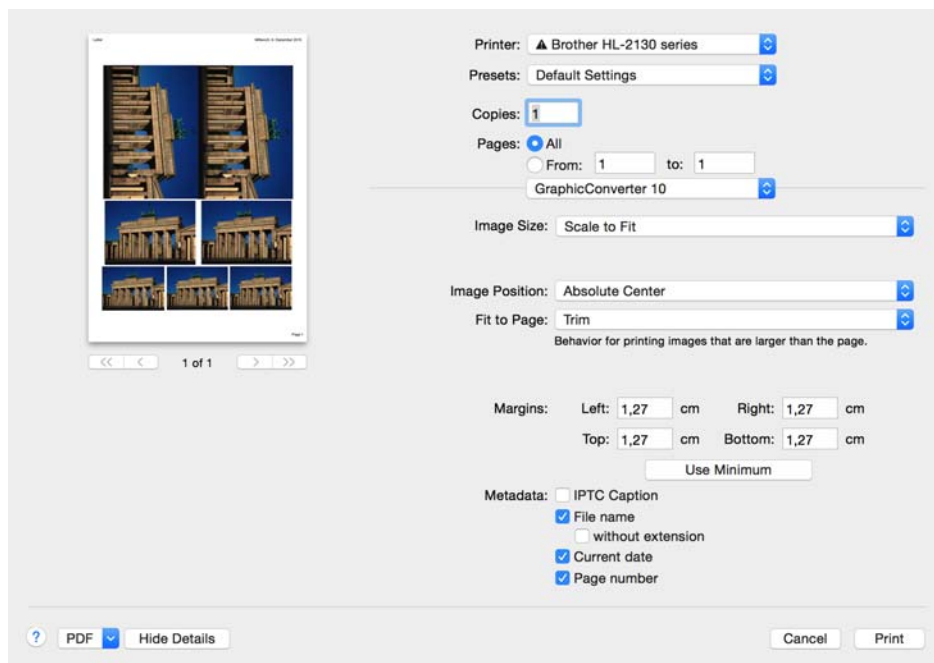
Click Apply in the lower right hand corner to create a picture file you can print in the next step with the normal print function. You can select the dimensions of this file with **Page**. Click **Settings...** to select resolution and color depth. **Preset** allows to use pre-defined dimensions. **Add Photo** adds pictures to the section under the buttons and **Remove** deletes them. Pictures can be dragged from this section into the layout. When you drag a picture onto a frame that already has a picture in it, this picture will be replaced with the new one.

## Multiple printing with Picture Package

Click **Edit Layout...** to edit the layout dimensions and the frames.



You do not have to leave a border as it will be added by the print function automatically or can be added in the print dialog manually.



You can move the frames freely and scale them by dragging the corners. Leave **Keep Proportions** enabled if you do not want to change the aspect ratio. Save your settings with **Save Preset...**, to use them again later.

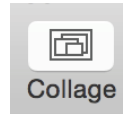
If you open the window **Picture Package** via the **File** menu the frames are all empty at first. You can add pictures with Add Photo or by dragging them from the Browser or the



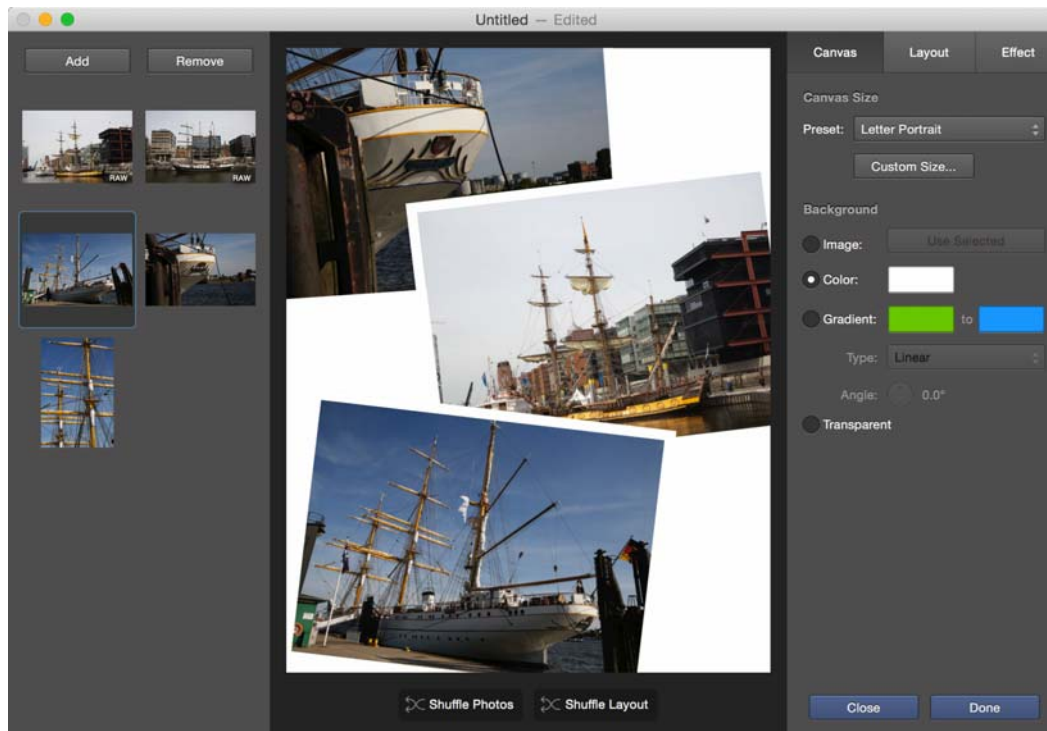
finder into the frame. To do so put the windows next to each other. To be able to work more precisely we recommend to enlarge the window or to maximize it by clicking the green button in the upper left hand corner.

## Layouts with the Collage Function

If you want to print several pictures on a sheet of paper, select these pictures in the Browser and click the Collage icon in the upper section of the Browser.



A layout window opens where the selected pictures are displayed in the left hand section.



In the upper left hand corner you can **Add** pictures to the list or **Remove** them. You can also drag and drop pictures from the Browser or the Finder into a frame or between the frames. To do so put the windows next to each other.

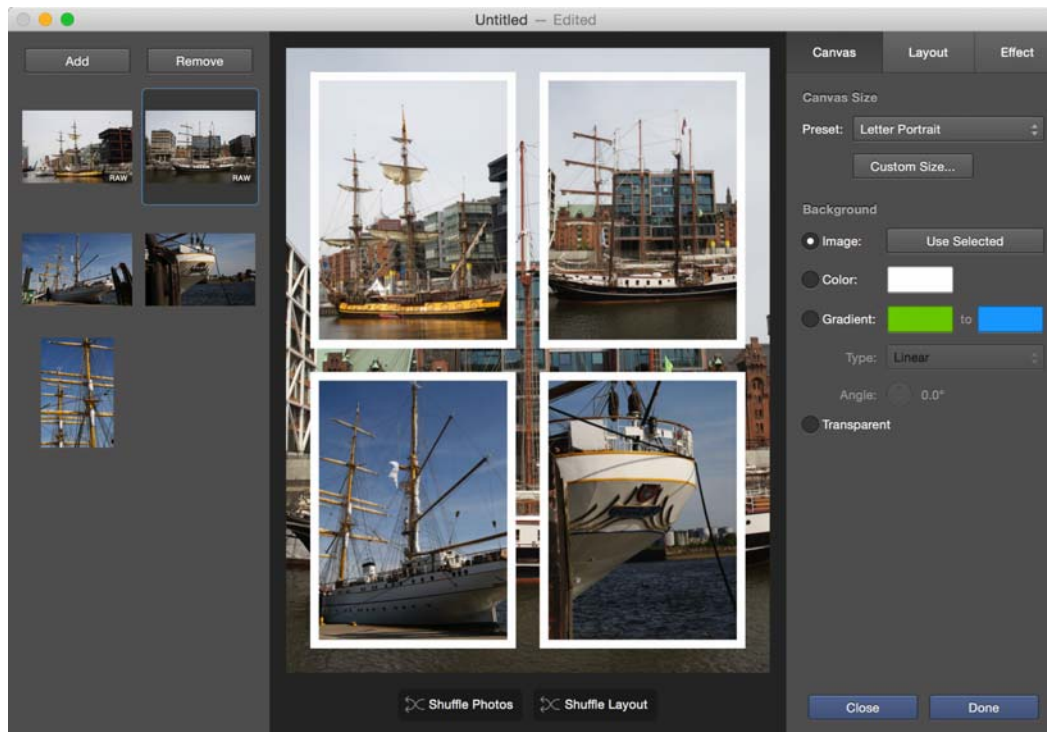
Select in the right hand section as **Preset**, for example, **Letter Portrait** or enter a **Custom size**. Click **Shuffle Layout** at the bottom of the middle section several times until the frames fit for your needs.

## Layouts with the Collage Function

Click the green button in the upper left hand corner of the window to maximize it as you can work more precisely this way. You can also drag the lower right hand corner of the window to enlarge it.

Drag the pictures in the frames in the middle section or between them and position the frames according to your wishes. You can resize the frames proportionally with the shift key pressed down. With out the shift key you can crop the pictures after you have reached their aspect ratio. You can rotate the image with the middle handle. If you want to delete a picture drag it outside the layout as there is no delete function.

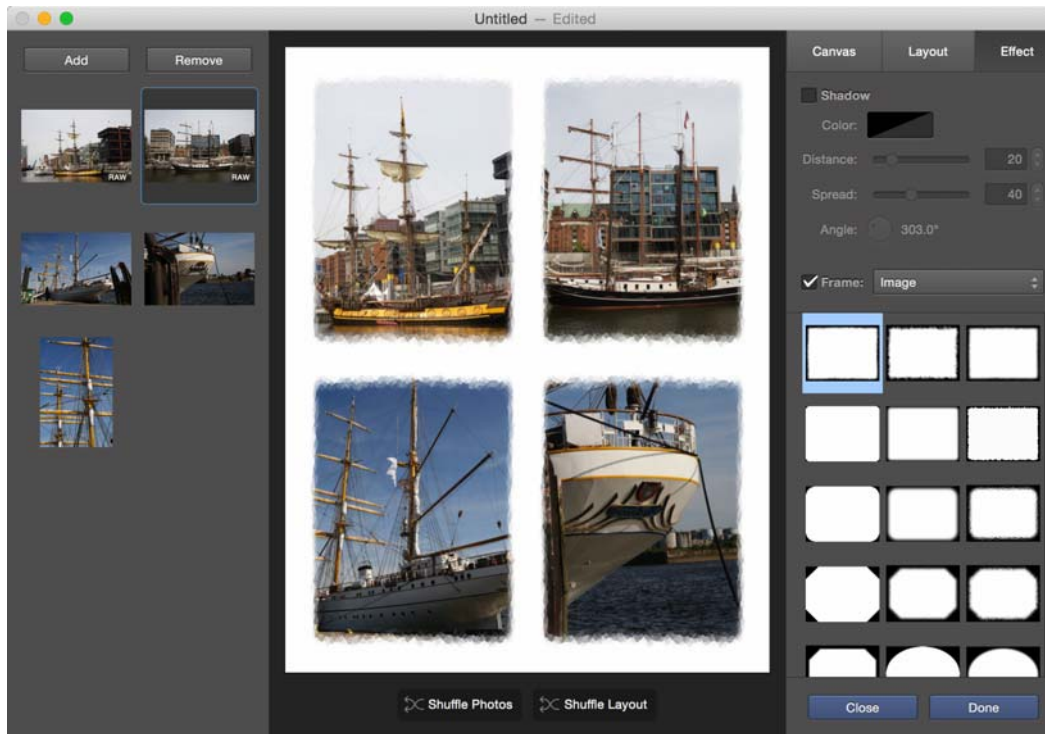
As **Background** you can select a **Picture**, a **Color**, a **Gradient** or **Transparency** which will be realized by an alpha channel.



Save your layout like document with File / Save.... GraphicConverter saves a package file with the suffix .gccollagepkg which contains the layout along with the picture files. You can open this package file like any other file and it is listed in the **Open Recent** list in the **File** menu.

Once you have saved your work click the Layout tab as when you select Mosaic or Grid and you go back to Freestyle a standard layout will be used so your own layout will be deleted.

In the Effect tab you can add a Shadow or disable the Frame or select another color. Use the pop-up menu to select an Image as a frame.



Click **Done** in the lower right hand corner to create a picture file you can print in the next step with the normal print function. You do not have to leave a border as it will be added by the print function automatically or can be added manually.

## Print Catalog

**Print...** in the **File / Catalog** menu allows you to print a catalog of all pictures contained in a folder. You can also start the function with the **Catalog/Print** icon in the browser toolbar. This has the advantage that you can select images more easily if you do not want to print all images.

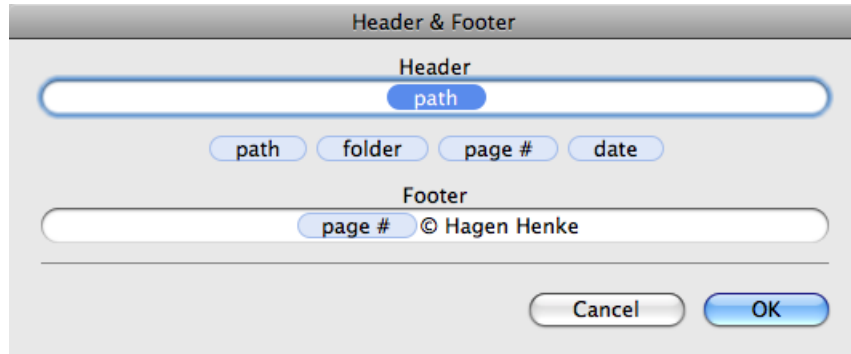
If you select the option via the **File** menu, the file selection dialog will open allowing you to open the required folder. After you click **OK**, the Print dialog will open. It will open immediately if you use the icon.



Select the required printer, if necessary, a saved **preference**, the number of **copies** and the **page** range. **Collated** outputs the pages in reverse order. This is useful with printers that output the pages with the printed side facing upwards.

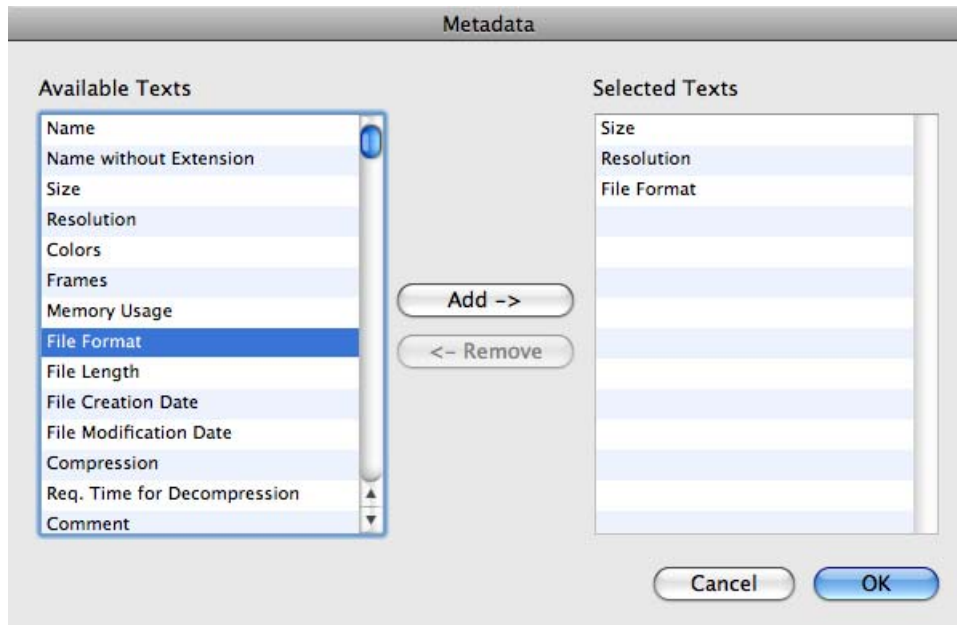
The first two entries in the middle pop-up menu are settings for GraphicConverter. The other entries come from the printer driver. Select **Catalog General** to define content for

the **header** and **footer** as well as other **metadata**. Clicking **Define...** opens the corresponding dialog:



Drag the light blue placeholders for variables like the page number into the header or footer boxes. You can enter your own text like, for example, a copyright either additionally or on its own. You enter the copyright symbol with Option-G.

In the **Metadata** dialog, add the required data to the right-hand list with a double-click or with the **Add** button.



Select a **Font** with **Size** and **Color** for the text. You can output the images with a hairline as a **frame** for which you can select a color for the **background**. Enable **Print all pages from multipage files** if you do not want to print just the first page. **Include subfolders** includes all images from subfolders.

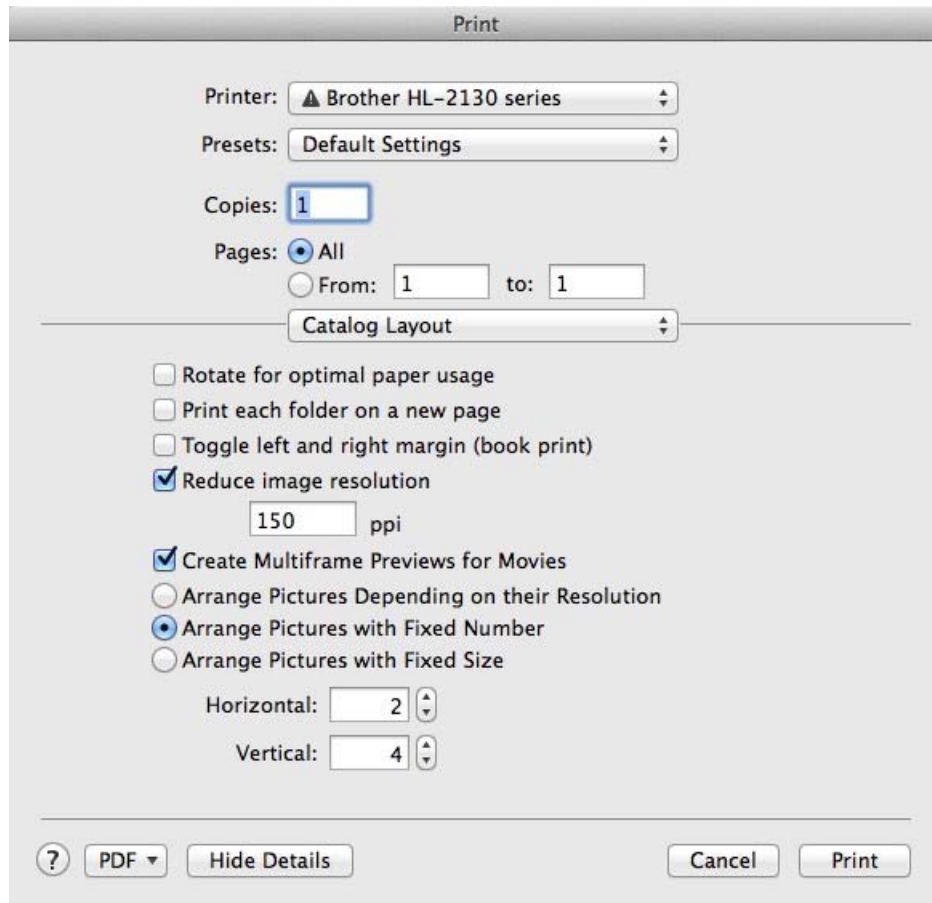
You should perform a test print in a PDF file to check the layout and other details. To do this, select **Save as PDF...** from the PDF pop-up menu in the print dialog. Your print-out may appear as follows in the **Preview** program:

## Print Catalog

Before printing, you should create a preview with the **Preview** button or the PDF function to check the layout and other details:



In the middle pop-up menu, select **Catalog Layout** to access the following options.



**Rotate for Optimal Paper Usage**, for example, rotates portrait-format pictures by 90 degrees so that they can be inserted better into a catalog containing mainly landscape pictures. Select **Print each folder on a new page** if GraphicConverter should print a new page for each new subfolder.

**Toggle left and right margin (book print)** makes sense if you defined different margins left and right.

**Reduce image resolution** to i.e. 150 ppi reduces the amount of data.

**Create Multiframe Previews** for Movies creates a preview with four frames of the movie in a square.

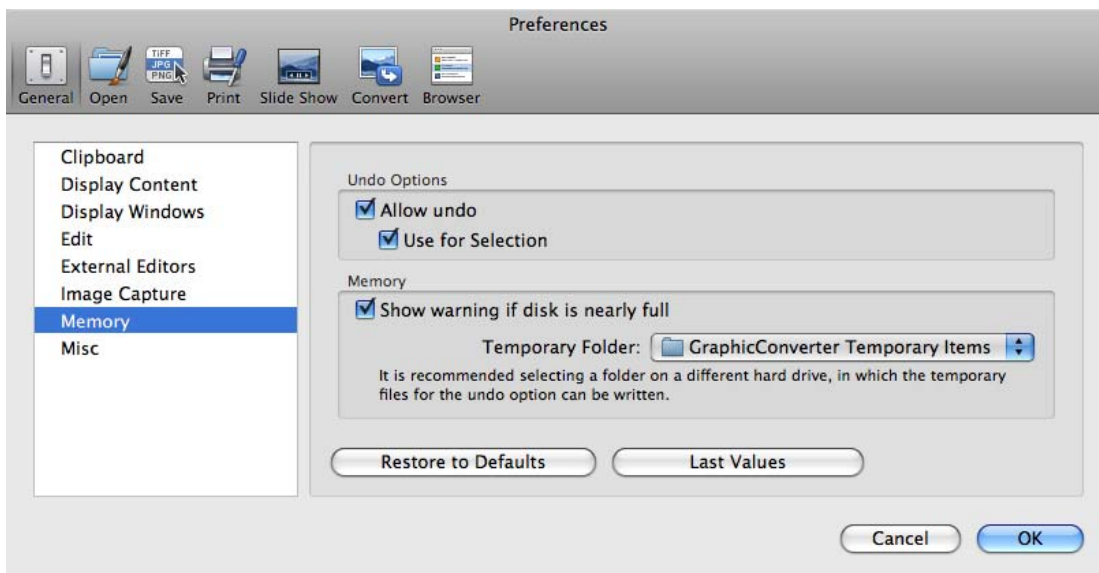
**Arrange Pictures Depending on Resolution** prints the images in the size corresponding with their resolution and places them in a suitable position on the page. If, for example, the header of a landscape-format digital photo with 12 megapixels and a width of 4170 pixels contains a value of 72 dpi, this image would be printed with a width of approx. 23 cm ( $4170 / 72 = 57.9$  inches = approx. 23 cm). Set the DPI value to, for example, 300 dpi with **Picture / Resolution...** or with a corresponding batch to reduce the printing size to approx. 5.5 cm.

**Arrange Pictures with Fixed Number** allows you to set the number of pictures per line (**Horizontal**) and column (**Vertical**). The size of the pictures is adjusted to this number accordingly.

**Arrange Pictures with Fixed Size** prints all landscape-format pictures in the same size. Portrait-format pictures are scaled to the height of the landscape-format pictures.

Several pages are printed accordingly if all the pictures do not fit on one page. During the calculation of the pages to be printed, GraphicConverter shows which page is being created.

In some cases, large amounts of data need to be stored temporarily on the hard disk for the print out. These temporary files are automatically deleted after printing. If your hard-drive does not have enough space, in the Preferences under **General / Memory** you can select another path for the **Temporary Folder** that should, if possible, be located on another harddrive. Click the pop-up menu and select the path with **Choose....**



If a picture cannot be opened, for example, because it is corrupt or has an unknown format, the preview saved in the picture file will be used for printing. This may result in a loss of quality.

## Print Folder

To print all the pictures in a folder individually, select **File / Print Folder....** Each picture is printed on one page.



# Processing Pictures

## Non-destructive image editing with the Cocooner

In GraphicConverter you can edit images non-destructively. The image file is left unchanged. Only the modifications are saved. The actual image file remains completely unchanged because the modifications are written in the XMP section of JPG and TIFF files as simple instructions in text form. In the case of files in a RAW format like, for example, CRW, NEF or DNG, the modification instructions are written in an additional XMP file that has the same name as the image file but with the extension .xmp.

A database with these modification instructions is not created as is often the case with other programs. The XMP files are written to the folder where the image file is also located. Always copy the XMP files together with the image files to retain the modifications. Renaming a picture in the Browser will automatically rename the additional XMP file.

The modification instructions are not compatible with other programs. Therefore they can only be used by GraphicConverter 9 or newer.

Non-destructive editing has the advantage that you can refine the editing at any time without having to start from the beginning if there are several editing steps.

You can also open and edit images from the Browser or the **File** menu in normal windows and, if you save the edited version as a new file, the original will also be kept unchanged. We will explain the corresponding functions in the chapters following the details on the Cocooner.

## Print Folder

In order to edit images non-destructively, open the Cocooner, which will open its own large window like the browser. You can open the Cocooner via an icon at the top of the browser or via the context menu.



On the left-hand side, you will find the functions that are available in the Cocooner. Scroll downwards to see all functions. The small sliding switch at the top right for each function allows you to switch the respective settings on and off. The circular arrow resets the settings to their initial positions.

The largest area is taken up by the image to the right next to the functions. Select a zoom level underneath it on the left. If the image is not displayed completely, you can move the section with the mouse. Select the image to be edited from the film strip at the bottom. You can scroll the film strip sideways with the scroll wheel on the mouse or an equivalent method.

Under the image, you can rate the image with stars and add labels that will also be displayed in the Finder. To the left of the labels you can define filters that for example show only those pictures rated by three or more stars or that have a certain label.

Once you have finished editing your images, select the images and click the **Export...** button at the bottom right. A dialog opens to let you select the destination folder, the format and a scaling. The settings are then applied and the images are saved to the selected folder.

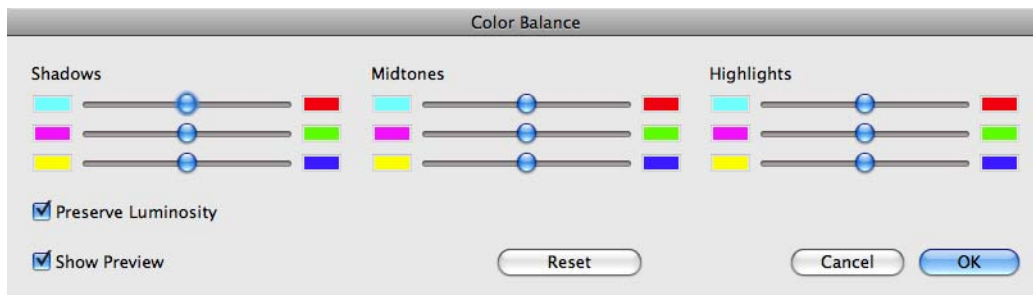
If you want to use functions that are not yet available in the Cocooner, first end editing in the Concooner and then open the picture with the **Apply and Open Copy** button. Then use the other functions in GraphicConverter and finally save your picture as normal.

## Editing pictures normally

Editing is normally worthwhile whether you scan a picture or, under macOS X, import one from a digital camera using **File / Acquire / Download images from connected camera...** In this section we will show you how to scale, scan, sharpen and your pictures and much more. You will often want to try out a sequence of effects first. Use **Picture / Duplicate...** to create a copy of the picture in a new window so you can try out a few effects. In this way, you will not modify the original and you can always compare the results with the first version.

## Color correction with Color Balance

You can use **Picture / Color Balance...** to remove a color cast in a picture. If, for example, the picture has a blue color cast, drag the lower slider for the Midtones slightly to the left towards yellow.



If the color cast is reduced, drag the slider towards yellow until the picture becomes too yellow. Then move it back to find the optimum value. In the next step, see what happens when you adjust the lower sliders for the Shadows and Highlights. If you get positive results in your picture, you will usually need to reduce the value of the midtone sliders. With some pictures, you need to work with another slider, for example, the upper slider for the balance between cyan and red.

If the color cast is particularly visible in areas that should actually be white, you should start with the corresponding slider in the highlights.

With some pictures, you will not immediately be able to see whether, for example, they have a green or a blue color cast. Therefore be prepared to make corrections when trying settings.

Take care when moving the center slider for the magenta/green balance towards green because a green color cast is produced even with small values.

## Color correction with Xe8472

Strong blue or red color casts are most noticeable in images. These color casts occur, for example, when the wrong picture mode or an incorrect manual white balance has been selected on the camera.

If the picture contains an area that should actually be white, you can click the area with the white point tool to correct the white point. You can achieve good results in most pictures with this tool. However, this technique does often spoil the mood of the picture because the colors look unnatural. This problem is usually solved by the **Xe8472 Automatic** filter that can be found in the **Filter** menu.

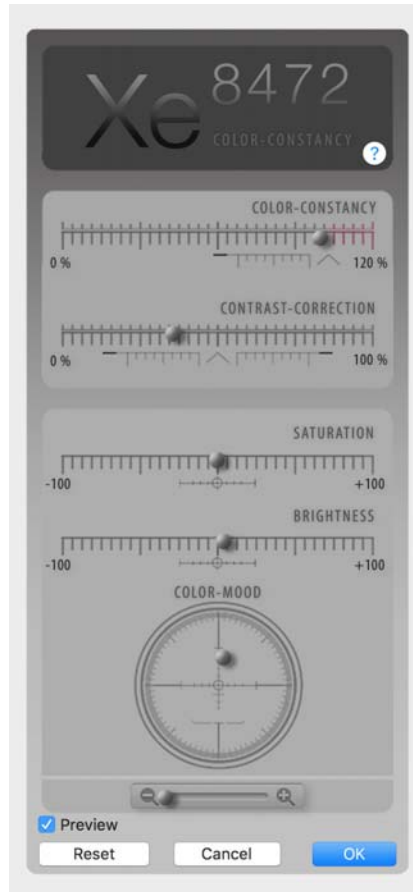
If the result is still not ideal, select the **Xe8472...** filter from the same menu for further fine tuning options. The following screenshot shows the original on the left and the preview on the right in the Xe8472 dialog.



### 1. Color-Mood

Click the ball in the middle of the circle and move it freely within the circle until you are happy with the colors. This circle is called Fuzzy-Logic-Controller. By moving the ball you generate variants of the Xe8472 algorithm. You cannot generally say which area of the circle provides a more blue or a more yellow/red result since the filter works in a very

complex manner. The ball is simply used to set the weighting of the different optimization techniques. It is therefore **not** a simple level adjustment or a color balance.



## 2. Color-Constancy-Correction

With this control you select the amount of the internal color correction. Initially it is at 100%, you can override it from 0% to 120 %. Sometimes photos look better when you change it slightly. Please note that in the case of a photo with perfect colors, this control has very little to no effect.

## Contrast-Correction

With this control you select the amount of internal contrast correction. It is not a normal contrast control.

## 3. Exposure-Controller

This overrides the amount of exposure-correction of Xe847. It influences brightness and contrast, but it is not a traditional brightness / contrast control. It behaves differently with every photo. As an example, if a photo already has perfect exposure, this control only affects brightness. Just try it and then move on to the ambient

#### 4. Ambient-Light-Controller

This controller simulates a situation, as if the scene were illuminated with a different color of ambient light, within some limits. Look at it as a kind of generalized color-temperature-controller. Use this to create a different lighting atmosphere or to correct a color fault.

#### 5. Color-Tone-Shift

Click the gear wheel in the upper left corner to swap to the control for the Color-Tone-Shift. In the same place appears a checkbox that swaps back to the normal controls.

This provides subtle and iterative adjustments to specific color-tones. First pick a color by using the eyedropper tool then adjust the color-tone towards it's neighboring colors or to a more darker or vibrant color- tone. If the effect is not strong enough, just pick the same color area again and continue adjusting. Color-tones that are less colorful change less i.e. gray doesn't change at all, very bright colors like a blue sky change the most. As with all the other controls you can always undo and redo the last moves up to 20 iterations.

Click the two circles of arrows to undo the steps you did with the controls or to redo. Key shortcuts:

Undo: left

Redo: right

Toggle preview on / off: down

### Pure Carbon Filter

Select **Filter / Pure Carbon...** to convert color pictures into grayscale pictures. Like with the Xe847 filter, several circles are available to adjust the contrast, brightness and tone.

Use the top circle to select a color to filter the picture with. This simulates fitting a colored glass filter in front of the lens when you take a picture.

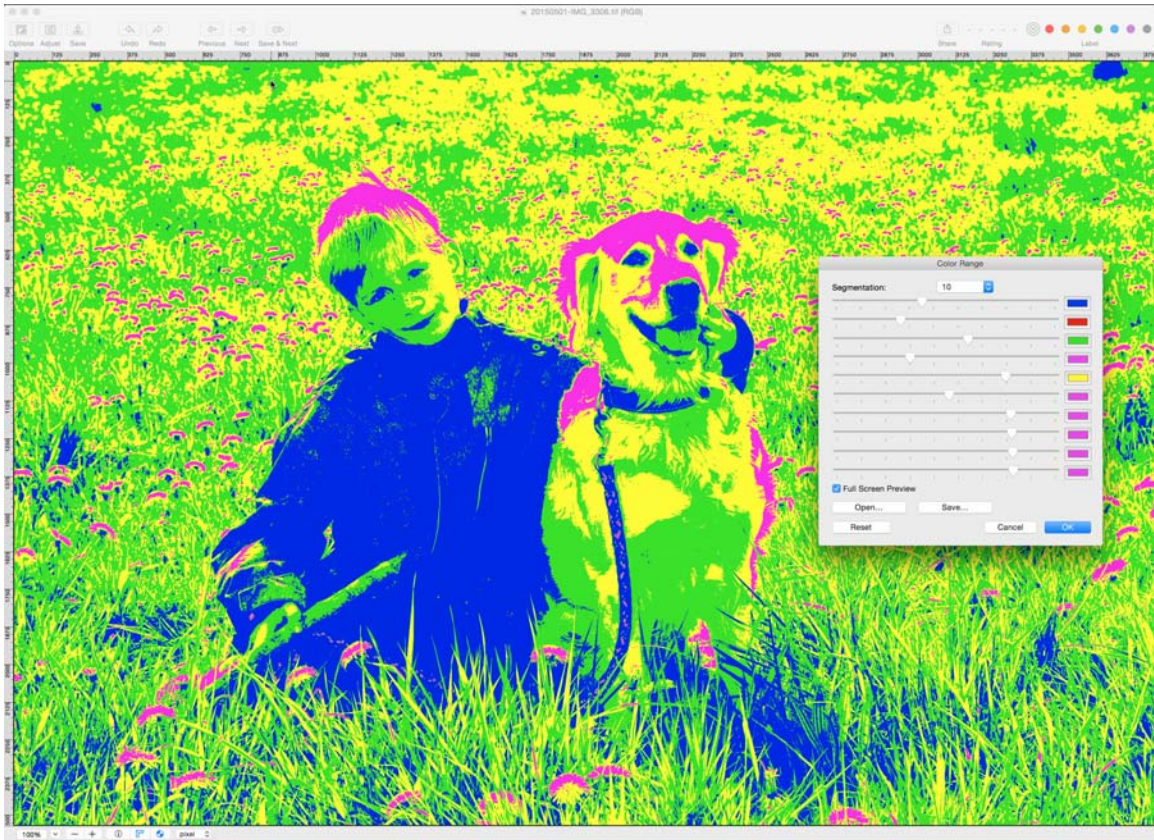


In traditional photography using film, color filters were a popular way to increase the contrast of certain color ranges or create effects. Filters are not used in digital photography because effects can be achieved more flexibly with software filters. Yellow filters are suitable for suppressing slight hazes and restore the lost contrast in portraits after conversion to black and white. Red filters lighten skin and can dramatically set off clouds. Green filters can be used to highlight the differences between various green hues.

You use the circle at the bottom left to select the brightness and contrast while you can color the image with the circle at the bottom right. The popular sepia tones are at the top slightly right of center. Do also try blue tones. If you click **Order now** to buy a license, **Xe847** and **Pure Carbon** will be activated simultaneously.

## Color Range

With **Filter / Color Range** you can create color effects similar to the pictures of Andy Warhol.



Segmentation lets you select in how many shades of grey the picture is divided. Click the color fields besides the sliders to select colors and rate the active sections to your taste. You can make the effect even more interesting by using other filters of GraphicConverter in the next step.

## Special Filters

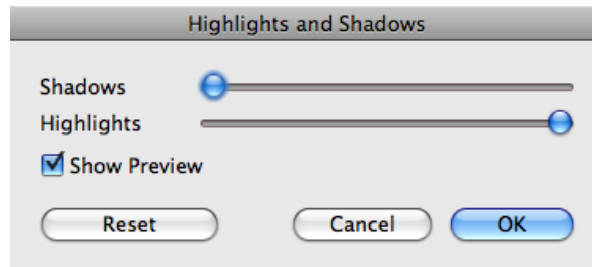
**Filter / Atmosphere, Freeze** and **Thermic** you can use for effects. It is a good idea to refine the results with functions like **Brightness with Curve** and **Contrast**.

Use **Filter / Dehaze** to remove fog from a picture. Only those areas are changed where fog is recognized.



## Highlights and Shadows

In some pictures the light areas are too light and the dark areas too dark. This problem can be reduced slightly if you move the slider for the shadows to the right and the slider for the highlights to the left in the **Picture / Highlights and Shadows...** dialog. When trying settings, you will soon see that extremely high values will make these areas look unnatural. Therefore only use low values.



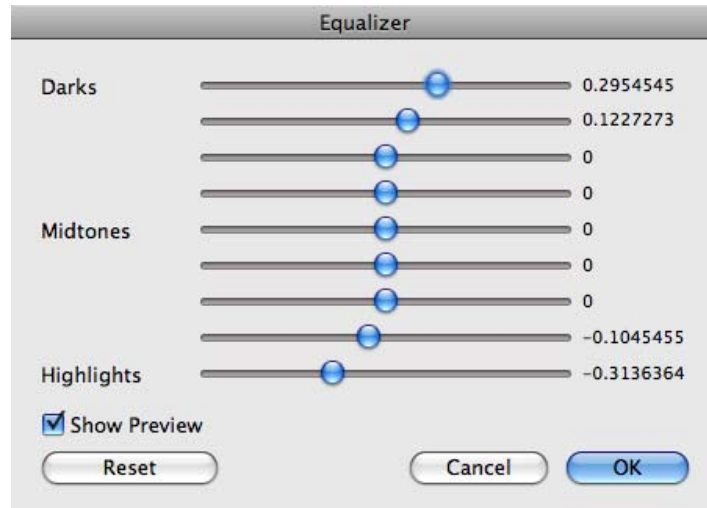
Pictures that have been taken indoors without a flash are a good example for use of this function. Often faces that are looking slightly downwards are too dark since the lights on the ceiling are the main source of light. This problem can also occur with an indirect flash via the ceiling.

If you use a flash on the camera, the faces of people in the foreground are normally too light. Drag the sliders for the highlights slightly to the left in this case.

If you want to avoid this problem, you can position one or more flashes on stands further away from the camera and use a remote release. The best results are obtained with good wireless flash triggers like the [Yongnuo RF-603](http://www.enjoyyourcamera.com). Various types are available for different cameras at [www.enjoyyourcamera.com](http://www.enjoyyourcamera.com). Call them for advice if you are interested. You can also remote-control release your camera simultaneously with a suitable cable connecting the receiver with the camera. The TTL data for exposure control is not transferred when the flash is triggered by this device. Therefore you may need to reduce the flash level manually or adjust the exposure manually. The model Yongnuo YN-622 transfers the TTL information too.

## Equalizer

**Equalizer** allows you to select the brightness separately for dark, mid and light tones.



For example, reduce the **Highlights** if you want to darken shiny patches of skin or increase the value for the **Darks** to make structures in dark areas more visible. The only way to work out the best settings is by trial and error.

## Crop for Photo Service

If you want to order prints from your digital photos, you may face the problem that smaller digital cameras produce pictures with an aspect ratio of 4:3. Photo paper in 4x6-inch format, for example, has an aspect ratio of 3:2. If you reduce the digital photo so it fits the photo paper at the top and bottom, you will get white edges on the left and right as shown in the picture below.



Some photo services offer the option of prints with such white edges and in some cases you can order the prints with the upper and lower edge already cut off.

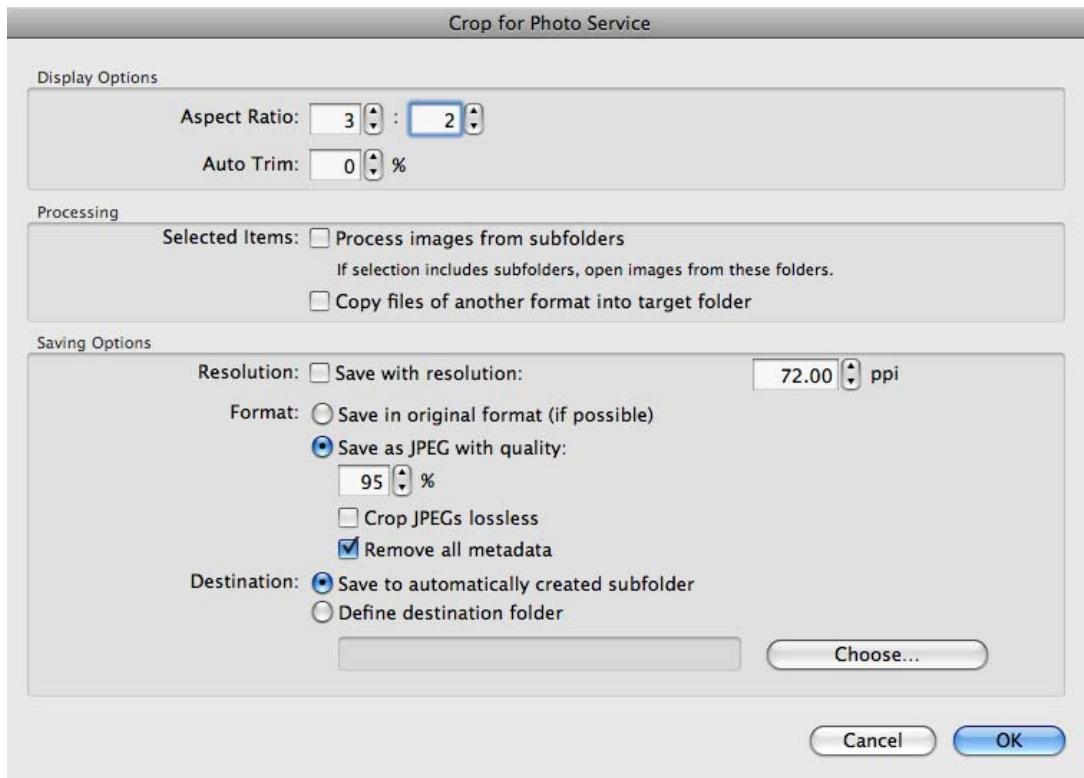
If you enlarge the digital photo so the photo paper is filled completely, part of the image will be cut off at the top and bottom. The following picture shows how a photo service would trim the image.



If you decide on this method, you may want to position the selection yourself and trim off parts of the picture that are not so important. In our example, it would be nice to see the whole of the boy's hand, while the upper part of the picture is less important.

GraphicConverter has an excellent option for cropping pictures to an aspect ratio of your choice. Open the desired folder in a browser window and select the pictures you wish to crop with Shift or Command-click. Choose **Export / Crop for Photo Service...** from the Action menu in the browser's tool bar. A dialog opens where you can enter the **aspect ratio** of your photo paper. This is always 3:2 for 4x6 inches and other standard sizes. Alternatively you can also enter 4:6. Divide the higher number by the lower one. If

the result is not 1.5, you should enter the values of the format, not the lower values of the aspect ratio which may not be exact.



**Auto trim** allows you to define the size of the selection rectangle. Enter 2%, for example, to trim the edges slightly. Enter 0% to disable this option.

**Selected Items: Process images from subfolders** causes the pictures in subfolders to also be opened for trimming.

Select **Copy files of another format into target folder** if your picture folder also contains text files, for example, that should be copied into the target folder.

**Resolution: Save with resolution** allows you to change the resolution. This is not normally necessary.

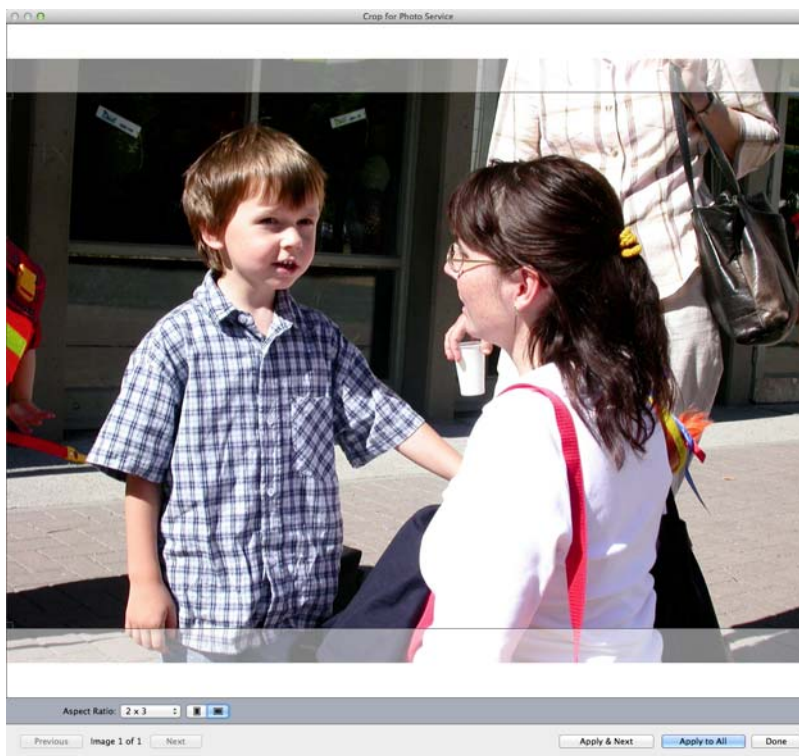
Use **Format: Save in original format (if possible)** to keep the pictures in their format. If GraphicConverter can open the original format, but cannot save that format, the picture will be saved as a JPEG. If you want to crop these types of pictures and save them in a lossless format, you need to first convert them into a format such as TIFF using the convert option (see p 27).

A **JPEG quality** of 95% allows both very good quality and a manageable file size. The files are saved web ready without a preview or resource if **Remove all metadata** is enabled to maximize compatibility.

You should enable **Crop JPEGs lossless (will round selection)** since further JPEG compression, which causes a loss in quality, is not required despite the cropping. When you scale the selection, it will move in steps of 8 pixels as this is the only way to crop without losses.

Select **Save to automatically created subfolder** to save the images in a subfolder, which is created automatically, or **Define destination folder** to select a specific folder with **Choose...**

Once you click **OK**, a full-screen dialog opens displaying the selected pictures one after the other. There is a selection rectangle over the picture that you can move with the mouse. Click inside the rectangle to move it to the required position. The edges are displayed brighter.



Click **Apply & Next** to go to the next picture. You can also apply the trim by double-clicking the selection. The cropped picture is saved into a folder named "Cropped Images" that is generated automatically. This folder is created in the folder where the images are located. The source images are not modified. **OK & Again** carries out the cropping and the new file is written. The starting image remains in the dialog, however, allowing you to crop further versions which will be saved with an index in the filename.

Click **Ignore** to go to the next picture without cropping the current one. **Cancel** will end the crop function.

Choose **OK for All** to apply the current settings to all pictures selected.

## Picture Size

You can see how many pictures have been cropped so far and how many you selected to the right of the **OK for All** button. **Toggle** rotates the selection rectangle for portrait-format pictures. **Change Ratio** allows you to select the aspect ratio again.

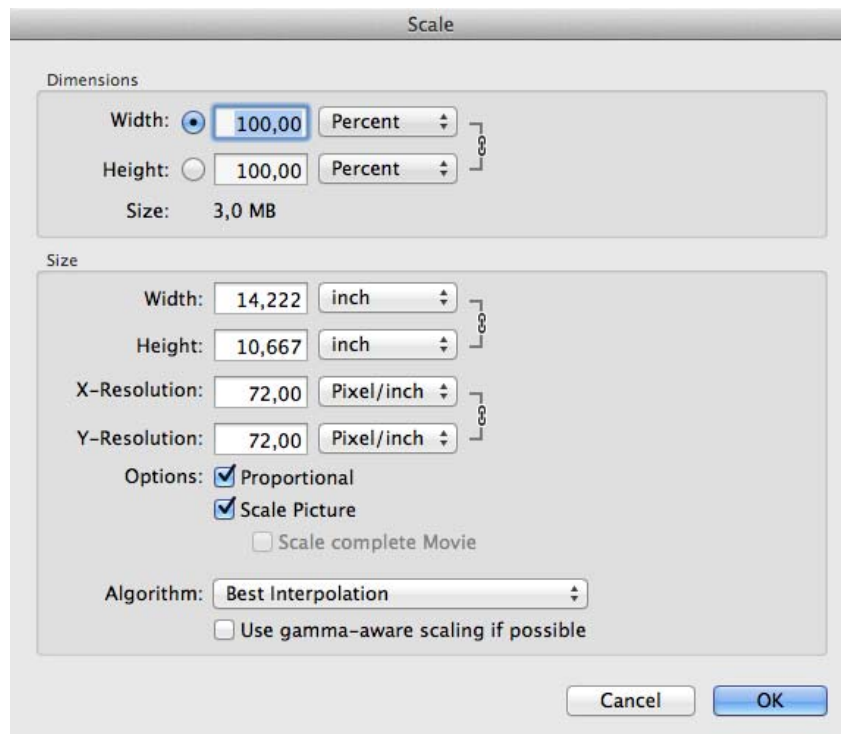
If you also want to crop the picture on the left and right edges, click one of the corners of the selection rectangle. The aspect ratio will not change. You can switch the selection rectangle from landscape to portrait format, for example, by clicking the top right-hand corner and dragging it to the left without moving downwards.

The size of the rectangle is shown in pixels next to the corner. A high quality 4x6 inch sized print requires at least 1200 pixels. For normal quality, you will need 800 pixels. If you have a portrait picture, take these values for the height. When the selection rectangle has been reduced in size, you can move it in any direction over the picture.

You can send the pictures saved in the "Cropped Images" folder to your Photo Service via the Internet or on a CD. If the photolab offers you the option of white edges or trimming, it will not matter what you decide in most cases as their machines will recognize the aspect ratio of your pictures. The images will be positioned correctly so they fill the photo paper. If in doubt, you can call the photo service hotline.

## Picture Size

The picture size can be displayed and changed using **Picture / Size / Scale**. You can set the picture size very accurately in pixels in the top section of the Scale dialog. You can also make the setting using a percentage value.



In the bottom section of the dialog, you can also change the size of the picture using the **Width** and **Height** boxes.

When you enter a new value, the second value is automatically recalculated.

You can change the picture resolution to 72 dpi, for example, using the X- and Y-Resolution, see p 128.

Enlarging adds pixels. Reducing lowers the number of pixels. The picture is recalculated as best as possible in both cases. The picture quality is reduced especially if you make excessive adjustments. We therefore recommend scanning pictures as close as possible to the required size.

If the **Keep Proportions** option is disabled, pictures can be distorted to create special effects when you change a single value.

**Scale Picture** recalculates the picture instead of just changing the value for the output size. Reducing with this option lowers the number of pixels. If you disable **Scale Picture** when reducing, a note is simply made in the file that the picture should be outputted accordingly smaller.

**Scale complete Movie** does not only scale a picture from a film or animation in the display, but all pictures from the film.

Select the **Best Interpolation** algorithm to obtain the optimum image quality for normal applications. A range of other algorithms are available for special tasks.

When scaling images, you can choose **Nearest Neighbor** as the algorithm. This is an advantage, in particular for images in the area of pixel art, because the colors remain unchanged since no anti-alias transitions are calculated on the edges. You can also enlarge pixel art images in high quality by a factor of 2, 3, or 4 with **Image / Size / Pixel Art Upscale / HQ2 (3, 4) X**.

## Picture size – an example

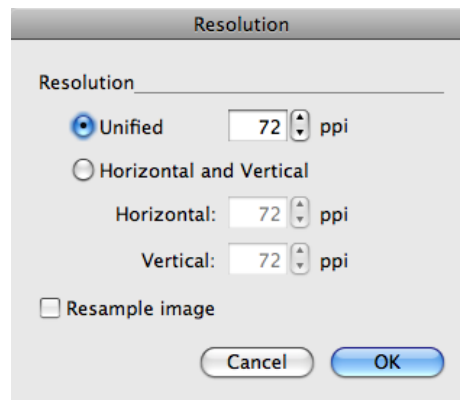
If you cut a person's head out of a picture and want to "glue" it onto another person's body in another picture, the head will often be too big or too small in the new picture. Display both images at 100% zoom level and reduce the larger picture with the scale function **Picture / Size / Scale** by entering 80% as the width, for example (see above).

If the new size does not fit, return to the initial version with Ctrl-Z and reduce again with a more suitable percentage. As soon as the size of the head fits the body in the other picture, select the head with the lasso and copy it. Using Command-V, paste the head into the other picture. You can position it freely there.

## Resolution

Each picture file is made up of pixels and information on the size of the picture on a printed page. The pixels are square (rectangular in a few formats). To help explain this, imagine a picture that is 300 pixels wide and tall. The file also contains the information that the picture has a width and height of one inch. One inch is 2.54 cm.

Our picture therefore has 300 pixels placed horizontally next to each other and also vertically one below the other. At this density, the picture resolution is 300 dpi. This abbreviation stands for dots per inch. Sometimes the abbreviation ppi (points per inch) is used. This is exactly the same.



Pictures normally have the same horizontal and vertical resolution. The option of setting different values for horizontal&vertical can be used, for example, to convert pictures with different resolutions to a standard **X-** and **Y-Resolution**.

Basic rule: The higher the resolution, the better the picture quality. Pictures used for printing magazines, for example, Macworld, are normally at least 300 dpi. For line drawings, however, a resolution of 1200 or better 2400 dpi is recommended as the lines will otherwise not be sharp enough.

If our example picture was printed out double size, the pixels are enlarged. The resolution would go down to 150 dpi and quality would fall.

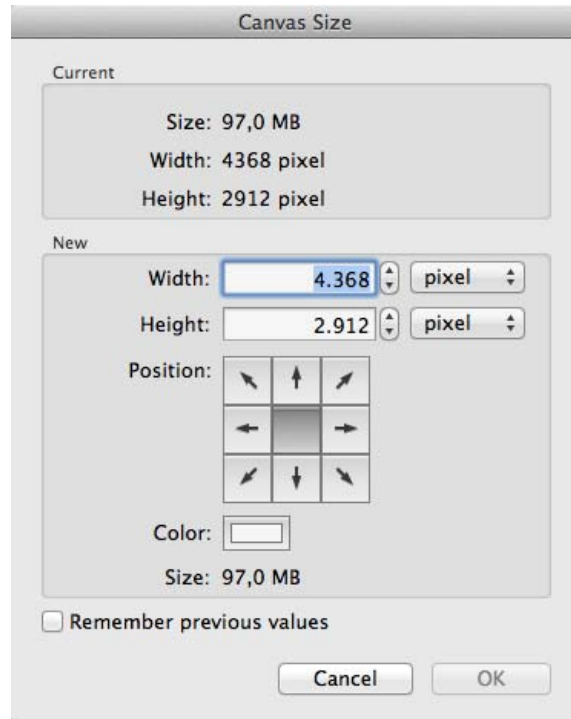
**Convert picture** should be enabled if you want the picture to also contain more pixels when the resolution is increased or fewer pixels when the resolution is decreased.

Layout programs only use the resolution value to display the picture at the corresponding scale after import. Since, for example, in InDesign you can adjust the scale with a keyboard shortcut so that the full width of the frame is used, there is no point in changing the resolution in the head of the image file to a value like 300 dpi as this would only create extra work.



## Canvas Size

**Picture / Size / Canvas Size** allows you to enlarge the picture by adding margins that are more or less like a work area. You can use this option, for example, if you want to add something to the right-hand picture edge to make the picture wider. Enter the new values for the **Width** and the **Height** in a selectable unit. You can select the position where the previous image should be placed on the new, larger working area by clicking the corresponding box under the input boxes. **Color** specifies the color of the added margin. If the picture contains an alpha channel, it will be set to transparent in the area being added.

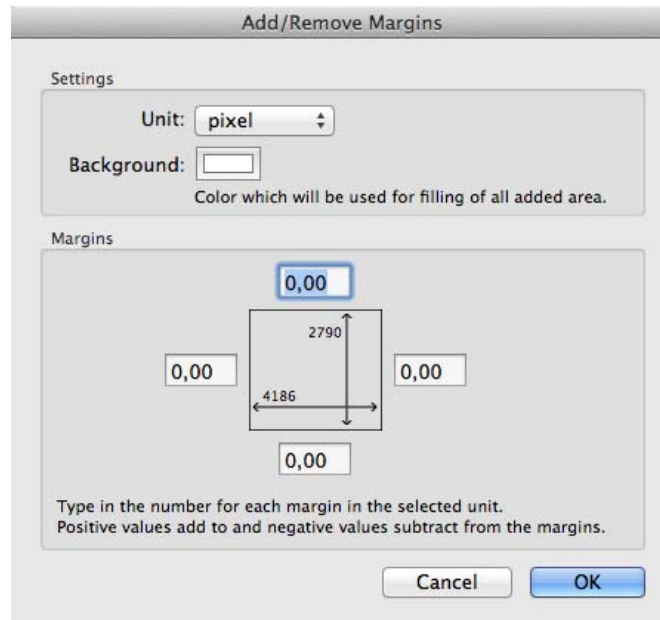


Enable **Remember previous values** so that the values are available when you next call up the dialog.

You can also use the **Add/Remove Margins** option. It makes adding or removing a specific value on two or more sides more easy.

## Add Remove/Margins

You can use **Picture / Size / Add/Remove Margins** to change the size of a picture by adding or deleting margins. This function is useful, for example, when you need more space for other picture parts in picture montages.



If the picture should be enlarged on the right-hand side, for example, enter the corresponding value in the box to the right of the gray square. At the same time, you can add a margin on one side and delete the margin on another. To delete, enter negative values, for example, -30. **Background** allows you to select the color for the added areas.

## Scale with last Values

If you want to scale several pictures with the same values, this option saves you having to repeat entries. Select **Picture / Size / Scale with last Values...** to display the last values used in the Scale dialog and enter new values there or use them without changes.

## Burn In

Using **Picture / Size / Burn in**, you can create a file from a picture as displayed on the screen enlarged or reduced. If the current zoom level for display is 50%, for example, this option reduces the picture to half size. The display is then set to 100% since the picture is then always displayed unzoomed. This function is particularly useful if you want to quickly reduce a picture to 50%, for example.

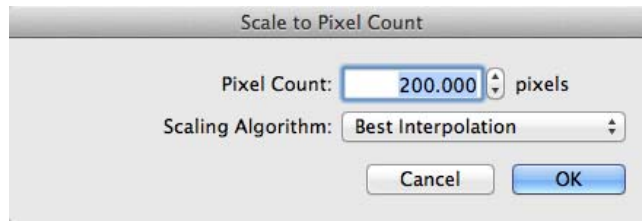
## Scale to main desktop size

This option scales the current picture to the size of the desktop. After scaling, you should improve the sharpness slightly with **Effect / Sharpen Edges. Picture / Use Picture as**

**Desktop Image** places the picture on your desktop. This option also scales the picture to the required size if necessary. **Scale to main desktop size** is therefore intended for creating desktop pictures for other users or for use later on.

## Scale to pixel count

If you know how many **Pixels** your picture should have in total, you can enter the total number of pixels in the dialog for this option.



Not all numbers are possible as the picture is scaled proportionally. After scaling, open the dialog again to display the number of pixels used to scale your picture.

**Algorithm** allows you to specify which subprogram (algorithm) should be used for scaling. In most cases, **Best Interpolation** provides the best results.

## Aspect ratio

**Crop to 3x5**, like the other aspect ratios, immediately trims centered to the selected aspect ratio. The aspect ratio 1 : root 2 is the aspect ratio of DIN paper sizes like DIN A4 or DIN A5. If you want to specify the section yourself, you can use the **Export / Crop for Photo Service...** option from the browser **Action** menu. You will find a detailed guide in the chapter **"Crop for Photo Service" from page 122**.

## Scale to...

**Scale to 1080p with borders** allows you to scale pictures to a format suitable for HD videos. If the aspect ratio does not correspond with that of HD videos, bars in the current background color are added at the right and left or top and bottom.

**Scale to 1080p without borders** trims off margins left after scaling. The subject is centered. If you want to define the trimming yourself, you can first scale the images to the HD width of 1920 pixels and then trim with the **Crop for Photo Service...** function. In this case, enter 1920 : 1080 as the aspect ratio.

**Scale to 600x600 @ 72 ppi (iTunes Cover)** allows you to optimize music album covers for iTunes.

**Scale to 1024 x 768** as well as the other resolutions allow suitable scaling for typical monitor resolutions.

## Scanning with GraphicConverter

*Summary:* You can call up your scanner software via **File / Scan / Scan with TWAIN...** or **Scan with Image Capture**. If a scanner plug-in has been installed, will be available in the submenu. The picture is available in GraphicConverter after scanning.

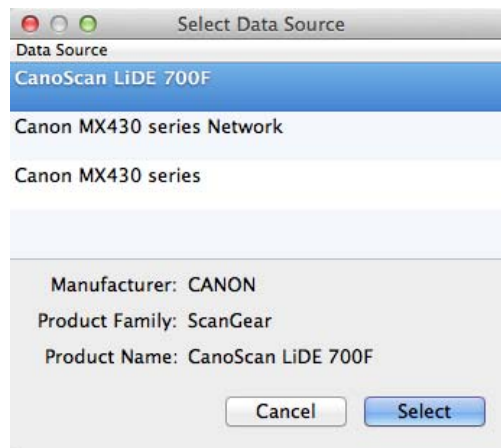
Alternatively you can use the **VueScan** professional scanning software that is available for download and trial at <http://www.hamrick.com>.

### TWAIN

With the TWAIN system, the scanning software for your scanner only needs to be installed once and can be started from different programs. The word TWAIN is not an abbreviation and has no real meaning. "TWAIN is TWAIN," say the inventors.

Under macOS X, you do not need to install any basic TWAIN software since the code is integrated in GraphicConverter. You only need to install the TWAIN driver for your scanner. The **TWAIN folder** is in the **Preferences folder** which is in the System folder. Most installers of scan software install the scan program automatically for TWAIN too.

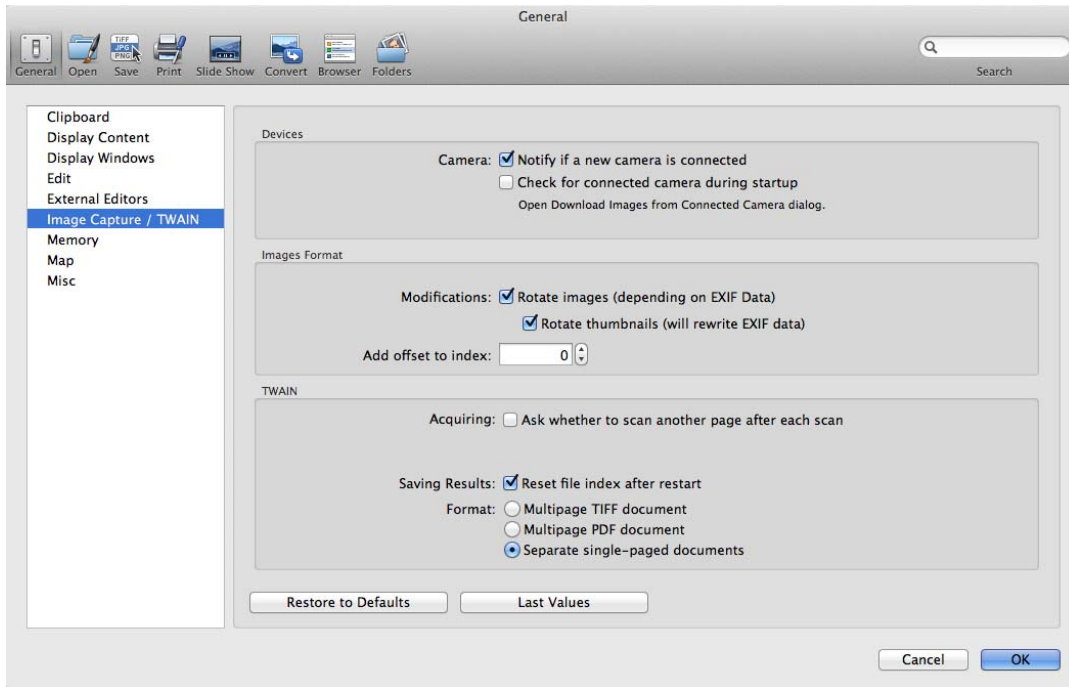
Before you scan for the first time, you will need to select the required TWAIN software via **File / Scan / Select TWAIN Scanner (Data Source)...** if several scanners or other TWAIN devices are connected. There is no need to do this if only one TWAIN device is connected.



Once the installation has been completed and you have selected the TWAIN source, you can start the scanner software with **File / Scan / Scan with TWAIN...** and scan a picture.

Please refer to the documentation that came with your scanner software for information on operation. The picture will be available in GraphicConverter after scanning and can be edited and saved.

If you want to start the next scan procedure immediately after scanning in an image via TWAIN, you can specify this in the preferences in the **General / Image Capture / TWAIN** section with **Ask whether to scan another page after each scan**.



The **Saving Results: Reset file index after restart** option allows you to reset the index in the filename to zero when the program is started so that the first picture is given an index of 0001 again.

If you scan several pages, you can combine them in a **Multipage TIFF or PDF document** or create **Separate single-paged documents**. A normal file is created at first for multipage documents and the other pages are then attached. Note the navigation tools at the bottom left of the window frame that you can use to switch to the other pages.

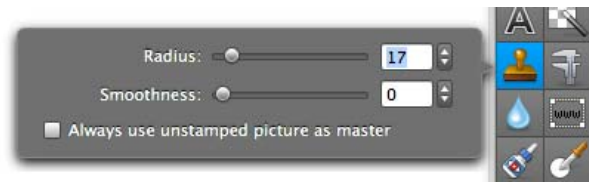
## Using the Stamp for Touching Up

Scanned pictures often have small marks caused by dust. You can see these faults easiest if you display the picture at a zoom level of 100%. Select Stamp in the toolbox and, holding down the option key, click an area in the picture with the same color or the same structure as the fault area. Click the area to be stamped without holding down any other keys and move the mouse over the whole of the area to be touched up.

The mouse cursor will turn into a double circle. Everything inside the inner circle will be stamped. The edge of the stamp is softened: The effect of the stamp gets weaker towards

## Importing Pictures from Digital Cameras

the second circle. You can set the size and smoothness of the stamp by double-clicking the stamp tool. The following dialog opens:

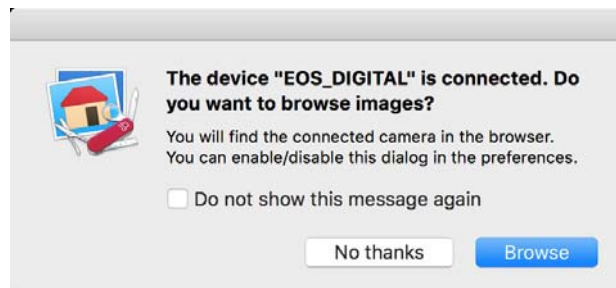


Like in Photoshop, **Always use unstamped picture as master** allows you to specify that not the picture already stamped in the same action, but the picture underneath that has not been stamped should be used as the source.

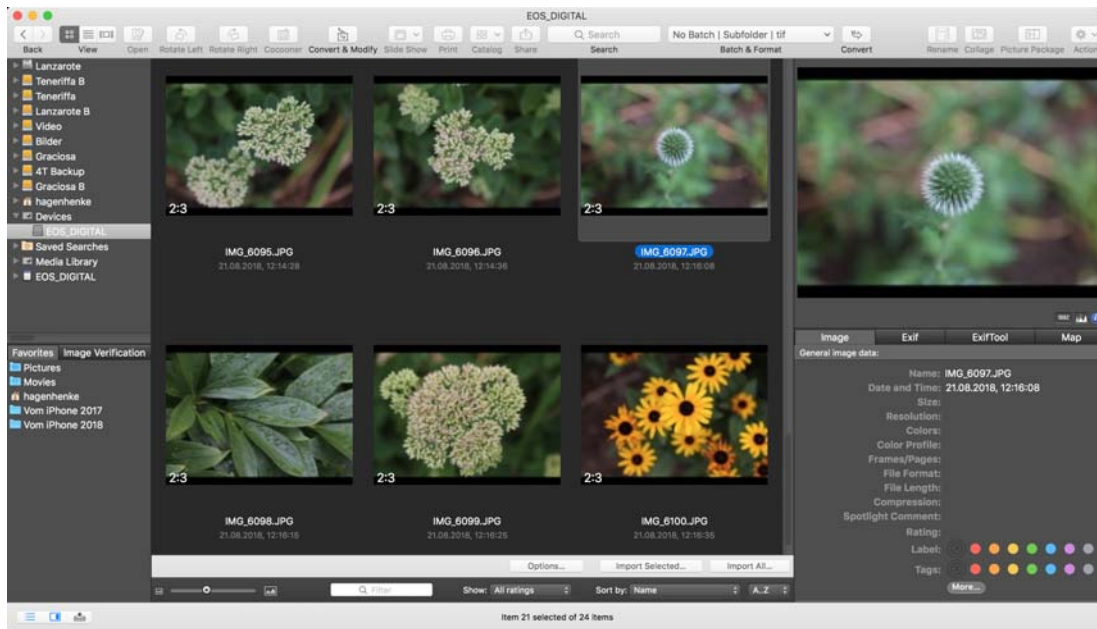
The source for the stamp can also be another open picture. For example, you can even paste a face from a passport photo into a group picture. Hold down the option key, click the picture with the stamp and switch to the group picture. Holding down the key, move the mouse over the area where the face is to appear. You may have to enlarge or reduce the source picture to adjust the size (see p 126).

## Importing Pictures from Digital Cameras

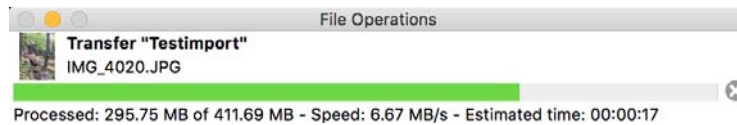
Connect a digital camera or a card reader with a card inserted so that it appears as a volume on the desktop. If your camera is not supported by macOS X directly, you can use the program **Image Capture** that is a part of macOS X, or you can connect a card reader. If GraphicConverter recognizes a camera or a card, a dialog will appear offering to display and import the content.



Click **Browse** to display the content of the card in the browser import mode. You can import the selected images or all images by clicking the corresponding button under the previews.

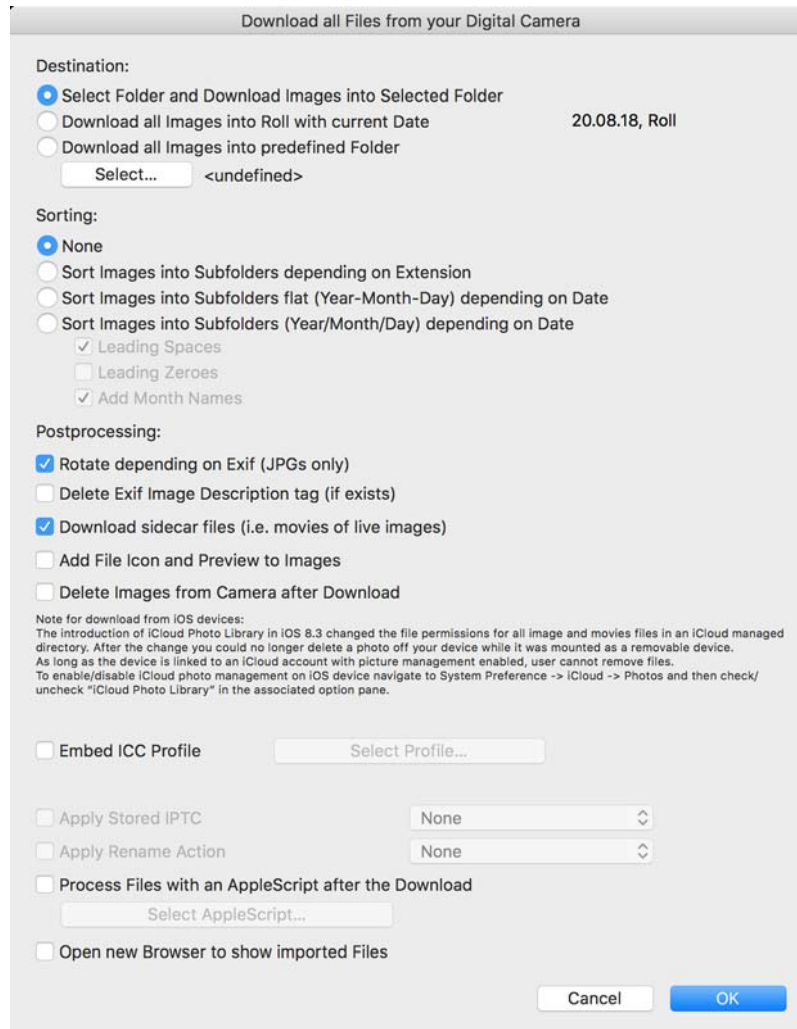


A file selection window opens where you can select the destination folder or create one. The import starts after you click **Open** and the progress is shown in a dialog.



## Importing Pictures from Digital Cameras

Click on the **Options...** button to the left of the import buttons to open the following dialog.



Select the **Select Folder and Download Images into Selected Folder** option if you want to load all pictures into a folder. **Download all Images into Roll 20.08.18, Roll** creates a folder with the date and a roll number into which the pictures are loaded. The date is always the date of the import. With **Download all Images into predefined Folder**, you can choose a folder to which the images will be imported.

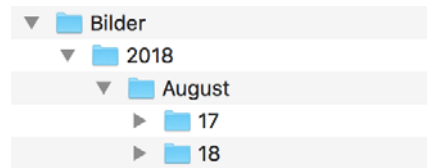
The **Sorting** options allow you to choose how the images are sorted into subfolders. For example, to sort all RAW files into a subfolder other than the .jpg files, select **Sort pictures into subfolders depending on extension**.

**Sort Images into Subfolders flat (Year-Month-Day) depending on Date** lets you sort the images according to the following scheme:





**Sort Images into Subfolders (Year-Month-Day) depending on Date** lets you sort the pictures according to the following scheme:



If, for example, you require folder names without month names and without a preceding zero for the month number when further processing in a php environment, disable the **Leading Zeroes** and **Add month names** options. Many users find that **Leading Spaces** looks nicer than the leading zeroes.

**Sort Images into Subfolders Depending on Extension** is helpful, for example, if your camera writes a RAW- and a JPG-file on every shot. GraphicConverter creates a folder for every format in the destination folder.

In the file selection dialog, select your picture folder where the year, month and day folder is to be created or already exists. The pictures will be imported into the day folder according to the creation date. If you have renamed a day folder, it will no longer be recognized during the next import and a new day folder will also be created.

If you want to copy pictures from several days into a folder, we recommend using "03-07 Mayers", for example, as the name. Select the pictures, enable the **Select Folder and Download Images into Selected Folder** option and click **Download**. A file selection dialog opens where you should create the destination folder called "03-07 Mayers" **New Folder**.

**Postprocessing:** If the pictures contain orientation information in the Exif information, portrait format pictures will be rotated without losses upon importing if the **Rotate depending upon Exif (JPGs only)** option is enabled. The file date is set on import according to the Exif date or for films according to the date of recording.

**Download Sidecar files (i.e. movies of live images)** imports the sidecar files associated with a file. If you have taken a live picture with an iPhone, the minifilm can only be played in this way.

You should leave **Add File Icon and Preview to Images** disabled as a preview is no longer required in the resource these days. Modern computers are fast enough to create previews in the required size with the macOS CoreImage technology whenever necessary. The resource is therefore no longer needed which means that compatibility with other operating systems is increased.

You can select **Delete Images from Camera after Download** to delete the pictures once they have been imported.

**Embed ICC Profile** is a historical feature that is no longer needed today. Embedding a color profile only makes sense when importing images from a very old camera, because modern cameras enter the color space in the Exif data. Modern software recognizes the color space and applies the corresponding color profile. ColorSync (**Edit / Assign Profile...**) must be turned on in GraphicConverter for the color profiles to be applied.

**Apply Stored IPTC** allows you to add IPTC information, which has previously been entered and saved in the IPTC dialog, to the image during import. We recommend using this function if you have a general term for all of the pictures like, for example, "Christmas 2017". You can assign more pictures later on in the browser.

**Apply Rename Action** allows you to rename the images upon import. All of the sets that you saved in the rename dialog are available. You can open the rename dialog by Control-clicking a preview in the browser or from the **Convert & Modify** dialog.

**Process Files with an AppleScript after the Download** allows you to process imported pictures automatically with an AppleScript. Click **Select AppleScript...** to select a script. An example of a situation where this could be useful would be if, following a photo shoot, you wanted to show your pictures to a customer online and wanted to quickly add a copyright note using a script. Make sure you keep unmodified versions of the pictures, for example, on the memory card.

Select **Open new browser to show imported Files** after import to get the imported images displayed immediately.

If you want to import pictures into an existing destination folder by means of drag & drop, you need to select the corresponding folder on the card instead of the device on the left-hand side. It is possible to display the destination folder in another browser window and drag the images to be imported into the preview area of that browser. This is not possible in the sandbox version of GraphicConverter from the Mac App Store.

## Cropping

To crop a part of a picture in GraphicConverter, you can use different techniques depending on your picture. As the first step you select the part of the picture you want to keep with one of the selection tools or with the Magic Pen Tool.


It is most common to use the rectangular selection tool to place a rectangle as accurately as possible around the section of the picture that should be left after cropping. The pixels behind the line also belong to the selected area. Use the handles on the selection lines to adjust the rectangle. You can adjust the rectangle very accurately by using the center handles between the corners as they only move one edge.

You can work most precisely when the picture is zoomed to at least 100%. Finally crop the selected area by selecting **Edit / Crop Selection** (Command-Y). You can do this even faster by hitting the return key. The parts of the picture not enclosed in the selection rect-

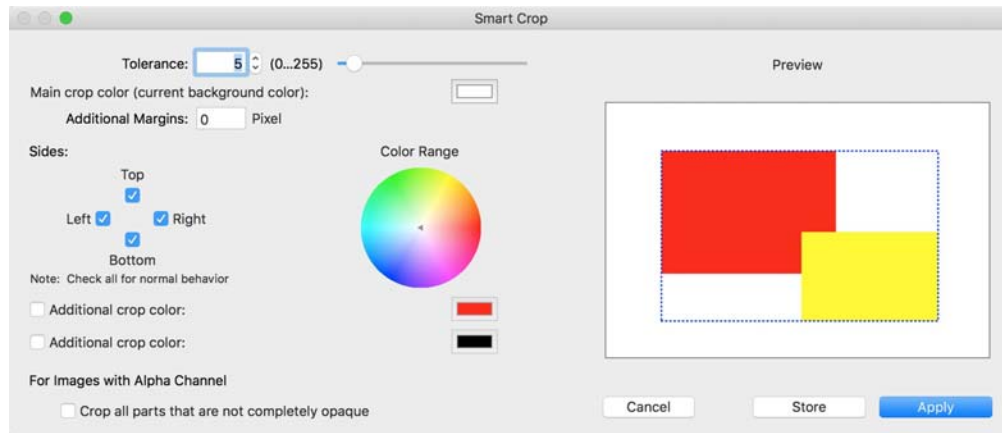
angle will be cut away. The picture will be displayed in a correspondingly minimized window.

You can delete a selection by pressing **Escape** or selecting **Edit / Unselect** (Command-Shift-A) from the menu.

The **Edit** menu also contains the **Smart Crop** command. This crops any single-color margins leaving you with the actual picture. If the scanned picture has a white margin, you can use this option to easily cut off the scanned edges without having to set a selection rectangle.

Click the center of the picture section, which is to be kept. Note that GraphicConverter searches for the color set as the background color as the edge. If you want to delete a white edge, white needs to be set as the background color and black accordingly if the edge is black. The foreground and background colors can be set by clicking the color areas and using the eyedropper .

By selecting **Edit / Smart Crop...**, you can specify under **Sides** whether all four edges of the picture should be cropped. If, for example, you leave the bottom edge out, the typical scanner edge will remain there. In the right hand section a preview of the crop rectangle is displayed.



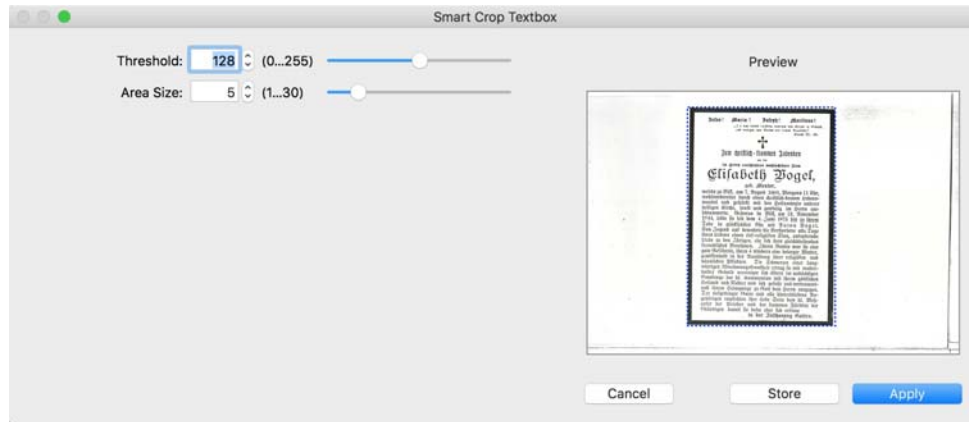
If the scanned edge is not quite one color, you can increase the **Tolerance**. The larger the entered value, the “more lenient” GraphicConverter will be about patches in the scanner edges, for example. The correct value will have to be determined a few times by trial and error. However, before you spend a long time doing this, just use a selection rectangle.

When you use different colors in the edges, two **Additional crop colors** can be defined for the current background color. This option is only available for pictures with **millions of colors**.

If a picture contains an alpha channel, it will be used for cropping if the **Crop all parts that are not completely opaque** option has been selected. If a single-color margin is then left over, it will also be trimmed away if it corresponds with the trim color.

## Free-form select with the Green Screen technology

**Smart Crop** does not work with pictures like, for example, death notices that have a black edge and a white edge from the scanner on top. For pictures like these you can use **Edit / Smart Crop Textbox ...** which is available as a batch too.



## Free-form select with the Green Screen technology

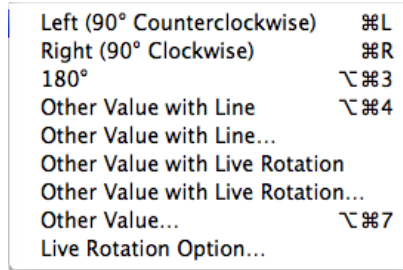
To Free-form select objects or persons especially in the video segment often a green screen is used. This is a green-only background the object is placed in front of. This background you can now set transparent in GraphicConverter without the Magic Pen or the Transparency tool.

Select **Filter / Chroma Key....** A dialog opens and the detected areas are displayed back. If the green is not recognized, click the color field in the middle of the dialog. The color picker opens. Click the pipette in the lower section of the color picker. Click in the green area of the picture to get a better match. Change the left and right **delta Angle** to adapt the border. In most cases the values fit best when the controls are near the middle position of the control. After you click **OK** the transparency is displayed as a chessboard pattern. An alpha channel will be added to the picture which contains the transparency information.

## Rotate

If, for example, a portrait-format picture is displayed in landscape format, the simplest way to correct it is with the **Rotate Left** or **Rotate Right** icons. Pictures in JPG format are not re-compressed when rotated in 90-degree steps so that there are no quality losses.

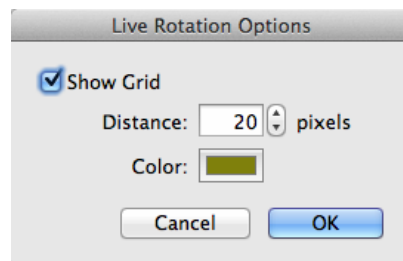
**Picture / Rotate** opens a submenu where you can select a series of options for rotating.



If a picture is leaning slightly, you can rotate it with the options at the bottom. **Other Value with Line** changes the mouse cursor to a cross. You can then drag a helper line along a line in the picture that is supposed to be “straight”.

Zoom into the section of the picture where you want to drag the line using the magnifying glass. Drag the helper line from top to bottom, for example, starting at the corner of a house. At the end of the helper line, an arrow shows the direction in which the picture is turned. The picture will be rotated as soon as you release the mouse. The closest alignment is always selected when rotating. The helper line does not stay in the picture.

**Other Value with Live Rotation** is immediately shown rotated in a rough preview. A grid made up of helper lines will be displayed for easier orientation. Select **Live Rotation Options...** from the same submenu to remove the **grid** or to change the **Distance** and **Color** of the lines.



Click and drag a vertical line moving the mouse to the left and right until the edge of the house is straight and then let go of the mouse.

## Rotate

The houses in the following example are leaning to the left.



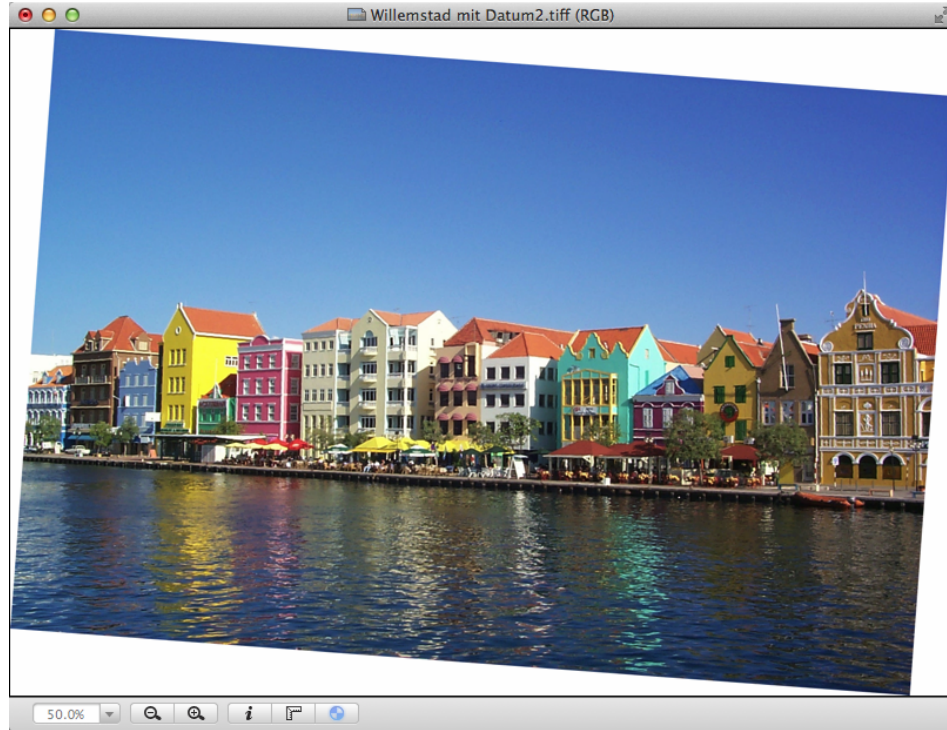
Select **Other Value with Line** and choose a long vertical house wall. Make sure it is as close to the center as possible because lines near the edges of the picture tend to be distorted by simple lenses and zoom lenses. This effect is increased when you take pictures from above or below the subject.



The mouse cursor turns into a crosshair with which you click one end of the house edge and then drag to the other end while holding down the mouse button. Let go of the mouse button to rotate the picture.

All angles on the helper line that deviate less than plus or minus  $45^\circ$  from vertical will be aligned vertically. All angles that deviate less than plus or minus  $45^\circ$  from horizontal are

aligned horizontally. You can therefore also choose a line in the picture that should actually be horizontal.



The edges of the picture may need to be cropped after rotation as the corners will now stick out over the original frame.

GraphicConverter enlarges the picture automatically so that the white borders can be added. You can freely select the color for the borders with the background color. Use the selection lines to mark out the picture area to be trimmed and double-click inside the rectangle or press Return. Selecting **File / Trim Selection** also has the same results.

Trimming loses parts of the picture. This cannot be avoided. Select the area to be trimmed carefully so that you do not cut out any important parts of the picture.

## Rotate

This is our finished rotated and trimmed picture.



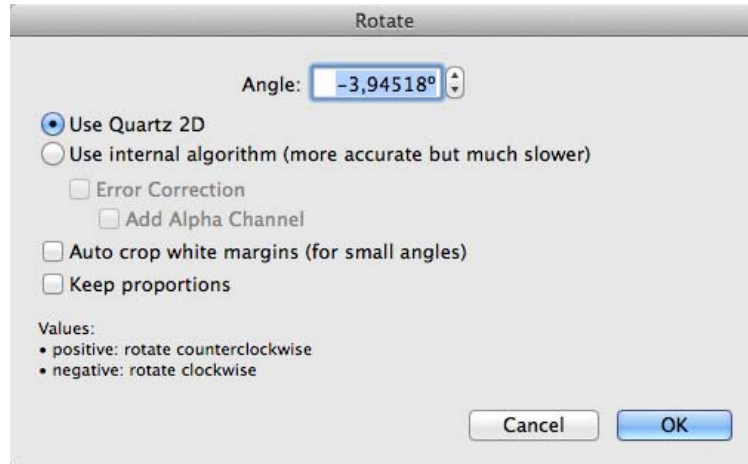
Please note that horizontal lines only really need to be horizontal if they have been photographed head on. Objects are usually depicted at an angle from the side. In our example picture, the front roofline of the houses and the edge of the quay are on a line that should not be rotated to horizontal. Therefore you should use mainly vertical lines as orientation points.

Furthermore, when using the Rotate option, note that picture quality and sharpness is lost on angles that are not 90° or a multiple of 90°. You should only rotate low resolution pictures by 90° or 180° if possible. It is therefore a good idea to sharpen the picture again after rotating (see p 146). If the angle is not a multiple of 90°, an even better way would be to scan the picture again, placing it at the corresponding angle in the scanner. Do not rotate the picture several times. Return to the original version by selecting **Edit / Undo** and try again.

The **Other Value with Line...** and **Other Value with live Rotation...** options do not open a dialog at present. Drag the helper line across a line in the picture that should be



vertical or horizontal. A dialog where you can check or modify the angle and the algorithm opens.



GraphicConverter's **own algorithm** is a lot slower, but provides better results than **QuickTime**. The **Error Correction** option should always be selected because each pixel is calculated on the basis of the exact color content of the source pixel. This improves the picture quality especially around the edges. If you select **Add Alpha Channel**, an alpha channel with the picture is created without the corners added by the rotate action. This alpha channel can be used in DTP programs to hide the corners, against a colored background, for example. GraphicConverter updates the alpha channel after any further rotate processes. Once an alpha channel has been created, you cannot create another one.

**Auto crop white margins (for small angles)** trims the picture automatically after small rotate procedures.

You can use **Other Value...** to enter an angle by which the picture should be rotated. The same dialog as for **Other Value with Line...** opens (see above).

Since positive values are used to indicate counterclockwise rotation in mathematics, GraphicConverter also follows this principle. Negative values, for example  $-0.7$ , will therefore rotate the picture clockwise. It is only worth rotating by an angle if you know the angle. Otherwise use the **Other Value with Line** option (see above).

The picture quality is not affected if rotated **90°**, **180°** or **270°**. Larger pictures require longer processing times as new coordinates have to be calculated for each pixel. You can only rotate JPEG pictures, which you do not want to convert and edit, without losses using the context menu browser: Select **File / Browse Folder...**, click the small picture preview and then **Control-click** (hold down the Control key and click) the small picture preview. The picture width needs to be a multiple of 16. This is normal, however, with pictures made using a digital camera.

The loss of quality with JPEG pictures does not come from the rotation, but from opening and saving again as a JPEG because the file has to be recompressed each time it is

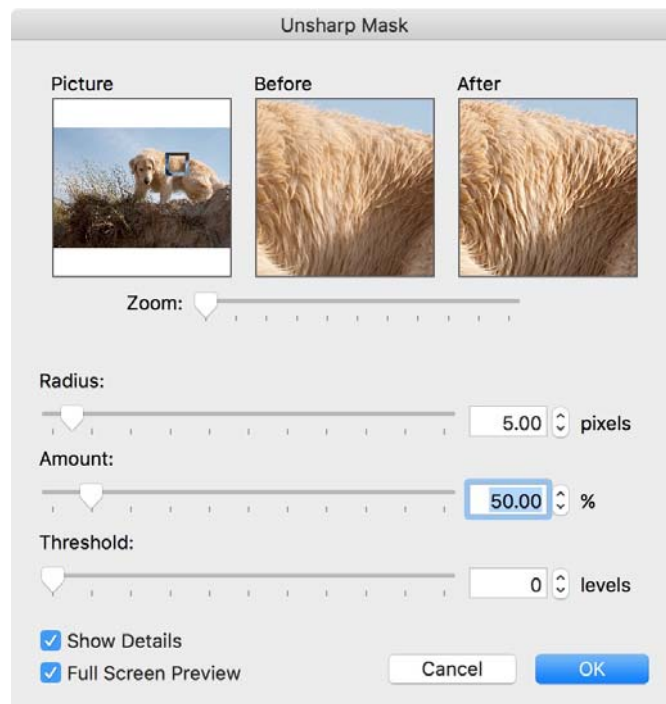
saved. The compression process causes a loss in quality. Therefore it is always best to save JPEGs in TIFF format after editing and then only edit that file. If necessary, you should only create a JPEG version once you have finished editing the file.

## Unsharp Mask and Sharpen Edges

It is often necessary to slightly increase the sharpness of digital pictures. In the **Effect** menu GraphicConverter has the **Unsharp Mask** and **Sharpen Edges...** options. The **Sharpen Edges** option has been available in GraphicConverter for a long time and results in slightly more defined lines than the newer **Unsharp Mask** option. We recommend that you always use the **Unsharp Mask** option first and only use **Sharpen Edges** if you are not happy with the results of **Unsharp Mask**. Always select zoom level 100% when you are using Sharpen Edges as you can often not see problems at lower zoom levels. The results can only be properly assessed at 100%.

### Unsharp Mask

Select **Effect / Unsharp Mask...** and try the value 60 for **Amount** first. Switch to full-picture preview to obtain a better impression of the result. One good practical tip is to move the dialog to the lower right-hand corner of the screen so you can see more of the picture.



Select 1 as the standard value for the **Radius** and 0 for the **Threshold**. Some pictures require a high level of sharpening. At a value of 160, there are normally no problems with unedited scanned pictures. Just increase the value until you cannot see any more faults.

Sharpening involves increasing the contrast of neighboring pixels. If you increase the **Radius**, more pixels will be incorporated in the process giving coarser results. You should therefore leave the radius at 1 in most cases.

If you increase the **Threshold**, the sharpness is reduced because the contrast of neighboring pixels is only increased if they are more different than those at the edges. Therefore keep the standard value of 0 for normal pictures.

The **Before / After** display helps you find the best sharpening value. The After window shows the effect of the current setting. In the **Picture** window, you can change the picture section displayed in the **Before / After** windows.

The function has been given a name from traditional printing, which may not seem appropriate. The sharpness is optimized using a mask, which more or less masks off the unsharpness.

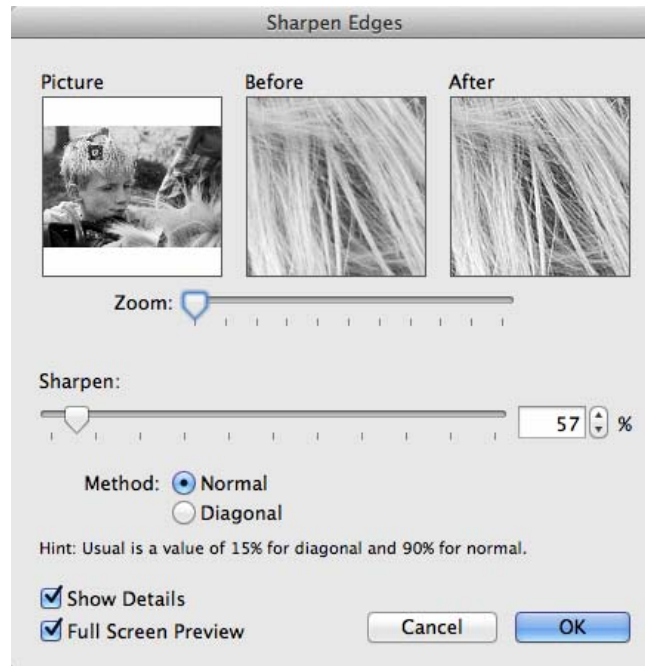
## **Sharpen Edges**

**Effect / Sharpen Edges** allows you to set the extent of sharpening with a percentage value. Select a value at which you think the picture is sufficiently sharp without spoiling the picture. If the sharpening is too high, lines are formed on the edges of color areas, for example. Try a high value like 60% first and then a low one like 15% and then keep trying until you find the best.

Keep the character of the picture in mind so that the sharpened picture is not totally different to the original. This rule does not apply to unfocussed pictures. If the photograph is blurred, sharpen it as much as possible. You will rarely need to sharpen pictures by 200% or higher. The **Before / After** display helps you find the best sharpening value.

## Unsharp Mask and Sharpen Edges

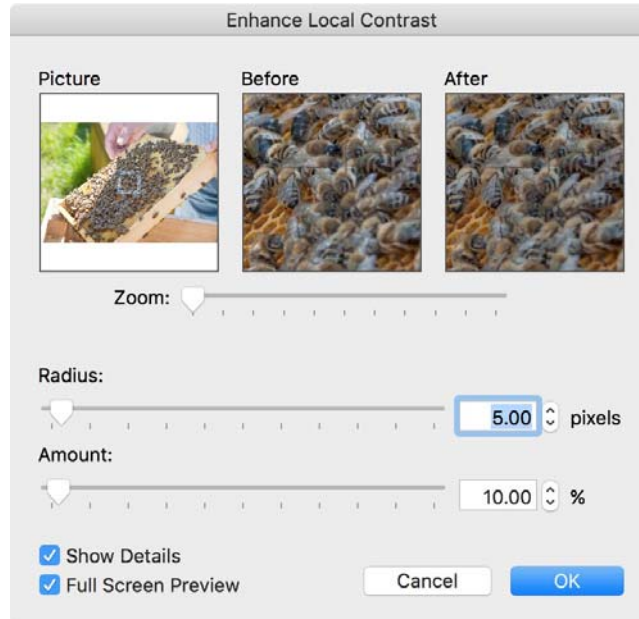
The After window shows the effect of the current setting. In the **Picture** window, you can change the picture section displayed in the **Before / After** windows.



The **Diagonal** option provides an alternative sharpening method that sometimes has better results than the **Normal** option. Higher values for diagonal sharpening can often cause a distancing effect. This can be used as a stylization filter.

## Enhance Local Contrast

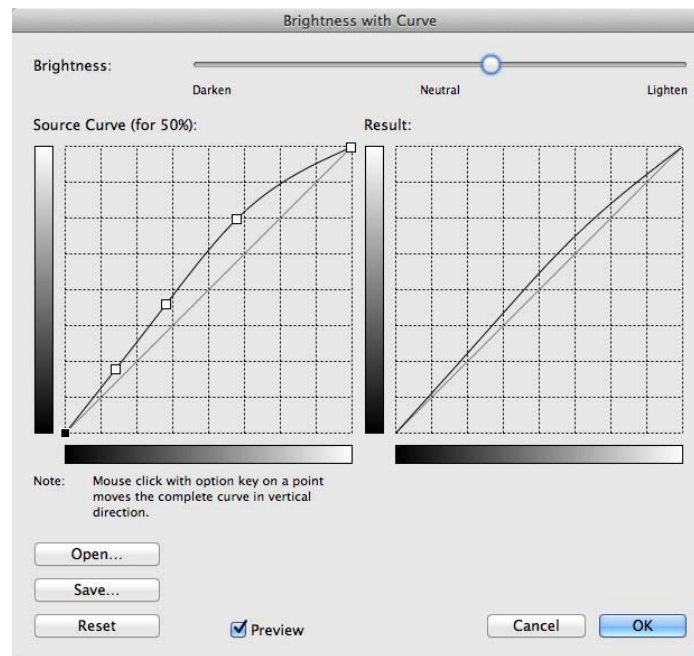
**Effect / Enhance Local Contrast...** allows you to increase the contrast of suitable pictures without the contrast becoming too harsh. A dialog where you can enter the values for the radius and the value opens.



The basic technique here involves an extremely unsharp copy of the image being created that is used as a mask to compare the original and a version with greatly increased contrast with each other. Normal values for **Amount** are 130-300% and 0.5-1.0 pixels for the **Radius**. You will find further information at:  
<http://www.cambridgeincolour.com/tutorials/local-contrast-enhancement.htm>

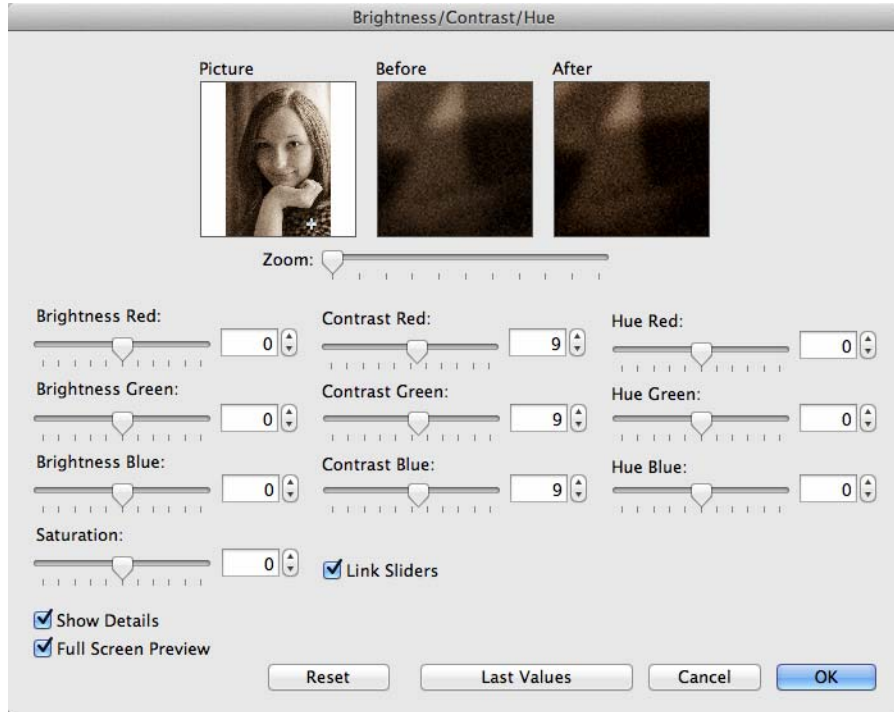
## Brightness, Contrast, Saturation

The brightness needs to be adjusted for almost every picture. Use the **Brightness with Curve** function from the **Picture** menu for this.



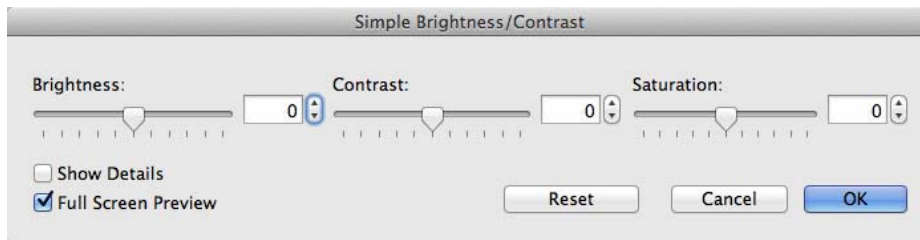
This function allows you to brighten the highlights less when you brighten a picture so that the picture does not become dull. The curve can be defined on the left and, in the case of our example, needs to remain close to the straight diagonal in the lower area and move upwards away from the diagonal line in the upper area. You can get a standard curve by clicking **Reset**.

**Picture / Brightness/Contrast...** allows you to set the brightness, contrast and hue individually for each channel. However, we recommend using the **Brightness with Curve** function more for brightness adjustments (see previous paragraph).



Unless you want to correct individual colors, select the **Link Sliders** option. This links each set of three sliders for brightness, contrast and hue. When you move one of them, the other two will move as well. In this way, you can adjust the contrast of all three primary colors at the same time.

A reduced version of the dialog is available under **Picture / Simple Brightness/Contrast...** for use with small monitors. You can also fine tune the sliders in other dialogs using the left and right mouse buttons once you position the mouse cursor somewhere over the slider. You can move the sliders in steps of 5 with the up and down mouse buttons.



**Show Details:** The left-hand picture window shows the whole picture with the selection rectangle. The center picture window shows the section selected with the rectangle enlarged. The zoom level can be infinitely adjusted with the slider underneath. The right-hand picture window shows the picture section with the set brightness, contrast and color values. Click **OK** to display the whole picture with the new values.

## *Vignetting Correction*

Practice often shows that you can only determine the best values by trial and error. It is helpful here if you can repeat this step for another picture once you have changed the brightness, contrast or color. Click **Set Last Values** to set all sliders in the dialog to the same position as in the last process.

If you want to keep an eye on the original image while changing the brightness, you can open a copy of the image in a new window with **Picture / Duplicate** before opening the brightness dialog . If you arrange the windows next to each other, you can compare them more easily.

You can use **Saturation...** to intensify or tone down the colors. If you want to make a picture postcard, you can make the sky as blue as you want with this option. Increasing the saturation is normally worthwhile with scanners which produce pictures with little color. If your scanner software has an **automatic color correction** option, you should enable it. As a rule your eye is the best judge. **Full Screen Preview** allows you to display a preview of the whole picture if you have a fast computer.

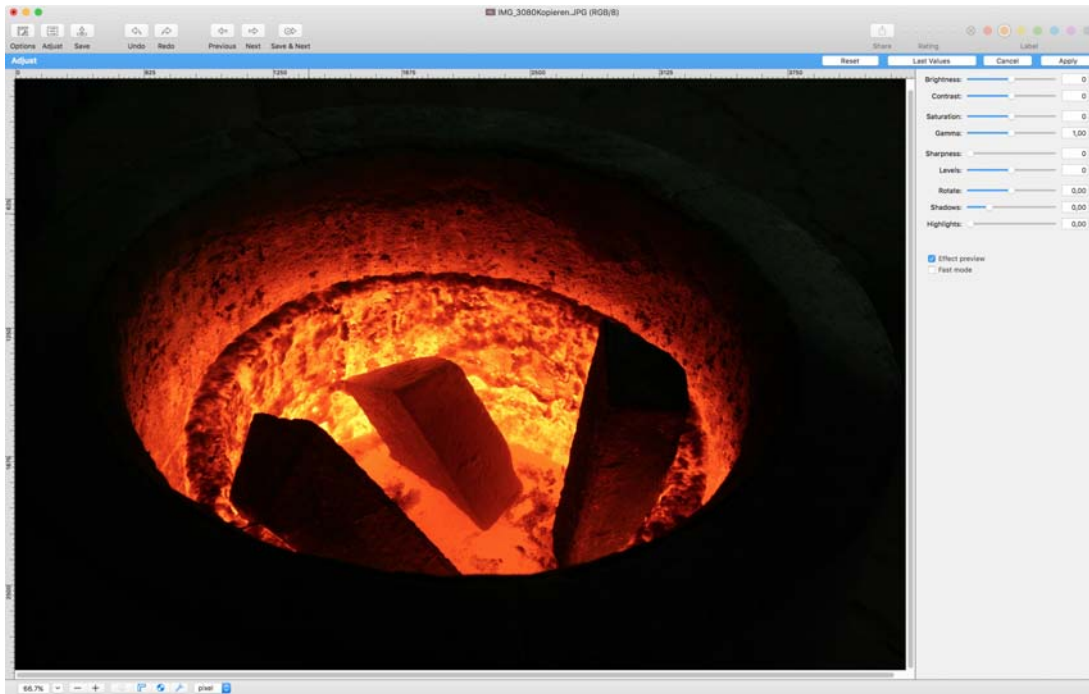
## **Vignetting Correction**

With **Effect / Vignetting Correction** you can correct the vignetting of a picture. Take a picture of a white background with the same lens, zoom and exposure or use a white translucent lens cap. Select the correction picture in the dialog and click **OK**.

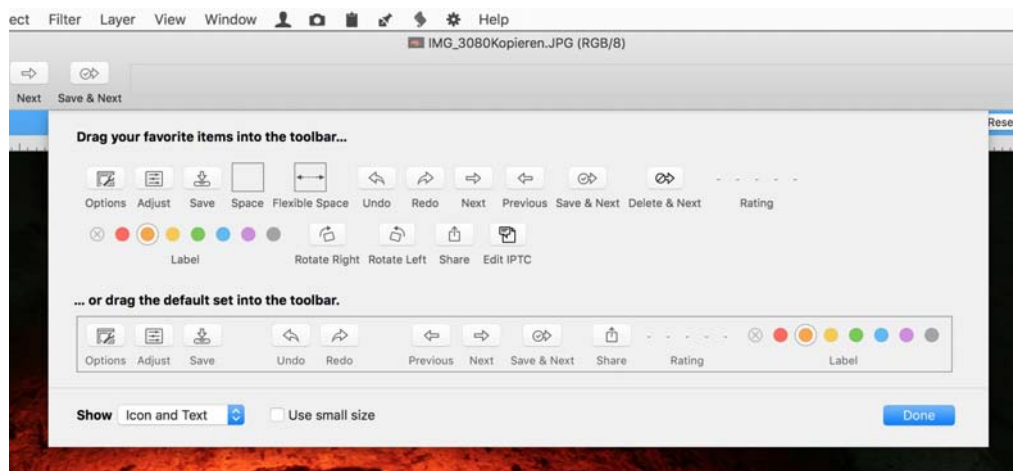


## Operator

It is fastest to edit images with the operator. After opening a picture, click the **Adjust** icon at the top left of the toolbar to display the operator. A blue bar with buttons and, on the right of the picture, a row of controls are then displayed.



If the toolbar has not been displayed, hold down the Control key, click the title bar of the picture and select **Customize Toolbar** from the context menu that opens. You can, for example, add the **Delete & Next** icon. Drag the required icons onto the toolbar or off it.



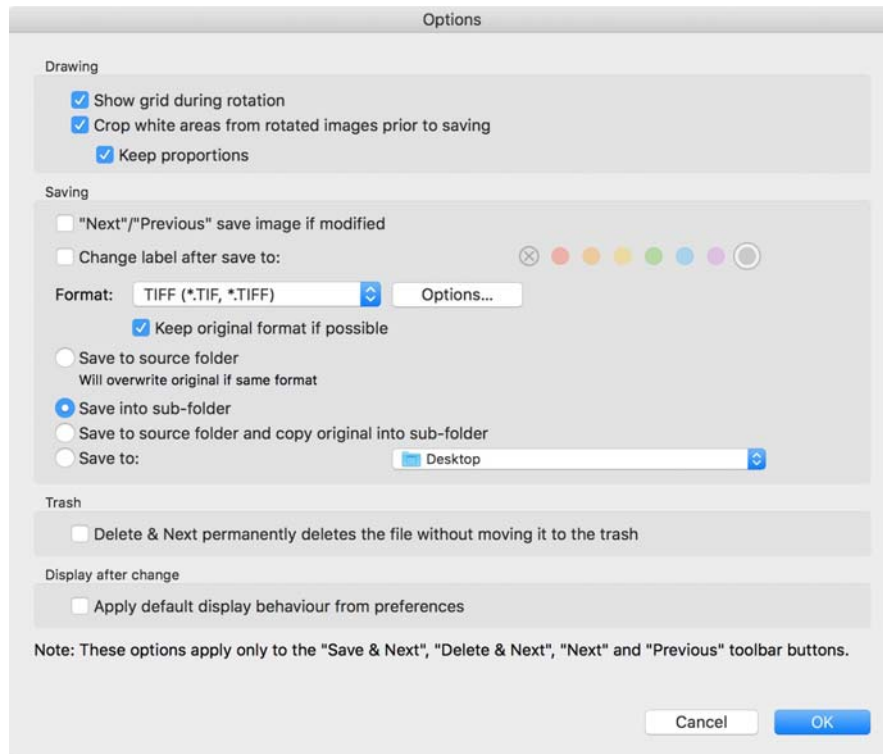
If you want to process several pictures in a folder one after the other, correct the image with the sliders and click **Apply** and **Save & Next**. In the Operator you can select **Fast Mode** under the controls to be able to move the controls faster. The preview can decrease in quality a little bit.

## Operator

You can use **Last values** to call up the values from the last picture again quickly if a picture needs a similar correction to the previous picture. The image can be saved with **File / Save** or **Save as...** Many pictures taken with digital cameras appear better if the gamma value is reduced to 0.97 or 0.93.

**Delete & Continue** deletes the current picture and goes to the next one. **Label** shows the current label and allows you to select another label.

Before you work with the operator, you should select the settings by clicking **Options**.



Disable **Show grid during rotation** to hide the grid while rotating images.

**Crop white areas of rotation before saving** trims the image to a centered rectangle before saving. The cropped version is not displayed. If you would rather crop by hand, you can rotate the picture with one of the rotate options under **Picture / Rotate** and then crop it. The rotate options under **Picture / Rotate** allow you to rotate images more than 10 degrees.

Disable **Keep proportions** if the aspect ratio is not important. The automatic function can often retain a larger picture area in this way.

**Back and Forward save image if modified** allows you to save and scroll to the next picture even if you are moving backwards through a folder. You can also use **Save & Next** to save and switch to the next picture. Select the **Format** and whether you want to save to the **source folder**.

You can use **Change label after save to** to recognize edited pictures more easily.

If the target format is the same as the source format, the source image will be overwritten. Saving to a **sub-folder** avoids overwriting originals.

**Save to source folder and copy original into sub-folder** first copies the original into a subfolder named "Original Files" and then saves the edited version in the source folder.

**Save onto desktop** saves the files on the desktop.

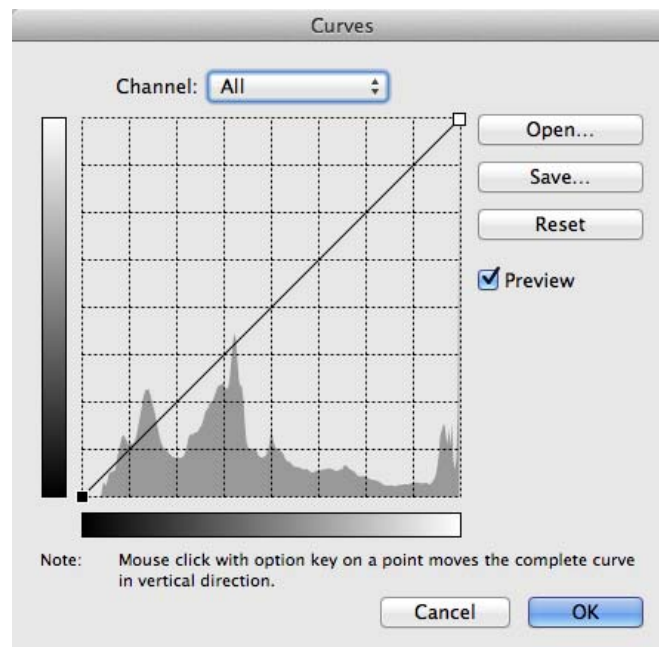
To quickly access the edited versions of your pictures via the left-hand column of the browser, we recommend copying the originals into a subfolder before editing and then overwriting the files in the parent folder. It is worthwhile keeping the originals as, even if you are experienced, you may occasionally increase the contrast and saturation etc. too much. In such cases, it is best if you open the original and save it in the parent folder after editing it again.

The function **Delete & Next permanently deletes the file without moving it to the trash** does not move the picture to the trash, but instead permanently deletes it.

If you change the zoom or window size during your work, after a click on a button like **Save & Next** the following picture will be displayed with the standard settings you chose in **Preferences / General / Display Content**. Disable the option **Display after change: Apply default display behaviour from preferences** if you want to keep the chosen zoom and window size.

## Color Correction

**Picture / Curves** allows you to correct the colors and contrast of an image.

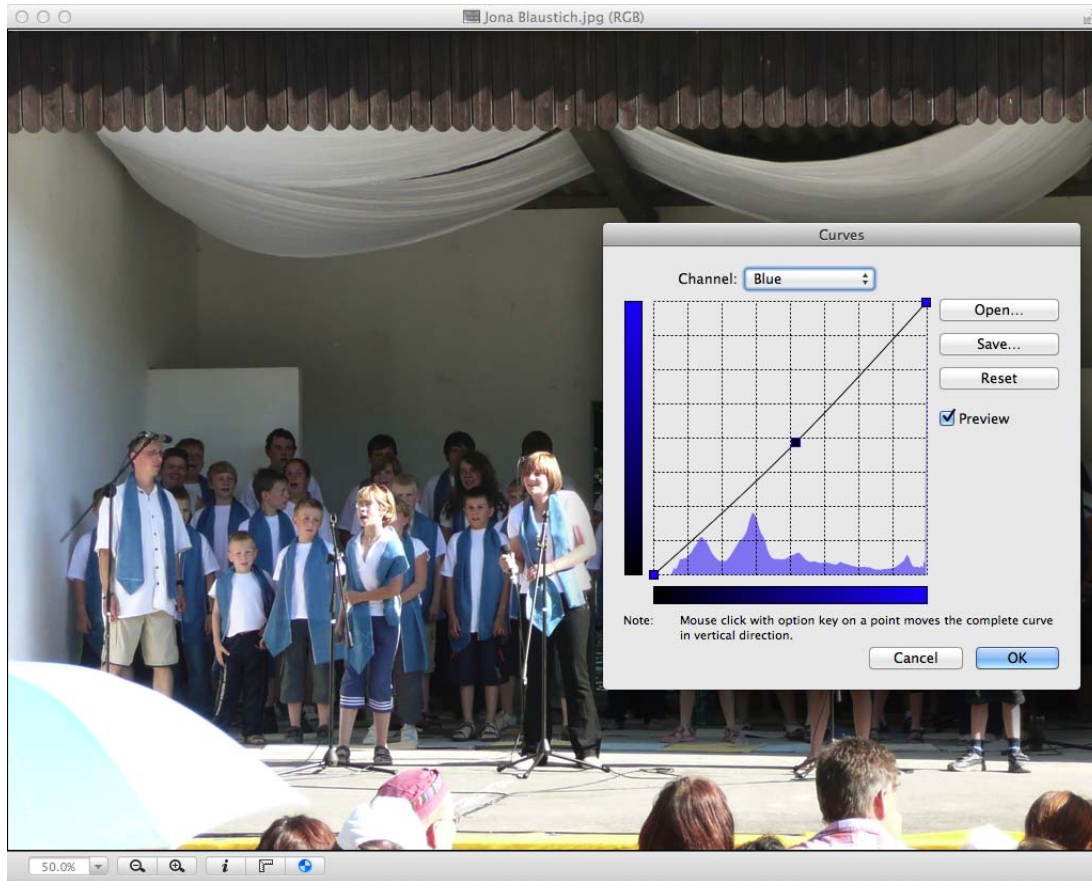


## Color Correction

The following example picture has a blue cast.



In the pop-up menu, select the curve for blue, click the center and drag the center to the right slightly down towards the lower right corner. Select the curve for green and also reduce the green level slightly. The result looks warmer and more realistic.



If you select **All**, you can set the contrast of the image. Add further points to the curve as necessary by clicking to create, for example, an s-shaped curve. Deviations from the diagonal starting line towards the right reduce the intensity while deviations to the left intensify the brightness or color. The gray shading on the edge of the grid shows that the lower or left-hand sections of the curve are responsible for the dark areas of the image and the upper or right-hand sections of the curve for the light areas of the image.

**Open...** allows you to use PhotoShop-compatible ready-made curves or to open curves that you yourself have saved.

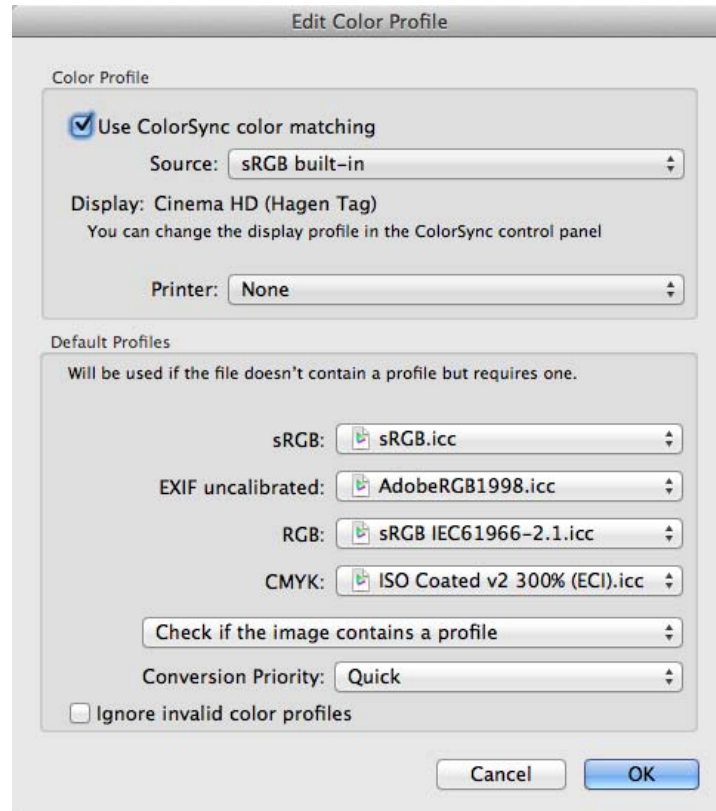
You can also correct the colors in the **Picture / Color Balance...** dialog.

## Color Management with Profiles and ColorSync

The ColorSync program is responsible for the correct reproduction of colors on screen and on print-outs. ColorSync is part of the system in macOS X.

Color profiles change the colors so that they are displayed and printed correctly. The data of the image files is not changed. Most digital cameras use the sRGB color space. This color space is entered in the Exif data of the images. Even if a profile file is not attached to the picture, GraphicConverter recognizes the color space and displays the image automatically with the sRGB profile. The ColorSync profiles only of TIFF, JPEG, PNG and PSD format pictures are evaluated upon opening.

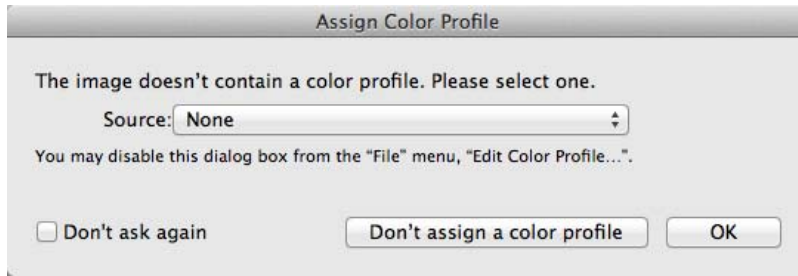
You should enable the **Use ColorSync color matching** option under **Edit / Assign Profile...** You can also enable and disable ColorSync in the lower frame of image windows by clicking the circle.



If an image does not contain a profile nor Exif information or if the Exif information is *Uncalibrated* or does not have a standardized entry, you need to decide yourself how GraphicConverter should proceed. Select one of the three options in the large pop-up menu at the bottom of the dialog:

## 1. Ask if the image has no profile

With this method, GraphicConverter shows the following dialog when an image is opened:



This method is recommended if you open very different images. If you know that the image is from a digital camera, it was accidentally saved without Exif information and the profile was not incorporated, select the sRGB profile as the **Source** in the pop-up menu. If you know for sure that the Adobe RGB color space was used for pictures taken with the digital camera, select Adobe RGB. You will find further information on Adobe RGB further below.

If you know that the image was scanned in, for example, and a profile was not added by the scanner software, click the **Assign no Profile** button. If your scanner is calibrated, select the individual scanner profile.

If you are working with pictures from the Internet or screenshots and other unprofiled images, click the **Assign no Profile** button.

You can also assign the profile with **Picture / Mode / CMYK**. The profile selected for **CMYK** in **Edit / Assign Profile** will be used. If the colors change visibly by the new profile you will see the changes immediately.

## 2. Assign the default profile if the image has no profile

If you always have the same work situations, you can set the **Assign the default profile if the image has no profile** option from the pop-up menu. If an image contains *Uncalibrated* as the Exif information or another entry that does not correspond with the standard like *Adobe RGB*, for example, the profile defined for **Exif uncalibrated** will be used. Select **Choose...** from the pop-up menu to select a different profile.

The color profiles are located in the **User / ~ / Library / Application Support / GraphicConverter / Profiles** folder. The tilde stands for the name of the user. After installing GraphicConverter, only the AdobeRGB1998.icc, CMYK.icc and sRGB.icc profiles are available at first. When you open an image with a color profile that GraphicConverter does not know yet, it will be saved automatically in this folder. You can use this option specifically to save a profile from an image. If possible, select all existing profile files beforehand in the Finder to recognize the new profile file immediately. If a profile is only available in another program, you can add it to a test image there, save it and open it in GraphicCon-

verter. Then delete the test image as it will probably be displayed with the wrong colors because of the profile.

The profile defined for **RGB** is selected for RGB images without profile and Exif information. Accordingly, the profile defined for **CMYK** is selected for CMYK images without profile.

### **3. Do nothing if the image has no profile**

Only select this option if you are sure that color profiles should not be assigned to any images without profiles. When this option is enabled, there is no query and all images are displayed without profiles. Images from a digital camera with Adobe RGB, for example, are displayed in the wrong colors with this setting.

#### **Image appears black**

If an image appears black, this is normally caused by a faulty color profile. Click the circle at the bottom of the picture frame to disable ColorSync. Now the faulty color profile is no longer applied and the image should be displayed correctly. In this case, delete the faulty color profile file and, if necessary, correct the settings in the **Edit / Assign Profile...** dialog. You will find the color profile file in the folder: **User / ~ / Library / Application Support / GraphicConverter / Profiles**. The tilde stands for the name of the user. Press and hold the option key in the Finder's **Go** menu to access the Library folder. If you cannot replace the deleted profile file with a backup, open an image that contains the profile. GraphicConverter automatically saves the profile in the Profiles folder.

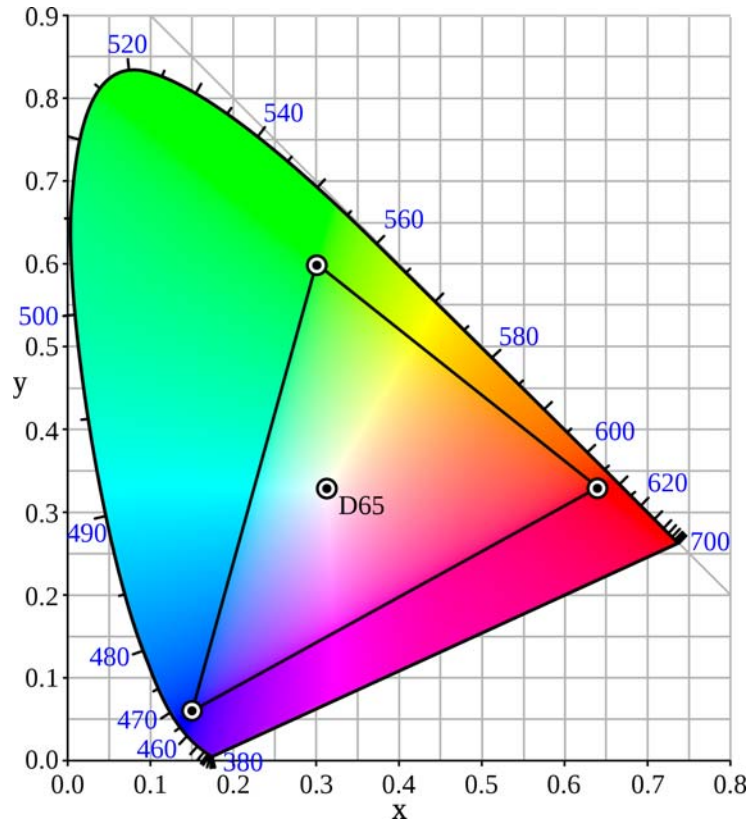
#### **Pictures for the Internet**

Whenever you are preparing pictures for the Internet, you can leave ColorSync enabled if you enable the **Merge color profile into image (for web usage) and remove Exif** option when saving with the file selection dialog. Many internet browsers display images without profiles therefore you have to merge the profile corrections into the image. If you use the **Save for Web...** function, this function is often preset in the dialog that opens.



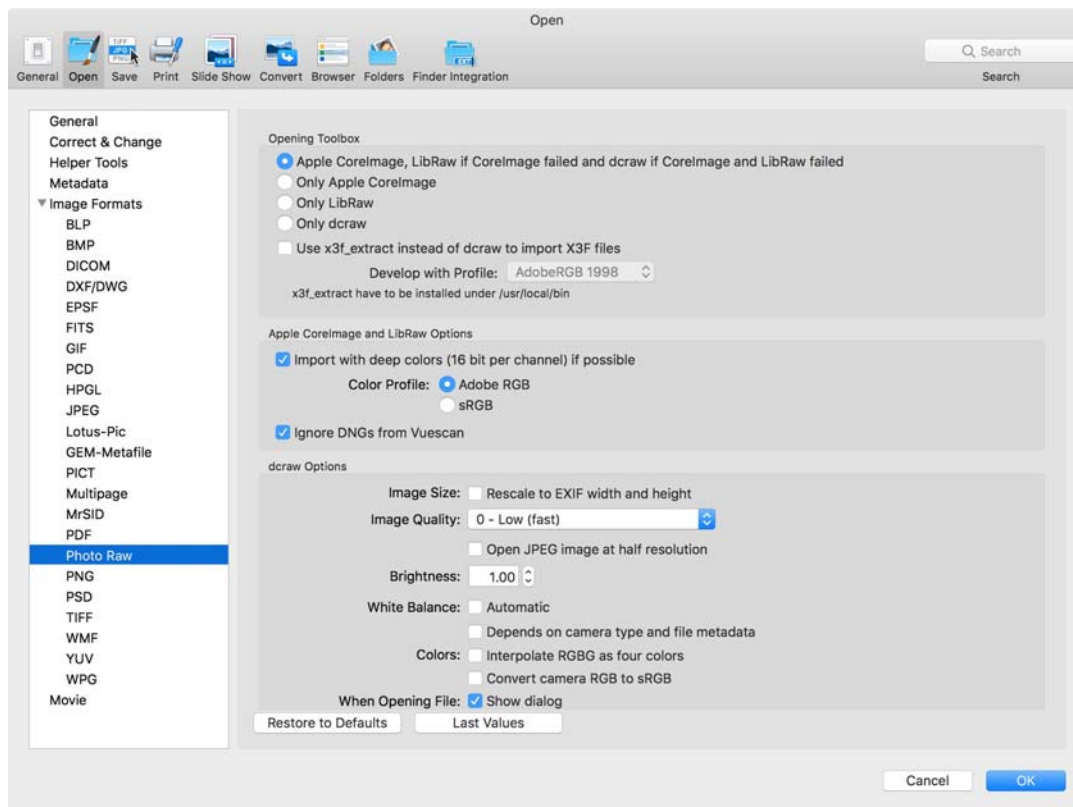
## How color profiles work

Color profiles indicate the color space that a device can display. A color space is like a list of colors. Since this list contains many million hues, it is shown as a diagram with color gradients, like here for the sRGB color space that is marked by the triangle:



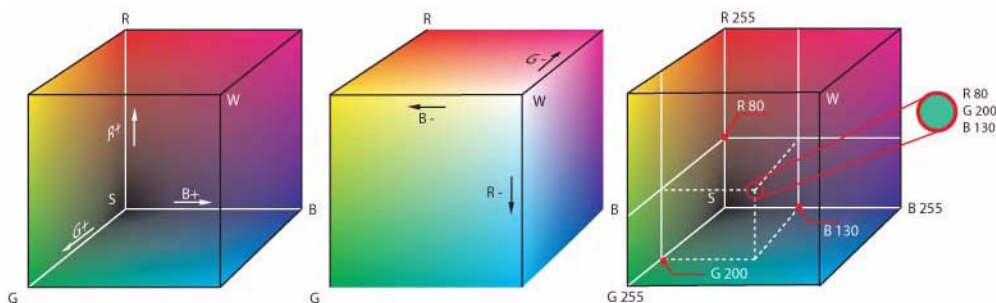
Source: Mysid (SVG); PAR (original) through Wikipedia

All colors that are outside the triangle cannot be depicted by the color space. The larger a color space is, the better the image quality. This is why professional photographers do not use the outdated, small sRGB color space, but select the Adobe RGB color space on their cameras when they are using JPG format. If the camera's RAW format is used, the color space can be selected later during picture editing. When you open a RAW image with GraphicConverter, the color space that you selected in the **Preferences** under **Open / Image Formats / Photo Raw** will be used. You can choose between **sRGB** and **Adobe RGB**.



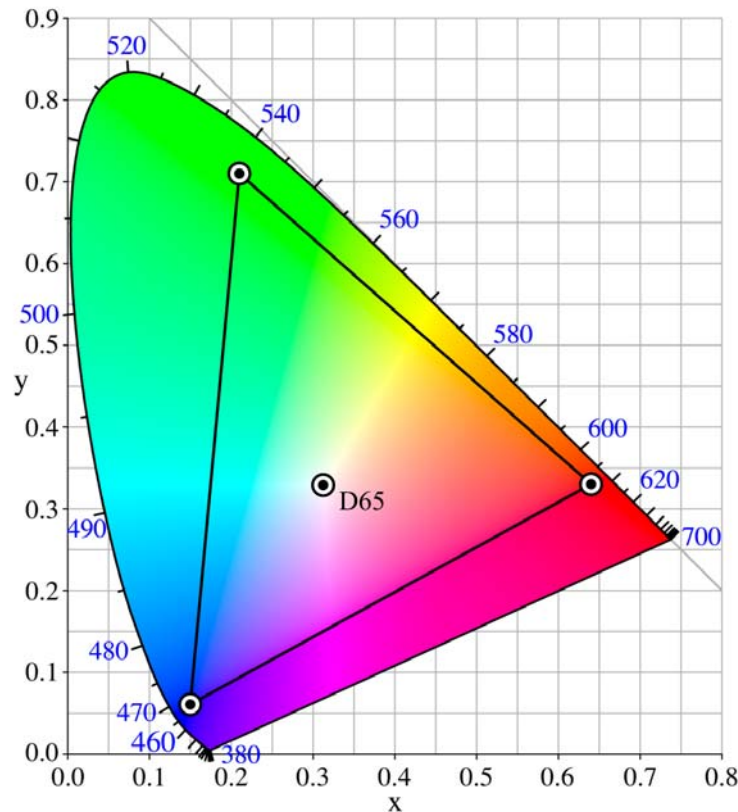
We recommend working with the Adobe RGB color space because, for example, deep red hues from red jackets are often displayed in the wrong color by the sRGB color space. If you order prints of your pictures from a normal service, you will lose this advantage because you have to convert the pictures to the sRGB color space beforehand. We therefore recommend using a service like <http://www.saal-digital.de> that supports the Adobe RGB color space. If your pictures do not feature any vibrant, bright colors, you may not notice any difference between an sRGB version and an Adobe RGB version.

If you want the diagram for a color space to also show the different brightness levels of the hues, it will be shown in three dimensions as a cube or a cloud. S indicates the black point and W the white point.



Source: Horst Frank through Wikipedia

The sRGB color space was developed in 1996 for work with tube monitors and covers the colors that could be displayed by most monitors at the time. Today's monitors usually have greater performance and can display larger color spaces. The monitors on some devices today, in particular, low-cost notebooks, can still not even display all colors in the sRGB color space. Professional monitors, for example, from Eizo, can display about 97% of the Adobe RGB color space as shown by the triangle in the following diagram:



Source: Juanjfb through Wikipedia

The top corner reaches considerably far into the green area, but, also into the blue, yellow and orange hues, the color space goes further than the sRGB color space which makes bright colors, for example, on yellow flower petals, look considerably more natural. If a hue cannot be depicted in a color space, the closest hue will be used. A bright yellow will then usually become a dull yellow.

As only very expensive printers can display color profiles that are larger than the sRGB color profile, it is only worthwhile using the Adobe RGB color space if the pictures are displayed on high-performance monitors or are printed on professional printers that are as close as possible to the Adobe RGB color space. Almost all print services exclusively use the sRGB color space. The photo service provider Saal is an exception and provides a profile for their development: <http://www.saal-digital.de>

If you have a standard workflow from the digital camera to printing or want to use the images on a Web site, the color profiles serve the correct display of colors and conversion to mostly smaller color spaces with minimum losses, like for example, the CMYK color

space of offset printers. Color profiles also correct the weaknesses of some devices, however.

If, for example, a scanner displays the red tones too faintly, this can be measured by scanning a color proof with a color chart and corrected with a color profile. An IT8 target is used as the chart. The special software is already included in the Silverfast Ai Studio 8 scanning program (<http://www.silverfast.com/highlights/autoit8/en.html>).



In our example, a scanner profile will increase or change the red hues and all other hues that have been altered accordingly. The result is a corrected picture. You need to attach the scanner profile to the scanned picture by selecting it via the **Source** pop-up menu while the picture is open. Some scanning programs attach the profile automatically. The profile will not need to be assigned manually in this case.

There are also differences in the way various monitors display colors. Color hues that are not displayed correctly can also be corrected with a profile. A simple monitor profile can be created under macOS X in the **Monitors** section of the **System Preferences**.

Monitor profiles only become usable if you connect a color analyzer to your monitor and create the profile using the special software provided. Newly created monitor profiles are mostly installed automatically and appear in the list of profiles in the **System Preferences** under **Displays / Color**. If you are using a monitor profile for the first time, the on-screen display will seem wrong because you are used to the old display. The colors often become paler. The new colors are the correct colors, however. You will get used to the new colors after a few days. You can make things easier by changing your desktop background.

You will not have to worry about the monitor profile after that. GraphicConverter shows it in the color profile dialog to help you. The monitor profile is not saved together with the image file. It corrects the monitor display in the background.

If you want to work professionally, you should ensure that the lighting in your office always has the same brightness. Black out the windows and use fluorescent tubes with D50 rating. Paint the walls white or gray and lay white or gray carpet or flooring.

## Printers

Select the printer or output device from the **Printer** pop-up menu in the **Edit / Assign Profile...** dialog. This profile changes the colors for printing. If your printer prints the green hues too weakly, they will be amplified by the profile. When you install the software for your printer, the profile will also be installed automatically and be available in the **Printer** pop-up menu.

The supplied scanner profiles often do not match up. In this case, order a special profile for your printer from a service provider like <http://www.drucker-kalibrieren.com>. The service provider will send you a file with color samples to print out. Do not touch the surface of the print-out or get any dust on it and send it in a large envelope to the service provider. They will scan the print-out and create a profile from it. You will then receive the profile file by e-mail with instructions on installing it.

Create your own printer profile for each paper type. We advise only using original ink cartridges. If you use inks from other manufacturers, you will have to create separate profiles for them in addition. Do not use paper with chemical bleaches as the colors will be perceived by the human eye differently to a scanner.

Select the profile from your print shop as the standard profile for **CMYK**, see p 176 onwards. This profile defines the color space to which the image is converted with **Picture / Mode / CMYK Color**. This is the only way to minimize light and bright colors becoming pale when you switch the mode to CMYK. Unfortunately it is not possible to reproduce, for example, a bright sky blue in the CMYK color space. Vivid and vibrant blue tones and other vivid hues become considerably paler in offset printing. The profile is attached to the pictures automatically upon saving.

The profile selected here is also used for CMYK images that do not have a profile. If another profile belongs to the picture, the colors will be displayed incorrectly. We therefore recommend the setting **Ask if the image has no profile**. If in doubt, ask which profile should be used with the image and select it in the **Assign Color Profile** dialog.

If you are not happy with the colors after a conversion, you can repeat the conversion with another **Conversion Priority**. **Perceptual** is often used. **Relative Colorimetric** also provides very good results. In the end, a different method works best with each picture therefore you should make comparisons with critical pictures.

## Selection

Modifications are often only applied to part of a picture. In these cases, you need to define a selection. You can cancel a selection with the Escape key. You can select using the lasso, one or more selection rectangles, selection ellipse or the Magic Pen. Use the escape key to deselect. **Edit / Select last Selection** will bring back the last selection in the exact place.

## Selection

If you click into the selection the content will be moved. Click exactly on the borderline of a selection to move the selection frame without the contents. The mouse cursor changes to a cross with four arrows. If you move the mouse a little further inside of the selection, it will change to a double arrow so you can move only one side of the selection. You can also click anywhere in the selection while holding down the Command, Option and Shift keys to move the frame without content.

Hold down the Option key to move the right-hand or upper borderline of a selection left and right, or up and down with the arrow keys. Use the Command key to move the left-hand or lower borderline. Hold down the Shift key to move in steps of five pixels.

You can make several selections by holding down the Shift key. If selected areas overlap, they are joined in a larger selection, which can then be "L" shaped. All combinations are possible even with regular and irregular shapes. The pixels under the borderlines belong to the selection.

Use **Command-A** or **Edit / Select all** to select the whole picture. With Hi or True Color pictures, only the selected picture sections will be edited. Adjustments to the brightness and contrast always affect the whole picture if it has 256 or fewer colors because the number of colors would otherwise increase.

If you want to copy part of a picture and paste it into another one, select the required area and copy it with Command-C. Now switch to the destination picture and paste the selection with Command-V. The selection is pasted at the mouse cursor and you can adjust its size at the corners by holding down the Command key. If you hold down the Shift key at the same time, the proportion will be maintained. You can move the selection to the desired position with the mouse and the arrow keys. Hold the shift key to move the selection in steps of five pixels.

**Select Picture Content** selects just the actual picture without any single color margin. This kind of margin is often created when the rectangle used in the scanner software to select the area to be scanned is made larger. If the picture has a different structure than a picture with a typical black margin, for example, an error message will be issued. The background color is used as the search color for the margin.

In the context menu, you can use **Count Pixels of Selection...** to display the number of pixels in a selection.

## Selection Tool

Rectangular selections can be made with the selection tool at the top right of the toolbox. If you cannot see the toolbox, you can call it up by selecting **Window / Toolbox** from the menu. Hold down the mouse button and drag the cursor to form a rectangle. Select the aspect ratio in advance in the pop-up menu at the bottom of the toolbox. If you do not want a fixed aspect ratio, select **None**.

An elliptic selection can be made with the **Elliptic Selection** tool, which can be selected by clicking and holding the tool for the rectangular selection. Holding down the Shift key at the same time creates a circular selection.

The size and thus indirectly the position of a rectangular selection can be changed using the handles. If you want to move the entire selection, click outside the selection directly besides the selection line. If you click inside the selection you move the content. If you prefer to move just the selection by clicking into it you can select **Preferences / General / Selection / Moving Selection: Mouse Click and Movement only moves the Frame**.

Hold down the Command key to scale the contents of the selection.

You can edit the contents of the selection, for example, with the **Brightness** and **Sharpen Edges** options or cut, copy, delete or move the selection.

You will normally want to select a section of a picture and overwrite existing picture content when you move it to its destination, as if you were fixing a sticker there. The selection will appear semi-transparent while you move it to help you find the position.

If you want to copy the selection as you move it, click the contents and only then press and hold down the Option key.

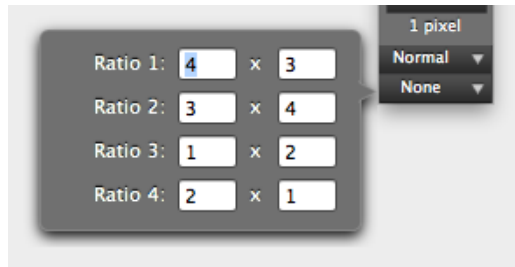
Prior selection of an aspect ratio for the selected area is intended for editing of pictures from digital cameras in particular. You can set a specific aspect ratio at the bottom of the toolbox using the **None** pop-up menu.



Pictures taken with digital cameras often have the aspect ratio of 3:4. Prints from photo labs, like the ones you can order on the Internet, have the standard aspect ratio of 2:3 as with postcard-format photos, for example, 10x15 cm. Some labs therefore offer you the choice of having the picture trimmed at the top and bottom or leaving the whole picture with white margins on the left and right.

You should decide for each individual picture. Once you have chosen a trimming method, it is a good idea to specify where the trim should be made. Select the corresponding aspect ratio from the **None** pop-up menu. Drag a rectangle across the picture and position it with the mouse, if necessary, by clicking the line between the handles.

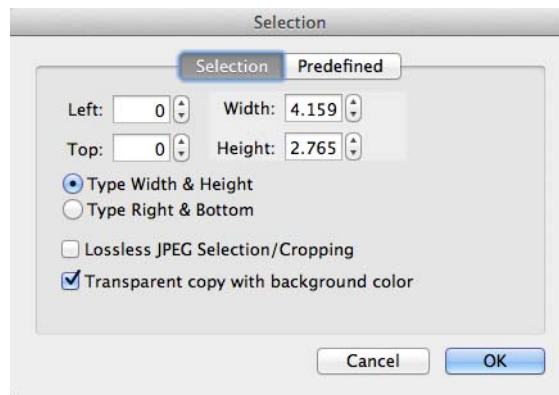
**Define User-defined...** allows you to define an aspect ratio yourself.



Select **User-defined (a x b)** from the same pop-up menu to use your self-defined aspect ratio. Refer to the chapter **Cropping for Photo Prints** from p. 122.

In some cases, you may want to set a color in the selection to transparent at its destination instead of fixing it like a sticker. If, for example, you copy a red "Z", which is on a white background, the white can be defined as a transparent color. As a result, as soon as you start moving it, the white background around the "Z" in the selection becomes transparent and you can see the picture behind it. Even after pasting in the required position only the red "Z" remains. The white background is no longer there.

To achieve this effect, open the following dialog in the target image by double-clicking the selection tool in the toolbox. Select the **Selector** tab and enable the **Transparent copy with background color** option.



In the following example picture, the "Z" against the white background was created in a separate picture. The whole picture content was selected with Command-A and copied with Command-C. In the target picture with the bridge, the clipboard contents have been



pasted with Command-V and placed in the top left-hand corner. The **Transparent copy with background color** option was disabled this time.



The selection was cleared with the Escape key (**esc**). The **Transparent copy with background color** option was enabled again and the "Z" pasted from the clipboard again. White was selected as the background color. With this setting, the white background of the letter "Z" turns transparent and, in our example, you can see the blue sky around the "Z".

As long as a moved selection is not yet placed at its destination, this effect can still be enabled or disabled using **Transparent copy with background color**.

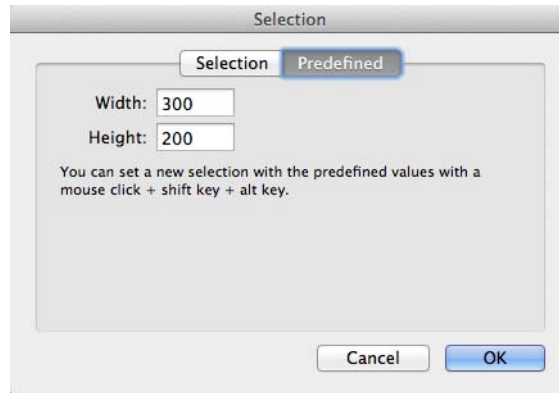
No matter what you set for transparent copying in the same dialog you have the option of defining a selection more precisely than with the mouse.

Enter the **top left** corner and the **width** and **height** of the selection. Alternatively you can enter the distance of the right-hand edge of the selection from the left edge or the distance of the lower edge of the selection from the top edge with **Right** and **Bottom** instead of the width and height.

If you want to insert a selection of a certain size with the mouse, select the **Predefined** tab in the selection tool dialog and enter the desired size in pixels. Insert the selection by

## Selection

clicking the place in the picture where the upper left corner of the selection should appear.



You can drag and drop from one picture to another. If you select the **Drag into top left of new window** option in the **General / Selection** section of the **Preferences**, the selected picture section will always be pasted in the top left corner of the target picture, no matter where you let go of the selection over the target picture. This is useful, for example, if you want to add a copyright note to several pictures.

## Lasso

If, for example, a person's face is only partly in the sun, this area will almost always be too light. If you do not have another photo, you can make things easier by clicking the **Lasso** at the top left of the toolbox (you may need to select **Window / Show Toolbox** first) and drawing around the area while holding down the mouse button. Only closed shapes can be defined with the lasso. If you release the mouse button before you have returned to the starting point, a straight line will be drawn to the starting point. This effect can be used whenever you do need a straight line. You'll need a steady hand for work with the lasso. Small deviations in the surrounding dark area can be tolerated. Now use **Picture / Brightness/Contrast** to darken the area of the picture which is too light.

It is a lot easier to draw around areas if you set the zoom level as high as possible and use a professional mouse that has a click-lock function enabled in a control panel. With this function you only need to click once, let go of the button and then you can work as if you were holding down the button.

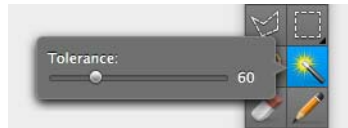
When you move a selection made with the lasso, one color can be defined as **transparent**. You can reach the corresponding settings dialog by double-clicking the lasso in the toolbox.

You will find detailed information on this in the chapter on transparent copying and pasting with a rectangular selection from page 166, as this works in exactly the same way.

## Magic Pen

The magic pen is the second down in the right-hand column of the toolbox (you may need to select **Window / Show Toolbox**). If you click this tool, you can select all adjoining picture sections that have the same color with a single click. To also select parts of the picture that are not joined, use Shift-click.

A tolerance value can be defined for the Magic Pen. All pixels that do not differ from the clicked pixel more than the set tolerance value are selected.



In practice, you will need to try a few times to find the right value. If an even, blue sky is to be selected, a low tolerance of about 10 will be enough. If a creased white shirt is to be selected, the tolerance needs to be set a lot higher to about 70. This technique does have its limits, however, and you will not always manage to select a reasonably single-colored area properly with the Magic Pen. Don't give up too soon though. Once you've mastered the Magic Pen, you can definitely work faster than with the Lasso.

## Polygon

If you want to define a selection exactly around an object, you can work with the Polygon tool. Hide the Operator by clicking the oval button at the top right of the window if it is displayed. Zoom as close as possible into the image and click along the outline of the object at short intervals to produce a line.



The smaller the intervals the more accurate the selection will be. You will not see a point after the first click. It will only become visible with the line and the second point after the second click.

Close the polygon by placing the mouse cursor over the first point and moving the mouse slightly until the cursor changes to a crosshair. Now press Return on the keyboard to close the polygon. As soon as the polygon is closed, it will behave like a selection

## *Selection*

whose content can be trimmed, copied or moved. The position of the individual points can now be moved with the mouse. Move the mouse over the point until a point appears next to the mouse cursor and then move the point. You can also move individual points before you close the polygon. You cannot add or delete any points later on.

With **Edit / Frame Selection with Foreground Color** you can draw a line around the selection which is interesting especially for polygonal selections. Draw the desired shape with the tool for polygonal selections and use the feature.

**Edit / Paste / Paste into Selection** allows you to paste the contents of the clipboard into the current selection stretched to fill the selection. **Paste into Selection proportional** allows you to keep the proportions. The selection is not filled completely in this case if the aspect ratio of the clipboard content differs from the aspect ratio of the selection.

### **Invert Selection and Fill Selection with Foreground Color**

If you want to select everything except for one part of the picture, first use one of the selection tools to select the area and then select **Edit / Invert Selection**. The selection then remains visible, but a further selection borderline can be seen on the outer picture edges. Now everything between the outer and inner selection line will be selected. You can make this clearer by highlighting the selection with **Edit / Fill selection with foreground Color**.

### **Clearing and Recalling a Selection**

You can delete a selection by pressing Escape (**esc**), selecting **Edit / Unselect** from the menu or by clicking next to the selection with a selection tool. Use **Edit / Select last Selection** to recall a cleared selection.

## Removing Red Eyes

The so-called red eye effect often occurs when you take snapshots with automatic cameras. You see the red retina in the eye instead of a black pupil because the flash shined directly into the eye.



You can use **Effect / Auto Red Eye** to automatically set all pupils to their normal black. In some cases it is difficult to recognize the red tone so you should check the picture for inadvertently changed parts.

You can use **Effect / Red Eye** to set the pupils to their normal black.

Often the pupil is very wide due to the dark environment and looks odd because the rest of the picture has been illuminated by the flash. In this case, it is a good idea to use the **Effect / Red Eye Pro** option that will be explained after the normal **Red Eye** option.

There is also a tool at the bottom of the toolbox that you can use to simply paint over red eyes. However, when you use this tool, you may paint over any reflections on the eye. This tool is particularly suited to painting over red, white or other eye colors on animals as the other options in GraphicConverter only recognize red eyes. You can adjust the size of the tool with the slider on the bottom edge of the image window or by pressing Shift and using the scroll wheel. Click the red or other-colored eye to make it black. If you have installed the USB Overdrive system extension, you cannot change the size of the tool with Shift and the scroll wheel as this function is blocked by USB Overdrive.

## Removing Red Eyes

Using the regular **Red Eye** option: Click the elliptic selection tool, which is second from top in the left-hand column. Just select the red pupil with the slightly red pixels at the edge and then select **Red Eye**.



GraphicConverter blackens the pupils with soft edges and keeps the reflection. You can set the Darken Level selecting **Effect / Red Eye Settings**. For brighter red tones you should choose a far higher value.



Repeat this for all other red eyes. Removal of red eyes is only available for pictures with a color depth of 32 bit. You change the color depth to 32 bit if your pictures have a lower color depth using **Picture / Colors**. If you want the pupils to remain light gray, use the option again. If the person is depicted from the side, it may be easier to define the selection with the lasso. You will find the lasso at the top left of the toolbox.

The pupils of the people in the photograph are wide open because the room is dark. Once you have removed the red eye, the results may still not be very satisfactory. We therefore recommend avoiding this problem when you take the picture. It is easiest to use a flash that is as far away from the camera as possible. The flash will then illuminate a

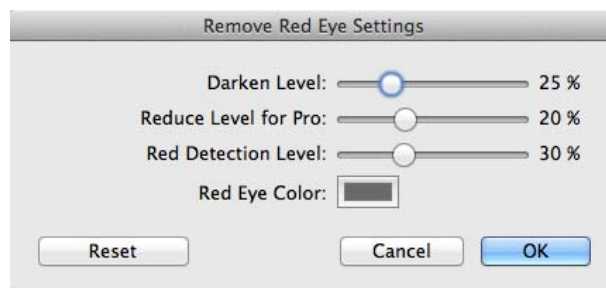
different part of the retina than picked up by the camera. Heavy flash guns ensure the best results, but because of their weight are not even used by press photographers today. A flash fitted on top of the camera is normally enough to avoid the red-eye effect.

As the red-eye effect occurs more often at greater tele ranges, we recommend setting the flash indirect by pointing the front part of the flash upwards.

The **Red Eye Pro** option darkens the pupil and reduces its size at the same time. Select the red pupil and choose **Red Eye Pro** from the **Effect** menu. Nothing will happen at first. GraphicConverter switches to a special mode similar to the elliptic selection tool. Select the iris. The iris is the area around the pupil that is blue, brown or green. Once you have made the elliptic selection, the pupil is darkened and made smaller. You can specify how **dark** and how small the pupil should be (**Reduce Level for Pro**).

The **Red Detection Level** decides when a red tone is recognized as a pupil and blackened. It may be worthwhile setting the threshold value high in pictures with a lot of red so that any parts of skin that you accidentally select are not darkened.

Select **Effect / Red Eye Settings...** and try different values out. You can use **Red Eye Color** to define a color to be set for the pupil.



If black is too dark, try a dark gray. Click the color box and change the color in the color selector. If black was the starting color and the color circle is selected as the color model at the top left, you simply need to push the slider upward to get a dark gray.

**Reset** allows you to reset the values and the color to the default settings.

The result of the **Red Eye Pro** effect may have faults that you can remove with the stamp.



Stamp over the line from the outside to the center. Set the source point over and over again by option-clicking the area around the line you want to stamp. The result will nor-

mally not look so nice at high zoom levels. Once you switch back to a normal zoom level though, the eye should look good.

## Undo

If you are not happy with a change to a picture, you can reverse it with **Edit / Undo**. The option you used last appears next to Undo, for example, **Undo Paint**. You can also use this menu item to check which option you used last. **Edit / Redo** allows you to reverse the undo action.

If you want to undo more than 40 steps, you have no choice but to reload the last saved version of the picture by selecting **File / Revert to Saved**. The current version will then be closed without saving. To avoid mistakes, GraphicConverter will ask you if you really want to discard the current version.

## RGB and CMYK

Pictures cannot only exist in different file formats (for example, TIFF or GIF), but also in different modes. Scanners in the lower price segment normally return pictures in **RGB** mode, made up of the colors **Red**, **Green** and **Blue**. This mode is ideal for printing out on laser or inkjet printers.

**Effect / Channels / Split** allows you to display a picture so that only the red part of the picture is displayed. Scroll horizontally to the right to display the green part and blue part or select a lower zoom level to display all three areas at the same time. **Effect / Channels / Join** reverts the effect.



**Effect / Channels / Split into new windows** allows you to split RGB or CMYK images into several pictures each containing one channel. This is particularly useful with CMYK pictures if the pictures are being prepared or checked for offset print. The individual channels are opened in separate image windows that show the content of the channel as a grayscale picture. You can join these single images from the color channels to make a color image again by selecting **Effect / Channels / Join**.

**Effect / Channels / Swap Red and Green** sets all red pixels green and all green pixels red. This is sometimes needed for infrared photo processing. **Effect / Channels / Swap**



**Red and Blue** and **Effect / Channels / Swap Blue and Green** swap the colors accordingly.

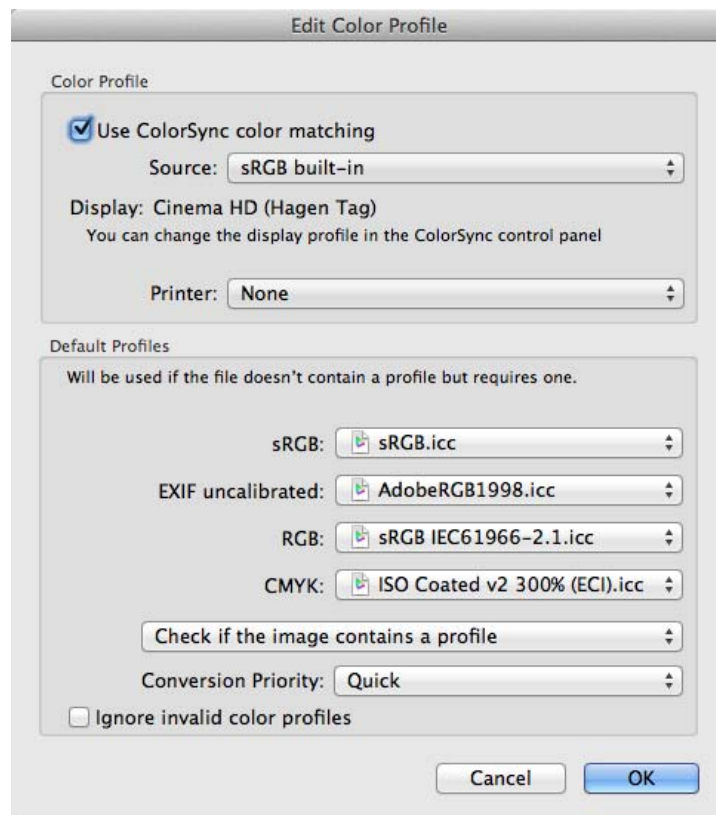
**Effect / Channels / Optimize Blue Channel** can improve the colors of some imported RAW pictures.

**Effect / Channels / Split Red (Blue, Green) into Same Window** makes the red (blue, green) channel the picture content. The content of the channel is displayed as grays. The other channels get deleted. This makes sense to make scanned ancient papyrus better readable.

**Move Image as Grays into Red Channel** is for scientific analysis.

However, if color pictures are to be printed by a printing shop, for example, using an offset machine, they need to be available separated in CMYK mode (**C**yan, **M**agenta, **Y**ellow, **K**ey). Key means black. Key was chosen instead of black to avoid confusion with **blue**. In this mode the picture contains information on how much of each of the four printing colors is printed at what point. GraphicConverter can open and save pictures in CMYK mode.

If you want to separate an RGB picture, select the required profile under **Edit / Assign Profile...** with the **CMYK Select Change...** button.



The profile file takes the equipment used in the print shop into consideration. You can obtain the profile file from your print shop. Copy the profile file into the folder: **User / ~ /**

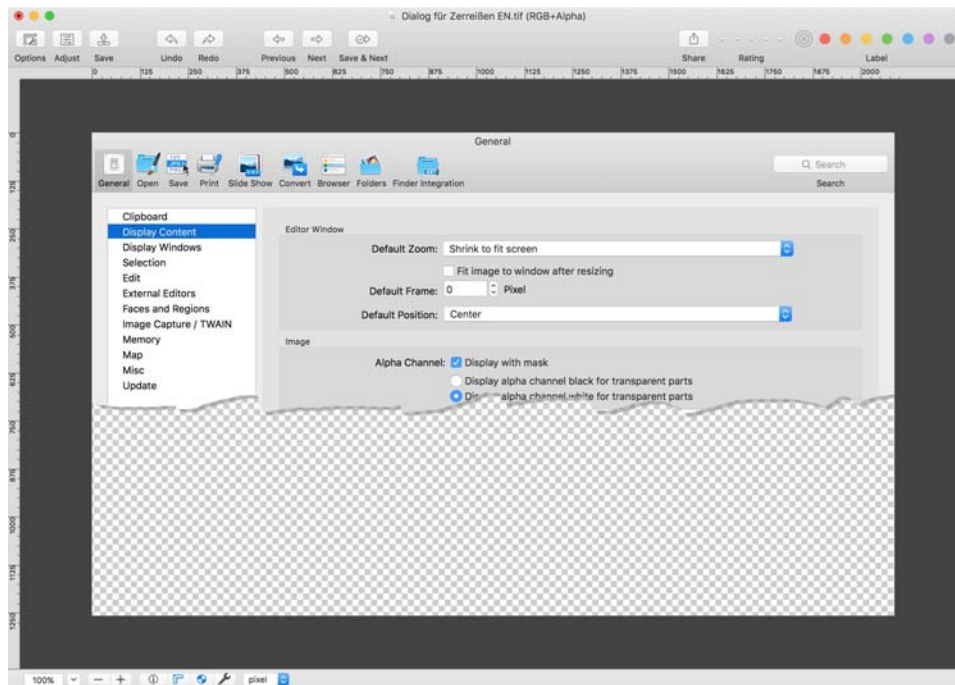
**Library / Application Support / GraphicConverter / Profiles.** The tilde stands for the name of the user.

Separate the picture file with **Picture / Mode / CMYK (Name of selected profile)**. The image is converted to the profile and the selected profile file is attached to the image file. From GraphicConverter 8.7 the image is displayed with the converted colors immediately. Loud colors become paler as they cannot be printed by CMYK printing machines. The mode is displayed in brackets in the title bar of the picture window. You can now save the file and use it in a program like QuarkXPress or InDesign or forward it to a print shop. CMYK mode is only supported by the JPG, JPEG2000, TIFF and Photoshop PSD formats. The TIFF format with the extension .tif (just one f) without LZW compression is used as the standard. Separating is also available as an action.

For professional work, you need to darken your work room and illuminate it with a standardized ceiling lamp. Your monitor and scanner need to be calibrated with a special tool or special method. Repeat the monitor calibration on a regular basis and wait half an hour before editing pictures on tube monitors so that the monitor becomes warm and the colors are displayed correctly.

## Torn Effect

If, for example, in a manual for space reasons you want to show only a part of a dialog, select **Effect / Torn Edge** and draw a jagged line with the mouse from the left to the right edge of the picture. You do not need to start and end at the very edge. You can also, for example, start at the left edge and end at the top edge. As soon as you release the mouse the cut off part of the picture is set transparent. If you do not want this part transparent but, for example, white instead, select **Picture / Alpha Channel / Flatten**.



It is recommended to cut off the deleted area. To do so select everything with Command-A and adjust the selection rectangle by moving up the middle handle of the lower side. Crop the selection with a double click in it or press return.

## 3D Effect

Many modern TVs, projectors and further devices can display 3D pictures three-dimensionally. For a real 3D effect two pictures must be shot at the same time with special cameras. Most of these cameras have got two lenses like the Panasonic Lumix DMC-3D1. The two pictures are displayed alternating in quick succession or with different polarization. A special pair of glasses with shutter or polarization technology makes your right eye see the picture for the right eye and the left eye only the other to let you see the picture three-dimensionally.

GraphicConverter can open and save the new 3D formats JPS, PNS and MPO. JPS is a 3D version of JPEG format and PNS is a 3D version of PNG format. MPO stands for Multi Picture Object. MPO images have a similar structure to a GIF animation. MPO files are, however, concatenated JPEGs with additional metadata. JPS and PNS formats use Cross Eye display that displays two images next to each other on computer monitors. If you want to see the 3D effect, you can try to look at the images cross-eyed so that your right eye looks at the left-hand image and your left eye looks at the right-hand image.

The submenu under **Effect / 3D** allows you to convert the right/left display of an MPO file with **Convert two images to one image Side by Side**. This conversion is automatic if you open an MPO file and save it as a JPS file.

Use **Mark Image as 3D left and right Image** to set an internal mark just for GraphicConverter, which enables the 3D functions. This is useful for images that are not recognised as 3D on the basis of their format.

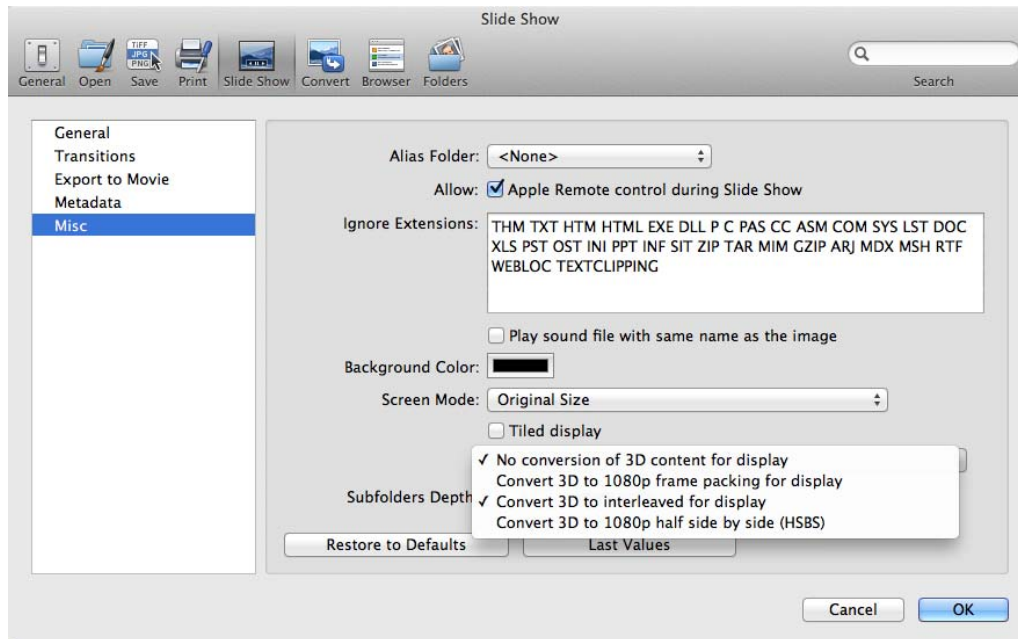
The small marks **R** and **L** that appear at the top of the image are not saved in the picture itself and are only used for orientation.

Use the options for swapping **right and left** if an image is not displayed correctly on a 3D television.

In the Preferences under **Slide Show / Misc**, the **Screen Mode: Convert 3D to 1080p frame packing for display** option can be used to display 3D pictures that contain pic-

## 3D Effect

ture parts placed next to each other, for example, in three dimensions on certain 3D projectors or televisions.



The two images contained are placed on top of each other. Your Mac's graphics card should be forced to use a resolution of 1920 x 2205 with the program Switchres ([www.madrau.com](http://www.madrau.com)). The format has the width of full HD and double the height plus 45 pixels for an intermediate bar because the two pictures are on top of each other. The 3D projector recognizes the format and turns it into a 3D picture.

**Convert 3D to interleaved for display** allows you to convert the picture parts from a 3D image into an interleaved picture. The monitor resolution is queried and applied as this is the only way to ensure that the two pictures are written alternately in the lines. The format 1080p is therefore only available via **Effect / 3D**.

**Convert 3D to 1080p half side by side (HSBS)** allows you to convert the picture parts from a 3D image into an interleaved picture. HSBS stands for Half Side By Side. "Half" refers to the resolution because the horizontal resolution is halved in this format. Only half of the horizontal full HD resolution of 1920 pixels is available for each picture part. Some projectors and televisions require this format.

If the **Swap left and right Image upon Conversion** option is selected in the **Effect / 3D** menu, it will also apply to slide shows. All conversions during the slide show are only temporary. The files are not modified.

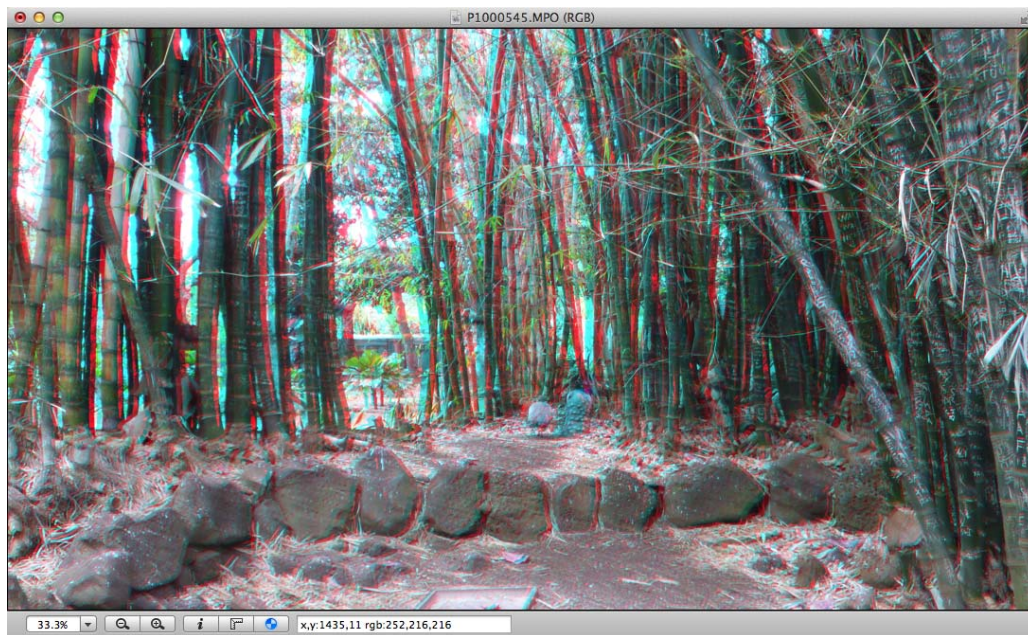
The functions in this pop-up menu are also available for editing individual pictures via the **Effect / 3D** menu.

**Effect / 3D / Swap left and right Image** allows you to swap the images in 3D pictures. Use this function if 3D pictures are not displayed correctly. **Swap left and right Image upon Conversion** allows you to activate swapping permanently for conversions.

**Effect / 3D / Convert to Interleaved** allows you to convert 3D pictures into interleaved format without modifying the resolution.

**Effect / 3D / Convert to 1080p Interleaved** allows you to convert 3D pictures into Interleaved or Interleaved 1080p as some projectors and monitors require this. 1080p means that the pictures are scaled proportionally so that they correspond with the height of Full HD. If necessary, black bars are added at the edges (letterbox).

Another possibility to view 3D images on a computer monitor is to convert them into **Anaglyph / Red/Cyan** or **Red/Blue** via the **Effect / 3D** menu. The two images have different color coding and are copied to an image. With **Effect / 3D / Adjust Parallax of Red/Cyan Anaglyph** you can improve images if the offset is not correct.



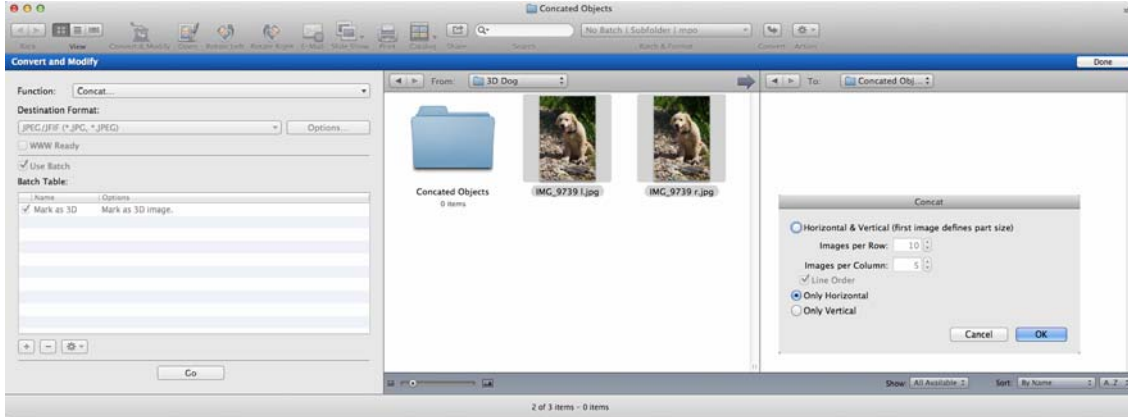
You need a special pair of glasses to view them. The disadvantage of the method developed in Leipzig by Wilhelm Rollmann back in 1853 is that the colors are not displayed realistically.

## Create an MPO file from two picture files

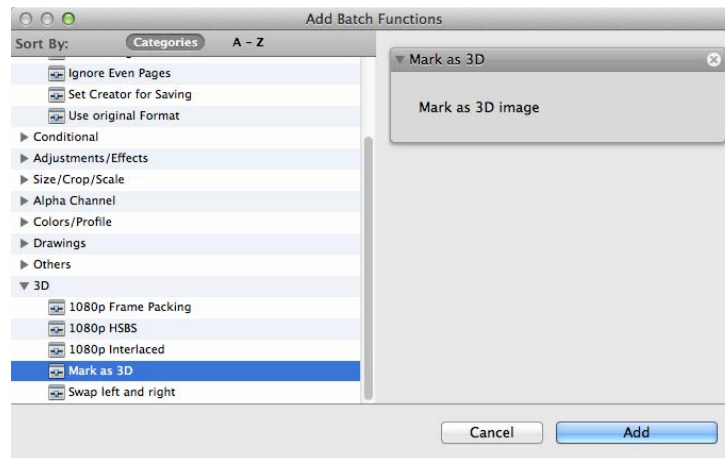
If you have two individual pictures that you want to join to make a 3D picture, you can create a file in which the left picture is on the left and the right picture is on the right by using the **Concat...** function in the **Convert & Modify** dialog or **Effect / Concat all Images / Horizontal**. Save the picture in a subfolder to keep things tidy. You can create the

## 3D Effect

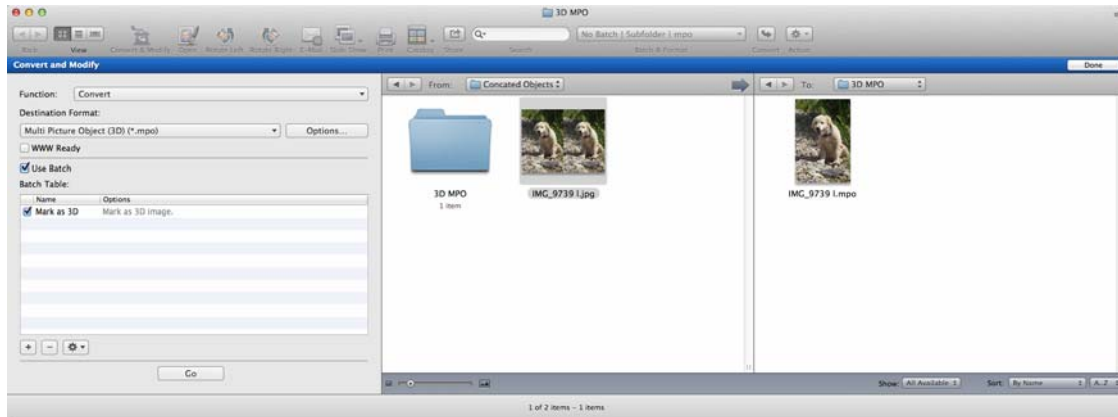
subfolder via the context menu. After clicking **Go**, a dialog appears where you should select **Only Horizontal**.



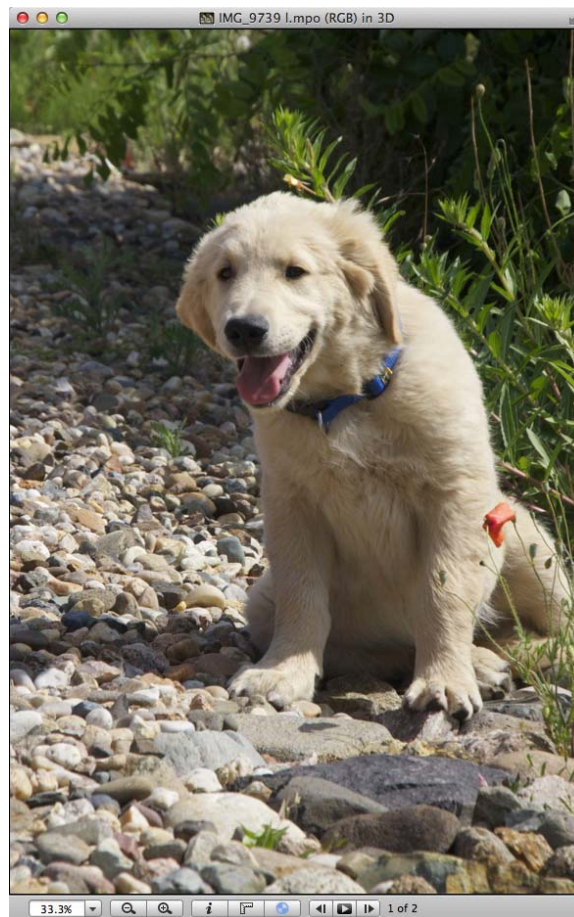
In the second step, select **Convert** and select the format **Multi Picture Object (3D) (\*.mpo)**, which will only be displayed if you select **Show All** and open the pop-up menu again. In addition, select the **Use Batch** check box and add the **Mark as 3D** batch by clicking the plus sign and by double-clicking the batch under the **3D** section of the dialog that opens or by dragging it into the right-hand area. **Mark as 3D** is then available as a batch in the Convert & Modify dialog. The marking is only required internally in GraphicConverter in order to distinguish 3D pictures from normal pictures.



Select the newly created file with the two pictures next to each other from the subfolder and open or create a destination folder in the right-hand column. Click **Go** at the bottom left to start the conversion. The 3D file will be created in the destination folder.



Open this file to check it and click the triangle pointing right in the lower window frame to switch to the second picture. If the second picture appears, the conversion was successful. The MPO file is displayed in 3D on suitable devices.



## Transparency

For the Internet and also for printing, you may need pictures with transparent areas through which something in the background is visible. The transparent areas are marked in an alpha channel or a color is defined as transparent. Newer internet browsers like Safari 3 or FireFox 3 use an alphachannel for transparency.

### Transparency by alphachannel

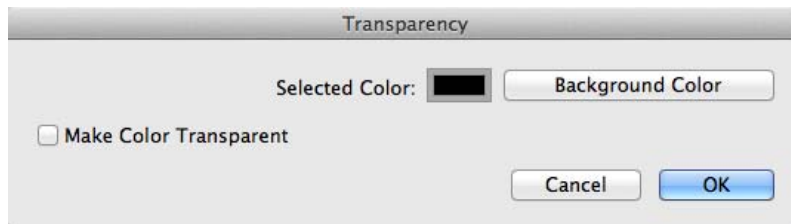
First select the transparent area with the magic pen or another selection tool.

The transparency tool is good for areas of one color only.



If you click a pixel with the transparency tool, all other pixels with the same color will be set to transparent and displayed with a chessboard pattern. The picture areas do not have to be connected to be set to transparent.

By double-clicking the icon in the toolbox, you can make transparency settings.



Single-click **Background Color** to set the current background color to transparent.

If you do not like the chessboard pattern, you can disable the **Alpha Channel / Display with mask** option in the **Preferences** under **General / Display Content**. The normal picture will then be displayed instead of the chessboard pattern.

**Edit / Make Selection Transparent** allows you to also make a normal selection transparent. For example, drag open a rectangular selection and select **Edit / Make Selection Transparent** to make the area transparent.

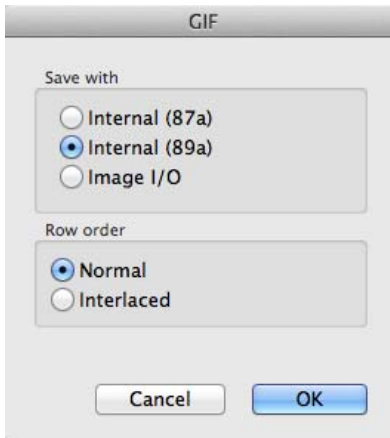
**Transparency for the Internet:** In the beginning of the world wide web alphachannels were not available for transparencys. Instead a color like, for example, white in the background of a button with rounded corners was defined transparent within the picture file.

Pictures, in which one color is set to transparent, can only be saved in **GIF89a**, **GIF Image I/O** or **PNG** format. To save in **GIF89a** or **GIF Image I/O** format, select **Save as...**



and select **GIF** from the format list. Now click **Options...** and select **GIF89a** or **GIF I/O**. **Image I/O** is done by the macOS. **I/O** stands for **in/out**. The other options in this dialog are freely selectable and not related to transparency.

**Image I/O** creates a GIF file with routines from the macOS which is a little bit faster. The compatibility is the same.



There is also a dialog with parameters for PNG format behind **Options...**, but these are not important for transparency.

## Zoom

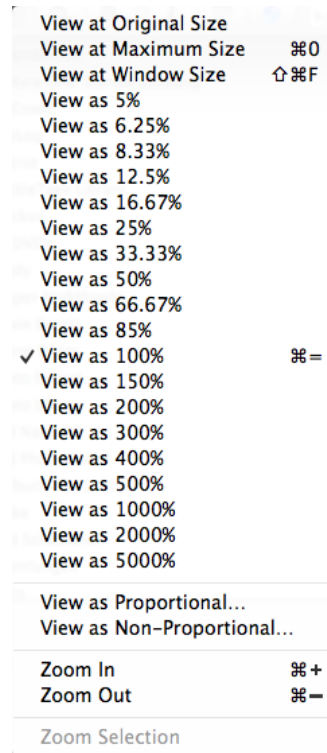
You can use the Zoom function to display pictures enlarged or reduced on the screen. The output size of the picture is not changed by this. The window size is adapted to the picture upon zooming if possible. This function can be enabled in the **Preferences / General / Display Windows** with **Main Window / Resize: Window after scale/zoom**. You can select the zoom level at the bottom left of the picture frame.



There are various possibilities here. You can select the number and overwrite it with the required zoom level. You don't have to enter the percentage sign. Press Return to com-

## Zoom

plete your entry. Single-clicking the black triangle next to the zoom level opens a pop-up menu where you can select zoom levels.



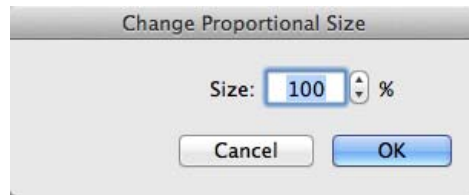
Some of the zoom levels have decimal places because the picture quality is particularly good on the screen with these values. Most other values have to be rounded up. This is why there can be unsharpness and step effects especially along diagonal lines. This problem only affects the screen display and does not have an effect on the picture. You get the best picture display with zoom level 100%.

You can zoom very quickly by pressing Command key and + (plus) or Command key and - (minus). If you want keep your right hand on the mouse, you can zoom into the picture by holding down the Command key and spacebar and then clicking it. You can then zoom out by clicking it while holding down the Option key and spacebar.

The **View at Original Size** option in the Zoom menu enlarges or reduces the picture so that it appears on the screen the same size as when printed out except for slight differences. However, your monitor needs to be set to the respective standard resolution. On a 15-inch monitor that would be 640x480, on a 17-inch 800x600 and on a 20-inch 1024x768 pixels.

To enlarge a picture to fill the screen, select **Picture / Zoom / View at Maximum Size**. The **Picture / Full Screen** option is similar, except that it hides everything but the picture. The picture appears at the current zoom level on a black background. You can quit this mode by clicking or pressing a key.

The **View as Proportional...** option opens a dialog where you can enter the required zoom level.



You can use **View as Non Proportional...** to display a picture distorted by just changing one of the two values, for example. You can use this function to try out distortion effects. The distortion is only saved when you select **Picture / Size** and then **Burn In** and then save the picture.

The **Zoom Selection** option is only available if a selection has been defined and zooms the picture so that the displayed picture section is about as big as the current selection. The top left-hand part is displayed, not the selection area. If necessary, scroll with the sliders or move the picture section with the mouse while you hold down the spacebar.

There are two buttons in the window frame to the right of the zoom level, depicting a plus and a minus. Clicking the plus or minus button switches to the next zoom level down or up.



You can use the magnifying glass to zoom in two ways. Click the magnifying glass in the toolbox (you may need to select **Window / Show Toolbox**). If you click the picture with the magnifying glass, it will be zoomed to the next level up. If there is not enough space for the picture on the screen, the section of the picture that you clicked will be displayed as centered as possible. If, for example, you want to enlarge a person's face, click the face until it is displayed large enough. To reduce, hold down the Option key and click the picture.

You can also drag a rectangle across the area, which is to be enlarged. The zoom level is selected so that the rectangle content fills the window. The rectangle therefore automatically has the same proportions as the window.

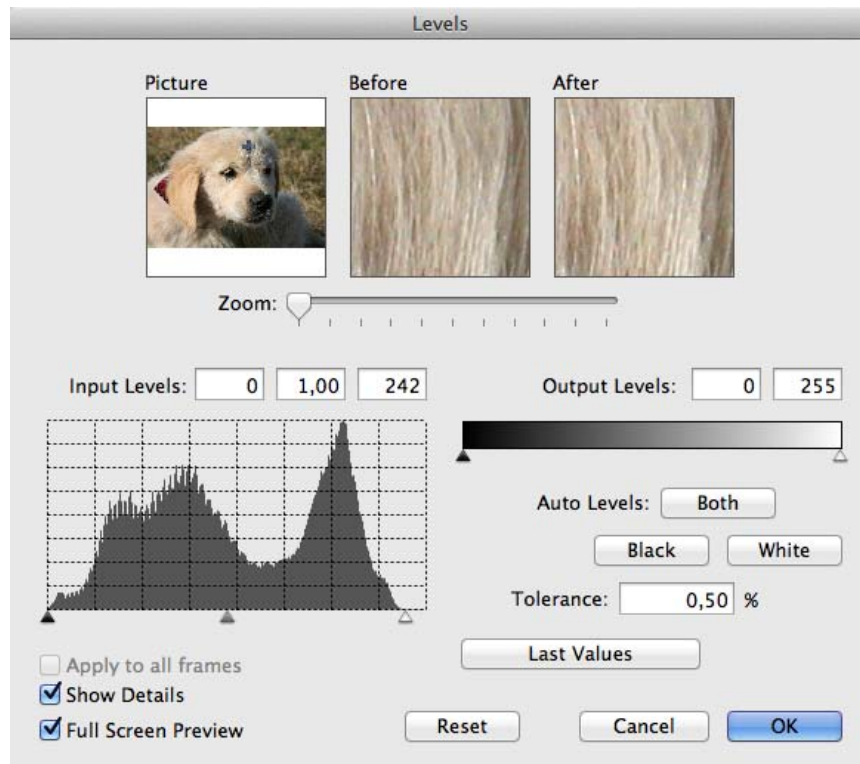
If you select very high zoom levels such as 1000% to edit individual pictures, it may become difficult to see the individual pixels in single-color areas. You can therefore select the **Show pixel bounds** options in the **General / Edit** section of the Preferences to display a thin black line around the edges of the pixels. These lines are not part of the picture and are not saved in the picture file. The maximum zoom is 5000%.

## Levels

*Summary:* By selecting **Picture / Levels...**, you can modify the levels for white, black and midtones. **Picture / Auto Levels** has the same effect as clicking **Both** in the Levels dialog.

## Levels

Each normal photograph contains lighter and darker areas. The levels form the path between the lightest and darkest points. The further these points are apart, the better the picture looks. Which brightness levels occur how frequently in the picture is shown in a diagram in the Levels dialog under **Input Levels**.



The black point is at the left-hand end of the diagram. The white point is at the opposite, right-hand end. A purely black picture would have a maximum peak on the left-hand side and would otherwise have a flat diagram. You can use the **Auto Levels: White, Both, Black** to optimize the level of a picture that, for example, is too flat. Automatic level adjustments do not normally produce the required result. If a histogram does not quite reach the left-hand or right-hand edge, you can normally improve the contrast and the brightness of the picture considerably if you drag the left-hand or right-hand slider to the start of the curve. Further improvements are often possible if you move the center control slightly to the right or left. Adjusting the **Tolerance** value allows you to suppress undesired noise faults.

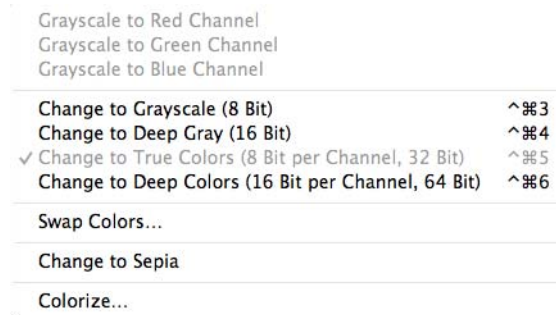
If the results in the preview are not satisfactory, you can undo all settings in this dialog by clicking **Reset**. You can select a section of the picture for the **Before** and **After** windows using the rectangle in the **Picture** window. Move the selection rectangle with the mouse and zoom to an appropriate zoom level. If you use the dialog frequently, you can select the respective last value with the spacebar.

Select **Apply to all frames** if all pictures in a GIF animation should be optimized at the same time.

If you are not an expert, it is easier to correct a flat picture with the **Picture / Brightness/Contrast...** option. Increase the saturation and the contrast particularly for flat colors.

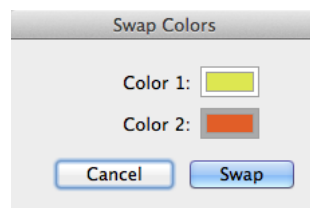
## Colors, Mode and Colorize

*Summary:* Under **Picture / Colors** you can change the **color depth** of a picture to save memory space, convert color pictures into black and white pictures or to create effects.



If you want to convert a True Color image into a grayscale image, select **Change to Grayscale (8 Bit)**. Alternatively, you can select **Picture / Mode / Grayscale**. It is only worthwhile selecting Deep Gray (16 bit) for pictures with Deep Color (16 bit per channel, 64 bit) in order to achieve better quality due to the finer graduation of the gray values. If you take a JPG picture with a digital camera, it will almost always be a True Color picture with 8 bit per channel that has a total color depth of 32 bit. Pictures with Deep Color are, for example, created by most digital single lens reflex cameras in which RAW format was selected.

Select **Picture / Colors** and then **Swap Colors** from the submenu to call up a dialog for swapping colors. This option is only useful for certain file formats.



KISS CEL format defines, for example, the color with index 0 as transparent. In this case, you can swap color 0 with your transparent color if it is not in position 0 in the color table.

Click the color example for color 1 or color 2 and select the color in the table displayed for palette pictures in the bottom section of the dialog. Note the further instructions for searching and replacing in the next chapter.

**Sepia** allows you to color an image as was common at the start of the 20th century.

**Colorize...** opens the Color Picker where you can select a color to color the picture after you click **OK**.

If you want to convert just part of a picture to grayscale, select it with one of the selection tools and open the context menu. Select **Convert Selection into Grayscale**. If you want to leave just specific parts in color, you can select them and then select **Invert Selection** from the **Edit** menu. You thus create an effect like with partly colored in black and white pictures. You can select several parts of a picture by holding down the Shift key and dragging open other selections. For further information on selecting see p 165 onwards.



## What is color depth?

Pictures can have different color depth levels. Black and white pictures without grayscales, for example, an engraving, have the shallowest color depth. Only one piece of information needs to be stored for each pixel: black or white. The computer requires two characters, i.e. one and zero, to display black or white. Only a single-digit number is needed for each pixel, either one or zero. This single point is called a bit. Black and white pictures without grayscales therefore have a data depth of one bit and use only one channel.

RGB images with a color depth of 8 bit per channel have a total color depth of  $3 \times 8 = 24$  bit and can contain 16.777.216 colors. Under **Picture / Color** these pictures are displayed as 32 bit pictures as 32 bit is the maximum of this mode.

Color depth and the maximum number of different colors are related in the following way:

Depth in bits	Colors
1	2 (B&W)
2	4

Depth in bits	Colors
4	16
8	256
16	32768
32	16.7 million
64	over 281 trillion

The number of colors is not the calculable maximum value because Macintosh computers only use 15 bit for 16 bit, 24 bit for 32 bit and 48 bit for 64. When you add an alpha channel, the value for the used bits increases to 32 or to 64 bit.

## 16 and 32 bit per channel

RAW files of digital cameras contain 12 or 16 bit per color channel. From version 8.1 GraphicConverter supports up to 16 bit per channel for TIFF and RAW files on import. With 3 x 16 bit these pictures reach a total color depth of 48 bit which is also called Deep Color and can display 281.474.976.710.656 color (over 281 trillion). Under **Picture / Color** these images are shown as 64 bit pictures as 64 bit are the maximum of this mode.

16 bit pictures can be saved with full color depth in TIFF, PNG and PSD format only.

The higher the color depth the more colors can be differed. Especially structures look more realistic and jaggies in color gradients can be avoided virtually completely. The second advantage is that image manipulations like especially brightness, contrast and saturation work much better. You can correct too bright or too dark pictures without seeing bright parts becoming too bright or dark parts becoming too dark. When brightening a picture noise can increase considerably.

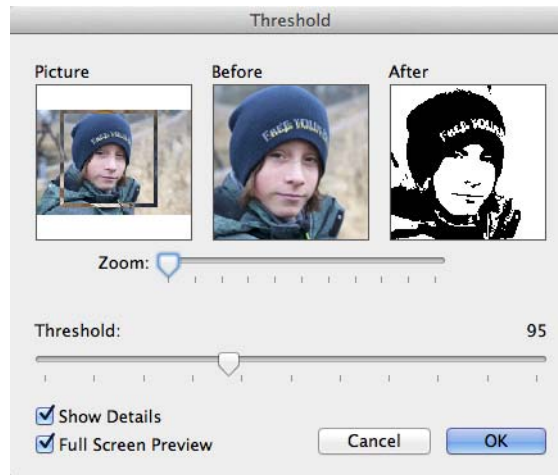
It pays to keep the 16 bit per channel when a picture still has to be optimized. If it is only intended for print or monitor display, you can reduce file size considerably by changing to 32 bit mode under **Picture / Colors**. This is because graphics cards, monitors and printers (except for high-end professional devices) only support 8 bit per channel. Normal offset printers also support a maximum of 8 bit per channel.

Pictures with **32 bit per channel** can be opened and saved in Tiff format with 32 bit per channel. This increased depth of data is used in the HDR and video sector.

## 1 bit as an effect

Color or grayscale pictures can be converted into pictures with a color depth of one bit. This technique is worthwhile when you want to create an effect.

Always view 1-bit pictures with a zoom level of 100 % if you want to judge the quality as all other zoom levels hide the results too greatly. This applies in particular for zoom levels under 100%. **Effect / Black&White / Threshold...** allows you to convert pictures into pure black and white and determine the ideal threshold value with the slider. The image remains in grayscale mode, but is automatically saved as a 1-bit image. You have to use the TIF or PNG format. There is no other way to do this under macOS 10.7 or newer because the QuickDraw library is not supported in 64-bit mode. The next time that the image is opened it is converted again into a grayscale picture which will not lead to losses in quality as long as you do not adjust the brightness etc.

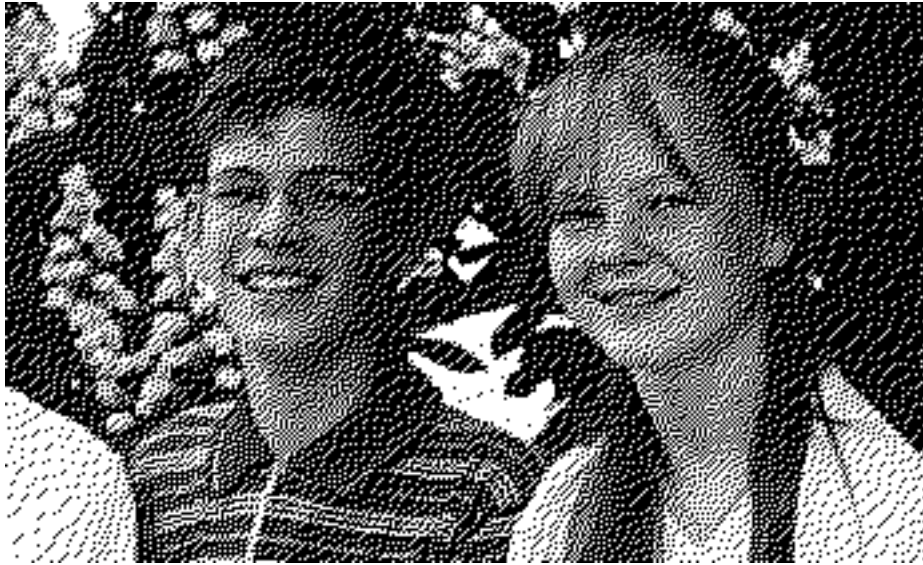


The dialog provides an overview, in which a selection rectangle can be set and moved to display the before and after results. Zoom is for the example section. Please note that the best threshold value should take the important light parts of the picture as well as the dark areas.

If you want to imitate grayscales with 1-bit images, you can use other dither patterns. The Floyd Steinberg dithering creates particularly balanced pictures in which you can hardly see the structure. You can access this option by selecting **Effect / Black&White / Floyd-Steinberg**. The dither functions in the **Effect** menu return the results in a new win-



dow. You can quickly switch back to the original picture if you are not happy with the results and want to try a different dither option.

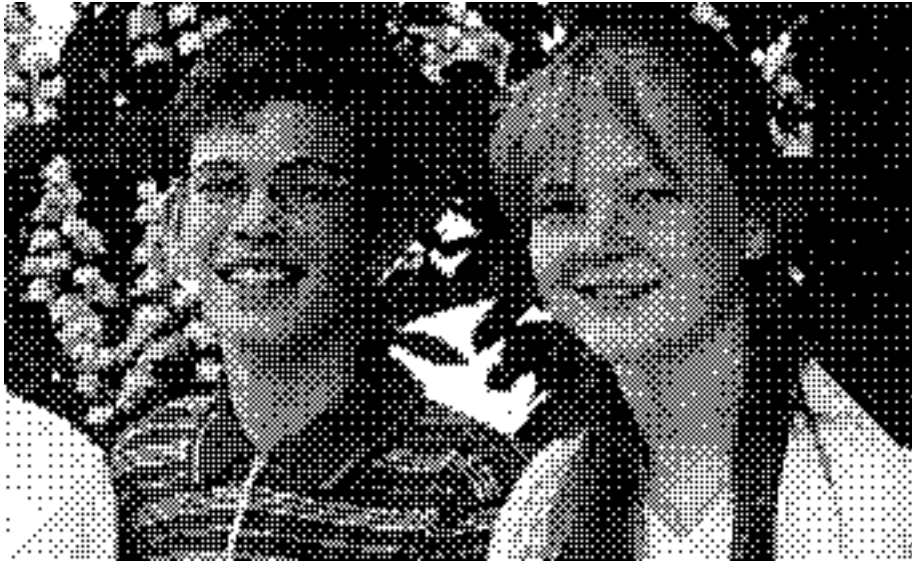


**Atkinson** dithering is even better with most pictures.

**Ordered-Dither** in the **Effect / Black&White** menu forms a pattern made up of squares. You need to select the size of the squares in pixels from a submenu. Here is an example of squares with 2x2 pixels.



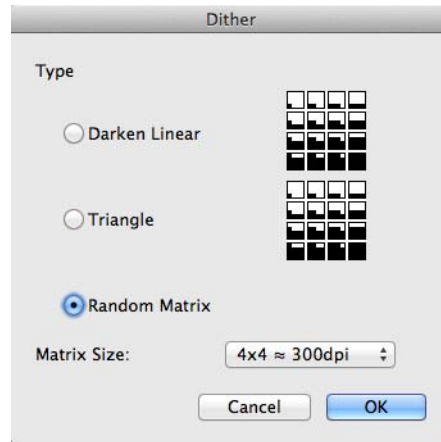
If you select 4x4 pixels, the pattern will become accordingly coarser:



With 6x6 pixels, the squares are so large that their structure enters the foreground greatly. This impression only goes away when you look at the picture from a great distance.



You can dither a picture “correctly” with the **Effect / Black&White / Dither...** option. Various dither options are available. As the dither types have a different effect on each picture, you should try out several variations if you are not sure.



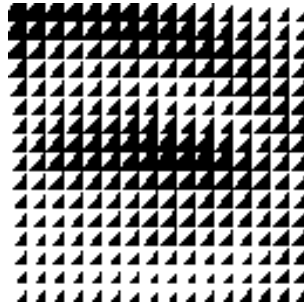
Each pixel in the source picture is displayed by a field made up of 4x4 black or white dots, for example. The size of the field can be selected in the bottom part of the dialog. The more pixels you select for the matrix, the larger the resolution of the picture in dpi.

The different possibilities for the field can be set in the dialog using **Darken Linear** and **Triangle** to display the different lightness values of the pixels from the source picture as best possible. The box on the top left has a black dot at the bottom left. Four of these dots fit next to each other and above each other to fill the box. This box is used for a white or almost white source pixel. White areas therefore have a slight grid pattern. The edges of the picture are quadrupled as 4x4 dots are placed for each source pixel.

A totally black source pixel will be represented by a square made from 4x4 black dots in our example. In-between values are assigned the closed field. As a comparison here is a greatly enlarged section from a source picture showing an eye ...



followed by a 8x8 dithered version of this section using the Triangle option:



Dithering makes pictures larger as several dots are set in place of each source pixel. The edges are four times as long with a matrix of 4x4. The size of the matrix indicates the enlargement factor. To avoid this, you can reduce the picture before dithering. After dithering, pictures can only be scaled with considerable quality losses.

Here is our example picture dithered with **Darken Linear**, a matrix of 4x4 and reduced to quarter size beforehand:

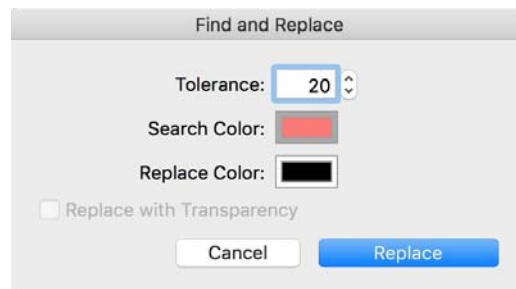


The **Random Matrix** normally creates relatively balanced results with less prominent structures. This option is preset with a matrix size of 4x4 pixels. Here is an example with a random matrix and 4x4 pixels:



## Find and Replace

In pictures with single-color areas, it can be worthwhile replacing one color with another. You can define a **Search Color** and a **Replace Color** by selecting **Edit / Find, compare and replace / Find and Replace Colors...**



## *Invert*

Position the dialog next to the picture and click the color sample for the Search- or the Replace Color. The color picker of the macOS opens.



In the color picker click the pipette below and click the color you want in the picture. Alternatively you can select the color within the color picker.

**Tolerance** is used to specify how far the found color may deviate from the selected search color. The greater the value, the more hues are recognized. For pictures in JPG format a value of about 20 makes sense as the compression causes slight differences in monochrome colour planes.

In normal photos, you can also create effects using this option that are similar to **solari-sation**. As a Search Color select a skin color from somebody's face and use a pastel color as the Replace Color.

If you want to swap two specific colors for each other, select **Picture / Colors** and then **Swap Colors** from the submenu.

## **Invert**

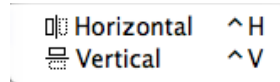
You can use **Picture / Invert / Normal** to invert the colors or grays in a picture to negative or from negative to positive. Use this function to convert scanned negatives into normal pictures or as an effect.

There are three different curves for color negative films. This is why GraphicConverter offers three **Variants** in the submenu. Simply try them out to find out which one provides the best results.

If you want to reverse the order of the pictures in a movie, select **Picture / Invert** and then **Order of Frames** from the submenu.

## Mirror

Imagine that the picture on the screen is a slide that you can turn around. If the top is still at the top, you will have mirrored it **horizontally**. If the top is at the bottom after turning, you will have mirrored it **vertically**. It is exactly the same in GraphicConverter with the horizontal and vertical mirror options. If you can't remember that, it doesn't matter. You can just try it out and, if necessary, undo the change. The small icons in the **Picture / Mirror** submenu helps, however.

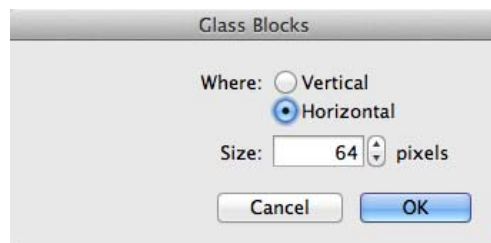


The white rectangle is the slide before you turn it. The line is the mirror axis that acts like a hinge and the gray rectangle is the slide after turning.

Normally you do not need to mirror pictures unless a slide or negative was accidentally scanned the wrong way round. Sometimes it is good to mirror a picture horizontally to optimize it for design purposes. You should remember, however, the realism of photos is affected, possibly with negative results.

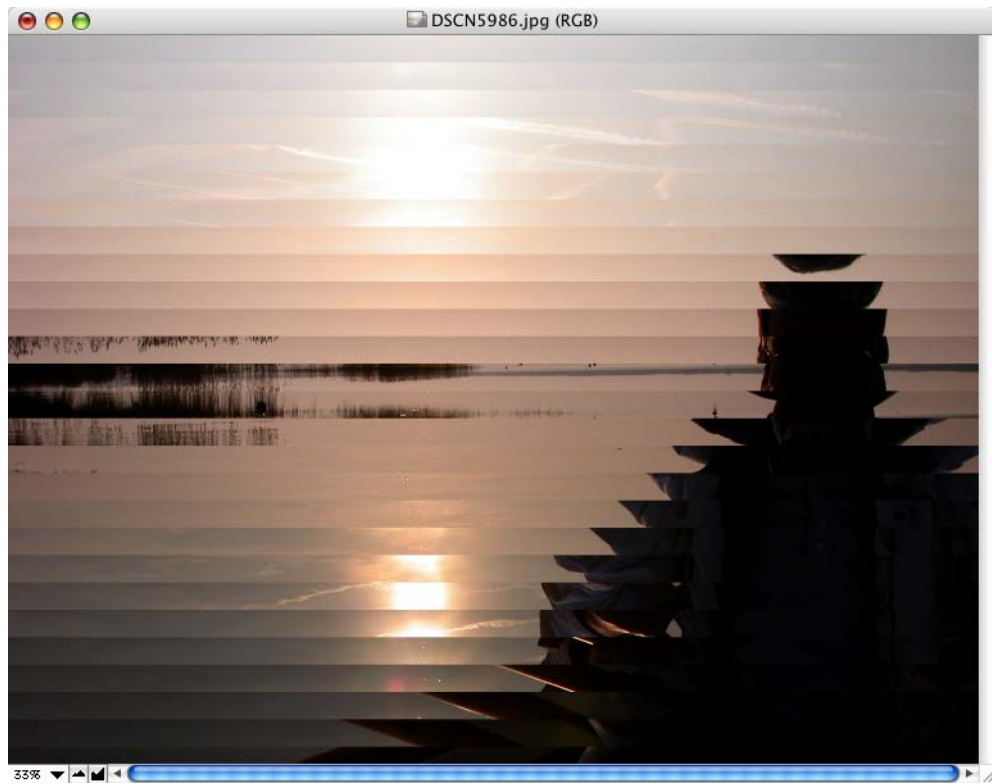
If you define a selection, only the selection will be mirrored.

**Effect / Glass Blocks...** allows you to mirror an image in strips. This can be used as an effect or as a simple copy protection. The follow dialog opens where you can specify whether the strips should be **vertical** or **horizontal**. The **Size** of the strips is the key to reversing the effect at any time by using the option again. If you are using this option as a simple copy protection for pictures that you want to pass on for demonstration purposes, you will need to protect the size of the strips like a password. The recipient can work out the strip size him or herself by simply measuring them, however.



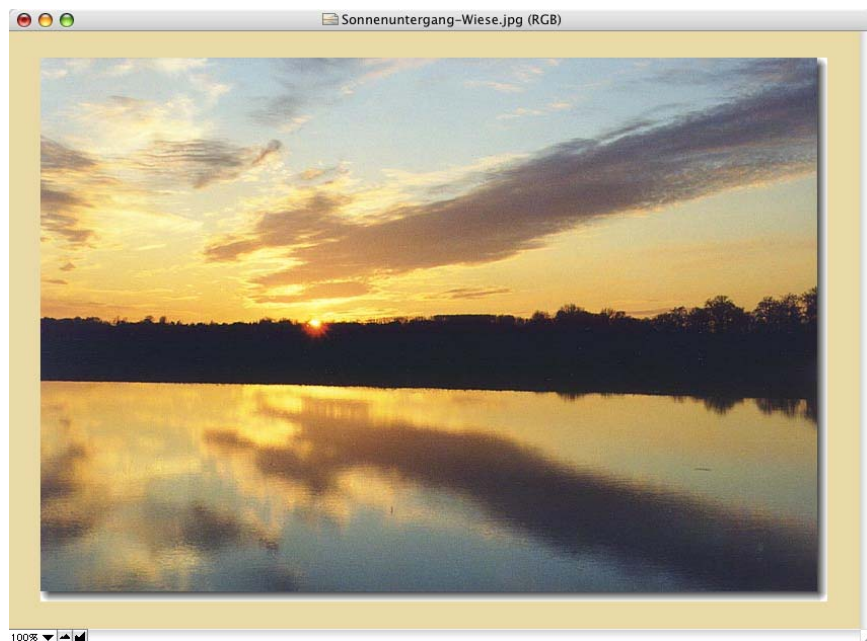
## Shadow

This is the result with an example picture:



## Shadow

**Effect / Shadow...** allows you to add a shadow around the right and bottom of an image.





With pictures that have transparency the shadow will be added to all contours.



After inserting the shadow, you may have to drag open the window slightly to see it. In our first example, the area around the image that is normally gray is yellow. You can choose the color in **Preferences / General / Display Content**. If your picture contains an alpha channel, the shadow will also be inserted there so that it is displayed transparently by programs like Safari. Select **Picture / Alpha Channel / Add** if your picture does not have an alpha channel yet.

Unskew

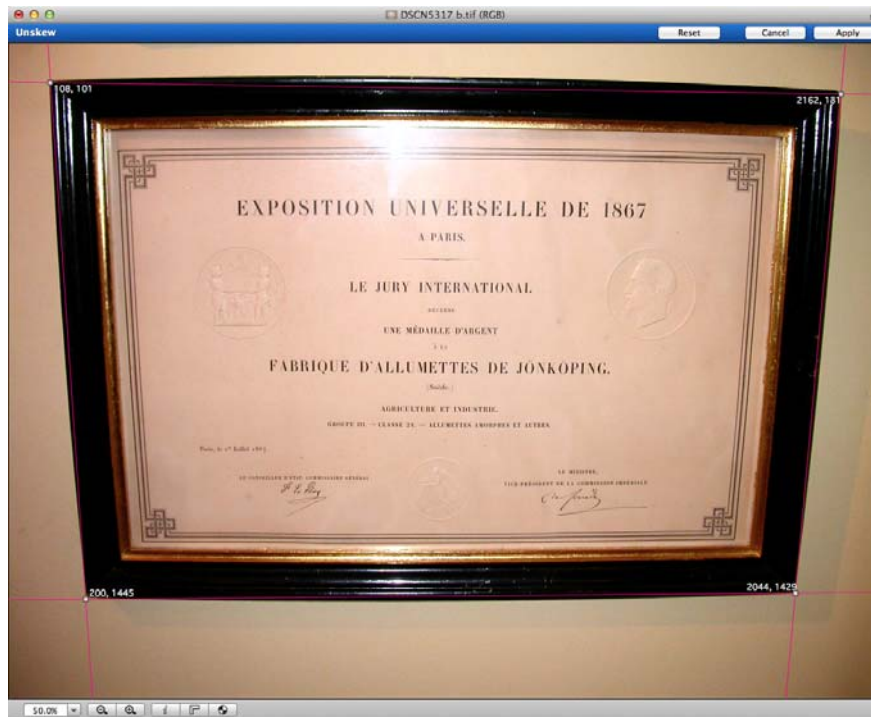
## Unskew

Often the perspective of houses or other rectangular objects appears distorted on photos. The following example picture was taken from above to minimize the reflection of the flash.

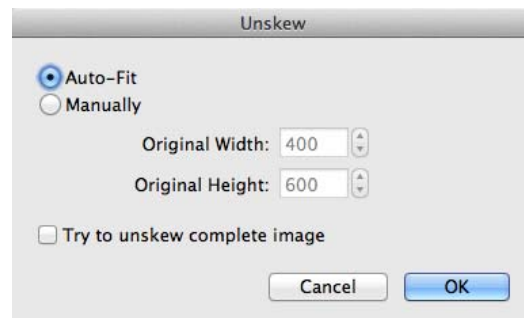


To unskew the picture choose **Effect / Unskew....** Four red lines appear over the image with handles at the junctions. Drag these handles to the four corner points of the object

that is to be unskewed and press Return to start unskewing. Alternatively you can click You can stop the procedure with Escape.

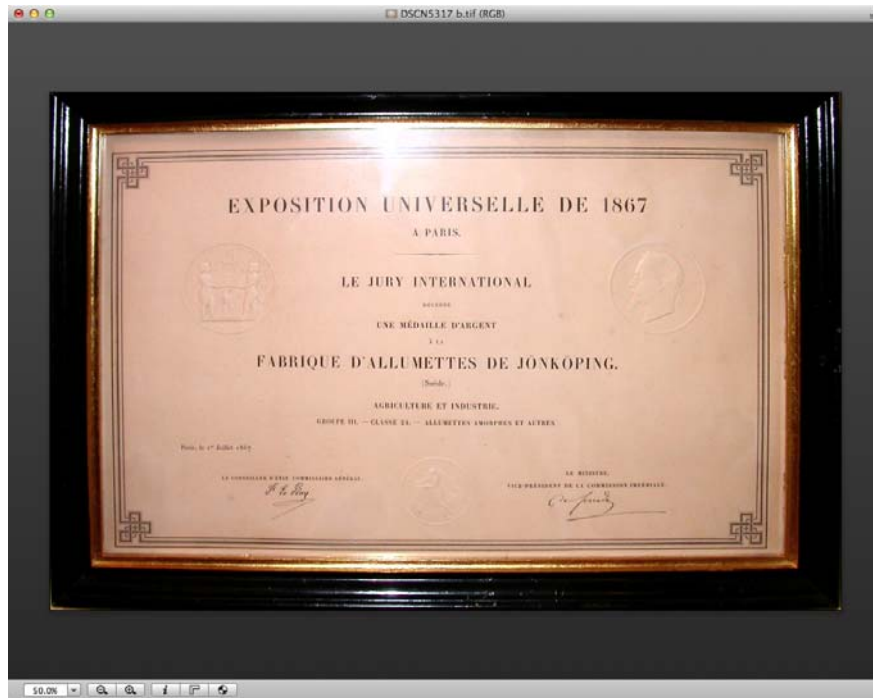


A dialog opens where you should select **Auto-Fit** to obtain the approximate size. If you require a specific target size, you can select it with **Manually**. Enable **Try to unskew complete image** to obtain the edges.



## Tilt Shift Effect (Miniature Effect)

Unskewing the picture may take a moment. The result is an unskewed picture. Trim the image as required to remove any unwanted edges.



It is a good idea to sharpen a little after unskewing.

## Tilt Shift Effect (Miniature Effect)

In the **Effect** menu the effect **Tilt-Shift** has been added. You can create a miniature effect with it. Fore- and background are set out of focus like it is possible with the tilt feature of tilt shift lenses. This effect is called miniature effect as pictures, for example, of model-landscapes often are taken with tilt shift lenses with focal lengths of 90 mm and higher so that especially at small distances and apertures between 1.2 and 2.8 the depth of field is extremely small. Tilt shift lenses are used to correct leaning lines that occur at a viewing angle like 12 degrees.

**Side note:** Instead of expensive tilt shift lenses you can also use the LensTRUE System to correct leaning lines. The LensTRUE System consists of a metal box you screw under your camera to measure the inclination and the horizontal angle in the moment you shoot your picture. The measurement data and the normal picture files are connected in the LensTRUE software „visualizer“ so a corrected picture in Tiff format with 16 bit per channel can be exported. These files can be processed in other programs like RAW files. Further advantages of the LensTRUE System are:

- You can work with any lens including zoom lenses and extremely high grade fixed focal length lenses.
- No more edge blur and no more vignetting like known from tilt shift lenses

- No more need for a tripod
- Correct proportions even when there are no objects with vertical edges in picture. Vertical edges are necessary for software-only-solutions.
- No more need for expensive tilt shift lenses.

The LensTRUE Software „visualizer“ is programmed by Lemke Software like GraphicConverter and is included in the box of the LensTRUE System. The visualizer is not available without the hardware as it works with the measurement data only. For further information please see [www.lenstrue.com](http://www.lenstrue.com).

## White Correction

Select **Effect / White Correction** or the White Correction tool if you want to remove a color or cast from a picture. It does not matter whether the color cast was caused by a camera error during automatic white correction or whether the light was colored when the picture was taken. In our example picture, the light was yellow because of a sunshade. There must be a point in the picture that should actually be white. Click this point. The white point will then be moved accordingly. If the colors are not improved, try with another point.



## Creating a GIF Animation

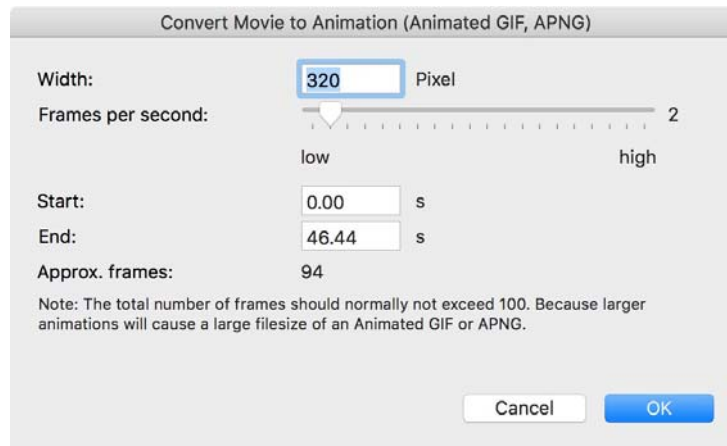
A lot of companies use banners to advertise on the Internet. These banners often are GIF animations.

The fade-in effects between the individual pictures give you the impression you are watching a small film or a slide show. This is why this kind of advertisement is so effective. The animated banner always catches your eye. The constant change awakes your

## Creating a GIF Animation

curiosity. Banners normally contain a link to the company's page. The link can be set up in an HTML editor as with any other picture. Every single picture is called *Frame* as this is usual in video technology.

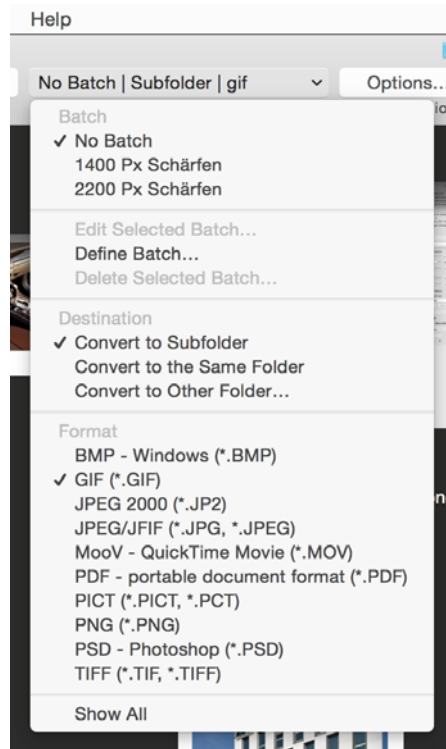
You can use GraphicConverter to create, open and edit GIF animations. The fade-in effects can be displayed, but not created. To do so use a video program like iMovie or Adobe Premiere and export your video in a standard format like .mp4. Open the video file with GraphicConverter and select **Effect / Channels/Frames / Convert Movie to Animation...** A dialog opens in which you can select the output width and the frames per second as well as start- and endpoint. Then the GIF file is created and saved to the source folder.



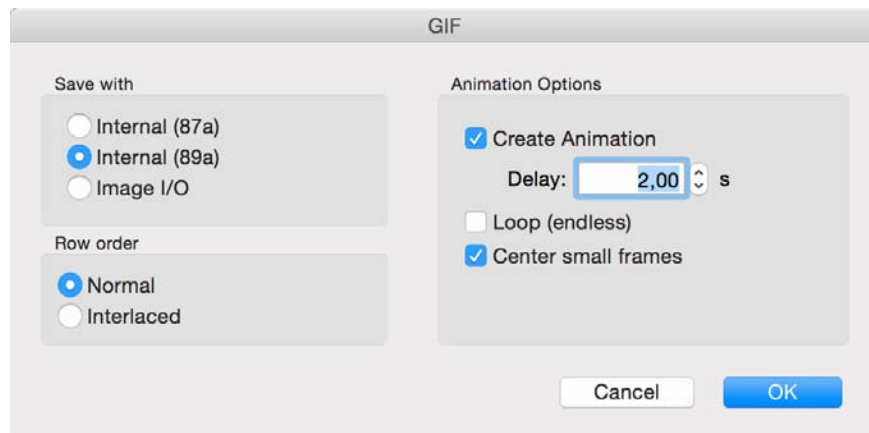
You can also create a GIF animation with GraphicConverter using **Convert & Modify**. Select the files to be combined on the left-hand side file list by pressing the Command key and clicking. Shift-click selects all files between the one you previously selected and the one you click. If you haven't selected a file, you can pick out a group of files by holding down the Shift key.

The files do not have to be listed one after the other in the dialog. However, you do need to select the filenames from top to bottom in the order that they will be played in the animation. Select a target folder and set the destination format to **GIF**.

If you have a row of single pictures you can easily create a GIF animation from the browser. Select the pictures and select the GIF format from the menu Batch & Format as well as No Batch and Convert to Subfolder.



Click the Options button to the right of the menu. The following dialog opens.



Enable **Create Animation** and enter the desired **Delay** which is the time every frame gets displayed. Enable **Loop** if the animation should be displayed endlessly. **Center small frames** centers pictures smaller than the other pictures of the animation.

You can use this function via Convert & Modify too. Select as **Function: Convert** and the **GIF** format. If you want to combine several GIF animation into a single one select **Convert GIFs to one GIF Animation**.

## Playing and Editing GIF Animations

If you open a GIF animation or a playable film in GraphicConverter, a “Play button” will appear at the bottom left of the window frame, like on a CD player.



Click this button to start and stop the animation or film. The buttons to the right are used to jump to the next or previous picture. These also work during playback. The number of the current picture in the sequence of pictures is displayed in the next box. The number after the slash is the total number of pictures contained in the animation.

You can call up the palette for further settings by selecting **Window / Animation (Animated GIF / APNG)**. This palette is constantly updated while the animation is running to show the settings for the current picture. Stop the animation to change the settings.



You can move individual frames in this palette. You can enter the time a picture is displayed in the box next to **Delay** in seconds with up to three decimal places. The value for all pictures can be set to the value displayed with **Apply to all**.

All pictures are normally the same size. If you want to add pictures of different sizes to a GIF animation, the largest image needs to come first.

Click the gear wheel to open the menu for further functions. **Remove selected frames** deletes the current frame. **Insert new frame from clipboard** adds the picture from the clipboard.

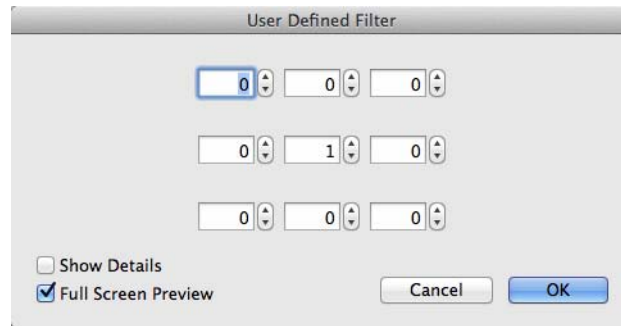
To obtain an exact impression of a GIF animation, you should open it in a browser. Drag the file onto the Browser icon.

With **Effect / Animation/Frames / Reverse Order** you can invert the sequence of frames in an animation. This is handy, for example, for motion sequences like rowing as you only need to create the first half of the sequence. Even faster you can achieve this aim with **Append in reversed Order** from the same menu.



## User-defined Filters

You can define your own filters using **User Defined Filter...** in the **Effect** menu.



This filter can unsharpen pictures or create other effects depending on the entries. You can enter values between -255 and 255 in the boxes. If all outer fields are set to 0 and the center ones contain a 1, the filter will have no effect. If you set all boxes to 255, the filter will have maximum unsharpening.

It is very difficult to find the correct value between too soft and too sharp. Define several examples until you achieve the required unsharp effect.

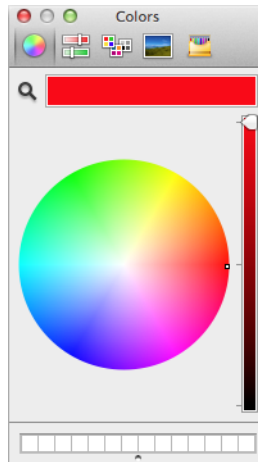
## Color Permutations

The six color permutation filter changes the colors of a picture on the basis of certain rules. The HSV color model is used, in which the colors are arranged in a circle. If a picture with at least 16-bit color depth (see **Picture / Colors**) is open, you can open the Color Picker by clicking the foreground or background color in the toolbox (you may need to select **Window / Show Toolbox**).

The **color** changes with the angle. If you imagine a clock face on top of the color circle, the red hues are from 0° to 3 o'clock. You can find the other primary colors by moving the "fingers" on the imaginary clock. The **Saturation** of the color is defined by the distance

## Color Permutations

from the center point. The brightness (**Value**) can be set with the slider under the color circle. The color permutations only change the color, not the saturation and brightness.

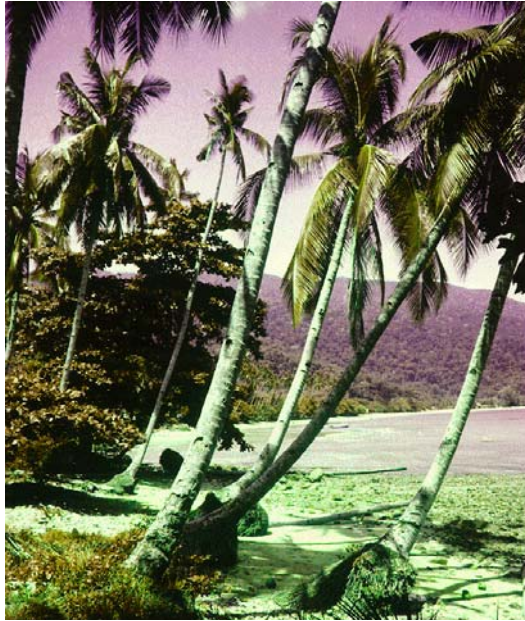


## Chromatic Involution

**Chromatic Involution** changes the colors in a picture in the same way as you transpose a piece of music from C major to F major on the basis of certain rules. First of all, here's a Malaysian beach as it was originally photographed:



And after chromatic involution:



The contrast intervals and the “color harmony” are thus maintained. The contrast intervals are related to:

- Brightness differences of colors
- Angle differences of colors on color circle
- Saturation differences of colors

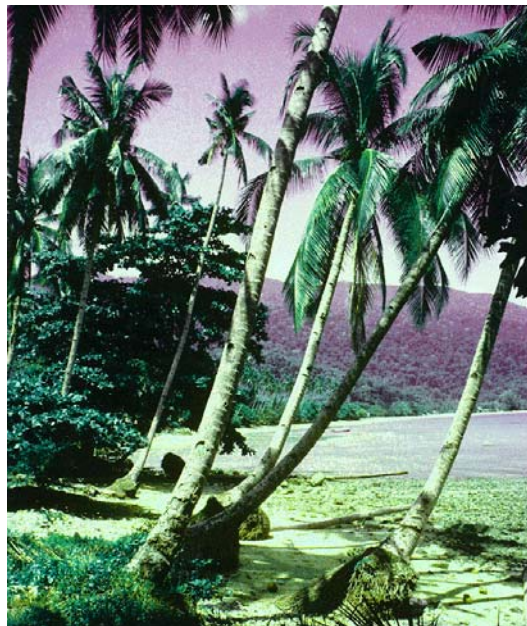
The chromatic involution is particularly interesting for artists, art experts and perception psychologists. You will find more information on the Internet at: <http://math1.uibk.ac.at/~liedl/>

## **Color Rotation by 15 Degrees Clockwise**

All colors are moved 15 degrees clockwise in this color permutation.



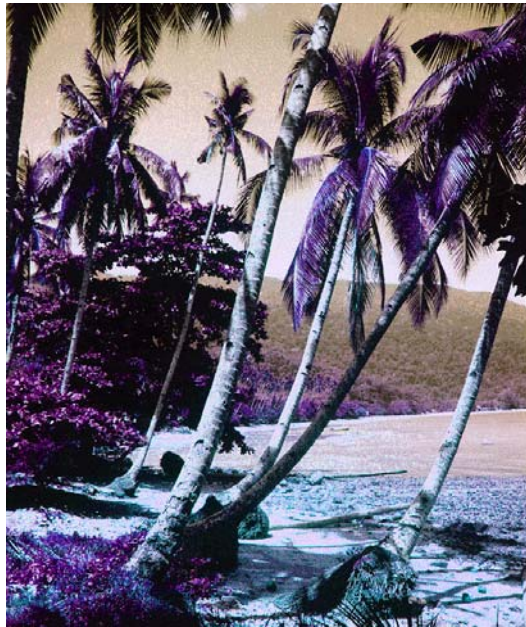
The change compared with the original can hardly be seen, but the effect is increased when you apply the filter several times. Applying it five times results in a total rotation of 75 degrees and the changes become more noticeable:



## **Centric Involution**

Centric involution replaces all colors with their complementary colors. As the values for S and V are not changed, this is not the same as invert, which would create a color negative.

Complete inversion is available in the **Picture** menu. Centric involution corresponds with a color rotation of 180 degrees.



### Cold-Warm Involution

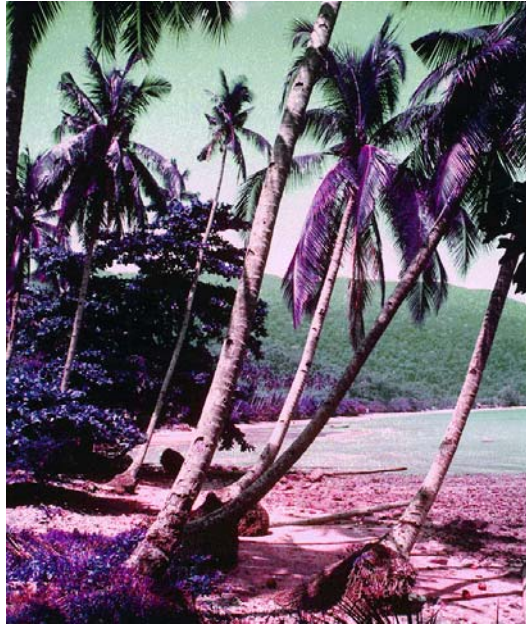


Cold-Warm involution swaps all cold colors for warm colors and vice versa. Yellow-green and purple colors are unchanged.

the results are similar to chromatic involution. The involution axis is turned clockwise slightly, but starting from yellow-violet unlike chromatic involution.

## **Isothermal Involution**

Isothermal involution keeps cold colors cold and warm colors warm.



Orange-red and turquoise-blue colors (the sea) are not changed. Yellow-green colors are replaced with violet hues, however.

## **Involution around the Red-Green Axis**

Involution around the red-green axis swaps the yellow and violet colors.



Red and turquoise colors are not changed in this involution.

**Color Rotation...** allows you to define your own angle for involution.

## Alpha Channels

*Summary:* An alpha channel can be displayed, deleted, made for the current picture and created from a transparency, path or selection under **Picture / Alpha Channel**. A selection cannot be made from an alpha channel.

Information on a picture that should not be visible can be saved in alpha channels. An alpha channel is an additional channel to the red, green and blue channels that contain the primary colors in RGB pictures and are mixed to create the colors in the picture. Pictures can also contain several alpha channels. GraphicConverter shows just the first and informs you if further alpha channels are contained in the picture. Alpha channels can only be used in pictures with a color depth of 32 bit and with PSD, TIFF, PNG, TGA, DDS, BMP and PICT formats.

Some picture editing programs allow you to save selected areas in an alpha channel. These areas are also called masks and are used, for example, to make a picture area lighter or appear transparent in a layout program. Alpha channels are also used for other purposes.

To check what information is contained in an alpha channel, select **Picture / Alpha Channel / Show in New Window**. Any mask contained is shown as a white area against a black background. In the following example, a mask was defined for the pullover in Pho-

## Alpha Channels

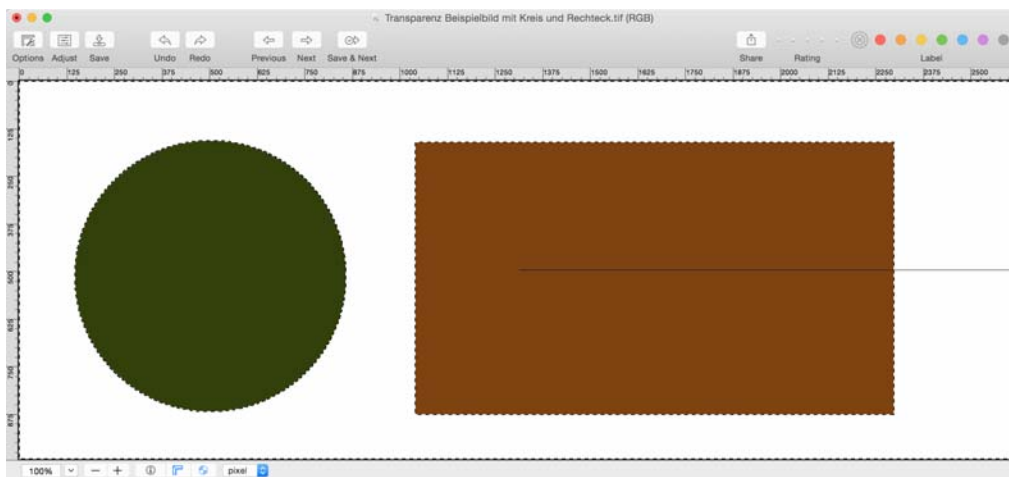
toshop so that it could be excluded when the picture that was previously too dark was brightened.



In GraphicConverter, you can define a selection with the lasso and then use **Edit / Invert Selection** to select everything but the pullover shirt and make it brighter.

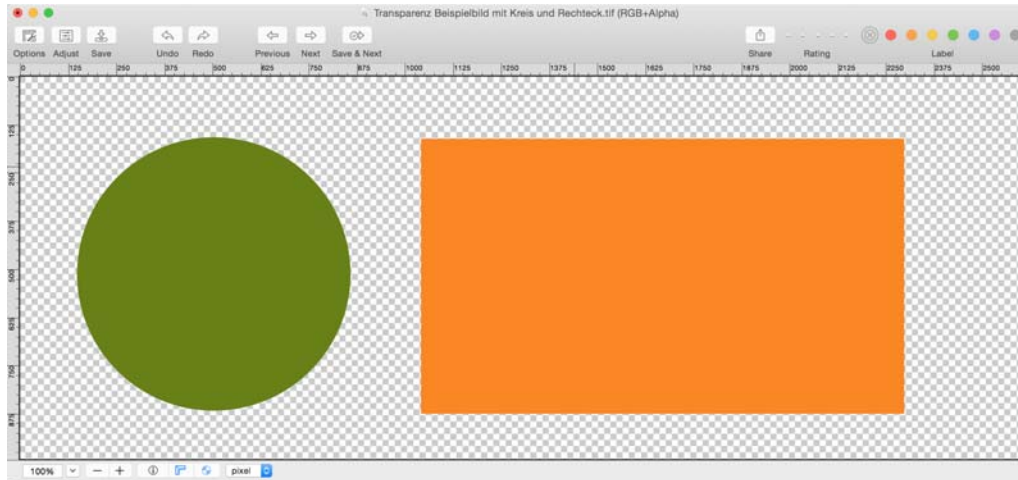
The content of the alpha channel can be deleted under **Picture / Remove Alpha Channel**.

If a picture contains transparent areas due to a transparent color or a selection, you can create an alpha channel by selecting **Picture / Create Alpha/Mask Channel from Transparency** or **Picture / Create Alpha/Mask Channel from Selection**. In the following picture the white background was selected with a click using the Magic Pen tool.





Select **Picture / Alpha Channel / Create from Selection**. The selected part of the picture is now displayed transparent as an alpha channel was created which is white in this part. The circle and the rectangle are black in the alpha channel.



If a picture contains a path created with Photoshop, you can convert it into an alpha channel with **Picture / Alpha Channel / Create from Embedded Path**.

**Convert premultiplied to non-premultiplied** and **Convert non-premultiplied to premultiplied** both swap the premultiplied mode of an image. Images in premultiplied mode can have advantages in particular if you are working with videos because the images can be mapped more quickly.

**Picture / Alpha Channel / Flatten** overwrites the picture content with the content of the alpha channel to make it visible. The “normal” picture information is then lost. Save the picture beforehand, if you have edited it, and then save the new picture immediately afterwards with a new name so you do not accidentally overwrite the source picture. The second example picture with the white pullover area was created with this function.

If, for example, a picture shows a bottle against a colored background and the bottle is black in the alpha channel, you can set the background to white with **Picture / Alpha Channel / Flatten**.

The **Picture / Alpha Channel / Add** option can be used to create an additional alpha channel that is completely black to begin with.

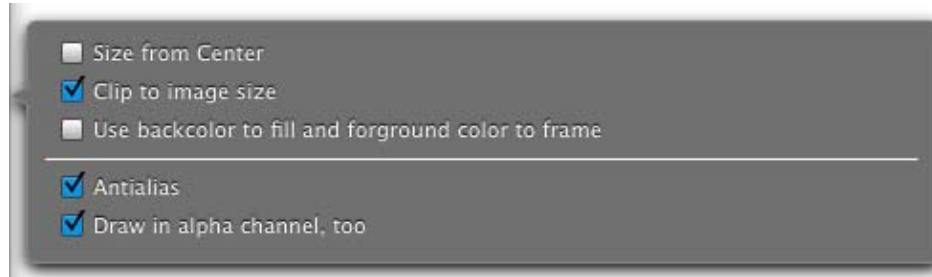
If you receive an image to which you want to add an alpha channel that is saved in another image, you can copy the alpha channel into the target picture via the clipboard. Open the source image, select everything with Command-A and copy the contents with Command-C. Next switch to the target image and insert the alpha channel with **Edit / Paste / Paste into Alpha Channel**.

If you open a picture with an alpha channel, but do not achieve the desired effect, this could be because the alpha channel needs to be inverted first. Select **Picture / Alpha Channel / Invert Alpha Channel** or **Picture / Invert / Alpha Channel**.

## Layers

If you delete parts of the picture with the eraser tool, deleting is also carried out in the alpha channel.

If you draw a line, a circle or a rectangle in a picture, it is also drawn in the alpha channel. Disable the **Draw in alpha channel, too** option if you do not want to draw in the alpha channel.

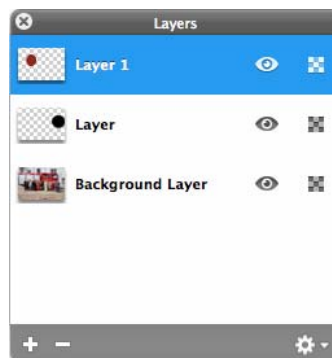


Open the options dialog by double-clicking one of the tools. The preferences apply to all drawing tools.

## Layers

In GraphicConverter, you can now use layers in pictures. Layers are like overlaid transparent films. You can save pictures with layers in the format **GraphicConverter Image Document** to work on them later and finally save them additionally as JPG or TIFF files. You can use layers, for example, to produce collages from several pictures. Select **File / New** and create a new picture that is large enough to accommodate your content and has the right aspect ratio. Select a suitable color for the background, for example, beige, and color in the background with the fill tool.

Open the layers palette via the Window menu and insert a new layer with the plus sign.



Copy the content of the other picture by opening it, selecting everything with Command-A and copying with Command-C. You can also select part of the picture, for example, with the lasso. Insert the copied content into the new picture with Command-V and position it as required. Click the chesspattern icon at the right hand edge of the layers palette to select the opacity of the layer to let the layer below shine through.

Continue with further layers and content until your collage is finished. To move the content of the layers again, click the required layer on the layer palette.

You can change the order of the layers with the mouse. This is useful if there are overlaps. You can move and transform layers via the context menu over an opened picture for faster working.

Clicking the eye symbol on the right of the layer palette allows you to hide the content of the respective layer. Clicking the transparency symbol you can change the opacity of the layer. Clicking the gear at the bottom right of the layer palette takes you to most functions of the Layer menu:

**New Layer** creates a new layer.

**Duplicate Layer** creates a new identical layer.

**Delete Layer** deletes the selected layer.

**Merge Layers** makes one layer out of the selected layer and the layer below it.

**Merge Visible** makes one layer out of all visible layers.

**Merge All Layers** makes one layer out of all layers.

In the **Layers** menu the following features are available:

**New Layer** creates a new layer.

**New Layer from Selection** creates a new layer containing the current selection. This is useful if, for example, you have selected a vase to use it on another layer.

**Duplicate Layer** creates a new identical layer.

**Delete Layer** deletes the selected layer.

**Hide Layer** makes the layer invisible as does clicking the eye symbol.

**Crop Layers to Canvas** is useful if a layer has become larger than the other layers, for example, due to scaling.

**Transform** allows to move and scale the active layer proportionally by dragging the corner handles. The middle handles scale unproportionally. Hold the command key to rotate the layer.

**Bring to Front** moves the selected layer to the top of the sort order.

**Bring Forward** moves the selected layer one level up.

**Send Backward** moves the selected layer one level down.

**Send to Back** moves the selected layer to the bottom.

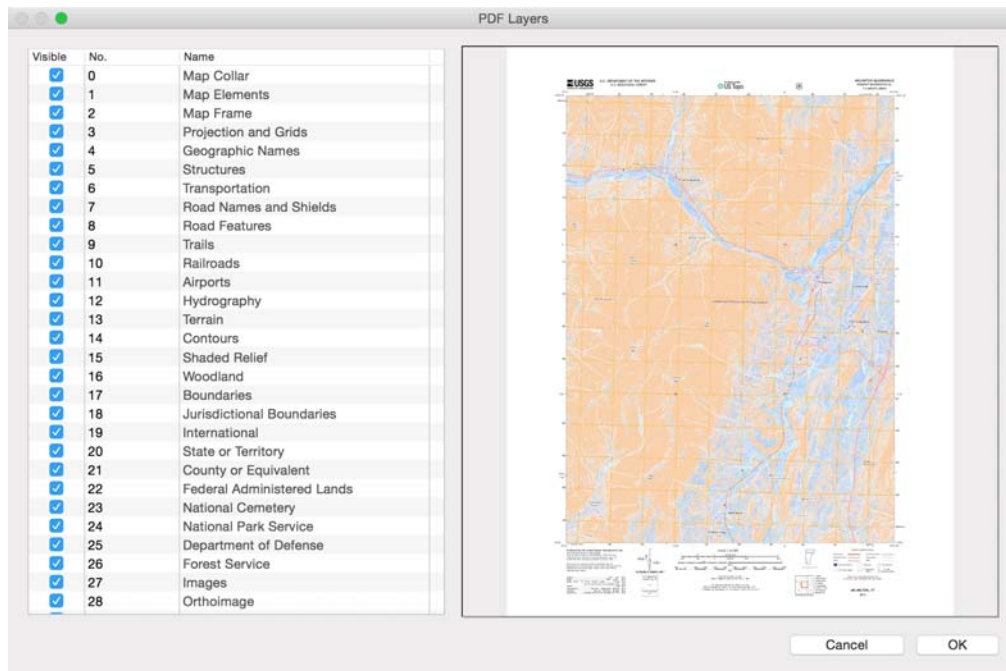
**Merge Layers** makes one layer out of the selected layer and the layer below it.

**Merge Visible** makes one layer out of all visible layers.

**Merge All Layers** makes one layer out of all layers.

## Text in Pictures

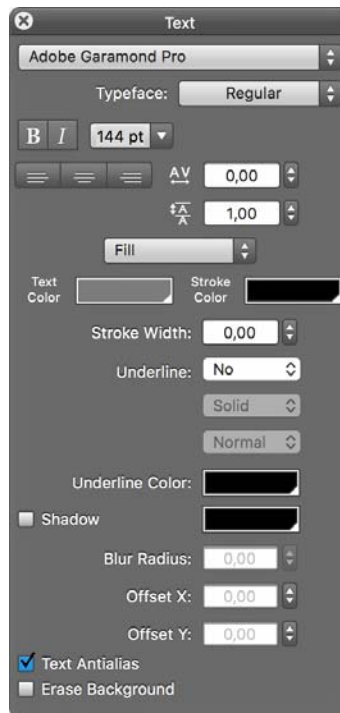
If a PDF file contains layers you can show and hide them with **Layers / Select Imported PDF Layers...**



## Text in Pictures

Click a picture with the **text tool** from the toolbox (**Window / Toolbox**) and a rectangular text object that you can write in will appear.

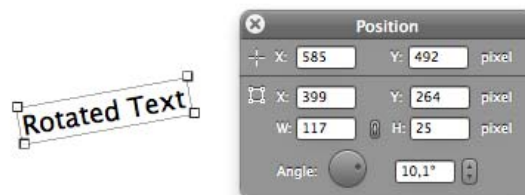
If the font is too small, you can select the font size, font and different styles like in a word processor. Select the required text part and, for example, modify the font size in the text palette that opens when you select the text tool.



The size of the text object adapts itself to the text as you write so that you do not necessarily have to use the handles at the corners.

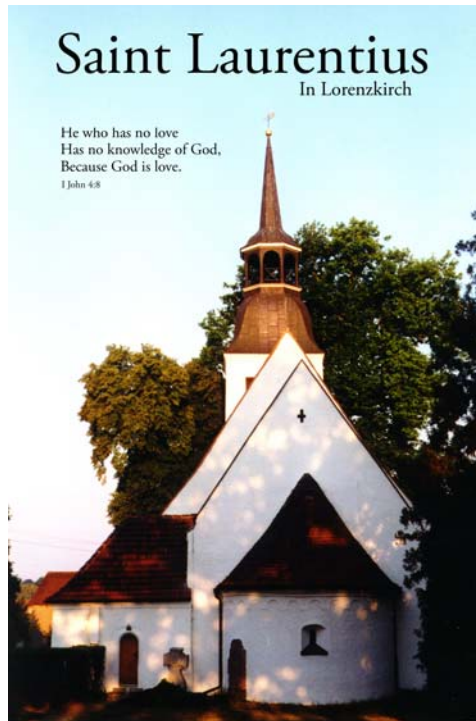
If you insert text over a picture that features prominent structures, it is often difficult to read the text. In this case, you can select the **Erase Background** option. A colored bar will then be inserted behind the text. You can select the color via the foreground color. The **Anti-alias** option allows you to smooth the edges of the font.

You can rotate text via the palette: **Position**. To do this switch to the pointer tool and click the text object. Click the round control in the palette and turn it like a real control knob. You can also enter the angle in the neighboring input box. Here it is easier to adjust the control in small steps if you hold down the mouse button, move it away slightly from the control and adjust it there. The size and the position of the upper left-hand corner of the selected object is also displayed in the palette.

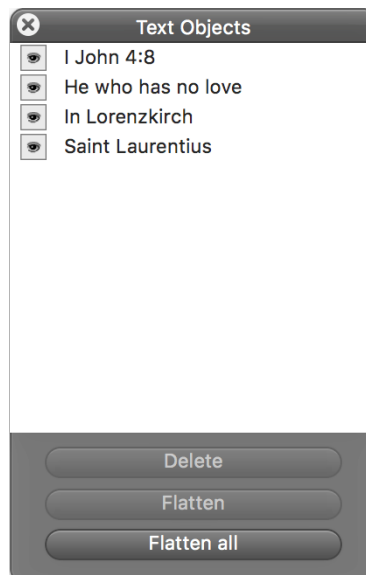


## Text in Pictures

If you click next to a text object, a new text object will be created. You can edit the different text objects by clicking them and then double-click the text to show a cursor. The cursor keys move the text frame, you can also use the mouse.




All text objects are listed in the **Text Objects** palette. The start of the text in the object is automatically used as a name. Click a text object in the list to select it.

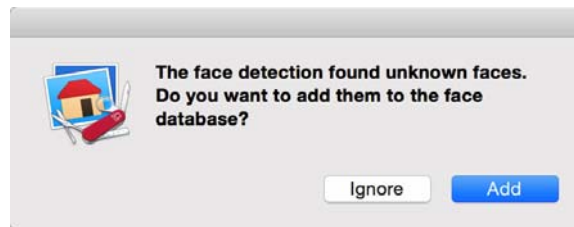


**Delete** allows you to delete text objects and **Flatten** incorporates text objects into the picture so that they can no longer be edited. **Flatten all** flattens all text objects at once. If a picture has several layers the text is flattened into the active layer. If you save the image in a normal file format, the text objects in the saved file are always incorporated into the

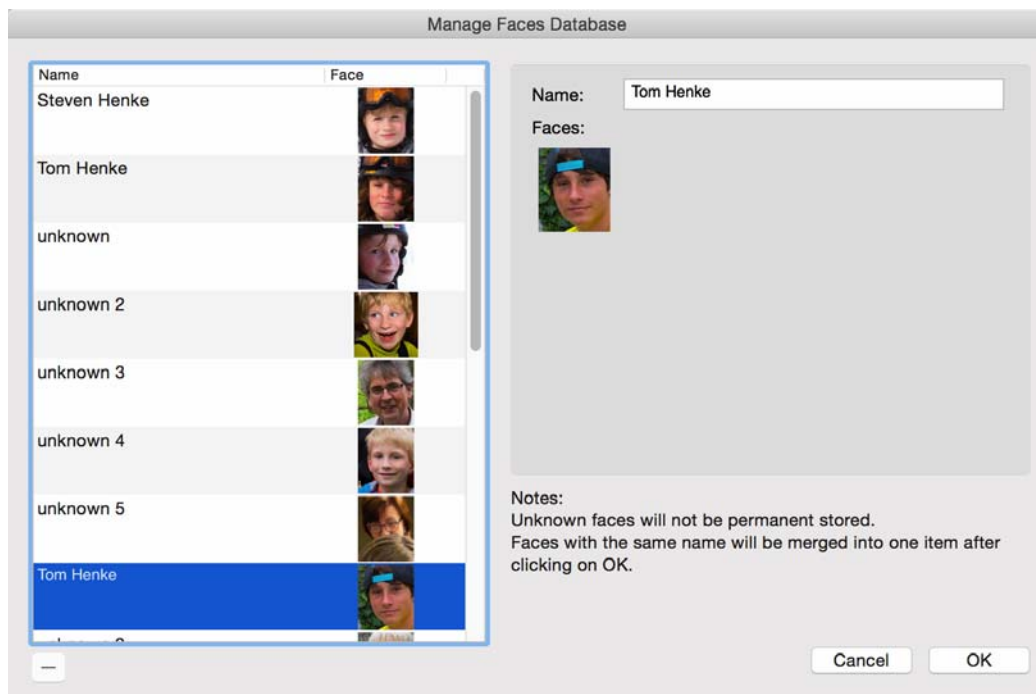
image as GraphicConverter supports levels in its own format only. To keep the text objects you need to save as **GraphicConverter Image-Document** (.gcmgd).

## Face Recognition

GraphicConverter offers a Face Recognition to help you to find pictures of certain persons. Select the pictures in the Browser you want to search for faces. Select **Find Faces and assign IPTC People** from the Faces menu  which is in the right section of the menu bar. If known faces are found the names are written into the files immediately. If unknown faces are found too, the following dialog opens:



Click **Add**. The following dialog opens:

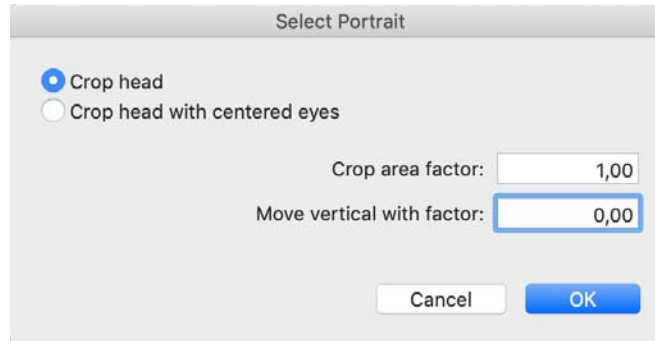


Click the faces and enter the corresponding names. Known names are completed automatically. If you do not enter a name for a face this information will be deleted when you quit GraphicConverter. It makes sense to enter first name and family name as the data for two identical names will be put in one record. If two persons have the same first and family name you should add a further information like a number or a place.

## Face Recognition

It can happen a part of a picture is recognized as a face but really is not a face. Delete this match with the minus button under the list. Only persons will be recognized, not animals.

You can open the dialog any time with **Edit Faces Database...** from the Faces menu if you want to edit records. In the same menu you can use **Select Portrait** to create a selection rectangle around the face you can use for further image manipulation. With **Select Portrait ...** you can choose how large the selection rectangle should be. Enter a higher value like 1,5 in the opening dialog as **Crop area factor** to get a larger selection rectangle.



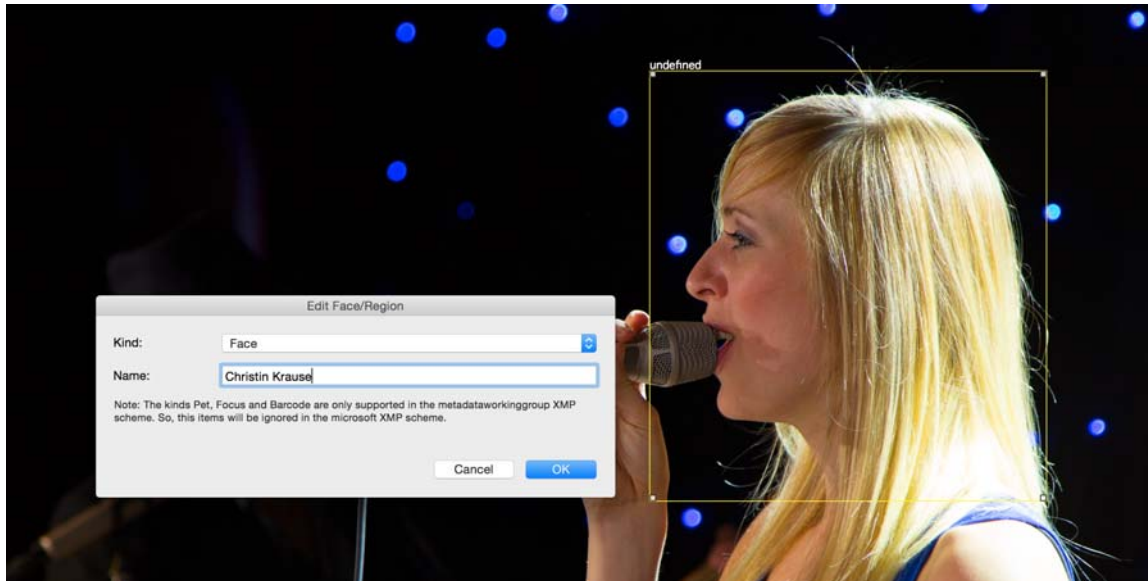
**Move vertical with factor** allows you to choose how far the selection rectangle should be moved up from the normal Position or down with negative values. For small shifts, enter small values of, for example, 0.05 or -0.05. Only one face is found. This feature is useful for school photography, for example, and is also available as a batch action.

**Mark Faces** draws the lines and points into the faces that have been recognized by the face recognition. You can use these lines and points for orientation or as an effect.

Faces are easily recognized from the front only. When a face is not recognized, you can manually select it with a frame and enter the name. To do so select the face recognition



tool from the tools palette. Drag a rectangle over the face and enter in the dialog that opens the name of the person.



As **Kind** select **Face**. Further kinds are **Animals**, **Focus** and **Barcode**. With Focus you can mark a region that shows the most important part of the picture. Faces and regions added manually are not added to the database. The information is written into the meta-data of the picture file only. But if you search for a name you entered the file will be found.

With the **Faces** tool from the tool palette you can draw a rectangle over a face or an animal. Click the rectangle and enter kinde and name in the opening dialog.

Enter a name in the search box in the upper section of the Browser to display all pictures of a person. The selected folder including all subfolders will be searched. To search, for example, the whole picture folder, select the folder in the left hand section of the Browser.

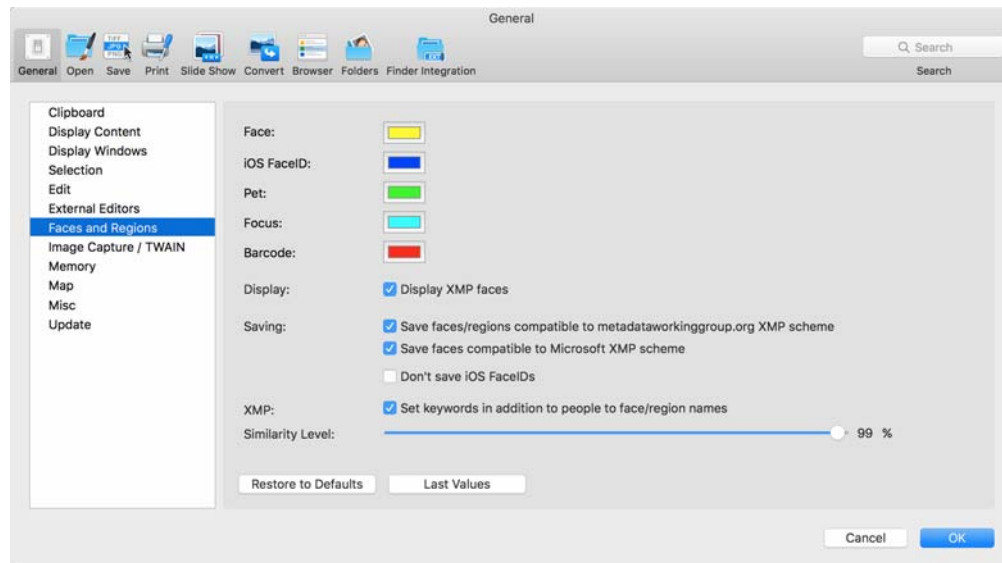
GraphicConverter uses the macOS technology **Spotlight** for searching. That is why you must not disable Spotlight in the System Preferences of the macOS. If the search function of GraphicConverter should not work, please check in the **System Preferences of the macOS / Spotlight / Privacy**. The drive you want to search must not be in the list of drives excluded. For searching **Keywords** and other metadata Spotlight has to be enabled too.

If you open pictures that have been taken with a newer iPhone, GraphicConverter displays the contained rectangles over the faces. Click the rectangles with the face recognition tool to enter the names of the persons.

In the browser's context menu you can use **XMP/IPTC / Copy XMP Face Names into XMP Persons** if the names cannot be read by other programs .

## Face Recognition

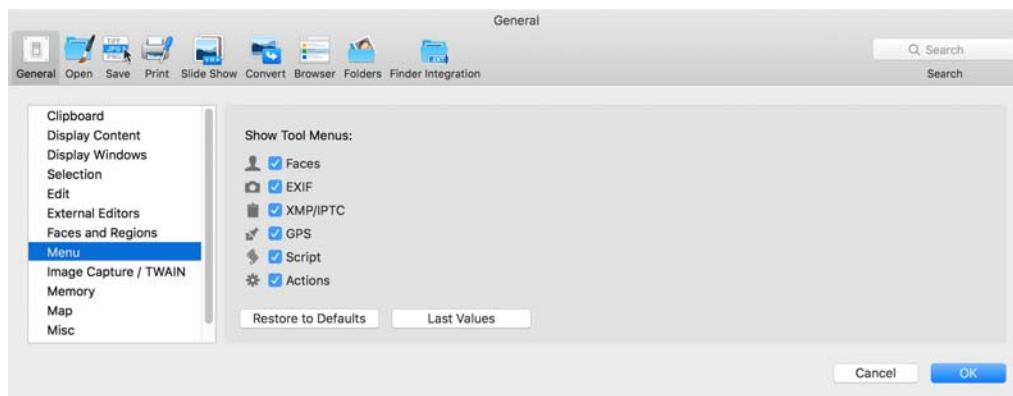
In **Preferences / General / Faces and Regions** you can select the colors for the various rectangles. Disable **Display XMP faces** to not display the rectangles of identified faces. If you want to use the pictures in other programs you should leave the options **Save faces/regions compatible to metadataworkinggroup.org XMP scheme** and **Save faces compatible to Microsoft XMP scheme** enabled. If you do not want to save the faces from iOS pictures, enable the option **Don't save iOS FaceIDs**.



With **Set keywords in addition to people to face/region names** you can save the names additionally in the IPTC metadata. This is the only way Spotlight can find pictures with faces.

With **similarity Level** you can select from which grade of similarity faces should be recognized.

In the preferences part **General / Menu** you can choose which of the icons for face recognition, metadata etc. should be displayed.



## Deep Data

Pictures in HEIC format can contain Deep Data. This information is used by different functions in GraphicConverter. Deep Data describe which parts of a picture were how far from the camera when the picture was taken. In the iPhone 7 Plus and newer iPhones these data are generated as these iPhones have two lenses and thereby can record the space three-dimensionally. In iPhones these data are used particularly to make the background of portraits blurry.

This effect is popular with photographers as the background does not disattract from the foreground. Unfortunately this effect does not always function properly as the space cannot be recorded perfectly by two lenses closely bound together. Photographers create background blur without tricks but use the low depth of field of large appertures like 2.8 or lower values combined with using focal lenth of about 100 mm or more (telephoto). Therefor a full frame camera is needed as cameras with crop sensors have a far grater deapth of field.

If you want to see the Deep Data you can open a HEIC-Picture and display the Deep Data with **Show Depth Data in New Window** from the context menu you open over the opened picture. A new window with a greyscale picture opens. Objects in the foreground are displayed white or very bright, objects in the background are displayed black or very dark. Please note not all HEIC pictures contain Deep Data. If the Deep Data is missing the functions for Deep Data are not available and appear disabled.

With **Picture / Alpha Channel / Create from Deep Data** you can mark the background in the alpha channel to use this mask to crop the foreground.

With **Filter / Depth Blur** you can blur the background if this has not been done in the iPhone or you can change the effect. A dialog opens in which you can select the amount of blur.

**Filter / Depth Black&White** allows you to decolorize the background. A dialog opens in which you can reduce the saturation of the background continously.

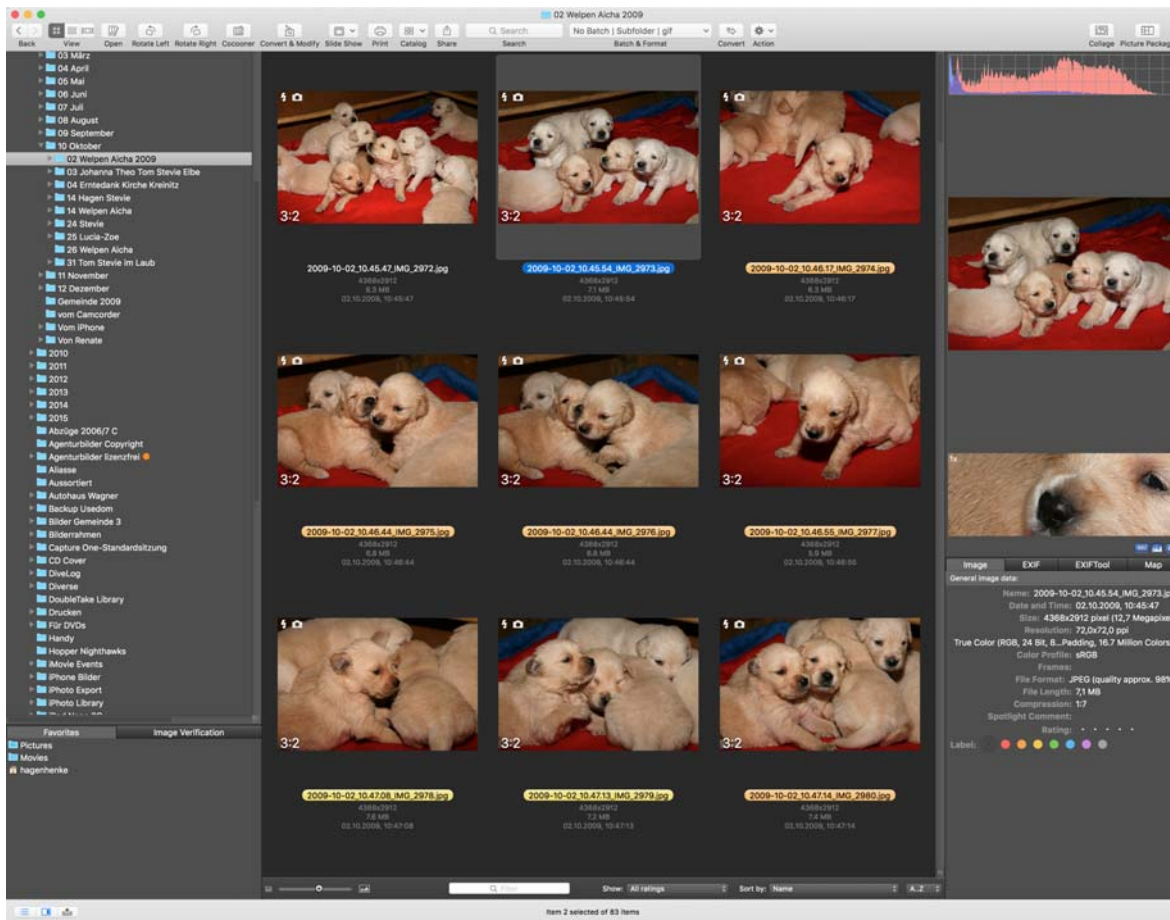
## Viewing & Sorting

It is easy to lose your overview even when there are only several pictures open. Graphic-Converter helps you to view and sort these graphics with the browser and the slide show. This way you can maintain your overview and achieve your goals.

## The Browser

*Summary:* GraphicConverter has a powerful browser function that allows you to oversee, manage, sort and edit larger numbers of graphics and movies. You can export to an e-mail program or as a HTML-Catalog for web publishing for example.

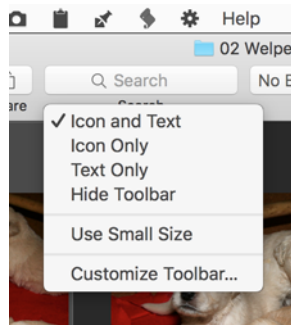
To open a Browser window, click **File / Browser**. You can also drag a folder to the GraphicConverter icon in the operating system. In the Browser window that opens, small previews of the pictures in the folder are displayed.



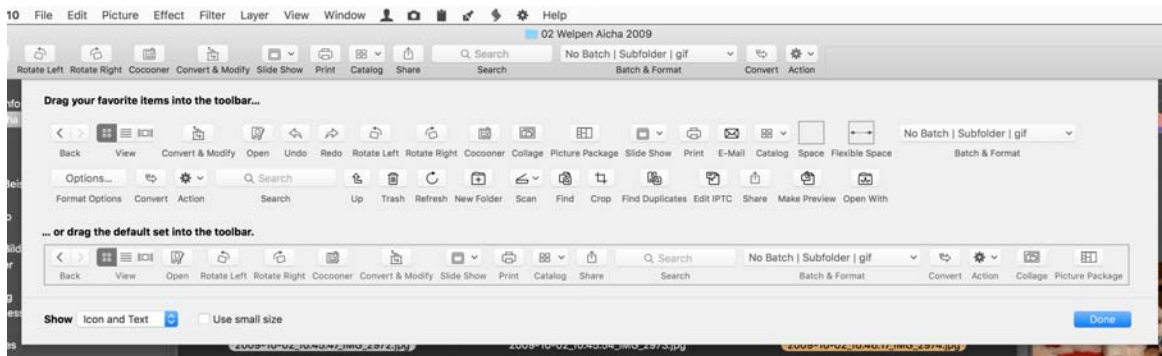
If there is no preview for the pictures yet, you can create one manually via the menu of the **Action icon / Misc / Create Preview**.

With **File / Browse Flat...** you can display all pictures of the subfolders as if they were in the current folder. The result of the search with the search field is displayed in flat view too. If you want to display one of the pictures in the folder it is in, select **Show in New Browser** from the context menu.

You can customize the toolbar above the thumbnails to suit your needs. Open the context menu by right-clicking or Control-clicking the toolbar and select **Customize Toolbar...**



A dialog opens where you can drag further icons to the required position in the toolbar. Drag the icons from the toolbar onto the dialog to remove them from the toolbar.



The **Flexible Space** icon pushes all icons to its right to the right-hand edge, which is often where the **Search** input box is placed. At the bottom left of the dialog, you can specify whether large or small icons should be used and whether the name of the function should appear as a text label under the icons. You can also display just the text to save space. This could be useful on smaller MacBooks. The toolbar in picture windows can also be customized via the context menu, see p 21 onwards.

Under macOS 10.8 and 10.9 you can hide the top toolbar in the browser with the oval button at the top right. Under macOS 10.7 Lion or from macOS 10.10 Yosemite, you use the toolbar context menu instead and, to display it again, the context menu that opens to the right or left of the folder name in the window title. As of macOS 10.13, you can show or hide the icon bar of the browser with the double arrow in the top right corner.

Click the picture to display a larger version of it in the right section of the browser. You can also select several pictures. A histogram is displayed above the enlarged picture. This is only interesting for professional users. Under the picture you can display a 100% section by clicking the 100% icon. In the lower section, you can display information like the Exif information or the Geo information. With the icons besides you can display and hide the histogram and the information section below.



To select several pictures, use Shift- and Command-click, for example, to move them to a different folder on the left or to the displayed folder in another Browser window. You can expand a selection with Shift-cursor left and Shift-cursor right.

If you look at a large number of images in a browser window and want to quickly make a larger jump upwards or downwards, you can hold down the Option key and click the scroll box to jump straight to that position.

If you drag files or folders to a browser window from the finder or from another browser window, you can move or copy the pictures to the displayed folder or its subfolders. To copy the files, hold down the option key.

The functions from the **Action** icon menu and from the context menu affect all selected pictures.

If you move a graphic from the browser to the desktop or another folder on the left-hand side of the browser with the Command and Option keys, an alias is created.

If you open a picture as normal, you can open a browser window showing the content of the folder where the open picture is stored by pressing Command-Up .

Use the browser to sort larger numbers of pictures. Select the next picture with the cursor key and use Command-1 to Command-0 to move the pictures to the folders that you define in the Preferences under **Folders / Move Folders**. In the preferences, you can also specify whether it is copied or moved or whether an alias is created. **Move files, press option key to copy them** allows you to move and copy without having to change the settings if you hold down the Option key and copy. Using the key combinations with the Control or Option key, you can select a further 20 destination folders.

When you copy or move a file in the Browser to another folder and in the destination folder is a file with the same name, you will be asked in a dialog whether the existing file should be replaced by the new one you copy or move. The dialog also offers the options **Stop, Don't Replace** and **Delete new File**. If you change the name in the edit field you can also select **Rename**. In the Preferences in the section **Browser / Edit** you can select **Duplicate Filename: Stop is default button** so the return key stops the process. **Don't ask and rename automatically** adds „Copy“ to the file name and when repeated additionally a number if the name of the file already exists in the destination folder.

In the preview area, you can also enter the name of a file to find it quickly. While you are typing, do not stop as the system will immediately jump to the matching file.

If only two pictures are selected, both are displayed at the same time on the right-hand side so that you can compare them if they are similar.

The picture details, such as the label and the format, are displayed under the picture on the right-hand side. On the **Exif, ExifTool** and **IPTC** tabs, you can select and copy the displayed text allowing you, for example, to paste it into a word-processing or spreadsheet program.

Double-click a preview image in the middle or right-hand section to open this picture in GraphicConverter. If several pictures are selected, all of them are opened.

Folders that are in the selected folder are displayed as folders. Only after you double-click the subfolder are the contents displayed in the Browser window. To display the contents of a different folder in the current Browser window, single-click the corresponding folder in the left section.

You can go to previously opened folder and back with command left and right.

Aliases are indicated by a bent arrow in the bottom left-hand corner so they do not accidentally overwrite the original file with the alias when copied.

You can copy selected files in the browser with Command-C and paste them into another folder with Command-V. Files copied in the Finder cannot be pasted. For security reasons, it is not possible to copy files with Command-X and delete them at the same time.

The Favorites area is underneath the file tree. There you can drag frequently used folders to access them quickly.

Tool buttons are provided at the top for the most important options. You will also find these and other options in the context menu that opens when you Ctrl-click a picture. You can hide the toolbar by clicking the oval button at the top right of the window frame.

The **Up** icon opens the parent folder. **Edit IPTC** opens the dialog for document information that you can open with Command-I. The IPTC information allows you to use the GraphicConverter browser like a database for indexing and searching. You will find detailed information on this in the chapter.

**Crop...** starts the **Crop for Photo Service** for several pictures in sequence. You can also call up this option via the **Action** icon with **Export / Crop for Photo Service. Make Preview...** recreates the preview. This option is called **Misc / Create Preview** in the menu of the Action icon.

In the **Browser / Display General** section, **Redirect Open button to "Open with..."** allows you to specify that the Open button opens files in the **default "Open with" application** that you set in the **Browser / Open with** section.

In the **Browser / Open with** section of the **Preferences**, you can specify that double-clicking a picture opens it with the **"Open with" application** that you can set in the **Open With Application** pop-up menu. If you select Photoshop as the **default "Open with" application**, the double click and the **Open** button will open the selected pictures in Photoshop. Default is open in GraphicConverter.

If you only occasionally want to open images with Photoshop, leave the setting for double-click as **Edit** and use the **Open With...** icon if you want to open images in Photoshop. The other icons have self-explanatory names.

The icons for the slide show, catalog and for scanning have a small triangle. Click and hold down the mouse to select a variant of the option. If you click the icon normally, the setting that was last selected in the pop-up menu will be used.

Using the pop-up menu to the right of the icons, you can convert the selected pictures and save them for example to a subfolder. The pictures are saved in the format selected in the same pop-up menu. Click the **Convert** button to start the conversion.

**Convert to subfolder** automatically creates a subfolder called "Converted Files" in the source directory where the converted pictures are saved.

**Convert to The Same Folder** overwrites the source files if they have the standard ending and if the source format is selected as the format. If the source images are in JPG format and are being saved in TIF format, the source files are kept along with the converted files.

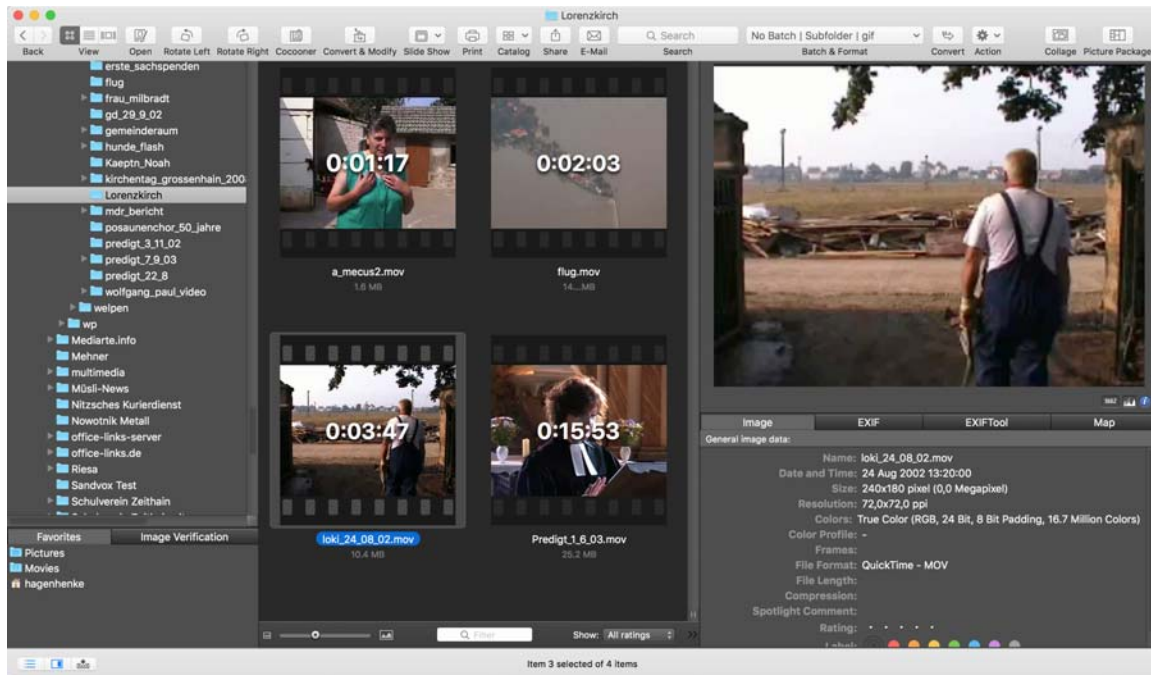
**Convert to Other Folder...** allows you to specify your own destination folder after you have started the conversion.

Under macOS X 10.4 Tiger or newer, you can start a spotlight search with the search box. When you enter a search term in the search box in the upper section of the browser all matching pictures are displayed in the browser. You can now save this result by clicking the **Save...** button to the right. The **Saved Searches** appear at the very bottom of the file tree so you can recall them quickly. If in the meantime more matching files have been saved or copied to the folder these will be displayed too. The list will be updated every time you reopen a saved search.

The browser can also display movies and play the selected movie in the right-hand section. If you select the **Multi frame preview** option in the **Preferences** under **Browser / Thumbnails**, four images from each film are shown in a preview in the center of the



browser to give you a quick overview of the content of the movie. This is particularly helpful for movies that start with a black picture.



The controls for the movie on the right-hand side only appear when you move the mouse cursor over the movie.

Some digital still cameras can create movies that consist of two files. A .THM file with the same name is saved containing the information on date and camera type in addition to the actual movie file in AVI format. GraphicConverter reads the THM file automatically and displays the information. If you rename AVI or CRW files with the Rename option, the THM files are also renamed automatically.

MP2 files can only be displayed if you purchase the MP2 add-on for QuickTime from [www.apple.com](http://www.apple.com).

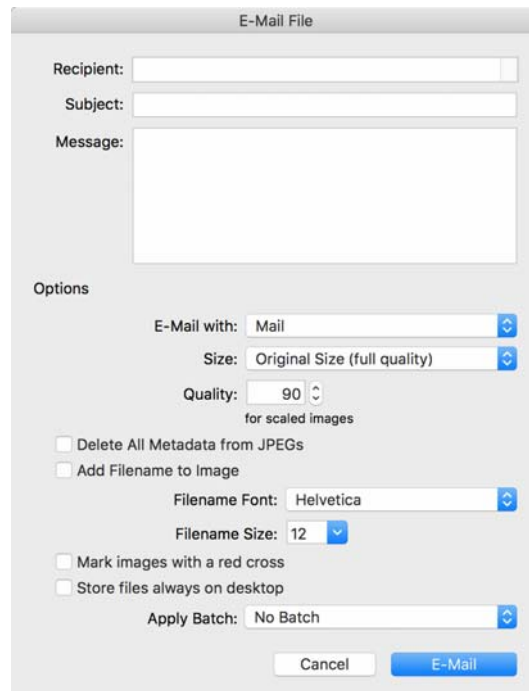
**Rotate left** and **Rotate right** rotate the image counterclockwise or clockwise.

**Slide show** displays the selected images as a slide show. You do not have to select the pictures. The content of subfolders is not included. If you select images and folders, only they and the respective folder content will be displayed in the slide show.

The **Print** button allows you to print one or more selected pictures. If you print just one picture and want to display a preview in the print dialog, open the picture by double-clicking and select **File / Print...**

**Catalog** opens a pop-up menu where you can select **HTML...** to create Internet pages on which your pictures are displayed as a catalog (see p 87). Select **Picture...** to create image files with the catalog pictures (see p 29). **Print...** prints a catalog of the selected pictures.

**E-Mail** opens a dialog that lets you forward the selected images to an e-mail program to mail them as an attachment. If you want to send the image via a webmail provider like Hotmail, you can select the **Folder on Desktop** option from the **Send** pop-up menu to save the file in an automatically created folder that you can then use for your webmail account.



It is best to leave the **Recipient**, **Subject** and **Message** input boxes empty. Fill in this information in the next step in your e-mail program. If you use the Mailsmith e-mail program, it may be necessary to enter a recipient to avoid an error message. Select **Size: Original Size (full quality), Large or Larger** if the recipient wants to print the image. The sizes **Medium** and **Small** are good enough for viewing on a monitor. Smaller images are sent and received much faster than large ones. The smaller versions of the images are kept as invisible temporary files on your hard drive until they are sent. If the extension .jpg is missing, GraphicConverter will add it automatically.

Select a JPG quality level for the pictures with **Quality (for scaled images)**.

**Delete all Metadata from JPEGs** deletes the preview and the Exif information along with all other metadata. As the preview causes problems with some programs in Windows, we recommend this setting to increase compatibility.

**Add Filename to Image** adds a white area to the bottom of the image where the document name is inserted. You can select a **font** and **size** for the document name.

**Mark images with a red cross** adds a red cross to the pictures as copy protection so that they can only be used for demonstration purposes. Use this option if you want to

show your customers pictures that they can buy from you or you can license for them. The source file is not changed.



**Store files always on desktop** saves the files on the desktop in a folder which is created automatically.

**Apply batch** allows you to edit the images before export using a batch that you previously defined in the browser or in the Convert dialog. You can add a copyright note, for example.

Choose your e-mail program from the pop-up menu **E-Mail with** and click **E-Mail** to send the images at the chosen size to your e-mail program. If you choose a different size to Original, temporary files will be created from the scaled images and automatically deleted later on. To avoid problems when the recipient wants to print pictures, they will be automatically changed to a standard resolution of 72 dpi.

**Action** opens a menu with many other functions described below.

At the bottom of the window frame, there are a number of options available on a toolbar. On the far left of the toolbar, you can select the size of the small previews. You can use **Show:** to select a file format so that only files of that type are displayed.

With **Show**, you can choose a file format or other criterion so that only files that meet this criterion are displayed. As further criteria you can choose: **rating, label, GPS data, IPTC data, documents with damage or warning**. You can also choose to show or not show **folders** and select only **RAW files** or only non-RAW files.



Click **Sort:** to select criteria such as **Name, Creation Date, Modification Date, Size, Label, Extension, Rating, Exif Data, Index in Name, Aspect Ratio, Color Model, Picture Size/Width/Height, Caption** and **Title**. If you select **By Label & Name**, the pictures will be sorted according to your label. Sorting is carried out according to name among the pictures with the same label. Also **By Extension & Name** sorts the files according to extension and according to name among the files with the same extension. Select **By Rating and Name** if you have evaluated your images with 1-5 stars and want to sort them accordingly. **By Rating and Creation Date / Modification Date** sorts pictures with the same rating according to the **creation date** or **modification date**.

In the browser you can also resort the pictures manually. Select **Manual Order** as **Sort by** criteria at the bottom of the browser. Now you can resort the pictures with drag & drop. This order is saved by an invisible index in the extended attributes (XAttr) and hereby is kept also when you restart GraphicConverter. If you want to keep the order for other programs or devices like a smart tv, for example, you can insert an index at the beginning of the file name with the rename feature of GraphicConverter.

In the lower section of the pop-up menu, you can define a filter. Select **Rating 2 or better** to hide all pictures rated with just one star or no stars at all. If you want to see only the pictures with exactly two stars rating, select 2 Stars.

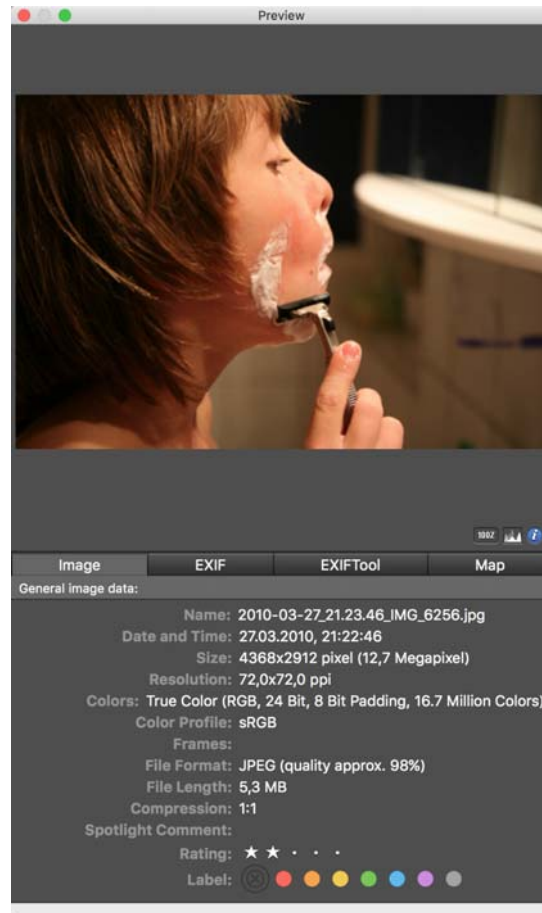
To switch the sort order from bottom to top, click the **A..Z** button on the right and select **Z..A**.

If the left-hand section of the browser does not show the **directory structure** or if you want to hide it, click the left List icon in the lower left corner.



The Favorites area is underneath the file tree. There you can drag frequently used folders to access them quickly.

Click the center of the icon with the framed rectangle to switch the large preview on the right on and off. Click this icon again to display the large preview image in a separate window that you can position anywhere.



This is very useful on systems with two monitors. The preview window can be sized using the bottom right-hand corner and the information underneath the preview can be hidden by clicking the **i** in the blue circle. The preview palette can therefore fill large parts of your screen or completely fill a second monitor. Single-clicking the icon with the mountains allows you to display the histogram of the picture.

The icon with the arrow displays and hides the drop area to which you can drag pictures from different folders to show them as a slide show or to rename them using the context menu. The pictures are labeled with a number in the blue circle so you can see which pictures you have already selected. The images in the drop area can be sorted again with the mouse. Selected images can be removed from the drop area using Command-Backspace.



section. After you change the width of the section, the image automatically adjusts to the new size.

The filename, size and date are displayed below each image. Click a picture to select it and then click the name to edit it. You can use all characters from the Unicode standard. Unicode is a standard that allows a large number of characters in a font. End the entry with Return or by clicking another picture.

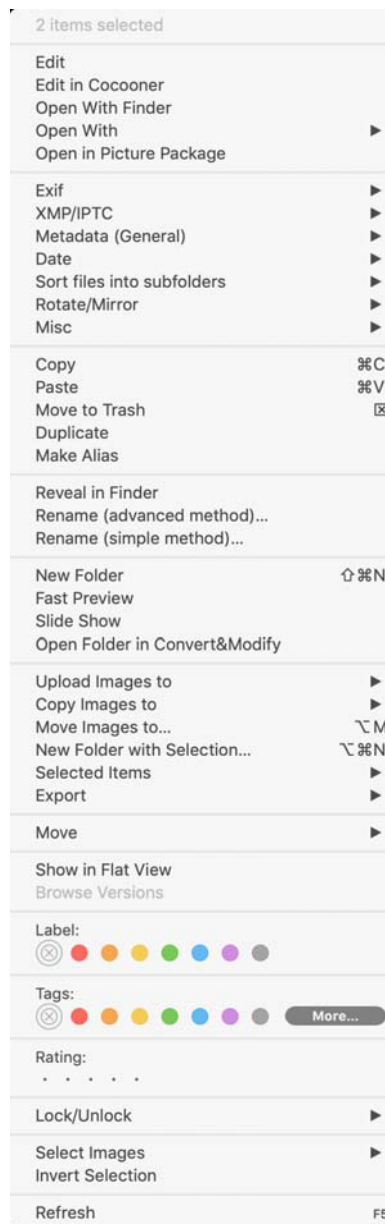
Click a graphic to open a **large preview** in the right section. The size of the preview depends on the width of the right column. Detailed graphic information is displayed below the preview. Switch to the other images using the s. Click the right to jump from the last image of one row to the first image of the next. You can cancel a selection with Escape.

If there is no preview for a picture in the graphic file, it will be automatically created. If this does not occur, you can create a preview in the context menu.

Note the shortcuts indicated in the context menu, for example, Command-I for **Edit Comment...** They will help speed up your work.

## Context menu options

Open the context menu of the preview area by right-clicking or Control-clicking one of the images. You can then access the following options:



**Open** opens the selected images in GraphicConverter.

**Open With Finder** opens the images as if they have been double-clicked in the Finder, i.e. with the program that is specified for the respective file extension. You can select the program for a file extension via the information dialogue of the file concerned in the Finder.

**Open With** opens a submenu in which the program selected in **Preferences / Browser / Miscellaneous** appears as the "**Open With**" application and all External Editors that you have selected with **Settings / General / External Editors**.

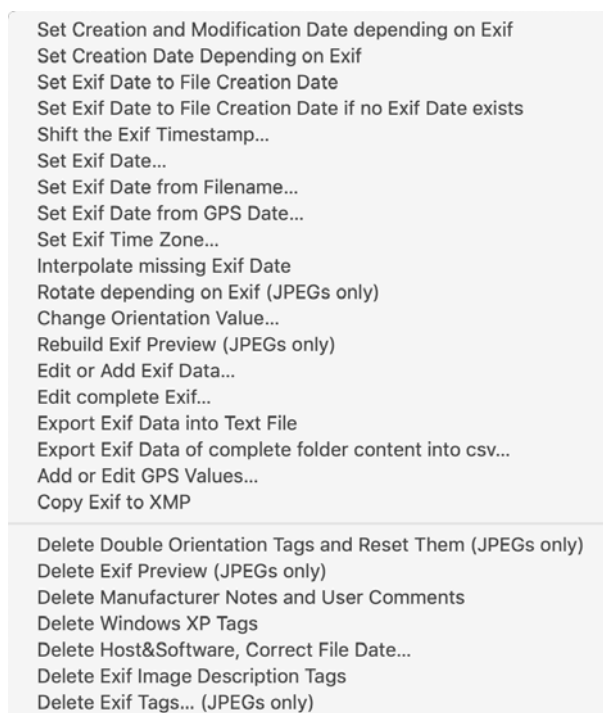


**Open in the Picture Package** opens the selected image in the **Picture Package** dialog, with which you can print the image several times on one page, see page 107.

## The submenus Exif, IPTC and Metadata (General)

All options can be used for JPG files. All options, where “**(JPGs only)**” is specified, can also be used for the formats CR2, CRW, EPS, EPSF, GIF, NEF, NRW, PDF, PNG, PS, PSD, THM, TIF, TIFF, PNG, PDF and other formats that are indicated with R/W at: <http://www.sno.phy.queensu.ca/~phil/exiftool/> in the *Support* column of the *Supported File Types* table.

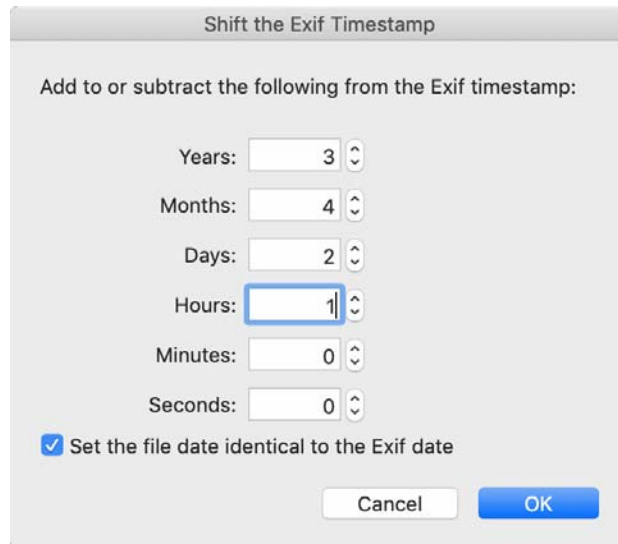
### Exif opens a submenu with the following functions:



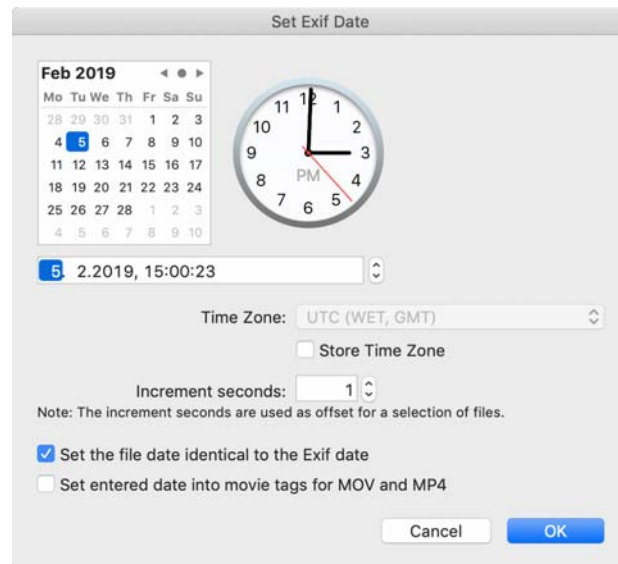
**Set Creation and Modification Date depending on Exif** overwrites the creation and modification date with the date that is entered in the Exif information for the file. Some digital cameras generate an incorrect creation and modification date, but set the correct photo date in the file. Use **Set Creation Date depending on Exif** if only the creation date should be set to leave the correct modification date unchanged. This option also allows you, for example, using **Command-A**, to set the creation date and, if necessary, the modification date for several selected graphics to the only photo date that makes sense.

**Set Exif Date to File Creation Date** sets the Exif date to the date when the document was created. You can use **Set Exif Date to File Creation Date if no Exif Date exists** to set file creation date only for files without exif date.

**Shift the Exif Timestamp...** opens a dialog where you can change time and date from the Exif information. This makes sense if you forgot to change the time in the camera or if the clock battery was low while you were traveling. To raise the value for year, month etc. enter positive numbers. To decrease the values enter negative numbers like -5.



Use **Set Exif Date** if you want to set the date and time directly. You can select the time with the mouse directly in the analog clock in the dialog by moving the hands with the mouse button held down.



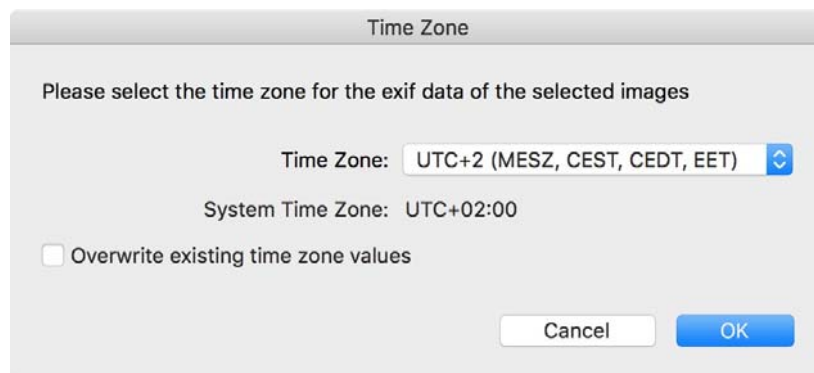
**Store Time Zone** allows you to select the time zone in which you took a photo. This does not change the Exif time. The additional information in which time zone you were when you took your pictures is used, for example, when reading in geodata generated by an external geo-tracker, since geo-trackers generally use UTC as the time since this time is used in the geo-satellites. For example, you photograph in San Francisco and have the clock in your camera set to local time. You take a picture at 7:00 pm and use an external geo-tracker that uses the UTC. In order to be able to assign the position data to your

image recorded by the tracker, the Exif time from your image must be reduced by 9 hours, ie 7:00 pm minus 9 hours is 10:00 am. If summer time was applied at the location, this must be taken into account. If San Francisco used to be DST at the time of shooting, it was only 6:00 pm at 7:00 pm, so you only have to subtract 8 hours from the time. GraphicConverter automatically converts the time when the time zone is specified in the Exif data of the images.

With **Set entered date into movie tags for MOV and MP4**, you can also paste the date into videos.

You can use **Set Exif Date from Filename** or **Set Exif Date from GPS Date** if your files contain the date in the name or in the GPS data. This date will be set as Exif-Date. Additionally you can select the option **Set the file date to the Exif date, too** in the dialog that opens. If you scanned pictures and typed the date in the file name you can adapt these files to modern digital photos in order to import them in database based programs like Lightroom.

Use **Set Exif Time Zone...** if the Exif Date is correct and you want to change the Time Zone only.



**Interpolate missing Exif Date** assigns an Exif date that is interpolated from the existing Exif dates of individual pictures in the series to the selected pictures. This is useful if, for example, you have scanned slides and have entered the date or even the time of a birthday party in the Exif data for individual pictures.

If, in our example, the first selected picture has January 1, 2011, as the date and the last one has December 31, 2011, and, if there are 363 pictures inbetween, one day of the calendar year is entered in each picture in series. If individual pictures inbetween contain a date, the pictures between the two pictures with a date will be interpolated.

GraphicConverter calculates the time period in seconds and divides this value by the pictures inbetween. The result is calculated into days, hours, minutes and seconds so that a time in the night may be set for pictures that were taken during the day. As you see, this is just a helper tool.

**Rotate depending on Exif (JPGs only)** rotates the selected pictures as specified in the file Exif information if this data is provided. All further information on this function can be found in the chapter "Rotate" starting on page 140.

**Change Orientation Value...** allows you, for example, to change an orientation that has been set incorrectly by the scan program. If you want to rotate an image that does not show up correctly in the Browser, use the **Rotate** option from the context menu or use the Icon in the Browser's toolbar.

**Rebuild Exif Preview (JPGs only)** creates a high-quality preview with 200x200 pixels as an Exif preview. If you forward data to PC users, you can use this option to add a high-quality preview to all pictures in a browser window and delete the resource using the Convert & Modify dialog. The files can then be read by all programs in Windows or other operating systems without any problems. You can also use the option, if the Exif preview is too poor or if it was not rotated for portrait pictures.

**Edit or add Exif data...** allows you to modify Exif data about the camera manufacturer, model, software, date and exposure and camera data.

Dialog box titled "Edit or Add Exif Data" with the following fields:

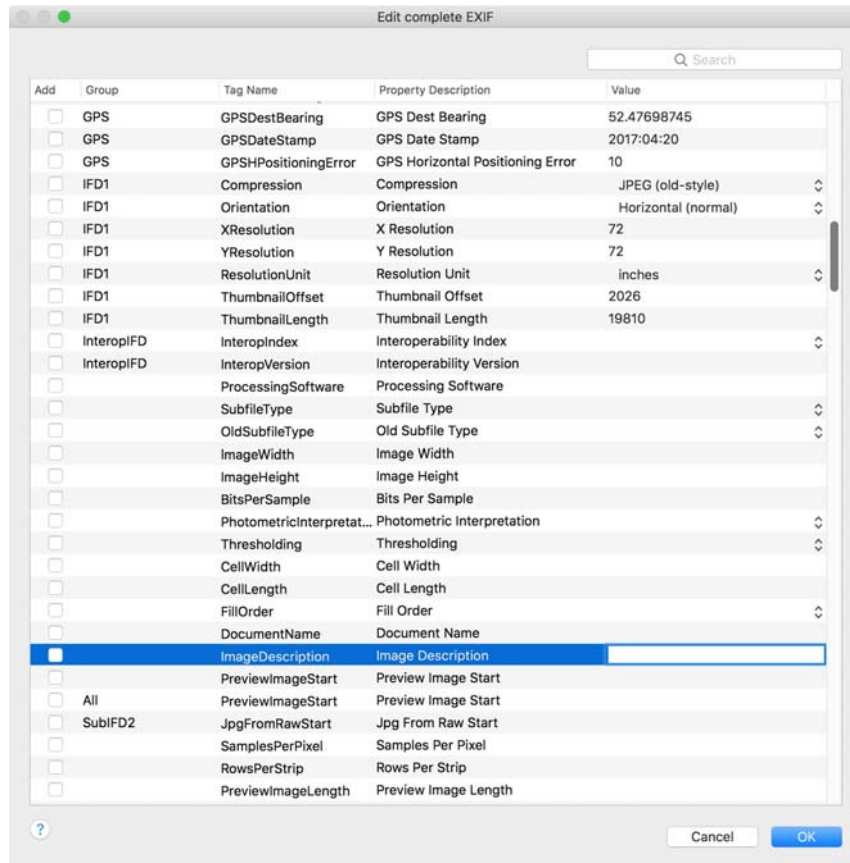
- Maker:  Canon
- Model:  Canon EOS 6D
- Software:  Adobe Photoshop Lightroom 5.3 (Macintosh)
- Date:  14. 2.2014, 18:08:47
- Focal Length:  80.0 mm
- F-Number:  16,0
- Shutter Speed:  1/125 s
- Aperture:  f/ 16,0
- Exposure Time:  1/125 s
- ISO:  160
- Flash:  On, fired
- Metering Mode:  Pattern
- Exposure Program:  Manual

Note: Only the checked fields will be changed in the selected files.

Buttons: Cancel, OK

**Edit Complete Exif-Tags...** opens a dialog in which you can edit all Exif tags. It is a good idea to enlarge the dialog by dragging the lower right hand corner. Click the desired line

and click in the line's right hand end in the column **Value** to open an entry field. If the field already contains text you need to click the text.



**Export Exif data into text file** creates a text file in the same folder that lists the Exif data. You can use these files for imports into databases.

With **Exif / Export Exif Data of complete folder content into CSV...** you can export the Exif data of all pictures of a folder to a CSV file to use them in another program.

**Add or edit GPS values...** opens a dialog in which GPS values can be entered or edited when for example you have written down a position from a car navigation device.

The screenshot shows a dialog box titled "Add or Edit GPS Values". It features several input fields and checkboxes. The "Display" section has two radio buttons: "Decimal" (selected) and "Degree, Minute and Second". The "Latitude" field contains "39,1156624" and a dropdown menu set to "North". The "Longitude" field contains "106,4467629" and a dropdown menu set to "West". There are checkboxes for "Altitude" (set to "20,00 meters"), "Store special values:" (with sub-fields for "Distance: 100,00 meters", "Bearing: 0,00 degrees", and "Direction: 0,00 degrees"), and "Special not standardized tags:" (with sub-fields for "Pitch: 0,00 degrees" and "Roll: 0,00 degrees"). At the bottom, there is a checkbox for "Store values as next defaults" and "Cancel" and "OK" buttons.

**Copy Exif to XMP** copies the IPTC data to the XMP section without saving the image again. It is a good idea to copy the Exif data to the XMP section if, for example, you will be continuing work on the images in a program that can only read the XMP section.

You should use **Delete Double Orientation Tags and Reset Them (JPGs only)** if you receive an error message about orientation tags when you open images. Images should only contain one orientation tag. Some pictures from iPhoto have this problem due to a bug in QuickTime. Updating QuickTime can solve the problem for iPhoto.

**Remove Exif Preview (JPGs only)** deletes the Exif preview which is no longer necessary after GraphicConverter has created a normal preview with a better quality.

**Remove Maker Note and Comment** deletes the maker note and the comment.

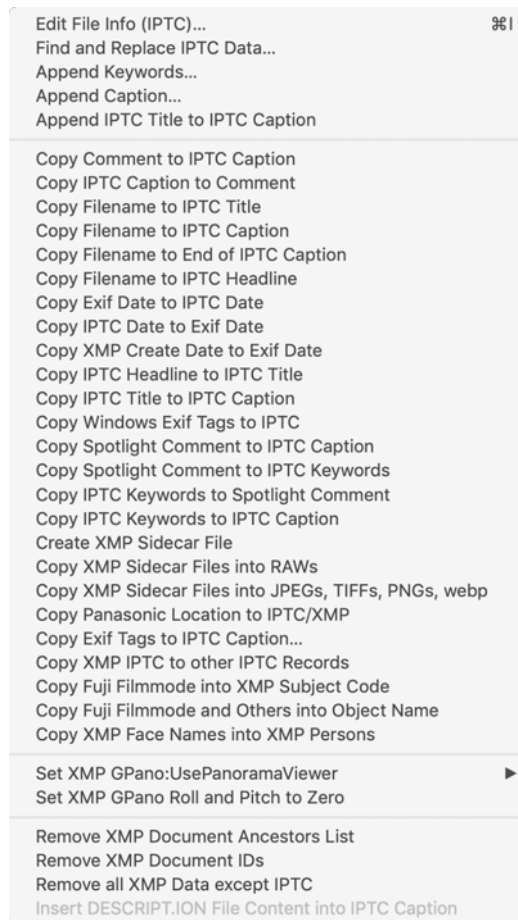
**Delete Windows XP Tags** deletes unnecessary tags written by Windows XP which could cause troubles during further processing.

You can use **Delete Host&Software, correct File Date...** to delete useless data in JPEG images that were written in the files by other programs. Other programs sometimes set their name in the Exif data. When you import images using the program Image Capture, the file date is set to the date of the import. It is more useful, however, to use the date when the picture was taken. As this does not appear at any other point in the Exif data, GraphicConverter can correct the date. If you have imported images with the program Image Capture, you should also use the **Rotate depending on Exif** option from the same submenu so that portrait pictures are not only displayed correctly in GraphicConverter, but also in screensavers etc.

**Delete Exif Image Description Tags...** deletes the image description in the Exif data. This makes sense if the entry has been written incorrectly by old software. This data belongs to the XMP/IPTC section.

**Delete Exif Tags... (JPGs only)** opens a dialog where you can enter the Hex code of the Exif fields that you want to delete if, for example, you do not want to pass on the information about the white balance.

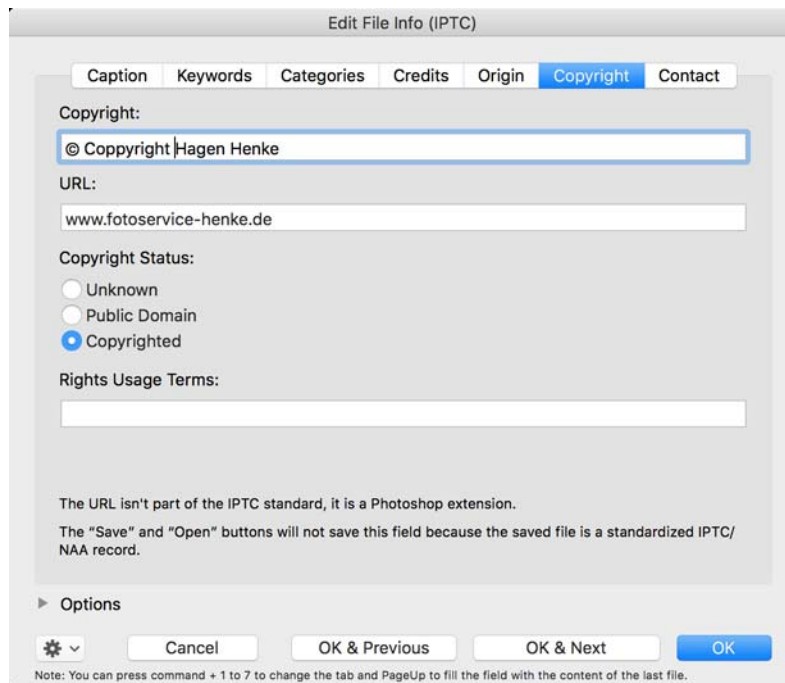
## IPTC opens a submenu with the following functions:



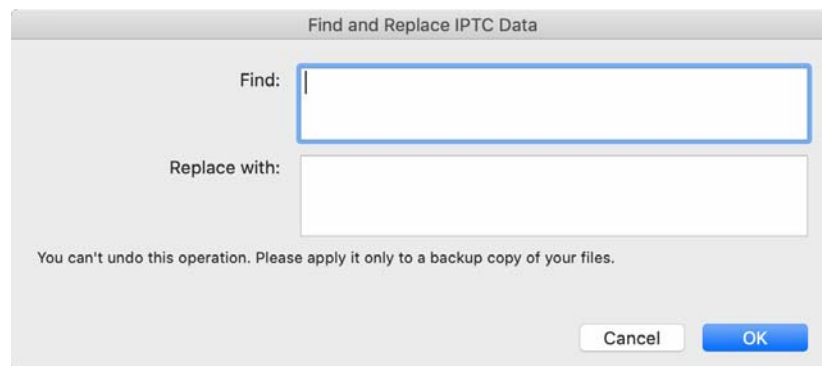
**Edit File Info (IPTC)...** opens the dialog for entering IPTC information, which you can also open with Command-I in the browser or with an open image. Only the content of the boxes where the check box has been selected is modified. You can therefore use this option to enter yourself as the copyright owner for several pictures at the same time without changing any different keywords for the individual pictures. If you select a folder, the changes will also be made to all pictures it contains. The URL box is not part of the official



IPTC standard and is not supported by all programs. Therefore it is better to enter your URL in the **Copyright** box. You enter the copyright symbol with option-G.



If you want to change part of the IPTC information for several pictures or for a large collection of pictures, select them in the browser, click **Find and Replace IPTC Data...**



Therefore you can, for example, search for "Agency X" after your company name has changed and replace it with the new name "Picture agency Y".

With **Append Keywords...** you can append keywords. This function preserves the keywords set before.

With **Append Caption...** you can append a caption.

**Append IPTC Title to IPTC Caption** appends the IPTC title to an existing entry in IPTC caption.

The **Copy Comment to IPTC Caption** and **Copy IPTC Caption to Comment** options copy the comment or the IPTC description into the other respective area. This is useful if you want to continue work with the data in another program that can only display one of the areas.

**Copy file name to IPTC Title** is recommended when you have files with descriptive file-names, for example, "Forest.jpg", and want to copy the filename to the IPTC object description. The file extensions are left out. You can also use this option for several selected files and for complete folders.

**Copy file name to IPTC Caption** copies the document name to the IPTC caption.

Use **Copy Filename to End of Caption** if the **Caption** box already contains text that should not be deleted.

**Copy file name to Headline** copies the file name to the IPTC Headline.

**Copy Exif date to IPTC Date** simplifies your work if you want to transfer the Exif date to the IPTC data.

**Copy IPTC date to Exif date** simplifies your work if you want to transfer the Exif date to the IPTC data.

**Copy XMP Create Date to Exif Date** copies the XMP Create Date to the Exif date.

**Copy IPTC Header to IPTC Title** is useful, for example, if the contents of the title are accidentally entered in the header.

**Copy IPTC Title to IPTC Caption** is useful if, for example, the contents for the caption were accidentally entered into the title.

You can use **Copy Windows Exif Tags to IPTC** if you receive pictures that have been indexed by the Microsoft Windows Explorer. Windows Explorer enters the keywords in a non-standard Exif section. GraphicConverter recognizes these entries and moves them to the corresponding fields in the IPTC section with this option.

**Copy Spotlight comment to IPTC caption** copies the spotlight comment to the IPTC caption. In the same way, **Copy Spotlight comment to IPTC keywords** copies the spotlight comment to the IPTC keywords. We do not recommend working with spotlight comments since they are not included when you send a file by e-mail, for example.

**Copy IPTC keywords to Spotlight comment** copies the IPTC keywords to the Spotlight comment.

**Copy IPTC Keywords to IPTC Caption** copies the IPTC keywords to the IPTC caption.

**Create XMP Sidecar File** creates an XMP file with the XMP data in the image folder. The filename corresponds with the image filename. The extension is changed to .XMP.

You can use **Copy XMP Sidecar Files into RAWs** to copy the contents from sidecar files to the associated RAW file. This is useful if, for example, a further processing program can only process the data in this way.

**Copy XMP Sidecar Files to JPG, TIF, PNG, webp** is useful if you have edited RAW files and saved them as a JPG, TIF, PNG, or webp file without the metadata from the XMP sidecar file. Use this function to copy the metadata from the sidecar file into the JPG, TIF, PNG, or webp file.

Panasonic cameras write the location metadata in a proprietary format that many programs can not read. Use **Panasonic Transfer Location to IPTC / XMP** to make the location in pictures from Panasonic cameras readable for most programs.

**Copy Exif tags into IPTC description ...** is useful, for example, for evaluations of images in a database.

You should use **Copy XMP IPTC to other IPTC records** if your images are to be further processed in other programs that cannot yet read the IPTC data from the XMP section. In JPG files, the IPTC data can be found in four areas of the image files:

- In the XMP section – this entry is used as the master
- Adobe Photoshop IPTC record
- The Exif section can also contain IPTC
- In the resource fork in the ANPA record

**Copy Fuji Filmmode into XMP Subject Code** makes proprietary Fuji metadata useful to other programs such as Spotlight.

**Copy Fuji Filmmode and Others into Object Name** copies proprietary metadata from Fuji cameras into the XMP object name along with the Fuji Filmmode.

**Copy XMP Face Names into XMP Persons** allows you to copy the face names you have entered into the Person XMP field if the names can not otherwise be read by other programs.

Panoramic images may not display correctly in the web browser. In this case, select **Set XMP GPano:UsePanoramaViewer / True / False**.

**XMP GPano: Set Roll and Pitch to zero.** For images from 360-degree cameras, roll and pitch are written to the file. For the representation, for example, on Facebook, the values must be zero so that Facebook does not additionally corrected.

Photoshop (PSD) and TIFF files that have been manipulated with Photoshop can contain very much data that only describe the history of manipulation and is not part of the image. You can delete this data via the context menu with **IPTC / Delete XMP Document Ancestors List** to shrink the file size.

**Remove XMP Document IDs** is useful for files created or edited by Adobe programs, since Adobe programs such as Lightroom and Photoshop have been writing unique IDs into the files since 2018 to allow tracing back to the creator.

With **Remove all XMP data except for IPTC**, you can delete unwanted XMP data that has been added by programs such as Lightroom. The IPTC data here refers to the IPTC data mirrored in the XMP area. This is useful if in the XMP data e.g. the editing history of the image is, and you do not want to share this information.

**Insert DESCRIPT.ION File Content into IPTC Caption** remains disabled in this menu until a Descript.ion file is selected. These files are generated by the Windows software ACDsee and contain the IPTC data. Please do not ask us why ACDsee writes this data in a separate file, instead of writing it in the image files as is the standard. Use this option to write IPTC data from the Descript.ion file in the image files whenever necessary. You will then no longer need the Descript.ion file and can delete it.

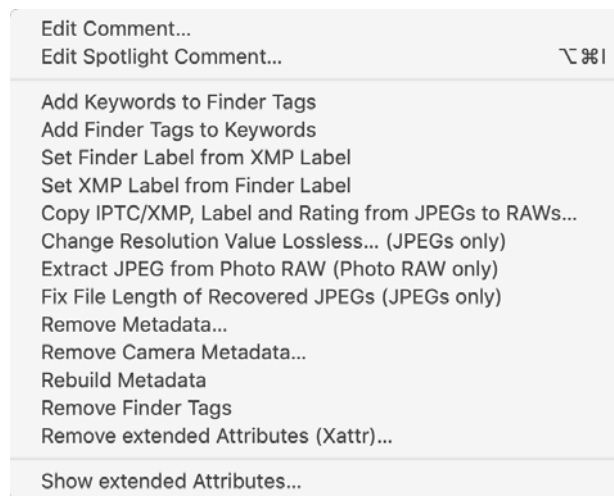
### **An example from practice:**

Photographers often need to customize the metadata in their images for their customers for easy import into their database. An example: Your customer wants to include your pictures in his database and needs the entry "xmp: CreateDate", because only in this way can the recording date be read out. At the same time, you want to delete the Exif data block and the Exif data mirrored in the XMP area because you do not want to pass on, for example, Recording time, focal length and aperture. Proceed as follows:

Select the desired files in the browser and open the context menu. Select **IPTC / Remove all XMP data except IPTC**. The IPTC data here refers to the IPTC data mirrored in the XMP area.

In the next step, open the context menu again and select **Metadata (General) / Remove Metadata....** In the dialog that opens, select the options **Exif, Comment** and **Delete everything after EOI Marker (JPGs only)**. After that, XMP: CreateDate is set, and the recording details are deleted.

## Metadata (General) opens a submenu with the following functions:



The comment or the Spotlight Comment can be edited without losses using **Edit Comment...** or **Edit Spotlight Comment...**. If the option for creating resource forks is enabled under **Preferences/ Save / Resourcefork**, this information is written to the resource fork. Comments in the resource fork are supported in the following formats: JPEG, GIF, TIFF and PNG.

With **Add Keywords to Finder Tags** you can copy the IPTC keywords in the finder tags. **Add Finder Tags to Keywords** copies the finder tags in the IPTC keywords.

**Set Finder Label from XMP Label** sets the XMP label as finder label. **Set XMP Label from Finder label** sets the finder label as XMP label. Use this function to set the XMP label for pictures that have the finder label only if the label should be recognized under other operating systems as well. The software used under the other operating system must use the XMP data. When you set a label in GraphicConverter it is written in the XMP data automatically, too. If you set the label for several pictures at once this takes a moment as internally all files need to be opened. For fast working this function can be disabled in **Preferences / Browser / Edit Metadata**. In this case only the finder label is set.

**Copy IPTC / XMP, Label and Rating from JPEGs in RAWs...** makes sense if your camera has been set to write a JPG and a RAW file each time it is triggered. Many photographers work with the JPG files, because they can be processed faster. Use this feature to transfer the labels and ratings to the RAW files.

**Change Resolution Value Lossless (JPGs only)** lets you change the resolution, for example, from 72 dpi to 300 dpi, without saving the picture again. There is then no loss in quality.

You can rotate JPEGs in the browser without any quality loss using the context menu if the graphic width can be divided by 16. This means that you cannot open the graphic as you normally would. Digital cameras create pictures whose width can be divided by 16 so

that the automatic JPEG compression is optimized. A message appears if the picture width cannot be divided by 16.

If a JPEG is modified and then saved as, for example, a TIFF, the normal rotate option can be used because the file suffers no additional quality loss when saved.

Image files in Photo-Raw format may also contain a JPEG version of the image that you can export with **Extract JPG from Photo-Raw (PhotoRAW only)**.

**Fix file length of recovered JPEGs** is useful when you restore JPEG files with rescue programs like, for example, Techtool after file system crashes. They often end up being 100 MB instead of 20 MB. In some cases, Techtool cannot establish the actual size of the file and therefore creates a file that is too big. You can reduce it to the actual size with this option.

**Remove Metadata...** opens a dialog that lets you choose the metadata you want to remove from the picture.



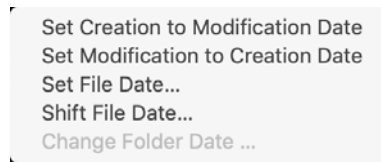
With **Remove Camera Metadata...** you can remove all metadata the camera wrote to the picture file.

**Rebuild Metadata** reads all metadata from an image file that does not correspond with the standards and can still be restored. When you save the file, the metadata is saved according to the standards.

**Remove Finder Tags** deletes all finder tags.

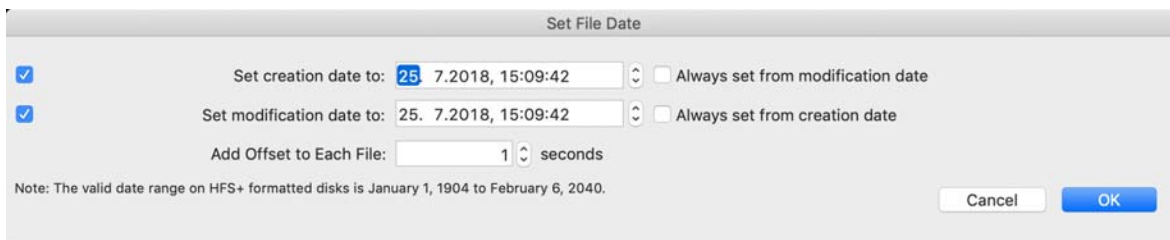
Files can have extended attributes (XAttr). One of them, for example, is the State of Quarantine. When you send a picture by e-mail, these attributes are always added. With **Show extended Attributes...** you can display these attributes. With **Remove extended Attributes (XAttr)...** you can delete these attributes. From GraphicConverter 10.5.1 deleting of **extended attributes** (XAttr) is available in the service menu of the macOS, too.

## Date opens a submenu with the following functions:



**Set Creation to Modification Date** is useful when you are editing files that, for example, have been given an incorrect creation date like 1904 by your scanning software since the modification date is set by the operating system and is therefore often correct. **Set Modification Date to Creation Date** allows you to transfer the date in the other direction.

**Set File Date** opens a dialog where you can edit the creation date and the modification date.

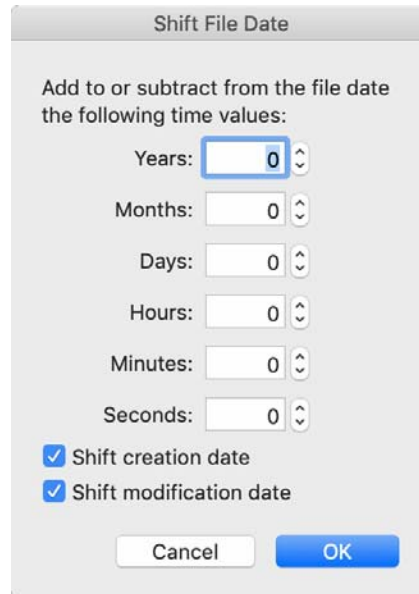


You can use **Set always to mod date** to change the creation date to the modification date. **Set always to creation date** allows you to change the modification date to the creation date.

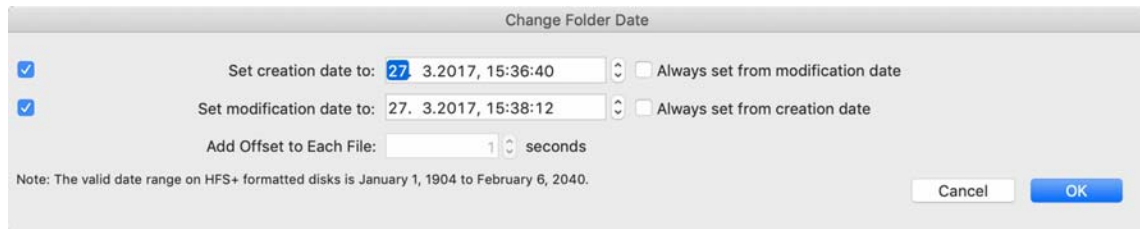
**Add offset to each file** allows you to select an offset which sets the time as 1 second later for all files to be modified, for example. The sort order is kept for the sort method according to date in the browser.

You can use **Add Offset to Each File** if you have a series of pictures with the wrong date, for example, because the clock in the camera is not set correctly. If you know the actual date when the picture was taken, you can calculate the difference and enter it as a

value in the dialog. Enter negative values like -42 to reduce the value. **Set creation date to** and **Set modification date to** allows you to choose which date should be changed.



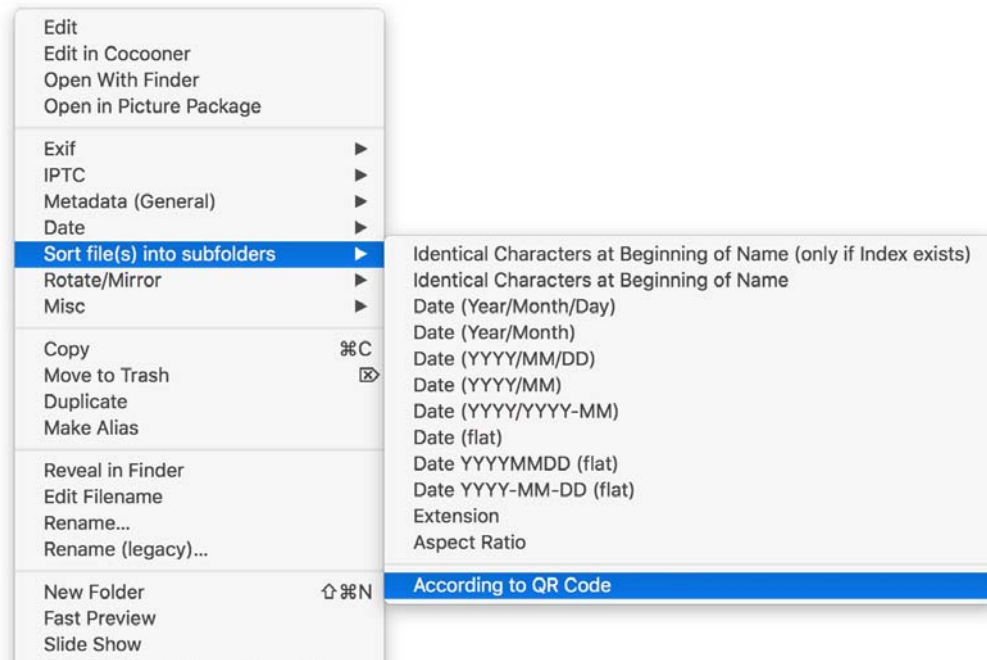
**Change Folder Date...** allows you to change the creation and modification date of folders. **Set always to mod date** allows you to change the creation date to the modification date. **Set always to creation date** allows you to change the modification date to the creation date.



**Add offset to each file** allows you to select an offset which sets the time as 1 second later for all files to be modified, for example. The sort order is kept for the sort method according to date in the browser.



## The Submenu Sort files into subfolders:



**Sort files into subfolders / Identical Characters at Beginning of Name** creates subfolders and sorts the files according to name in these folders. If, for example, you select five pictures whose name start with “Wall” and five others starting with “Grill”, the first five will be copied to a folder named “Wall” and the others to a folder named “Grill”. If a file-name occurs only once, the file will not be moved and not renamed. Select **Identical Characters at Beginning of Name (only if index exists)** if the files have an index like, for example, 0001 at the beginning of the name.

If you select **Date (Year/Month/Day)** instead of **Identical Characters at Beginning of Name**, the selected images will be moved to subfolders that are named after the date of the respective image file and are placed in automatically created day, month and year folders. This option is also available immediately upon import and is useful if you used the Finder to import pictures from a digital camera. **Date (flat)** creates folders that also contain the name of the month and the day date (2015\_11\_23) so there are fewer folder levels. Use **Date YYYY-MM-DD (flat)** to drop the underscores or **Date YYYY-MM-DD (flat)** to get hyphens. This option is particularly useful if you take pictures only once in a while. The variants **Date (YYYY/MM/DD)**, **Date (YYYY/MM)**, **Date (YYYY/YYYY-MM)** offer hyphens. **Extension** or **Aspect Ratio** sorts the files into folders according to their extension or aspect ratio.

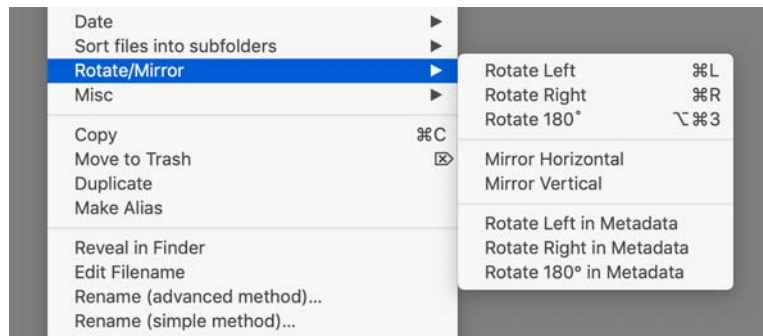
From macOS 10.10, GraphicConverter can recognize QR codes contained in images. This is helpful if, for example, you take a photo of children at a kindergarten and want to sort the pictures on your Mac into the corresponding folders. Before each series, take a photo of the child with a large printed QR code or take a photo of just the QR code, for example, on a table. Then select all pictures in GraphicConverter and start the sorting process via the context menu with **Actions / Sort file(s) into subfolders / According to**

**QR Code.** If you sell photos through an online shop like [www.zenfolio.com](http://www.zenfolio.com) or [www.smugmug.com](http://www.smugmug.com), you do not need to sort the pictures as this is done automatically by the provider's system.

**Edit / Find, Compare and Replace / Find QR Code...** allows you to display a QR code contained in a picture. The text is displayed in a dialog and can be selected and copied there.

You can create a QR code with **File / New / New QR Code...** Select a suitable size with **Scale**. Save the picture to paste it into a layout in a program like InDesign, for example. To paste the QR code in GraphicConverter into another image, select everything with Command-A, copy the picture with Command-C and paste it into another picture with Command-V. Scale the QR code proportionally by dragging a corner.

## The Submenu Rotate / Mirror



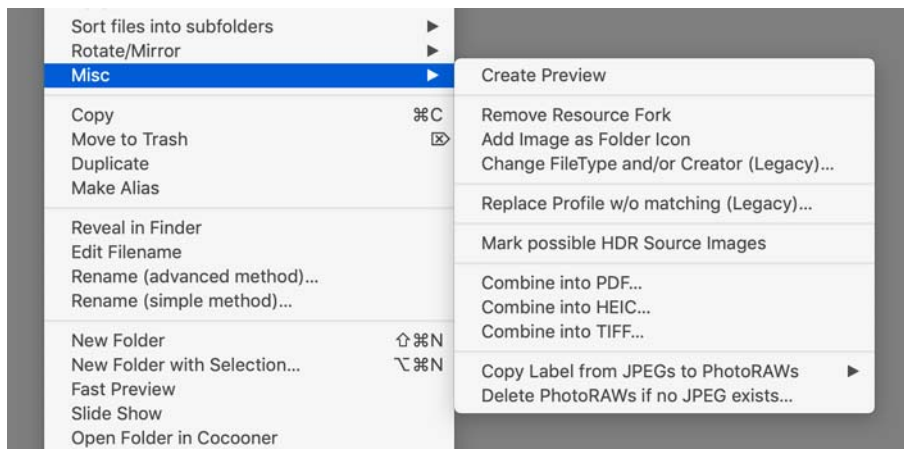
**Rotate / Mirror** opens a submenu with the options for lossless rotating and mirroring: **Rotate 90° clockwise**, **Rotate 90° counterclockwise** and **Rotate 180°** rotate the image in the respective directions. You can rotate counterclockwise by pressing Command-R on the keyboard. Command-Shift-R rotates 90° clockwise.

To freely rotate the image by entering an angle, click **Other Value...** in the **Picture/ Rotate** submenu after opening the graphic as you usually do.

**Mirror Horizontal** mirrors the image on a horizontal axis without any quality loss. **Mirror Vertical** mirrors the image on a vertical axis without any quality loss

You can also rotate just the preview with **Rotate left in Metadata** etc. This is useful for RAW files as they can be opened with GraphicConverter, but not saved in RAW format.

## The submenu Misc

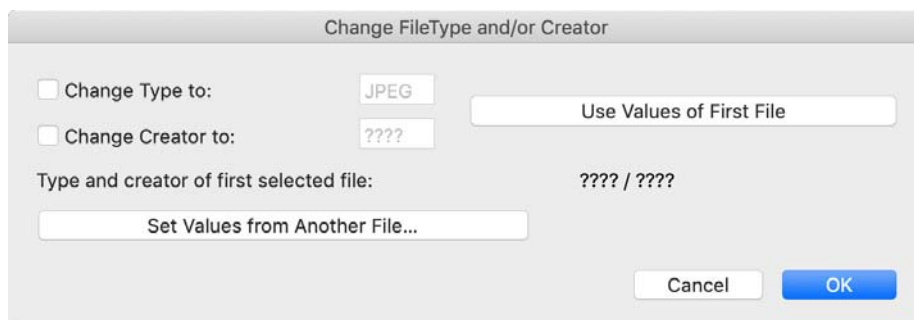


**Create Preview** creates a preview for graphics that do not yet have one. You can also use this option to create a larger preview. Images with a preview in the resource fork are displayed in the Finder without borders.

**Remove Resource Fork** allows you to delete the resource in images to make them smaller for Internet use or compatible for editing in Windows. The resource fork contains previews in various sizes among other things.

**Add Image as Folder Icon** sets the selected image as a folder icon so that the folder in the Finder shows the selected image.

**Change FileType and/or Creator (Legacy)...** opens a dialog where you can change the document type and creator.



Enable the required option and enter the **Type** or **Creator** you want to set. Clicking **Use values of first file** inserts the values shown below from the first selected file in the browser window in the boxes.

**Repalce profile...** will apply a profile to the selected images. Select the profile file with the file selector. Only set this profile file if it belongs to the images as the colors will otherwise be displayed incorrectly.

If you want to mark the source images of HDR series in the browser for easier orientation, you can automatically assign the green label to the source images with **Mark possible HDR Source Images**. GraphicConverter recognizes images as part of an HDR series whenever the Exif time is not more than one second apart, and when the aperture is different. There must be at least three pictures.

**Combine into PDF / HEIC / TIFF...** merges the selected images into a multi-page PDF, HEIC or TIFF file.

**Copy label from JPEGs into PhotoRAWs** sets the label used or a freely selectable label via the submenu for RAW files of the same name if a JPEG file has a label in the same folder. Professional photographers often set their camera to write a RAW and JPG file to the memory card each time they take a picture. These files are then imported into the same or separate folders on the computer to work faster with the smaller JPG files. Often the failed JPGs are deleted.

In order to delete the same pictures in the folder with the RAW files, select the function **Delete PhotoRAWs if no JPEG exists....** The file selection opens with which you open the folder with the RAW files. Click **Open**. A confirmation prompt appears. Confirm the confirmation prompt to delete the RAW files you deleted in the JPG folder when viewing the images.

Please note that files on external drives can not be placed in the trash but are deleted immediately. **Undo** is not possible. Only files deleted directly in the browser are kept in an invisible cache by GraphicConverter for the **Undo** function. If the files are stored on your boot drive, they will be moved to the trashcan on macOS.

-- **Back** to the functions of the context menu of the browser

**Copy** or Command-C copies the selected files to the clipboard. You can then, for example, switch to a different folder and paste the files with **Paste** or Command-V. Using this method of copying does not place the content of the files in the clipboard, but instead only saves the path to the files. The original is then copied to the destination folder upon pasting. You should therefore not delete the copied file before pasting.

**Move to Trash** moves the selected files to the macOS trash. GraphicConverter does not have its own trash like iPhoto, for example.

**Duplicate** creates a duplicate of the selected file with "Copy" added to the name.

**Make Aliases** creates an alias of the image file in the same folder from where you can then move the alias to another location, for example.

**Reveal in Finder** shows the selected files in the Finder.

**Edit filename** selects the filename of the selected file so that you can change it. You can also click the filename in the browser to edit it.

**Rename (advanced method) ...** opens the new dialog for renaming, in which the order of the individual steps can be specified, see p 32 onwards. **Rename (simple method) ...** opens the old rename dialog.

**New Folder** creates a new folder.

**New Folder with Selection...** (Command-Option-M) opens a dialog in which a name for the new folder can be entered. The selected files are moved to the folder.

**Fast Preview** shows the selected image in a scalable window.



**View Item(s) in slide show** launches a slide show of the selected graphics against a black background. To exit the slide show, click the X button in the controls or press the Escape key. For more detailed information, see the chapter on slide shows on page 282.

**Open folder in Cocooner** opens the selected folder in the Cocooner.

**Open folder in Convert & Modify** opens the Convert dialog in which the content of the active folder is displayed in the left-hand list.

Open Folder in **Picture Package (Multiple Print)** opens the current folder in the Picture Package dialog.

**Open new browser with image** is useful if, for example, you want to use the search function to display a series of images as a result and then to display the folder of a specific image in a new browser window.

**Upload images to** opens a submenu in which you can choose which service you want to upload your images to. You can choose from Google+, Flickr, Lockr and dPhoto.

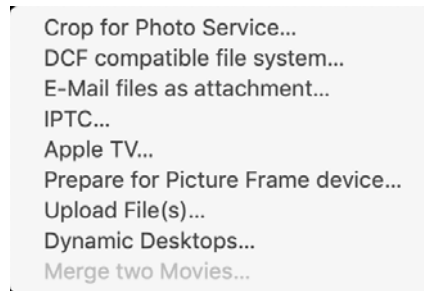
**Copy Images to** opens a submenu in which you can choose to copy the selected files **Normal**, **Mixed** or **Interleaved** to the destination folder. In order to display the new file order when sorting by name in the browser, an index is inserted before the file name. **Normal** copies the files in the original order. **Mixed** copies the files in random order. **Interleaved** only makes sense if you have selected several folders in the middle area of

the browser. In this case, a file is always copied from the first folder first, then one from the second folder and so on. The **Normal** and **Mixed** functions can also be used if multiple folders are selected in the middle area of the browser.

**Move to...** moves the selected files to the folder you select with the opening file selection.

You can save a selection of several files and folders with **Selected Items / Save Selection...** so that you can later use it again with **Open selection ...**

## The Submenu Export



**Crop for Photo Service...** opens a dialog where you can adjust the aspect ratio of your pictures to the 2:3 aspect ratio of the photo paper. You will find detailed instructions in the chapter "Crop for Photo Service" see p 122 onwards.

You will find a detailed guide in the chapter "Crop for Photo Service" on page 122.

**DCF compatible file system...** allows you to export to the memory card of a digital camera, for example. If your DVD player has slots for memory cards, you can then show your pictures on a television. The export function automatically converts the pictures to JPG format and saves them in a compatible form.

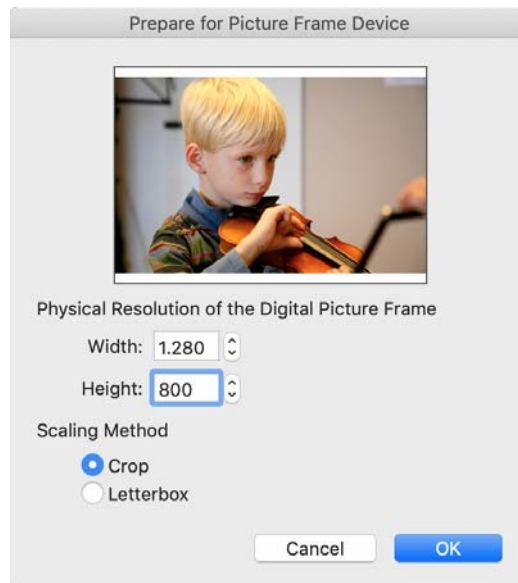
**E-Mail file(s) as attachment...** lets you forward the selected images to an e-mail program to e-mail them as attachments (see p 234).

**IPTC...** opens a dialog where you can select which fields should be saved with which separators in a single file or in several files.

Select **Apple TV...** to export pictures for Apple TV to keep the current order. Graphic Converter sets the file date and the Exif date to the current date and adds one second to the time for every file as these are the sort criteria of Apple TV. Additionally an index is added to the file name (0001, 0002 etc.).

**Prepare for Picture Frame device...** allows you to optimise the size and aspect ratio of images for digital photo frames. Then a dialog opens where you can enter the resolution

of your photo frame. You will find the resolution in the documentation for your photo frame or on the packaging.

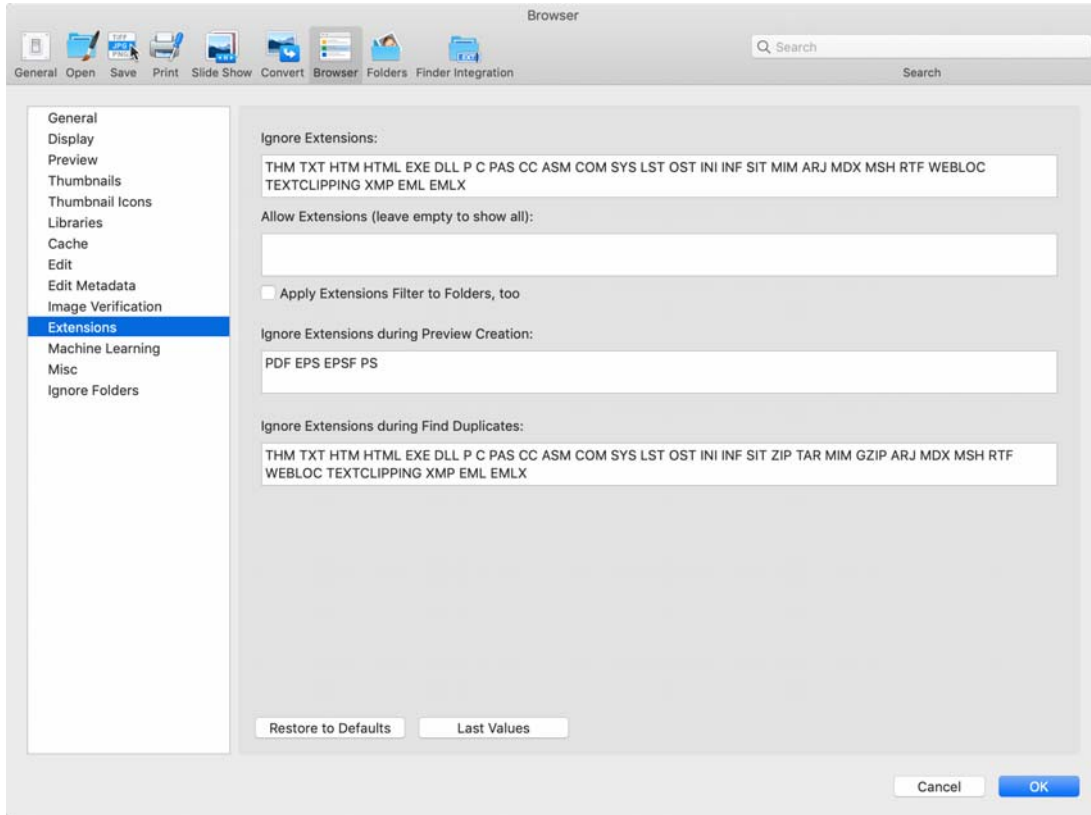


If your pictures have the aspect ratio 4:3 and your photo frame 16:9, a lot will have been trimmed off the image with the Crop option. In this case, it is better to select Letterbox to add black margins on the right and left of the image. You can also specify the crop method yourself before you use this option by selecting **Export / Crop for Photo Service**. Click **OK** to select the destination folder.

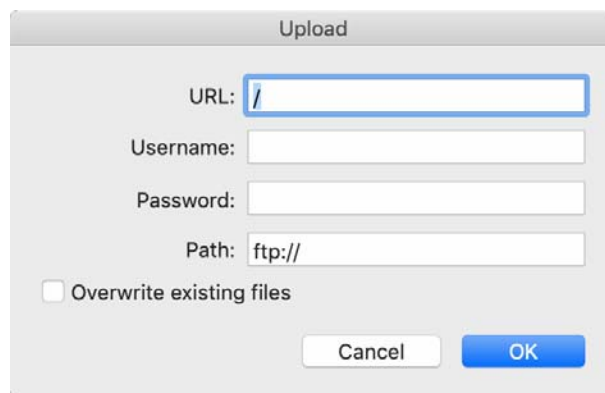
Remember that some picture frames make a collage from several pictures or add margins so it is not absolutely necessary to edit images beforehand. We recommend choosing picture frames with a high resolution of approx. 90 ppi and testing them beforehand at a store. Only buy a frame with an aspect ratio of 16:9 if you are using a camera that can be set to this aspect ratio.

**Upload File(s)...** allows you to copy files onto a Web server using the ftp protocol. First select the files in the browser. If you also want to upload HTML files, you first need to

remove the file types **HTML** and **HTM** from the list of files to ignore under **Preferences / Browser / Extensions** so that they are displayed in the browser.



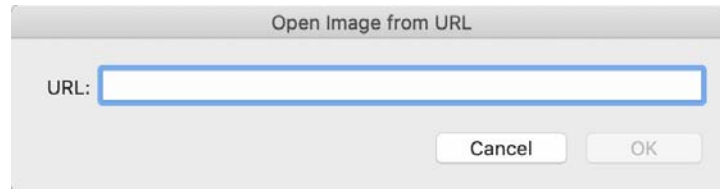
Connect to the Internet, then enter a URL, your user name, password and, if necessary, the path. Click **Upload** to copy the files onto the Web server.



If you want to download a picture from the Internet onto your computer, you can start the download with a Ctrl-click or a held click on the picture depending on your Internet browser. The picture is saved to the desktop on your computer or to your download folder. You can open it in GraphicConverter from there.



If you know the path to a picture, you can also enter it directly in GraphicConverter to save the picture to the desktop and open it in GraphicConverter. Select **File / New** and then **Image from URL...** from the submenu. The following dialog opens:



Enter the URL and click **OK**. The picture is automatically downloaded to the desktop and opened in GraphicConverter. You can, for example, easily copy the path to a picture by Control-clicking the picture in the Internet Explorer to open the context menu and selecting **Copy Shortcut**.

**Dynamic Desktops:** As of macOS 10.14 Mojave, the macOS can display up to 16 images as a desktop background one by one according to the time of day. You can create such a file by selecting 16 images in the browser and then choosing **Export / Dynamic Desktops** from the context menu.

**Merge two Movies** lets you combine two videos into one movie. More than two movies can not be combined. But you can put the results back together with other videos.

--- **Back** to the functions of the context menu of the browser

**Move** opens a submenu in which you can select a folder to move to, which you have previously selected in **Preferences / Folders / Move Folder**. You can open this preferences dialog with **Define...** at the bottom of the submenu.

**Show in Flat View** displays all documents of the selected folder and its subfolders.

**Browse Version** displays the versions of a document.

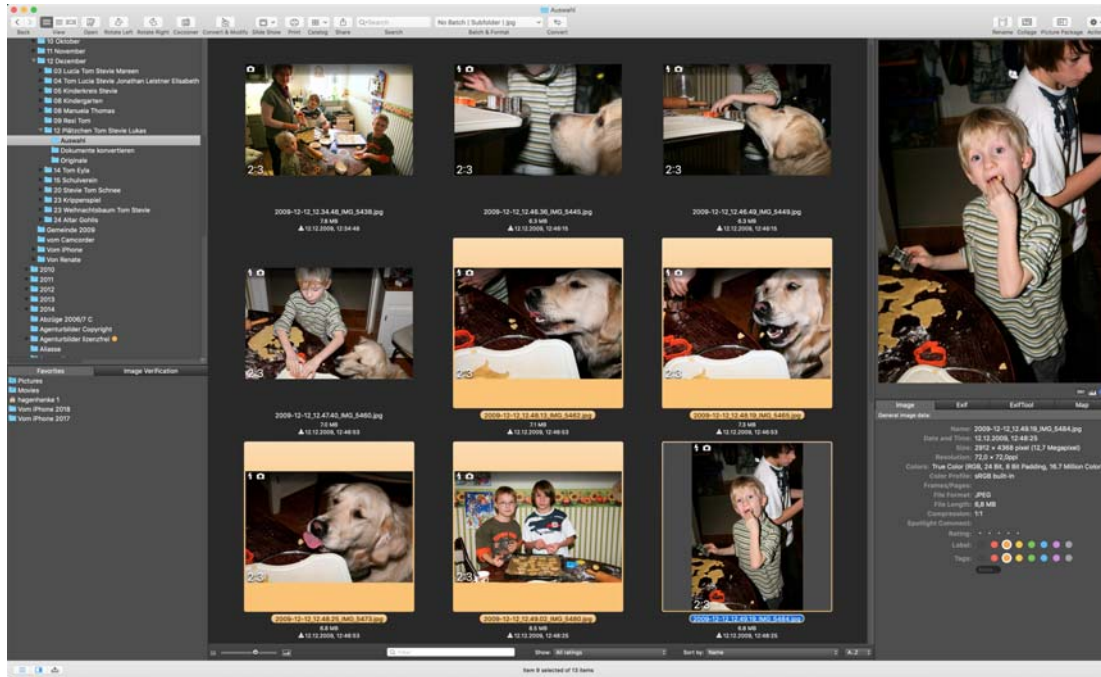
Click **Label** to assign a label to graphics. These are operating system labels used to identify, for example, project files by color. The label is also written to the XMP metadata so that it can be displayed by Adobe Bridge under other operating systems. You can disable this option in the preferences under **Browser / Metadata** to speed up your work.

If you are creating a book, for example, you can assign a label to all files you already used.

The color of the label is displayed in the browser next to the filename and on the right-hand side of the **Image** tab. You can also change the label here. In the lower right-hand corner of the browser window, you can choose **Sort: By Label & Name** to group the

## The Browser

labeled pictures on the screen. This allows you to quickly see which pictures you have already used in your book.

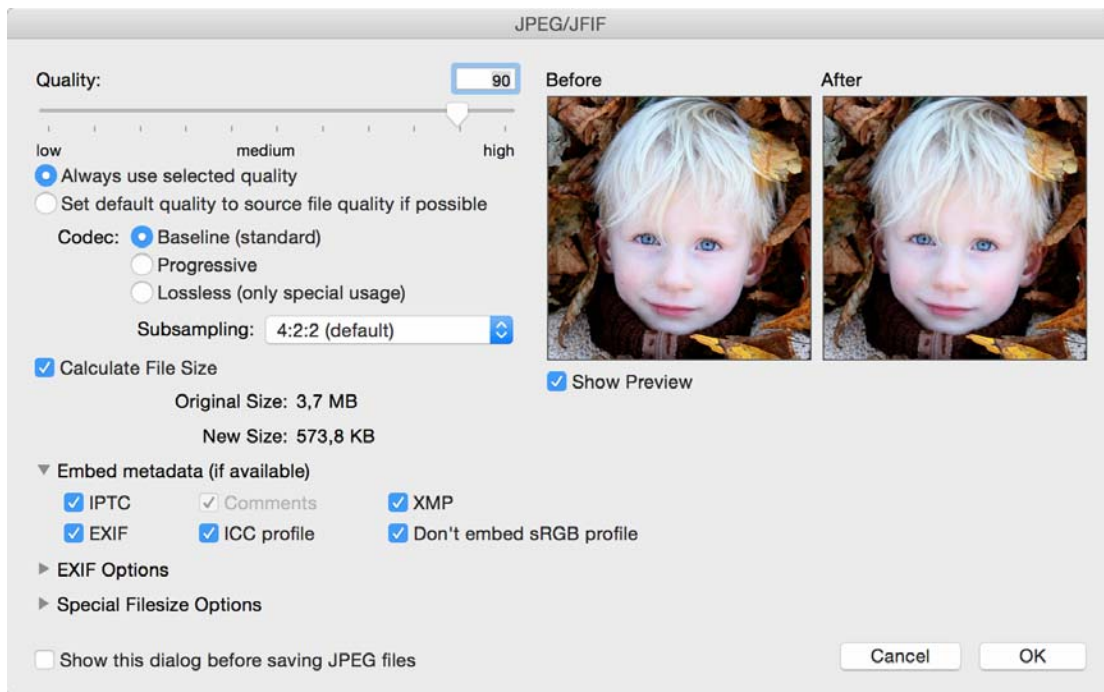


The **Tags** allow you to mark files that belong to a project, for example, to display them in a window in the Finder. Finder tags can also be used with **Finder tags**.

**Rating** allows you to assign 0–5 stars to images in JPEG or TIFF format. This information is written in the XMP section of the files. It is easiest to assign the stars to rate pictures by selecting the images and setting the stars with Ctrl-0–5 or clicking the right-hand side of the browser. To reset the rating to zero on the right-hand side of the browser, double click the first star or single click slightly to the left of the first star. You can also use these keyboard shortcuts to assign stars during a slide show.

If you disable **XMP** in the format options for JPG or TIFF pictures, any ratings that have been set will not be saved with the file when you save it again and will therefore be

deleted. Therefore make sure that **XMP** is kept enabled in the format options when you work with ratings.



**Lock / Unlock** changes protected files to unprotected or vice versa.

With **Select Images**, you can select all images that have a specific label or rating. You can also select all Live Photos.

**Invert Selection** selects images that were not previously selected.

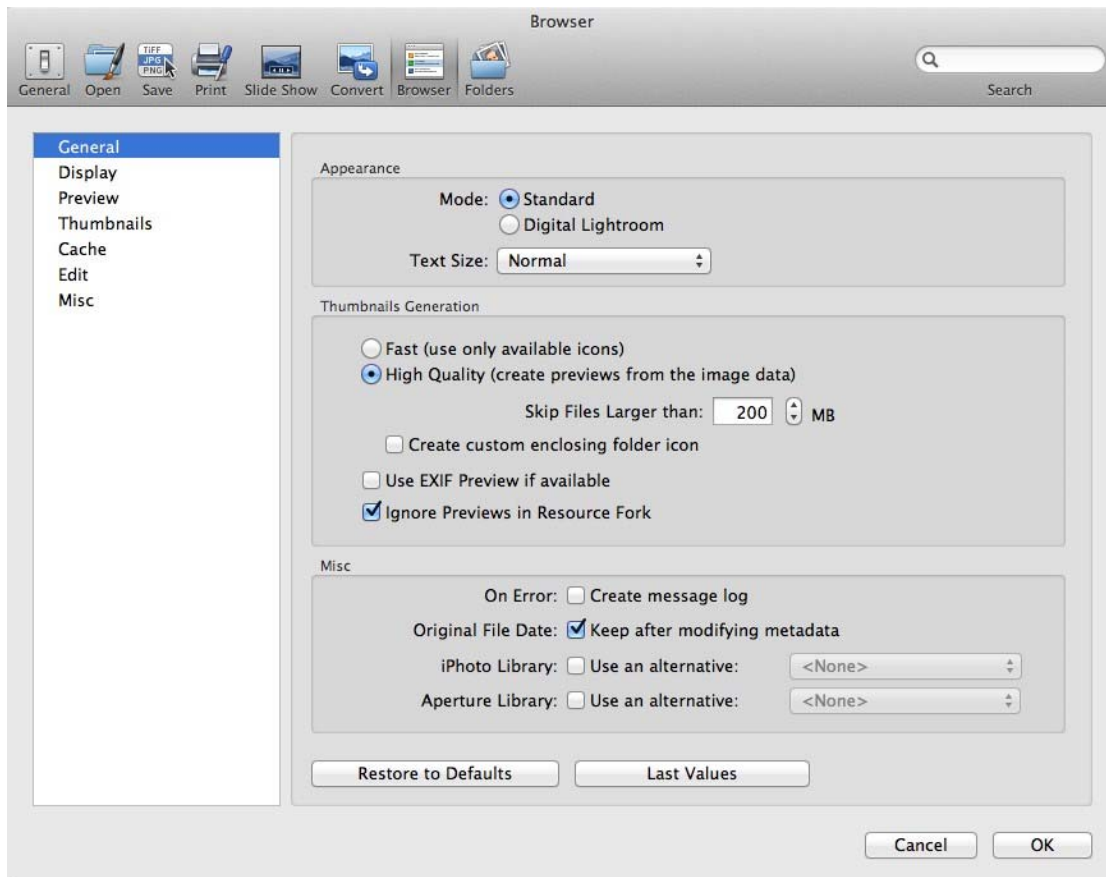
Click **Refresh** to update the list for the current browser window. This is useful when you have modified files and folders in other programs since GraphicConverter is, for example, sometimes not informed quickly enough about whether something has been changed on operating system level.

## Action menu options

You will find the Actions menu on the right side of the menu bar. Click on the gear to open it. The Actions menu is also available on the right side of the toolbar at the top of the browser. All functions of the Actions menu are also available in the context menu of the browser. The Actions menu is only intended to facilitate access to the most important functions of the context menu. You will find explanations of the functions starting on page 240. You can also use the search function of your PDF program to quickly find the relevant paragraph.

## Preferences for the browser

### Browser / General



**Standard** or **Digital Lightroom** allows you to select white or dark gray as the background color for the browser.

Five settings are available for the **Text Size** of the filenames etc. under the preview pictures.

The **Thumbnails Generation** can be **Fast** with poorer quality or **High Quality**.

If you are working with very large files, you may need to set a higher value for the **Skip Files Larger than 30 MB** option, so that thumbnails are automatically created.

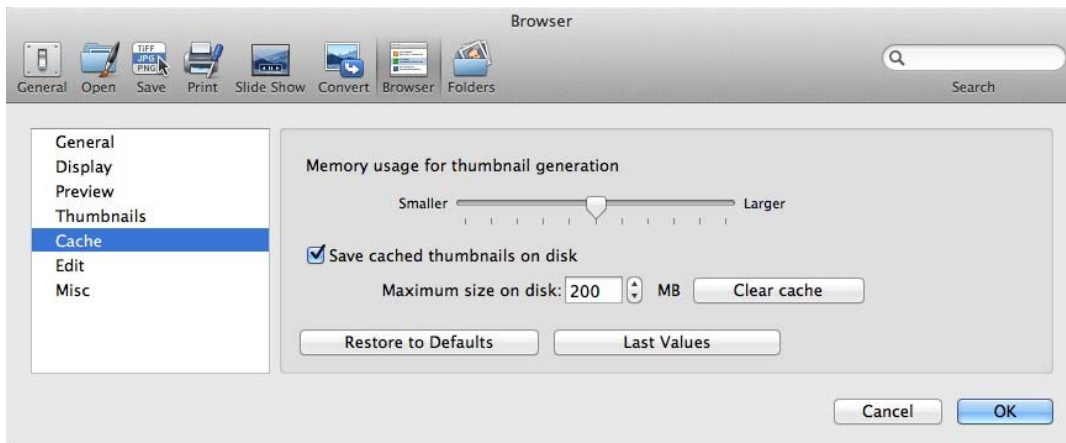
If you disable **Ignore Previews in Resource Fork**, the thumbnails from the resource fork will be used which can lead to poorer quality thumbnails.

Enable **On Error: Create message log** if you want error messages and other notifications from GraphicConverter to be displayed in the macOS console. Log files are not created on the desktop like in older versions of GraphicConverter.

Enable **Original File Date: Keep after modifying of metadata** if the document date should also be updated when metadata is modified. This can be useful if you want to recognise from the file date whether a file has been modified at a certain time.

If you have created several iPhoto libraries, you can select a different library with **iPhoto Library: Use an alternative**.

## Browser / Cache

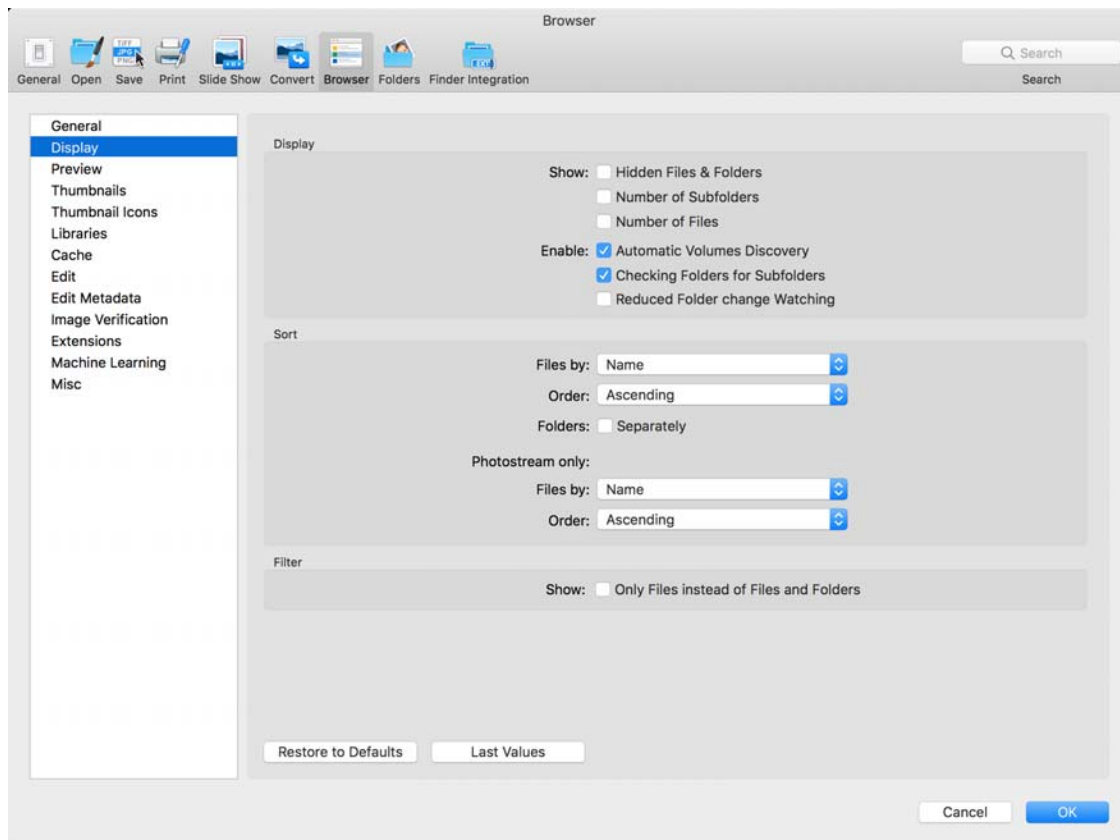


You should only reduce the **Cache Size** if you have a very small amount of RAM available since browsing with less cache will be slower. If you have a large amount of RAM, you can increase the cache size to browse more quickly. GraphicConverter saves the cache file under the path:

~/Library/Application Support/GraphicConverter/Cache/

The tilde character ~ stands for the name of the respective user.

## Browser / Display



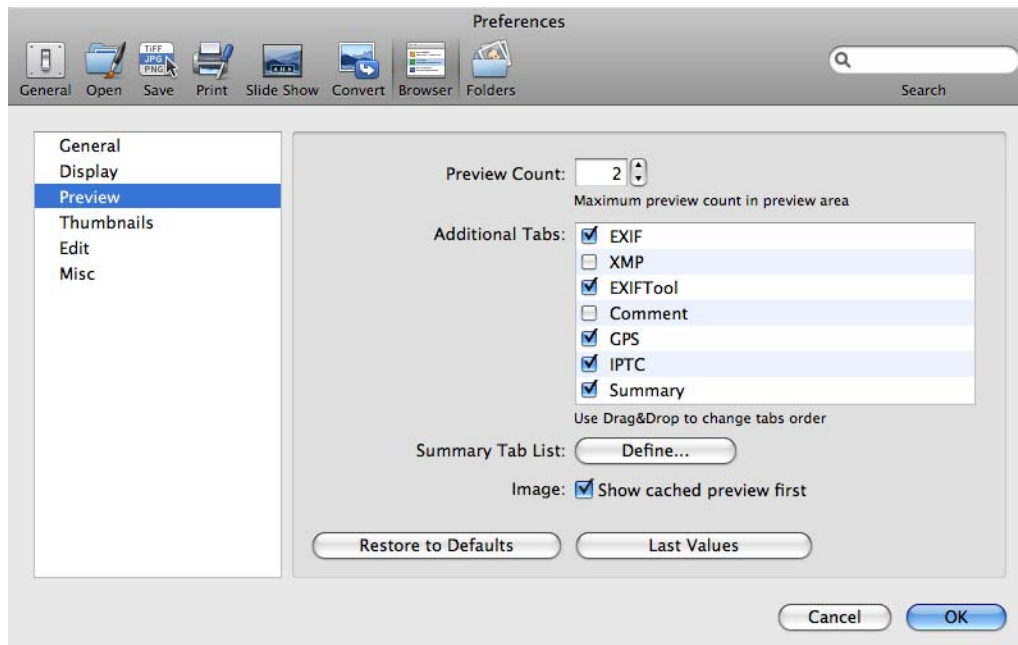
Select **Show: Hidden Files & Folders** to also display invisible files and folders. **Number of subfolders** or **Files** shows the respective number to the right of the file tree.

Turning off **Automatic Volume Discovery** and **Checking Folders for Subfolders** or turning on **Reduced Folder change Watching** may help you avoid delays in viewing the browser for example if you use slow NAS drives.

**Sort** allows you to specify which sort in the browser is to be used as the startup setting. At the bottom of the browser window, you can change the sort criterion at any time. With the pictures from Apple's photostream, it makes sense to always display the latest pictures at the top. Select **Documents by: Creation Date** and **Sequence: Descending**. This way, even renamed files are displayed chronologically correct.

Select **Folders: Separately** if the folders should be displayed before all other files.

## Browser / Preview



**Preview Count** allows you to select the maximum number of previews that are displayed next to each other on the right-hand side of the browser.

**Additional Tabs** allows you to select which tabs should also be displayed at the bottom right of the browser in addition to the **General** tab.

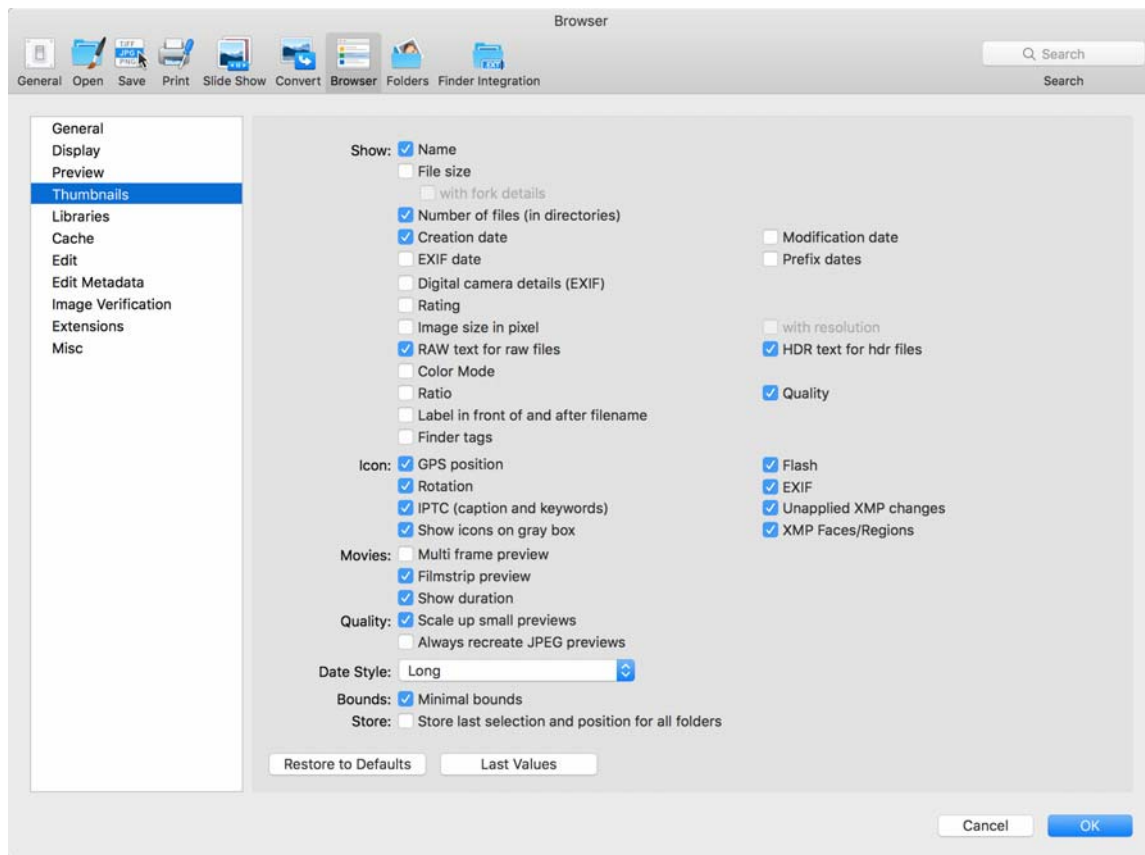
**Summary Tab List: Define...** allows you to select which content should be shown on the **Summary** tab.

Disable **Image: Show cached preview first** if you want to have the final preview displayed straightaway. The display of the normal thumbnail can take slightly longer.

## Browser / Thumbnails

In the **Thumbnails** section, you can select whether **Name, File size / with fork details, Creation date, Modification date / Exif Date / Digital camera details (Exif), Rating** and **Image size in pixels / with resolution / Ratio / Finder Tags** should be displayed un-

der the thumbnail. **Number of files (in directories)** shows how many files are contained in a folder under the folder icons.



**RAW text for raw files** displays „RAW“ in the lower right hand corner of the related thumbnails. **Color Mode** displays the color mode in the lower left hand corner. Most pictures are RGB or CMYK. **Label in front of and after filename** makes the label better visible for selected pictures. **Quality** displays the maximum print size at 300 dpi.

You can display icons at the corners of the thumbnails that indicate whether a flash was used for the respective picture or whether the picture contains GPS data, Geo data, orientation data for rotating, IPTC Caption or Keywords or unapplied XMP Changes. Select **Show icons on gray box** to make the icons better visible.

**GPS position** 📍

**Flash** ⚡

**Rotation** 🔄

**Exif** 📷

**IPTC (caption and keywords)** 📄

**Unapplied XMP changes** 📄

**XMP Faces/Regions** 👤

The icon for **Rotation** is displayed when a picture was taken with a camera that has an orientation sensor. Click the icon to rotate the picture depending on the Exif orientation



tag. If the camera was looking straight down or up, the orientation tag may be wrong so following you have to rotate manually until you reach the correct orientation. It is possible you need to rotate manually several times.

**Multi frame preview for movies** shows four pictures from the movie instead of the first picture as a preview, which helps organization and is particularly helpful if the first picture is black. It can take a moment to create the multi-frame preview.



**Filmstrip preview** makes it easier to recognize video files. **Show duration** displays the length of a video.

**Quality: Scale up small previews** zooms small previews. This can be helpful especially for very small pictures of 32 x 32 pixels for example.

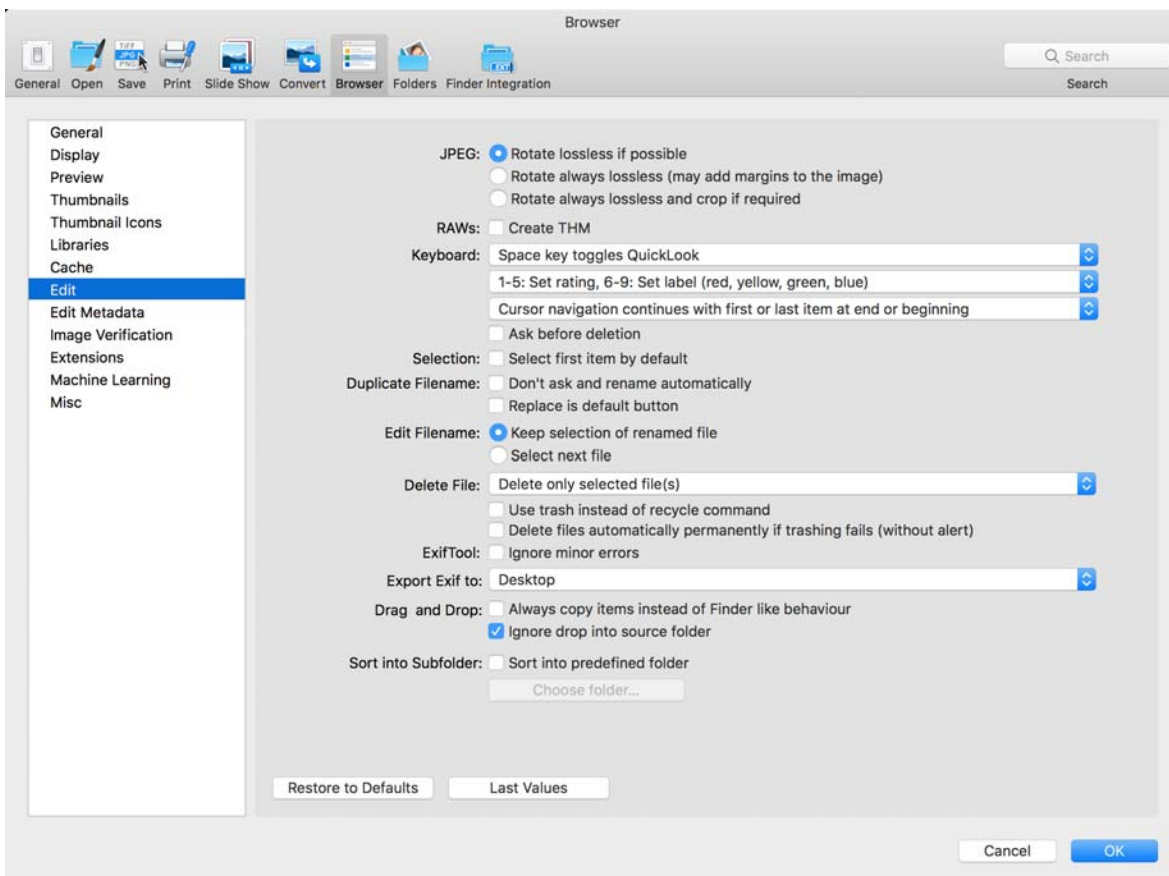
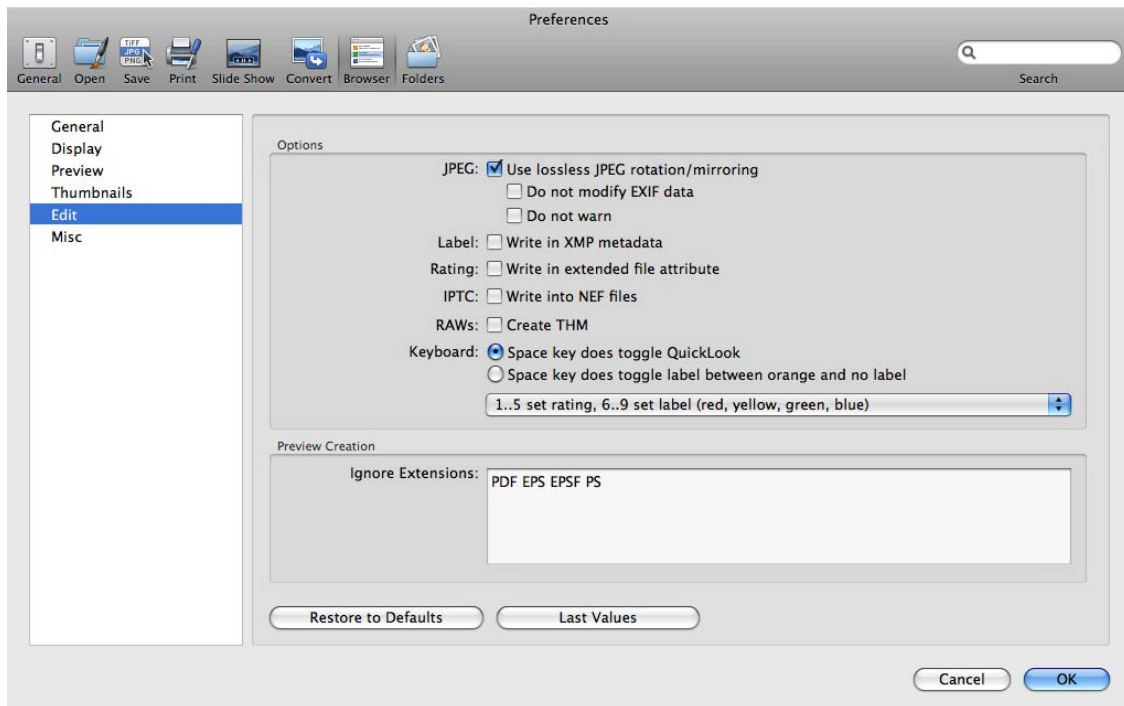
Use **Always recreate JPEG previews** if you do not want to use existing previews which are in the picture file because they are too small or show wrong content. If you have selected **Thumbnails Generation / Fast (use only available icons)** in the **General** section you can define an exception for JPEGs with **Always recreate JPEG previews**.

With **Date Style** you can select how many details like „summer time“ should be displayed.

**Minimal bounds** arranges the thumbnails closer to each other so you save a little bit of space. This can make sense on small displays.

**Store: Store last selection and position for all folders** is useful if after every restart of GraphicConverter you want to start at the same position and with the same selection where you left off.

## Browser / Edit

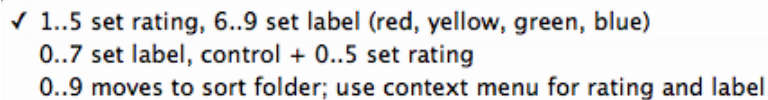


You should leave **JPEG: Rotate lossless if possible** enabled at all times so that JPEGs are not re-compressed when rotated in 90 degree steps and there are no quality losses. Pictures from digital cameras normally are divisible by 8 or 16 and can be rotated losslessly. However, if you cropped the picture the pixel count may not be divisible by 8 or 16 any more. The area of the maximum 15 pixels at the border therefore has to be recompressed what can lead to artifacts. If you select **Rotate always lossless (may add margins to the image)** artifacts can occur in the area of the last 15 pixels at the border. Select **Rotate always lossless and crop if required** if you do not need these pixels at the border.

You can use **RAWs: Create THM** if the THM files are missing because, for example, they have been deleted or were not included in an import. The files will be written as soon as the folder is displayed in the browser. This option makes sense additionally as thumbnails in the browser appear faster.

**Keyboard: Space key does toggle QuickLook** causes GraphicConverter to behave like the Finder and opens or closes a medium-sized quick preview of the picture. Alternatively you can specify that the **Space key** toggles between the **orange label** and **no label** or it starts the **slide show**.

In the pop-up menu underneath, you can specify whether the keys 1..5 should set the rating while 6..9 set some of the labels or whether you want to set labels with 0..7 while Control with 0..5 sets the ratings.



✓ 1..5 set rating, 6..9 set label (red, yellow, green, blue)  
 0..7 set label, control + 0..5 set rating  
 0..9 moves to sort folder; use context menu for rating and label

A third option is to specify that files are moved or copied to the folders defined under **Folders / Move Folders** with the keys 0-9. The same keys and shortcuts work during the slide show.

Select **Cursor navigation continues with first or last item at end or beginning** to get to behaviour most users would expect. **Cursor navigation switches to next or previous folder at end or beginning** takes you, for example, from the last picture of a folder to the first one of the next folder. With **Cursor navigation stopps at first and last item** you stopp when reaching the last or first item.

Enable **Ask before deletion** if you want to avoid accidental deletion of files.

If, for example, when copying files a file name already exists in a folder you can select **Don't ask and rename automatically** to speed up your workflow. **Replace is default button** allows you to just press the Return key to overwrite the existing file.

**Keep selection of renamed file** is the standard. But if you want to rename many files you can go with **Select next file** to continue with the next picture.

If you want to delete the corresponding **RAW, XMP, THM, JPG files** along with the selected files you can select the option from the **Delete file(s)** pop-up menu.

For some operations with Exif data GraphicConverter uses the integrated program ExifTool. You can suppress minor error messages that may appear to be able to work smoothly. Select **ExifTool: Ignore minor errors**. Please note each error message means the Exif standard was not matched completely. This occurs occasionally if images were manipulated with other programs.

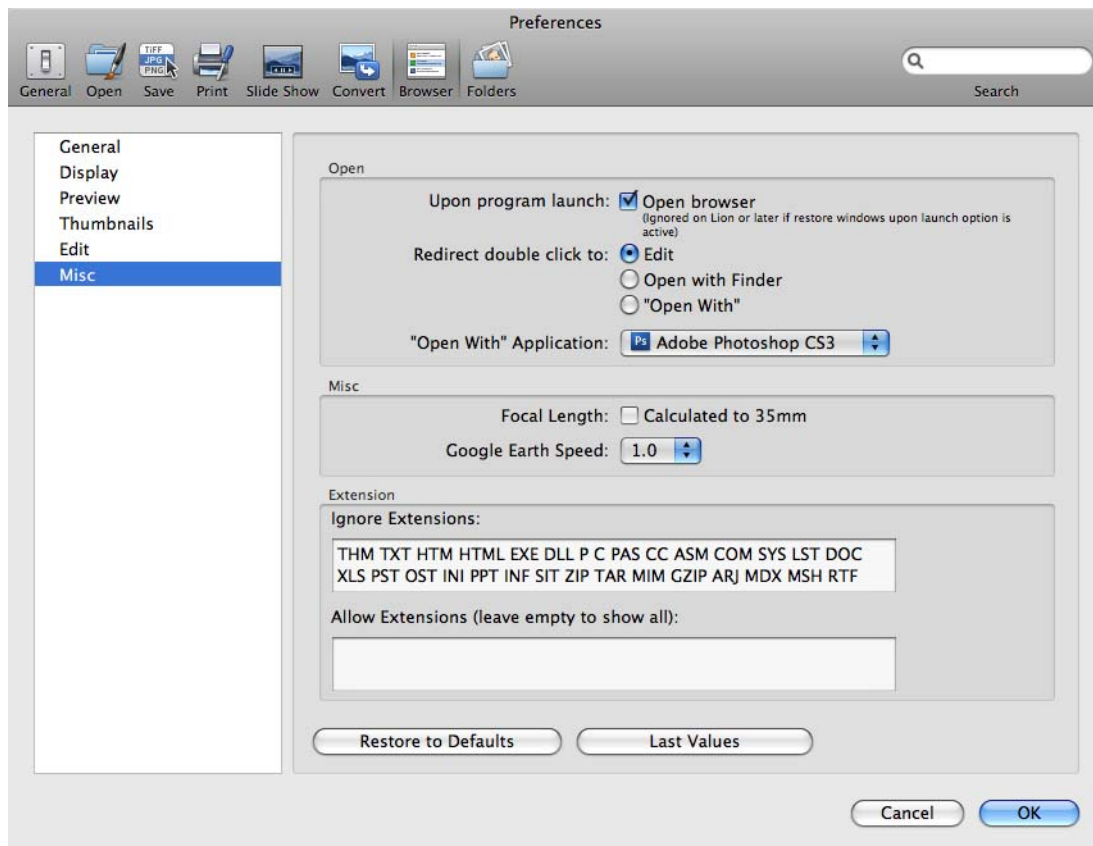
Select **Export Exif to: Desktop**, if you do not want the Exif data in the source folder.

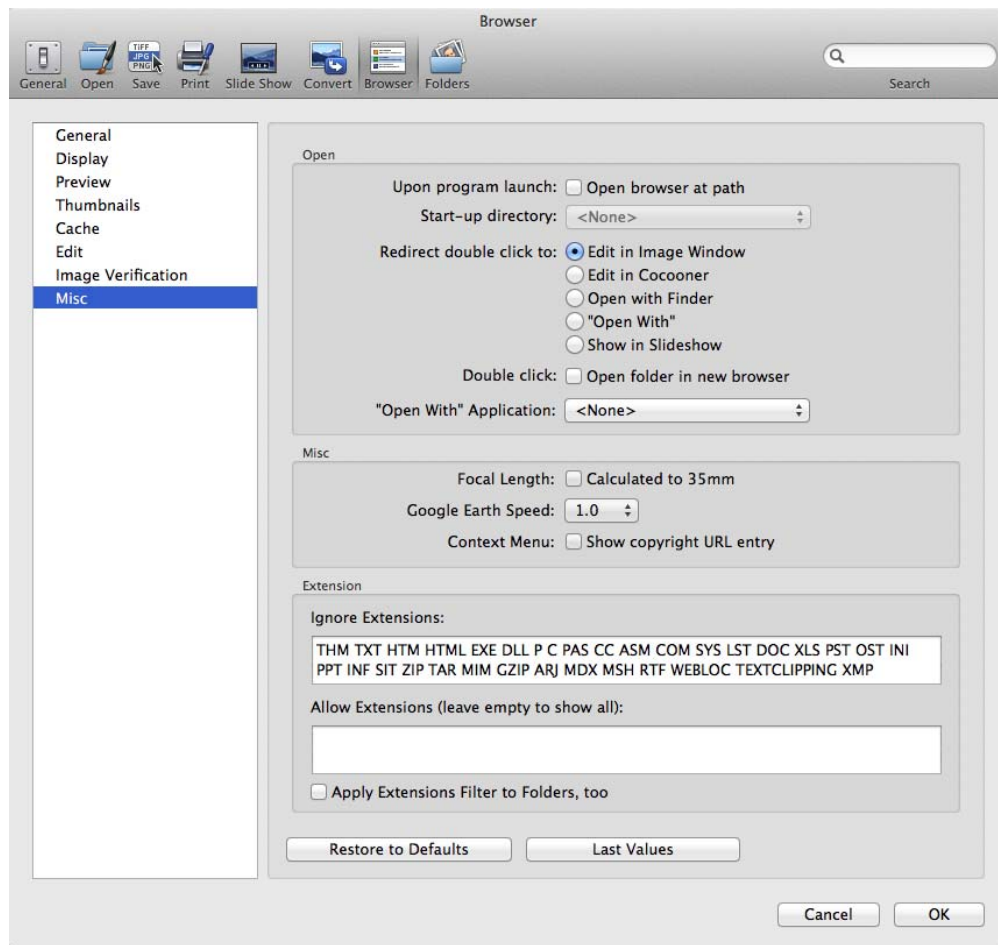
If you want to sort pictures in the browser and if you want the files to be copied always, it is cumbersome to hold the option key all the time. Therefore you can select **Drag and Drop: Always copy items instead of Finder like behaviour** so you do not have to hold the option key.

When you click files in the browser to move them in another browser window or in a Finder window they will be moved. If the destination folder is on another drive the files are copied. If you drop the files, for example by chance, in their source folder then duplicates are created. If you do not want to create duplicates when you drop files in the source folder you can select **Drag and Drop: Ignore drop into source folder**. Then nothing happens.

The function **Sort file(s) into subfolders** in the context menu of the browser creates subfolders in the source folder. If the destination folders should be created in a different folder you can select that folder with **Sort into predefined folder**.

## Browser / Misc





**Upon program launch: Open browser** opens the browser last opened. Under macOS 10.7 Lion or newer, if the “Restore windows” option is enabled, this option will be ignored in GraphicConverter. **Start-up directory** allows you to select a folder that is opened upon every launch of the program.

**Redirect double click to: Edit** opens the picture in GraphicConverter. Edit in Cocooner opens the Cocooner with the picture selected. **Open with Finder** has the same effect as if you had double-clicked the picture in the Finder, **“Open With”** opens the picture with the program selected below as the “Open With” Application. **Show in Slideshow** starts a slideshow starting with this picture.

**Double click: Open folder in new browser** opens a folder in a new browser window.

Enable **Focal length calculated to 35 mm** if you want to display the focal length under the thumbnail calculated as a value for a camera with 35 mm film.

**Google Earth Speed** allows you to select how quickly the virtual camera in Google Earth flies towards the destination.

**Context Menu: Show copyright URL entry.** Enable this option to display the function **Open Copyright URL in Webbrowser** in the context menu. If a picture contains a valid web address like, for example, <http://www.lemkesoft.com> in the URL box of the IPTC information, the additional function **Open Copyright URL in Webbrowser** will appear in the context menu of the open picture allowing you to display the corresponding Internet page in the Internet browser.

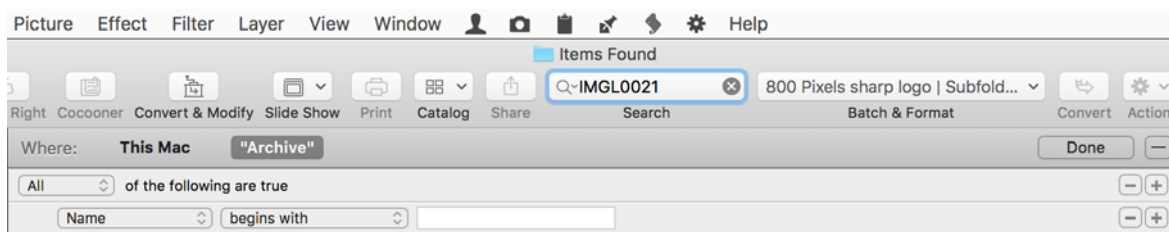
Enter all filename extensions that you want to ignore in the **Ignore Extensions:** box. Files with these extensions are not displayed in the browser. This option is useful for folders that contain Web pages or text files in addition to graphics. The excluded file types are also ignored during the search for duplicate files (**Edit / Find, Compare and Replace / Find Duplicate Files...**).

**Allow Extensions (leave empty to show all)** allows you, for example, to enter only JPG JPEG TIF TIFF in order to only display the files that have one of these extensions. Use a space as the separator. As soon as you enter one extension, the ignore list will no longer count. You therefore do not have to change the ignore list.

Select **Apply Extension Filter to Folders, too** to filter folders with extension like "Pictures.jpg", too.

### Searching in the browser window:

Command-F or **Edit / Find, compare and replace / Find Files...** switches to the search mode that allows you to search the metadata and for image names. The further Controls are displayed when you enter the first letter in the search field. The current browser window is searched or your computer if you click **Where: This Mac** in the top line.



In the second line, you can choose whether **All** of the criteria must be met simultaneously so that files are found. You can, for example, select **Size / is greater than or equal to / 18MB** as the first condition. Click the plus sign at the end of the line to insert another condition line. For example, select **Created date is before 1/26/2012** from the pop-up menus.

If **All** is selected as a condition, only the files that were created before January 26, 2012, and are at least 18MB in size will be found. If you select **None** as a condition, all other files will be found. Select **Any** as a condition if you want to find all files that meet at least one of the criteria.

If the pictures contain keywords, you can search for these keywords. To do this, select **Keywords** in the pop-up menu. If you enter keywords yourself, we recommend always

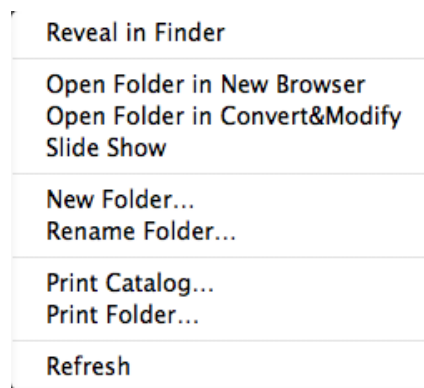
saving them with **File / Edit File Info (IPTC)** in the **Keywords** section. You can also use the keyword palette that you open via the **Window** menu.

The search results are shown in the browser window. To return to the normal start folder view, click **Done**.

The search box in the toolbar is identical to the search box for the search mode. However, conditions cannot be defined and only the current folder is searched for the file-name.

### The context menu in the left hand area of the browser

Hold down the Ctrl key and click a folder on the left-hand side of the browser to open the following context menu:



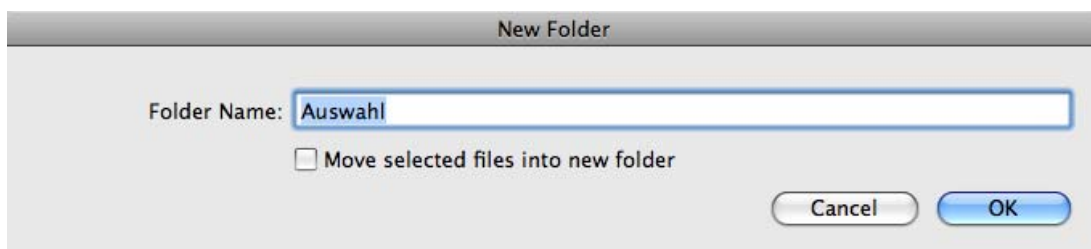
**Reveal in Finder** opens a window containing the folder in the Finder.

**Open Folder in New Browser** opens the folder selected in the left-hand column in a new browser window.

**Open Folder in Convert&Modify** opens the clicked folder in conversion mode.

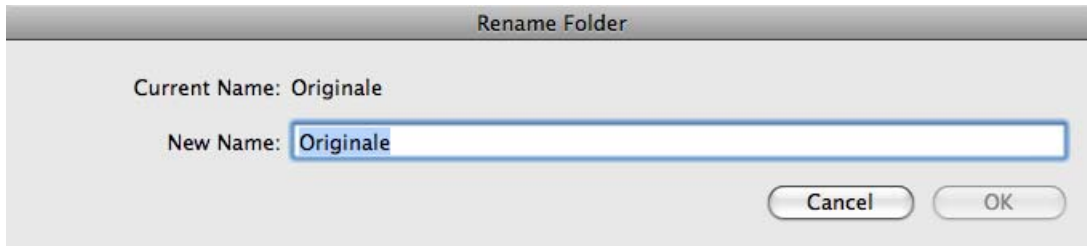
**Slide Show** shows all pictures from the clicked folders as a slide show.

**New Folder** creates a new folder and lets you move selected items from the middle section of the browser into the new folder. In the browser, if you select several pictures whose names start in the same way, the identical part will be suggested as a name for the folder.





**Rename** opens a dialog where you can rename the folder clicked in the left-hand section of the browser.

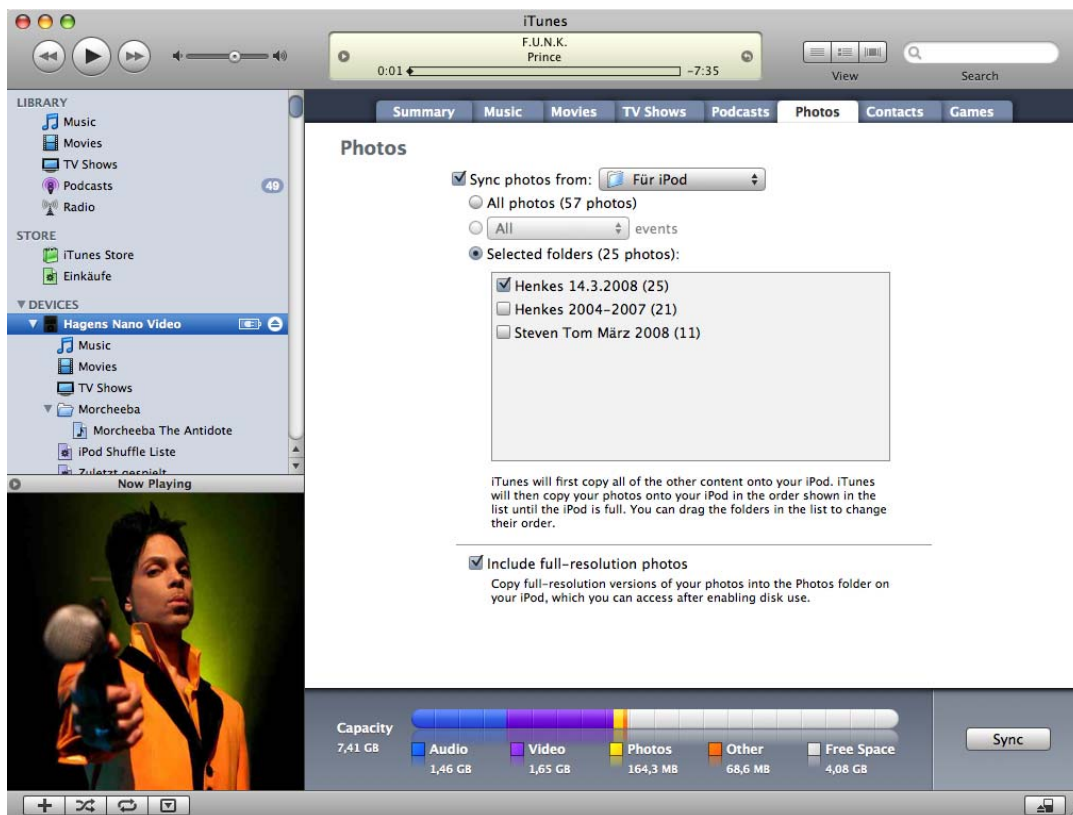


**Print Catalog** prints all pictures from the clicked folders together with the subfolders as a catalog. **Print Folder** prints all pictures from the clicked folder as a catalog.

**Refresh** updates the folders and shows new folders that have been created in the Finder since it was opened, for example. Normally changes from the Finder like new folders or new names are automatically transferred very quickly.

## Pictures on your iPod

You cannot export pictures on an iPod with photo functions like the iPod Touch directly from GraphicConverter. Select the iPod in iTunes and click the **Photos** tab.



## Slide show

In the **Synchronize photos from** pop-up menu, you can select a folder for synchronizing with **Choose Folder...** Select your picture folder or a folder with selected pictures. Aliases cannot be used. **All photos** copies all photos from the selected folder on the iPod. Subfolders appear as albums on the iPod.

The pop-up menu **All** is only available if you synchronise from iPhoto or Aperture. **Selected folders** allows you to select which subfolders are to be synchronised. If you add or rename folders in the Finder or in GraphicConverter, you can update the list by clicking **Apply** at the bottom right of the iTunes window or by switching to another tab and back.

To sync new pictures on your iPod, we recommend adding the picture folder selected in iTunes as a favorite at the bottom left in the GraphicConverter browser. Display the required folder in the browser and open the context menu by Ctrl-clicking the Favorites area. Select **Add current folder to favorites**. Hold down the option key and drag the new photos for your iPod to this folder to create a copy. Now start the synchronization in iTunes.

Click **Apply** and **Sync** to copy the selected pictures to the iPod. The images are then reduced. If your iPod can be used as a volume like the iPod Nano G3, the option **Include full-resolution photos** will also appear. You can use this function to copy the photos to another computer. The image files will be copied to the path: iPodname/Photos/Full Resolution/Year/Month/Day. If the photos were taken on several different days, we recommend using a USB stick to which you can copy the images via the Finder.

## Slide show

Click **File / Slide Show...** to show a slide show on the screen. A file selection window opens where you can select a folder. The graphics contained in this folder and its subfolders are displayed on the screen against a black background for a set amount of time. At

the bottom of the file selection dialog, you can choose which picture to start the slide show with and whether a random order should be used.



You can start a slide show from the browser easily by selecting the required pictures and clicking the slide show icon or press Command-Option-F.

To compile pictures from different folders in a slide show, you can drag the pictures to the drop area at the bottom of the browser. Display the drop area by clicking the icon with the arrow in the browser footer.



Start the slide show using the context menu that you open by Control-clicking the drop area. For more details, see p 237 onwards.

You can also start a slide show of the pictures in a folder from the Finder via the context menu. To do this, click the folder not the pictures.

Graphics that are larger than the main screen are displayed proportionally smaller in size. You can zoom into and out of a picture with option-scroll wheel or, from macOS 10.6, by moving two fingers up and down on the trackpad or on the Apple Magic Mouse. The position under the mouse cursor is centered as far as possible. The macOS energy saving option and screensaver are disabled during the slide show.

In the file selection dialog or in the browser, clicking and holding the slide show icon allows you to specify whether the pictures should be displayed in the normal order or in a random order.

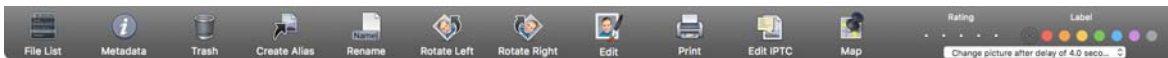
If, during a slide show in random order, you see a picture that is part of a series of similar pictures, which you want to show together, you can switch to the normal sort method

## Slide show

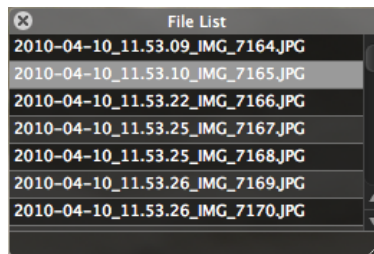
with the **Page Up / Down** or **arrow up / down** keys and show the subsequent or preceding pictures.

The name of the graphic is shown in the top left of the screen during the slide show. The display of filenames can be disabled in the Preferences under **Slide Show / General**. In the Preferences under **Slide Show / Metadata**, you can choose which metadata should be displayed under the picture during the slide show. The filename also belongs to the metadata. If you prefer the filename not to be displayed at the top left above the picture, you can select it in the metadata to display it under the picture.

You can hide the tools on the top edge with **Automatically hide and show** in the **preferences**. They are hidden again if you touch the edge of the screen in the middle with the mouse cursor.



With the first icon or the tab key, you open a **file list** that lists the filenames of the pictures around the picture currently displayed. You can scroll through the list and click the picture you want to continue the slide show with.



The **Trash** moves the current graphic file to the macOS trash. This is why the slide show is useful for cleaning up large numbers of graphics that you need to see in full screen mode before you can sort them out.

The icon to the right of the trash creates an **alias** from the current graphic file in the source folder. If an **Alias Folder** is selected in the **Slide Show / Misc** section of the **Preferences**, the aliases will be written to that folder. This makes it easy to collect your favorites to use at a later time without actually moving the files. GraphicConverter also displays a slide show if a folder with alias files is selected.

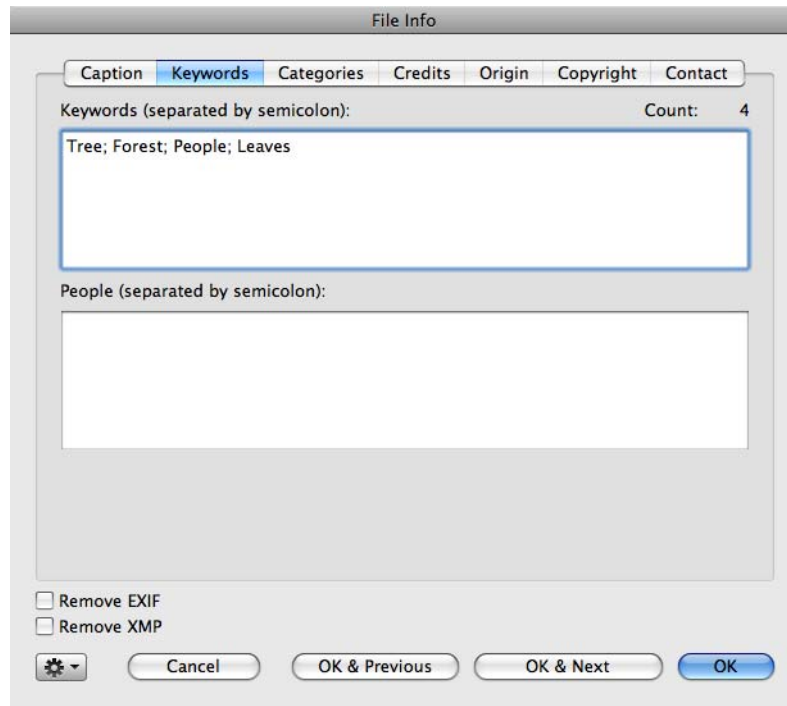
**Change Filename** or the E key without additional key opens a dialog where you can change the filename.

Use **Rotate Left** and **Rotate Right** to rotate pictures. If the pixel width is divisible by 16, it is automatically rotated without losses.

**Edit** opens the picture in GraphicConverter for editing. This stops the slide show. Select **File / Continue Slide show** to continue the slide show where you left off.

Click the **printer** icon to print the current picture.

Clicking the **Edit IPTC** icon opens the IPTC dialog where you can make entries on the object and the copyright. The slide show continues when you close the dialog.



**Label** shows the label of the current picture or Film and allows you to change it. In JPG and TIF images, the label is also written in the XMP data and is therefore also available in programs like Adobe Bridge.

With the pop up menu under the labels you can select the change mode. You can change after a time out or after a mouse click. You can also increase or decrease the time.

If you move the mouse cursor across the screen, GraphicConverter will display the Navigation toolbar for the slide show at the bottom if the Navigation toolbar option is selected in the **Preferences** part **Slide Show / General More**. You can switch to the previous or next picture with the arrows. You can also use the left and right s to page forwards and backwards in the slide show.

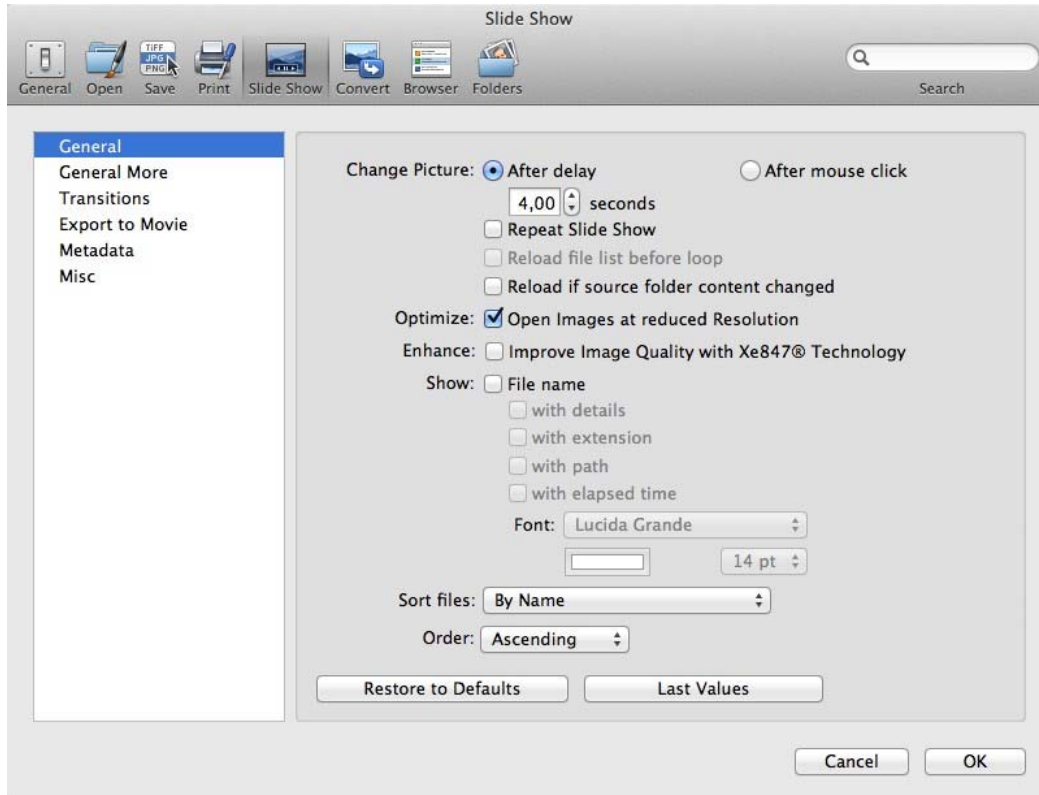


The symbol for pause turns into the symbol to continue playback when you click it. End the slide show with the X in the circle or the Escape key.

You can rate JPEG and TIF images displayed in the browser during the slide show with 0–5 stars using the keys 0-5 or 6-9 for the labels.

## Settings for Slide Show / General

**Change Picture: After delay** allows you to specify how long each slide should be displayed. **After mouse click** is practical if you want to show the individual images for different lengths of time. If you want to start the slide show from the beginning again after the last picture, select **Repeat Slide Show**. You can specify whether the list of pictures should be **reloaded** before the loop or after any **change**. These options are useful if you copy more pictures into the displayed folder during the slide show.

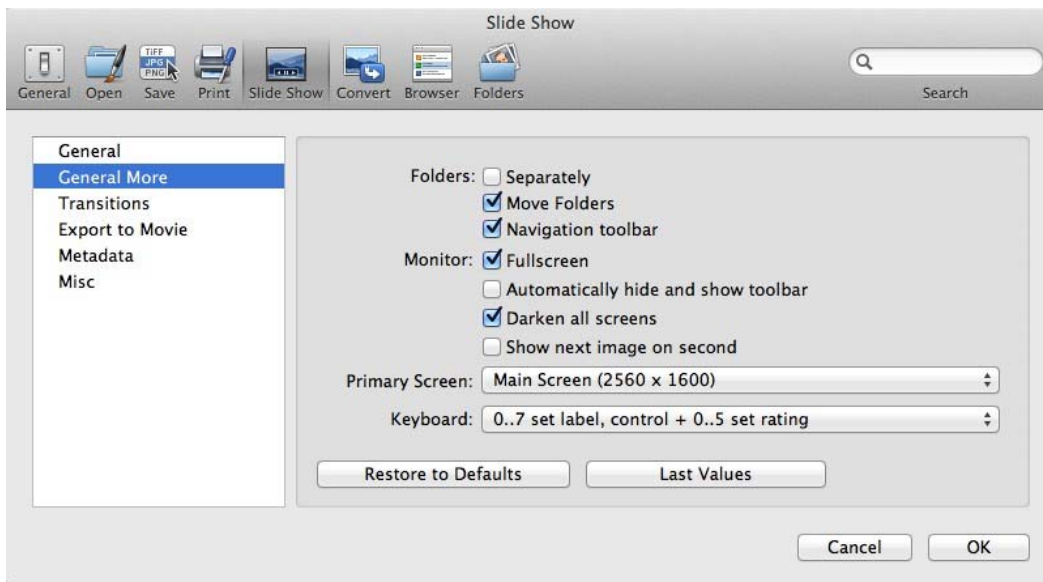


You can use **Optimize: Open Images at reduced Resolution** to avoid long loading times during the slide show if the image files are large. There is no noticeable loss in display quality.

Select **Optimize: Open Images at reduced Resolution**, to enhance colors of applicable pictures.

Enable **Show: File name** if you want to display the filename at the top left of the screen. You can also show the **details**, the **extension**, the **path** or the **elapsed time**.

## Slide Show / General More



Select **Folders: Separately** to display the content of subfolders separately.

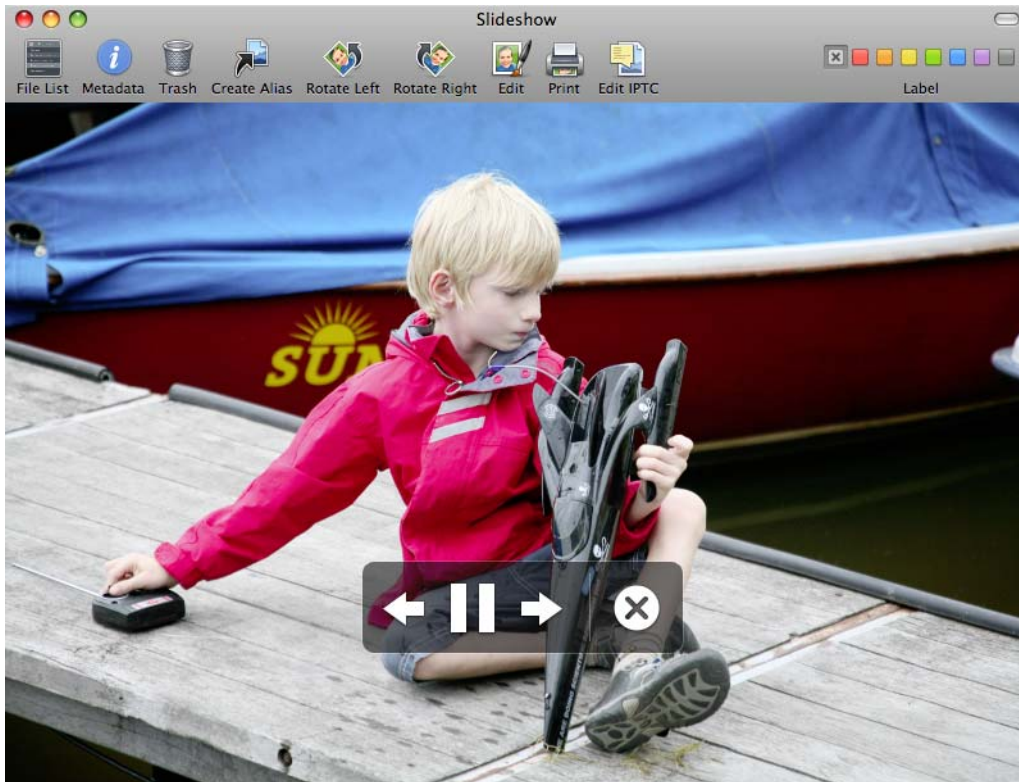
If you want to sort images, you can display the **Move Folders** 1-15 at the bottom right of the screen. Click one of the move folders to move the displayed picture to it. You can select the move folders in the Preferences under **Folders / Move Folder**.



Disable **Navigation** if you do not want the navigation elements to be displayed when the mouse is moved.

## Slide show

If you disable **Monitor: Fullscreen**, the slide show will be displayed in a window with a toolbar.



You can display and hide the toolbar by clicking the oval lozenge button. Under macOS 7 Lion, you can hide the toolbar via the context menu. You can scale the slide show window by dragging the bottom right corner. The current picture will be displayed less sharp after enlarging. If you switch to the next picture and then back, the picture will be displayed sharp.

**Automatically hide and show toolbar** only displays the toolbar in fullscreen mode if you move the mouse cursor to the top edge of the screen. You need to cross the area where the toolbar appears.

**Darken all screens** is useful on systems with several monitors because the other monitors could be distracting or too bright during a slide show.

For presentations, it may be useful to **Show next image on second** to aid orientation.

On systems with several screens, you can specify which monitor is the main screen in the **Primary Screen** pop-up menu. The resolution is indicated to help you identify the monitor.

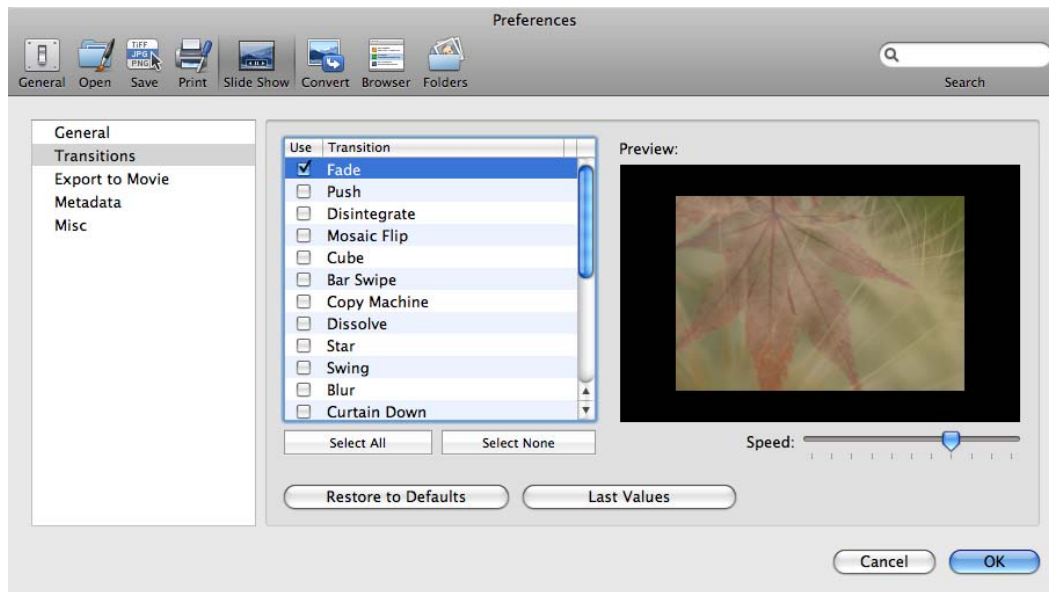
When you display a slide show on two monitors it makes sense to always proceed by two images so on both monitors new pictures are displayed. In the **Preferences / Slide Show / General More** you can select **forward/backward moves two images**.



**Keyboard:** You can select with which number keys you want to set labels or ratings. It is also possible to use the number keys to move files to the sort folders. In this case, you can set labels and ratings using the context menu.

## Slide Show / Transitions

In the **Transitions** section, you can choose between different transitions that are presented using sample images when you click them. All selected transitions are used alternately. If, for example, you only want to use fade-ins, clear the check boxes for all other transitions.

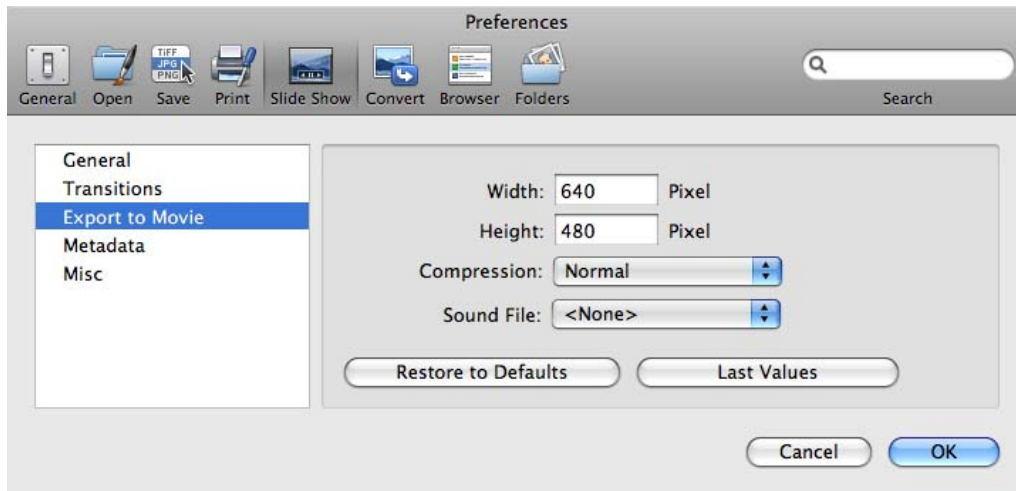


## Slide Show / Export to Movie

If you want to create a movie in QuickTime format from your slide show, select **File / Export Slide Show to Movie**. The file selection dialog will open where you can select the pictures for the slide show or a picture folder. The file selection dialog will then open

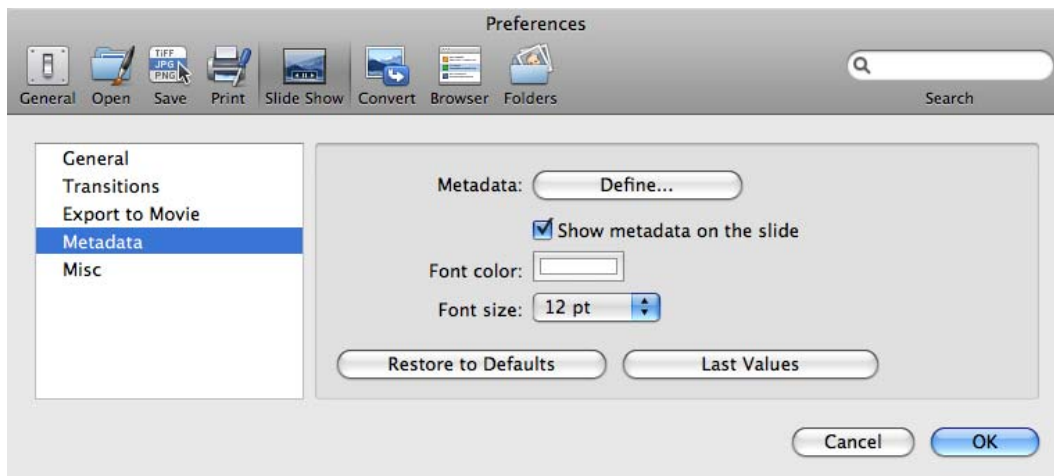
## Slide show

again. Now enter a name for the movie file and click **OK**. In the settings, you can specify the size of the film as well as the compression and background music.

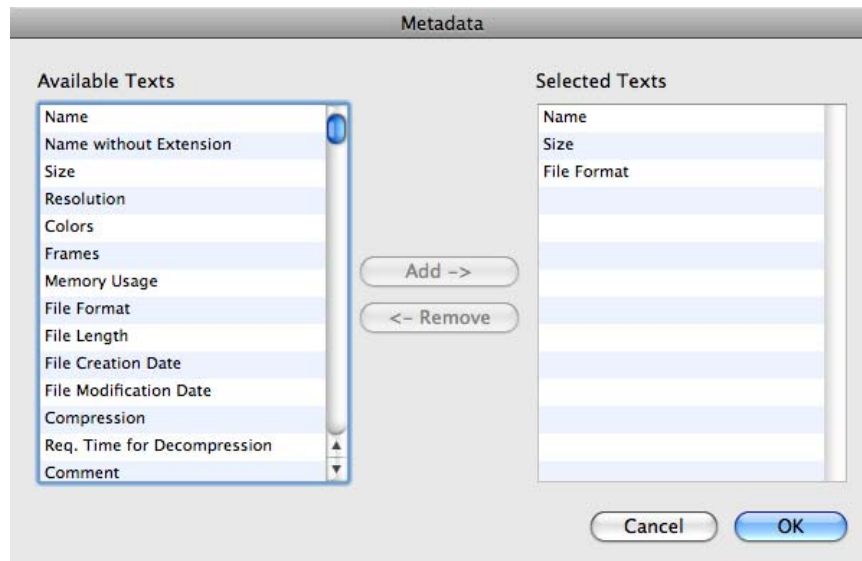


The transitions selected for the slide show are not used. Instead a Core Animation technology fade-in is used as standard.

## Slide Show / Metadata



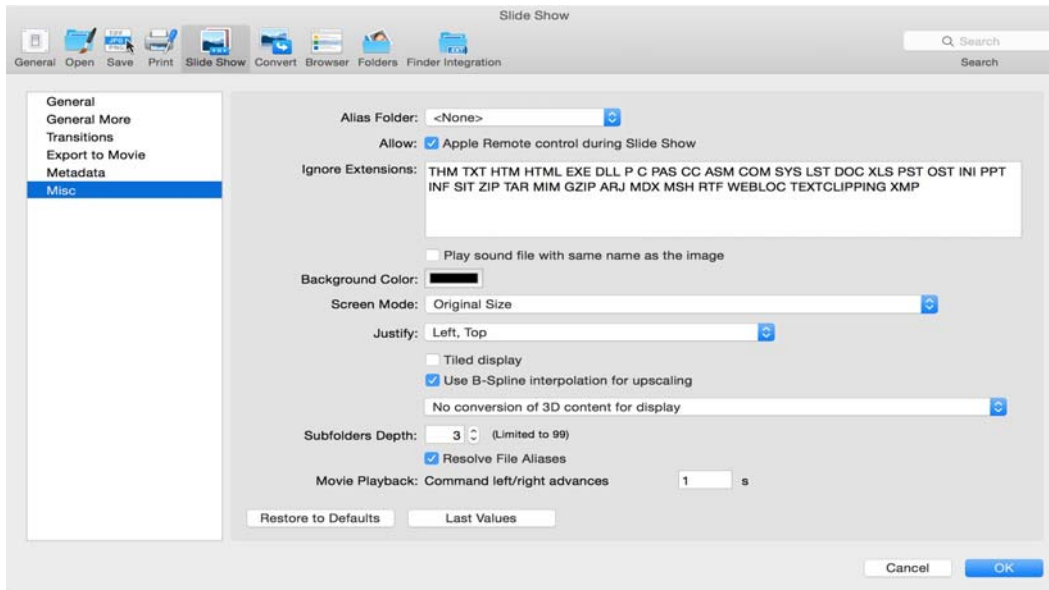
**Metadata: Define...** opens a dialog where you can choose which metadata is displayed under the picture during the slide show.



Select the color and size of text with **Font color** and **Font size**. To do so click the color field or select the font size from the pop up menu.

## Slide Show / Misc

Set **Alias Folder** to **Choose...** from the pop-up menu. The alias files that you create during the slide show with the **Make Alias** icon from the top toolbar are created in the selected folder.



In order to control the slide show with an Apple remote control, your Mac needs to be equipped with an infrared sensor. The infrared sensor on the iPod/iPhone Dock cannot be used for this unfortunately. Clear **Allow: Apple Remote control during Slide Show** if you want to avoid interference.

Under **Ignore Extensions**, enter the file extensions of any files in the picture folder that should not be displayed.

**Play sound file with same name as the image** plays audio files that are in the same directory and have the same filename before the period.

Use **Background Color** to set the color for the areas that are not filled by the picture. For example, on an Apple 30-inch monitor, vertical black bars are displayed on the left and right of photos with an aspect ratio of 2:3.

**Screen Mode** allows you to choose how your pictures are displayed. **Original Size** shows all pictures at 100% zoom. Only images that are larger than the screen resolution are reduced to fill the screen. **Always Fullscreen** also zooms small pictures to fill the screen.

**Justify** allows selecting a place on the screen where images smaller than the screen are displayed.

**Tiled display** creates a tile pattern of the current image.

**Use B-Spline interpolation for upscaling** can improve the quality of enlarged pictures.

The pop up menu **No conversion of 3D content for display** allows you to convert 3D pictures to formats like **1080p Frame Packing** during slide show.

**Subfolder Depth** allows you to define how many levels of subfolders are included.

**Resolve File Aliases** displays the files instead of the aliases.

Enter a value for **Movie Playback** to define how many seconds the play head jumps in a movie when you press command arrow left and right.

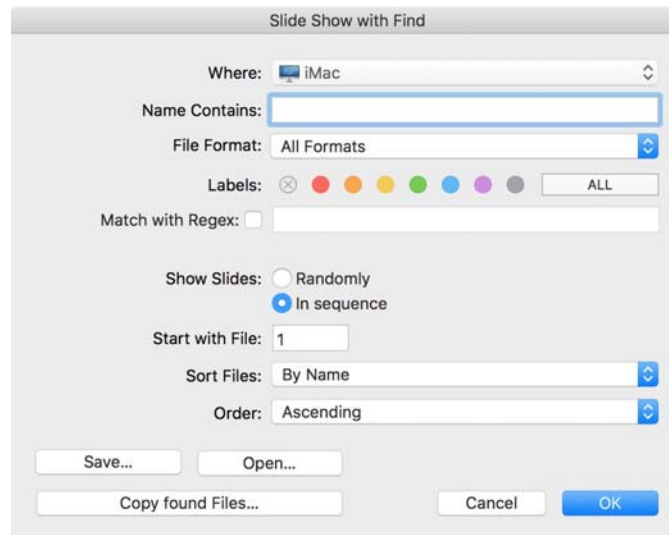
## Key shortcuts for the slide show

Key Combination	Result
Press cursor up	Pauses the slide show.
Command-Option-F	Shows the selected pictures in the browser as a slide show. If nothing is selected, subfolders are included.
Press cursor left	Previous picture or start previous film
Page up key	Previous picture or start previous film. If the slide show is in random mode the page down key will go to the previous picture in sorted order.
Press cursor right, press cursor down or Space or click image	Next picture or start next film
Page down key	Next picture or start next film. If the slide show is in random mode the page down key will go to the next picture in sorted order.
Command cursor left or right	Fast backward or forward during film for x seconds as set in <b>Preferences</b>
Backspace or Delete	Places the current picture in the Trash.
Option-L or L without option key	Turn constantly counterclockwise (lossless for JPGs)
Option-R or R without option key	Turn clockwise constantly (lossless for JPGs)
A	Turn temporarily counterclockwise (picture file will not be changed)
S	Turn temporarily clockwise (picture file will not be changed)
V	Mirror vertically (lossless for JPGs)
H	Mirror horizontally (lossless for JPGs)
F	Mirror temporarily vertically (picture file will not be changed)
D	Mirror temporarily horizontally (picture file will not be changed)
O	Open the current picture
C	Show / hide metadata under picture you selected in <b>Preferences</b> part <b>Slide Show / Metadata</b> .
E	Rename
I	Open IPTC dialog
Plus or Minus key	Zoom in or out
Option-Scroll wheel	Zoom in or out
Move two fingers up or down on trackpad (from macOS 10.7)	Zoom in or out

Key Combination	Result
Hold down Option and click picture	Zoom picture to 100%. The cut section can be moved with the mouse.
ESC	End slide show
Command 0...9 (0 is 10)	Moves the picture to defined folders 1 to 10
Ctrl.-Command 0...9 (0 is 10)	Moves the picture to defined folders 11 to 20
Option-Command 0...9 (0 is 10)	Moves the picture to defined folders 21 to 30
0-5	Set 0–5 stars to rate JPEG and TIF images.
6-9	Set Label

You can also call up this table via the GraphicConverter **Help** menu.

**File / Slide Show with Find...** allows a slide show of all pictures matching search criteria defined in the dialog opening.



Similar to a slide show, when a picture is opened in the normal way with **Edit / Navigation**, you can switch to the next or previous picture in the folder where the opened picture is saved using **Next / Previous Image in folder** in the submenu. The current picture is closed and the next or previous picture is opened.

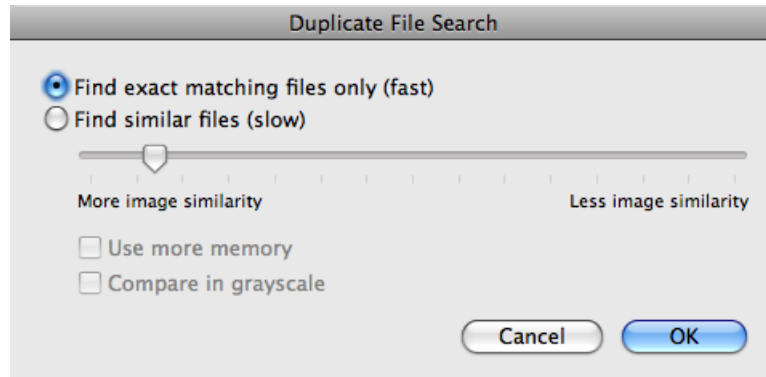
**RegExLite** is a standard for regular expressions. Regular expressions allow to find files that have a pattern in their names. For more information please read the introduction on programming regular expressions.

[http://www.regenechsen.de/phpwcms/index.php?regex\\_englisch](http://www.regenechsen.de/phpwcms/index.php?regex_englisch)

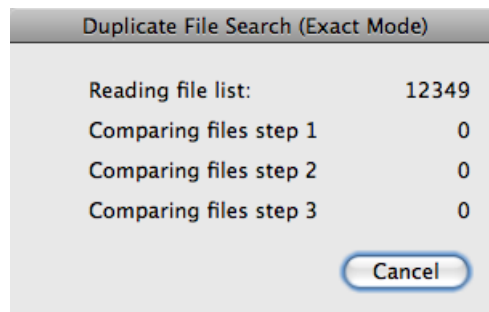
RegEx is also available in the dialog of **Rename...**

## Find duplicate files

To find duplicate files, open a browser window with **File / Browse**. Select **Edit / Find, compare and replace / Find duplicate files...** to search for duplicates in the folder currently displayed including all subfolders. You can then delete any files you do not need. A dialog opens where you can specify whether only completely identical files should be found or whether similar files should also be displayed as identical. If you decide to search for similar files, you can use the slide to specify how tolerant GraphicConverter should be. Select the more tolerant setting to display versions that differ more greatly as duplicates.



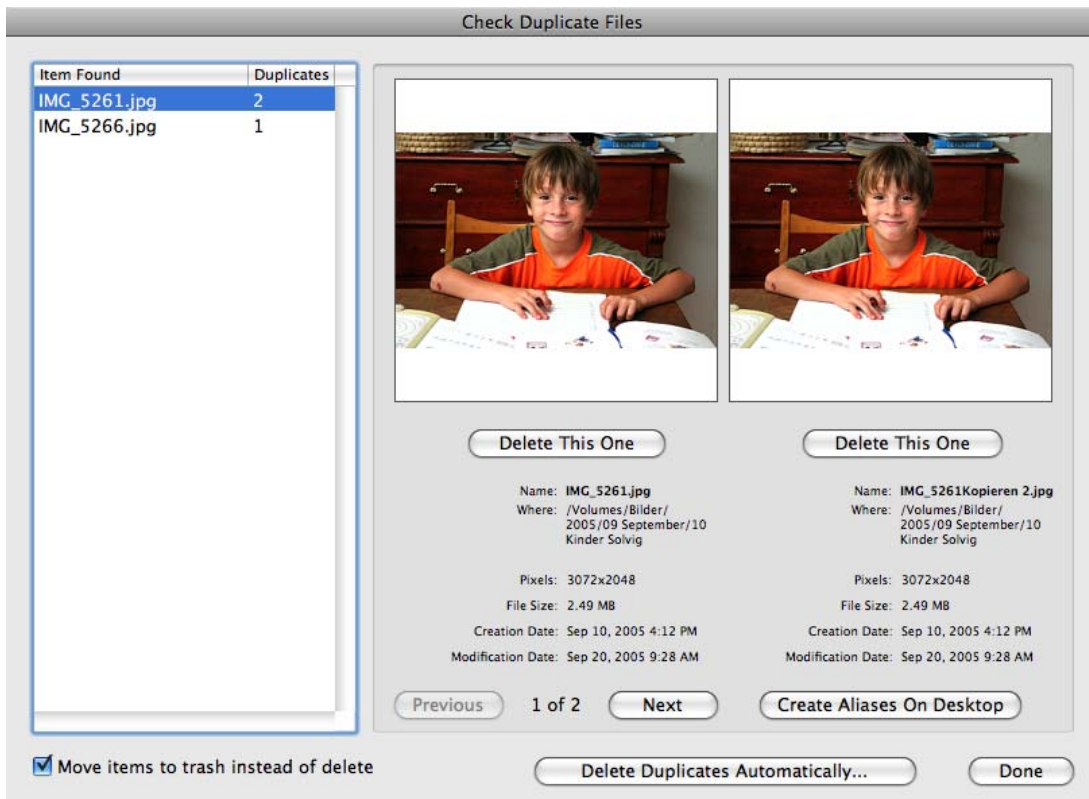
During the search, GraphicConverter will display the progress. The process may take a while if you search your whole picture folder.



GraphicConverter will compare the file size first, then the file content.



When GraphicConverter finds duplicate pictures, it will display them in a dialog.



All images for which duplicates are found are displayed in the list. The **Duplicates** column shows how many duplicates have been found. If you want to keep all versions of a picture, click another file in the list.

If more than 2 versions are found, you can display the other pictures with **Go Forward**. The newly added version is displayed on the right. The picture that was previously shown on the right is moved to the left and the previous left-hand image is no longer displayed. Imagine a film strip is being pushed from left to right through the dialog. **Go Back** therefore moves the strip to the right.

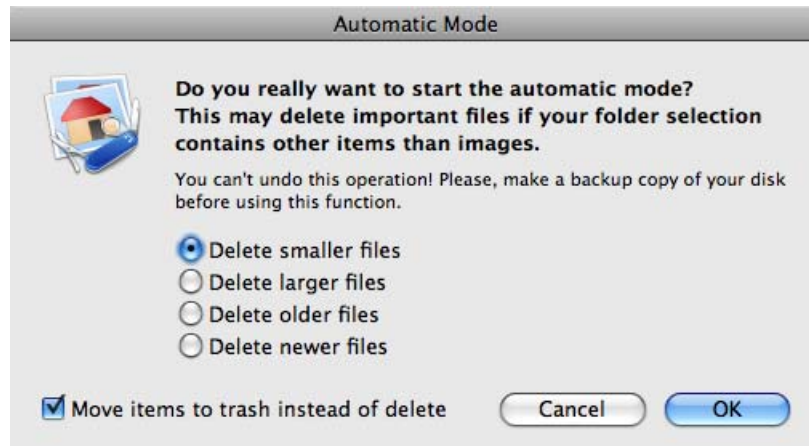
When you are sure that you want to delete a picture, click **Delete this one** under the picture.

If you disable **Move into trash instead delete (if possible)**, the files will be immediately deleted and cannot be recovered.

**Automatic mode for all items...** allows you to automatically delete all duplicates and just keep the "originals". It is possible that the version that is in the folder where you want

## Find duplicate files

to keep the picture is deleted. Therefore only use the automatic mode if all pictures are in a folder or you know exactly what you are doing.



You can choose whether the smaller, the larger or the newer document should always be deleted.

If you have difficulties reading the small font, you may want to enlarge this area of the screen. To do this, open the **System Preferences** via the Apple menu and click **Universal Access**. Then click **Seeing**. Select the **On** button under **Zoom**. When zoom is turned on, you use keyboard shortcuts to enlarge and reduce the screen image:

- Command-Option-equal (=) makes the screen image appear larger (zooms in).
- Command-Option-hyphen (-) makes the screen image appear smaller (zooms out).

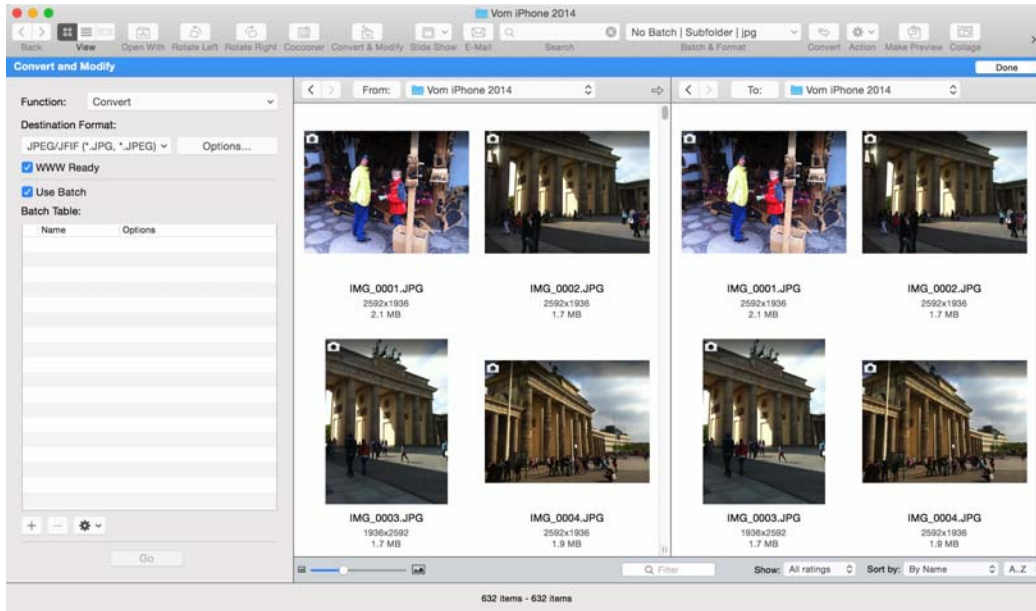
You can use this for any part of the screen in all programs.

## Special

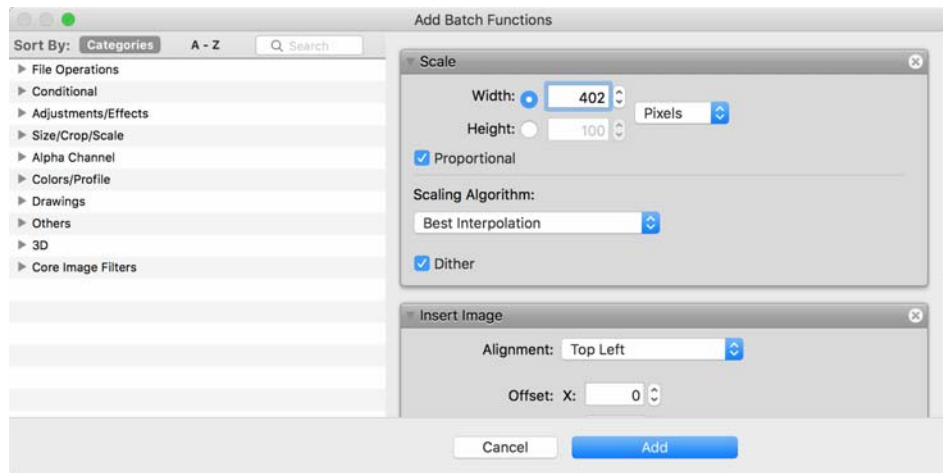
In this section, options are described that are only used in special work situations.

## Batch Function

To automatically perform one or more processing steps such as, cropping the picture margin or changing the resolution, for several pictures at the same time, go to **File/Convert & Modify** or click the icon with the coffee mill in the top section of the Browser.



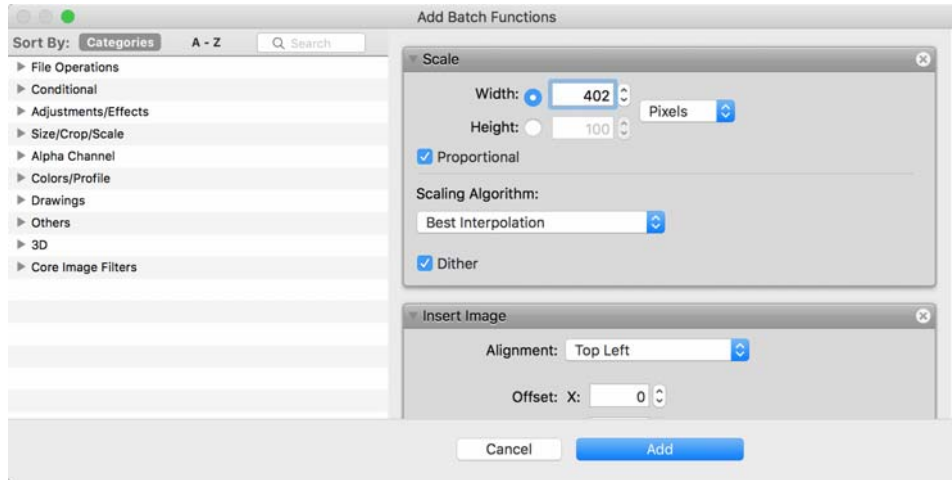
Click the plus sign in the lower left hand section. The following dialog opens:



Batch functions can be selected in the left selection window. Select the batch function you want and then click **Add**. Or, you can double-click the function. This batch function now appears in the right selection window. You can delete it again by clicking the x in the

## Batch Function

upper right hand corner. The actions can be moved in the selection window to change their order.



To reuse a batch function at a later time, click **Save...** and **Open...** You can add saved actions from the current action list with **Open and Append....**

**The path for the saved actions** was changed in version 9.7.1 to meet the needs of the Finder extensions of GraphicConverter.

Old path: ~/Library/Application Support/GraphicConverter/Actions

New path: ~/Library/Group Containers/FAVZJT8J4U.com.lemkesoft.graphicconverter9.group/Library/Application Support/GraphicConverter/Actions

You can copy the saved batches from the old to the new folder. With **Help / Show Folder in Finder / Actions** you can find the folder for the batch actions easier.

The version of GraphicConverter from the **Mac App Store** must use this path to match the needs of the Sandboxing-Technology:

~/Library/Containers/com.lemkesoft.graphicconverter10/Data/Library/Application Support/GraphicConverter/Actions

In addition to batch functions that actually change the picture, there are also functions that create conditions. You can add an **If** which means that the function that follows is only performed if this condition is fulfilled, for example, that a picture has a specific color depth, width, height or is a portrait or landscape picture. There can be several batch functions defined for the pictures that fulfill the condition. **Continue** should always come after these batch functions. The **Else** option allows you to specify what happens to pictures that do not fulfill this condition. **Cancel** cancels a batch function which is useful when the condition does not apply to a picture.

Batches remain activated until they are deleted. If you quit and then relaunch GraphicConverter, any defined batches are still activated.

## The Individual Batch Functions

**Add text to filename** allows you to identify the converted files with a name extension upon conversion. This is useful if, for example, you reduce images for the Internet and want to save them in the same folder. In this case add “\_thumbnail\_1” to the end, for example. The command **Do not export if name** can then be used to edit all source files again in a second run-through, for example, to create an even smaller “\_thumbnail\_2” version without editing the files even though they are selected in the left-hand list.

**Add/delete margin** adds a margin with a selected color for positive values. Margins are deleted for negative values (see p 130).

**Assign Slice File** allows you to assign a file with slice information.

**Auto level** has the same effect as **Picture / Auto Levels**, (see p 187).

**Brightness/Contrast** changes the brightness, the contrast, the color hue and the color saturation to match the entered values that you determined using an example with the **Picture/Brightness/Contrast** dialog.

**Bring to size** adds borders with an adjustable color to pictures that are smaller than the target size you entered so that all pictures are uniform in size. You can select how large the picture should be. **Left, Center and Right** allow you to specify where the original picture is placed in the new picture. If you select **Left**, a strip is added to the right side only. If you select **Center**, a strip the same size is added to both sides.

**Top, Center and Bottom** allow you to specify where the original picture is placed in the new picture after it is inserted. If you select **Top**, a strip is added to the top only. If you select **Center**, a strip is added to both the top and bottom if the original picture is smaller than the entered size.

**Canvas Size** allows you to enlarge the work area (see p 129).

**Change Color Mode** allows you to switch to another mode, for example, from RGB to CMYK. However, the profile selected under **File / Edit Color Profile...** is set for **CMYK**.

**Change Color Profile** allows you to assign a different color profile.

**Change Format** allows you to save the files in another format that you can select from a pop-up menu.

**Colors** offers numerous options for setting the color. Detailed information and an introduction can be found in the **Color** chapter on page 189.

**Combine** creates one picture out of two pictures, from which the source picture needs to contain an alpha channel. The source picture can, for example, be a cut-out person,

## Batch Function

who will be set against a color pattern from another picture as a background. Enter the name of the background under **Name of the image** with the complete path.

If you want to combine several source pictures with different background images in the following way:

Source pictures/Picture A.jpg with background pictures/Picture A.jpg  
Source pictures/Picture B.jpg with background pictures/Picture B.jpg  
Source pictures/Picture C.jpg with background pictures/Picture C.jpg

you can use the character in the path for the background picture instead of the filename. If the **Background pictures** folder is in the **Source pictures** folder, you can use the character \$ as a placeholder in front of the **Background pictures** folder name instead of the path.

**Copy Spotlight comment to IPTC caption** copies the spotlight comment to the IPTC caption. In the same way, **Copy Spotlight comment to IPTC keywords** copies the spotlight comment to the IPTC keywords. We do not recommend working with spotlight comments since they are not included when you send a file by e-mail, for example.

**Comment** inserts a comment into pictures. The GIF, JPEG, PNG and TIFF formats all directly support comments. For all other formats, the comments are written to the resource fork. To do this, the option for creating a resource must be enabled under **Preferences / Save / General**.

You can modify the comments for JPEGs without negatively affecting the quality of the picture when opening and then resaving the graphic by displaying the picture in the browser and then selecting **Modify Comment...** in the context menu (Control-click the preview). The picture quality is also not negatively affected when inserting a comment with a batch function.

**Continue** can be used as a logical link and usually comes after the **If** functions (see example above in this section).

The **Crop** function crops the picture's margins until the set picture size is reached. Both the right and lower margins are cropped.

If all margin edges or margin edges other than the right and lower ones should be cropped, use the **Crop region** function (see below).

**Crop region** allows you to crop a little bit on all sides of a picture. Enter the width of the area you want to crop from each side (positive value).

**Delete Original** deletes the source file after the edited file has been saved. Be careful when using this batch.

Dither allows dithering in a B/W image like under **Effect / Black&White / Dither...** (see p 195).

**Do not export** prevents you from saving in specific cases that can be defined using the functions **If, Else, (Continue, Stop)**.

**Do not export if name**, see p 301.

**Else** can be used as a logical link after the functions of an **If** condition (see example later in this section).

**Filled Rectangle** inserts a rectangle in a color of your choice allowing you, for example, to cover a logo that appears in several pictures. **Left** and **Top** sets the top left-hand corner of the rectangle and **Right** and **Bottom**, the bottom right-hand corner. Together they therefore define the size of the rectangle. Click the color box to change the color. If you are editing several pictures with different pixel sizes, you should select them relatively and enter the spacing in percent so that the rectangle appears in the same place in all pictures.

**Filter** allows you to define filters or select existing ones. For more information, see the chapter on user-defined filters on page 209.

**Flatten Alpha Channel** overwrites the picture content with the content of the alpha channel to make it visible. A transparency like an alpha channel can optionally be used. If necessary, make copies of the pictures to be edited before you use this batch.

The **Gamma** function specifies a gamma value. For more information.

Use the **GIF Transparent** function to define a color that can be made transparent (see p 184).

**Grayscale** converts a picture into the selected grayscale mode where dithering can take place. For more information, see page 189.

**If** lets you define conditions that must be fulfilled before the task can be performed. You can, for example, make it a condition that the source picture has to be available in portrait format to perform optional processing steps such as rotating the picture by 90 degrees or adding a margin. Functions that come after **If** are always followed by a **Continue**.

**Ignore even pages** saves multi-page image documents without the even number pages.

Use **Insert PICT** to insert a PICT graphic. This function is useful if you want to put, for example, a visible copyright symbol in the picture. Select the alignment from the list in the left section of the dialog. In addition to the selected alignment, you can also enter an offset. For example, if you select **Top Left** and enter an offset of **x=100** and **y=200**, the picture is inserted 100 pixels to the right of the left picture edge and 200 pixels underneath the upper edge of the picture.

If the picture you want to insert contains an alpha channel for softer edges, it will be taken into account. The alpha channel contains a grayscale picture, whose pixels could have 256 brightness levels. These brightness values are used to prevent the edge pixels of a logo, for example, being covered by sharp edges. The result is an anti-alias effect, which makes the edges look softer. This is particularly useful with low resolutions and diagonal edges.

Use **Insert Text** if you want to insert Text in a corner or in the center of an image such as **Creation date** or a note on copyright. Enter the distance from the edge with **Offset**. Instead of the **File name** or the Creation date you can enter a text of your own or insert metadata. **Relative Size** for the font allows you to adapt the font size to the image size. If, for example, your picture is 1000 pixels high, the font will be 100 pixels high at a value of 1%. Use the **Absolute Size** if you want to insert text with a certain font size.

**Fill background** allows you to place a **Rectangle** or **Rounded rectangle** behind the text and select a **Color** and **Transparent** for it. This makes the text easier to read.

**Invert** inverts the colors of a picture from positive to negative or vice-versa. Use this function to convert scanned negatives into normal pictures or as an effect.

**Invert Alphachannel** makes transparent areas non-transparent and vice versa.

**Levels** lets you modify the levels for white, black and midtones (see p 187).

**Make Square** is available with the **Crop to shortest side** option. The shorter side is taken as the side length for the square that is cut from the picture centered. **Crop to largest side** adds black strips to the picture that are large enough to make it square.

**Max Size** reduces the size of the picture to the size entered in pixels. Smaller pictures are not changed. The **Achieve value(s)** function scales the picture so that the target size is always achieved even when it has to be enlarged. Disable the **Proportional** option only if you want to distort the pictures.

**Invert dimensions for vertical images** should always be enabled. Portrait pictures take the same value as used for the width of landscape format pictures. The value entered for the **maximum height** is not taken into consideration.

**Minimize Color Table** is used to keep file size to a minimum when you are preparing color table graphics for the Web.

**Mirror** mirrors pictures along the x-axis or along the y-axis (see p 199).

**Copy with transparency** makes it possible for you to define a color for the picture that should be made transparent when the picture is inserted (see p 166).

The **Copy with opacity** option allows you to enter a percentage that determines the opacity of the inserted picture. If the opacity is 50%, only half of the background is visible after the picture is inserted.



If you click **Choose Picture...**, a file selection dialog appears where you can select the picture you want to insert. The selected picture is displayed after **Name:**.

**Plug-In** makes all installed plug-in filters for processing pictures available in a pop-up menu.

**Remove Alpha Channel** deletes the Alpha Channel.

**Replace Color Table** allows you to load a color table and set it for all pictures that are modified by the batch.

**Resolution** changes the resolution of a graphic. The unit is ppi (points per inch) which is the same as dpi (dots per inch). **Convert picture** must be enabled if the graphic is to maintain the same output size (see p 128).

**Rotate** enables you to rotate pictures either along the three most common axes or any way you want. The **Error Correction** option should be enabled to achieve optimal results (see p 140).

Use **Scale** to enlarge pictures by, for example, a factor of 2, to create a picture that is twice as large. If a specific size is to be reached, enter the appropriate height and width. If the proportions should remain the same, select Proportional and then enter the target width or the target height (see p 126).

**Scale to Pixel Count** – If you know how many pixels your picture should have in total, you can enter the total number of pixels (see p 131).

**Shadow** adds a shadow to the right-hand and bottom edges of the picture. You can select the color behind the shadow using the background color. You can select the color behind the shadow using **color**.

**Sharpen Edges** sharpens the picture. For more information, see page 146.

**Show Alpha Channel** adds an alpha channel in which, for example, surfaces can be inserted (see p 220).

**Smart Trim** cuts single-color margins off (see p 139).

**Sort Color Table** makes it possible to sort the color table normally or in the reverse order.

**Stop batch** cancels the function which is useful if a picture does not fulfill an **If** criterion and the function cannot be performed.

**Threshold** converts the picture to a black/white 1-bit picture with the selected threshold value see p 192.

**Trim** crops margins with a specific color. You can select whether all margins or only specific ones are cropped. You can set the color of the margin. To set a specific color, switch to the picture, click the eyedropper on the appropriate place in the picture to put this color in the foreground. Click the foreground color in the toolbox and make a note of the value of the color so that you can enter it in the function dialog by clicking it in the example.

If you want color hues to be recognized that are similar to those of the color surface, enter a higher **tolerance** such as 10 or 20. The exact value must be determined based on the picture (see p 138).

**Sound** checks the value of the incoming audio and changes it based on your entry under **Output** (see p 187).

**Unsharp Mask** provides an alternative to the **Sharpen Edges** option.

**Video** lets you leave the straight or non-straight frames from video images on screen or to replace the **Frames**, (see p 227).

**White Point** allows you to set the white point again. Enter the required values for the red, green and blue (RGB) color channels. To calculate these values, you can set the white point with the white point tool on a suitable sample picture by clicking an area of the image that should actually be white. If you are happy with the result, undo the correction with Command-Z and calculate the color value at this point with the eyedropper. Open the Detail palette to display the values or double-click the foreground color in the toolbox to display the values for R, G and B on the RGB tab in the Color Picker.

## **Geo Coordinates**

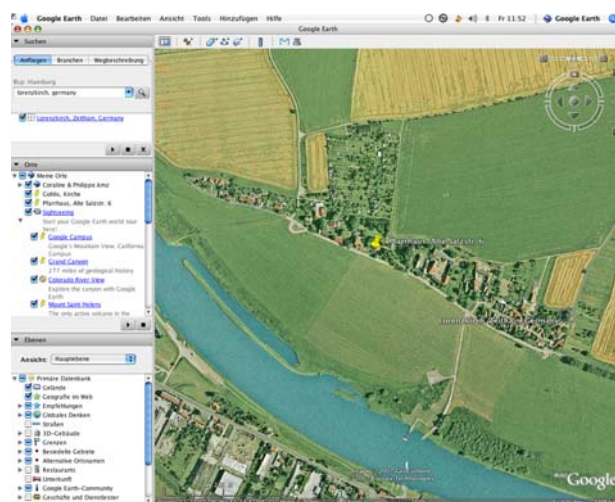
Images can contain geo data for the location where the picture was taken in the Exif information. This is useful if you travel a lot and do not want to or cannot note the location for each image. Geo data can also be interesting when you pass on images because the recipient can easily see where the pictures were taken. Geo data can be provided by GPS receivers or from the Google map in the Browser's lower right corner or transferred later on from a map or Google Earth.

In the **Preferences / General / Map** you can select Apple Maps as an alternative to Google Maps.



Google Earth is a free program that displays satellite pictures of the earth. You can download Google Earth at: <http://earth.google.com/> The earth appears when you start the program.



At the top left, enter the name of a place like “Lorenzkirch, Germany” and press Return. The globe then starts to turn and the camera zooms closer to the surface until you see the entered location.



You can move the picture section with the mouse or zoom in further using the plus sign at the top right. The GPS coordinates of the mouse cursor are shown at the bottom left.

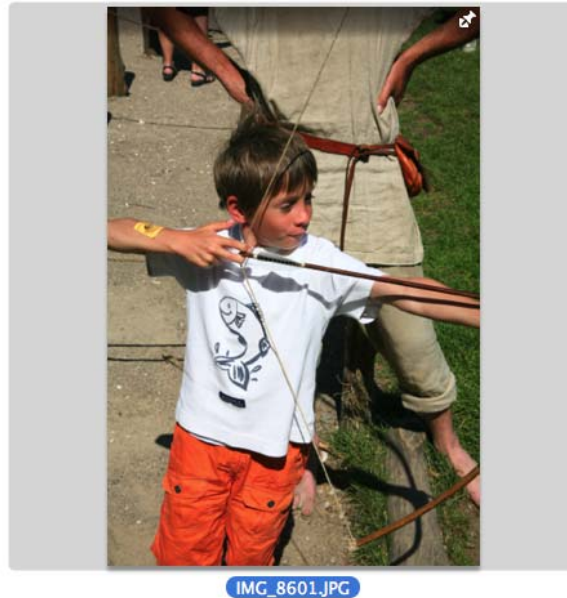
**Back to GraphicConverter:** If you want to enter the GPS coordinates of the photo location in the Exif information of images, select the images in the browser, show the respective location in Google Earth and select **Set GPS from current Google Earth position** from the Geo menu  in the GraphicConverter menu bar. You will recognize this menu from the standard red geo icon . The GPS coordinates are transferred to the Exif information and shown in the information palette. This sets the coordinates from the center of the image in Google Earth.


If you want to set the values precisely, you should first zoom into the Google Earth image and then set a placemark with **Add / Placemark....** The placemark will then be dis-

## Geo Coordinates

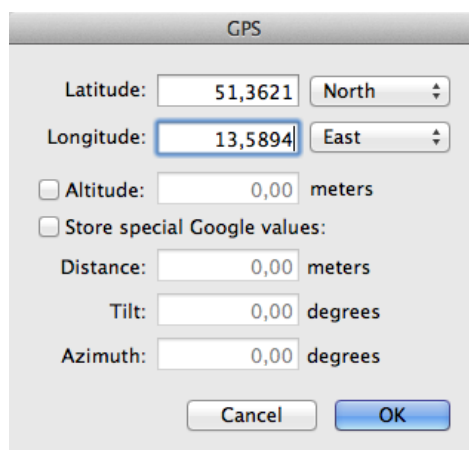
played around the middle of the left-hand column. Double-click the placemark and wait until the image in Google Earth stops moving. Now transfer the GPS data to GraphicConverter with **Set GPS from current Google Earth position**.

Images with GPS data are displayed at the top right of the browser with the standard icon.



Click the icon to automatically display the marked location in Google Maps. Alternatively you can use **Show Position in Google Earth** from the Geo menu . The flight speed can be selected in the Preferences under **Browser / Misc**.

**Add or edit GPS values** opens the following dialog where you can enter and edit the GPS values.




The dialog box is titled "GPS" and contains the following fields and options:

Latitude:	<input type="text" value="51,3621"/>	<input type="text" value="North"/>
Longitude:	<input type="text" value="13,5894"/>	<input type="text" value="East"/>
<input type="checkbox"/> Altitude:	<input type="text" value="0,00"/>	meters
<input type="checkbox"/> Store special Google values:		
Distance:	<input type="text" value="0,00"/>	meters
Tilt:	<input type="text" value="0,00"/>	degrees
Azimuth:	<input type="text" value="0,00"/>	degrees
<input type="button" value="Cancel"/>		<input type="button" value="OK"/>

**Tip:** If you want to correct pictures with incorrect or deleted data in the fields Creation- and Modification Date you can use **Set Exif Date from GPS Date** which is in the context menu in the submenu of **Exif**. Next use **Set Creation and Modification Date Depending on Exif**.

## Set or export GPS data

Not many cameras have a built-in GPS receiver that allows your exact position to be written to the Exif data of the image file when you take a photograph. There are additional devices for some camera models that can be connected to the camera and add this function.

GPS trackers provide a good alternative and are often no bigger than a USB stick. They write your current position at a selectable time interval to a file without a connection to the camera. At the end of a vacation, you then transfer this file to the computer and apply the position data to the image files. Select the image files in the browser and open the Geo menu  from the menu bar.

Select the GPX, CSV, or NMEA file using **Open GPX/NMEA Files...** **Show GPX/NMEA data...** displays the data in a list so that you can check it. Some GPS trackers write a new file in a folder every hour. In this case, open the folder with **Open GPX/NMEA Files...**

Use **Apply GPX/NMEA file to selected images** to set the GPS data from the GPX file suitably for the selected images. GraphicConverter sets the matching GPS data from the GPX file for the selected images. A dialog opens allowing you to select the time zone of the location where you took the photograph if you adjusted the clock in your camera to the local time.



In the GPX/NMEA files, the UTC time (Universal Time Coordinated) of the satellites is used that was previously known as Greenwich Mean Time. If, for example, you forgot to adjust your camera clock to the local time while on a trip, select the time zone in which you normally take photographs and which was set in your camera. If it was summer time at your destination and this was set in the camera, you will need to compensate this by selecting the local time minus one hour, i.e. for example, UTC + 6 instead of UTC + 7.

GraphicConverter reads the photograph time from the Exif data of the image file and searches for the best matching entry from the GPX file to transfer the position data.

In the browser's lower right hand section you can select **Geotagged and untagged**, **Geotagged only** or **Untagged only** under **Show** to recognize, for example, untagged pictures.

The first versions of the iPhone 3G software had an error in the GPS data for photos from the built-in camera. The longitude and latitude were switched. If you have images

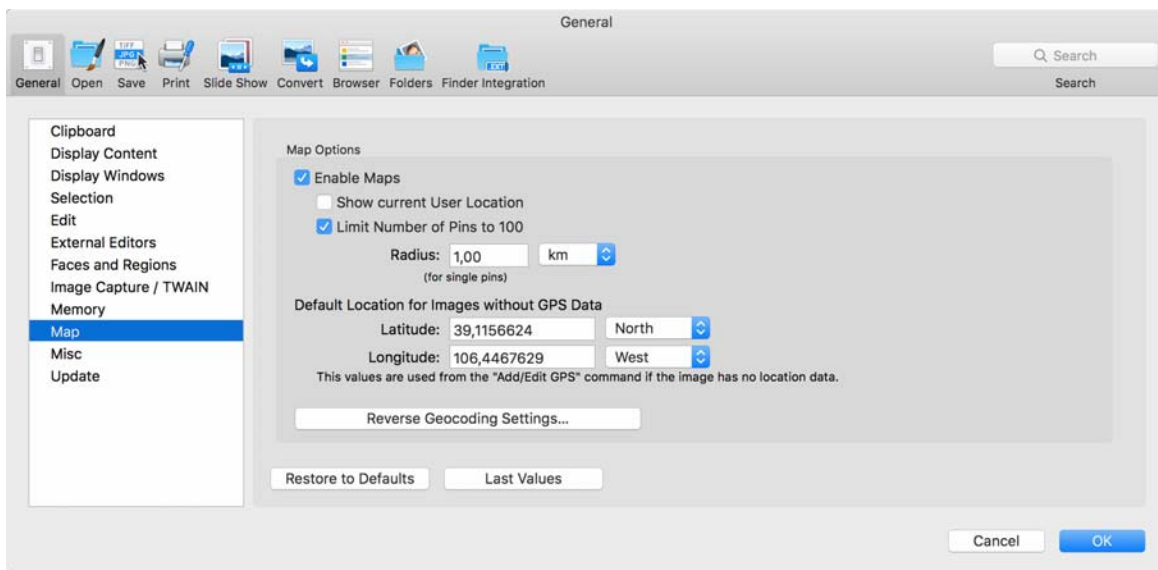
## Set or export GPS data

with this error, use the **Add or edit GPS values** option to swap the values over. You can delete GPS data in images with **Delete GPS data in selected files....**

Use **Show Position in Google Earth** to show the position where the picture was taken in Google Earth. Create GPX File for Selection reads the geo data from the selected files and writes them in a GPX file. Programs such as GoogleEarth can read this file and show all points on a map.

You can copy GPS data from a picture. Select the picture in the Browser and copy the geo data with **Edit / Copy / Copy GPS for Paste**. Next select the pictures to paste to and paste with **Edit / Paste / Paste GPS**.

If a picture contains geo data you can add the name of the nearest town and the country name to the respective IPTC fields with **Reverse Geocoding** from the Geo menu. Select one of three data files in **Preferences / General / Map** by clicking **Reverse Geocoding Settings**. A dialog opens in which you select the data file. Select the largest one for most accuracy. If you have less disk space or download capacity a smaller data file may be useful.



You need to download the file only once. It is not pre-installed as it is comparatively big (350 MB).

Disable **Enable Maps** if you do not want to display maps in the lower right corner of the Browser for example to save mobile bandwidth when you are on the way or if you want to tag many files with geo data at once.

**Show current User Location** shows your current position on the map.

**Limit Number of Pins to 100** makes sense if more than 100 pictures are selected in the Browser as otherwise the presentation shown on the map would be confusing. **Radius** defines the visible map section.

**Default Location for Images without GPS** Data defines a position used by the function **Add or Edit GPS Values...** as the starting value.

**Tips:** You can use your iPhone 3G or newer as a GPS tracker with the **Trails** App from the iTunes App Store. The recorded GPX file can be sent to your home computer from Trails by e-mail and imported into GraphicConverter.

If your pictures already contain GPS data, you can export it with **Create KML files for selection** so you can edit them in other programs. The KML files are saved in the picture folder. Double-clicking a KML file in the Finder opens the position in Google Earth, for example. Further use is processing in scientific GIS programs that can, for example, indicate where a power line crosses a river. You will find more information at [www.wikipedia.com](http://www.wikipedia.com) or [en.giswiki.org](http://en.giswiki.org)

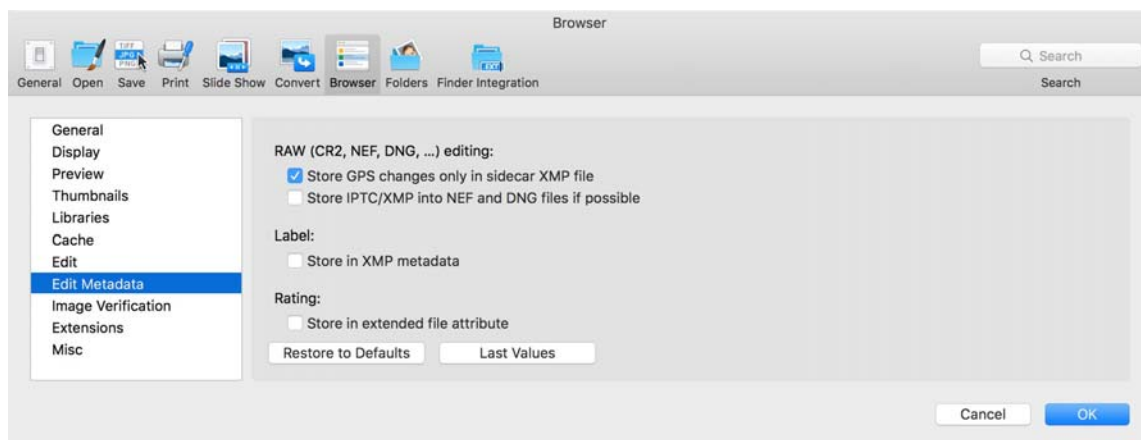
## Links to topic of GPS and Geo Tagging

These Web sites can convert GPS files:

<http://gpsvisualizer.com/gpsbabel/>  
and [gpsies.com](http://gpsies.com)

GPS tracks, for example, for cyclists and hikers or distant countries can be obtained (for a fee in some case) at addresses like: [www.tracegps.com](http://www.tracegps.com), [magnalox.net](http://magnalox.net), [www.gps-tour.info](http://www.gps-tour.info) and [tracks4africa.com](http://tracks4africa.com)

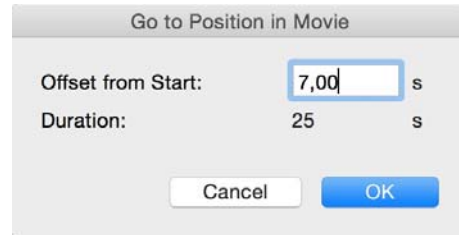
In **Preferences / Browser / Edit Metadata** the option **Store GPS changes only in sidecar XMP file** keeps RAW files unchanged so other software especially the manufacturers software will not reject the files as they are no longer in original state. For the same reason you should enable **Store IPTC/XMP into NEF and DNG files if possible** only if you are sure you can open your pictures in other software you may use.



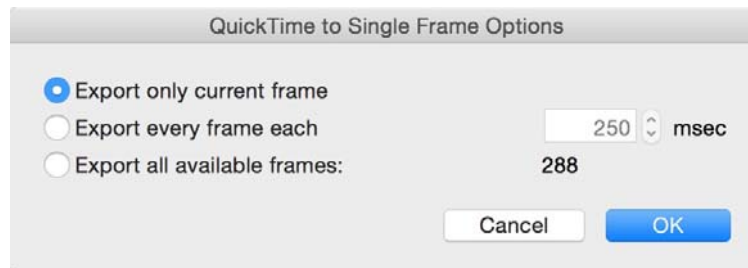
If you store the **label in the XMP metadata** it can be read by other operating systems too. If you store the **Rating in the extended file attributes** it can be read by other programs such as Spotlight.

## Images from Videos

To export images from videos open the video and go to the appropriate location. If, for example, you want to export the image that is displayed after 7 seconds, select **Edit / Navigation / Go to Position in Movie...** and enter the corresponding time in the dialog that opens.



Then select **File / Save as....** The file selector opens. Select a format such as JPG or PNG. Click the **Save** button. The following dialog opens. Select whether the current image, an image every x milliseconds or all frames should be exported.

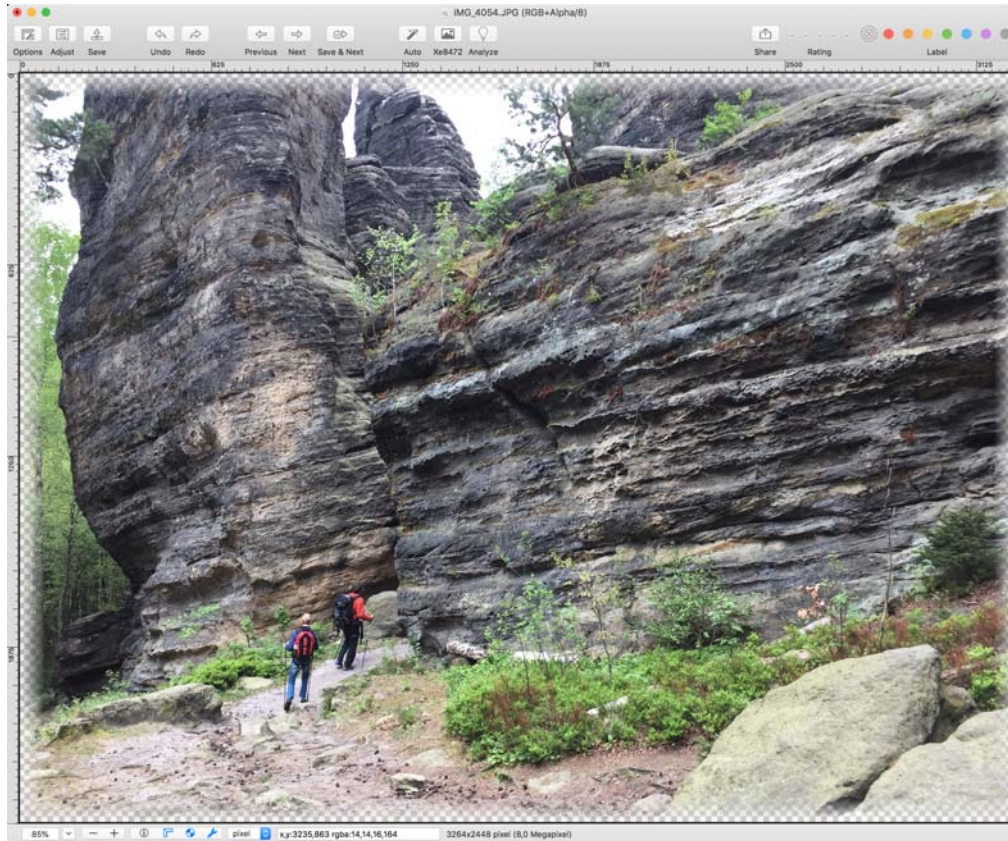


When you open a video file that has been created with an outdated codec, you get a notification and the possibility to automatically convert the video so it can be played. The converted file is saved in MP4 format besides the source file. This is because QuickTime should not be used any more as it has been replaced by the AV-Kit which is available in iOS too.



## Feathering

With **Effect / Feathering** you can phase out the border of an image to transparency or the current background color. A dialog opens in which you can choose the width of the border and the method.



## Fisheye

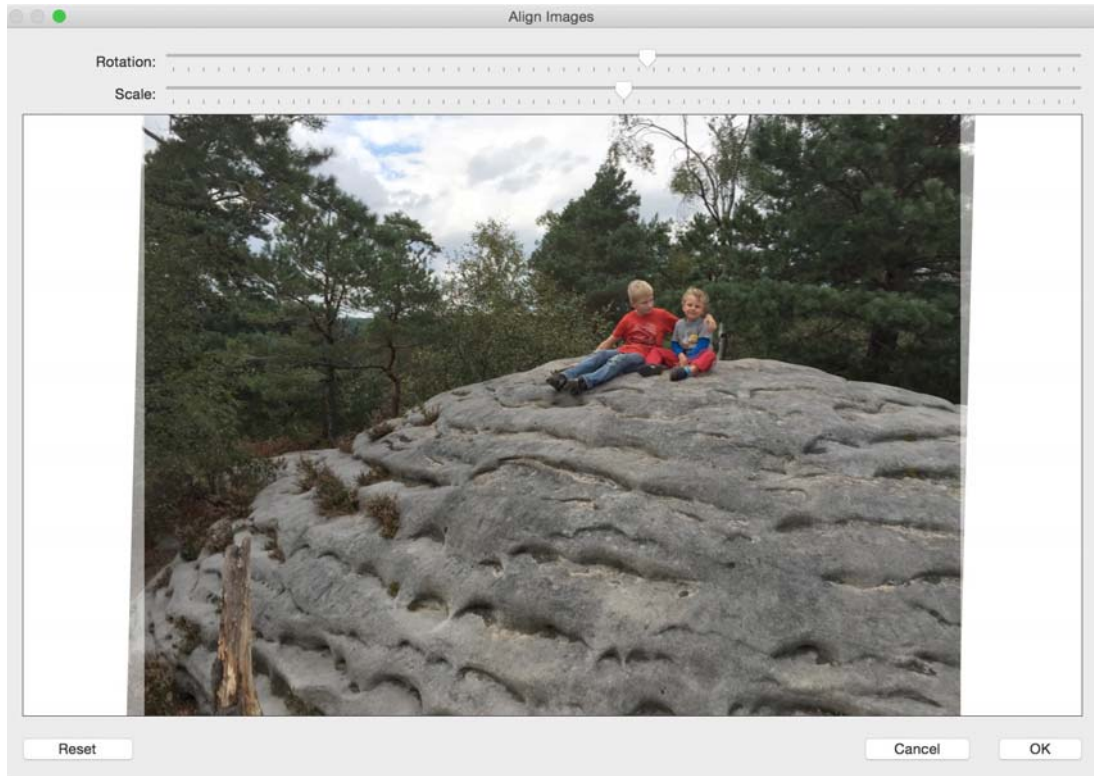
With **Effect / Fisheye**, you can add retrospectively to the distortion typical of fisheye lenses or undo the distortion in real fisheye shots. With **Effect / Inverse Fisheye**, you can equalize distorted images from an action camera, for example. At the same time, the image section decreases.

## Align images

If you take several shots of the same subject without tripod in a row and show the images in a slide show in most cases the images are moving a bit as the camera was not exactly in the same position and was not held in the same angle. To avoid this jerking you can align two images. Open both images and select **Effect / Align two images / Set Pin** and click on a prominent location in the image like the edge of a building. Click the same place in

## DRIMaker instead of HDR

the second image. Select **Effect / Align two images / Align...**. The following dialog opens in which both points are matched.

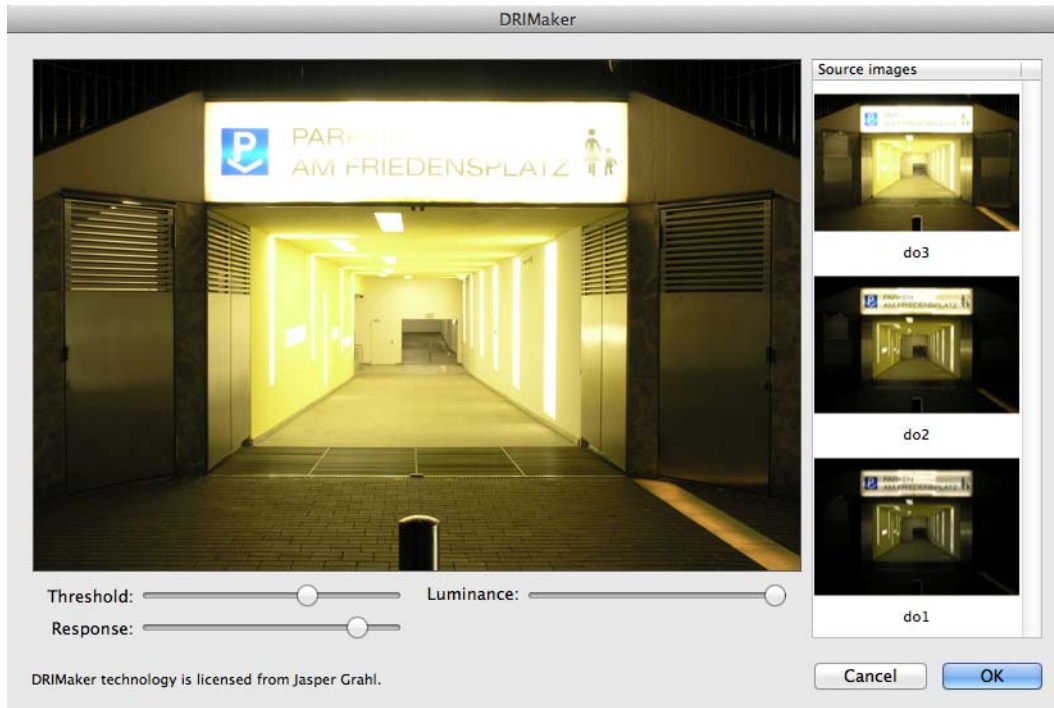


Adjust the **Rotation** and **Scale** so the pictures match. To be able to work more precisely you can click the green button in the upper left corner. Click **OK**. Both images get black edges added you can eliminate with equal values in **Picture / Size / Add/Remove margins**.

## DRIMaker instead of HDR

If one part of a photograph is considerably lighter than the rest, this area will often appear bright white or light yellow while the darker area will appear too dark. With subjects that are not moving, you can solve this problem by using a series of exposures. Take a picture of the subject using a tripod with three or more different exposure levels that each

show one area of the whole picture correctly. Open the images in GraphicConverter and select **Effect / DRIMaker...** to make fine adjustments in the dialog that opens.



If you are using a digital reflex camera, we recommend folding away the mirror with the corresponding settings a while before taking the picture so that the mirror system cannot shake the image at all.

DRIMaker is aimed at compensating the technical weaknesses of cameras and is not intended to create artistic effects as is sometimes the case with HDR programs. You will find further information and examples at the developer Jasper Grahl's Web site: [drimaker.com](http://drimaker.com)

## Focus Stacking

With **File / New / New Image from open Images with Focus Stacking** you can combine the open pictures with the focus stacking method. The areas with the sharpest edges are used for the new image. This function does not replace special programs for focus stacking which offer a variety of settings but allows results with basic quality.

## Overlay

You can combine two opened images in a way the white areas of the one will be filled with the content of the other one with **File / New / Image from Open Images with Overlay**. This way you can see whether the contents fit exactly what can be useful in pre-press, for example.

## **Recording Points for Determining Measurements**

If you need the exact coordinates of the points in the graphics, select **Record mouse clicks / Start**. Now GraphicConverter records the coordinates of each mouse click you make, for example, on the contours of a finding from an archeological dig. Open the context menu again and select **Stop** to stop recording if you, for example, want to continue editing the picture before you further process the recorded points. Or you can select **Copy** to copy the recorded mouse clicks to the clipboard.

In the clipboard, the X coordinate, the Y coordinate with top left zero point and the Y coordinate with bottom left zero point are given for each point in a line. The coordinates 962 700 200 mean that the point is 962 points from the left margin, 700 points from the top margin and 200 points from the bottom margin.

If a picture contains geo data, the corresponding data will be added to the recorded data.

The points in the clipboard can be inserted in a word processing program or an Excel spreadsheet for further processing.

Click **Clear** to delete the recorded mouse clicks if you have to correct them.

## **Color Blindness**

Around 10% of men suffer from color blindness, often without realizing it. Those affected are unable to read text in specific colors against certain colored backgrounds, as is often the case on Internet pages. To make sure that your Web pages and other documents can also be read by color-blind people, you can test the pages with GraphicConverter. For example, save one of your pages as an image using a screenshot program and open the image in GraphicConverter. The macOS Finder also has a snapshot option using Command-Shift-3. The picture will be saved on the desktop.

Select **Effect / Color Blindness** and then the color-blindness type **Protan** from the submenu. The picture will then be displayed as seen by a color-blind person. If you can still read the text, people with protan color blindness will be able to read the text. Select **Edit / Undo** and set the picture to the **Deutan** and then to **Tritan** color blindness using the same submenu. The text should be still be readable again.

The following picture shows a Web site as normal and then as protan and deutan color blind people would see it. In this case, the white font is clearly visible against the red background.



You can avoid problems from the start by not using yellow fonts on green backgrounds or green on yellow.

## Touch Bar

Newer MacBook Pros since 2016 have a Touch Bar instead of function keys that displays buttons depending on the active application. GraphicConverter supports this Touch Bar and shows during a slide show the buttons for control, the magnifying glasses, a trash and the escape button.



When a picture is opened besides escape and the magnifying glasses buttons for opening the IPTC dialog, for displaying the opened picture in the browser and for full screen mode are displayed. If only a browser window is open available are: Escape, navigation arrows for the file tree, quick preview, IPTC dialog and full screen mode.

Select **View / Customize Tool Bar** to change the elements in the Touch Bar to fit your needs.

## AppleScript

Using AppleScript, you can automate tasks on your Macintosh by writing small programs called AppleScripts. GraphicConverter supports AppleScript. You can access many of the GraphicConverter options with an AppleScript.

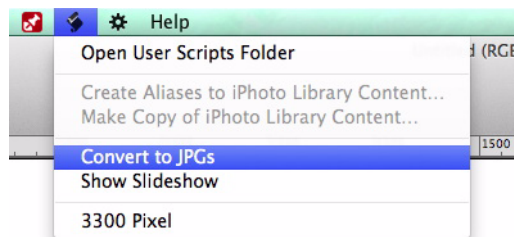
On our Web site you can download AppleScripts for GraphicConverter:  
<http://www.lemkesoft.de/en/products/graphicconverter/scripts/>

## AppleScript

We recommend to select **Disable all notifications** in the **Preferences** in the section **General / Misc** so that any message dialogs do not interrupt script processes.

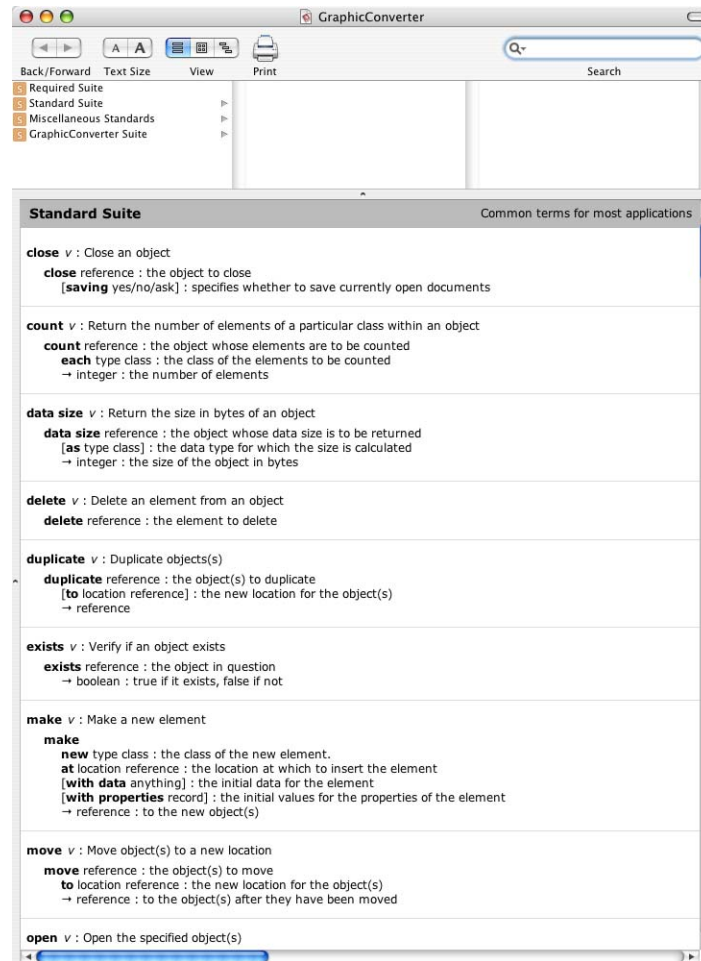
Under macOS X, you copy your scripts into the folder **Library/Application Support/GraphicConverter/Scripts** or, if scripts should only be available to one user, into the folder **User/~/.Library/Application Support/GraphicConverter/Scripts**. You can open the folder with the scripts in the Finder with **Open (User) Scripts Folder** from the script menu.

Open AppleScripts using the menu that displays a piece of paper as an "S". This menu contains all the AppleScripts that were in the Scripts folder when the program was launched.



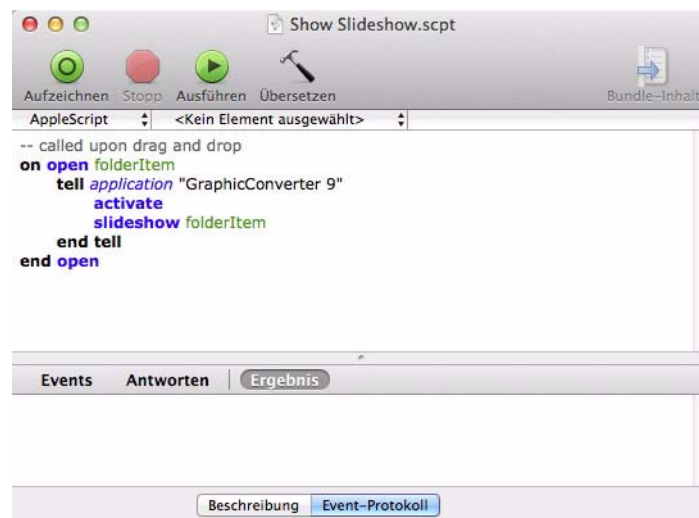
If you want to see which options can be used with an AppleScript, open the program AppleScript-Editor that you will find in the directory **Applications / Utilities**. Select **File /**

**Open Dictionary...** After a brief wait, a list of all programs is displayed. Select GraphicConverter to display all options that can be called up via an AppleScript.



## Examples for AppleScript

An example for using AppleScript is the starting of a slide show:



## AppleScript

Another example is converting of a picture file to the JPG format:



```
property destFldr : ""

-- called on normal run
on run
    set inFiles to (choose file with prompt "Choose a source file:") as list
    open (inFiles)
end run

-- called on drag and drop
on open (inFiles)
    try
        set destFldr to (choose folder with prompt "Choose a destination folder:") as text

        set the text item delimiters of AppleScript to {"."}

        tell application "Finder"
            repeat with aFile in inFiles
                if kind of aFile is not "Folder" then
                    set theFile to (aFile as string)
                    set theName to the name of file aFile
                    set theName to (text item 1 of theName) & ".jpg"
                    tell me to convertIt(theFile, theName)
                end if
            end repeat
        end tell

        tell application "GraphicConverter 9" to quit

        set the text item delimiters of AppleScript to {""}

        on error errMsg number errNbr
            doError(errMsg, errNbr)
        end try
    end open

-- convert the file to a JPG
on convertIt(theFile, theName)
    try
        tell application "GraphicConverter 9"
            activate
            open {alias theFile}
            save window 1 in (destFldr & theName) as JPEG
            close window 1
        end tell
        on error errMsg number errNbr
            doError(errMsg, errNbr)
        end try
    end convertIt

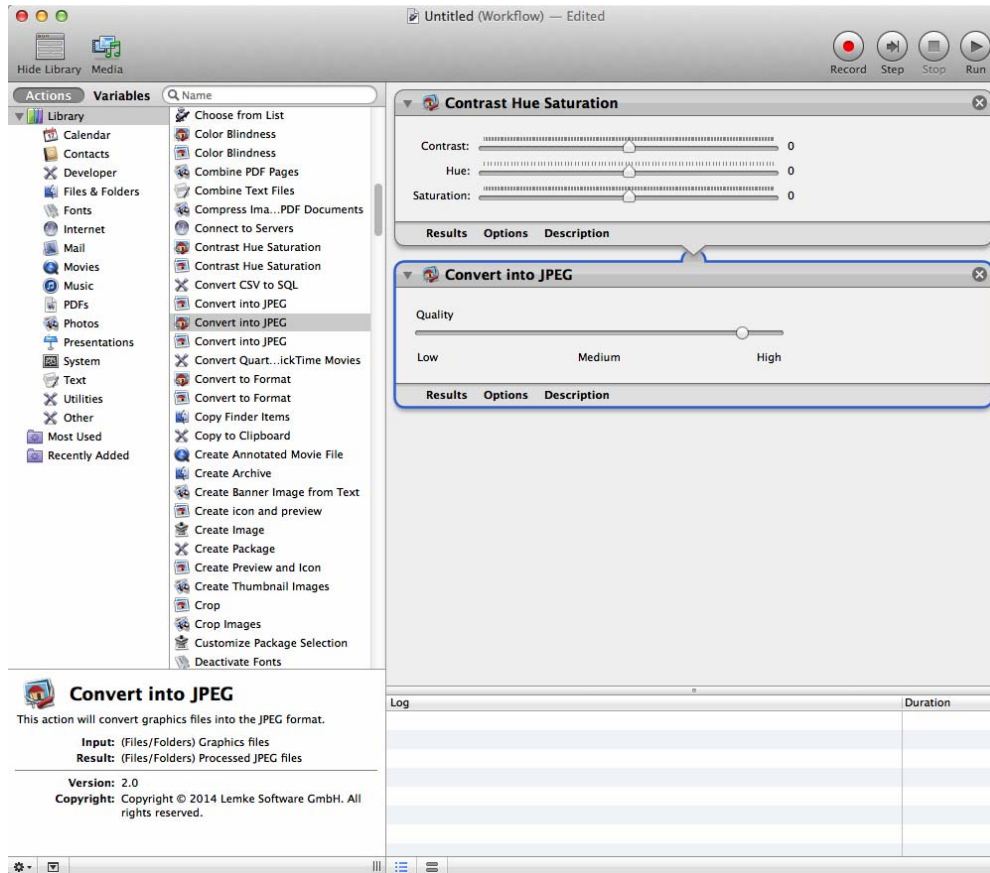
on doError(errMsg, errNbr)
    set the text item delimiters of AppleScript to {""}
    display dialog "GraphicConverter has encountered an error" & return & errMsg & return
        & "Error number: " & errNbr ↵
        buttons {"OK"} default button 1 with icon stop
end doError
```

You can download these scripts from our Website:  
<http://www.lemkesoft.de/en/products/graphicconverter/scripts/>



## Automator

Automator is a program which is preinstalled in macOS 10.4 or newer. You can automate your work flow with Automator. The programming is easier than with AppleScript. Automator batches of GraphicConverter are available as long as GraphicConverter is installed in the Programs folder.



From version 9.7.2 Build 2049 of GraphicConverter the Automator-Actions are ported to the latest Xcode. That is why these can be used with macOS X 10.9.x or newer only. GraphicConverter 9.7.2 can be used from macOS X 10.8.x.

Detailed documentation for Automator is available from the Help menu of Automator. As long as you are not familiar with Automator we recommend to backup your files beforehand.

## Terminal

GraphicConverter supports command line commands. You can, for example, use in a Pearl script:

```
GraphicConverter 9.app -slideshow path
```

## *Troubleshooting*

Shows the content of the referred folder as a Slide Show

GraphicConverter 9.app -browser path

Shows the content of the referred folder in a new Browser window.

## **Troubleshooting**

Solving general problems

### **If you are Using macOS 10.8.x Mountain Lion or older:**

There are frequently problems when the preferences document

`com.lemkesoft.graphicconverter9.plist`

is corrupt. You can check this by dragging the preferences document to the desktop so that GraphicConverter can no longer access the document. To move the preferences document, open the Help menu and select Show GraphicConverter Preferences with Finder. The „Preferences“ folder is then opened in the Finder. Now exit GraphicConverter and drag the preferences document to the desktop.

Restart GraphicConverter. Check whether the problems persist. If the problem has been solved, you can delete the preferences document on the desktop. You will need to select your preferences in GraphicConverter again.

If the problem is still there, exit GraphicConverter and overwrite the automatically recreated preferences document with the old one from the desktop and contact our support via e-mail: [support@lemkesoft.com](mailto:support@lemkesoft.com)

Alternatively you can delete the preferences document with the program "GraphicConverter First Aid" which you can download from our website.

### **If you are Using macOS 10.9.x Mavericks or newer:**

macOS 10.9 or newer caches the preferences data so you should not delete the preferences file. You would have to delete the cache via the Terminal too. Instead please use the additional program "GraphicConverter First Aid.app", you can download from our website free. It will delete the preferences file and the cache.

## Preferences file general

GraphicConverter creates a backup of the preferences file and checks the preferences file when launching. If the file is corrupted a dialog opens. You can choose to create a new preferences file or to replace the corrupted file with a backup.

## Image displayed black

If an image is displayed black this is normally due to a broken color profile. Click the circle with the four sections in the lower window frame of the opened image. Now the broken color profile is not active any more and the image should appear correctly.

In this case delete the broken color profile and correct the settings in Edit / Assign Profile. The color profile file is located in the folder **user / ~ / Library / Application Support / GraphicConverter / Profiles**. The tilde character stands for the name of the respective user. To open the Library folder hold the Option-Key and select Library from the Finder's **Go to** menu. If you cannot replace the broken color profile file with a backup, open an image containing the profile. GraphicConverter saves the profile automatically into the profiles folder.

## Users Group

Visit our website to enter yourself in our mailing list to receive help from other users.

<https://www.lemkesoft.info/forum/>

## Shortcuts

The shortcuts for the slide show are in the chapter for the slide show (see p 294).

### General Shortcuts

Key Combinations	Result
<i>Ctrl</i> with mouse click	Opens the context menu. The contents are dependent on the window that is open.
Tab key	Hides all open palettes and shows them when pressed again.

### Shortcuts in Picture Windows

Key Combinations	Result
Command key and + or - (minus)	Zooms to the next higher or next lower level.
Option key on the picture surface	The current tool is changed to the eyedropper when you hold down the Option key. You have to press the mouse button to change the foreground color to the color under the mouse.
s	If a rectangular selection is defined, this is moved on a point by point basis. If no selection is defined, the window contents are scrolled in the corresponding direction.
Shift-s	If a rectangular selection is defined, it is reduced in size or enlarged horizontally on the right margin using the left and right s or vertically on the lower margin with the up and down s.
Command-Up	A browser window opens displaying the folder containing the current picture.
Shift-Control-s	Moves the selection boundary.
Option-s	Shifts the complete image. The part that is pushed out of the image is inserted at the other side.
<i>PgUp</i> , <i>PgDown</i> (on most keyboards these are slanted arrows)	The contents of the window are scrolled either up or down by a full page.

Key Combinations	Result
<i>Home, End</i> (on many keyboards these are represented as arrows with two lines through them)	The contents of the window are scrolled all the way to the top or the bottom.
<i>Esc</i>	Removes a defined selection. If a picture section is inserted, this can no longer be moved.
Space bar with mouse click	Allows you to move the content of the window if the image is only partly visible.
Backspace or Delete	The contents of a selection are deleted by being overwritten with the current background color.
Return	Initiates the <b>Trim selection</b> option if a selection is defined.
<i>Help or Info</i>	Displays the picture information
<i>F1</i>	Undo
<i>F2</i>	Crop
<i>F3</i>	Copy
<i>F4</i>	Paste

## Important Formats

A list of all formats that GraphicConverter can read and write can be found on page 338. In this chapter, we provide information on the most important formats and their features.

To save a picture in a specific format, select **File /Save as...** and then select the target format you want from the pop-up menu (see p 21).

To select the format-specific options, click **Options...** in the file selection dialog.

The wide selection of formats is a result of constantly changing graphic format requirements and technical advances. Inadequate long-term planning and the pressure of competition have also led to the creation of new formats. This is slightly reminiscent of the language confusion that occurred at the Tower of Babel (Moses 1, Chapter 11).

## Problems with Opening and Converting Files

We won't leave you out in the cold. GraphicConverter opens or converts almost every graphic. If it doesn't work, please contact us (contact information can be found on page 16). We can adapt GraphicConverter as long as it is technically feasible and conforms to licensing requirements. It has usually been possible to implement a new format

## Important Formats

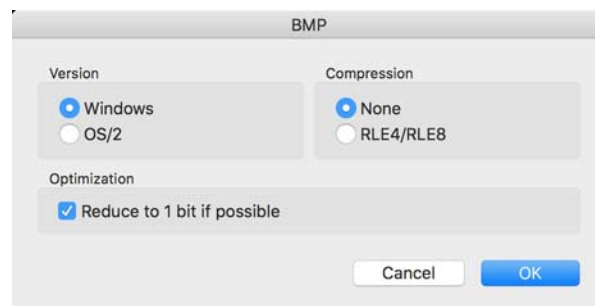
within 24 hours. Often the cause is a problematic graphic that is in a format that Graphic-Converter can actually open. The file cannot be opened because a different manufacturer created a new variation of the format for whatever reason. Please describe your problem to us before you send us an example graphic. We can often give you advice on how to solve the problem. Send us an example graphic only if we request one. We will analyze your example graphic and, if necessary, add it to the types of formats. We will then provide you with a free update via download.

In the following section, the most important formats and their options are described in alphabetical order. Formats with no special features are described in a table starting on page 338.

### BMP

BMP is the standard Windows bitmap format. It is implemented directly in the operating system and supports 1, 4, 8, 16 and 24/32-bit. For 4 and 8-bit, Run Length compression (RLE) can be used. Use the BMP format to create graphics for Windows users or for users who do not own conversion software. BMPs can always be opened in Windows. Uncompressed bitmaps can use a lot of memory.

Under Version, you can set whether you want to save the bitmap for Windows or OS/2.

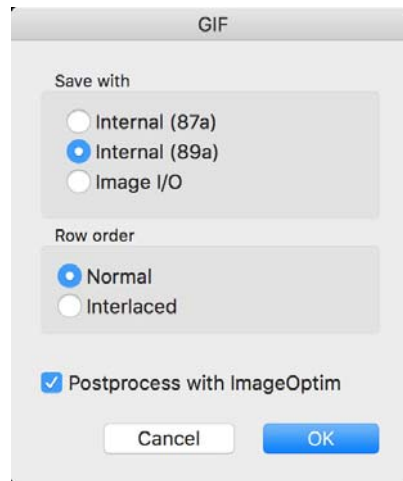


Under Compression, you can enable compression of 4 and 8-bit graphics. This type of compression is only supported by some Windows programs.

### GIF

This acronym stands for Graphic Interchange Format. This format was introduced by CompuServe for the **Internet**. It compresses graphics with single-color surfaces and sharp edges such as comics and pictograms particularly well. Graphics saved as GIFs can have a maximum of 256 colors (8-bit).

Both options allow you to select which version of the GIF format is created. **87a** is the first version of the GIF format. This version can be imported by all programs that can process GIFs.



It does not support comments or a transparency mode. This means that it doesn't make sense to further process the graphic in a program that cannot import the newer GIF version, **89a**, which does support comments and a transparency mode.

**Image I/O** creates a GIF file with routines from the macOS which is a little bit faster. The compatibility is the same.

If the **Row Order** is set to **Interlaced**, the GIF is first created over the entire surface and is relatively out of focus but it gradually becomes sharper. For **Standard** row order, the GIF is created from top to bottom, increasing to the final quality level (see p 74).

**Postprocessing with ImageOptim** minimizes file size.

## HEIC

From macOS 10.13 you can open the format HEIF (High Efficiency Image File Format). The file extension can be .HEIC or .HEIF. From macOS 10.13.4 you can save pictures in HEIC format without a helper tool.

If you want to save pictures in HEIC format with older versions of the macOS you need to install a helper tool beforehand. To do so click **Download all missing Tools...** in **Preferences / Open / Helper Tools**. This does not apply for the GraphicConverter version from the Mac App Store as Helper Tools are not allowed in sandboxed software.

Apple introduced the HEIC format for pictures on iOS devices with iOS 11 as they need only half as much memory as JPG pictures with the same quality. Only the XMP section for metadata is supported. The important Exif fields are supported. Some few exotic Exif fields are not supported.

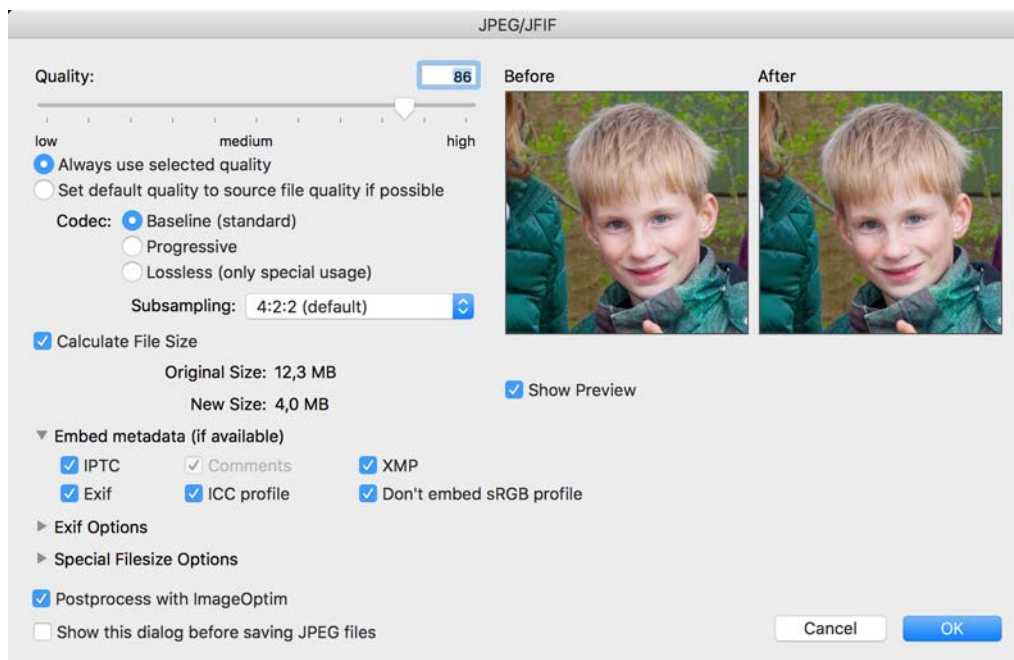
## JPEG

The JPEG format is the most common graphic format used on the Web because it achieves very high compression rates. The quality of JPEGs decreases slightly each time you save them due to compression. This means that you should save a master file for each JPEG graphic, for example, as a TIFF, which you then process instead. After you have made your modifications, save a new version of the JPEG graphic, for example, for the Web.

The further development of the JPEG format is called JPEG 2000. However, it has not been able to establish itself as the increasing speed of Internet connections means smaller files are no longer needed. In scientific applications, however, JPEG 2000 format is used for pictures of Mars, for example, which have a size of approximately 400 MB, but require 5 GB in the RAM. In this case, GraphicConverter will inform you that the file is displayed so greatly reduced that the data will use the full available RAM.

The higher the compression level is, the lower the quality. To find a satisfactory quality level, a section of the graphic is displayed in the Options dialog as a before and after picture. Try several quality levels using the slider. The quality slider can also be moved using the plus and minus keys.

Because the quality level is very important, this dialog appears automatically when saving a JPEG unless this option is disabled in this dialog.



Click **Options...** under **Save As...** to reactivate automatic display of the quality dialog. Make sure that the target format is set to **JPEG**. In the dialog that opens, automatic display of the quality preview can be reactivated at the very bottom.

Openig a JPEG picture the quality the picture has been saved with can be recognized. If you want to use the same quality when saving you can select **Set default quality to source file quality if possible**.



The **Baseline** codec is the normal codec. When **Progressive** is selected, JPEG graphics displayed in an Internet browser start off covering the total image area and gradually become sharper.

You should only select **Lossless** if you are sure that recipients of the picture can open this variant of the JPEG format. A large number of programs cannot open images in lossless JPEG format. Save your pictures in TIFF format if you want to save without losses as almost all programs can open TIFF format.

In the **Subsampling** pop-up menu, 4:2:2 is the normal setting. Select 4:4:4 if you want to minimize picture faults (artifacts) caused by the compression. The high compression rate is achieved in JPEG images by saving one instead of four Y-values for blocks of four pixels. Use this option if you want to save an image with sharp-edged subjects, for example, lettering in JPG format, without serious picture faults. The file size will increase, however. The settings 4:2:0 and 4:1:1 are mean values.

**Calculate File Size** shows the **new size** after saving in comparison to the **original size**.

**Embed (if available)** inserts the **IPTC** document information, the **Comments**, the **EXIF** information and the **ICC profile** if this data is available in the image file and the option is enabled. The **sRGB profile** is only embedded if you clear the check box. If you leave **ICC profile** and **Don't embed sRGB profile** enabled, the profile will never be embedded for sRGB images from digital cameras because it is sufficient when the color model information is included in the EXIF information. The files will then be smaller. By using this setting, you will never forget to attach profiles to other pictures, for example, pictures from scanners with profiles.

The **EXIF preview** can be saved in the file and is created again for this. The advantage is that this preview can also be displayed in other operating systems. Select Store preview DCF compatible (will reduce preview to 160 x 120) if you want to save the file on a memory card as only this way cameras and other devices can read the file. Unlike EXIF previews of pictures from a digital camera, newly created EXIF previews have a higher quality.

With the **EXIF** data, you can specify whether the **EXIF preview**, the **Maker Note** and the **User Comment** are also saved. The **EXIF preview** has the advantage that it can be displayed in all operating systems. The **Maker Note** and the **User Comment** may contain your name and the serial number that you may not want to forward with the picture file. Disable these elements if necessary therefore.

Select **Store Exif Date after Exif Directory** if your Exif data cannot be read by other programs.

**Store Exif with original width and height** makes sense if the original size still should be readable when the file has been scaled down.

Select **Use Original Unmodified Exif data** if you want to keep the undocumented camera data.

## *Important Formats*

You can disable **Write JFIF header** to reduce the file size slightly more. The JFIF header contains the resolution which is why you should only disable the JFIF header if this information is not needed.

**Resize to reach filesize** allows you to set a target file size for the image being saved. Only the Scale option is used for this. The JPEG quality remains as set above. It is more worthwhile to carry out this kind of optimization with Convert & Modify and the batches as the pictures can still be resharpened with a further batch as is always necessary after scaling.

**Reduce quality to reach filesize** allows you to specify a target file size for the image you are saving. The quality is reduced accordingly to achieve this.

Select **Uncheck option after save** if you want to save only one picture with a given file size. This way you avoid to save the following pictures shrunk when you do not want to do so.

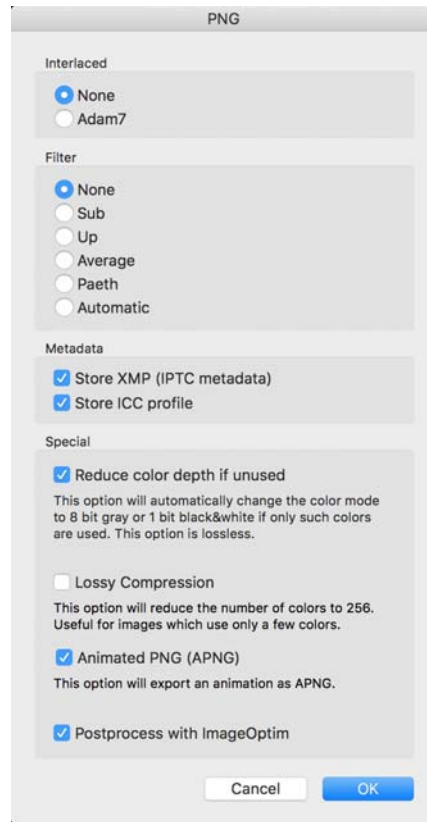
GraphicConverter can also open Medical JPEGs at 12/16 bit. A color depth of 8 bit is normal.

## **PNG**

PNG format is one of the formats used on the Internet. It can contain a gamma value that optimizes the brightness and contrast of graphics created on the Mac, but displayed in Windows, if the program used to display the graphic can interpret this information. PNG format has other advantages: Compression is lossless with most large files compared with JPG files with a quality of approximately 80. All color depths are possible and alpha channels are supported.

Graphics in PNG format can be saved with **None** under **Interlaced** so that they are displayed gradually from top to bottom on the Web. If you click **Adam 7**, the overall graphic

is out of focus at first but becomes increasingly sharper. This code, however, makes the file somewhat larger.



If you prefilter the graphics so that there is no quality loss, they can generally be compressed better. This results in smaller files. Select one of the possible prefilters under **Filter**. The **Automatic** option creates the smallest possible PNG files. Compression can take between 10 and 1000 times longer with the **Automatic** setting than with a specific filter because all filters are tested.

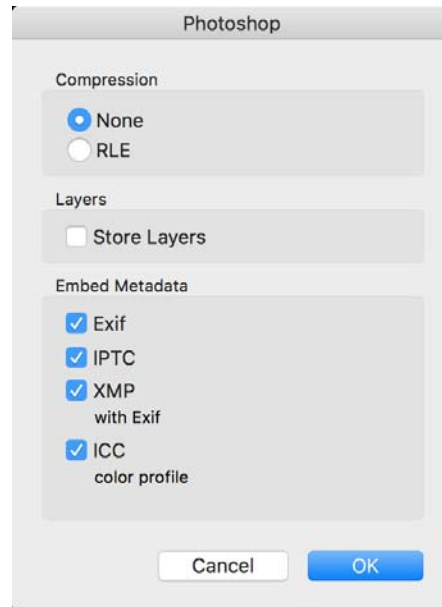
Disable **Store XMP (IPTC Metadata)** if you do not want to pass this information. When you save pictures for the web you do not need to **Store ICC profiles**.

Select **Animated PNG (APNG)** if you want to save an animation as an APNG.

**Postprocessing with ImageOptim** shrinks the file size if possible.

## PSD Photoshop

Photoshop, the well-known graphics program, has its own file format.



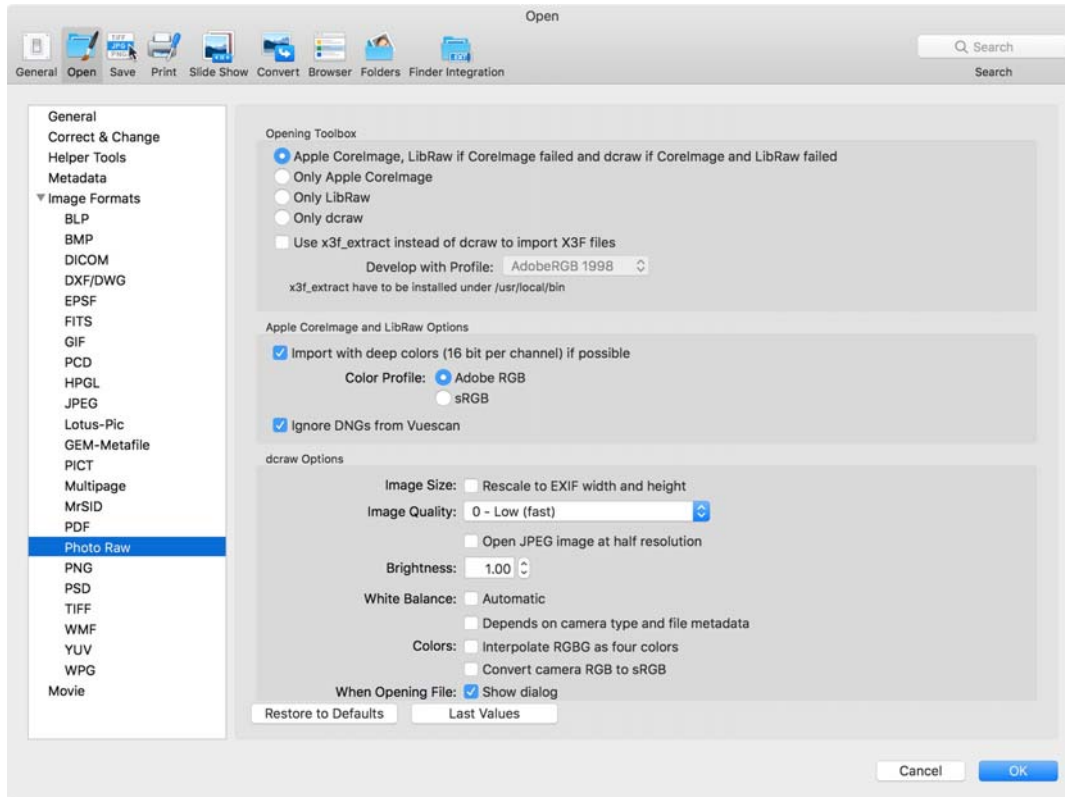
If you save graphics in Photoshop format, you can choose between None and the **RLE** run length compression. You can save **layers** and select which **metadata** should be saved.

## Photo-RAW

Unfortunately there is no standard RAW format meaning that some variants may not be opened by GraphicConverter. Each camera manufacturer uses its own RAW format that, in some cases, differs from camera model to camera model. The colors in RAW images can only be displayed correctly if you have the color curves of the camera manufacturers. These color curves are not published by the manufacturers, however.

GraphicConverter therefore uses the color curves provided by the macOS X, which is why it may display the colors slightly differently to the software supplied with the camera. The RAW files of which cameras are supported is listed here: <https://support.apple.com/en-us/HT207972>.

If the macOS does not support a RAW format, the curves from LibRaw or dcrw will be used. If you want to use one of the three libraries exclusively, you can select that library in Preferences / **Open / Formats / Photo RAW**.



RAW files contain the raw, unprocessed data from the camera sensor. If you select JPG format in your camera, the camera processor will apply the color curves and other techniques like automatic white balance to the image files and then save the data in a JPG image file.

RAW format is recommended for professionals who want to perform manual white balance and therefore take sample pictures of white or gray cards with the same exposure. You obtain clearly better results with RAW format even when you make exposure corrections afterwards. RAW images mostly need some sharpening, but show fuller and more natural colors. As the files are at least twice the size, we recommend RAW format just for professional use.

**Metadata in RAW files:** RAW files except for NEF files may not contain any metadata apart from the EXIF data. All other metadata (IPTC, Rating, Label, XMP) is therefore written to a file with same name and the extension .xmp that is automatically copied and renamed by GraphicConverter like any THM file. Photoshop CS also uses this technology, which is why RAW files with IPTC information in XMP files are fully compatible with Photoshop CS.

NEF files may also contain IPTC data. If you enter IPTC data for a NEF file, it will be written in the NEF file. NEF is Nikon's RAW format.

## Important Formats

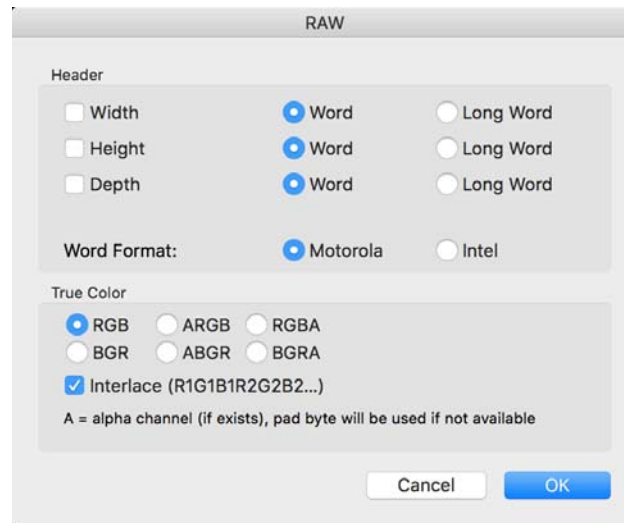
The XMP file is only created if metadata apart from the EXIF is available. If, for example, you add a rating in the browser using the context menu, an XMP file is created and displayed in the browser immediately. If you do not want these files to be displayed, add the extension XMP to the list of extensions to be ignored in the **Browser / Open with** section of the preferences. You can set this list to the default setting by clicking the **Default** button.

To speed up the display of RAW images in the browser, GraphicConverter creates THM files containing previews for each image file. You can disable this option in the **Preferences** under **Browser / Preview**. Some cameras create the THM files automatically. The THM files are not shown in the browser.

## Binary RAW

Even longer than the Photo RAW the Binary RAW exists. It is used in scientific context when access to the binary data is needed. You can export any picture in Binary RAW format.

The Binary RAW format offers the following options:



You can use the **Header** settings to specify whether **Width**, **Height** and **Depth** are saved and, if so, how. **Word** saves as a 16-bit integer and **Long Word** as a 32-bit integer. When **Motorola** format is enabled, the high byte is saved first and then the low byte. When **Intel** format is selected, the exact opposite happens.

Under **True Color**, you can specify how graphics with 16.7 million colors should be saved. Use **RGB** and **BGR** to specify the order of the color pixels.

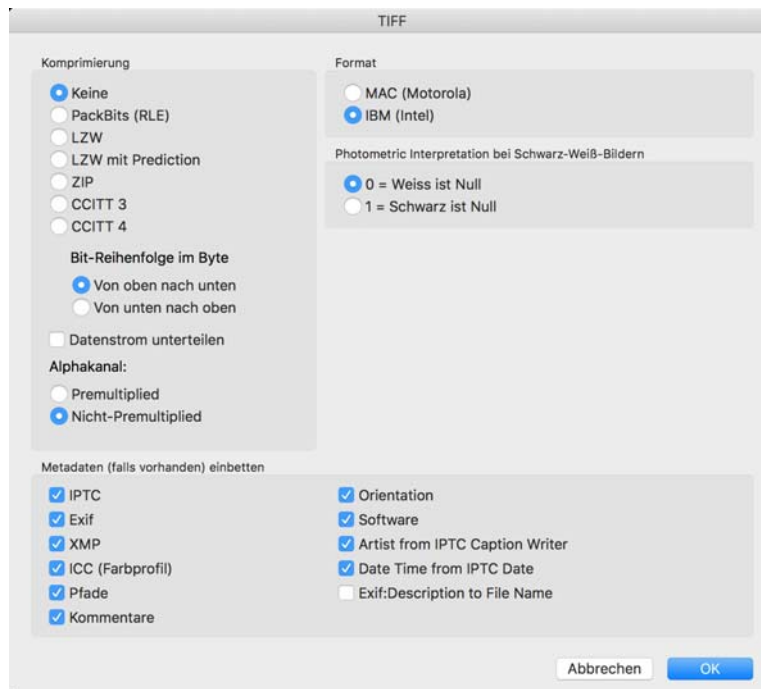
When you open a RAW file that contains a movie, you can choose the method for importing the pictures in the dialog that opens. Set **RAW** as the import filter in the file selection dialog when you open the file.

Use **Save as...** to save a RAW-Movie as a movie. Click **Options** in the file selector box and choose the corresponding option.

## TIFF

TIFF format is the standard format in the publishing industry. Because image setters can sometimes not handle LZW compression, we recommend asking your service center before printing. LZW compression can be disabled in the file selection dialog under- **File / Save as...** using **Options....** Both the GIF and the TIFF-LZW formats use LZW compression.

The following options are available for TIFF format:



If compression is set to **None**, the uncompressed graphic is saved. This type of TIFF can generally be opened by any program that imports TIFF graphics. The disadvantage, however, is the file size.

**PackBits** compression (RLE) is particularly good with respect to file size for black and white graphics. In addition, it compresses and decompresses graphics quickly.

For **LZW**, graphic data are compressed with the LZW process. Depending on the content, LZW compression reduces graphic files by about half. Graphics with colors that run or with pixels not often repeated can also be compressed to be considerably larger than the original. It takes about four times longer to open the uncompressed version because decompression is relatively intensive.

For **LZW with Prediction**, the graphic files are compared before the actual compression. This results in even better compression rates via the LZW algorithm. The disadvan-

## *Important Formats*

tage of this process is that graphics created this way can only be opened by a few programs.

When **CCITT 3** is selected, graphic files are compressed in accordance with the CCITT 3 Standard (FAX). This option is only available for 1-bit graphics.

If you select **CCITT 4**, the graphic files are compressed in accordance with the CCITT 4 Standard. This option is only available for 1-bit graphics. The CCITT 4 process achieves very high compression rates.

The **Fill Order** option is used to determine the placement of the bits for CCITT 3 and 4. Some TIFF readers can only interpret one option.

Clear **Stripe Stream** if TIFFs cannot be opened correctly by the recipient.

**Embed Metadata (if available)** allows you to not save individual parts of the metadata by clearing the corresponding check box.

The **Format** option allows you to specify whether the values within a TIFF file should be saved in **Big Endian Motorola** or **Little Endian Intel** format. You should select Intel if you frequently exchange files with DOS users because some DOS programs can only read Intel TIFFs. You can use both variants for Intel Macs.

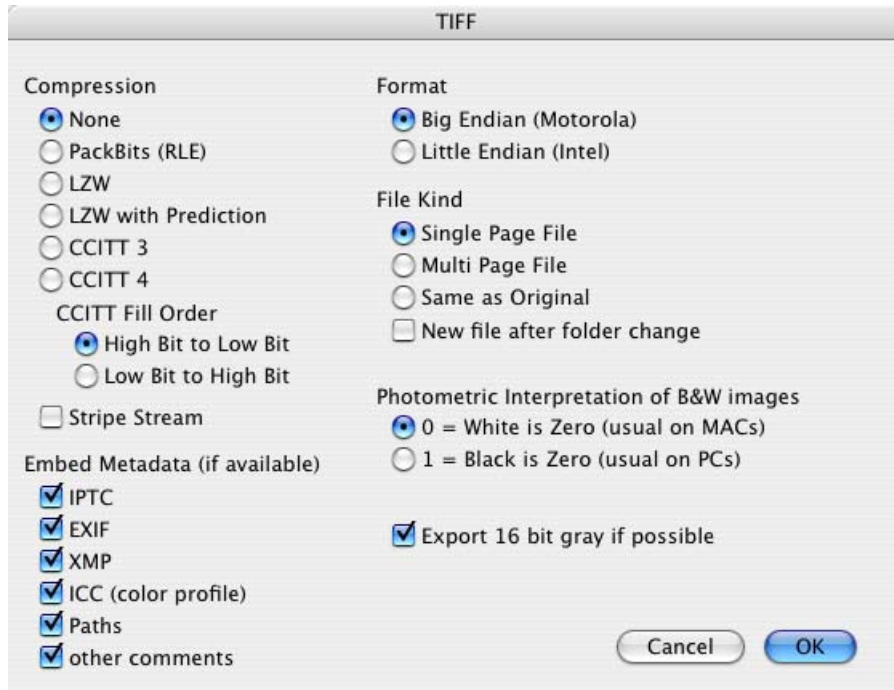
**Select 1 = Black is Zero (standard on PCs)** under **Photometric Interpretation of B&W images** if a TIFF does not display correctly on another computer.

**Export 16 bit gray if possible** is useful if, for example, a FITS file is converted into TIFF to optimize the quality.

If want to convert multi-page TIFF files in one process with single-page TIFF files to change the compression, for example, you need to select **File Kind Same as Original** in



the options for the Convert dialog. Single-page documents will then remain single-page and multiple-page documents will keep all their pages.



The **Single Page File** option makes several single-page documents out of multiple-page documents. The **Multi Page File** option makes a multi-page document out of several single-page documents. You can use this function via the Convert dialog or more simply via the browser by selecting TIFF as the target format and enabling **Multi Page File** in the **Options**. Select several files and click **Start**. The first filename of the source files is used as the filename. PDF format also supports multi-page files. If you want to create multi-page PDF files, first save them in TIFF format and then convert them into PDF format. If you only select one source image, GraphicConverter will create a normal document.

You can use **New file after folder change** to create a new, if necessary, multi-page file in the source area after each folder change. This setting is useful for multi-page faxes that you receive as a compressed file by e-mail if the fax is in the form of several files in a folder after unpacking.

## Supported Formats

Format	Import	Export	Comment
.422	•		• The format .422 is created by Magic Lantern can be opened. It is a RAW format. Magic Lantern replaces the firmware of some Canon DSLR cameras to add some functions. We assume no liability for using Magic Lantern: <a href="http://www.magiclantern.fm">http://www.magiclantern.fm</a> .
.D	•		320x200 pixel for 1-bit
8BIM	•		Old Photoshop 2.0 format Supports 1, 8 and 24-bit per pixel
AAI	•		
abr	•		
Acorn Sprite	•		Contains sprites from Acorn computers
AFP	•		Variation of the TIFF format for 1-bit graphics
ALIAS	•		Alias Pix Format Supports 256 grayscale or 24-bit
AMBER ARR	•		Used by microscopes Supports 256 grayscale
AMC	•		
Analyze	•		Format from medical technology that is made up of two files: .hdr contains the header and .img contains the image data.
ANI	•		NeoChrome program animations
animated windows cursor (ANI)	•		
ANPA	•		Format with IPTC information
APNG	•		Animated PNG file. macOS 10.10 and iOS 8.0 support APNG. Like the PNG format it allows up to 16 bit per channel and alpha channels.
Apple File Icon		•	These files only contain the file icon. By pressing Command-I in the operating system, you can click and copy it in the dialog that opens before setting it for another file with Command-V.
Apple Preferred	•		Apple ligs graphic format
ART	•		First Publisher program format Supports 1-bit per pixel

Format	Import	Export	Comment
ARW	•		
ASCII	•	•	Allows you to import and export graphics that contain only ASCII characters
b3d	•		3D format
BigTIFF	•		Variant of TIFF format without file size limit
Bio	•		Bio-Formats of medical devices and microscopes (Glencoe SDK)
BioRad	•		BioRad file format, supports 256 grayscale
BLD	•	•	Mega Paint format
BLP	•	•	Format of games like World of Warcraft ©. If you need to mirror vertically after opening you can select <b>Mirror vertically</b> in <b>Preferences / Open / Image Formats / BLP</b> .
BMP	•	•	Standard Windows format, supports 1, 4, 8, 15 and 24-bit per pixel
BPG	•		The format Better Portable Graphics (BPG) can be imported. It offers the modes lossy and lossless and is based on the HEVC format. In comparison to the JPG format the file size is only one third with comparable quality. BPG animations can be opened too.
BSB	•		Format for maps
BSP	•		
BUF	•		Supports 32-bit
BUM	•	•	Variation of the BMP or PICT format
Byte-Array Header File (.H)		•	Image is converted to C source code, e.g. for games console developers
CALS	•		CCITT 4 compressed black and white graphics
CAM	•		Casio QV-10/100 format, a variation of the JPEG format
CEL	•	•	CEL format
CGM	•		Internationally standardized file format for exchanging vector and bitmap graphics
Chyron	•	•	The export option only covers the basic elements.
cicn		•	Icons

## Supported Formats

Format	Import	Export	Comment
CINEON	•		
CISCOIpPhonel mages	•	•	
CLP	•		Windows clipboard format
CNG	•		Complete National Geographic Format used on DVDs whose software is no longer running on macOS 10.13.
cpbitmap	•		Format from iOS devices for the start screen and background picture
cri	•		
CRW	•		Canon cameras raw format
csource	•	•	Graphics as C source code
CT	•		Scitex color graphics
CUR	•	•	Cursor format
CVG	•		Calamus vector format
CWK	•		Apple Works document format. All images contained are imported.
DCS	•		.C, .M, .Y, .K documents are combined in a complete CMYK image
DCX	•		Contains several PCX files
DDS	•	•	Format of some graphic cards
DeltaVision	•		
DESR VFF	•		
DICOM	•		Graphic format used in medical technology
Direct icns	•	•	
Discus YUV	•	•	Format from television production
DJ1000	•		Camera format
DL	•		Animation format with 320x200 pixels for 8-bit Normally contains x-rated elements
dm2 / dm3	•		Gatan format from digital microscopes
DNG	•		Digital Negative
Doodle	•		
DPX	•		
Dr. Halo	•		Dr. Halo program format with 256 colors

Format	Import	Export	Comment
DrawIt PDB	•		DrawIt (Palm OS)
Duotone PSD	•		Import as grayscale
EBM	•		The format comes from IP telephony
ECW	•	•	Only in Carbon Version of GraphicConverter
Electronic Image	•	•	Electric Image Format, can contain animations
EPSF	•(*)	•	Encapsulated Postscript Format
ESM	•		ESM format
Facesaver	•		
Favicon ICO	•	•	Format for pictures with 16x16 pixels that are displayed in the address bar in front of the URL. Windows ICONS is used as the file format. Adapt and insert the following HTML code in your Web site and copy the favicon.ico image to your server. <pre>&lt;link rel="shortcut icon" href="http://www.lemkesoft.de/favicon.ico"&gt; &lt;link rel="icon" href="http://www.lemkesoft.de/favicon.ico" type="image/ico"&gt;</pre>
FAX	•		CCITT 3 coded fax file
FaxSTF	•		FaxSTF program format
fep	•		
fig	•		With installed xfig fink package on X
First Publisher art	•		
FITS	•	•	Flexible Image Transport System Format
FLH/FLI/FLC	•		Animation from the Autodesk Animator program FLI supports 8-bit for 320 x 200 pixels FLC supports 8-bit for 640 x 480 pixels FLH supports High Color
FPX	•(*)		FlashPix file format. (*) QuickTime 4 or higher is required for opening these files.
Freehand 10 preview	•		The browser can display a preview of a Freehand file. This preview can be opened as a picture, but not as a Freehand file.
FUJI	•		

## Supported Formats

Format	Import	Export	Comment
GATAN	•		Microscope format Supports 256 grayscale
GEM	•		Vector graphics (GEM metafile) created by the GEMDraw program
GFX	•		Xgrabber program format
GIF	•	•	Supports 1 to 8-bit per pixel This format was introduced by CompuServe Inc
GRP	•		Uses 1 or 4-bit per pixel
HAM	•		Interchange File Format (IFF)
HCP	•		Windows screenshot format
HD Photo (wdp or hdp)	•		Microsoft format
HEIF / HEIC	•	•	<p>From macOS 10.13 you can open the format HEIF (High Efficiency Image File Format). The file extension can be .HEIC or .HEIF. From macOS 10.13.4 you can save pictures in HEIC format without a helper tool.</p> <p>If you want to save pictures in HEIC format with older versions of the macOS you need to install a helper tool beforehand. To do so click <b>Download all missing Tools...</b> in <b>Preferences / Open / Helper Tools</b>. This does not apply for the GraphicConverter version from the Mac App Store as Helper Tools are not allowed in sandboxed software.</p> <p>Apple introduced the HEIC format for pictures on iOS devices with iOS 11 as they need only half as much memory as JPG pictures with the same quality. Only the XMP section for metadata is supported. The important Exif fields are supported. Some few exotic Exif fields are not supported.</p>
HEVC	•		<p>From macOS 10.13 you can open the video format HEVC (High Efficiency Video Coding) which is coded with the H.265 codec. The file extension is .MOV. Apple introduced this format for videos and Live Photos on iOS devices with iOS 11 as they need only half as much memory as MP4 videos with the same quality. Only the XMP section for metadata is supported. The important Exif fields are supported. Some few exotic Exif fields are not supported.</p>

Format	Import	Export	Comment
HP-GL/2	•	•	This vector graphic format is usually used by plotters
HGT	•		
HMR	•		Variation of the TIFF format
HTC splashscreens	•	•	Format of HTC Smartphones (*.rgb565)
IBL	•	•	
IBM - PIC	•		Supports 16-bit per pixel
IC - Imagic	•		Atari Imagic program format; Supports the Atari three color modes
lcd5	•		RAW format of some iPod games
ICO/ICN	•	•	Format of Windows file icons; Windows XP icons are supported.
IFF/LBM	•	•	Default file format of Amigas. Supports all color depths
IG4	•		Format for drawings
Image -> Finder		•	Places an image in a folder where a Custom File Icon was created, very useful when creating CD-ROMs
ImageLab / PrintTechnic	•		Format with 256 grayscale
IMG/XIMG	•	•	GEM-Draw file format. Supports 1 to 8-bit per pixel. The specifications of the 24-bit per pixel variation were never officially published.
IMQ	•		Satellite image format
IPLab	•		
ithmb	•		iPod Photo format
ISS	•		
j6i	•		Variation of the JPEG format
JBI	•		Variation of the TIFF format
JEDMICS C4	•		Used by NASA
JIF	•	•	New format based on the TIFF format
JNG	•		

## Supported Formats

Format	Import	Export	Comment
JPEG/JFIF	•	•	Supports 24-bit per pixel or 256 grayscale. Compression results in a loss of image quality. Supports Exif document information, for example, from digital cameras. Medical JPEGs with 12/16 bit per channel can only be opened.
JPEG2000 (.jp2 and .j2c)	•	•	JPEG 2000 creates smaller files than JPG, but has not established itself. j2c is a variant of JPEG2000 format.
JPEG XR (.jxr)	•		Microsoft format that has nothing in common with the JPEG format.
JPF	•	•	Like gif but with zlib compression
jpx	•		JPEG variant
KDC	• (*)		Kodak digital camera format. (*)
Keynote PICT	•		Variant of the PICT format created by Keynote.
KISS CEL	•	•	
Koala	•		C64 Format
Kodak DCS	•		
KONTRON	•		Kontron microscope format Contains graphics with 256 grayscale
landsat	•		
LDF	•	•	LuraDokument Format.
Liberty IM	•		
LIFF	•		
LOGO	•	•	Nokia telephone logos
Lotus-PIC	•		Lotus vector format
LuraDocument	•		Document management format
MacDraw	•		
MacPaint	•	•	Black and white format with 576 x 720 pixels
MAG	•		MAKlchan graphic format
MAYA-IFF	•		Variation of the IFF format
MathPad	•		Text based format
MBM (Psion 5)	•	•	Graphics of the PSION 5 series
MDC	•		
Meteosat 5	•		Meteosat satellite format



Format	Import	Export	Comment
MHT archive	•		
MonkeyCard	•	•	Telephone logo format
MonkeyLogo	•	•	Telephone logo format
Moov		•	QuickTime animation
MOS	•		RAW format
MP2	•		MP2 files can only be displayed if you purchase the MP2 add-on for QuickTime from <a href="http://www.apple.com">www.apple.com</a> .
MPO	•		
MRC	•		
mrSID	•		macOS X only with a plug-in you can download from <a href="http://www.lemkesoft.com/en/plugins.htm">http://www.lemkesoft.com/en/plugins.htm</a>
MSP	•		1-bit graphics from Microsoft Paint (Windows 2.0)
MSX - MSX2 MSX+ - MSX2+	•		
NAA/IPTC	•		
NASA Raster Metafile	•		Format with or without several frames of the NASA missions
NEO	•		Format of the Atari NeoChrome program Supports 320 x 200 pixels for 16 colors
NGG/NCG	•	•	Nokia cellphone format
NIF	•		
NIST PCT	•		
Nokia .pict	•	•	Export via the .logo format
NOL	•	•	Nokia cellphone format
NV12	•		Format for single images of a Microsoft video format
ODF	•		Format for multipage documents
ONCOR	•		Supports 256 grayscale
ORF	•		
OTA	•	•	
PAC - STAD	•		Black and white graphics with 640 x 400 pixels of the Atari STAD program

## Supported Formats

Format	Import	Export	Comment
Palette		•	Color table
Palm image stream	•		Format of the Palm organizer (.stream)
PAM	•		Open Source Format
Paperport .max	•		Format of scanners with automatic feed
PBM - PGM PPM	•	•	Standard UNIX file format for easy exchange of graphics. Supports 1, 8 or 24-bit per pixel. The file can be coded as binary or ASCII.
PCD	•		Kodak PhotoCD format
PCX	•	•	PC Paintbrush file format. Supports 1, 4 and 8-bit per pixel. The new version also supports 24-bit per pixel.
PDB FireViewer	•	•	Palm Pilot format.
PDF	•	•	Import and Export only in Carbon Version (macOS X)
PDS3	•		*.IMQ files with MOC compression
PEF	•		RAW format of Pentax cameras
PFM	•		Open Source Format
PGC/PGF	•		
PGPF	•	•	Sony Clie Format
Photo PDB	•	•	(JPEG)
Photoshop Pattern file	•		The contents of these pictures are used in Photoshop as a pattern.
Photostudio	•		Format used under macOS 9
PIC	•		B/W Atari file format (640x400 pixels)
PIC	•		PC Paint file format
PIC	•	•	Psion format Supports 1 or 2-bit per pixel
PIC (32K)	•		Black and white Atari format with 640 x 400 pixels
PICS	•	•	Animation
PICT	•	•	Standard macOS graphic format. Contains vector and/or bitmap graphics. The PICT images created by Keynote are also recognized.

Format	Import	Export	Comment
PICT resource	•	•	PICT graphic that was read into or out of a resource fork
PIX	•		Modified BMP format used by some iPod games
PM	•		UNIX xv format
PNG	•	•	New file format for the Internet. Supports 1, 2, 4, 8 and 24-bit per pixel and a gamma value. The APNG format is a further development of the PNG format and supports animations, see p 338. The Apple Touch Icon for bookmarks on the iPhone and iPod Touch is saved in PNG format.
PORST	•		Photo on disk format Variation of the JPEG format
PowerPoint	•		Only the pictures contained are shown in a multiple-page document.
Ppat	•	•	
PSD	•	•	Photoshop format for Version 3.0 or higher. Supports 1, 8, 16 and 24-bit per pixel.
PSF	•		Can contain several JPGs
PSP	•		PaintShop Pro format
PTG	•		ArtRage
PWP	•		Format of a developing service
Pxx - Degas	•		Atari Degas program format 320 x 200 pixels, 16 colors (*.PI1, *.PC1) 640 x 200 pixels, 4 colors (*.PI2, *.PC2) 640 x 400 pixels, 2 colors (*.PI3, *.PC3)
QDV	•		Giffer format Supports 1, 4 and 8-bit per pixel
QNT	•		
QTIF	• (*)		QuickTime graphic format (*) QuickTime 3 or higher is required for opening these files.
QTL	•	•	
RAF	•		Can contain JPEG

## Supported Formats

Format	Import	Export	Comment
RAW	•	•	You can use the Raw filter to import "raw data" data types. You must specify the width, height and color depth when importing or saving. There are many types of RAW files not documented by the manufacturers of digital cameras. That is why GraphicConverter cannot open some RAW files. Sony dsc f828 and bayer rggb are supported among others.
RGB	•		
RIFF	•		Format of the Painter program Contains color and black and white graphics
RLA	•		
RLE	•		"Utah Raster toolkits" graphics
RSB	•	•	
RSR /RSRC	•		RSR and RSRC from data fork can be imported even when only the resource is left. The file extension in most cases is RSRC.
RTF		•	Rich Text Format
RW2	•		
SCR	•		Sinclair screenshots. Please note that the file extension SCR is also used by the Capture Tool in Word for DOS.
SCR	•	•	Graphics created by Capture Tools from Word for DOS This format is identical to the PCX format. Please note that the file extension SCR is also used by Sinclair screenshots.
Scrap	•		
ScreenShot Hack PDB	•		Palm OS ScreenShots; support for Handera and Sony CLIE (V1.5)
SCX	•		ColorIX format Supports 8-bit per pixel
SFF	•		Fax format from Fritz!
SFW	•		Seattle Filmworks photo on disk format Variation of the JPEG format
SGL	•		Silicon Graphics Image format Supports 256 grayscale or 24-bit

Format	Import	Export	Comment
SHP	•		Lighting Press or Printmaster graphic archive format Supports 1-bit per pixel
SHS	•		
SIGMA SD10 raw	•		RAW-Format of the camera Sigma SD 10
Sinclair QL	•		Sinclair QL format
SIXEL	•		VAX world terminal format
SKETCH	•		Variation of the MBM format
smv	•		Used by microscopes
SNX	•		Variation of the JPEG format
Softimage	•	•	Softimage format Supports 32-bit per image Used by video programs
SPC	•		Spectrum graphic format Supports 320 x 200 pixels for 512 colors
SR2	•		Sony Raw
ST - X - SBIG	•		Supports 256 grayscale
Startup Screen	•	•	Graphics in this file format are displayed when your Mac is started if they are in the system folder.
STV	•		Medical format
SUN	•		SUN Raster file format Supports 8 or 24-bit per pixel
Super-Hi-Res 3200	•		Apple ligs graphics with 32000 colors
SVG	•	•	Import with macOS X only with ImageMagick as helper <a href="http://www.imagemagick.org/">http://www.imagemagick.org/</a>
SWF	•	•	Using QuickTime (Macromedia Flash)
System 7 clip		•	Clipboard format when copying or moving data on System 7 or higher
TBCPlus	•		
TCL	•		TCL format
TealPaint PDB	•	•	TealPaint (Palm OS). Save for PDB. Select the format using the Options button.
TEX	•		Texture

## Supported Formats

Format	Import	Export	Comment
TGA	•	•	Truevision Targa format
TIFF	•	•	Complex format for all color depths The GraphicConverter can import and export the following types of compression: uncompressed, packpits, lzw, ccitt3, ccitt4, fax3, fax4. 32 bit IEEE TIFFs are supported.
TIM PSX	•		
TN	•		ATARI TINY format
TRS-80	•	•	TRS-80 format
VBM	•		
VFF	•		Uses 4-bit per pixel
VGS-8	•		Used by microscopes
VITRONIC	•		Vitronic Format Supports 256 grayscale
VOXEL	•		Format with 512 x 512 pixels for 256 grayscale
VPB	•	•	Quantel Videosystems format
VPM	•		
WBIN MacWavelet 2d	•	•	MacWavelet 2d format
WBMP	•	•	Format of the new WAP technology
wbz	•		Five variants are recognized
wdb	•(*)		HD photo format from Microsoft. (*)
Webp	•	•	Format for the Internet. Newer versions can contain metadata.
WinFax fxm	•		
Winmail.dat	•		All readable images it contains will be opened in a multiple-page document.
WMF	•	•	Windows Meta File Contains vector and bitmap graphics
WPG	•		Word Perfect graphic format Can contain vector and bitmap graphics
X-Face	•	•	Supports 48 x 48 pixels for 1-bit Used for small photos in newsgroups
X11	•		Bitmap format
X3F	•		Format of the Sigma digital camera

Format	Import	Export	Comment
XCF	•		Gimp format.
XBM	•	•	Black and white format coded in C
XPM	•	•	ASCII Bitmap
XWD	•	•	Dump from X-Windows
YUV	•		If the width and height cannot be determined automatically, a dialog opens where you enter the values.
Z04, Z08, Z16, Z24, Z32	•		z3d format

## New in GraphicConverter 7

Please see: <http://www.lemkesoft.com/content/162/new-functions-and-versions.html>

## New in GraphicConverter 7.2

- **Edit / Select last Selection** reactivates the last selection.
- If **MooV** is selected as Destination Format a Dialog with options for compression and size etc. will open. In order to do so you need to select multiple pictures which will be combined to a movie.
- Webp import and export added (Intel only). This format is similar to JPG format, but has poorer image quality with the same file size and can contain metadata in newer versions only. Therefore write your copyright visibly in the image.
- Option added to display the color under the mouse cursor and its coordinates at the bottom of the image frame.
- **File / Merge Folder into One Image** allows you to also calculate the maximum value via the submenu, which can be useful, for example, for astronomical pictures to show the paths of stars.
- If the images from a camera or a memory card in a card reader are displayed in the browser, you can select the import options at the bottom right of the browser.
- In the **File** menu, **Browse Recent** allows you to open one of the last used browsers via a submenu.
- If you click and hold the Dock icon, a menu with GraphicConverter functions appears.
- All sizes are available for the Apple Touch icon upon saving. Select the format: **Apple iOS Icon Set** and click **Options...**
- Command-Option-Tab switches to the next window.

### *New in GraphicConverter 7.3*

- Option for enlarging small previews added.
- Option to display hidden files in the browser added.
- Option to display all files except for RAWs in the browser added.
- Option to disable anti-aliasing for text added.
- When opening an image from the clipboard with Command-J, you can chose whether the image should be opened as TIFF or PNG.
- Option to reload the file list at the end of a slide show added.
- Copy transparent with background color option added.
- Context menu command for deleting images from the drop area added. Backspace cannot be used as it deletes the image file.
- Improved functions
- A warning message appears if more than 10 files are opened from the browser.
- When the **Search and Replace Color** dialog is open, you can click the image to select the colors.
- The **Move to Folder** command no longer stops the slide show.
- Memory and color info in the information palette improved.
- The **Number of files** and **Zoom level** display details have been added to the slide show.
- Exif tool updated
- Backspace and Delete can be used during a slide show.
- The preview picture of films is removed after 10% of the film.
- Print dialog greatly improved.
- A selection is moved by 5 pixels with Shift + s.

## **New in GraphicConverter 7.3**

- Support for macOS 10.7 Lion (autosave, fullscreen mode)
- The folder *GraphicConverter* with color profiles and saved batches etc. was moved as a preparation for macOS X 10.7 Lion from:  
~/Library/Application Support/GraphicConverter

to:

~/Documents/GraphicConverter

Please note: This folder was moved back to the former location in GraphicConverter 7.3.1 (see below in the paragraph on versin 7.3.1)



- XMP-files of RAW files can be copied into the RAW-files. This makes sense for further processing in other programs which are able to process RAW-files with XMP data inside.
- **Copy as data URI** in the submenu of **Edit / Copy** copies the picture content in Base 64 coding to the clipboard. This makes sense for small pictures in HTML-Code of web pages or HTML e-mails as the data has not to be read from the web server to display the picture.
- Import and Export of HTC splashscreens (\*.rgb565) added.
- Preference for display of start dialog in case it had been disabled.
- **Please note: This feature is no longer available in GraphicConverter 8 or newer as color palette technology is not possible in Cocoa programming environment.** Use **Picture / Colors / Edit Color Table** on grayscale and palette pictures to color them with custom colors. Define a start and an end color by clicking the first or last color and enter the values for red, green and blue. Click **Create Gradient** and **OK** to color the picture.
- AAI Import added
- The preview in the right hand section of the browser is normally displayed from soft to sharp. To avoid that disable **Preferences / Browser / Preview / Show cached preview first**. The preview will be displayed a little later but sharp from the beginning.
- More presets in **Picture / Size** submenu for web designers.
- Shortcut Command-Shift-O for open with program in browser added.
- The dialog for editing color palette displays unused colors by a black field with a small red square in the upper left corner. You can ,for example, click one of the fields to define a color for text you want to add.
- Pictures can be exported to Outlook 2011.
- PDS import improved
- DCM import updated
- Core Image add an alpha channel now.
- Undo for color profiles.

## **New in GraphicConverter 7.3.1**

- added option to select dimension of picture information
- added option to ignore previews in resource fork
- added option to disable auto save and versioning on Lion
- The folder GraphicConverter containing profiles and saved batches etc. was moved back to the Library folder in the user's folder. You can open this folder with **Show Support folder with Finder** from GraphicConverter's Help menu. If this is not possible

you do not have the permissions needed. In this case go to the Finder and open the folder with **Go / Go to folder....** Enter the path:

~/Library/Application Support/GraphicConverter

- added option reduce to printer resolution
- display of location data in gps window added
- action to transfer panasonic location data to IPTC/XMP added
- option to darken unselected parts of an image added
- added action submenu item to the browser context menu
- reintroduced Fullscreen display command under Lion
- added shape option "Fill with background color and frame with foreground color"
- added option to write rating into extended file attributes
- Windows ICON export improved
- photoraw import updated
- multipage preferences added
- moved support folder back to the Library subfolder and added to the help menu a command to access the folder (because it is hidden on Lion)
- support folder depth in convert & modify enlarged
- display of selected items added to browser
- 'O' key added during slide show for editing
- support for '/' character during renaming in the browser added
- added shortcut for "select existing"
- added support for more Exif tags

## **New in GraphicConverter 7.4**

- The new 3D formats JPS, PNS and MPO can be opened and saved. JPS is a 3D version of JPEG format and PNS is a 3D version of PNG format. MPO stands for Multi Picture Object. MPO images have a similar structure to a GIF animation. MPO files are, however, concatenated JPEGs with additional metadata. JPS and PNS formats use Cross Eye display that displays two images next to each other on computer monitors. If you want to see the 3D effect, you can try to look at the images cross-eyed so that your right eye looks at the left-hand image and your left eye looks at the right-hand image.

Another possibility to view 3D images on a computer monitor is to convert them into **Red/Magenta** or **Red/Blue Anaglyph** via the **Effect / 3D** menu. The two images have different color coding and are copied to an image. You need a special pair of glasses to

view them. The disadvantage of the method developed in Leipzig by Wilhelm Rollmann back in 1853 is that the colors are not displayed realistically.

On modern 3D-capable televisions, JPS, PNS and MPO files are displayed as three-dimensional images with acceptable colors because the two individual images are displayed, for example, alternating in quick sequence or with different polarisation. Special shutter or polarisation glasses ensure that the right eye only sees one image and the left eye only the other one.

The submenu under **Effect / 3D** allows you to convert the right/left display of an MPO file with **Convert two Images to one Image Side by Side**. This conversion is automatic if you open an MPO file and save it as a JPS file.

Use **Mark Image as 3D left and right Image** to set an internal mark just for GraphicConverter, which enables the 3D functions. This is useful for images that are not recognised as 3D on the basis of their format.

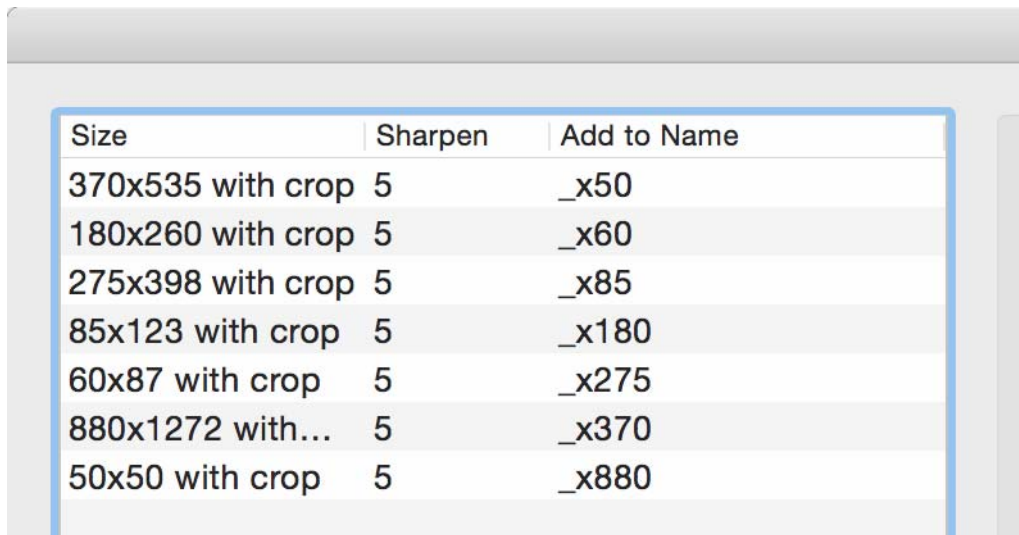
The small marks **R** and **L** that appear at the top of the image are not saved in the picture itself and are only used for orientation.

Use the options for swapping **right and left** if an image is not displayed correctly on a 3D television.

- Import of liff and stv format added.
- To also display the pictures from subfolders in the browser at the same time, select **Show in Flat View** from the submenu. This option is only available if you right-click or Ctrl-click a folder in the middle area of the browser.
- Animation files, in which the color channels R, G and B are three separate images, can be converted into a normal picture with **Effect / Channels/Frames / Convert Animation to RGB image**.
- Display of pixel size and resolution added (as option) to the browser thumbnail view (**Preferences / Browser / Thumbnails**).
- Added search option for camera model. By pressing Command-F in the browser, you can display a search window where you can select **Name / Model** in the first pop-up menu.
- Color profile verification added.
- In the **General / Display Content** section of the **Preferences**, you can select a color blend for the area between the image and the window frame by selecting a start and end color which run into each other. If you want a solid color instead of the blend, select the same color in both color boxes.
- You can rename folders via the context menu on the left-hand side of the browser and also create new folders.
- You can protect and unprotect files via the context menu in the middle area of the browser. The Finder tag is used for this and not the new versioning technology from

Lion.

- In the **Preferences** under **General / Display Windows**, you can specify that the toolbox follows the main window.
- On the left-hand side of the browser, you can switch to the neighboring folders with the up and down s. The right and left s open and close the current folder in the file tree. You can use the Tab key to switch to the middle area of the browser so that, for example, you can select filenames for editing with Return and Enter or open files.
- The **Move Folders** now have their own tab in the preferences.
- In the Convert dialog, a **multiscale** is available above the pop-up menu that you can use, for example, to convert a product picture into several sizes for web shops in one step. The possibility of defining not just up to eight target sizes, but up to 20 is new. If you want to save a target size in an automatically generated subfolder, enter the name of the folder in the **Add to Name** box followed by a slash and the format suffix.



Size	Sharpen	Add to Name
370x535 with crop	5	_x50
180x260 with crop	5	_x60
275x398 with crop	5	_x85
85x123 with crop	5	_x180
60x87 with crop	5	_x275
880x1272 with...	5	_x370
50x50 with crop	5	_x880

- Changed shortcuts for rotate left and right to the default shortcuts on macOS X:  
Rotate right - Command-R (was Shift-Command-R)  
Rotate left - Command-L (was Command-R).
- Added erase text background option. Double-click the text tool in the toolbox to open the dialog for the **Erase Background** option.
- Added import of xmp metadata from pdf.
- Optimized fetching of exif data in the browser.
- Added automatic rename option for dicom files. You will find this option in the **Rename** dialog that you open via the **Action / Misc** pop-up menu in the browser toolbar. Select the **Specials** tab. At the very bottom, you will find **Format Specific Options: Add time code after name for DPX pictures** and **Add patient id and date for DICOM pictures**.
- Minimum spacing in browser view reduced.
- DICOM import of 16 bit grayscale lossless compressed images with only 12 used bits

much enhanced.

- IPTC import / export can transfer private tags. The IPTC standard covers 255 fields, of which not all are occupied. The free fields are used for individual content by some programs. These fields will now be read upon opening and written to upon saving.
- Display of iptc tags in list view of browser enhanced.
- Added format options to toolbar as an option.
- Display speed of small jpeg thumbnails in the browser improved.
- In the **Preferences**, you can choose to display the rating with stars in the **Browser / Thumbnails** section.
- During the slide show, you can call up the dialog for renaming the current file by pressing the E key without any further keys.

## **New in GraphicConverter 7.4.1**

- In the drop area's context menu the command **Copy Images to...** has been added. You can use it to copy the pictures of the drop area to a folder. **Copy Images to with Index** adds an Index like for example 1, 2, 3 etc. to the file name.
- If a picture contains geo data you can add the name of the nearest town and the country name to the respective IPTC fields with **Reverse Geocoding** from the Geo menu (red icon in menu bar).
- In the pop-up menu of **Convert & Modify** select **Convert HPGL to PDF (vectors)** to create vector PFD files from HPGL files in order to keep the file size small.

## **New in GraphicConverter 7.5**

- Xe847 filter for correcting colors and brightness added to the **Filter** menu.
- If a picture contains a valid web address like, for example, <http://www.lemkesoft.com> in the URL box of the IPTC information, the additional function **Open Copyright URL in Webbrowser** will appear in the context menu of the open picture allowing you to display the corresponding Internet page in the Internet browser.
- You can save the pictures contained in an open multipage TIFF image separately by using **Split Multipage TIFF into TIFFs...** in the picture context menu.
- The **Find and Replace Colors** function now displays the color table for palette pictures.


## New in GraphicConverter 7.6

- Under **Picture / Highlights and Shadows ...**, the light areas of the picture can be darkened and the dark areas of the picture can be lightened. Use this function sparingly. It is particularly suitable, for example, for indoor photos taken without a flash or pictures with faces that are too bright.
- You can make color corrections under **Picture / Color Balance ...**. This function is particularly suitable for removing a color cast from a picture.
- **Picture / Histogram Equalization** allows some pictures to be optimized. The function smoothens the histogram and can increase the contrast and saturation gently.
- Added metadata tab to slide show preferences; fontsize, color and metadata (General, IPTC and Exif) can now be chosen.
- In the **Preferences** dialog you can now search for an option.
- The Page Up and Page Down keys now use the system setting for natural scrolling under macOS 10.7 and later.
- Network scanners are recognised during scanning with the Image Capture program.
- With **Picture / Alpha Channel / Create from Embedded Path**, you can create an alpha channel from a path stored in the picture. This function is also available as a batch.
- The **Picture / Colors / Change to Sepia** function is now also available as a batch.
- The settings document and the folder with batches etc. can be displayed in the Finder via the Help menu since they are located in the library that is no longer displayed under macOS 10.7.
- The pre-installed **Xe847** plug-in can be used via the **Filter** menu for color corrections. The filter Xe847 Automatic is free but has no dialog for adjustments. You need to purchase a license for the filter **Xe847 ...** with dialog which will also cover the **Pure Carbon** plug-in that you can use to fine tune the contrast and brightness of different grays during black and white conversions. Drag the control ball from the center towards the color on the edge of the circle that you want to filter the picture with. For example, drag the ball to the yellow area to achieve the same effect as a yellow filter on the lens.
- The names of the alpha channel options have been improved.
- The option for printing all pictures from multipage image files has been added to the dialog for printing catalogs.
- Numerical sorting is now used for switching to the previous or next picture.
- In **Preferences / Slide Show / General** under **Keyboard**, you can select with which number keys you want to set labels or ratings. It is also possible to use the number keys to move files to the sort folders. In this case, you can set labels and ratings using the context menu.
- BLP format: If you need to mirror vertically after opening you can select **Mirror**

**vertically in Preferences / Open / Image Formats / BLP.**

- Support for new French manual added.
- Russian translation added

## New in GraphicConverter 7.6.1 and 7.6.2

- Existing alpha channel not displayed in the browser preview.
- **Picture / Equalizer** allows you to set the brightness for highlight, medium and dark tones separately in nine levels.
- In the dialog for the IPTC data, you can enter an address with URL and e-mail address on the new **Contact** tab. You can open this dialog for an open picture and for one or more selected pictures with Command-I or via the **File** menu.
- Under macOS 10.7, you can browse through the **Versions** of a picture.
- If you edit a picture in Adobe Lightroom, the changes will not be applied to the original file at first, but instead will be written first in the Lightroom database as instructions like, for example, "Brightness +18". You will need to export the picture if you want to apply the changes to it. In Lightroom, the instructions can, however, also be written in the XMP data of the picture (Metadata / Save Metadata to File). If you are working with JPG files, the XMP info will always be written to the picture file. Since some RAW formats do not support XMP data, the XMP info is written to a file with the same name and with the extension .xmp. If you display a JPG or RAW image with a separate XMP file that contains instructions in the XMP data in the Browser with GraphicConverter, this will be indicated in the Browser preview by a symbol:  We recommend exporting this kind of picture from Lightroom to begin with, unless you want to edit an unedited file with a program other than Lightroom or ignore the instructions.
- Under **Preferences / Slide Show / Misc, Tiled display** allows you, for example, to display small pictures tiled to check the effect as a background picture for a Web site.
- If you start a slide show with **File / Slide Show ...** or Command-D, the file selection dialog opens where you can select which picture the slide show should begin with. You can also select a random order.
- During a slide show, you can zoom into and out of the picture with the trackpad by moving two fingers apart or together.
- In the pop-up menu for the text tool fonts, the text is displayed with its own font to make selection easier. The text toolboxes open when the text tool is selected.
- When unskewing, the handles can be set to the outermost corners of the pictures with Option-Delete. Control-Delete returns the handles to their initial position.
- On the **Keywords** tab in the IPTC dialog, the number of keywords that have already been entered is displayed at the top right. This is useful if you prepare pictures for agencies that require at least 40 keywords, for example.

- Via the context menu, you can now use **Copy Images to...** and **Move Images to...** to copy or move the selected files to a folder that you select with the file selection dialog.
- When printing a catalog, you can select the **Two-Sided** option to swap left-hand and right-hand margins. On right-hand pages, it is best to make the left-hand margin smaller than the right-hand margin.  
You can use **Create Multiframe Previews for Movies** to print a preview with four pictures from a movie instead of the normal preview.
- The new **Windows Theme Pack** container format can be opened.
- A workaround has been added for a Lion call-up when displaying icns pictures due to a bug.

## **New in GraphicConverter 8.0**

- Backend completely re-programmed to support 64-bit.
- Sandbox is supported since it is prescribed for Apple's Mac App Store and increases the security of your data. A version without Sandbox technology is alternatively available from [www.lemkesoft.com](http://www.lemkesoft.com).
- You can open pictures larger than 16,000 x 16,000 pixels.
- cpbitmap format can be opened.
- In the preferences, you can choose to display the elapsed time since the start of a slide show.
- cpbitmap format can be opened. This format is used by iOS devices like the iPhone for their start screen and background picture.
- If you open a JPG picture in FLIR format, you can display an additional saved grayscale image that shows the heat distribution via the context menu for an open picture using the metadata. These files are written by infrared cameras.
- The new **Scale to Size with Crop** batch allows you to define the size of the target picture and select whether the source picture should fill the complete area, which may cut off some edges, or whether the source picture should only be scaled to fit into the area, in which case the areas of the target picture that are not filled will be filled with the selected color. You can use this function, for example, to fit rectangular pictures into a square so that they look like framed slides.
- The six cubemaps pictures can also be displayed when dds files are opened.
- In the browser, you can display all pictures or just the pictures rated with 2, 3 or 4 stars via the **Sort:** pop-up menu. If you only want to see the pictures with 5 stars, you can select **By Rating and Name** as the sort method instead and the pictures with 5 stars will be sorted at the start of the list.
- In the context menu over the preview pictures in the browser, you can assign an Exif date that is interpolated from the existing Exif dates of individual pictures in the series to the selected pictures with **Actions / Metadata (Exif, IPTC, ...) / Interpolate missing**



**Exif date.** This is useful if, for example, you have scanned slides and have entered the date or even the time of a birthday party in the Exif data for individual pictures.

If, in our example, the first selected picture has January 1, 2011, as the date and the last one has December 31, 2011, and, if there are 363 pictures inbetween, one day of the calendar year is entered in each picture in series. If individual pictures inbetween contain a date, the pictures between the two pictures with a date will be interpolated.

GraphicConverter calculates the time period in seconds and divides this value by the pictures inbetween. The result is calculated into days, hours, minutes and seconds so that a time in the night may be set for pictures that were taken during the day. As you see, this is just a helper tool.

- On import of a WMF picture you can select the resolution
- During slide show page up and page down key will go to the previous or next picture or video. If the slide show is in random mode these keys go to the previous or next picture in normal sort order.
- In the Multiscale Images dialog you can save and open the settings. You can find the dialog in the pop-up menu of Convert & Modify. With this dialog you can create many variants of a picture in different sizes as for example necessary for web shops.
- Hold the option key to move the right or the upper borderline of a selection with the s left and right or up and down. Use the command key to move the left or the lower borderline. Hold the shift key to move in steps of five pixels.
- If you want to insert a selection of a certain size with the mouse, select the **Predefined** tab in the dialog of the selection tool and enter the desired size in pixels. Click the place in the picture where the upper left corner of the selection should appear to insert the selection.

## New in GraphicConverter 8.2

- In the Preferences, you can specify under **General / Map** whether the current position where the computer is located should be displayed.  
**Limit Number of Pins to 100** allows you to avoid speed problems during display. You can disable use of Google Maps so that generic maps are displayed for which an Internet connection is not required. This is recommended, for example, when you are travelling and do not have an Internet connection or if you do not want to receive data for reasons of cost.
- macOS 10.7 Lion now only supports the Carbon library in 32 bit which is why pictures with less than 8 bit total color depth are always converted into 8-bit pictures upon opening. If a picture only uses the colors black and white, GraphicConverter will, however, save these pictures automatically with a color depth of one bit.
- PICT images can be opened. With some images, there can be slight quality losses depending on the image content. We therefore recommended converting all PICT format images into PNG format. Start GraphicConverter in 32-bit mode for lossless conversion. In the Finder, click the GraphicConverter program file and call up the information dialog with Command-I by selecting 32-bit mode before you start GraphicConverter. Do not forget to return to 64-bit mode after the conversions.
- GraphicConverter is signed for Gatekeeper. Under macOS 10.8 Mountain Lion, you can specify in **System Preferences / Security & Privacy** that only programs with Gatekeeper signature can be installed to increase protection against malware.
- Photoshop-compatible plug-ins can be used if you do not need Photoshop functions. Install the plug-ins under the path ~/Library/Application Support/GraphicConverter/Plug-ins.
- Under **Effect / Channels/Frames**, you can use **Split Red into Same Window** to make the red channel the picture content. The content of the channel is displayed as a grayscale image. The other channels are deleted. **Split Blue** or **Green...** display the respective channels. This is useful, for example, to make scanned-in ancient papyri easier to read with **Split Red**.
- In the Preferences under **General / Misc**, you can disable the **Use decimal style for Numbers in Dialogs**. The number 1,000.50 will then be displayed as 1000.50.
- Text can be inserted from the clipboard using the menu or Command-V when you use the text tool.
- In the **Preferences** under **Browser / Thumbnails**, the **Date Style** can be set long or short so that it fits under large or small thumbnails.
- In the **Preferences** under **General / Edit**, you can use **Disable: Double click for cropping selection** to specify that a double-click in a selection does not crop the picture. Cropping is then only possible with Return.
- In the Preferences under **Slide Show / Misc**, the **Screen Mode: Convert 3D to 1080p frame packing for display** option can be used to display 3D pictures that contain picture parts placed next to each other, for example, in three dimensions on certain 3D projectors. The two images contained are placed on top of each other. Your Mac's

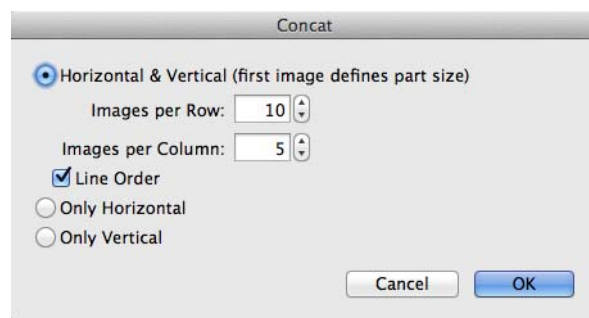
graphics card should be forced to use a resolution of 1920 x 2205 with the program Switchres ([www.madrau.com](http://www.madrau.com)). The format has the width of full HD and double the height plus 45 pixels for an intermediate bar because the two pictures are on top of each other. The 3D projector recognizes the format and turns it into a 3D picture.

**Effect / 3D / Convert to 1080p Frame Packing** allows you to convert 3D images into the Packing format.

- **Effect / 3D / Swap left and right Image** allows you to swap the images in 3D pictures. Use this function if 3D pictures are not displayed correctly.

**Effect / 3D / Convert to 1080p Interleaved** allows you to convert 3D pictures into Interleaved or Interleaved 1080p as some projectors and monitors require this.

- With **Concat** in the Convert and Modify dialog, you can define how images are arranged:



- In the slide show, you can zoom in and out with the plus and minus keys.
- In the Print dialog, you can choose whether the whole picture or just a previously defined section should be printed.
- In the Preferences under **General / Edit**, you can specify that the cursor keys move the selection without an additional key.
- If duplicate filenames will result from renaming, the corresponding filenames will appear red in the list beforehand. If, for example, you delete the numbers from filenames like DSCN1234.jpg and DSCN1235.jpg, DSCN.jpg will be left in both names, which will lead to a name conflict.
- Under **View / Grid Options...** you can select a maximum of 1024 pixels as the spacing for gridlines. This maximum has been increased for large pictures.
- The browser can display pictures that you have uploaded at [www.flickr.com](http://www.flickr.com), [www.locr.com](http://www.locr.com) or [www.plus.google.com](http://www.plus.google.com). Sign into the respective service via **Window / Accounts...** and confirm the access when the website opens if necessary. After signing in, you can select the respective service at the bottom left of the browser. Pictures from the Flickr photo stream need to be copied in sets first. These sets are displayed as folders in GraphicConverter.

If you are using Google+, an instant upload folder and a day folder will be displayed. You can use both services as an alternative to Apple's Photo Stream, which runs through iCloud and iPhoto. Open the camera app on your iPhone or other iOS device directly from the flickr app or the Google + app. From these apps, you can also select pictures in the **Camera Roll** belonging to the iOS app **Photos**. The apps are easy to use. Unfortunately the accompanying websites are rather complicated to use,

however. Please note that quick browsing of pictures from a web server in GraphicConverter is only possible with a fast Internet connection.

- If you take photos with your iPhone or another iOS device and have installed the latest version of the free Dropbox app, your pictures will be copied into the **Camera Uploads** folder in your Dropbox as soon as you have a wireless connection to the Internet. This allows you to synchronize your pictures on all devices without iCloud and iPhoto like with Apple's Photo Stream. To display the contents of the **Camera Uploads** Dropbox folder, select it like all others on the left-hand side of the browser. You will find the Dropbox folder in your user folder.
- In the dialog for IPTC document information, you can save the content of the dialog and open saved content by clicking the gears at the bottom left. Upon saving, the options **IPTC/NAA** and **XMP** are now available at the bottom of the file selection dialog. We recommend saving the IPTC information only in XMP format since this also includes the URL and Contact boxes and will probably be used more in future.
- GraphicConverter saves the thumbnails displayed in the browser in the RAM. They can then be displayed again without delays because they do not need to be recalculated. This can take a few seconds for each picture when the picture files are 30 or 80MB, for example. In the **Preferences** under **Browser / General**, you can specify how much RAM should be used for caching with **Memory usage for thumbnail generation**. This cache is deleted each time GraphicConverter is closed.

**Save cached thumbnails on disk** allows you to save the cached thumbnails in a database so that they are available when you open GraphicConverter again. The database is stored in the user folder under the path **Application Support / GraphicConverter / Cache**. If you modify the size of the thumbnails with the slider, the thumbnails will need to be generated and cached again. You can select the maximum size of the database. Once this value has been reached, the oldest thumbnails will be deleted and will need to be regenerated when the pictures are displayed again.

## New in GraphicConverter 8.3

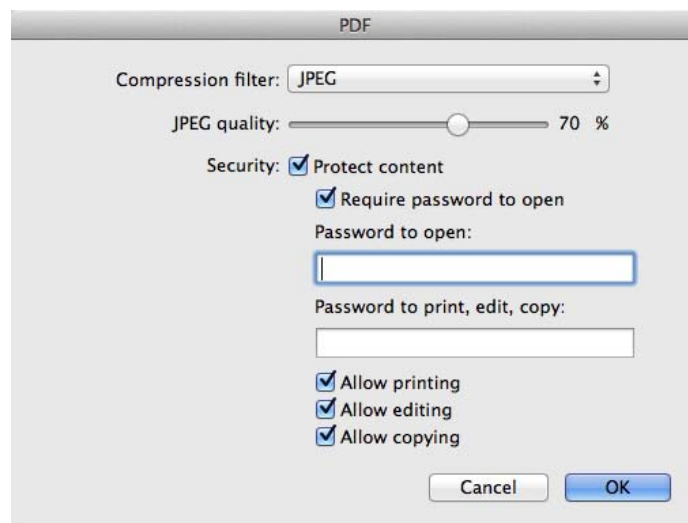
- The web service [www.locr.com](http://www.locr.com) is supported. You can open an account free of charge at locr and log on with your password in GraphicConverter via **Window / Accounts**. Then you can display pictures uploaded to locr in the GraphicConverter browser.
- From macOS 10.7.4, the Shared menu is displayed at the top right of the document window and at the top of the browser allowing you to directly upload pictures to online services like Flickr, Google+, Lockr or other web servers.
- If several monitors are connected to your computer, you can choose under **General / Display Windows** on which monitor the browser is opened and on which monitor new picture windows are opened.
- In the Preferences under **Browser / Edit**, you can specify with **Cursor navigation stop at first and last item** whether the cursor should stop at the start and at the end when you jump from thumbnail to thumbnail with the s or whether it should jump from the last picture to the first and from the first to the last.
- Export of old formats like PAC, OTA and PBM (mostly 1 bit) is supported again.
- If you drag a file into a browser window where a file with the same name already exists, a rename dialog will open.
- In the dialog for the import options, rotating according to Exif information can be selected for JPG pictures.
- In the option dialog for the operator, you can specify that images are not sent to the Trash with **Delete & Next**, but that instead they are immediately deleted permanently.
- If you work with Apple's image editing program Aperture, you can now access the Aperture library on the left-hand side of the browser.
- The Exif orientation tag is displayed in the browser thumbnails because GraphicConverter does not display non-rotated images rotated. If you forward these images, they will often be displayed unrotated on the recipient's computer. We recommend rotating images with an orientation tag using the **Rotate Depending on Exif (JPGs only)** function. If you import images from a camera or a card into GraphicConverter, we recommend selecting the **Rotate JPGs upon Exif** option. Click the camera or card on the left-hand side. Buttons for importing are displayed at the bottom right of the browser window with the Options button.
- Notifications are supported from macOS 10.8.
- If you want to apply the GPS data from one picture to other pictures, you can copy it to the clipboard with **Edit / Copy / Copy GPS for Paste** and then add it to the other pictures with **Edit / Paste / Paste GPS**.

## New in GraphicConverter 8.3.2

- The Action menu has been added to the menu bar and can also still be opened via the

corresponding icon in the toolbar. Click the gear to open the menu. The functions it contains can also be found via the search box in the Help menu.

- If at least one term is entered in the object description (Caption) and in the keywords, an IPTC icon will appear above the thumbnails of the respective pictures in the browser.
- In the **Preferences**, you can specify in the **Browser / Edit** section that a confirmation query should appear before pictures are deleted with Backspace or Delete.
- PCD format of Kodak photo CDs is supported in 32 and 64 bit.
- Effect / Channels/Frames / Convert Movie to Animation allows you to convert movies into an animation and then save them in GIF format.
- Password protection can be set when you save PDF files. Select **Save As ...** and then PDF as the format in the pop-up menu. Click the Options button and select ZIP or JPEG as the **Compression filter** to use the security options. Enter the password that will be queried upon opening and select whether **printing, editing** and **copying** should be allowed with a second password.



- Shadow: If your picture contains an alpha channel, the shadow will also be inserted there so that it is displayed transparently by programs like Safari. Select **Picture / Alpha Channel / Add** if your picture does not have an alpha channel yet.
- In the options for export as an HTML catalog, you can choose whether the text should be displayed above or below the pictures on the catalog page and on the page with the individual picture.
- LAB profiles are ignored when TIFF images are opened because corrupt profiles normally lead to the pictures being displayed completely black. You can disable this under **Preferences / Open / Image Formats / TIFF** so that the LAB profiles are used again for TIFF pictures.

## New in GraphicConverter 8.5

- The high-resolution Retina displays on MacBooks and other devices are supported.
- 16 bits per channel are supported for grayscale RAW pictures.
- The **Effect / Channels/Frames / Only Red (Green, Blue) in same Window** function is also available as a batch. You can use this function, for example, for images from an infrared camera that only contains information in the red channel. The other channels are discarded and you will see a grayscale picture.
- In the pop-up menu under Convert and Modify, **Extract Keywords** allows you to write all keywords from the selected pictures in an alphabetically sorted text file named keywords.txt. The file is saved in the picture folder and can contain all characters from the UTF-8 standard.
- In the Preferences under **Browser / Thumbnails**, you can specify that **XMP changes** are not indicated by a small icon with an eye. XMP changes are, for example, written into picture files, for example, by Lightroom or in a satellite file with the same name and the extension XMP if you save the optimizations, for example, the brightness, in Lightroom with Command-S.
- During the slide show, you can zoom into and out of the picture with gestures on a trackpad.
- Clicking the rotate icon at the top of a thumbnail opens a dialog where rotating can be done according to Exif.
- The rating for a picture can be selected in the Operator and in the slide show toolbar.
- In the **Preferences** under **Browser / Misc**, you can select a folder that is always opened when the program is launched.
- In the **Preferences** under **Browser / General**, **Use Exif Preview if available** makes GraphicConverter use any Exif previews present in the images for display in the browser.
- Old PictureClippings can be opened in 64 bit. These files can be created if you drag an image from a program onto the desktop.
- You can import comma-separated keyword lists from a file via the keyword palette. Click the gear at the bottom of the palette and select **Open....**
- Some older StartupScreen variants can be imported.
- Entry fields were added to many dialogs to enter and display the value of the regarding slider.
- **File / Slide Show with Find...** allows a slide show of all pictures matching search

criteria defined in the dialog opening.

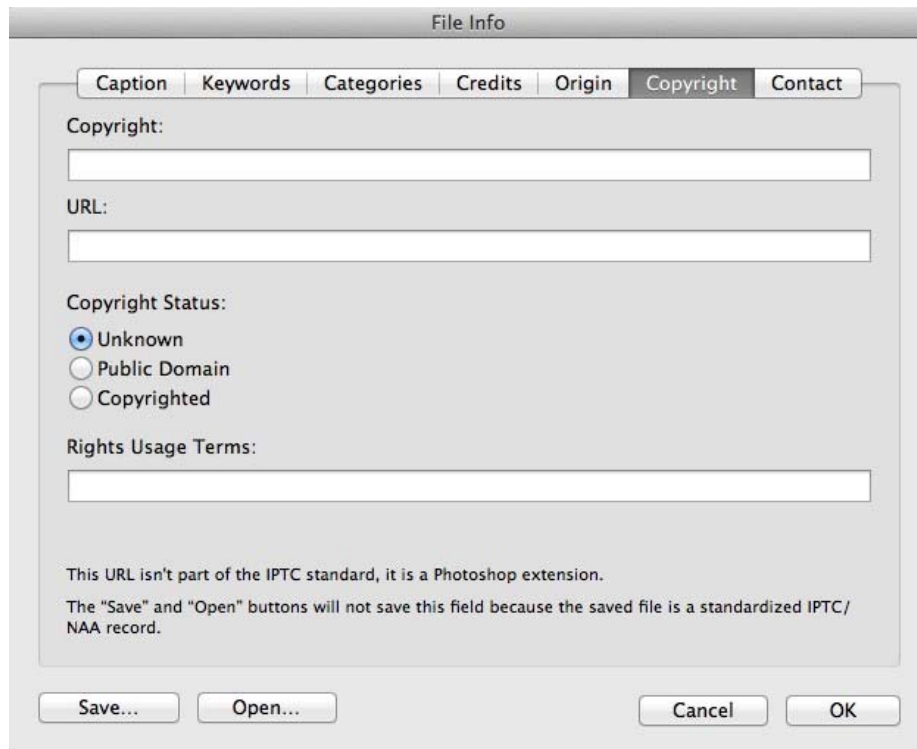


## New in GraphicConverter 8.5.1

- The hcp format can be imported. It is a screen shot format of windows computers.
- In **Preferences / Convert / General** you can select **Don't copy if destination exists** so only those files will be converted that do not exist in the destination folder. This makes sense if after a conversion you copy additional files to the source folder and do not want to find them in the list. In this case select all files and start the conversion again with this option on. GraphicConverter will now compare the file lists and convert only those files that have not been converted before.
- If you want to show the original of an alias in the Browser, select Resolve Alias from the context menu. The Browser will show the folder containing the original file.
- During slide show low resolution pictures are displayed with a high zoom depending on the display size if for example in the **Preferences / Slide show** the option **Always Fullscreen** is selected. To display especially diagonal lines not too rough it is recommended to select the option **Use B-Spline interpolation for upscale**. Edges in small pictures will smoother this way.
- In the **IPTC dialog** in the **Copyright** tab you can select the **Copyright Status** and enter the **Rights Usage Terms**. These options have been introduced by Adobe Light-



room.



- In the Preferences part **General / Misc** you can disable Support for Spotlight Comment. It is recommended to disable this option as browsing will be faster this way. Spotlight Comments are not used much any more.
- You can open the PDF file **Performance Optimisazion Help** from the Help menu which provides information on how to increase the speed of browsing.
- To export only files containing a word like „Tree“ for example or the file extension „jpg“ you can use the new batch Do **Export If Name Contains**.
- The command get / set file iptc via AppleScript now supports the field „contact“.

## New in GraphicConverter 8.5.2

- In the context menu of the thumbnails under **Actions / Metadata (Exif, IPTC, ...)** you can use **Copy Exif-Tags to IPTC Caption** to copy single Exif content into the IPTC caption.
- In the **Preferences** part **Browser / Misc** you can select **Double click: Open Folder in new Browser** to display the content of a folder in a new browser window.
- In the **Preferences** part **General / Edit** select **Cursor right / left without command for next / previous image in folder** to be able to go to the next or previous picture in a picture window without command key. Directly under this option you find **Delete for Delete and next image in folder**. Enable this function if you want to use the delete key without a warning dialog to put

pictures into the trash.

- In the **Preferences** part **General / Display Windows** select **Resize Window after scale / zoom** to be get the window fit the picture after scale or zoom.
- In the **Preferences** part **General / Misc** select **Recent Documents: Clear upon quitting** to delete all entries from the list of recently opened documents upon quitting GraphicConverter.
- When you create a catalog as a picture you can now use **Batches**.
- If you select **Moov - QuickTime Movie (\*.MOV) in Convert & Modify** you can create a slide show from several selected pictures. We added the feature for **Framerate**.
- In the **Map** tab in the lower right corner of the browser there is an entry field for finding a place. The place will be displayed in the middle of the map and the geo data will be added to the selected images. Zoom into the map as much as necessary to position the needle exactly with the mouse. You can slide the map with the mouse by holding the mouse clicked. Once you have scrolled the map you can get the needle to the mouse position by holding the mouse clicked for two seconds. Every time you move the needle the geo data in the selected pictures get updated.

## **New in GraphicConverter 8.5.3**

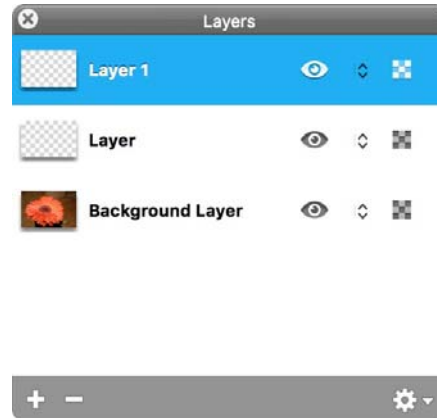
- You can open the new palette for IPTC Keywords with **Window / Keywords**.
- When you print a picture larger than the paper in the printer GraphicConverter prints several pages you need to stick together. In **Preferences** part **Print / General** you can enter a value for **Overlap Width**.

## **New in GraphicConverter 8.6**

- In GraphicConverter, you can now use layers in pictures. Layers are like overlaid transparent films. It is not yet possible to save the layers. You can use layers, for example, to produce collages from several pictures. Select **File / New Picture / New...** and create a new picture that is large enough to accommodate your content and has the right aspect ratio. Select a suitable color for the background, for example, beige, and color in the background with the fill tool.

Open the layers palette via the Window menu and insert a new layer with the plus

sign.



Copy the content of the other picture by opening it, selecting everything with Command-A and copying with Command-C. You can also select part of the picture, for example, with the lasso. Insert the copied content into the new picture with Command-V and position it as required. Continue with further layers and content until your collage is finished. To move the content of the layers again, click the required layer on the layer palette.

You can change the order of the layers with the mouse. This is useful if there are overlaps.

Clicking the eye symbol on the right of the layer palette allows you to hide the content of the respective layer.

Clicking the gear at the bottom right of the layer palette takes you to most functions of the Layer menu:

**New Layer** creates a new layer.

**New Layer from Selection** creates a new layer containing the current selection. This is useful if, for example, you have selected a vase to use it on another layer.

**Duplicate Layer** creates a new identical layer.

**Delete Layer** deletes the selected layer.

**Hide Layer** makes the layer invisible as does clicking the eye symbol.

**Crop Layers to Canvas** is useful if a layer has become larger than the other layers, for example, due to scaling.

**Bring to Front** moves the selected layer to the top of the sort order.

**Bring Forward** moves the selected layer one level up.

**Send Backward** moves the selected layer one level down.

**Send to Back** moves the selected layer to the bottom.

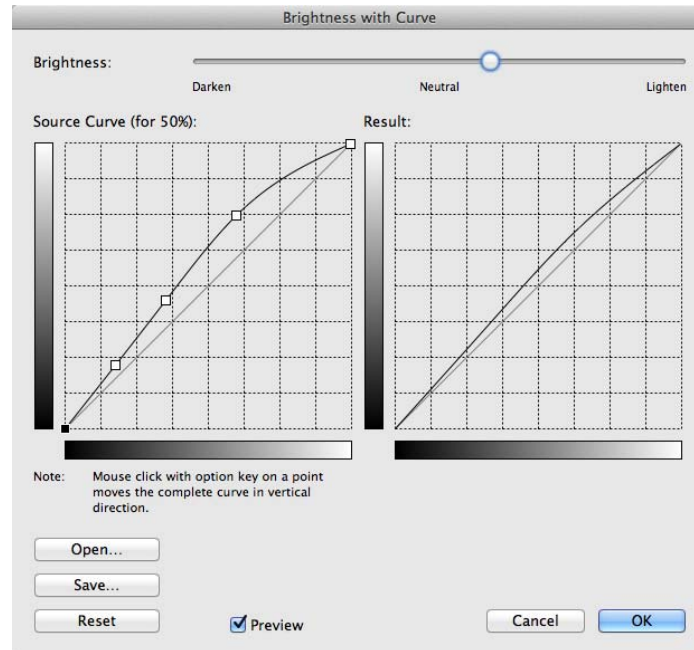
**Merge Layers** makes one layer out of the selected layer and the layer below it.

**Merge Visible** makes one layer out of all visible layers.

**Merge All Layers** makes one layer out of all layers.

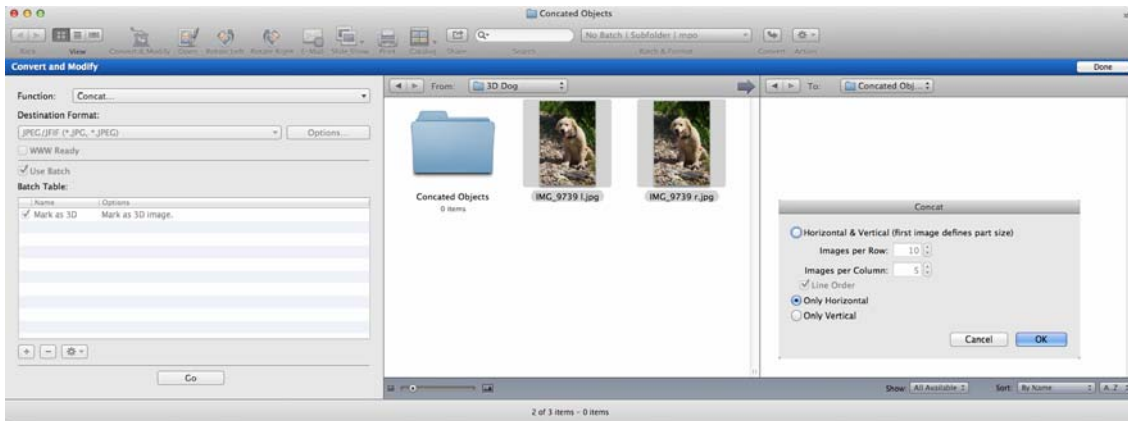
- The **Picture** menu features the new **Brightness with Curve** function. This function allows you to brighten the highlights less when you brighten a picture so that the picture does not become dull. The curve can be defined on the left and, in the case of

our example, needs to remain close to the straight diagonal in the lower area and move upwards away from the diagonal line in the upper area. You can get a standard curve by clicking **Reset**.

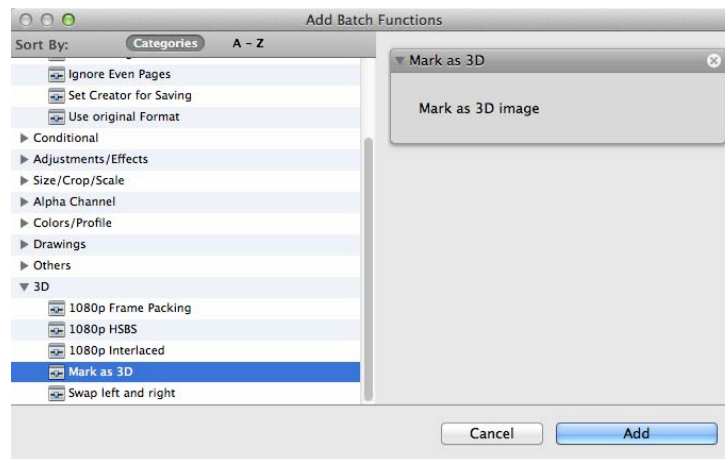


- In the Preferences under **Browser / Thumbnails**, you can use **Filmstrip preview** to specify that videos are shown with a filmstrip at the top and bottom in order to distinguish them better from photos.
- During a slide show, you can display and hide the list of files with the Tab key.
- In the browser, you can switch to previously opened folders and back with Command plus the left and right s.
- When printing, the file name can be printed without extension. Select the corresponding option under **Preferences / Print**.
- **Mark as 3D** is then available as a batch in the **Convert & Modify** dialog. The marking is only required internally in GraphicConverter in order to distinguish 3D pictures from normal pictures. If you have two individual pictures that you want to join to make a 3D picture, you can create a file in which the left picture is on the left and the right picture is on the right by using the **Concat...** function in the Convert dialog. Save the picture in a subfolder to keep things tidy. You can create the subfolder via the context menu.

After clicking **Go**, a dialog appears where you should select **Only Horizontal**.

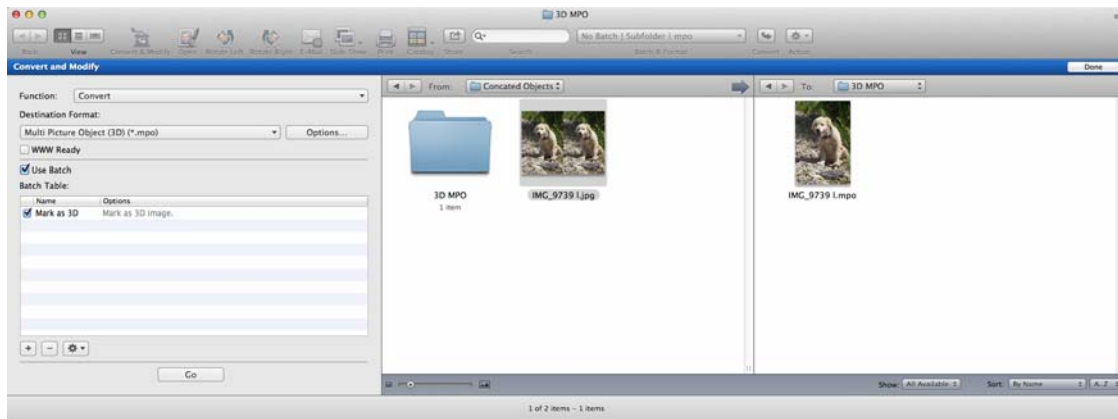


In the second step, select **Convert** and select the format **Multi Picture Object (3D) (\*.mpo)**, which will only be displayed if you select **Show All** and open the pop-up menu again. In addition, select the **Use Batch** check box and add the **Mark as 3D** batch by clicking the plus sign and by double-clicking the batch under the **3D** section of the dialog that opens or by dragging it into the right-hand area.

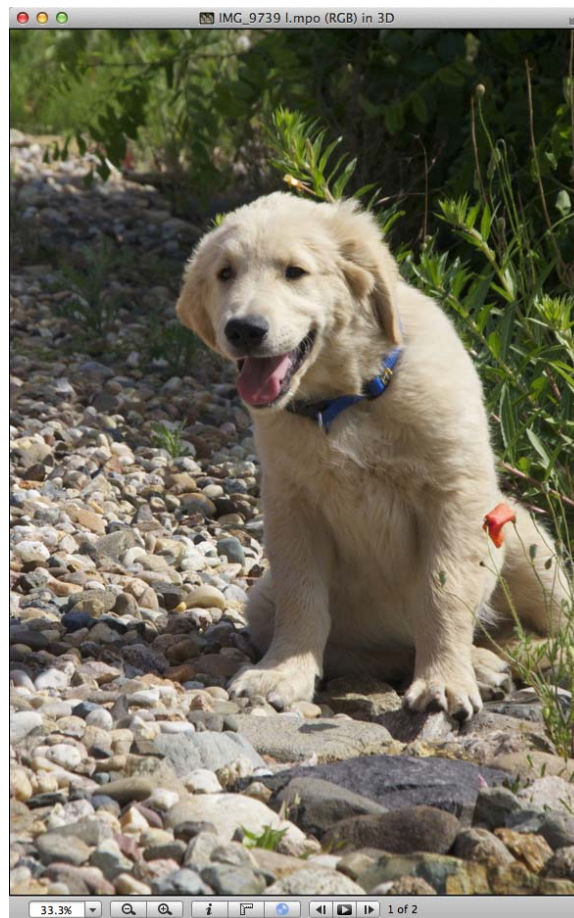


Select the newly created file with the two pictures next to each other from the subfolder and open or create a destination folder in the right-hand column. Click **Go** at the bottom left to start the conversion. The 3D file will be created in the destination

folder.



Open this file to check it and click the triangle pointing right in the lower window frame to switch to the second picture. If the second picture appears, the conversion was successful. The MPO file is displayed in 3D on suitable devices.



- In the slide show you can use new shortcuts for temporary or permanent rotating and mirroring.

A	Turn temporarily counterclockwise (picture file will not be changed)
S	Turn temporarily clockwise (picture file will not be changed)
V	Mirror vertically (lossless for JPGs)
H	Mirror horizontally (lossless for JPGs)
F	Mirror temporarily vertically (picture file will not be changed)
D	Mirror temporarily horizontally (picture file will not be changed)

- The service <http://www.dphoto.com> is now supported.
- In the TIFF format options you can select **Premultiplied** or **Non Premultiplied** for the **Alphachanel**. Some versions of Adobe Lightroom can display **Premultiplied** correctly only.

## New in GraphicConverter 8.7

- Core Image filters are available as Actions.
- In the **Preferences / Open / Image Formats / PDF** you can disable **Antialiasing** for PDF and EPS files.
- You can insert content from the clipboard into the corners of a picture with functions like **Paste top left** from the submenu of **Edit / Paste**.
- Metadata is written in pictures in WEBp-format too.
- The OpenMeta-Standard is supported. The IPTC-Data is written additionally into a field in the extended file attributes of the macOS. Programms such as Pathfinder can read the data very fast. When the respective files are copied to another computer theses doubled data will not get passed. The picture files nevertheless contain the IPTC-data as they are always written into the normal IPTC field.
- You can add Keywords to a picture in the Browser by dragging Text Snippets onto it.
- When you save a picture that contains only two colours as a PNG, the file will be saved as a b/w picture with 1 Bit.
- When pasting into a picture the pasted part cannot jut out any more.
- **Multiscale Images** (in **Convert & Modify**) can save as PNG too.
- Import of RAW supports Bayer GBRG-order too.
- At importing RAW-streams from special devices 16 bit per channel are supported.

- When printing a catalog all metadata is printed in several lines if only one picture per page is printed.
- When exporting as 16-bit TIFF all metadata is kept as no longer Core Image is used but own routines instead.
- When you change color mode for example from RGB to CMYK the result is displayed immediately. In older versions of GraphicConverter you had to close the picture and reopen it in order to see the color changes. Converting always uses the profile selected in **Edit / Assign Profile...** You can open that dialog via **Picture / Mode** too.
- In the Slide Show you can press C key to show and hide the metadata defined in **Preferences / Slide Show / Metadata**.
- If you enlarge the picture with **Picture / Size / Canvas size...** or **Add/Remove Margins** you can select transparency for the added areas.

## **New in GraphicConverter 8.8**

- If a picture contains XMP Faces these will be displayed. With XMP Faces technology you can mark faces in pictures with a rectangle and you can assign the person's name for example. In GraphicConverter you cannot apply these marks yet. In the **Preferences / General / Display Content** you can disable display of XMP Faces.
- When you copy or move images with an XMP sidecar file in the browser these sidecar files will be copied or moved along with the picture file automatically.
- **Force Save All to...** saves all opened pictures to a destination folder. The pictures may be opened from different folders.
- In the lower right hand section of the Browser you can select whether to display **Files and folders** (means everything) or **Files** only.
- Photoshop-PlugIns are supported that contain more than one PlugIn.
- In the Browser, in Convert & Modify and in Slide Show you can sort by Exif date.
- If you have a GPX log file that is not continuous and you have pictures taken in the time where no GPS geo data was recorded, you may not wish to add GPS data to these pictures as it would not be exact but roughly calculated. In this case select **Apply GPX/NMEA Data to Selected Images without Interpolation** from the Geo menu (red symbol).
- If you copied the URL of a picture on a web page via the context menu for example you can open this pictures with **File / New / Image from URL using Clipboard**. GraphicConverter loads the picture from the internet and displays it in a new window.
- In catalog printing you can define the distance between picture and metadata.
- When saving in Photoshop format Exif data will now be saved too.
- In the **Function** pop-up menu of Convert & Modify **Copy Flat...** has been added. It allows to automatically rename and copy pictures to a destination folder. The name of



the next level higher folder will be added to the pictures file name. Additionally the text you enter in the dialog that opens will be added. **Digits** lets you define the number of digits that will be used. If you enter 6 for digits 3529 will be changed to 003529. This function is adequate for example to add pictures from an ultrasonic device to a data base.

- In Convert & Modify the name of the last opened or saved Batch is displayed for easier guidance.
- During Slide Show the I key opens the dialog for editing IPTC data.
- You can open GPX files directly from the browser with a double click. You do not have to open these files from the Geo menu any more.
- The erasor can be enlarged up to 50 pixels.

## **New in GraphicConverter 8.8.1**

- In the **Preferences** part **Open / Formats / PhotoRAW** you can select whether images are opened by Apple CoreImage, by ddraw or with CoreImage and only with ddraw if open with CoreImage fails. Depending on the camera type CoreImage uses automatic lens corrections whereat the images in most cases get cropped. If you want to avoid that crop by the automatic lens corrections select **Only ddraw**.
- The dialog **Effect / Gamma Correction** was updated as the color profiles have replaced the Gamma in formats like the PNG format. The Gamma Correction hardly makes sense but can be used as a tool to darken pictures and at the same time increase saturation. The changed gamma value is not saved to the file but calculated into the image.
- In the PNG format a gamma value could be saved by which the images were displayed with the same brightness under Windows and macOS. This technology has been replaced by the color profiles so the gamma options have been deleted from the PNG options dialog.
- In **Preferences** part **Slide Show / General** select the option **Reload if source folder content changed** if files copied to the folder should be considered as soon as possible. GraphicConverter gets change notifications with a short delay from the macOS and then loads the list again. If also not yet reported changes should be considered select **Reload even if list is unchanged**.
- If you change the IPTC-Data of a DNG- or NEF-File you can save these changes as XMP into the file if there is enough space.

## **New in GraphicConverter 9.0**

- The new features of Mavericks App Nap and Tags are supported, see p 14.
- You can edit images non-destructively with the Cocooner, see p 113.

## New in GraphicConverter 9.0.2

- In the Cocooner you can now use filters to display only pictures with a certain number of stars or a certain label.
- In the Browser you can sort files by date into subfolders. The files get moved. The subfolders are created automatically. What is new is the possibility to sort the files into subfolders, that have the date as name with the pattern YYYYMMDD. You can find the function in the context menu of the browser when you right click into the section of the previews: **Actions / Sort file(s) into subfolders / Date YYYYMMDD (flat)** at which „flat“ means, no further higher or subordinated folders are created. The function **Date** creates a Folder named after the year in which it creates a folder named after the month in which it creates a folder for the day in which the files are moved. The date is taken from the Exif data. If there is none, it will be taken from the IPTC data. If there is none too the date of the file will be used.
- In the Mac App Store version of GraphicConverter you can now register to receive upgrade offers from us.
- Files in snagproj format can be opened.
- In the dialog for the Exif data you can now enable or disable every entry field singly by a checkbox to not change all fields with every edit.
- If you have data in Microsoft's OneDrive (was SkyDrive) or in Amazon's Cloud Drive, you can display these directly in the browser by selecting SkyDrive or Cloud Drive in the left section.
- In Convert & Modify you can select **Combine Files with Same Index to PDF...** as **Function** in the upper left section to combine files with same pattern index into a PDF file. Such files result from sonographic devices in medical technology for example. If there is the number of the patient at the beginning of the file's name followed by a separating character, then for every patient a PDF file is being created.
- The commands **Forward in Browser** and **Back in Browser** now are separated in **Edit / Navigation** from the commands for scrolling.
- There is a short cut for **New Folder with Selection**: Command-Option-M.

## New in GraphicConverter 9.1

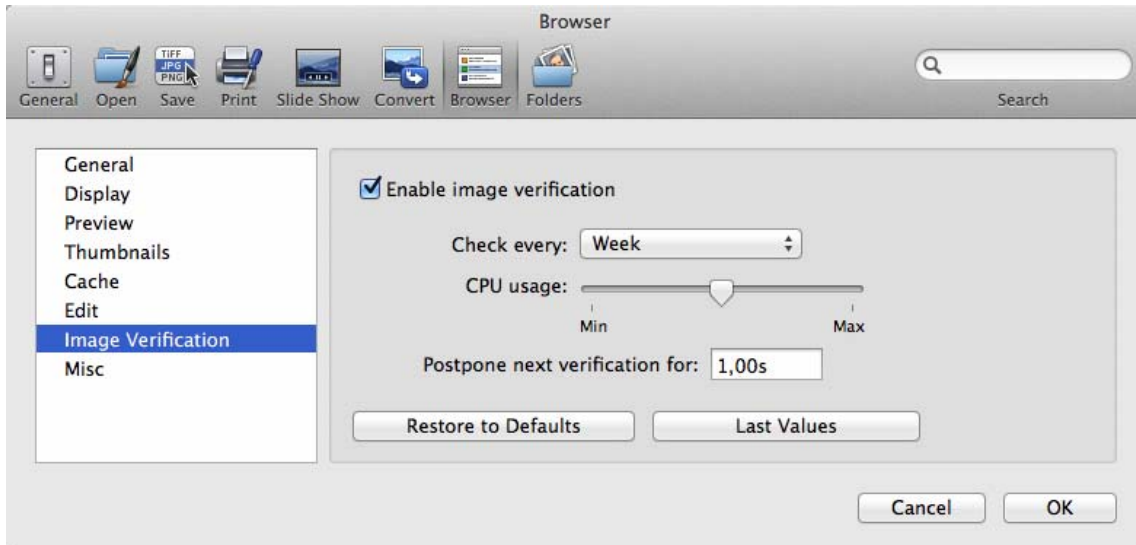
- **Effect / Average** sets the whole picture to the color that matches the average of all colors. This feature is available as a batch too.
- The format .422 is created by Magic Lantern can be opened. It is a RAW format. Magic Lantern replaces the firmware of some Canon DSLR cameras to add some functions. We assume no liability for using Magic Lantern: <http://www.magiclantern.fm>.
- In the **File** menu you can open the folders of Google Drive, Cloud Drive (amazon), Sky Drive (Microsoft), Dropbox und Copy.com. You need to install the free client software of the regarding service. GraphicConverter scans the user folder for the regarding

folder on launch. The folders must not be installed or moved to another location.

- **Send as E-Mail Attachment** is available in the File menu.
- In the Operator you can select **Fast Mode** under the controls to be able to move the controls faster. The preview can decrease in quality a little bit.
- Antialias now works for the pen tool too.
- Select picture content is available as a batch too.
- RAW files are marked in the browser „RAW“ so you can differ RAWs from other files easier. You can deselect this in **Preferences / Browser / Thumbnails / RAW text for raw files**.
- If you want to see the color of a label of selected pictures, select **Label in front of and after file name** in **Preferences / Browser / Thumbnails**.
- In **Preferences / Browser / Thumbnails** you can select **Color Mode** to display the color mode in the lower left hand corner of the thumbnails in the browser.
- During slide shows you can zoom in and out with the scroll wheel of your mouse.
- In the tool ruler of an open picture **Save, Undo and Redo** are available now.
- Renaming a picture will automatically rename a side car XMP file.
- Extracting the Exif preview of a JPG picture this preview will be saved with the file date of the source file.
- The preview of the filter Xe847 now considers the color profile.
- PNG pictures can be opened and saved with 16 bit per channel.
- A selection in a picture can be moved vertically or horizontally when you hold the shift key, not diagonally.
- In **Convert & Modify** pictures can be extracted from PDF files. Select **Extract Images from PDF** from the **Function** pop up menu.
- **Edit / Copy / Copy Foreground color as HTML** copies the foreground color as HTML-value to the clipboard. Analogly the background color can be copied.
- macOS saves the settings of the print dialog. If the settings are lost when printing again, select **Preferences / Print / General / Store printer driver settings in preferences** to save the settings in GraphicConverter's preferences. This may not work with every printer driver.
- When you copy or move a file in the Browser to another folder and in the destination folder is a file with the same name, you will be asked in a dialog whether the existing file should be replaced by the new one you copy or move. The dialog also offers the options **Stop, Don't Replace** and **Delete new File**. If you change the name in the edit field you can also select **Rename**. In the Preferences in the section **Browser / Edit** you can select **Duplicate Filename: Stop is default button** so the return key stops the process. **Don't ask and rename automatically** adds „Copy“ to the file name and when repeated additionally a number if the name of the file already exists in the destination folder.

## New in GraphicConverter 9.2 and 9.3

- In the Browser under the folder selection click the tab for **Image Verification** and drag a folder into the section to check all pictures in it for technical problems. Click the circle at the end of the line to see the status of checking and the result. Wrong file extension are not reported as long as the file is not broken. Remove folders from the Image Verification via the context menu.  
In the Preferences / Browser / Image Verification you can switch the verification on and off or select a time interval after which the check will be repeated.



If you are working with an older Mac you should decrease the CPU usage to be able to work on fluently. **Postpone next verification for** lets you select a longer interval between checking two files in case your computer should become slow during check.

- **Scale (Long Edge)** has been added as a batch. With this batch you avoid the effort to program a sequence of **If** and **Else** batches in order to scale portrait and landscape pictures at the same rate. Enter the desired value for the longer edge to scale portrait and landscape pictures at the same rate.
- In the **Rename** dialog in the **Specials** tab RegExLite has been added. RegExLite is a standard for renaming files with regular expressions. Open the Rename dialog via the Browser's context menu **Actions / Misc**.  
RegEx is also available in the dialog of **File /Slide Show with find** to let you find files that have a certain pattern in their name.
- If you receive a fax as a file it is normally displayed distorted as the horizontal resolution differs from the vertical. GraphicConverter corrects that automatically so your fax is displayed like it would have looked when printed by a fax machine. In **Preferences / Open / Correct & Change** you can disable this correction when a fax should be displayed without correction.
- If you want to know how many pixels show a certain color, option-click the desired color in the picture. A dialog opens in which the number of pixels and the respective percentage are displayed.

- In the **Preferences / General / Map** you can define a radius for the pins that defines the map section.
- **Picture / Colors / Clip Colors to 5 Bit per Chanel** cuts the color depth to 5 bit per chanel. That makes sense if you edit pictures that will be displayed on old devices like for example cash machines. Otherwise gradients would look very stepped.
- Press Command-Option-Shift-Tab to cycle backwards between windows. Without Shift you cycle forward.
- You can use **Set Exif-Date from File Name** if your files contain the date in the name. This date will be set as Exif-Date. Additionally you can select the option **Set the file date identical to the Exif date** in the dialog that opens. If you scanned pictures and typed the date in the file name you can adapt these files to modern digital photos in order to import them in database based programs like Apperture or Lightroom.
- A submenu in the **Window** menu allows direct access to the tools of the tool palette in order to allow using the shortcuts even when the tools palette is not opened.
- From the browser context menu **Actions / Export** select **Apple TV...** to export pictures for Apple TV to keep the current order. GraphicConverter sets the file date and the Exif date to the current date and adds one second to the time for every file as these are the sort criteria of Apple TV. Additionally an index is added to the file name (0001, 0002 etc.).
- Conversion between **premultiplied** and **non premultiplied** is now available as a batch too.
- In **Convert & Modify / Combine Folder to a Singel PDF** you can select the quality.
- With **Edit / Frame Selection with Foreground Color** you can draw a line around the selection which is interesting especially for polygonal selections. Draw the desired shape with the tool for polygonal selections and use the feature.
- In the **Preferences** part **Browser / Thumbnails** you can select **Context Menu: Show Path** to display the path of a single file.
- GIF-Animations play during **Slide Show**.
- In **Convert & Modify** you can select **Function: Delete even (odd) Pages from PDF** to delete the even or the odd pages.
- Color Permutations are available as batches. You can use them to create variations of buttons for websites for example.
- In the **Rename** dialog in the **Specials** tab you can select IPTC and Exif metadata to be transferred to the file name.
- Sidecar files of pictures of the format JPG, TIFF, PNG and WebP are copied along automatically when you copy the picture.
- **Picture / Auto color** corrects faded pictures. The colors become more intense by corve spread.
- Speed of Browser is now optimized.

- In **Convert & Modify** you can select **Multicrop images...** from the function menu in order to cut out several parts of one image for example for web applications. New: Alpha channels are included.
- Opening PDF files with the Apple library can cause problems when the file contains a form that has been filled in partially. In this case select **Library: dynapdf** in the import dialog.
- You can record mouse clicks with **Edit / Record Mouse Clicks**. This feature had been included in older versions of GraphicConverter via the context menu. It makes sense to analyze maps from archeological digs for example, see p 316.
- In the Keywords palette you can now export the list of keywords via the gear-wheel menu as a text file.
- Saving in PNG format supports the lossy variant.
- **Effect / Color blindness / Tritan** simulates tritan color blindness.
- In the Rename dialog the options for uppercase and lowercase are now easier to access, as they are no longer in a pop-up menu.
- In the dialog **Save for Web...** you can now select the PNG format in addition to the JPG format and you can save the settings.
- In the **Preferences / Browser / Misc** you can select **Apply Extension Filters to Folders, too**. Folders with extension like for example „Pictures.jpg“ can also be filtered.
- You can decrease the number of colors of a picture to any value between 2 and 255 with **Picture / Colors / Change Color Usage dynamically**. Try values under 12 to achieve interesting effects.
- When you have reached the last picture of a slide show you can start the slide show again with option-right if in the **Preferences / Slide Show / General / Repeat Slide Show** is disabled.
- When saving in BMP format you can deselect **Reduce to 1 bit if possible**.
- You can use **Effect / Concat all Images** to concat all open pictures horizontally or vertically. This is handy for collages as they are often used on web pages.
- Saving in **Apple iOS Icon set** format can save the variant with 512 pixels or 512@x2 pixels, too.
- Scanned color negatives scanned by Vuescan are displayed inverted automatically.
- World Map Data can now be displayed in the lower frame of a picture window. If there is World-Map-Data in a sidecar file GraphicConverter displays it in the lower frame of a picture window. In order to see the data you need to enable the option **Preferences / General / Display Windows / Show: Position and color in footer**. All windows you open afterwards show the x- and y-value for the current mouse position and the color value. If World-Map-Data is available, the values for the current mouse position are displayed.
- With **Effect / Lens Corrections** you can correct the distortions that are caused by virtual all lenses even in central perspective.

- In the **Edit or Add Exif Data** dialog you can edit the aperture in an additional entry field as f-number too. Open the dialog via the context menu.
- **Effect / Gradient intensity** brings out the contours of a picture as colored lines. Areas rather turn to black. The effect often is suited to make text readable that is hard to read.
- **Effect / Gradient intensity** brings out the contours of a picture as colored lines. Areas rather turn to white. In some cases the effect is suited to make text readable that is hard to read.

## **New in GraphicConverter 9.4**

- With **File / Auto Convert...** you can open a dialog in which you first click on the plus sign in the lower left corner and then select a folder that will be watched. All files that are copied into that folder will be converted automatically into the selected format and into the folder defined below. The files can be deleted automatically after the conversion. Additionally a batch can be defined. You can define several conversions and activate them with the checkbox to the left as you need them.
- In the **Preferences part Browser / Display** you can select the options **Show: Number of Subfolder** and **Number of Files** to display the count of subfolders and files contained in a folder behind the name.
- JPX files can contain data streams which contain many JP2 files. You can save these JP2 files as single files. To do so select **Split JPX Data Stream into Single JP2s** in **Convert & Modify** in the pop-up menu **Function**.
- With **Copy Filename to Headline** you can copy the file name into the field **Headline** of the IPTC data. The function is available from the context menu and from **Action menu** in the submenu **Metadata (Exif, IPTC,...)**.
- When exporting a slide show to a movie (**File / Export Slide Show to Movie...**) up to now a fade to a black frame was added at the end. You can now disable that in the **Preferences part Slide Show / Export to Movie / End with transition to black frame**.
- In the dialog **Picture / Color / Colorize...** the option **Limit Color Range** has been added. Enable the option to keep brightness differences when colorizing. The difference becomes most visible if you select a brighter color for colorizing.
- In the **Preferences part Open / Metadata** the option **Check only if file has valid extension** has been added. If you want to display old picture files without file extension like for example „.jpg“ in the browser you should disable this option so all files are scanned for IPTC data. As this lasts longer you should use this option when working with files without extension only.
- When you insert the **Exif-Date** into the file name with the **Rename** dialog tab **Date** the date and time can be wrong. This can happen as camcorders do not write a tag in the file for the date format which can be local date and time or UTC standard. If you think the date and time have been set incorrectly you can select the option **MOV:**

**Recording date uses UTC** in the **Preferences** part **Browser / Edit**.

- The functions **Highlights and Shadows** and the **Equalizer** now can be used for grayscale pictures too.
- If a picture file in PSD format contains a path this path will be saved in TIFF and JPG files.
- Many small changes for macOS Yosemite.
- In the Browser's context menu you can use the **Move Folders** defined in **Preferences / Folders / Move Folders**.
- With Command-F you can open a search function in the Browser. New to this is the ability to search for labels.
- When you show a slide show with two monitors or a monitor and a projector you can choose in the Preferences that on the second monitor instead of the next picture the current is displayed. When you work with a Laptop and look to the audience during your presentation you no longer have to turn around to see the current picture. Select **Preferences / Slide Show / General More / Show on Secondary Screen: Same image**.
- In the Preferences for the Slide Show you can select **Preferences / Slide Show General / Delete: Forward in sorted order if slide show uses random order**. If a Slide Show is displayed in random order you go back to normal order after deleting an image so you can work on further pictures of a row easily.
- With **Effect / Fish Eye...** you can add the distortion typical for fish eye lenses or take back the distortions of pictures taken with a real fish eye lens.
- With **Filter / Four Colors...** you can color pictures similar to Pop Art. The picture is divided into four brightness levels. You can assign a color to every level and adjust the level.
- In **Preferences / Browser / Misc** you can select **Quick Look: Use Full Screen Preview**, so instead of the small preview a full screen preview is displayed when you hit the space key. In this full screen preview you can zoom in or out with the zoom gesture or the scroll wheel and move the section. You can go to the next or previous picture with the arrow keys left and right. End the full screen preview with the space key or Escape. With **Use Transition** you can disable the effects.
- Disable **Browser / Display / Show: Only Files instead of Files and Folders** to see the files only.
- You can scale pictures with a new batch to HD or UHD size.
- In the batch Insert Text you can now use Shadow and Stroke as effects for text.
- For pictures without GPS data you can enter values in **Preferences / General / Map**. These values will be used by the function **GPS / Add or Edit GPS-Values...**

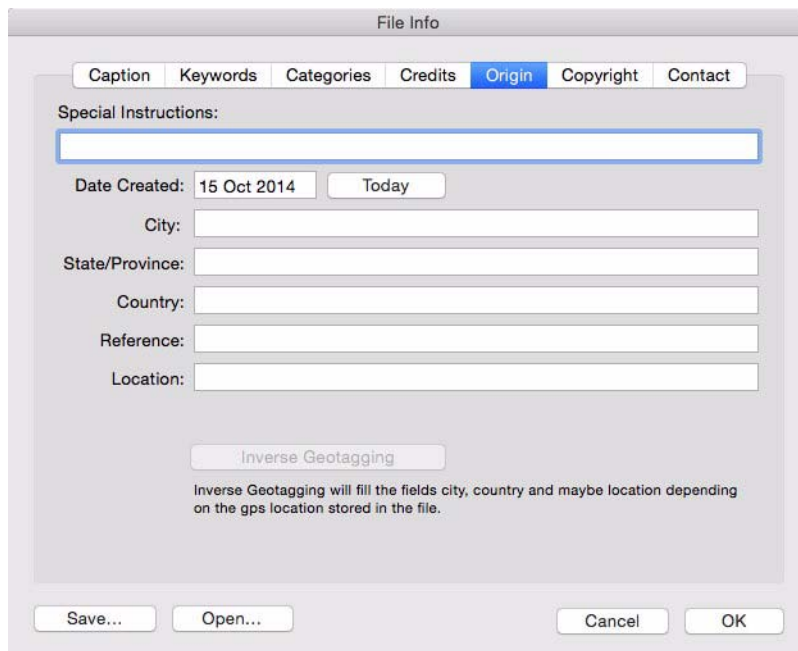


## New in GraphicConverter 9.5

- You can create a QR code with **File / New / New QR Code....** Select a suitable size with **Scale**. Save the picture to paste it into a layout in a program like InDesign, for example. To paste the QR code in GraphicConverter into another image, select everything with Command-A, copy the picture with Command-C and paste it into another picture with Command-V. Scale the QR code proportionally by holding down the Command and Shift keys and dragging a corner.
- From macOS 10.10, GraphicConverter can recognize QR codes contained in images. This is helpful if, for example, you take a photo of children at a kindergarten and want to sort the pictures on your Mac into the corresponding folders. Before each series, take a photo of the child with a large printed QR code or take a photo of just the QR code, for example, on a table. Then select all pictures in GraphicConverter and start the sorting process via the context menu with **Actions / Sort file(s) into subfolders / According to QR Code**. If you sell photos through an online shop like [www.zenfolio.com](http://www.zenfolio.com) or [www.smugmug.com](http://www.smugmug.com), you do not need to sort the pictures as this is done automatically by the providerssystem.
- **Edit / Find, Compare and Replace / Find QR Code...** allows you to display a QR code contained in a picture. The text is displayed in a dialog and can be selected and copied there.
- MTF format (Motorola Theme File) can be imported. Embedded GIF pictures and MP3 files can be exported via the context menu.
- **Picture / Auto Enhancement** allows you to enhance pictures automatically.
- The settings for checking for GraphicConverter updates are now available in the **General / Update** section of the **Preferences**.
- MathPad files can be opened.
- If you double-click an archive file in tar or gzip format, it will be unpacked after a query.
- In the **File** menu, the **Close All Saved Document Windows** command will appear instead of **Close** when you hold down the option key. This is useful if you have opened a large number of pictures and want to keep the ones that have not yet been saved open.
- In the **Preferences**, you can select a separate sort order for displaying Apple **photo streams** under **Browser / Display** as it is useful to always display the latest pictures at the top in this case. Select **Files by: By Creation Date** and **Order: Descending** as the setting. Even renamed files will then be displayed in the correct chronological order.
- **Edit / Paste / Paste into Selection** allows you to paste the contents of the clipboard into the current selection stretched to fill the selection. **Paste into Selection proportional** allows you to keep the proportions. The selection is not filled completely in this case if the aspect ratio of the clipboard content differs from the aspect ratio of the selection.
- If you want to mark pictures from HDR series in the browser so you can find them more easily, you can assign the green label to these pictures by selecting **Actions / Misc /**

**Mark possible HDR Source Images** from the context menu. GraphicConverter always recognizes pictures from an HDR series if the Exif time between them is no more than a second and if the aperture is different. There needs to be at least three images.

- Animated PNG files in APNG format can be imported. From iOS 8.0 and macOS 10.10, APNG format is supported. Like PNG format, it allows up to 16 bit per channel and alpha channels.
- When you rename a picture in the browser, it will be moved to the new position in the sort order according to the new name if the name has been set as the sort criterion. This makes it difficult to select the next picture if you want to rename it, too. In the Preferences under **Browser / Edit**, you can therefore specify whether the renamed picture should remain selected or whether the next picture should be selected.
- You can now also determine the difference in brightness and contrast between two colors with the measuring tool. This is helpful if, for example, you want to check a website for W3C conformity. Double-click the measuring tool with the slide rule and select Contrast Measurement between two Points. Now click two points one after the other. The information pallet opens automatically and shows the measured values and the differences. You can select and copy the text in the information pallet.
- You can now select a tolerance for finding and replacing colors (**Edit / Find, Replace and Compare / Find and Replace Colors...**).
- In the IPTC dialog you can now enter the **Origin**. If the file contains geo information you can insert the origin by clicking the button **Inverse Geotagging**.



- When you export as HTML you can now choose between the name or the Exif date for sorting.
- In the operator you can now select the original format as destination format if you do not want to change the format. In the Operator click **Options** in the upper left corner.

- The **Reverse Geocoding** now is more precise.
- Files in landsat format can be imported.
- File / **Print Preview...** allows you to check your print layout before printing and to adjust settings like margins, header and position.
- **Create GPX File for Selection...** creates a GPX file with a list of all geo data from the selected files. Programs such as GoogleEarth can read this file and display all points on a map.
- Files in xcf format can be imported. ImageMagick is no longer needed as a helper program.
- In **Preferences / Slide Show / Misc** you can select the justification for images smaller than the resolution of the display.
- You can select the style of a line with a double click on the line tool.
- In the dialog **Effect / Edges and Frames...** you can select the new option **Adjust frame depending on aspect ratio of image**. This option but is available for geometric shapes with a sharp edge only. The heart and all frames with patterned edges are excluded.
- Layers of text inserted into a picture can now be saved for later editing. You need to save as **GraphicConverter Image-Document (.gcimgd)**.
- With a held click on the line tool you can select the cross hair tool you can use to mark points as often necessary in astro photography, for example, to mark a star. Double click the tool to select the number of lines, the angle or additional circles.

## New in GraphicConverter 9.6

- Photoshop Pattern files can be imported.
- In the lower right section of the Browser you can display a map in the tab **Map**. If a picture contains geo data now a needle is displayed in the corresponding position. You can move the needle if the position is not correct. The geo data will be updated after a security question. If a picture does not yet contain geo data you can enter the place into the search field over the map and drag the needle to the exact place to set the geo data.
- If during copying of files a name conflict occurs you can now rename the files automatically which is handy when you copy more than one file. An index will be added to the file name. This option is located in the dialog **File Exists**.
- The Brush tool now supports pressure-sensitive pens.
- In **Preferences / Slide Show / Misc** you can select the **Screen mode: Use Custom Value (crop larger Images)**. For example, if you enter 500% as zoom value all pictures greater than display resolution will be cropped.
- In **Preferences / Browser / Thumbnails** you can select **HDR Text for hdr files** so HDF

files of iOS devices will be marked with the text "HDR".

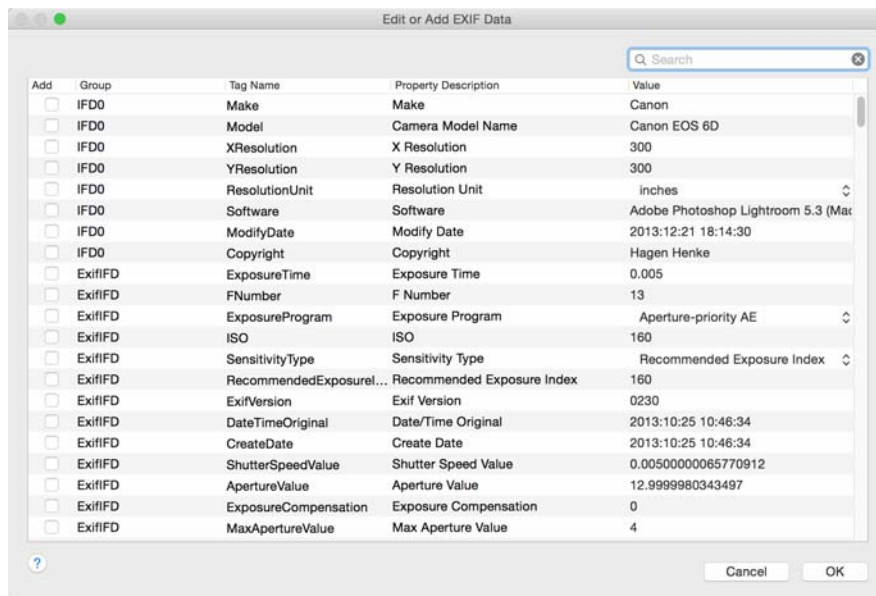
- In **Convert & Modify** you can convert SVG files into PDF files keeping the vector content as vectors with **Convert SVG to PDF (vectors)**.
- The format **Better Portable Graphics (BPG)** can be imported. It offers the modes lossy and lossless and is based on the HEVC format. In comparison to the JPG format the file size is only one third with comparable quality. BPG animations can be opened too.
- **Edit / Use as Fill Pattern** sets the current picture or a selection as a fill pattern. The new fill pattern appears in the dialog of the fill pattern field in the Tool palette. Click the field to open the dialog.
- With **Effect / Vignetting Correction** you can correct the vignetting of a picture. Take a picture of a white background with the same lens, zoom and exposure or use a white translucent lens cap. Select the correction picture in the dialog and click OK.
- **Atmosphere, Freeze** and **Thermic** are three new filters in the Effect menu. You can refine the results with functions like **Brightness with Curve** and **Contrast**.
- With **Effect / Hot Cold...** you can color pictures bluish or orange.
- You can use the new features **Picture / Invert / Luminance (like Film Negative)** and **Hue** as effects.
- **Picture / Shift / Channels Right** and **Channels Left** shift the content of the color channels into the adjacent channel. You can use this feature as an effect.
- In **Preferences / General / Display Windows** you can select **Information: Follow main window**. This makes the information palette stick to the picture window.
- In the dialog **Picture / Size / Scale...** the PopUp-Menus for the unit have ceased to exist. Additionally to the pixel size the percentage value is displayed permanently.
- Improved display of profile details in the information window.
- In **Preferences / Open / Image formats / PSD** you can select whether and how layers of Photoshop files should be opened.
- Layers of Gimp xcf files will always be opened.
- The Microsoft formats: Windows Media Photo (.wdp), HD Photo (.hdp and JPEG XR (.jxr) can be opened. The format JPEG XR has nothing to do with the JPEG format.
- In the **Effect** menu the function **Auto Red Eye** has been added. You can use it to correct red eyes without defining a selection beforehand.
- You can reduce images to a predefined palette with **Picture / Colors / Reduce to Palette**. You can define these palettes yourself or load them from the internet. GraphicConverter supports the gpl format of Gimp. Open an image and select **Show Palettes Folder in Finder** from the submenu. Copy gpl files into this folder to be able to use them after a restart of GraphicConverter. If you want to define a palette yourself you can open a gpl file from Gimp and modify it with the color values you want. The first three columns contain the values for red, green and blue.

- In the context menu over an opened image the function **Set Image as Folder Icon...** has been added.
- Tiff files with uncompressed CMYK content and an alpha channel can be opened. PSD files with CMYK content and an alpha channel can be opened.
- Pictures with broken GPS data are not marked with the GPS icon in the browser any more.
- Deltavision files can be opened with pixeltypes 6 and 16 bit per channel.
- If a picture contains Exif data the camera icon will be displayed in the browser over the thumbnail for PSD and webp files too.
- If a Tiff file was written from an Adobe program it is possible the alpha channel was written into the image resource block instead into the standard place. These files can now be opened correctly.
- In **Preferences / General / Edit** you can select **Allow Space in addition to Semicolon to separate lists** when editing IPTC keywords. This eases the editing. In the picture files every keyword has it's own field so the separators are only for editing.
- In Convert & Modify filters are now used for subfolders too.
- GraphicConverter can determine the approximate value of the JPG quality chosen when the picture was saved. This value is displayed in the information palette. In the format options of the JPG format you can select Set default quality to source file quality if possible. This option prevents images increasing in file size after saving. Open the format options with a click on the button **Options...** in the file selector when **Saving as.....**
- The formats FITS, IPLab, DM3 and SMV can be opened with 16 bit grayscales.

## **New in GraphicConverter 9.7**

- In the **Preferences** tab **Finder Integration** you can select elements that show in the Finder's context menu. These include Folder, Batches and a number of given functions like **Display in Browser**.
- Exif Editor: In the contextmenu over the thumbnails in the Browser with **Actions / Metadata (Exif, IPTC,...) / Edit complete Exif...** you can open a dialog in which you can select and change all Exif fields. To do so click the checkbox at the beginning of the line and click on the value in the right column twice with a short stop in between like you know from renaming files in the Finder. If only certain entries are possible you can

select one of them from the PopUp-Menu.



- With **Windows / Store current Tool Settings...** you can save the current settings of the tools like for example foreground color, line style and arrow heads under a new name. With **Windows / Select settings** you can activate saved settings.
- In the bottom section of the Browser a second search field is available with which you can filter the content of the Browser with terms. Enter, for example, „bird“ to display only the files containing „bird“ in the file name. The search field in the top section of the Browser searches with Spotlight of macOS.
- Via the context menu over the thumbnails in the Browser you can copy files into a destination folder. If you select two or more folders you can copy the content in random order or interleaved into the destination folder. This makes sense if you, for example, you get left and right 3D files from another program separated in two folders. To achieve the desired sorting in the destination folder an index is added at the beginning of the file names.
- **Crop to Ratio** is available as a new batch. The picture gets trimmed equally at two sides as less as possible to achieve the desired aspect ratio.
- The 3D coding Anaglyph is available as a batch now too.
- 3D JPGs for left and right eye can now get converted into MPOs in **Convert & Modify**.
- Pages document contain a thumbnail in PDF format which now will be displayed in the Browser and opened with a double click.
- Via the terminal of the macOS you can start a slide show with „-slideshow“ or open a browser with „-browser“.
- The function **Auto Enhancement** is available as a batch now.
- In the bottom section of the Browser in the pop up menu **Sort by** the criteria **Index in Name** now is available. Every number will be recognized as an index.

- In the contextmenu over the thumbnails in the Browser you can copy the XMP date to the Exif date with **Actions / Metadata (Exif, IPTC,...) / Copy XMP Create Date to Exif Date**.
- With the new batch **Scale long edge virtual** you can change the output size of a file in a length unit. The pixel count is not changed.
- With **File / Rename** you can rename the picture. With **File / Move To** you can move a picture. At the very bottom of the move menu you can use **Other...** to select a folder with the file selector box.
- In the contextmenu over the thumbnails in the Browser with **Actions / Metadata (Exif, IPTC,...) / Copy IPTC Title in IPTC Caption** you can copy the IPTC Title in the IPTC Caption.
- With **Edit / Highlight selection** you can color the selection with the highlight color of the macOS.
- DICOM import was enhanced.
- The pictures from the database of Apples program „Photos“ can be displayed in the Browser via the Media Library.
- The display time for pictures in the Browser now is shorter when slow drives are used.
- Setting geo data from Google Earth for many pictures at once now works faster.
- With **Effect / Unscew (Set Proportions)** you can correct leaning lines in pictures. You can now set the points easier with option clicks as you do not need to first click on the points. Please note you need to start with point one in the lower left corner.
- When you enter a search word in the upper search field in the Browser you can select further criteria in the lines below. New is the criteria **Images only** with which you can blind out text files and folders, for example.
- GPS data can be entered in the format Degree, Minutes, Seconds too.
- When you create a polygone selection you now can delete the last points with back-space or delete if you did a mistake.
- In the **Preferences / Browser / Libraries** you can disable the display of the Media Library and the content of iPhoto and Aperture.
- In **Preferences / Slide Show / General More** you can select **Delete: Remove sidecar and RAWs in addition**, to automatically delete the RAW file and the side car file when you delete the JPG file of the same name during a slide show. This makes sense if you create RAW files with side car file and JPG files simultaneously in your camera and want to delete bad pictures.

## **New in GraphicConverter 9.7.1**

- The formats SWS (used in video production), NPO (Nokia phone format) and SPE (microscope format) can be opened.

- In the Pure Carbon filter dialog a new button „Copy for Batch“ allows to copy the settings into the batch so you can use it in batches.
- The left and right picture can now be swapped in 3D pictures with a batch. Other programs sometimes confuse the pictures.
- **File / New / Image...** opens a dialog in which you select the size of the picture. New in this dialog is the possibility to select standard formats like letter from the popup menu **Preset**.
- With File / Merge Folder into One Image... you can overlay the pictures of a folder. New are the methods Min, And, Or and XOR.
- When you enter a certain file size for JPG pictures so the quality is reduced to reach the file size this quality was set for normal saving of an opened picture. New is that the quality from the batch is not used for normally opened pictures.
- In **Convert & Modify** you can scale PDF files losslessly for example from DIN A4 to DIN A5 with **Function: Scale PDF...**
- In Multiscale new options for scaling and buttons for format options have been added.
- In the IPTC dialog you can select the tabs with command 1-7.
- In the Browser you can display pictures with or without geo data only so you can see quickly which pictures contain geo data. Select the appropriate option in the popup menu **Show**.

## **New in GraphicConverter 9.7.2**

- In image windows there is a button in the lower window frame to show and hide the tools palette.
- In **Convert & Modify** you can select **Multicollage Images** to insert several images into a base image in places you can define. This is handy, for example, if you want to insert a portrait and a winning level in a certificate see p 44.
- For some operations with Exif data GraphicConverter uses the integrated program Exif-Tool. You can suppress minor error messages that may appear to be able to work smoothly. Select in **Preferences / Browser / Edit / ExifTool: Ignore minor errors**. Please note each error message means the Exif standard was not matched completely. This occurs occasionally if images were manipulated with other programs.
- You can use **Effect / Align** two images so they do not jerk in a slide show when they are displayed after another, see p 313.
- Now you can **Paste at Source Location**. Cut out, for example, a face from a group photo and start in the target image in the right place.
- Find and Replace of text in file names is available now as a batch too.
- **Despeckle** is available as a batch now too.
- Finder tags can be displayed under the thumbnails in the Browser from macOS 10.9.



Select **Preferences / Browser / Thumbnails / Show: Tags**.

- In the IPTC dialog of the thumbnails in the Browser you can click the triangle in front of **Options** to expand the dialog. In this section you can select **Set keywords as Finder tags in addition** to have the keywords written into the Finder tags too.
- You can add or intensify noise in images with **Effect / Noise / Add...** This makes sense, for example, if you have an image of a pattern created artificially and you want to make it look more like a real photo.
- In Convert & Modify you can now combine several GIF images to one GIF animation. Select: **Function: Convert GIFs to GIF animation**.
- You can now open TIFF files larger than 2 GB.
- If you want to collect a set of file icons for macOS as an ICNS file or for Windows as an ICO file you need to copy the source files into a folder and display this folder in the middle section of the Browser. Open the context menu over the folder and select **Actions / Misc / Create Apple .ICNS from folder content** or **Create Windows .ICO from folder content**. GraphicConverter creates an ICNS or ICO file in the folder displayed. The source files are recognized by their names. That is why the following names must be used:

Mac	Windows
icon_16x16.png	icon_16x16.png
icon_16x16@2x.png	icon_32x32.png
icon_32x32.png	icon_48x48.png
icon_32x32@2x.png	icon_256x256.png
icon_128x128.png	
icon_128x128@2x.png	
icon_256x256.png	
icon_256x256@2x.png	
icon_512x512.png	

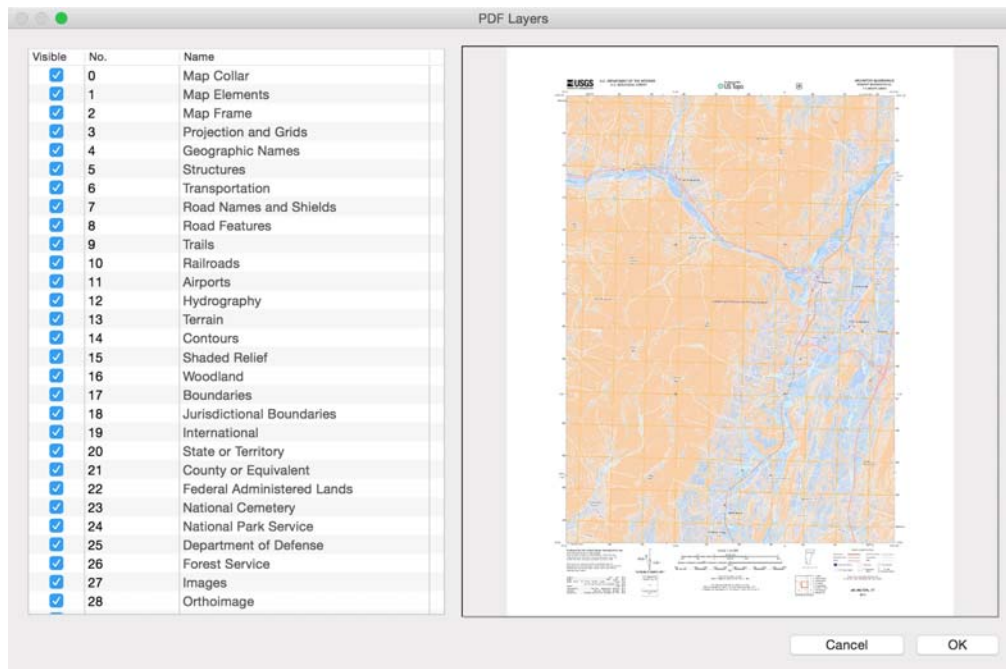
- If you work with a CoreImage filter the last used settings are stored. Some filter's settings save your background image. In this case the settings become very memory-intensive, what can slow down the further work. That is why GraphicConverter saves these settings only if you select the option **Core Image Filter / Remember last settings even if they are very large** in **Preferences / General / Edit**.
- At the bottom of the Keyword palette you can now import lists of keywords in text format with the **Open** function.
- If you have collected aliases instead of files in a folder the delete function during slide shows deletes the aliases. If you want to delete the files instead you can select the option **Resolve File Aliases** in **Preferences / Slide Show / Misc**.

- If you are using a small display you can minimize the bounds between thumbnails and text to see more images. Select **Preferences / Browser / Thumbnails / Bounds: Minimal Bounds**.
- The animation for opening a window can be disabled in the **Preferences**. Select **General / Display Windows / Disable animation**.
- GPS tags GPSPitch and GPSRoll are supported now.
- In the **Operator** controllers for **Highlights** and **Shadows** have been added.
- If for example because of technical problems in your camera the Exif date and time was not written in the Exif metadata but is in the geo data you can copy the date and time from the geo data into the Exif data. Open the context menu over a thumbnail in the middle section of the Browser. Select **Actions / Metadata (Exif, IPTC ...) / Set Exif Date from GPS Date**. As globally the the UTC Time is used for GPS Date you may need to adjust the time with **Actions / Metadata (Exif, IPTC ...) / Shift the Exif Time Stamp**.
- The location of the folder for the saved batch actions changed with version 9.7.1 due the sandboxing requirements of the finder extensions from:  
~/Library/Application Support/GraphicConverter/Actions  
to:  
~/Library/Group Containers/FAVZJT8J4U.com.lemkesoft.graphicconverter9.group/Library/Application Support/GraphicConverter/Actions  
You can copy the saved batch actions from the old to the new folder.
- In the **Preferences / Save / General** you can select **Specific Format Options: Post-process PNGs, JPGs, GIFs with ImageOptim** to shrink the file size of the named formats after saving. Unnecessary color profiles and junk metadata are deleted and compression parameters get optimized without sacrificing quality. To be able to use this option you need to install the program ImageOptim which you can download from <https://imageoptim.com>.

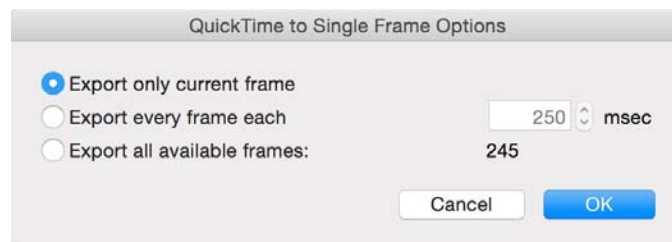
## **New in GraphicConverter 10.0**

- The new face recognition is described in an own chapter from page 223.
- You can create layouts with the new collage function, see page 105.
- With Picture Package you can print a picture several times on a sheet of paper.

If a PDF file contains layers you can show and hide them with **Layers / Select Imported PDF Layers...**



- You can go to a specific position in a movie with **Edit / Navigation / Go to Position in Movie**. This is useful, for example, when you want to save a single frame as a picture. To do so use the normal save function. Enter a file name. The following dialog will appear.



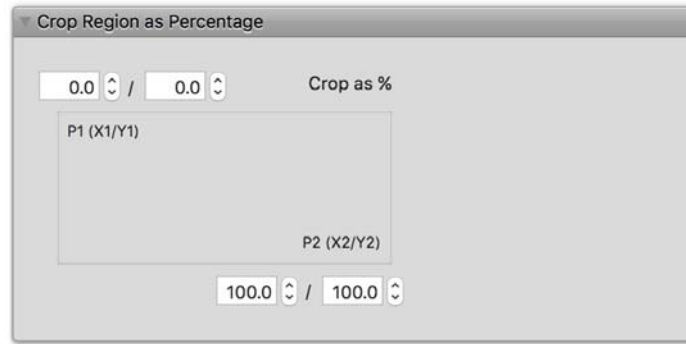
Select whether only the present frame, one frame every x milliseconds or all frames should be saved. Alternatively you can also copy the current frame via the context menu and open it in a new window with Command-J.

- You can delete the Finder tags from pictures via the context menu with **Actions / Metadata (Exif, IPTC...) / Remove Finder Tags**.
- With **Effect / Animation/Frames / Reverse Order** you can invert the sequence of frames in an animation. This is handy, for example, for motion sequences like rowing as you only need to create the first half of the sequence. Even faster you can achieve this aim with **Append in reversed Order** from the same menu.
- With **Picture / Rotate / Auto Rotation** you can correct pictures automatically which need to be rotated only slightly to get the horizon straight. The vertical edges of houses should be perpendicular after the correction.
- Apple Live Photos taken with the iPhone 6S or newer can be displayed in the browser

as two files which can be opened separately. Besides the picture file there is a video file with the same name and the suffix .mov. Via the context menu you can convert the .mov file into a GIF animation that is written into the same folder. In the process of conversion you can reduce the resolution and the frame rate to reduce the file size. If you want to get more detailed options to reduce the file size open the movie and select **Effect / Animation/Frames / Convert Movie to Animation (Animated GIF, APNG)**. The GIF animations are suitable for posting on facebook. As the GIF format supports only 256 colors the picture quality will be reduced by the conversion.

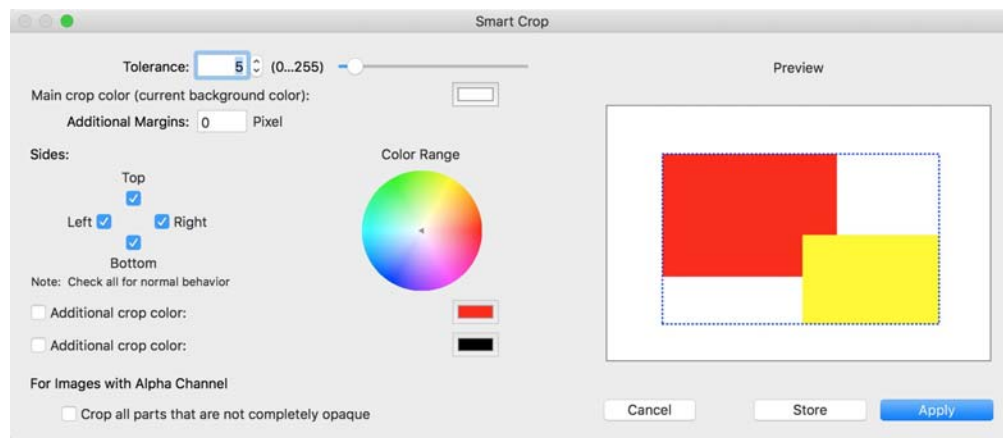
- From macOS 10.10.6 El Capitan you can use GraphicConverter 10 as an editor for Apples program **Photos**. To do so you need to select **Photos** in **System Preferences / Extensions**. In the right hand section please select **GraphicConverter**. To edit a picture in Photos with GraphicConverter double click the picture. Click Edit and then Extensions and select GraphicConverter. Edit your picture with the given tools and click Save Changes. Close the window if you want to by clicking the red ball in the upper left corner.
- GraphicConverter now supports custom brushes for painting. Open the palette for the brush settings with a double click. In the bottom section you can select the preinstalled brushes from a menu. You can add own brushes by copying the files into the folder **Library / Application support / GraphicConverter / Brushes**.
- Cameras with a built in position sensor write an orientation tag into the picture files for landscape, portrait with camera rotated left, portrait with camera rotated right or camera upside down. When the tilt angle is large it can happen the wrong tag is written in the metadata. In this case the picture is displayed with wrong rotation in the browser. In this case correct the picture with **Actions / Rotate/Mirror / Rotate left in Metadata** or with the other functions for rotating in this menu. The function changes the rotation tag only.
- In the IPTC dialog you can insert the content of the same field of the last picture by pressing the PageUp key.
- With **Effekt / Animation/Frames / Convert Animation to Filmstrip** you can convert an animation into a picture in which all frames are besides each other.
- With the green ball in the upper left corner of every window you can enlarge the window to full screen. If you do not want to use this feature you can disable it in the **Preferences** part **General / Misc**.
- With **Edit / Smart Cut** you can cut out the selected part of a picture and crop the rest of the picture. To do so the selection must reach full width or height of the picture.
- You can display a grid with **View / Enable Grid** for better orientation. The grid lines are magnetic so pasted pictures snap to them. In GraphicConverter 10 you can enable a grid that is not magnetic. Select **View / Enable Grid Display (w/o Snap)**.
- With the new batch **Crop Region as Percentage** you can crop pictures by percentage. this makes sense if, for example, you work on a scanned book in which the pictures of the pages have different sizes. Enter in the upper left entry field the values for X and Y for the crop rectangle and in the lower fields the values for the lower right corner. For example, enter in the upper fields 10% and in the lower ones 90% to cut all edges by

10%.



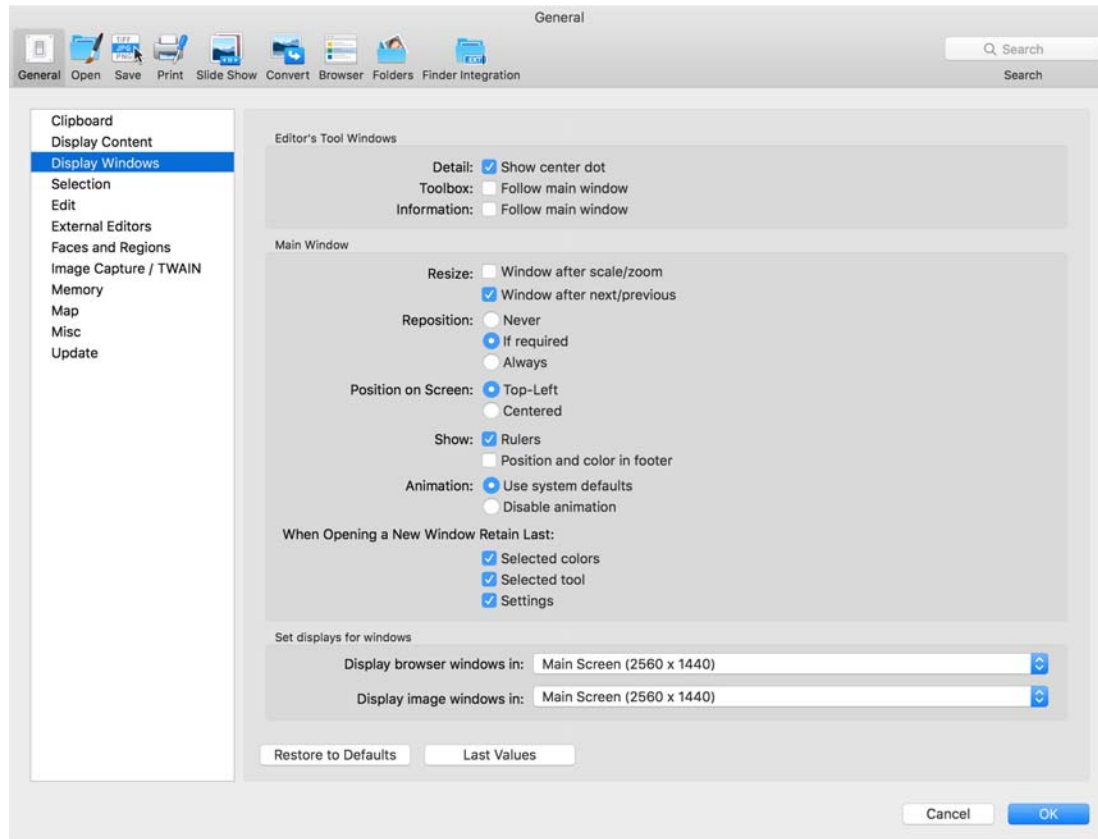
- In the browser you can display the aspect ratio of pictures. In the **Preferences** select **Browser / Thumbnails / Show: Ratio**.
- In the browser you can display the maximum print size at 300 dpi. In the **Preferences** select **Browser / Thumbnails / Show: Quality**
- Videos in MP4 format can contain a cover. In **Convert & Modify** you can extract this cover from the file. Select as **Function: Extract MP4 Cover Art**. With **Assign MP4 Cover Art as Resource Preview** you can set a contained MP4 cover as custom icon so it will be visible under macOS 10.8 and older too. From macOS 10.9 the cover is displayed instead of the normal file icon automatically.
- Animations can be exported in APNG format. To do so select the PNG format. If the file is an animation it will be saved in APNG format automatically.
- When converting a video into an animation with **Effect / Animation/Frames / Convert Movie to Animation (Animated GIF / APNG)** you can now select the output size and frame rate in a dialog, see from page 205.
- When you go from picture to picture in the browser the arrow key right takes you from the last picture to the first and vice versa. In the **Preferences** part **Browser / Edit** you can now change this behaviour so you stop at the first or last picture or go to the next/previous folder.
- In the **Preferences / Browser / Misc** you can enable **Flat View: Open last/recent always in flat view** to have the last browser window in flat view every time you open GraphicConverter. Flat view means the files from subfolders will be displayed as if they were in the folder you selected.
- XMP Metadata can be read from and written to the formats PDF, EPS, PS, AI now too. Before only the formats JPG, JPG2000, PNG, TIFF, PSD and all Raw format were supported.
- When scaling pictures you can now select **Nearest Neighbour** as algorithm. This is an advantage, in particular for pictures in the area of pixel art, because the colors remain unchanged since no anti-alias transitions are calculated on the edges
- In the PNG options you can select **Reduce color depth if unused** so, for example, black and white pictures are saved with a color depth of only one bit. The file size of one bit files is very small.

- In **Preferences / Slide Show / General** you can enable the option **Solid background** to get a bar behind the text so you can read it more easily.
- In the browser the Exif date can be displayed under the thumbnails.
- Picture files can have a XMP sidecar file containing the metadata. You can automatically delete this sidecar file too when deleting the picture file. To do so select in **Preferences / Browser / Edit / Delete File: Delete associated RAW, XMP, THM, JPG file(s), too**.
- In the tools palette under the magnifying glass is the fill pattern. Click this field to open the dialog in which you select the pattern. Click the new button **Show in Finder** to open the folder in which you can copy pictures which you want to use as fill patterns.
- The value for the pen width could be entered whole-numbered only. Now it can be entered as decimal fractions, too.



- With **Effect / Shadow** you can now select angle and blur additionally to size. The shadow is also added to the edges of areas inside of b/w pictures.
- When you open a picture it will be displayed in the upper left corner of the screen. On large displays it can be more convenient to display the picture in the middle of the screen. Select **Preferences / General / Display Windows / Position on Screen: Cen-**

tered.



- The text tool now supports font faces. A font face is a variant like italic or bold as an extra font.
- If a video contains GPS data this data can now be displayed.
- To get a selection easier into the batch **Crop Region** open the context menu over the selection in an open picture and select **Create Batch Action for Crop Region**. The Convert & Modify window opens with the batch **Crop Region** already defined.
- With **Effect / Horizontal automatic Correction** you can set the background of a scanned book to white when it gets darker to where it is bound. To do so GraphicConverter organizes the picture as stripes and finds an adequate threshold for each of them.
- With **Picture / Size / Social Media** you can scale and crop pictures to the sizes used by social media like facebook.
- With **Effect / 3D / Adjust Parallax of Red/Cyan Anaglyph** you can improve images if the offset is not correct
- Pictures can now be sorted into subfolders according to their aspect ratio. The aspect ratio can be chosen as the sort criteria for the browser too.
- In Convert & Modify you can use **Export Image Dimensions into "dimensions.txt" file** to create a text file with a list of the picture dimensions.
- In Convert & Modify you can use **Check Suffix of TIFF, JPG, PNG, PSD Format, correct and mark** to find pictures with incorrect extensions and correct them. If, for exa-

For example, a TIFF picture has the suffix .jpg it will be changed to .tiff and the file will be marked with a label.

- With **Effect / Round Corners** you can round off the corners of a picture. The background is set to transparent with an alpha channel.
- If a picture contains, for example, text blocks in front of a white background with gaps between them, you can delete these gaps with **Edit / Clear Space...**. Raise the **Tolerance** if the background is not completely white.
- If a panorama picture is not displayed correctly in a web browser select **Actions / Metadata (Exif, IPTC, ...) / XMP GPano: UsePanoramaViewer setzen / True/False**
- Vcard pictures (.vcf) can be opened.
- Vcard pictures can be scaled to a maximum of 200 pixels with a batch.
- The Tiff file format is limited to a file size of 2 GB. The new format BigTIFF has no such limit. GraphicConverter can open BigTIFF files.

## **New in GraphicConverter 10.1**

- Photoshop (PSD) and TIFF files that have been manipulated with Photoshop can contain very much data that only describe the history of manipulation and is not part of the image. You can delete this data via the context menu with **IPTC / Delete XMP Document Ancestors List** to shrink the file size.
- Sort by date from the context menu automatically creates subfolders with the date. These folder names now can have hyphens between year, month and day.
- In the preferences part **General / Menu** you can choose which of the icons for face recognition, metadata etc. should be displayed.
- If you want to insert the names of the folders a picture file is stored in plus the file name in the IPTC Keywords, you can do that in Convert & Modify with **Set IPTC/XMP Keywords from Folder Names (modifies source)**. In Convert & Modify single click the folder whose name should be inserted. The names of the further folders in this folder and the file name will be inserted as keywords.
- **Set complete IPTC/XMP from Stored XMP File** inserts IPTC/XMP data from an XMP file.
- **Display Focus Points** from the menu for the face recognition displays the points of the autofocus system which have been active when shooting. Consider the camera may have been moved with the shutter release pressed half after autofocus measuring. Also from the menu for the face recognition you can select Display Subject Area. In professional use in some pictures the area is marked in which the main subject is, for example, to make further processing easier for editors.
- **Auto Color** is available as a batch now.
- If you hold the command key on startup of GraphicConverter the lists of recently opened Browsers and Documents are deleted.



- Movies and pictures often get an artistic color theme applied. For this frequently Look Up Tables (LUTs) are used. To use LUTs in GraphicConverter open a video or picture and select **Filter / Look with LUT / Show LUTs Folder**. The LUTs folder is displayed in the Finder. Copy your LUTs in this folder to be able to use them from this menu. Supported formats are: cube, 3dl, mga, dat, lut, xml, 3dmesh.
- Editors often enter the names of persons in a picture in the file name. In order to let you work faster, GraphicConverter now supports abbreviations like „ub“ which are replaced by the full name Usain Bolt automatically. Click a picture in the browser and press return or click the file name under the thumbnail to make the file name editable. Now enter the abbreviation. GraphicConverter replaces the abbreviation with the full text immediately. Define the abbreviations and the respective full text in a text document you can create with TextEdit. Save the document with the name autoreplace.txt in the path: ~/Library/Application Support/GraphicConverter/Autoreplace
- With **File / Browse Flat** you can display all pictures of the subfolders as if they were in the current folder. The result of the search with the search field is displayed in flat view too. If you want to display one of the pictures in the folder it is in, select **Show in New Browser** from the context menu.
- The IG4 format for digital drawings can be opened.
- With **Delete Windows XP tags** from the context menu to delete unnecessary tags written by Windows XP which could cause troubles during further processing.
- With **Picture / Size / Scale to Main Desktop Size with Borders** you can resize a picture to fit for the desktop. If the aspect ratio does not fit borders are added at two sides in the current foreground color.
- Pictures in Affinity format now can be displayed better in the browser as the PNG thumbnail contained in the file is used. As the format is not documented these pictures cannot be opened.
- You can select Open Street Map for **Reverse Geocoding (Set City and Country)** in **Preferences / General / Map**. Use this option if you are not satisfied with the results of Geonames.org which is set by default.
- In file names the colon and the slash are not allowed as they are reserved as a separators for paths. That is why these characters are replaced by an underline automatically in the rename dialog.
- If you open, manipulate and save an existing file the file is turned into an invisible, temporary file. Then the new version is written as an additional file. When the new file is created successfully the temporary file gets deleted. This way it is made shure that, for example, in case of power breakdown the file survives. On the basis of this technology of the macOS there might be error messages from server harddrives. In this case you can select the option **Behaviour: Overwrite original in place** in **Preferences / Save / General**. You should backup you files beforehand.
- On bigger displays a longer version of the toolbox is displayed in which all tools are accessible directly. There is no more need to select tools from submenus.
- If you want to sort pictures in the browser and if you want the files to be copied al-

ways, it is cumbersome to hold the option key all the time. Therefore you can select **Drag and Drop: Always copy items instead of Finder like behaviour** in **Preferences / Browser / Edit** so you do not have to hold the option key.

## **New in GraphicConverter 10.2**

- GraphicConverter can remember the last selection in the browser. Select this option in **Preferences / Browser / Thumbnails / Store: Store last selection and position for all browsers**.
- You can change the Spotlight Comment via the **Context Menu / Metadata (General) / Edit Spotlight Comment**.
- With **File / New / New Image from open Images with Focus Stacking** you can combine the open pictures with the focus stacking method. The areas with the sharpest edges are used for the new image. This function does not replace special programs for focus stacking which offer a variety of settings but allows results with basic quality.
- **Color Ballance** is now available as a batch.
- Copy **Fuji-Filmmode into XMP Subject Mode** copies the Fuji-Filmmode from the correspondent field into the field XMP Subject Mode. This is helpful if picture files shall be filtered by different entries in programs like Lightroom.
- If you are using Apple's **Photos** program as well, you can edit a picture with GraphicConverter from within Photos. In Photos double click a picture to see it large and click **Edit** or the Edit icon. Now click **Extensions** and select **GraphicConverter 10**.
- To trim a portrait use **Select Portrait** from the Faces Menu and press return or double click the selection. The automatic trimming of portraits is available as a batch too.
- With **Arranged Full Screen** from the **View** menu you can display up to six pictures in full screen mode. This is practical for presentations if, for example, pictures should be compared.
- When you open a picture in FPX format by Kodak a dialog opens that asks you to download an extension. After installation FPX files can be opened.
- When you select parts of a picture with the magic pen tool you can select parts of the picture with similar colors with **Edit / Select Similar**.
- You can now save your settings for a Slide Show in **Preferences / Slide Show / Preset / Save current settings as....** This is practical if you need to switch between different settings quickly. When you start a slide show with **File / Slide Show...** you can select a setting with a click on the **Options** button.
- If you receive a picture as three single files with the content of one color channel you can combine these with **Edit / Paste / Paste into Red (Blue, Green) channel** to get a normal picture. How to: Select all with command A in the picture that has only the blue content, copy all with command C, select the picture with the red content and paste the content of the clipboard with **Paste into Blue Channel**. Copy the green content into the green channel.

- To set the star rating to zero you can now click the highest selected star.
- In the **Rename** dialog you can now add „HDR“ to the file name with an option.
- During a **Slide Show** you can show the current picture file in the Finder with Command Arrow Key Up.
- In the Slide Show's **Preferences / Metadata** you can select **Location: Overlay Metadata at the bottom of the image** instead under the image.
- In **Preferences / Slide Show / General** you can select Show: Random horizontal position so the file name will be displayed shifted by some pixels from picture to picture to avoid screen burn-in during long-term operation.
- The Catalog Print dialog now has a page preview to avoid misprint.
- If during a Slide Show a video is displayed you can now disable the controls with **Preferences / Slide Show / Misc / Movie Playback: Show Controls**.
- In the animation palette selected frames are now displayed with a frame.
- In the sub menu **Picture / Size** the scaling with last values is now available by percent too.
- In the **Preferences / General / Misc** you can change the sorting criteria. New is the option to **Ignore diacritics (ö=o)** and to **Ignore width differences** in unicode fonts. If a sign appears two times with different widths, with this option it is seen as one sign.
- In the **Service** menu of the Finder the version number of GraphicConverter is displayed now.

## **New in GraphicConverter 10.3**

- You can combine two opened images in a way the white areas of the one will be filled with the content of the other one with **File / New / Image from Open Images with Overlay**. This way you can see whether the contents fit exactly what can be useful in prepress, for example.
- If you created aliases of picture files and want to copy the real files to a USB stick for a slide show on another device, for example, you can use **Copy Images to / Resolve Aliases and copy Originals to...** from the context menu.
- When you enter a search term in the search field in the upper section of the browser all matching pictures are displayed in the browser. You can now save this result by clicking the **Save...** button to the right. The **Saved Searches** appear at the very bottom of the file tree so you can recall them quickly. If in the meantime more matching files have been saved or copied to the folder these will be displayed too. The list will be updated every time you reopen a saved search.
- **Automatic Rotation of Photos** is available as a batch now too.
- In **Convert & Modify** you can apply changes you made with the Cocooner with **Apply unapplied XMP Changes (Cocooner)**. This makes sense if you want to use the

changes and apply further batches.

- Files in APNG format contain animations. If you always only want to see the first picture of these animations select **Preferences / Open / Image Formats / PNG / Ignore Frames of APNG (Animated PNG)**. This option makes sense if you have problems displaying APNG files and if you do not need the content of the animations.
- In opened animations you can go to the last or next frame with option arrow left or right.
- In the **Effect** menu the effect **Tilt-Shift** has been added. You can create a miniature effect with it. Fore- and background are set out of focus like it is possible with the tilt feature of tilt shift lenses. This effect is called miniature effect as pictures, for example, of modellandscapes often are taken with tilt shift lenses with focal lengths of 90 mm and higher so that especially at small distances and apertures between 1.2 and 2.8 the depth of field is extremely small. Tilt shift lenses are used to correct leaning lines that occur at a viewing angle like 12 degrees.

**Side note:** Instead of expensive tilt shift lenses you can also use the LensTRUE System to correct leaning lines. The LensTRUE System consists of a metal box you screw under your camera to measure the inclination and the horizontal angle in the moment you shoot your picture. The measurement data and the normal picture files are connected in the LensTRUE software „visualizer“ so a corrected picture in Tiff format with 16 bit per channel can be exported. These files can be processed in other programs like RAW files. Further advantages of the LensTRUE System are:

- You can work with any lens including zoom lenses and extremely high grade fixed focal length lenses.
- No more edge blur and no more vignetting like known from tilt shift lenses
- No more need for a tripod
- Correct proportions even when there are no objects with vertical edges in picture. Vertical edges are necessary for software-only-solutions.
- No more need for expensive tilt shift lenses.

The LensTRUE Software „visualizer“ is programmed by Lemke Software like GraphicConverter and is included in the box of the LensTRUE System. The visualizer is not available without the hardware as it works with the measurement data only. For further information please see [www.lenstrue.com](http://www.lenstrue.com).

- **Anonymize Faces** from the **Faces** menu you can pixilate all faces so the persons are no longer identifiable.
- You can reduce sharpness of pictures with **Effect / Blur**.
- Newer MacBooks Pro since 2016 have a Touch Bar instead of function keys that displays buttons depending on the active application. GraphicConverter supports this Touch Bar and shows during a slide show the buttons for control, the magnifying glasses, a trash and the escape button. When a picture is opened besides escape and the magnifying glasses buttons for opening the IPTC dialog, for displaying the opened picture in the browser and for full screen mode are displayed. If only a browser window is open available are: Escape, navigation arrows for the file tree, quick preview, IPTC dialog and full screen mode.

Select **View / Customize Tool Bar** to change the elements in the Touch Bar to fit your needs.

- The official XMP standard was extended by the field: **Iptc4xmpExt:PersonInImage**. GraphicConverter writes names of persons in this field too when you add names manually or automatically with the face recognition feature. You can also add names manually via the IPTC dialog in the tab **Keywords** in the field **Persons**.
- In the layer palette now modes like **Hard light** for overlaying pictures have been added.
- In the **Filter** menu you can now use the **Core Image Filters** directly from a submenu.
- To Free-form select objects or persons especially in the video segment often a green screen is used. This is a green-only background the object is placed in front of. This background you can now set transparent in GraphicConverter without the Magic Pen or the Transparency tool. Select **Filter / Chroma Key...** A dialog opens and the detected areas are displayed back. If the green is not recognized, click the color field in the middle of the dialog. The color picker opens. Click the pipette in the lower section of the color picker. Click in the green area of the picture to get a better match. Change the left and right **delta Angle** to adapt the border. In most cases the values fit best when the controls are near the middle position of the control.
- In the **Preferences / Convert / General** you can select **Batch Functions: Remove after quit** if you want to start with an empty list every time you launch GraphicConverter. It makes sense to select **Paths: Clear list after quit (applies to browser too)** if, for example, you use network attached drives (NAS) which may cause a delay when starting up.
- In the **Preferences / Save / General** you can select **Clear non-standard Exif Tags** to delete all non standard tags of the Exif Data that do not comply to the official standard.
- In the **Preferences / Open / Image Formats / MrSID** you can select that pictures in MrSID format bigger than 8192 x 8192 pixels will be reduced to that size so they can be opened faster.
- Opened pictures in PDF format can be saved as Tiff files via the context menu that opens over the picture.

## **New in GraphicConverter 10.3.1**

- Pictures created with **File / New / Picture using Clipboard** have the Exif date of the movie if the picture was copied from a movie.
- **Show Open Images in Slide Show** from the context menu of an open picture starts a Slide Show of the open pictures.
- You can now duplicate a batch in the **Batch & Format** menu in the toolbar of the browser to use it, for example, as the starting point for a similar batch..

- In the **Preferences / Slide Show / Miscellaneous** you can select **Loop Movies**.
- The batch Insert Text creates a line break automatically if necessary.
- The Help menu was improved.
- The ExifTool which is implemented in GraphicConverter was updated.

## **New in GraphicConverter 10.4**

- Pictures with 32 bit per channel can be opened and saved in Tiff format with 32 bit per channel. This increased depth of data is used in the HDR and video sector.
- Add a border is now available as a batch.
- In the title of a picture window you can display the full path: **Preferences / General / Display Windows**.
- The EBM format can be imported and exported. The format comes from IP telephony.
- In the browser files can be protected or unprotected.
- When you open a video file that has been created with an outdated codec, you get a notification and the possibility to automatically convert the video so it can be played. The converted file is saved in MP4 format besides the source file. This is because QuickTime should not be used any more as it has been replaced by the AV-Kit which is available in iOS too.
- In **Preferences / Convert / General** you can select **Use all Cores for Batch Conversion** to speed up the batch conversion. This function is still in beta-status and offered without any warranty.
- Renaming of files is available as a batch now.
- You can set pictures gradually transparent with the new **Multiply Alpha Channel** batch. A value of 0.5, for example, creates a 50% gray in the alpha channel what makes the picture half transparent.
- You can browse your Amazon drive with **File / Browse Amazon Drive** and add, for example, pictures.
- **Filter / Texturize ...** applies a texture to a picture. In the dialog that opens you can adjust opacity etc. You can use an own picture as a pattern.
- In the **Preferences / General / Map** you can select Apple Maps as an alternative to Google Maps.
- During a fullscreen slide show a toolbar is displayed at the top edge of the screen if you move the mouse to the edge. In this toolbar you can now change the mode for the change behaviour. You can choose between a change after a time out or after a mouse click.
- The IPT format can be opened. It comes from Microscopes.
- With **Edit / Smart Crop** you can cut off an edge that has one or several colors. This

does not work with pictures like, for example, death notices that have a black edge and a white edge from the scanner on top. For pictures like these we added the new function **Edit / Smart Crop Textbox ...** which is available as a batch too.

- The Exif data from FujiFilm RAF raw files can be read and displayed now.
- Via the context menu of the browser you can now convert the labels from the XMP data of old Lightroom files.
- In **Preferences / Open / General** you can now select **Suggest last used open path** to always get the last path in the file selector.
- **File / Save for Web** now has an option to Make the file name WWW ready during saving.
- GraphicConverter uses helper tools to open the formats fpx, sid, jbg, x3f, und fig. These helper tools need to be installed beforehand. Now you can install these tools with one click only in **Preferences / Open / Helper Tools**.
- The download of the manual was improved.
- Parent keywords can be added automatically via the keyword palette. Click the gear at the bottom of the palette to select this option.
- The localizations for Czech, French, Danish, Japanese and Swedish were updated.
- The contact functions in the Help menu are easier to access.
- In the browser the metadata of pictures are read faster. This is noticeable especially with network drives.

## **New in GraphicConverter 10.4.1**

- In the menu **Effect** you can now use **Logarithm and Normalize** for mathematical analysis or as an effect.
- In the context menu of the browser you can remove the metadata the camera wrote to the picture file with **Metadata (General) / Remove Camera Metadata**.
- With **Exif / Export Exif Data of complete folder content into CSV** you can export the Exif data of all pictures of a folder to a CSV file to use them in another program.
- The batch function **Create Alpha Channel from Transparency** now has a **Tolerance**.

## **New in GraphicConverter 10.4.2**

- In the **Preferences** part **Open / Image Formats /PCD** you can select **Assign sRGB Profile**. The PCD format is used on Kodak Photo CDs. The pictures need another color profile which however is not available. With the sRGB profile the pictures look good.
- In **Convert & Modify** in the **Function** popup menu you can **Split MPOs into single**

**JPGs** to avoid quality loss from recompression. This loss of quality occurs when you open the file normally and save the pictures one by one.

- The GPS data of pictures can be transferred to files with the same names in another folder with **Transfer GPS Data** from the Function menu in **Convert & Modify**. This can make sense if the original files did not contain GPS data, then were scaled down for a project and had been added Geodata. Now the geodata is missing in the original files with full resolution.
- The Exif standard was extended by some fields. Therefore it is now possible to select the time zone. In the context menu of the browser you can select the time zone with **Exif / Set Exif Time Zone**. In the dialog **Exif / Set Exif Date...** a popup menu for the time zone was added. The Exif time is not changed by the time zone.
- In convert & modify the new batch function **Scale (Short Edge)** has been added.
- The formats **dxg** and **dwg** of the drawing program Autocat can be opened. When opening the files the vector formats are converted into bitmap pictures. Therefore the content cannot be manipulated and saved as a vector graphics. If, for example, you receive a DXF file from an architect, you can display the content and continue to use it.
- If you want to select many parts of a picture and save the parts as new picture files, you do not need to copy, open the part as a new picture with Command-J and save in the third step. GraphicConverter allows to save every selection as a PNG file into a destination folder you select beforehand. Open the settings dialog of the selection tool by double clicking it. In the tab **Save** enable the function **Autosave selection as PNG** and select a destination folder. Every time you do a selection and let go the mouse button immediately a PNG file is written to the destination folder. Do not forget to disable this function after you have finished your work.
- For even faster optimizing pictures the functions **Picture / Auto Enhancement** and **Filter / Xe8472** are available now as icons in the tool bar in the top section of picture windows.
- If you want to append a picture with you logo, for example, you can do this with the new Batch function **Append Image (Watermark)**. You can choose between the four sides of the picture. Usual is, for example, a bar under the source picture in which the logo and further elements like a slogan are positioned.
- In the **Preferences** part **Open / Movie** you can disable the option Other Movies: Verify with QuickTime Modernizer if the modernizer crashes on opening a movie. Old video files will not be opened any more. You can watch these videos using older versions of the macOS where applicable.

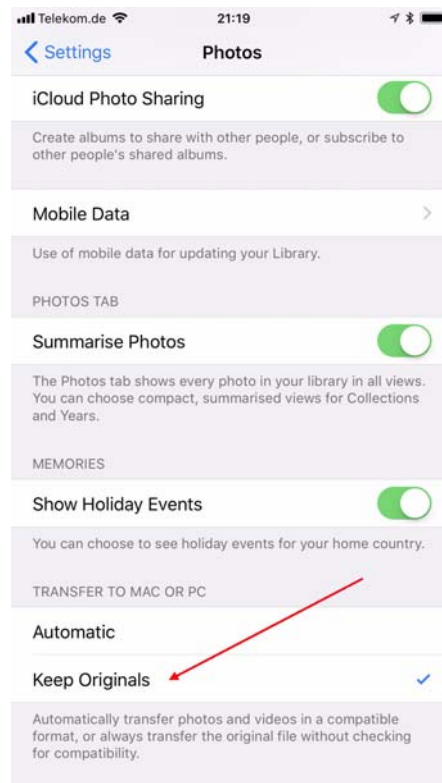
## **New in GraphicConverter 10.4.3**

- In **Convert & Modify** the menu **Function** has been restructured. To let you find a desired function even faster a **Filter** pop up menu has been added to shorten the menu to only the section you need.
- After program start of GraphicConverter a dialog opens allowing you to subscribe for



our newsletter.

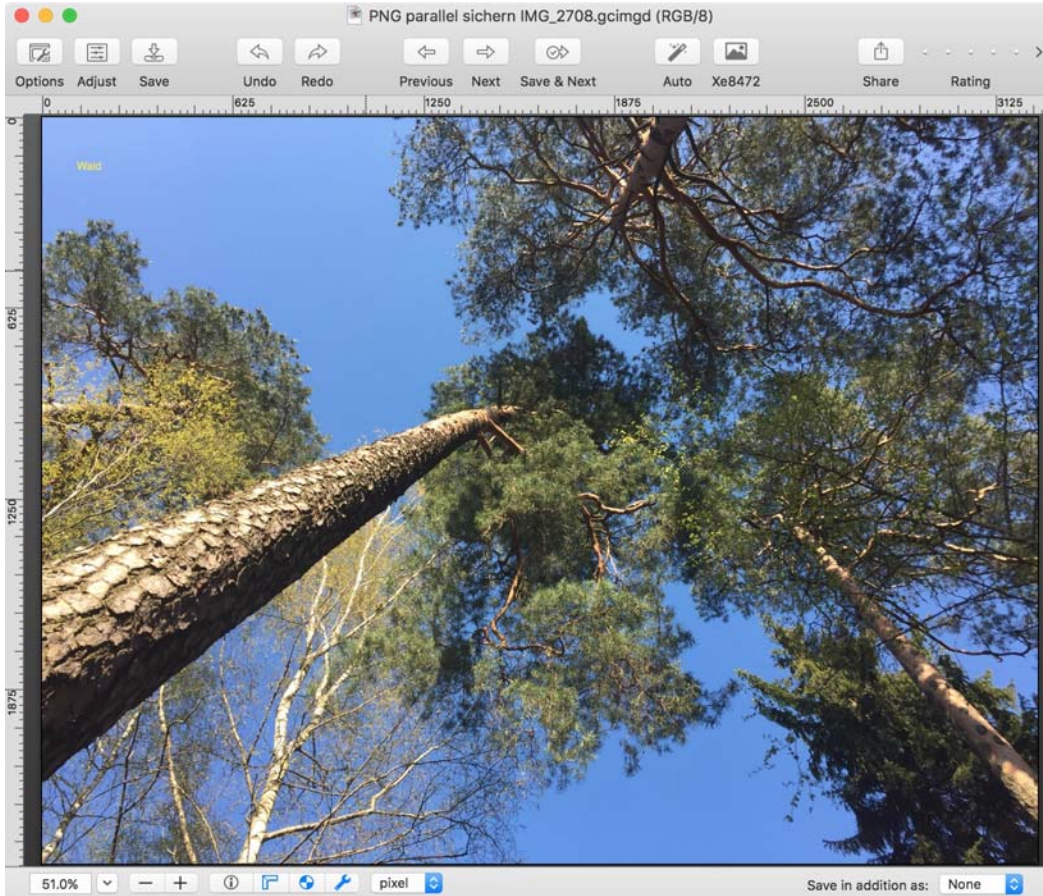
- From macOS 10.13 you can open and save the format **HEIF** (High Efficiency Image File Format). The file extension can be .HEIC or .HEIF. Normal videos and **Live Photos** have the suffix .MOV and are coded with the H.265 codec. Apple introduced these formats for pictures and **Live Photos** on iOS devices with iOS 11 as they need only half as much memory as JPG pictures or MP4 videos. The important Exif fields are supported. Some few exotic Exif fields are not supported. When you import pictures or videos with a Mac or PC the files are converted to JPG or MP4 format to make them compatible with other programs. If you want to keep the HEIF- or HEIC files, you can disable the automatic conversion in your iOS device in **Settings / Photos**. You will then get the original HEIF- or HEIC files if you import with GraphicConverter and use macOS 10.13 High Sierra or newer.



- If you browse a folder over a network it can last very long until the thumbnails are displayed. This happens because the thumbnails visible in the browser have to be created for all pictures simultaneously. In order to do so all the picture files need to be transferred over the network which can lead to long delay. You can now solve this problem with **Preferences / Browser / Cache / Parallel thumbnail creation threads**. Select a value between 2 and 10 to avoid delay and network overload.
- With **View / Hide Selection Line** you can fade the line of a selection to be able to view the picture without disturbing lines.
- If up to now you opened a picture during a slide show to manipulate it, you had to go to **File / Continue Slide Show** to go on with your slide show. With the new option **Preferences / Slide Show / Misc / Continue: Slide Show automatically after opening, editing and closing an image** the slide show will be continued automatically as soon

as you close the picture window.

- When you insert text in a picture and save this picture in GCIMGD format, the text still can be edited after closing and opening the picture. If you always need a second version of this file in PNG, JPG or GIF format, you do not need to save this version in a second go by hand. Instead select the format you want at the bottom of the picture window from the pop up menu **Save in addition as**. GraphicConverter now additionally saves the file in the format you selected when you save the picture in GCIMGD format.



- When you create a selection you can open the position palette automatically to see the size and position of the selection. Select **Preferences / General / Selection / Automatically show position palette** to automatically open the position palette when you create a selection.
- In the options for the formats JPG, GIF and PNG you can enable optimizing with ImageOptim so you do not need to check whether it is selected in the file selector box all the time. The optimization needs to be enabled only in one place.
- If a picture, for example, from a microscope appears black when you open it, you can correct this with Picture / Auto-Levels so a normal picture is displayed. To not always have to do this correction manually, you can select **Preferences / Open / Image Formats / TIFF / 16 bit grayscale autolevel upon import** to get the correction done automatically.
- Up to now GraphicConverter used a plug-in to open pictures in **DJVU** format. This

plug-in is now replaced by the application DJView.app which you install in your applications folder as any other app. GraphicConverter opens this program when you open a picture in DJVU format as a helper app and takes over the picture.

- In the **Preferences** part **Open / Image Formats / HPGL** you can enter a maximum pixel size to avoid extra large files are opened and occupy, for example, 2 GB of memory.
- In the browser the labels are available as a filter criteria and the star ratings are now available as exact criteria. You can, for example, select **2 stars or better** as criteria. This will show all pictures that have 2 stars or more. If you select **2 stars**, only pictures with exactly two stars are displayed and no pictures with 1 star or with 3 stars or more.
- For the function **Multicrop Images...** in **Convert & Modify** you can now define **Subfolders**. This function makes sense if, for example, you take a screen shot on a system with three monitors and want to split the picture in three parts each one representing one of the monitors. In this case create a crop for each of the three pictures with the plus button. You can enter a folder name for each of these crops. These folders are created automatically in the destination folder if they do not yet exist. Select the destination folder beforehand in the right section of the Convert & Modify window.
- In the **Cocooner** you can select the aspect ratio for the selection in the section **Crop & Straighten**.

## **New in GraphicConverter 10.5**

- **Find and Replace IPTC** is available as a batch in Convert & Modify. So far this function was available via the context menu of the browser only.
- **Resample PDF to 1 Bit...** from the **Function** menu of **Convert & Modify** makes sense if, for example, you scanned sheet music in too high resolution and want to reduce file size a lot to show the pictures on an iPad.
- From the context menu of the browser you can open a new dialog **Rename** files. This dialog allows to determine the order of the actions and to use an action several times.
- Files can have extended attributes (XAttr). One of them, for example, is the State of Quarantine. When you send a picture by e-mail, these attributes are always added. With **Metadata (General) / Show extended Attributes** from the context menu of the browser you can display these attributes. With **Metadata (General) / Remove extended Attributes** you can delete these attributes.
- In the **Preferences** part **General / Display Windows** you can select **When opening a New Window Retain Last: Position and size** to get new windows opened in the position and with the size the last window had.
- Some RAW formats that cannot be opened by the macOS can be opened by **Libraw** which is now integrated in GraphicConverter.
- macOS 10.13 High Sierra offers the **Deep Learning** technology that can recognize objects and persons or animals in pictures. This does not work perfectly but most results should be correct. This is handy for assigning keywords. Click the **Analyze** Icon with

the light bulb in the browser or in the tool bar of an open picture to add the found objects as keywords. Keywords you assigned earlier are kept.

- With **Remove all XMP Data except IPTC** you can delete unwanted XMP data that, for example, is added by programs like Lightroom. This makes sense if, for example, the history of editing is in the XMP data and you do not want to pass that data.
- If a picture contains several objects you can generate a new picture of each object with **File / New / Images from Objects in Image**. The pictures are opened in new windows and are not saved yet. This function is available as a batch in Convert & Modify too. This function is available from macOS 10.13 High Sierra on.
- Press M during a slide show to get the file selector allowing you to select a folder the current picture is moved to.
- You can straighten the horizon in an opened picture if the horizon is visible like with a view of the sea. To do so click the icon **Horizon** you need to add to the tool bar beforehand. Open the pop-up menu with a right click on the tool bar and drag the horizon icon into the tool bar. Also new: the icons for **100%** and **Scale to fit**.
- To speed up the search for duplicates you can now define picture formats to be ignored. Select **Preferences / Browser / Extension** and add the extensions of the formats you want to ignore under: **Ignore Extensions during Find Duplicates**. You can add PNG, for example, if you know there are no duplicates among your PNG files.
- In the **Rename (legacy)** dialog in the **Name** tab you can **Remove Diacritics** to convert, for example, àèä to aea.
- In the Preferences part **Browser / Thumbnails** you can select **Object name aka Title** to display the IPTC title under the thumbnails.

## **New in GraphicConverter 10.5.1**

- Pictures in HEIC format can contain Deep Data. These informations are used by different functions in GraphicConverter. Deep Data describe which parts of a picture were how far from the camera when the picture was taken. In the iPhone 7 Plus and newer iPhones these data are generated as these iPhones have two lenses and thereby can record the space three-dimensionally. In iPhones this data is used particularly to make the background of portraits blurry.

This effect is popular with photographers as the background does not distract from the foreground. Unfortunately this effect does not always function properly as the space cannot be recorded perfectly by two lenses closely bound together. Photographers create background blur without tricks but use the low depth of field of large apertures like 2.8 or lower values combined with using focal length of about 100 mm or more (telephoto). Therefore a full frame camera is needed as cameras with crop sensors have a far greater depth of field.

If you want to see the Deep Data you can open a HEIC-Picture and display the Deep Data with **Show Depth Data in New Window** from the context menu you open over

the opened picture. A new window with a greyscale picture opens. Objects in the foreground are displayed white or very bright, objects in the background are displayed black or very dark. Please note not all HEIC pictures contain Deep Data. If the Deep Data is missing the functions for Deep Data are not available and appear disabled.

With **Picture / Alpha Channel / Create from Deep Data** you can mark the background in the alpha channel to use this mask to crop the foreground.

With **Filter / Depth Blur** you can blur the background if this has not been done in the iPhone or you can change the effect. A dialog opens in which you can select the amount of blur.

**Filter / Depth Black&White** allows you to decolorize the background. A dialog opens in which you can reduce the saturation of the background continuously.

- Deleting of **extended attributes** (XAttr) is available in the context menu and now in the service menu of the macOS, too.
- GraphicConverter creates a backup of the preferences file and checks the preferences file when launching. If the file is corrupted a dialog opens. You can choose to create a new preferences file or to replace the corrupted file with a backup.
- With **Effect / Inverse Fisheye** you can descew pictures taken with a wide angle lens, for example, from an action camera. You will need to crop the picture afterwards.
- Diagonal grid lines can be displayed additionally. The setting is in **View / Grid Options...**

## **New in GraphicConverter 10.5.2**

- With **IPTC / Append Keywords...** from the context menu of the Browser you can append keywords. This function preserves the keywords set before.
- Via the context menu of the browser you can sort pictures into subfolders which are created automatically. Select **Sort file(s) into Subfolder** and a schema from the submenu. New is the schema: **(YYYY/YYYY-MM)**.
- When you click files in the browser to move them in another browser window or in a Finder window they will be moved. If the destination folder is on another drive the files are copied. If you drop the files, for example by chance, in their source folder then duplicates are created. If you do not want to create duplicates when you drop files in the source folder you can select **Preferences / Browser / Edit / Drag and Drop / Ignore drop into source folder**. Then nothing happens.
- Looped GIF animations will loop in slide shows.
- In the **Collage** dialog an opacity for the background can be set and the settings can be saved.

## New in GraphicConverter 10.5.3

- In the browser you can sort by **Picture Size (Pixels)**. You can use this criteria, for example, to find a variant of a picture with higher resolution faster.
- The functions of the dialog File / Save for Web... are now available as a batch action with the name **Adjust for Web**.
- With **View / Full Screen two Pages** you can display two pages of a multipage document side by side.
- GraphicConverter 10.5.3 or newer supports HEIC import with macOS 10.9 through 10.12 with a helper tool. This is not possible with the Mac App Store version of GraphicConverter.
- You can move and transform layers via the context menu over an opened picture.
- In the Preferences / Browser / Edit Metadata you can select Store IPTC/XMP inside RAW file if possible to avoid a sidecar file. The file but can become incompatible to the camera software.
- In the IPTC dialog you can open data from a file to import it into the selected files. Click the gear-wheel, select a file with IPTC data with **Open...** The contents of all fields are deleted and the data from the file will be inserted. **Open w/o overwrite** adds data to empty fields only and preserves existing contents.

## New in GraphicConverter 10.5.4

- In the browser's context menu you can use **XMP/IPTC / Copy XMP Face Names into XMP Persons** if the names cannot be read by other programs .
- When you display a slide show on two monitors it makes sense to always proceed by two images so on both monitors new pictures are displayed. In the **Preferences / Slide Show / General More** you can select **forward/backward moves two images**.
- On the bottom left of the browser you can insert the drop area in which you can collect pictures from one or several folders to carry out functions like renaming. This collection is now saved automatically and reappears also after a restart of GraphicConverter.
- In the browser you can now resort the pictures manually. Select **Manual Order** as **Sort by** criteria at the bottom of the browser. Now you can resort the pictures with drag & drop. This order is saved by an invisible index in the extended attributes (XAttr) and hereby is kept also when you restart GraphicConverter. If you want to keep the order for other programs or devices like a smart tv, for example, you can insert an index at the beginning of the file name with the rename feature of GraphicConverter.
- You can save pictures in HEIC format. For this you need to install an external helper program first. In the **Preferences / Open / Helper Tools** click the button **Download all missing Tools....**

- The **Text Antialias** option is now at the bottom of the text palette. A double click on the text tool does not open a dialog anymore.
- In **Preferences / Browser / Edit** you can select a function for the space key. It can open and close **QuickLook** or toggle between orange and no label. New is the option to start the slide show.

## **New in GraphicConverter 10.6**

- When you convert AVI videos to MP4 date and time remain untouched.
- You can copy the IPTC keywords to the caption via the context menu.
- To apply labels and ratings to large amounts of pictures fast, it is handy if after setting a rating or label the next image is selected automatically in the browser. Select this option in **Preferences, / Browser / Edit / Advance to next item after change of rating or label**.
- When you drag a picture on the program icon of GraphicConverter, the picture gets opened. If instead you prefer to display the folder in the browser where the image is located, select **Drag and Drop of Document: Open browser instead of document itself**. You can basically display the folder of an opened image in the browser by pressing command + arrow up.
- The ORA format (OpenRaster) can be opened.
- If you create a RAW and a JPG file every time you press the shutter release of your camera you can use the JPG files to apply IPTC data, labels and ratings faster as JPG files open faster. Via the context menu of the browser you can now transfer this data to the corresponding RAW files. Select **Metadata (General) / IPTC/XMP, Label and Rating from JPGs to RAWs...** Select the folder containing the RAW files with the file selector that opens. The files must have the same names except the extension. If RAW and JPG files are in the same folder you can apply labels and ratings to the JPG files and transfer them to the RAW files automatically. In the **Preferences / Browser / Edit** select **Apply operations automatically to RAW/JPG pairs**. The transfer also works from RAW to JPG files.
- To make the label of an image more visible in the browser, the color of the label is displayed as a background around the preview.
- With **Image / Size / Scale with Crop and Blur...** you can, for example, when scaling a portrait picture with values that make a landscape picture fill the empty space to the left and right with a very blurry version of the picture. This effect is often used on television when showing up-sized mobile phone videos.
- With **Effect / Grayworld** you can correct the white point of color cast pictures. This method analyzes the picture assuming the reflected light deliberates the color temperatur of the light source if an average is calculated and compared to grey. This method works best if the picture has many different colors. The function Grayworld is available as a batch action now too.

- With the batch action **Use original Filename** you can save your files with the original file name to the destination folder to preserve, for example, compatibility with a data base so the files will furthermore be recognized.
- You can optimize the skin of a person with **Effect / Skin Smoothing....**
- **Effect / Skin Tone** you can optimize the color of the skin of a person. Extreme values for **Adjust** can be used as an effect as the skin may become purple or orange.
- In the browser the pictures can be sorted by **Caption** and **Title** of the IPTC information.
- ExifTool and dynapdf were updated.
- In the Toolbox you can open the options dialog with a double click, is an option dialog is available. Alternatively you can now open the options dialog with an option-click.
- In the Operator a histogram is displayed for orientation.
- If you use a core image filter, no alpha channel will be added if the image did not previously have an alpha channel.
- The dialog First Steps was improved.
- You can now copy your own PNG files with lookup information to the LUTs folder in the **Users / ~ / Library / Application Support / GraphicConverter** path. After restarting GraphicConverter, these LUTs are available under Filter / Color Style with LUT. The file names of the PNG files must start with lookup\_, for example, lookup\_amatora.png.

## **New in GraphicConverter 10.6.1**

- In the multiple conversion, four new actions are available:
- 1. **Save now** - This action allows you to define complex actions that create multiple files. An example: The source files are saved for a product database in different sizes and some of the variants receive a watermark in addition.
- 2. With **Reload**, you can reload a file to create another variant.
- 3. **Change path into subfolder** saves the file to a subfolder that is automatically created if it does not already exist. You can enter the name of the folder.
- 4. **Anonymize Faces** allows you to automatically pixelate all faces found by the Face Recognition.
- The **tags** can now be edited like the labels directly via the context menu of the browser. Please note that the tags will be lost when sending the files via email or when uploading via FTP, if you have not previously compressed the files, for example, with Zip format.
- Use **Effect / Graduated Filter** to darken the top of the image, which is especially useful for images where the sky is too bright.
- In the upper right corner of the browser window and in image windows is a small icon



- with arrowheads up and down, with which you can hide and show the icon bar.
- In **Settings / Convert / General** you can choose if only one core of the processor should process the images, or if all cores should be used, which speeds up the processing. If all cores are used, it is not possible to ask how to proceed in case of name equations. Therefore, you must choose to overwrite a file with the same name in the destination folder, or save the second file with a name suffix.
- Geodata in **RW2** files are now detected.
- You can now insert a print icon in the icon bar of picture windows. Right-clicking or Control-clicking on the bar will open the editor for the icons.
- If you always want to use the same destination folder when importing images, you can now select this in the options dialog of the import function.
- If you open an lthmb file that contains several images, you can now choose from the sidebar which image should be opened.
- In the **Add/Remove Margins** dialog, you can now set an input value for all four pages with **Set for all**. **Set last values** sets the last used values. The effect of the current values is indicated by red lines in the image.

## **New in GraphicConverter 10.6.2**

- Using **Convert DXF/DWG to PDF (Vectors)** from the **Function** menu in **Convert & Modify**, you can convert DXF/DWG files to PDF files. The vector data are retained. If you open these files normally, the vector data will be lost.
- At the bottom of the right-hand area of the browser, the **Tags** are now displayed. The macOS always sets the last set tag color as a label too.
- In the **Preferences / General / Edit**, the line thickness and color for the deskew function can be set to make the lines more visible.

## **New in GraphicConverter 10.6.3**

- In the options of the import dialog you can choose **Delete Exif Image Description Tag (if exists)** to delete this tag, which is written by Panasonic Lumix cameras and causes problems.
- Using the context menu of the browser you can add an IPTC caption with **IPTC / Append Caption....**
- Use the **Set Alpha with Image** action to insert an image into the alpha channel. If an alpha channel already exists, it will be replaced. The picture is scaled appropriately if necessary.
- Images in CNG format can be opened. The Complete National Geographic format was used on DVDs whose software is no longer running on macOS 10.13.

- With **Effect / Kuwahara** you can make pictures look like paintings.
- In the dialog **Picture / Color Balance...** you can enter the values directly.
- In the **If** action, the option **Image editing when: Document name containing an even (odd) number** was inserted. This is convenient if e.g. a book was scanned in which the even and odd pages should be trimmed differently.
- If you select multiple images in the **Cocooner**, the settings will be set for all images.
- The **Crop to Ratio** action, instead of cropping, can now also paste the image into a rectangle of the new aspect ratio. You can choose a color for the resulting borders.
- In the Rename dialog, you can insert the name of the folder one or two levels higher in the file name. The dialog **Rename (simple method)** contains the function **Transfer Metadata data to the file name** in the tab **Special**. Use the **Append** pop-up menu to insert the function. In the dialog **Rename (advanced method)** select the function **Transfer Metadata to File Names**.

## **New in GraphicConverter 10.6.4**

- When opening PDF files, the sRGB profile is now used. If you know you need to use the Adobe RGB profile, you can select this profile in **Preferences / Open / Image Formats / PDF** settings.
- GraphicConverter supports macOS 10.14 Mojave.
- As of macOS 10.14, multi-page images in HEIC format can be opened.
- When you start a slideshow with **File / Slide Show ...**, the file selector will open, allowing you to select a folder or multiple slideshow files. In this file selection you can now open the settings dialog with the new button **Transitions ...** to select the transitions.
- At the bottom of the text tool palette, the option **Frame Box** has been added. This option draws a border around the current text object. The thickness and color of the line can not be changed.
- In the slide show, you can now also go to the next picture with the arrow key down.

## **New in GraphicConverter 10.6.5**

- As of macOS 10.14 Mojave, the macOS can display up to 16 images as a desktop background one by one according to the time of day. You can create such a file by selecting 16 images in the browser and then choosing **Export / Dynamic Desktops** from the context menu.
- For more complex actions, the action **Change Path to Parent Folder** is available.
- Folder icons can be provided with their own image. Until now, this was possible via the context menu with **Misc / Add Image as Folder Icon**. This feature is now also available

as an icon in the icon bar of the browser for faster access. Add the icon by opening the configuration dialog with a control click in the browser bar.

- In the **General / Display Content** area of the **Preferences**, you can choose to display the content of an alpha channel in white, black, gray, not at all, or as a checkerboard pattern.

## **New in GraphicConverter 10.6.6**

- In **Preferences / Browser / General** you can choose with the **Digital Lightroom** mode, that the background in the browser under Mojave also appears dark during the day in the light mode of the macOS. With **Light** or Dark appearance in the system settings, you can have the browser display dynamically, ie bright during the day and dark at night. The **System Preferences / Desktop & Screen Saver** provide Dynamic or Persistent Dark or Light setting.
- In the menu **Edit** the functions **Rating** and **Label** are available.
- With **Export / Merge two Movies** in the context menu of the browser, you can combine two videos into one movie. More than two movies can not be combined. But you can put the results back together with other videos.
- Use the **Filter** menu to assign a LUT (Look Up Table) to change the color style of an image in terms of an effect. This function is now also available as an action. This technique is often used in the production of films. Additional LUT files can be found on the internet via Google.
- In the **Edit** menu, **Smart Cut** allows you to cut out part of an image and automatically collapse the remaining parts. For this, the selection must always go from one edge of the picture to the other, ie a vertical or horizontal rectangle. **Smart Insert** inserts a strip with the background color above the current selection.
- **Save As ...** and **Save a Copy As ...** are available in the context menu for faster access on very large screens.
- If you display the creation, modification or Exif date in the browser under the previews, the prefix "creation" appears before each line, etc. The display becomes clearer if you select a **Pictogram prefix** in **Preferences / Browser / Thumbnails / Pictogram prefix**.
- If you select a large number of images in the browser and choose a function such as a change to the Exif data via the context menu, all images in the old version must be saved temporarily so that the function can be undone. To speed up such applications and save disk space, you can turn off the **Use for Selection** setting or decrease the number of **undo steps** in **Preferences / General / Memory** settings.
- For example, if you take a photograph of a letter, you will often see a brightness gradient across the page as the light falls on one side of the paper. Double-click the white point tool and select **White Gradient Correction**. The mouse turns into a quill pen. Click in the brightest area of the image and hold down the mouse button and drag the mouse to the darkest area. release the mouse button. If the result is not satisfactory,

undo the function and try again with other parts of the image.

## New in GraphicConverter 10.6.7

- If you want to complete the IPTC description, select **Add IPTC / Description ...** in the context menu of the browser and enter the text in the dialog that opens. You can choose to insert the text before or after an existing text.
- Using **Edit / Copy**, you can use the submenu to copy the **creation, modification or Exif date** to paste it into another image using **Edit / Paste / Insert Date ...** as the creation, modification or Exif date. **Insert date** without the three dots after the function name inserts the date as it was at the last insertion.
- Professional photographers often set their camera to write a RAW and JPG file to the memory card each time they take a picture. These files are then often imported into the computer in separate folders to work faster with the smaller JPG files. Often the failed JPGs are deleted. In order to delete the same pictures in the folder with the RAW files, select the function **Misc / Delete PhotoRAWs if no JPEG exists** in the context menu. The file selection opens with which you open the folder with the RAW files. Click **Open**. A confirmation prompt appears. Confirm the confirmation prompt to delete the RAW files you deleted in the JPG folder when viewing the images. Please note that files on external drives can not be placed in the trash but are deleted immediately. An undo is not possible. Only files deleted directly in the browser are kept in an invisible cache by GraphicConverter for the **Undo** function. If the files are stored on your boot drive, they will be moved to the trashcan on macOS.
- To quickly select images with a specific label or rating, you can use **Select Images** in the browser's context menu. Select a label or rating from the submenu to select all images that match this criterion. This can often be faster than changing the sort order accordingly and selecting the appropriate images with the mouse.
- The quality of thumbnails in the browser could be improved for Retina displays.
- If you start a search using the **Search** field at the top of the browser, you can define additional conditions. New is the possibility to search for pictures with a certain rating. If you want to search only for a criterion, but not for a part of the file name, you can enter a space in the search field. This is ignored and you can define criteria.
- If you save a file in PDF format, you can click **Options** in the File Chooser to choose settings. What is new is the ability to specify how the file is displayed in viewing programs such as Acrobat Reader in terms of **Page layout** (e.g., two-sided) and **Page mode** (e.g., previews).
- In the case of a duplicate search, you can exclude subfolders if, for example, they contain images in which you do not suspect duplicates.
- In **Preferences / General / Window**, you can choose a larger font for the **Position** palette to better read the content.
- In **Digital Lightroom** mode, if the font below the thumbnails in the browser is not enough contrast to the background, you can change the color in **Preferences /**

**Browser / Thumbnails** to white by turning off the **Darken sub info** option.

- If you edit the metadata of an MP4 or MOV file, it will be written to a sidecar file. If you also want to save the changes in the MP4 or MOV file, you can do so in **Preferences / Browser / Edit Metadata** processing. Also in this dialog, you can choose to have the IPTC title, description and heading written to the appropriate MP4 / MOV tags. Only then are these contents displayed in the QuickTime player.
- The display of the rulers on the left and top edge of the window of open images as well as the representation with color profile can now be additionally switched on and off via the **View** menu. So far, the rulers could be switched on and off via the **Preferences / General / Window**. So far, the color profiles could be assigned via **Edit / Assign Profile ...** and switched on and off via the round icon at the bottom of the window frame.
- Standard JPG files are opened up to about three times faster by the newly integrated jpegTurbo technology, which also speeds up the display in the browser.

## **New in GraphicConverter 10.6.8 and 10.6.9**

- In the context menu of the browser, you can use **Misc / Copy Label from JPEGs to Photo-RAWs** to transfer the labels. This is useful if you create a JPEG and a RAW file every time you take a picture in your camera, in order to be able to work faster with the JPEGs.
- You can now enlarge pixel art images by a factor of 2, 3, or 4 with **Image / Size / Pixel Art Upscale / HQ2 (3, 4) X**.
- If you select several images in the browser, you can combine them in a multi-page PDF (HEIC, TIFF) file using **Misc / Combine into PDF (HEIC, TIFF)** from the context menu. The HEIC format requires Mac OS 10.14 or later.
- When Rotating Anywhere ... and Anywhere ... you can now choose Original dimensions in the Trim dialog so that the width and height remain the same in pixels. But then wedges are added at the edges.
- When importing files in Windows icon format, different sizes are now displayed for selection.
- The default profiles for opening images have been moved from the Edit menu to Settings / Open / Color Profiles.
- In Settings / Browser / General you can choose an alternative brightness or color for the background of the browser if it is too dark or too bright for you.
- The effect menu has been structured more clearly.
- The dialog for setting the Exif date has been improved.
- The centered brightness filter is now also available as an action.
- In the context menu of the browser, you can select images / select live photos that you have taken with an iPhone.

- When opening EPS files, CMYK images are no longer converted to RGB images but remain in CMYK mode.
- Folders such as the "Pictures" and "Documents" folder specified by the Mac OS are actually called "Pictures" and "Documents" and are displayed in a translated format depending on the selected system language. Checking for a localized name takes time, which can be saved if you turn off the Localized Name option in Preferences / Browser / Output.

## **New in GraphicConverter 10.7**

- In the context menu of the browser, you can now add the path of an image to the IPTC description with **XMP IPTC / Append Path to IPTC Description**. This can help database applications find a file.
- **GPS Offset GPS Date / Time stamp** is useful if the GPS date / time stamp needs to be corrected.
- The filter **Dehaze...** is now also available as an action.
- The entries in the Keyword Palette can be cleared all at once using the gear menu at the bottom of the palette.
- When you export a keyword list from Lightroom, you can import it using the **Open** function in the gear menu of the Keyword Palette.
- In the lower right corner of the browser, you can select a criterion for sorting the images via a pop-up menu. New are the criteria **Rating and Aspect Ratio** as well as **Resolution & Size (Pixels) and name**. You can use sorting by **Rating and Aspect Ratio**, for example, if you want to sort all the pictures with the aspect ratio 2:3 and then the pictures with the aspect ratio 3:4 within the group of pictures with one star first to move them to different folders.
- Folders can be displayed in the browser separately from the files at the beginning or at the end. Select the desired sorting in the lower right corner of the browser in the pop-up menu **A..Z**.
- In the **Finder's Services** menu, the **Convert to JPEG format** functions are now available in 75 and 85%.
- In dialogues, the sliders can also be moved with the scroll wheel.
- If you have an animation open, you can back up the frames with **Safe each frame individually into individual GIFs (PNGs)**.
- If your pictures are after uploading to Google Photos in the wrong order, it may be because a date field other than the Exif date from the metadata is used. In this case, from the context menu, use **Exif / Copy Exif Date to all other Metadata Dates** to display the images in other programs in the correct order.
- If a folder is on a web server, the content on your Mac may be displayed very slowly in the browser. To avoid accidentally selecting these folders, you can select them in the

**Preferences** in the **Browser / Ignore folders** section. They are then no longer displayed in the file tree.

- The auto focus points of some Fuji cameras can be displayed. The option to show the autofocus points is in the **Faces** menu.
- When you open multiple images using the **Open With** feature, they are submitted so that they open as tabs in Photoshop. If you selected Preview as **Open with Application**, the images are displayed as a list below each other in a column to the left of the main window. You can find the **Open With** function in the context menu, and there is also an icon for the toolbar at the top of the browser. You can configure the toolbar with a Ctrl. or right-click and **Customize toolbar...**
- Due to a bug in the Mac OS, you can only turn off the effects in the slideshow on Mac OS 10.14.4 and later and on Mac OS 10.13.x and earlier.
- In **Preferences / Slideshow / General**, you can turn off the display of zoom level in percent during zooming.
- The **Find Duplicate Files ...** feature now resolves aliases and symlinks.
- The display of the aspect ratio in the browser has been improved. The values are now limited to a maximum of 18.
- When exporting from the cocooner, the exif date can be used as file date.
- The FTP upload has been updated.

## **New in GraphicConverter 10.7.1**

- The new action **Copy Original Now** is useful if you have used an **If** in a longer batch that has already been met because the file does not need to be recompressed.
- With the batch **Variable** you can set a variable, such as  $x = 5$ , to query it later.
- The keyboard shortcut Control + Option + Command + Space allows you to save the current image as an image file on the desktop while a movie is playing.
- You can now also export images in PFM format, which is especially suitable for HDR files.
- In the **Function** menu of the multiple conversion, the function **Convert PICT to JPEG (avoid recompression)** has been added. The PICT format is a container format and can contain JPEG images. If JPEG images are found in PICT files, they are extracted and backed up without recompression.
- When you show a grid using the **View** menu, you can use **View / Grid Options...** to choose to display the row and column number of the grid below the mouse in the Position Palette.
- When opening images, obsolete metadata will no longer automatically be copied to the IPTC / XMP data as this may cause problems.
- The if-condition of batches can now be made dependent on a part of the file name.

*New in GraphicConverter 10.7.1*

- Color profiles are recognized that are only entered in the metadata.
- The metadata of HEIC files can be edited. To do this, the EXIF tool is used internally.



## Index

### A

Add (Batch Function) 299  
 Add Alpha/Mask Channel 217  
 Add Remove/Margins 130  
 Add XMP record 52  
 Add/delete margin (Batch Function) 301  
 Adobe Bridge 265  
 allowing search engines to find your site 95  
 alpha channels 220  
 Amiga formats 6  
 Anti-alias 221  
 AppleScript 317  
 ASCII format 326  
 attachments (e-mails) 81  
 Auto Levels 187  
 automatic color correction 152

### B

background color 184  
 Batch Function 299  
 BMP format 326  
 brightness and contrast 150  
 Brightness/Contrast (Batch Function) 301  
 Bring To Size (Batch Function) 301  
 Browse Folder 18  
 Browser 228  
 Burn In 130, 187

### C

Calculate Mean 41  
 Calculate Mean Values 43  
 Cancel (Batch Function) 300  
 Catalog 87  
 Catalog (HTML for WWW usage) 28  
 Centric Involution 212  
 Change bit depth dynamically 80, 197  
 changing filenames to lowercase characters 93  
 Chromatic Involution 210  
 Close 26  
 CMYK 176  
 Cold-Warm Involution 213  
 color (HSV model) 209  
 color blindness 316  
 color correction 155

color depth 189  
 color permutations 209  
 color pictures 197  
 color profile with ColorSync 157  
 Color Rotation by 15 Degrees Clockwise 212  
 Colors 189  
 Colors (Batch Function) 301  
 ColorSync 157  
 Comment 72  
 Comment (Function) 302  
 Compare Pictures 79  
 Continue (Batch Function) 302  
 Control-click 145  
 Convert (Batch Function) 305  
 Convert & Modify 27  
 converting 21  
 Converting a Picture with Save as... 21  
 Copy with opacity 304  
 Copy with transparency 304  
 creating an alpha channel from transparency 216  
 Crop (Batch Function) 302  
 Crop region (Batch Function) 302

### D

Darken Linear 195  
 Date Created 50  
 Delete All Slices 86  
 Delete Slice 86  
 Destination 30  
 destination format 28  
 Detail 69  
 deutan (color blindness) 316  
 Diagonal (Sharpen Edges) 148  
 digital cameras 134  
 directory structure 236  
 Display Content from Low to High Resolution 75  
 Display Name 90  
 Display Picture from Top to Bottom 74  
 dither 195  
 Do not export (Batch Function) 303  
 Don't alert before overwrite 53  
 DRIMaker 314  
 drop area 237  
 Duplicate 152

## E

Edit Slice URL 86  
Else (Batch Function) 300, 303  
e-mail 16  
E-Mail (send image to e-mail program) 234  
Error Correction (Batch Function) 305  
Error Correction (Rotate) 145  
Escape 139  
EXIF – Shift /Set the EXIF timestamp 242  
EXIF information 71

## F

file format and compression rate 76  
file selection dialog 18  
Fill Selection with foreground Color 172  
Filter (Batch Function) 303  
Filter (display files) 18  
Find and Replace 197  
Find duplicate files 296  
Floyd-Steinberg 192  
Format 22  
Full Screen 186  
full screen 186

## G

Gamma (Batch Function) 303  
General Shortcuts 324  
GIF format 326  
GIF Transparent (Batch Function) 303  
GIF98a (transparency) 184  
GPS coordinates 307  
Grayscale (Batch Function) 303  
grayscale pictures 197

## H

horizontal 199  
HTML Basic 92  
HTML Meta 95

## I

IBM formats 6  
Icon/Preview 32  
If (Batch Function) 300, 303  
Important Formats 325  
Information 70  
Input Levels 188  
Installation 6  
Intel-Mac 336

Intensity of difference 79  
Invert 198  
Invert (Batch Function) 304  
Invert Selection 172  
Involution around the Red-Green Axis 214  
iPod – Pictures on iPod 281  
Isothermal Involution 214

## J

JPEG format 328

## K

Keywords 50, 95

## L

Label 265  
lasso 170  
Levels 187  
license key and registration 16  
Link Sliders 151  
Lossless JPEG cropping 170  
LZW 335

## M

Magic Pen 171  
manual 16  
Max Size (Batch Function) 304  
measuring 66  
Minimize Color Table (Batch Function) 304  
minimizing file size 75  
minimizing GIF pictures 80  
Mirror 199  
Mirror (Batch Function) 304  
Multi-language 6  
Multi-page file (creating) 337

## N

None (aspect ratio selection) 167  
Normal (Sharpen Edges) 148

## O

Open Recent 22  
Open Slice 86  
opening pictures 17  
Options 23  
Ordered-Dither 193  
Organizer formats 6  
Other Value (rotating a picture) 145

Other Value with Line 141  
 Overview 69

**P**

Palette 41  
 Paper Format 99  
 perspective unskew 202  
 PICT (Batch Function) 303  
 picture size 126, 187  
 pictures in e-mails 81  
 playing and editing GIF animations 208  
 Plug-in (Batch Function) 305  
 PNG (transparency) 184  
 PNG format 330  
 Position 60  
 preparing pictures for the Internet 74  
 preview (enlarged in the browser) 239  
 Print Catalog 99, 108  
 Print Folder 112  
 Problems with Opening and Converting Files 325  
 protan (color blindness) 316  
 PSD Photoshop format 332

**R**

Random Matrix 197  
 Rating 266  
 RAW format 332  
 Remove Alpha Channel 216  
 removing red eyes 173  
 Replace Color 197  
 replacing a color 197  
 resolution 128  
 Resolution (Batch Function) 305  
 Reveal in Finder 260  
 Revert 176  
 RGB 176  
 Rotate (a picture) 141  
 Rotate (Batch Function) 305  
 Ruler 73  
 ruler 20

**S**

saturation 152  
 Saturation (HSV model) 209  
 Save a Copy as 26  
 Save as 22  
 Save for web 78

Save only selection 25  
 Save Slices as 86  
 Save web ready (without resource) 76  
 save without selection 25  
 saving 26  
 saving a picture without a selection 25  
 saving a selection 25  
 Saving multi-page file as individual images 337  
 Scale (Batch Function) 305  
 Scale with last Values 130  
 scaling 126, 127  
 scaling picture size 126, 127  
 scanning with GraphicConverter 132  
 Search Color 197  
 Select all 166  
 selecting appropriate picture format 74  
 selection 165  
 selection tool 166  
 Set Format from Extension 23, 26  
 Set Last Values 152  
 SGI format 335  
 Sharpen Edges 146  
 Sharpen Edges (Batch Function) 305  
 Shortcuts 324  
 Shortcuts in Picture Windows 324  
 Show Alpha Channel (Batch Function) 305  
 Show Alpha/Mask Channel 215  
 Sides 139  
 slices 81, 85  
 Slide show 282  
 solarisation 198  
 Sort Color Table (Batch Function) 305  
 sorting (in the browser) 236  
 Sound (Batch Function) 306  
 Source 30  
 Split JPEG data stream into single JPEGs 30  
 splitting 24  
 square 90  
 Stamp 133  
 starting the program 17  
 Stop batch 305  
 Sub Category 50  
 subfolders 53  
 support 16  
 System Requirements 6

## Index

### T

text conversion 30  
Text in Pictures 220  
text tool 220  
THM file 233  
threshold 192  
Threshold (Batch Function) 305  
TIFF format 335  
Tolerance (when trimming) 139  
Toolbox 62  
transparent 184  
Triangle 195  
triangle for opening folders 238  
Trim (Batch Function) 306  
TWAIN 132  
TWAIN Acquire 132  
TWAIN Open Source 132

### U

UFS partitions 26  
Undo 144, 176  
Unicode 239  
UNIX formats 6  
Unselect 139, 165, 172  
Unskew 202  
update 11  
Urgency 50  
user-defined filters 209

### V

Value (HSV model) 210  
Vectorize 220  
vertical 199  
Video (Batch Function) 306  
video pictures 227  
View as Non Proportional 187  
View as Proportional 187  
View at Original Size 186  
View Item(s) in Slide Show 261

### W

What is color depth? 190  
White Correction 205  
Word file (export images) 30  
work environment 60  
[www.lemkesoft.com](http://www.lemkesoft.com) 11

### X

XBM format 338  
XMP 48  
X-Resolution 128

### Y

Y-Resolution 128

### Z

zoom 185





