

**Warning: This tool is completely unsupported and there are no guarantees that it will work. Read the license for full terms and conditions.**

We are releasing this tool as a means for photographers who do not have a fully color managed application such as Adobe Photoshop to use for image processing. Many entry-level applications such as Adobe Photoshop Elements do not support converting images to different ICC profiles. This is necessary for printing at remote labs and other printers not connected directly to your computer. This allows photographers who do not own a fully color managed application to get many of the benefits of using the ICC profiles available on our web site for hundreds of photo labs around the world.

Dry Creek Photo's Profile Converter software is free for downloading and use. It is offered as an aid to the photographic community at large. The Profile Converter software converts tiff format images between ICC profiles. Both RGB and CMYK images are supported, as are conversions between the two. This software will likely be updated to add other features for profile management.

If you are unsure of how ICC profiles work, please read the [tutorials on our web site](#) or a [good Photoshop or Color Management book](#). These instructions assume a familiarity with ICC profiles and how to use them.

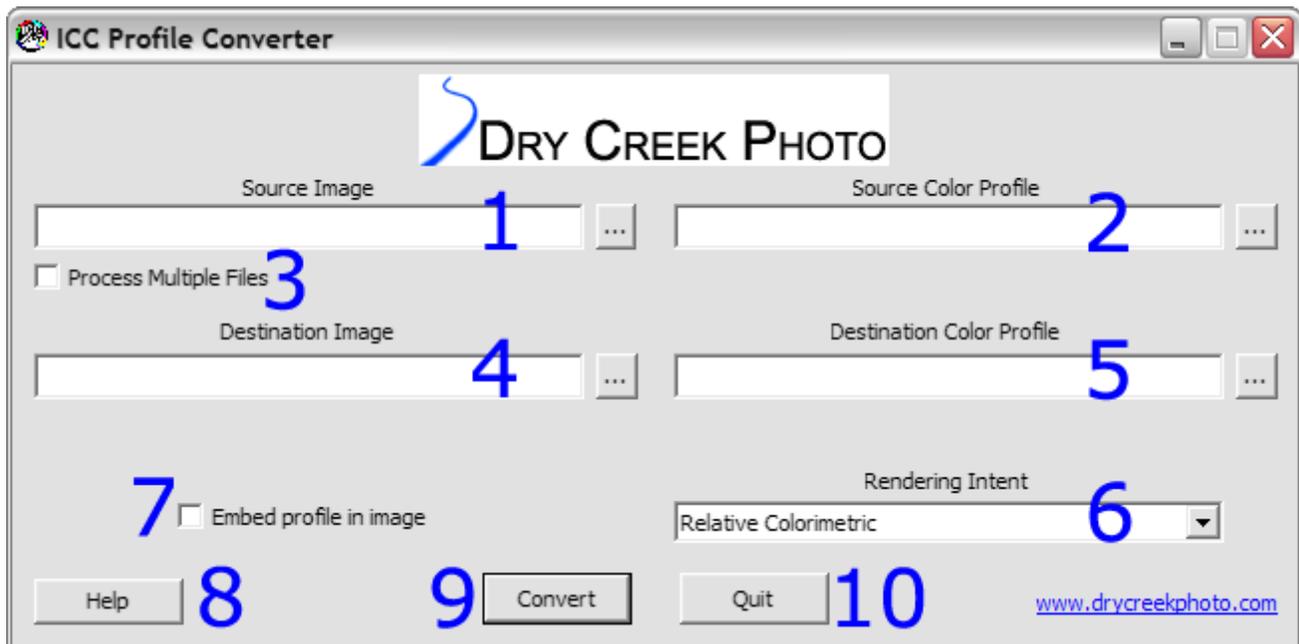
Finally, a hardware-based monitor calibration system is strongly recommended if you are concerned with color spaces and conversions between them. Without an accurately calibrated and profiled monitor, you can not trust what your eyes see. Our web site has [reviews](#) of many currently available monitor calibration systems.

## Using the software

What the software does: It converts a tiff image from one color space to another. The program can also convert all tiff images in one folder to the desired color space.

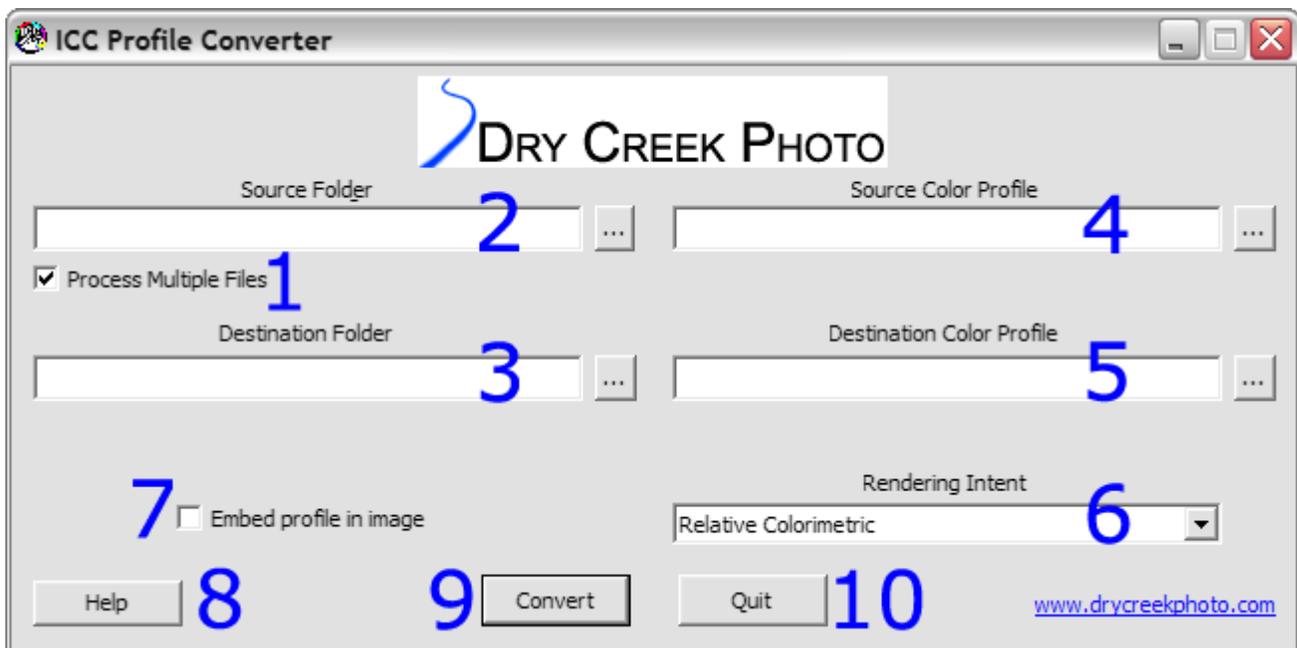
How to use it (One image):

1. Select the image you want to convert. This must be an 8-bit tiff. Most layered tiffs can be processed, but the output image will be flattened.
2. Select the color profile this image uses. Sorry, but this is not read automatically from the image.
3. Do not check Process Multiple Files.
4. Select the new image you want to create. This can either be a new file, or an existing one. Warning: Existing files will be overwritten!
5. Select the profile you want to convert to.
6. Choose a rendering intent. (More on this [below](#))
7. Check the "embed profile" box if you want to embed the profile in the destination image. This is useful for evaluating the effect of different rendering intents. Images destined for most photo lab printers should *not* have the profile embedded.
8. Brings up all the help there is.
9. Performs the conversion. The process is not as fast as with Photoshop.
10. Good bye.



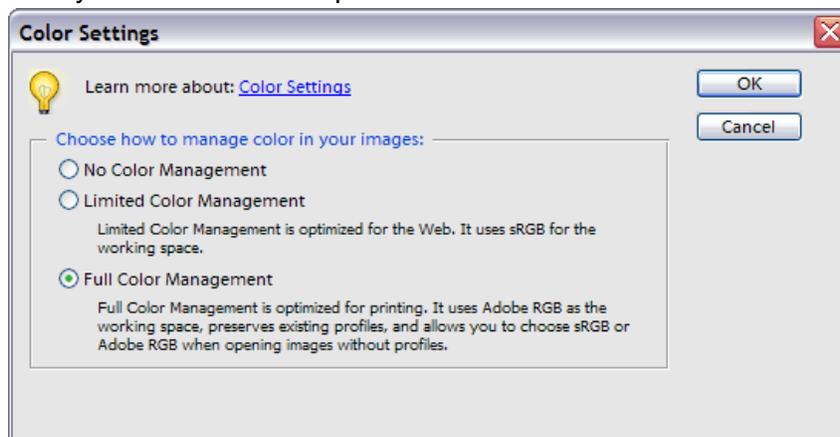
How to use it (Multiple images):

1. Check Process Multiple Files.
2. Select the folder containing the images you want to convert. All valid tiff images in this folder will be converted. These images must all be in the same color space.
3. Select the folder to place the converted images in. Converted images will have the same name as the originals. Most layered tiffs can be processed, but the output image will be flattened.
4. Select the color profile this image uses. Sorry, but this is not read automatically from the image.
5. Select the profile you want to convert to.
6. Choose a rendering intent. (More on this [below](#))
7. Check the "embed profile" box if you want to embed the profile in the destination image. This is useful for evaluating the effect of different rendering intents. Images destined for most photo lab printers should *not* have the profile embedded.
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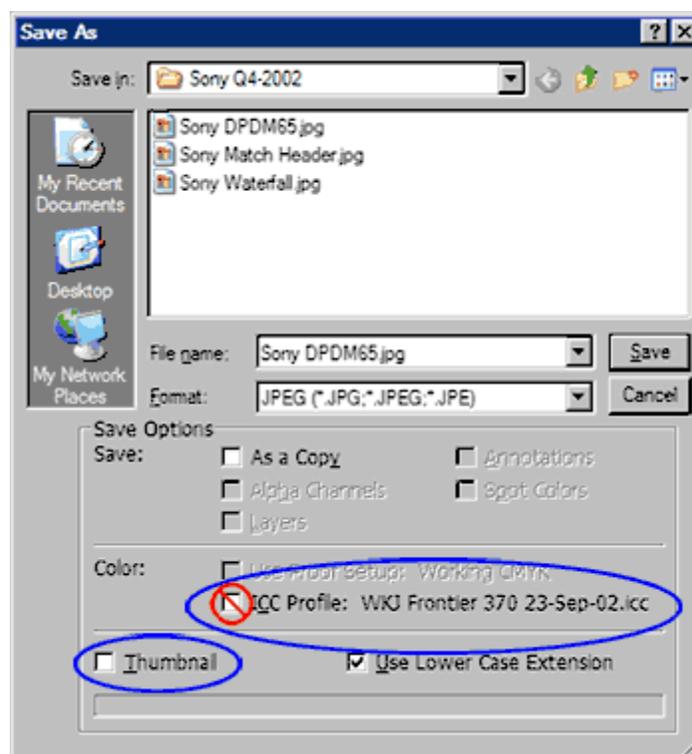


## Example Photoshop Elements Workflow

1. Set the Photoshop Elements Color Settings to match your input color space. Select "Full Color Management" if your images are in Adobe RGB or "Limited Color Management" if you use sRGB. Those are the only choices Elements provides.



2. Edit the image until you are happy with it.
3. Use the ICC Profile Converter software to convert the image to the profile you want to use. Use the rendering intent that gives the best output based on image content and the printer and paper being used. See the [discussion below](#) for details on this topic.
4. Open the converted tiff file in Photoshop Elements. If you did not select the "Embed Profile" option in the Profile Converter, the colors will be weird. Don't worry – this just shows how the colors need to be adjusted to print correctly.
5. We recommend saving the image as a maximum quality jpeg for most photo lab work. There will be essentially no quality loss vs. a full tiff, and there are fewer compatibility issues.
6. Do not embed the printer profile for most photo lab printing. Most lab printers ignore embedded profiles, so this just adds over 1MB of useless data to each image, slows printing, and can cause images to print incorrectly on many photo lab printers.



## Limitations

- Only TIFF format images are supported. We suggest re-saving the converted images as jpegs using your favorite image editor if you are printing at a remote lab.
- 16-bit files are not supported. Most layered images are handled correctly, but the output file will be a flattened tiff. The Profile Converter software performs basic checks on file formats, but may well not catch all possible conflicts. If the profile conversion status bar never moves past 0% complete, the file format is probably wrong.
- The software only runs on Windows. It has been tested on Windows XP and 2003 Server. It probably runs on Windows 2000. Other Windows flavors are untested.
- The Absolute Colorimetric rendering intent is not supported. If this is something you require, you need the power of Photoshop.
- Adobe's Black Point Compensation is not supported. This means Relative Colorimetric conversions can clip shadow detail in some images.
- There is neither a image viewer nor a preview of the conversions. You will need to use your image viewer or editor for that.

## Technical details

- Rendering intents: These control how the colors in your source image are converted to the destination color space.
  - Relative Colorimetric rendering often produces the best results. The lack of Black Point Compensation in our software means that some images will lose shadow detail. Roughly speaking, only colors that can not be printed accurately in the destination color space are altered (extreme highlights excepted). This makes for the least overall color shift, but can lead to banding if the image contains many colors that exceed the range of the destination color space.
  - Perceptual rendering alters all colors in the image in an attempt to smooth out the visual discontinuities that can result from Relative Colorimetric rendering. Profiles built by Dry Creek Photo also use the Perceptual intent to open shadow detail.
  - Whether the Saturation Rendering intent is useful depends on the profile. Most existing profiles either map the saturation tables to the perceptual data, making the two identical, or reserve Saturation rendering for business graphics such as pie charts and PowerPoint presentations. Neither is of much use to a photographer. Profiles built by Dry Creek Photo since mid 2004 all utilize a new Saturation rendering algorithm. It falls between the Perceptual and Relative Colorimetric intents in tonality, while being biased towards maintaining overall saturation. For any images where more saturation is desirable, our Saturation rendering output is recommended.
  - **Summary:** Which rendering intent performs best depends on your tastes, the image content, and the profiles used. The best approach is to convert a handful of images using each rendering intent. Choose the "Embed Profile" option and open the converted files in an image editor that honors embedded profiles (e.g. Adobe Photoshop or Paint Shop Pro). After reviewing different images you will get a feel for which rendering intent best pairs with a given image.
- Profile conversions are performed using a color engine that combines International Color Consortium code with our own design. It does not use the Windows ICM color engine, as we could not get sufficiently high quality output from it. (Probably more a function of non-existent documentation for the ICM functions, and buggy interfaces than a technical limitation).
- Color conversions performed by the Profile Converter software are not up the quality standard of Adobe Photoshop or other Adobe products using the Adobe Color Engine. If you need the best quality, buy Photoshop.

We wish you success in all your photographic endeavors,

Ethan Hansen  
Director  
Dry Creek Photo  
June, 2005

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