8. Tips & Tricks

Here are some things you should remember when using the ICS software:

Speed and LUT Cache

ICS does use several types of LUTs (Look Up Tables) and interpolation in order to speed up color correction. Without LUTs even on a 68040 with FPU it could take days to color correct a DIN A4 sized scan. In order to get the job done much faster, ICS does precalculate a relativly small number of colors and all other colors are than interpolated during runtime.

Everytime you start ICS with altered preferences, the LUT has to be recalculated causing a delay of up to several minutes. Once calculated the LUTs are stored in a file in the `ICS_Profiles:ICS_CACHE` drawer. Next time you color correct an image it only takes 1-2 seconds to load the LUT from disk again.

If the drawer does not exist, no LUT will be saved on disk causing the library to recreate the LUT in memory on each run.

Output to bright or dark

If you do get too dark or too bright images using ICS, it is extremly unlikely a fault of the scanner calibration. Most likely the monitor settings are not correct. As a first step, you should adjust your `Display Gamma` setting of your monitor in `ICSPrefs` until the output has the correct brightness. Also check the `Surround Relativ Luminance` setting. Only than start judging the hue and saturation of colors scanned.

Precission

The minimum precission of ICS is currently 16 Bit per channel. Basicly all internal calculations of ICS are done using IEEE 64 Bit floating point. So you don't have to worry about color faults because of low precission when using ICS.

Currently the characterization of the scanner is done with an average fault below CIE Lab dE 1.

There have been no test on the quality of the monitor characterization and gamut mapping used by ICS. But test performed on similar routines indicate an average fault of dE 2 up to dE 6 depending on the circumstances. So if you do see a color fault after using ICS, it's most likely your monitor settings or a bad viewing environment that should get fixed.

Grayscale Images

It is recommended to let ICS convert color data to grayscale data if grayscale output is wanted. Using a scanner in grayscale mode might cause differences compared to the calibration target scanned using the scanners color mode. As a result, there might be certain (usualy very minor) correction faults. In case your scanner software does not allow scanning using ICS with the scanners source mode being color and the output from ICS being grayscale: use `ICSConvert` to convert the scanned color files to grayscale. `ICSConvert` does offer a `GRAYSCALE` startup argument for this purpose.

Dithered Images

Color correcting photo images stored in files with 256 or maybe less colors is often not working 100% correct. The main problem is, that these image files use dithering in order to simulate more shades to the human eye than there are in the image. There is currently no way to color correct these images with full quality.

Scanning Newspapers

Similar to the problem with dithered images described above, scanning halftoned images from newspapers and magazines may not work completly. ICS might not work completly to your liking when scanning halfoned images. These images do not really contain shades like it might appear to the human eye. Shades are simulated (halfoned) by a pattern of dots with 4 colors (CMYK). In case the results are not to your liking, try to scan using a lower resolution or try getting the original photo.