

# Why SilverFast PhotoProof ?

Let's say as a photographer you have provided an assumed color-consistent proof with your digital image files to the printer or client. Now the resulting prints from the offset printer deviate considerably from the provided inkjet printouts -> "proofs"! Which party made a mistake. Will the photographer be able to provide evidence of the offset printer's fault, which will make the printer liable to meet the costs for the regress? Or will the photographer cover the costs because the printouts from his inkjet printer can create a much larger color gamut than the offset printer could ever produce on his machine? The client will surely not appreciate the situation and having to discuss this issue.

SilverFast PhotoProof is the first software for professional photographers that provides a solution for legally binding, color-consistent proofs on appropriate generic inkjet printers. There is no capital investment necessary for the acquisition and configuration of a complex RIP. For the first time the photographer is issued a tool to maintain a commensurable process control. In order to achieve this SilverFast PhotoProof on the one hand uses control strips developed and certified by the international renowned scientific Fogra institute and on the other hand the reference profiles for the offset printing process according to the process standard offset print and DIN/ISO norm 12647-2:2004. The media-standard-print published by the federal association for print and media ([www.bvdm-online.de](http://www.bvdm-online.de)) defines the guidelines under which a digital inkjet proof can be credited as color-consistent and legally binding. This powerful combination of international standards and tools will save the photographer a lot of time consuming discussions and will eventually leave him with more time to shoot beautiful images again.

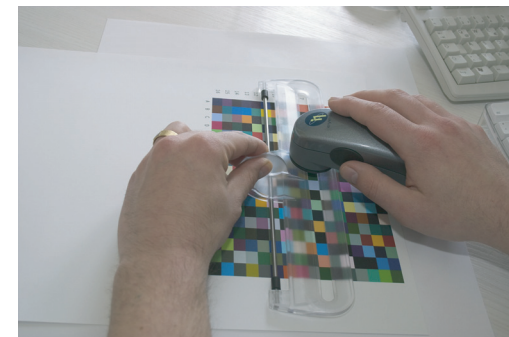
## 1a.) Calibrating / Profiling the printer

The utilized proof printer has to be calibrated and profiled to the applied paper and ink combination. This characterization will be saved in the shape of an icc-profile. It is applied to ensure the optimum results with the maximum color space possible in the final print.

The creation of the printer profile itself can not (yet) be done from within SilverFast but rather from an external application, which will print a special color chart, which subsequently will be measured by a spectral photometer (please allow 30 minutes of drying time before creating the profile).



Printing the RGB-chart



Measuring the chart

## 1b.) Calibrating / Profiling the monitor

A monitor is always needed whenever digital images need to be visualized. The monitor needs to be adjusted and calibrated correctly hardware-wise in order to display the images accurately. Lightness and contrast can be checked by applying a monitor test image, which can simply be embedded as a monitor wallpaper, or by using a measuring device and the according software.

Subsequently to the hardware calibration, an appropriate icc-profile needs to be created and applied with the aid of a monitor measuring calibration device and the according software.

The profile created merely needs to be set as default monitor profile in the particular operating system and SilverFast PhotoProof will automatically utilize the created profile in order to display the digital images correctly on the monitor.

To check on these settings you can find them on the PC under Control panel /Display/Settings /Advanced /Color Management and on the Mac under Control panel/Monitor/Colours.



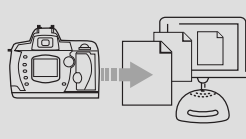
ECI Monitor test image. Available for download -> [www.eci.or](http://www.eci.or)



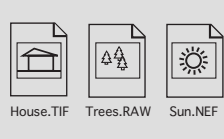
Monitor calibration with the Gretag Macbeth EyeOne Display



Calibrating/Profiling hardware



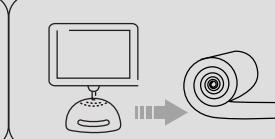
Importing files



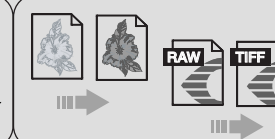
Renaming and image selection



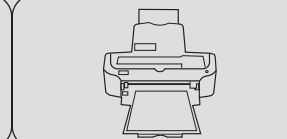
Activating PhotoProof



Softproof to the calibrated monitor



Color correction and conversion



Output on the proof

In our showcase we will use the GretagMacbeth EyeOne spectral photometer for the evaluation of the Fogra media wedge and therefore the appropriate media wedge "MKV20X" is provided and can be chosen. The appropriate media wedge for all supported measuring devices is listed in the documentation.

Since the images in our example will be processed and "proofed" for a sheet-fed offset printing process with a 150 lpi screen on a standard coated paper, we will choose the appropriate reference profile "Isocoated". Please find further information about the different offset standard profiles on the web page of the European Colour Initiative → [www.eci.org](http://www.eci.org)

The next step is to choose the processing method in order to reduce the larger rgb color space from the camera to the relatively smaller printable range of the offset printing process. This can be of significance if the image contains highly saturated colours, that simply can not be reproduced with the offset printing process, due to the used paper and printing substrates.

The "perceptive" rendering intent will not simply clamp these highly saturated colors but will adapt these colors into the printable range. The disadvantage of this method is that the colors which are within the printable range will be changed also in order to fit the out-of-range colors.

The "relative colorimetric" method will not change the colors within the printable range but simply clamp those out-of-range colors. The software lets you choose individually and since our image contains some of those highly saturated colors, we will choose the "perceptive" method for color matching into the reference color space.

The paper simulation is activated by default and should remain activated since the simulation of the paper tone enables the user to predict the color performance on the final output.

Because of this and in order to maintain legally

binding proofs, all proofs should show the simulation of a paper tone.

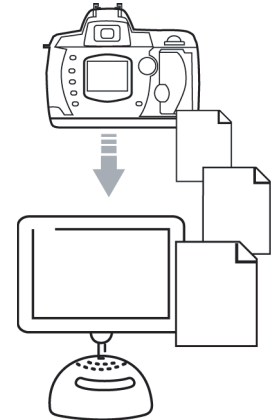
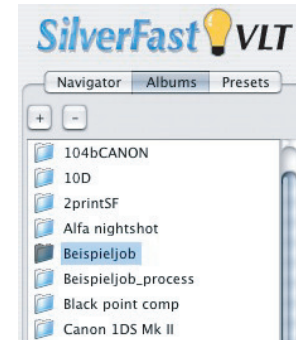
In the last step of this dialogue we will define the location on the hard disk where the resulting cmyk images will be saved automatically. This makes sense if you would like to provide the CMYK files with the proof to the printer or prepress. Alternatively the edited media-neutral RGB file can be provided along with the proof to the printer. There is definitely no reason to worry about such things like out-of-range colors on your proof, because it simulates the color space of the final print run. It is mandatory for the printer to be able to reproduce the colors as they can be seen on the proof.

### 3.) Transferring a digital image to the SilverFast main dialogue and the activation of SilverFast PhotoProof:

By double clicking the imported digital image it will be transferred to the SilverFast main dialogue. Before we can start editing the image for the proof, SilverFast PhotoProof needs to be activated from within the according dialogue under the "General" tab.

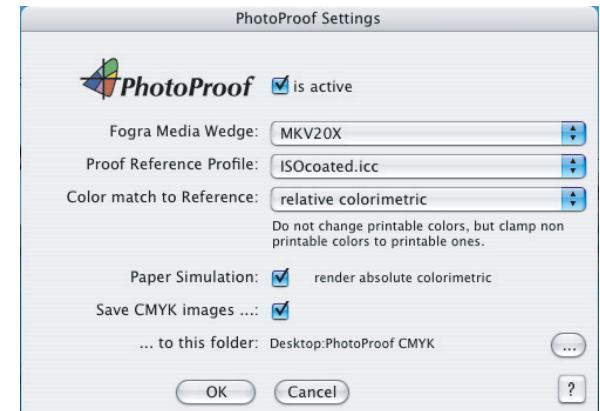
### 2.) Importing and renaming image files:

The SilverFast VLT will let you import and rename the recorded images simple and fast before organizing the images in an Album, in the following newly created and named "Sample\_originals". In order to save the image which will be edited and processed later, we will create another new album right away, in the following called "Sample\_process".



This dialogue will let you choose all the necessary settings:

- Fogra media wedge applicable to the relevant measuring device
- reference profile
- rendering intent for the color conversion method to the reference color space
- simulation of a paper tone
- destination of the saved cmyk images in the chosen reference color space for the delivery along with the proof



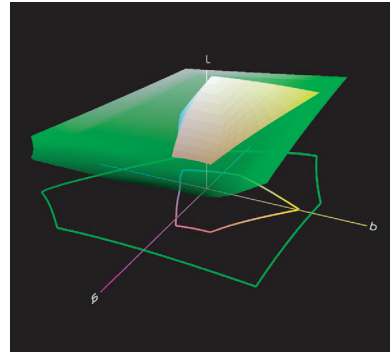
SilverFast PhotoProof dialogue

#### 4.) Softproof / Preview of the resulting print within the SilverFast main dialogue:

Due to the assigned combination of papers and printing substrates most common printing processes have limited color reproduction capabilities. The illustration shows the relatively big "working space" AdobeRGB1998 (green= in comparison to the ISO reference profile "Isouncoatedyellowish" (rainbow). But what will our image in AdobeRGB look like once processed to the chosen destination profile? Will the colors of the image change awkwardly? In the past these questions have been answered to the photographer either by the printing machine itself

or by an expensive and externally created contract proof. I guess this procedure could very well be called "blind flying".

SilverFast PhotoProof offers a workflow, to display the expected results of the final output on the monitor, while editing the images (within the physical boundaries). The simulation of the output process will be shown via softproof on the calibrated monitor as soon as SilverFast PhotoProof gets activated. Naturally this means that potentially false color conversions can be previewed, measured and corrected up front.



■ AdobeRGB1998  
■ Isouncoatedyellowish

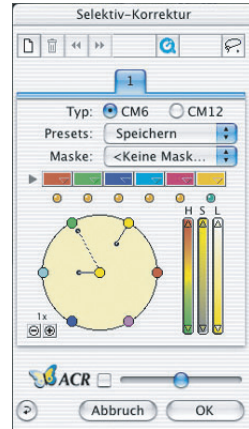
#### 5.) Color correction and conversion:

After activating SilverFast PhotoProof, we can start editing the images. Every single editing or enhancement will be displayed as a softproof of the final result up front.

After all the necessary editing was done the images can be processed and saved as Tiff, JPEG or JPEG2000 into our prepared album "Sample\_processed" all in one step.

##### Note:

All images are available in the familiar RGB color space throughout the whole workflow. A separation to the reference offset CMYK color space takes place in the background and will not affect the photographers work.



selective color correction in SilverFast main dialogue



original (AdobeRGB)



uncorrected (Isocoated)



edited (Isocoated)

Foto by Jean-William Rossée

#### 6.) Printing the Proof

In order to actually print the proof we will stay inside SilverFast and simply switch from the VLT to the enhanced print dialogue. At first we can clearly see the chosen media wedge now on the preview of the print page document, as well as the according control line which automatically contains all the necessary information about i.e. which output process is simulated on the proof and more. This information is mandatory for a later review whether or not the proof simulates the according printing process correctly. The images that need to be proofed will simply be dragged&dropped to the print page document, just as if SilverFast PhotoProof was not activated.

With the help of the very same spectral photometer used for the printer calibration/profiling we can now perform the evaluation of our proof via the media wedge.

##### Note:

Please leave a time frame of approx. 30 minutes between the printout and the evaluation of the proof in order for the inks to properly dry on the paper. Please make sure to use one or two layers of the paper used for the proof when measuring, because these measuring devices are highly sensitive and eventually gleaming images, text or structures could falsify the measuring results. uncorrected (Isocoated) edited (Isocoated)





## 7.) Evaluation of the Contract Proof:

SilverFast PhotoProof includes the Fogra media wedge, which is a acknowledged control strip in the line of international standardisation efforts. The evaluation of this is not complicated because we can utilize current measuring devices and the relevant software, like the Measure Tool from GretagMacbeth. In the newer versions since 4.1.5 the evaluation has become even simpler and faster. The use of the Measure Tool for the evaluation of the mediawedge is a free service for all users of GretagMacbeth measuring devices, because no dongle or serial is necessary. It is available for download from [www.gretagmacbeth.com](http://www.gretagmacbeth.com) under Products->Support->Software->Profile-maker 5. The Measure Tool software can be chosen during the installation process.

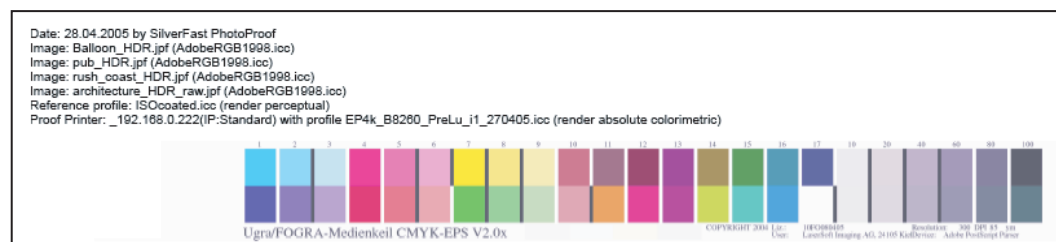
We will use the current EyeOne spectral photometer measuring device for our evaluation of the media wedge. Therefore we need to undertake some settings according to the displayed screenshots.

The reference profile chosen in the proof determines which reference measuring values we need to take into account for the evaluation. SilverFast PhotoProof on-the-fly automatically creates a control strip on the proof, which describes exactly which reference profile was used in the workflow and which method was used for the conversion. This valuable information needs to be passed along with the contract proof for a legally binding proof. (reference control strip).

After choosing the according reference values, in our example "2x\_MW2\_FOGRA27L\_SB.txt" for the IsoCoated reference colorspace, we can start the measurements, after calibrating the measuring device to it as supplied white reference subsequently we can start measuring the color patches of the media wedge. After saving the created measuring values we can actually generate a Report as a PDF-file in the subsequent dialogue.



Measuretool\_Fogra27L



Reference control strip

**GretagMacbeth MeasureTool 5**  
- FOGRA Medienkeil -  
**Kurzreport**

Proofer:	Epson Stylus Pro 4000
Rendering Intent:	Absolut colorimetric
Papier:	EFI Remoteproof paper 9180 semimatt
RIP:	SilverFast PhotoProof
Verfahren:	Offset
Rasterfrequenz:	60/cm
Tonwertzunahme CMY 40 %:	13%

Druckbedingung:  
Akzidenz-Offsetdruck, Papier wie Papiertyp 1 oder 2, d.h. gl. oder matt gestr. Bilderdruck, jedoch 115 g/m<sup>2</sup>.  
Positivkopie, periodischer Raster 60/c\_@\_-T-ne und Tonwerte nach ProzessStandard Offsetdruck und ISO/DIS 12647-2:2003

Messbedingungen:  
Messbedingungen nach DIN ISO 13655: CIELAB-Werte, Messgeometrie 0/45 oder 45/0, 2-Beobachter, D50, jedoch weiße Unterlage

Zusammenfassung:

Kategorie	Überprüfe auf	dE	Ergebnis
Papierweiß	<=3.00	1.54	OK
Durchschnittliches dE	<=4.00	3.00	OK
Maximales dE	<=10.00	6.67	OK
Primärfarbe C	<=5.00	2.16	OK
Primärfarbe M	<=5.00	2.07	OK
Primärfarbe Y	<=5.00	1.70	OK
Primärfarbe K	<=5.00	3.10	OK

>> Die analysierten FOGRA Medienkeil Messdaten SIND innerhalb des Standards ! <<  
**MeasureTool 5, 27.04.2005**

Report

## Summary:

If we now return to the question we asked in the beginning of this workshop, we can clearly state the answer now. SilverFast PhotoProof lets every photographer create legally binding contract proofs, which simulate an internationally standardized offset printing process, a so called output process, on any appropriate inkjet printer. Additionally every photographer will receive the certified security and control, if the simulation of the printing process on the appropriate inkjet printer was successful.

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