



by Agostino Maiello ©

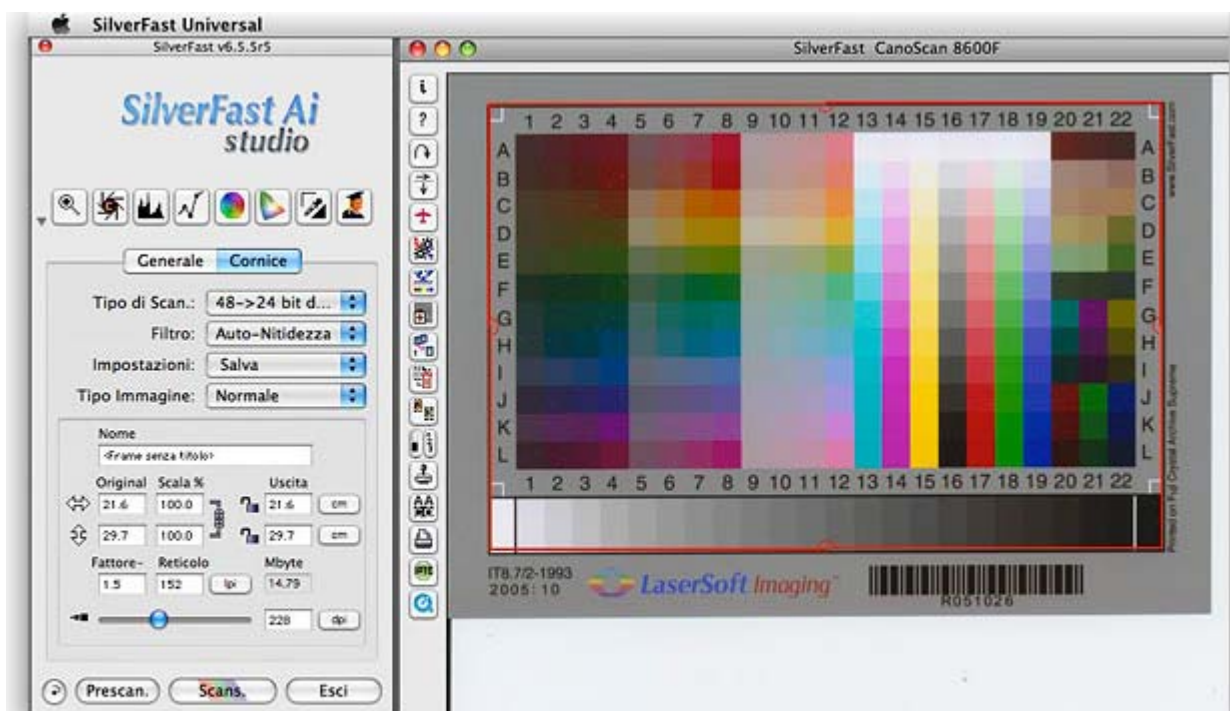
SCANNER AND PRINTER CALIBRATION WITH SILVERFAST Ai

The biggest issue for anyone working with digital imaging is possibly color consistency within the entire workflow. But thanks to a new Color Management feature, the SilverFast® scanning software from LaserSoft Imaging® can be very helpful.

It is the dream of every digital imaging operator: dealing with a picture that always looks the same, regardless of the processing device: scanner, monitor or printer. Absolute consistency is impossible to achieve, due to objective limitations with colors that each device can render and/or process, but high quality results can be obtained with a color management system that is up to the job; and device calibration is a crucial step.

The SilverFast scanning software (Ai or Ai Studio version) can calibrate a scanner using the IT8 Option, and so improve color consistency of the workflow. Let's see how.

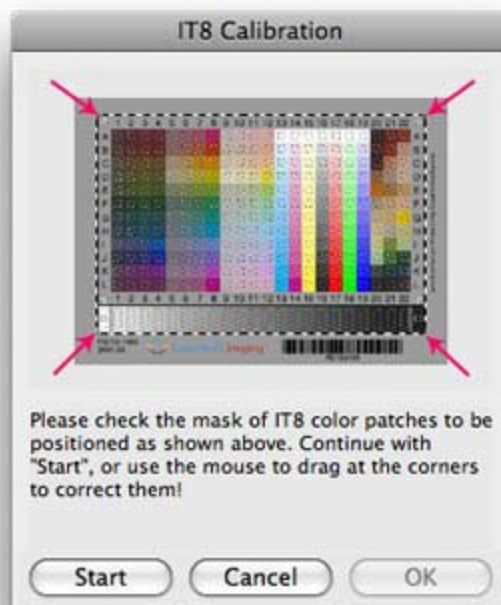
It's worth noting that, to achieve good calibration, it is better to work with a scanner that has been operating for some time. The calibration process is very simple: just launch the SilverFast software, then place the IT8 target (provided by LSI) onto the scanning area, and perform a pre-scan, in order to check that the target is in the right position, as shown in Fig. 1. This prescan isn't necessary for the Auto IT8 Calibration. However, it is recommended to let the scanner achieve its operating temperature.



After that, just click on the IT8 Calibration button (it is the seventh one from the top). If you are using the Auto IT8 Calibration just wait a moment until SilverFast notifies you of the successful calibration (fig. 2).



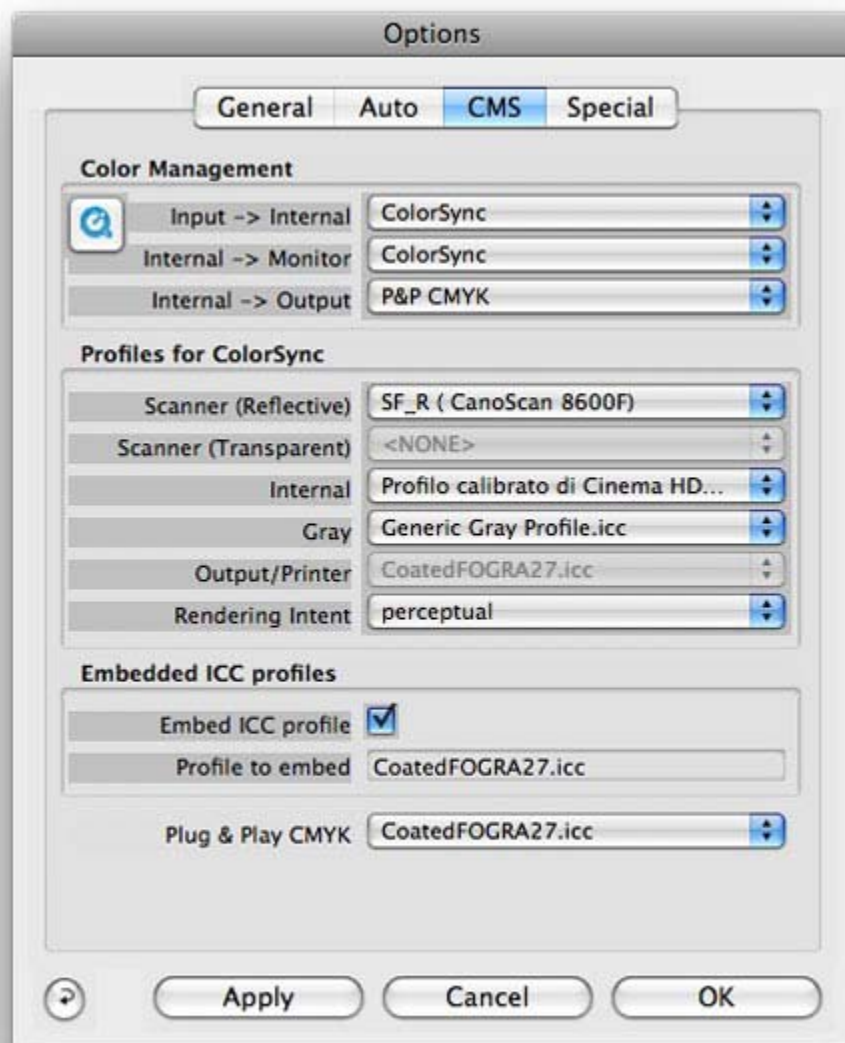
When calibrating manually the preview window (fig. 3) can be of help to check if the target corners are aligned to those of the scan frame. If not, you have to drag the frame corners on to the target corners using the mouse.



Thereafter we can start the actual calibrating process. A notification, which you have already seen in Fig. 2, informs you of successful calibration.

It is important that before performing calibration, both the target and the scanner surface area are clean. A DeltaE value output by the scanning lower than 2 is fine; if it is above 4, we'd better try with another target.

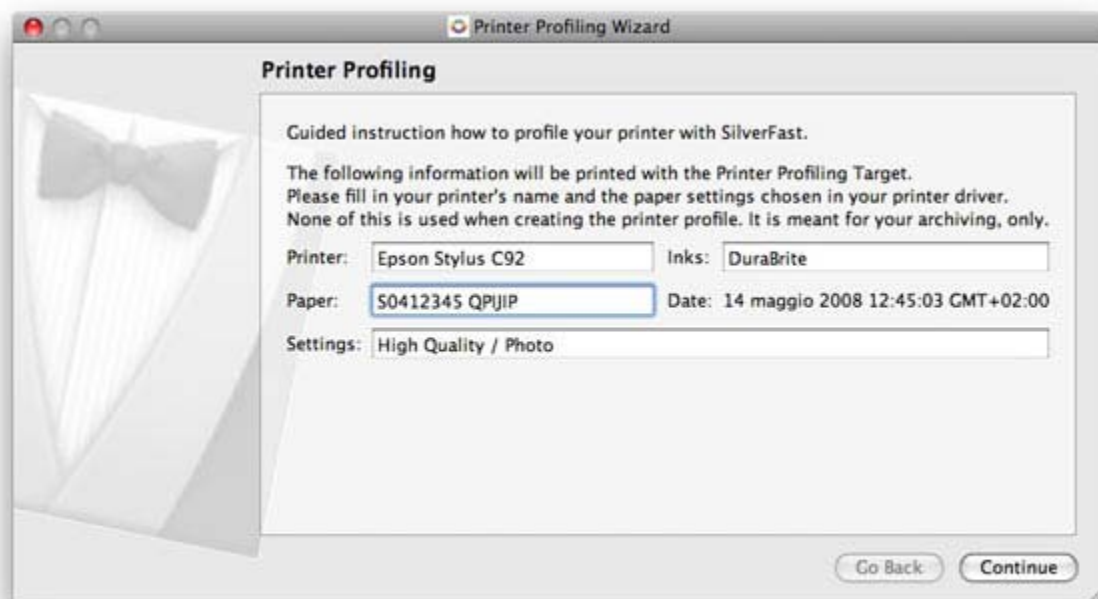
The SilverFast software reads the colors represented on the target – as the scanner has read them – and compares them with the reference values (as described within a specific file linked to each target; SilverFast finds the right file through the barcode printed on the target). In this way, SilverFast creates a specific color profile for the scanner and, in the Color Management System window (shown in fig. 4; you get there by clicking on GENERAL, then OPTIONS, and then CMS), it is possible to set SilverFast so that it manages the color through the profile it just created.



In this example we decided to use ColorSync (Mac OS X's color management system) for managing the color consistency both between the scanner and SilverFast (Input Internal) and across SilverFast and the monitor (Internal Monitor). Among the color profiles, we can now see the SF_R (CanoScan 8600F) profile, the reflective profile we just created. If we perform all the steps one more time, with a transparency target, we will also create a transparency profile for that same scanner (and it will be shown in the field "Scanner Transparent"). The internal profile is the one used by the monitor and, as a general guideline for digital imaging, we suggest setting the rendering intent to perceptual. In addition, it is important that the same profiles are set in Adobe Photoshop.

The printer

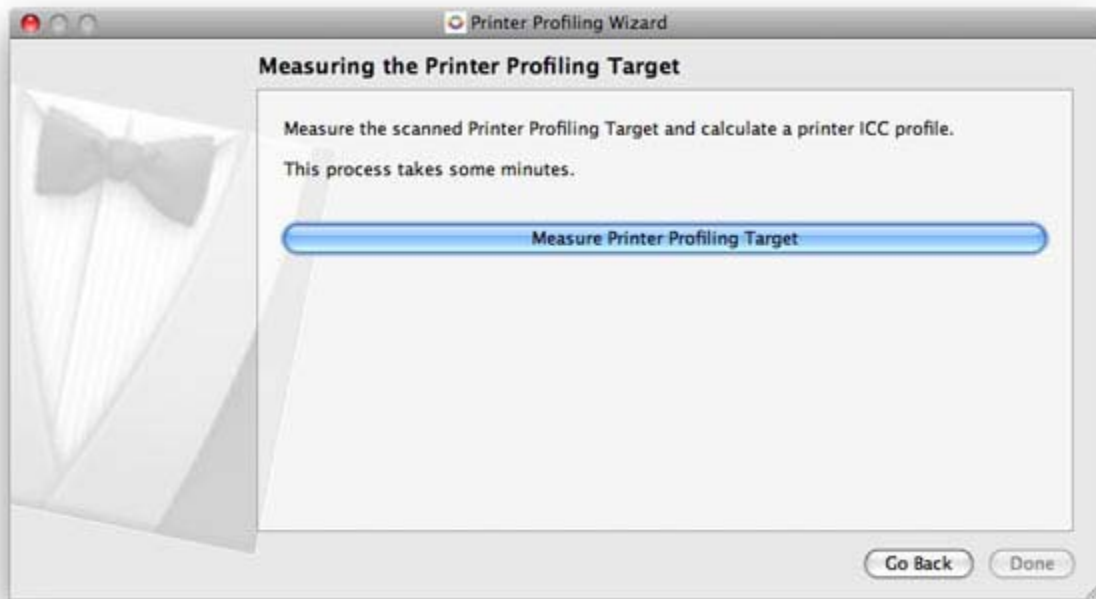
Thanks to an additional feature that has just been released, Printer Calibration, it is now possible to perform a printer calibration process, and so cover the whole workflow, from scanning to printing. If the monitor is already calibrated – and the scanner too, of course - the process is, again, very simple.



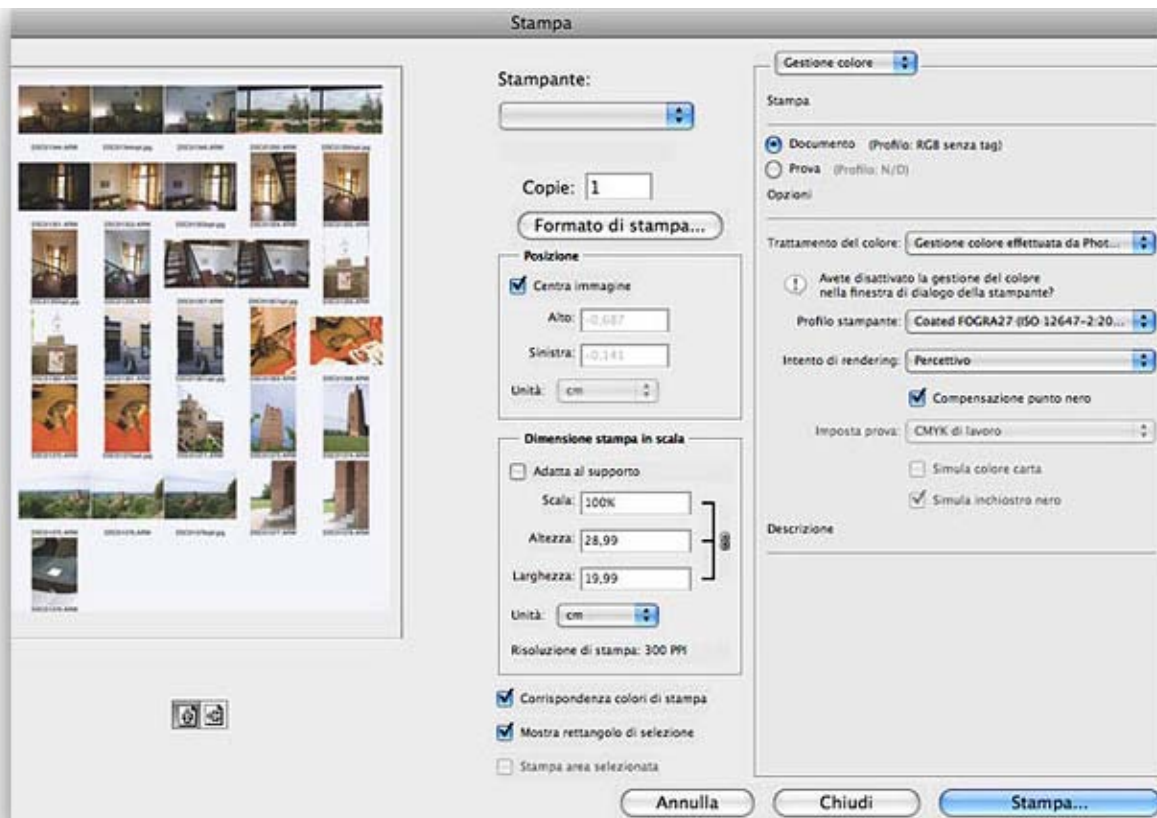
Once the printer heads have been cleaned and aligned, we must choose the paper to use and set it in the printer driver; then we can click on Printer Profiling (this button is just below the scanner calibration button). A panel will appear, that we can fill with some information (printer's model, paper, inks...); actually we can write whatever we like, since this information is only for reference and future archival purposes.

After clicking on OK, the software will print the calibration target; now we just wait for it to dry before scanning it, according to the guidelines provided on screen by the software. It is crucial that before scanning the target, any color management system has been disabled in the printer's driver. And, if the paper used is thin, it is advisable to put some extra sheets behind the target during scanning: in this way we prevent any inconsistency or unpredictable results due to light transmission through the target.

Once the scanning is completed, we click on Measure Printer Profiling Target and wait for SilverFast to complete its job (fig. 6).



After this step we have a new profile for our printer (associated with the paper used), that we can save on our computer. From now on, each time we want to print an image with Photoshop, this profile must be selected in the Print menu, and Color Management must be set to "Photoshop", not "Printer" – as shown in Fig. 7.



By operating in this way, we will have done almost everything possible to guarantee good color consistency in our workflow, from scanning to printing.

Conclusions

Thanks to both Scanner and Printer Calibration options, LSI SilverFast Ai/Ai Studio software gives its users the opportunity - at a very competitive price - to create color profiles for their devices, and thus improve the color consistency of the workflow. Moreover, all this is really easy to achieve, thanks to clearly explained, step-by-step procedures that can be followed easily, even by a non-expert user.

