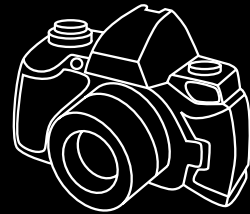
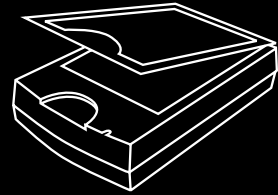


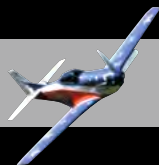
SilverFast[®]

Manual



48
Bit

LaserSoft Imaging[®]



English

1. Introduction

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The *SilverFast®Ai* software was developed by Karl-Heinz Zahorsky, Nils Heidorn, Eric Flyvbjerg, Dr. Martin Münier, Ralf Magnussen, Ron Pokriefke, Thomas Belli, Martina Steidele and Nick D'Amato .

Manual written by Karl-Heinz Zahorsky and Gerhard Wolff.
Editing by Gerhard Wolff.

All photographs by Karl-Heinz Zahorsky

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Headquarters

LaserSoft Imaging AG

Luisenweg 6-8 ,
D 24105 Kiel, Germany
Phone: +49-431-56009-0
Fax: +49-431-56009-98
e-mail: info@SilverFast.de
<http://www.SilverFast.de>

US-branch office

LaserSoft Imaging, Inc.

625 Freeling Drive
Sarasota, 34242 Florida, USA

Fax: (+1) 941-312-0608
e-mail: info@SilverFast.com
<http://www.SilverFast.com>

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Dear SilverFast User

SilverFastAi is now in its fifteenth year after its introduction in 1995. By now *SilverFast* has received so much recognition world-wide that some already call *SilverFast* “*The Standard*” for scan software. That is a great compliment but nothing we intend to rest upon!

SilverFast has made professional colour scanning truly manageable and results predictable.

Significant inventions have paved our way to the new powerful *SilverFast 6*, such as the unique unsharp masking and Focus Preview, Plug & Play CMYK, the easy yet powerful Selective Colour Correction, *NegaFix*® for optimum negative film conversion, *HiRePP*® for fastest loading of largest image files and now in *SilverFast 6* with *SC2G*®, Intelligent Colour to Grey conversion, Enhanced Selective Colour Correction with layers and masking and *SilverFastSRD*® (Smart Removal of Defects), a unique software based dust and scratch removal.

With *SilverFastAi 6* you will also see the advent of the first *SilverFastAi* QuickTime movies, exemplifying the powerful functions built into *SilverFast 6* demonstrating how easy these tools can be used.

We are currently at a *threshold of unique changes* in the world. Imaging is becoming the premier and most significant technology as a *translator* between the human being’s mind and the outside world. It is indeed the *form-structuring character* of the evolution, that is bringing isolated bits and pieces together into a meaningful intelligent wholeness, being recognized by us as an image. When the ancient Veda says: “*Knowledge is structured in consciousness*”, it is where we become aware of meaningful items, which are images and thereby structuring knowledge in our consciousness. Science has recognized the *imaging character* of our brain as the source of our intelligence and the seat of consciousness. As imaging developers we are proud at *LaserSoft Imaging* to be adding at little piece to the exciting global enfoldment of the potential of consciousness.

Karl-Heinz Zahorsky
President and Founder
LaserSoft Imaging AG

Kiel, February 2010

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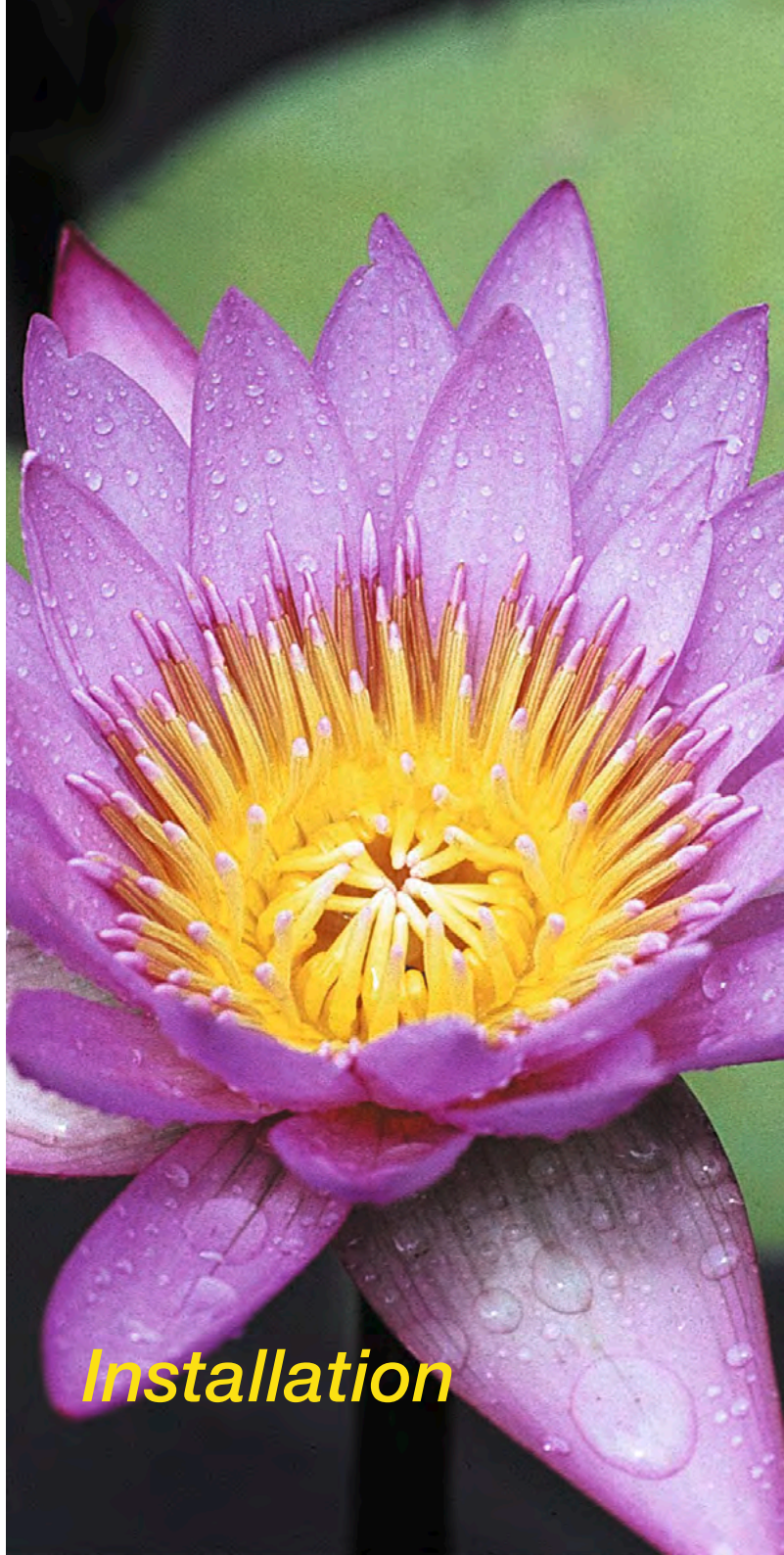
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Chapter 1

Installation



1.2 Installation

The first chapter explains the system requirements and how to install *SilverFast*. Please carefully check which folder has been allocated as your Photoshop *plug-ins* folder if you install as a Photoshop plug-in.

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System Requirements

Macintosh

SilverFast requires a Power Macintosh with at least 128 MB of available RAM beside all other running applications.

The operating system must be Mac OS 9.2* or later.

Please check for latest *SilverFast* releases on our web site at www.SilverFast.com.

The maximum performance of *SilverFast* can be released on a PowerMac with enough RAM. Please note that your imaging software (e.g. Photoshop) requires 3 to 4 times the amount of RAM than the image requires.

Batch scanning to disk of very large TIFF files requires only minimum RAM.

Installation requires at least 60 MB of free hard disk space.

* Attention!

Not all SilverFast versions are available for Mac OS9.2. Some newer Versions require Mac OSX or better. Please refer to LaserSoft Imaging's web site for details!

Appearance Manager

You can change the image of the Finder and other programs by using the Appearance Manager (only if installed in the operating system). The Appearance Manager must be installed for the proper functioning of *SilverFast version 6*.

Removal of Macintosh 68k Support

Starting with Version 5 of *SilverFast*, the older Macintosh models with 68k processors will no longer be supported. The computing performance of these processors is not sufficient for providing a timely acceptable work flow with *SilverFast*.

Windows

SilverFast PC works with *Windows 98SE*, *Windows ME*, *Windows XP* or *Windows 2000* and requires at least 128 MB of available RAM.

Installation requires at least 60 MB of free hard disk space.

Scanner Interfaces

SCSI

SCSI IDs „0“ and „7“ are not supported by *SilverFastAi*. These IDs are normally used by the start volume and the SCSI host adapter.

USB

In general *SilverFastAi* will require the appropriate USB drivers for USB scanner. These will be installed with the manufacturer's original installation, which has to be installed first if not indicated otherwise in the *SilverFastAi* CD **Read Me**.

Attention!

For Windows 98SE, 2000, ME the system file >usbscan.sys< must be there:

```
c:\Windows\System32\drivers\usbscan.sys
```

The file USBSCAN.SYS will normally be installed with the windows installation. It may sometimes happen that some Windows installations do not install the file (in this case post-install the file). Only then Windows can recognize your USB scanner.

FireWire

In general *SilverFastAi* will require the appropriate FireWire drivers for FireWire scanner. These will be installed with the manufacturer's original installation, which has to be installed first if not indicated otherwise in the *SilverFastAi* CD **Read Me**.

Installing SilverFast

It is now possible to use *SilverFast* without the aid of any additional applications with the new *SilverFast Version 6*.

To do this, the *SilverFast Stand-Alone-Program* “*SF Launcher*” for opening Photoshop Plug-ins, is installed automatically. If possible, *SilverFast* installs its self directly into the Photoshop directory. By means of a “Link”, an “Alias”, *SilverFast* can directly access the Plug-in. If Photoshop is not installed on the computer, *SilverFast* will be installed into the directory of the “*SFLauncher*”



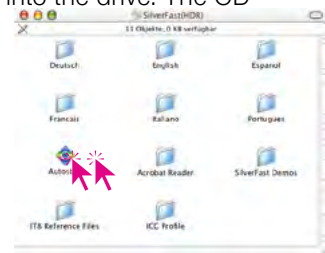
The big advantage is the *SilverFast Stand-Alone-Application* “*SFLauncher*” needs very little memory to run (2-4 MB). Also, in comparison to Photoshop, the start time for the program is substantially shorter.

With “*SFLauncher*”, *SilverFast* becomes totally independent. Regardless whether you work under Macintosh or Windows, you will not need any other program to use any edition of the *SilverFast* family: *SilverFast Ai*, *SilverFast SE*, *SilverFast HDR*, *SilverFast HDR Studio*, *SilverFast DC*, *SilverFast DC Pro* or *SilverFast DC Pro Studio*.

Installing SilverFast Plug-in

- Insert the *SilverFast* Installation CD into the drive. The CD mounts automatically and a Welcome window should be opened.

In all other cases open the CD manually and click on to the Installation program “**Autostart**”.



- Choose the desired “**Language**” and click “**Continue**”.





- You may choose the type of installation in the menu „SilverFast Installation“. You may also install the PDF-documentation and the QuickTime movies from here. Continue by clicking the button „**Begin installation**“.

Depending on your operating system, the administrative rights are checked. Continue with “**OK**”.

- By clicking “**Continue**”, the Installation will commence.



- Please read the License agreement carefully. If you agree with the terms, click “**Accept**”.



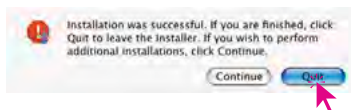
- Click “**Install**”. The installation will be prepared, and the computer will be searched for a Photoshop installation.





- In the next dialogue, the results of the search are shown. Choose the target destination of Photoshop and click “Select”.

If Photoshop is not found on the computer, *SilverFast* will be installed into the *SFLauncher* directory.



- Close the dialogue after installation by clicking “Quit”



Important! (Mac OS 9 Users only)

Before beginning to work with *SilverFast* and starting Photoshop, please check your RAM allocation for Photoshop! Be aware that Photoshop needs 3-4 times the RAM of the image you would like to scan!

SilverFast as a TWAIN Module

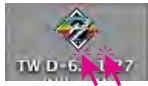
TWAIN modules for *SilverFast Version 6* and higher are only delivered for a few scanners and are generally not included on the installation CD.

Available TWAIN modules can be found on our web site. If you do require a TWAIN module please check the download area for modules for your desired scanner:

<http://www.silverfast.com/update/en.html>

LaserSoft recommends the use of the Photoshop plug-in, either directly via Photoshop or the “*SFLauncher*”.

Installation of TWAIN Modules



The installation of TWAIN modules is similar to the described installation of the Photoshop plug-in. The downloaded installer is started by double clicking the icon. Then follow directions.

Starting and Activating the *SilverFast* TWAIN module

The exact steps for launching *SilverFast* strongly depend on the used imaging program and are only rudimentary described here.

- Launch the TWAIN compatible imaging program.
- Choose “*SilverFast*” in the “TWAIN source” option.
- Search for the “Import function” in the imaging program and activate the *SilverFast* module for the connected scanner.

Welcome Dialogue

In the new *SilverFast* versions, a new active “Welcome screen” is displayed after launch.



By means of the available buttons, the user may directly access the respective functions of *SilverFast*, and may also obtain information on current developments, documentation, hints and help. For fully using these functions, an internet connection has to be present.

QuickTime movies and documentation:

A link to the web page containing all movies.



Functions and features: A link to the highlights of *SilverFast* within the *LaserSoft Imaging* web site.



On-line hints, tricks and advice: A direct link to the *SilverFast* user forum that fits the used *SilverFast* version.



Upgrade information on current version: A small applet is launched which checks for available updates or the currently used version. If so, the respective window of the *LaserSoft Imaging* web site is opened. Here the latest software version may be downloaded.



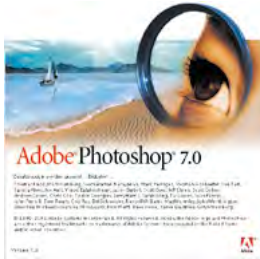
Close dialogue: Closed the window and continues the launch process of *SilverFast*.

The dialogue is opened at each start of *SilverFast*. This option can be deselected by clicking the check box, once *SilverFast* has been activated.

If this dialogue is needed again, it may be opened by means of the options menu.:

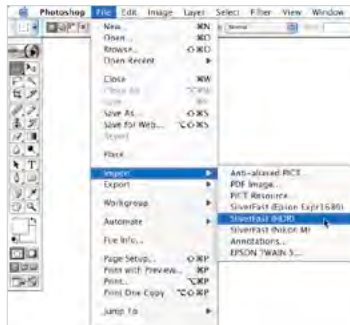
Main dialogue "General" palette / "Options..." / "General" palette by choosing "Open welcome dialogue".

Launching and Activating *SilverFast* via Photoshop



- Insert the *SilverFast* Installation CD into the drive. Please ensure that you are logged into your system as ROOT / Administrator.
- Launch Photoshop.

- Make sure that the scanner is correctly connected and switched on. SCSI scanners in OSX have to be turned on before you start your computer! Otherwise the scanner might not be recognized. Please note that with some film scanners a slide or a filmstrip has to be loaded.



- Open the menu “**File**”.

The installed *SilverFast* software can be found in the sub menu “**Import**”.

Launch *SilverFast* by clicking it.

SilverFastAi now searches the bus-system for connected and running scanners and installs them.



- If *SilverFast* launches or the scanner was found, the welcome screen initially appears.

If an internet connection is established, the respective topics on our web site can be reached by means of the buttons within the dialogue. You can also check for possible updates here; if an update is available you may download it from here directly.



- After this dialogue has been closed, the registration window appears.

First Name:

Last Name:

Organization:

Serial number:

Please note that the 20 digit serial number is to be entered without spaces and in capital letters. Make sure that the number you enter consists only of numbers between 0 and 9 and letters between A and F.

General information

First Name:

Last Name:

Company:

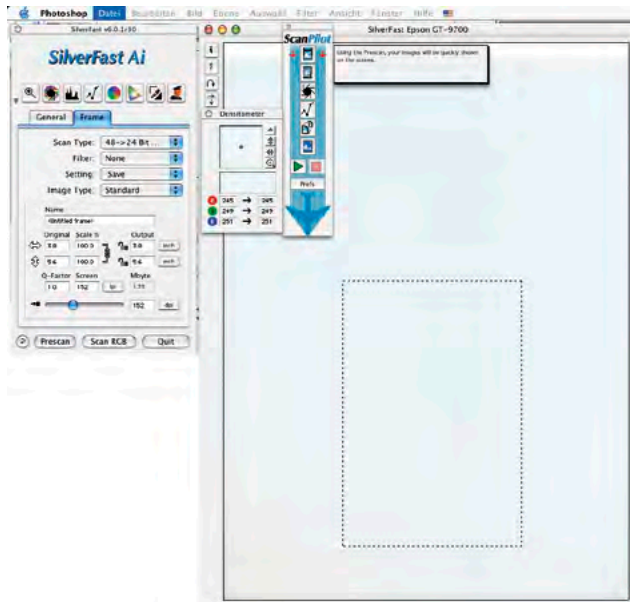
Serial number for older versions
If your serial number has 20 characters, please enter this number here:

Serial number for newer versions
If your serial number has 6 fields with 5 characters each, please enter this number here: - - - - -

SilverFast Epson v6.4.2r15d

Some *SilverFast* versions will require a 30 digit code in future, which is made up of 6 groups of 5 values each. This code consists of numbers between 2 and 9 (no ones and no zeros), and all letters between A and Z – except the letters “i” and “o”.

Finish the dialogue by clicking “OK”.

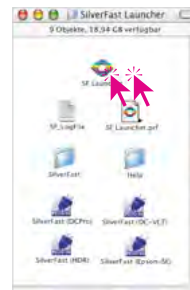


SilverFast will now commence. All functions of *SilverFast* are explained with a help text at the lower margin of the prescan window. More help is given by clicking on the “?” button to the left of the prescan window.

Launching and Activating SilverFast via SFLauncher

- Insert the *SilverFast* Installation CD into the drive. Please ensure that you are logged into your system as ROOT / Administrator.

- Launch *SFLauncher*.



- Make sure that the scanner is correctly connected and switched on. Please note that with some film scanners a slide or a filmstrip has to be loaded.

- Open the menu "Plug-in" and choose directly your desired *SilverFast* version or browse for the directory where the *SilverFast* plug-ins are located by clicking "<Choose Plug-in folder>". Launch *SilverFast* by clicking "Start".



SilverFast will launch and search for the connected scanner.



- If *SilverFast* launches or the scanner was found, the welcome screen initially appears.

If an internet connection is established, the respective topics on our web site can be reached by means of the buttons within the dialogue.

You can also check for possible updates here; if an update is available you may download it from here directly.



First Name:	John
Last Name:	Brown
Organization:	ABC
Serial number:	1234567890ABCDEF789d

- After this dialogue has been closed, the registration window appears. Please note that the 20 digit serial number is to be entered without spaces and in capital letters. Make sure that the number you enter consists only of numbers between 0 and 9 and letters between A and F.

General information

First Name:	John
Last Name:	Brown
Company:	ABC

Serial number for older versions
If your serial number has 20 characters, please enter the number here:

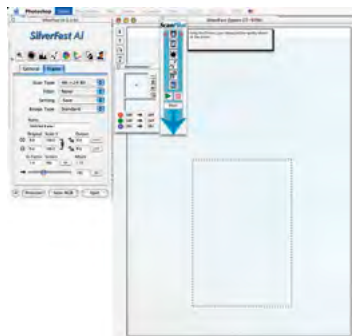
Serial number for newer versions
If your serial number has 6 blocks with 5 characters each, please enter this number here:

23456 - 789AB - CDEFG - HIJKLM - NPQRS - TUVWX

SilverFast Epson v6.4.2r5d

Some upgrades will require a 30 digit code in future, which is made up of 6 groups of 5 values each. This code consists of numbers between 2 and 9 (no ones and no zeros), and all letters between A and Z – except the letters “i” and “o”.

Finish the dialogue by clicking “OK”.

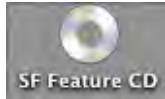


SilverFast will now commence. All functions of *SilverFast* are explained with a help text at the lower margin of the prescan window. More help is given by clicking on the “?” button to the left of the prescan window.

SilverFast “Feature CD”

The “Feature CD” allows you to expand an already installed *SilverFast* version. For example with the “IT8 Calibration”.

Please begin with a *SilverFastAi* version that has already been installed, serialized and is functioning properly with your scanner. Please follow the indicated steps below.



- Place the Feature CD into the drive and have your 20 digit or 30 digit serial number on hand.
Wait until the system has recognised the CD.
 - Start the *SilverFastAi* version for your scanner.
 - Click on the small “i” button in upper left edge of the prescan window. Note: If you cannot find the “i” button it may be hidden behind the *ScanPilot*.
 - Click the “Credits” button.
The activation data is displayed in a small pop-up window.
 - Click on the “Upgrade” button.
 - Delete the old serial number by entering the new serial number in the registration window.
 - Close the dialogue by pressing “OK”.
- Once the code has been accepted the dialogue window will disappear. The new feature is now available in the vertical button bar to the left on the prescan window.

For Problems while Entering the Serial Number

If the dialogue for entering the serial number cannot be closed with the “OK” button, then *SilverFast* does not accept your entry. Please determine the following:

- If you get the message “Please insert the SilverFast CD and restart SilverFast“, please cancel out of the serial number dialogue, close *SilverFast*, insert your CD, and launch *SilverFast* again. The key is that the installation CD needs to be present while *SilverFast* starts up. It won’t be recognized once *SilverFast* is running.
- At least one letter must appear in the text spaces for your name and company. If you are using *SilverFast* privately, you may enter “private” in the space for “company”.
- The serial number for *SilverFast* used up to now always has 20 digits. It consists of numbers from 0 to 9 and the letters A to F, so that the letter “O” cannot appear. It can only be a zero.

Some upgrades will require a 30 digit code in future, which is made up of 6 groups of 5 values each. This code consists of numbers between 2 and 9 (no ones and no zeros), and all letters between A and Z – except the letters “i” and “o”.

- Please make sure that you use only capital letters.
- Enter the serial number without any spaces or other symbols.

If you still cannot close the dialogue with the “OK” button, please contact us.

Update Reminder

After a period of 3 or 6 months, *SilverFast* welcomes you with a dialogue that reminds you of any available updates. This dialogue allows you to directly update the software, provided that an internet connection is available.



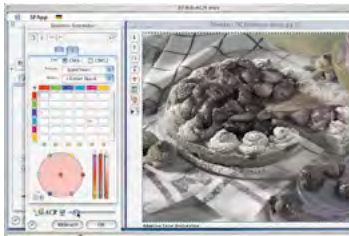
QuickTime Movies

SilverFast on-line Training with QuickTime Movies

SilverFast is the first imaging software using 1:1 QuickTime movies including sound for on-line training. The user immediately learns what the function does and how it is to be applied. Never has complex software been easier to master.

Please check back with our home page which movies are available, we will be constantly adding more movies. We will eventually have QuickTime movies for all *SilverFast* functions.

Here is a selection of the growing number of movies:



General introduction in SilverFast



SilverFast ACR



SilverFast GANE



SilverFast MidPip4



SilverFast SC2G



SilverFast SRD

Chapter 2

Overview



2. Overview

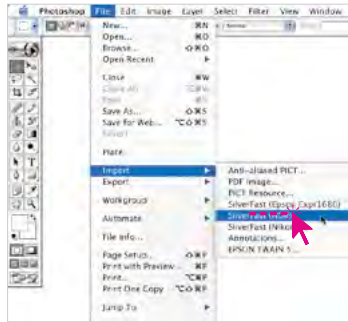
This chapter introduces into how to start *SilverFast*. It gives an overview of the *SilverFast* main dialogue and a brief explanation of the *SilverFast* tools.

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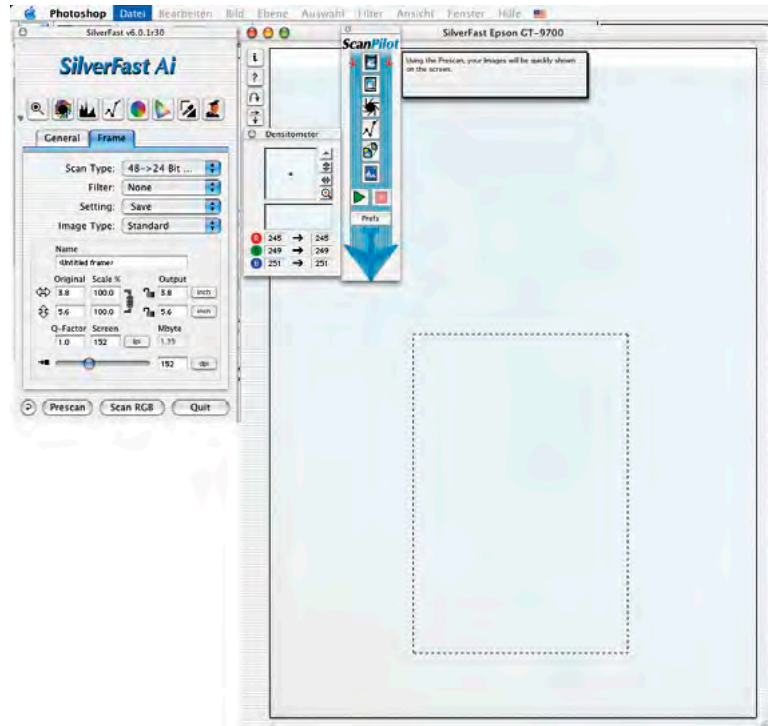
SilverFast Dialogue Window

Macintosh Version

After you have selected *SilverFast*, the following scan dialogue appears. The scan dialogue window automatically opens to the largest size possible, according to the size of your monitor.



Starting Photoshop Plug-in

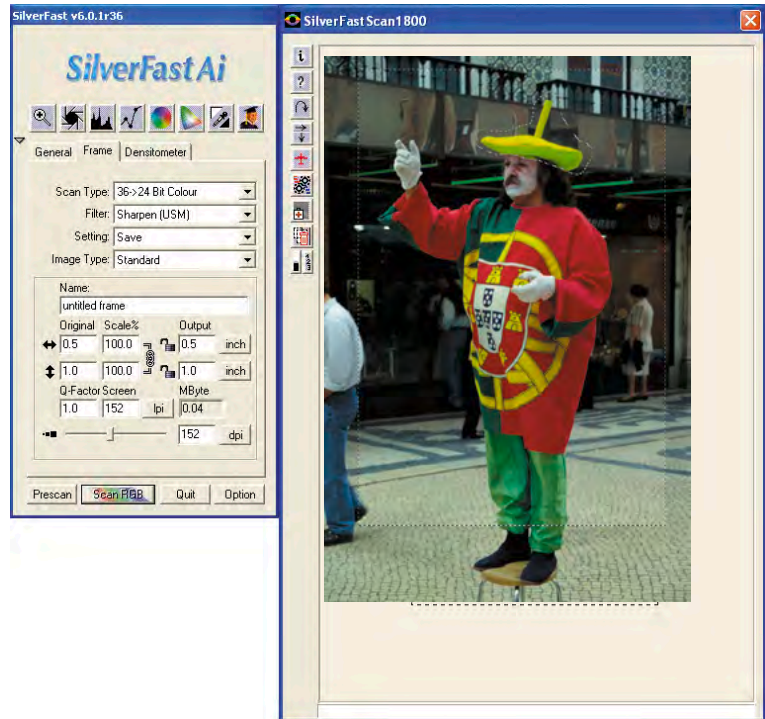


By using the "resize box", the scan frame can be pulled to any desired size. After resizing the scan window it is recommended to launch a new prescan.

On Windows OS the prescan windows can be scaled by dragging or pushing the prescan frame.

Windows Version

By dragging or pushing the right or lower edge of the “prescan window” the prescan window’s size is enlarged or reduced.

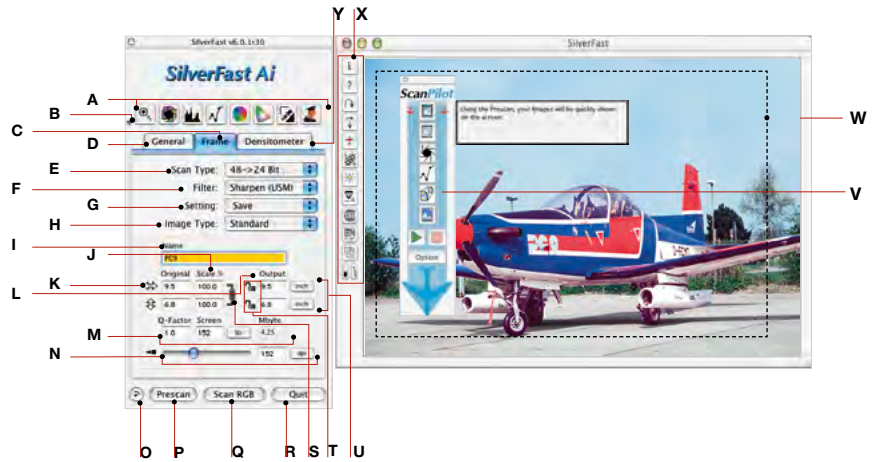


Note:

Most screen shots are taken from the Macintosh version. The Windows version user interface is, with exceptions in the “Options...” dialogue, identical to the Macintosh version. Windows keyboard short-cuts can be found in the addendum located at the end of this manual.

SilverFast Dialogue Overview

Within the *SilverFast* scan window, all adjustments are clearly visible. All important parameters may be adjusted by tools which are accessible from the tools palette occurring in the floating window on the left.



- A Tools palette:** zoom, auto-adjust, histogram, gradation, global-, selective-correction, setting highlight / shadow, expert dialogue
- B Minimize window**
- C Frame palette**
- D General palette**
- E Scan type:** colour depth, greyscale, line art, HDR chooser
- F Filter** unsharp masking, descreening
- G Scan frame parameters:** save, load
- H Image type presets:** selection of different presets
- I File name**
- J Scaling factor:** uneven scaling with open lock (image proportions will be distorted)
- K Input dimensions:** high and width corresponding to prescan frame
- L Output dimensions:** high and width corresponding to prescan frame
- M Quality factor, Output screen, Output file size**
- N Scan resolution** in dpi or dpcm
- O Reset button**
- P Prescan launch button**
- Q Scan start button,** switchable to RGB, CIE Lab and CMYK scan
- R Quit SilverFast**
- S Lock closed:** proportional scaling of the scan frame
- T Lock** for fixed width or height
- U Measurement units:** pica, point, pixel, inch or cm
- V ScanPilot window** with help text
- W Active scan frame**
- X Special functions** and scanner specific functions
- Y Densitometer palette**

The Tool bar in the Prescan Window



***/**Note**

- * availability of this feature depends on the scanner model used.
- ** IT8 calibration is included with certain scanner models, and available as an optional upgrade with others.



Info: Display of the *SilverFast* welcome dialogue with information about installation, version and activation.

By this it is also possible to return to the activation dialogue if additional functions are to be installed.



Help: Opens PDF help text files for *SilverFast*.



Prescan rotation: Rotates the pre-scanned image by 90 degrees clockwise. If the "shift" key is held down, the image will be rotated counter-clockwise. Enables the user to correctly display landscape or portrait oriented images..



Prescan / Preview mirroring: Mirrors the pre-scanned image horizontally or vertically.



ScanPilot / ImagePilot: Will bring up *ScanPilot / ImagePilot* who will automatically take you through the necessary steps to the finished scan.



JobManager: Activates the *SilverFast JobManager*



Automatic density*: This function allows the scanner to analyse the density range of the image prior to scanning and adjust the hardware correspondingly.



Focus*: The focus function can be set on “automatic” (focal point exactly in the centre of the image) or on “manual” (focal point defined by the user). The scanner will then determine the optimal focus prior to scanning and prescanning.



Eject button*: Use this button to eject the slide or the film strip, or to rewind the inserted APS film depending on the kind of document holder or film holder that has been installed. Inserting the first or the second slide can be accomplished in this manner e.g. with automatic slide feeder *SF-200*.

Dust and scratch removal*: Depending on *SilverFast* version* and scanner model different functionalities of dust and scratch removal are available. The corresponding buttons* can be found in the vertical tools bar, left hand of the big preview window.

***SilverFast* SRD*:** All *SilverFast* versions contain *SilverFast* SRD as a means of removing dirt and scratches.

***SilverFast* iSRD*:** This Infrared-technology for detection and removal of dust and scratches is only available for some scanners.

DIGITAL ICE technologies*: For some scanners*, the “DIGITAL ICE technologies (ICE)” may be used. It works solely with the hardware of the scanner and enables the automatic removal of dirt and scratches from the image file. Two intensities are available.



SRD/iSRD is deactivated.



iSRD is active and running in automatic mode.



SRD/iSRD is active and running in manual mode. Clicking the bottom button opens the dialogue.



SRD/iSRD is deactivated and *ICE** is active.



IT8 calibration**: Starts the optional IT8 calibration for *SilverFast*.



Adjustment of Film Strip Position*: Serves to check the start or end of film strip, in case the motor driven film feeder has not correctly positioned the film.



Multiple scanning / Multiple sampling: Clarity can be improved while scanning difficult artwork. The image is scanned several times to determine the mean. In this manner, CCD noise, caused by thermal activity, particularly in dark areas of the image, can be significantly reduced depending on the number of samples.



VLT*: Switches in *SilverFastHDR...*, *-DC...* from the main dialogue to *virtual light table*.



Image overview dialogue (Index scan)*: With the use of a film strip or an APS film feeder, *SilverFast* will automatically produce an image overview, which simplifies selection and finding a particular image.



Frame deletion: Deletes the active scan frame.



Black and white point and frame number indicator: Clicking and holding on particular areas of the button will show the black and white point or the number of the scan frame.



Print image: Commences the printing of the current scan-frame. The size of the print out may be adjusted by choosing "Output size" in the Palette "Frames".



Red eye correction*: A tool for reducing the red eye phenomenon that occurs if pictures are taken with the flash.



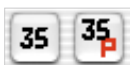
QuickTime: Starts a QuickTime movie and help features for the current window.



Preview in fullscreen*: Is used to display the active image in the preview in a full screen mode, in front of a white background colour. Clicking the preview again, will close the window.



Film holder for middle formats*: Some scanners support holders for different formats. Here the buttons for the middle formats 6x4.5, 6x6, 6x7 and 6x9 cm are shown.



Film holder for panorama captures*: Some film scanners are delivered with special holders for panorama formats. In our example the button for a regular 35mm film ("35"), as well as the button for 35mm panorama ("35P") are differentiated. By clicking on the respective button, the mode is changed.



Holder transport: For scanners that operate together with regular slide holders, special buttons for the transport of the holders are required.

The first button opens the dialogue box "Enter current position". Here the current position of the magazine are to be entered (the slide case number in the cassette). The preset here is "1".



The size of the inserted magazine can also be entered (max. "100"). The option "Round magazine" is to be selected when using such a magazine. The second button moves the film-magazine forwards and backwards. The current position of the magazine is displayed by the number that is displayed below the respective button.



SilverFast AACO (Auto Adaptive Contrast Optimization):

SilverFast AACO is an excellent tool for the correction of dark, too much contrast bearing image parts while preserving the details in the highlights.

It operates automatically when selected, but can also be manually manipulated. By this the intensity and the complexity of the shadows that are to be lightened can be adjusted without affecting the highlights of the image.



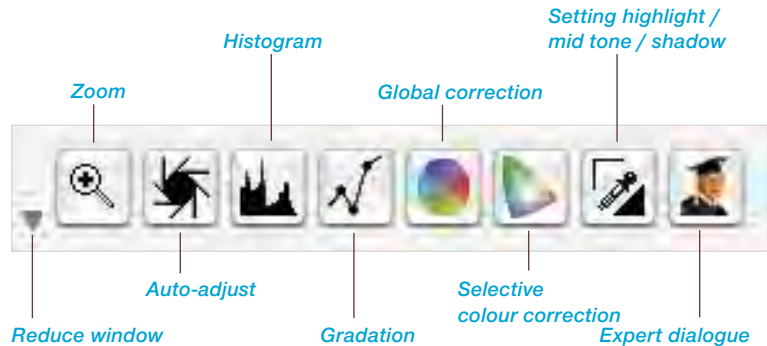
Clone tool: A powerful 16 bit clone tool which extends the already implemented *SRD* function has now been developed. By this, large interferences on the image can be repaired or even completely removed from the image.

SilverFast Tools

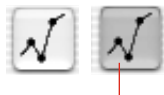
With correct use of the *SilverFast* tools selectable from the palette, all image influencing operations can be completed. In most cases, the auto-adjust will lead to satisfactory results. However, if you should wish to short-cut the image adjustment process, simply click on the auto-adjust tool to activate *SilverFast*'s colour analysis engine for instant results.

Keyboard short-cuts

You can also bring up each of the tools by keyboard short-cuts (listed at the end of the manual).



Activity Indicator for Change of Setting



Activity indicator

The icons turn dark grey when the settings have been changed. Even on large monitors it can also immediately be determined whether settings have been changed or not and in which tool they have been changed.



Rotation Tool Palette

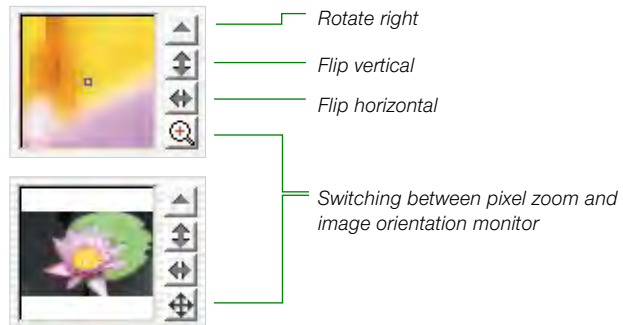


The palette for orientation of the image can be found on the densitometer index card or in the densitometer window.

Here you can may assess how the respective image shall be oriented in its output. This may be a rotation in 90° steps or a vertical or horizontal reflection.

Attention! The adjustments shown here always overwrite the settings shown in the vertical column heading panel, left of the prescan window.

Hence it is possible to display the prescan image in landscape format but let it be scanned in portrait format by means of the densitometer buttons. This has advantages when working with large scan areas. The entire scan bed may be used regardless of the orientation. The prescan may be rotated for each image. The output orientation is simply set in the densitometer.

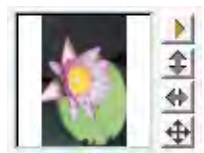


Clicking onto the small zoom button switches back to the image orientation window to show the degree of rotation / flipping.



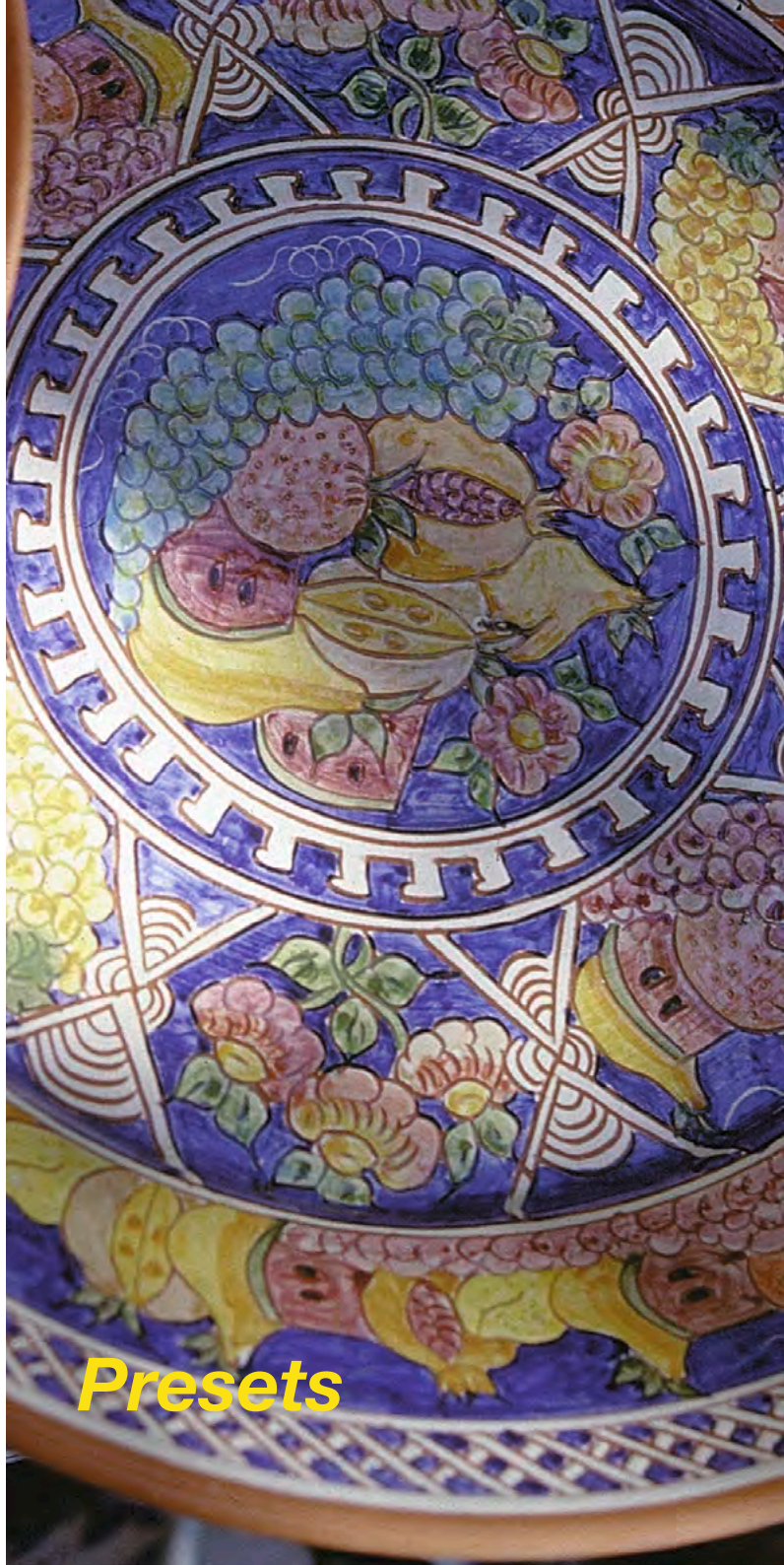
By clicking onto the small up-headed triangle the image will be rotated 90° clockwise during scanning (the triangle turns red and points to the right). Each click on the rotation icon will rotate the image another 90° clockwise.

In order to rotate counter clockwise, hold the "Shift" key and click on the rotation tool (triangle).



Chapter 3

Presets

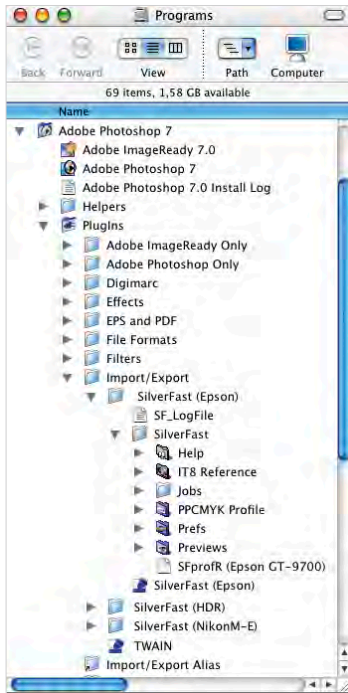


3. Presets

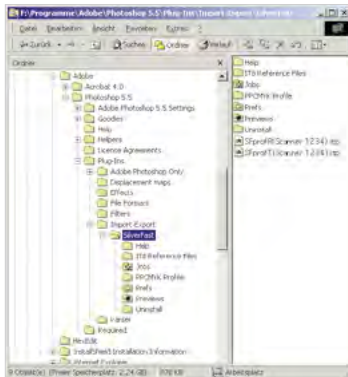
This chapter explains the various options and presets you can use with *SilverFast*. Before you do a scan, please check important options such as setting the highlight / shadow presets for the auto-adjust.

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SilverFast Preferences (“Prefs”)



Macintosh Prefs



Windows Prefs

Starting with version 5, all *SilverFast* plug-ins will create a folder called “*SilverFast*” in the picture editor directory. The folder is parallel to the actual “*SilverFast*” plug-in and contains additional sub-folders such as “Previews” (for all Preview files), “Prefs” (for all preference files), “PPCMYK profiles” (for separation tables) and “Help” (for PDF Help files).

SilverFast saves all relevant scan parameters in its Prefs files. These preference files are automatically created after *SilverFast*'s first start up. The following files are generated by *SilverFast*:

1. *SilverFast* Preference File (“Prefs” Folder)

The *SilverFast* prefs file resides inside the *SilverFast* folder where the plug-in is and is constantly updated according to the settings of the parameters of each scan frame.

2. *SilverFast* Application File (“Prefs” Folder)

Basic Settings for *SilverFast*.

3. *SilverFast* Preview File (“Previews” Folder)

There may be two *SilverFast* preview files: one for reflective and one for transparency. The file size will depend on the size of the preview window. The preview files will be automatically generated when the scanner creates the preview on the monitor.

4. *SilverFast* Zoom File (“Previews” Folder)

The *SilverFast* zoom file will be generated when a zoom is being performed inside the preview window, so you can toggle between normal preview and zoomed preview. The zoom file stays the same until you either initiate a new normal preview and then a zoomed preview or when you draw a substantially different sized zoom area.

5. *SilverFast* Unsharp Masking Preview File (“Previews” Folder)

The *SilverFast*'s USM preview file will be generated when an unsharp masking preview is executed. The next time you open the dialogue the previous unsharp masking preview is still there.

6. *SilverFast* Descreening / Unsharp Masking Preview File (“Previews” Folder)

Some scanners allow for descreening and simultaneous unsharp masking. As for USM the process generates a preview file that is automatically stored.

7. *SilverFast* Calibration File (“*SilverFast*” Folder)

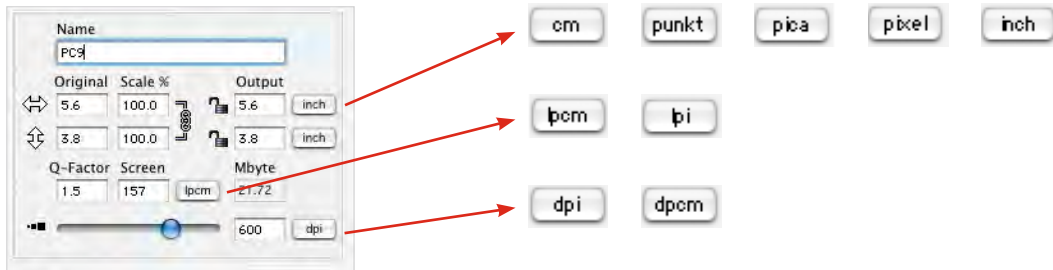
For IT8 target calibration (if available) there are two calibration files, one for reflective and one for transparency.

8. *JobManager* Files (“Job” Folder)

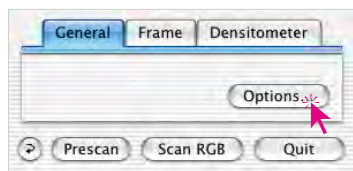
SilverFast's *JobManager* saves its files into the Job Folder.

Units of Measurement: cm, inch, Pica, Point, Pixel

Starting with version 5, all *SilverFast* plug-ins will come with supplementary measuring units. In addition to the prior “cm” and “inch”, there are now also “pica”, “point” and “pixel” that you can choose from in the frame file card. To switch, simply click on the icon of the measuring unit.



Options... Dialogue*



Before scanning with *SilverFast*, please enter the specific settings in the “General settings palette” under the “Options...” dialogue. These preferences are automatically incorporated into the next scan operation.



***Attention:** The “default dialogue” windows differs from scanner to scanner and some features are only available for certain scanners or certain imaging softwares.

General Defaults



*General defaults**
left: *SilverFastAi*
right: *SilverFastDCPro*



- **Colour Model RGB or CMY**

Switching between RGB (0-255 values) and CMYK (0 to 100% measurement) may be done here. These settings only influence the display and calculation modes within the windows of SilverFast. The decision to scan in CMYK or in RGB files is made at a different stage (see: “Plug & Play CMYK”).

- **Units of Measurement in cm or inch**

Units of measurement can be switched between cm, inch, Pica, Point, Pixel.

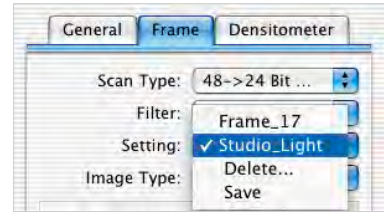
- **Densitometer Radius**

The area of the densitometer reading can be set to 1, 2x2 and 3x3 pixels.

- **Default Setting**

Here previously defined default settings can be selected. These settings must have been allocated to a name under “Settings” in the “Frame” panel.

With the “Apply” button the new default settings can be instantly applied to the currently active frame. Any new frame will automatically have the allocated default settings.



- **Options Parameter**

Saves (and loads) all settings of the “Options...” dialogue into a single output file. All settings of all other panels “Auto”, “CMS” and “Special” are saved as well.

Settings for special production scenarios can now be easily reloaded at any time.

- **Interpolation of Scan Resolution**

Selection of Interpolation method: “Standard” or “Anti-Aliased”. With “Anti-Aliased” grid-structure artefacts will be effectively eliminated.

- **High-Resolution Prescan**

In order to achieve a higher production rate, a preview with a resolution up to 8 times more than required can be selected.

The advantage of this is that *SilverFast* can display a zoomed part of the image without actually having to perform a new scan. If a zoom is possible without a re-scan, the magnifier is displayed in green colour. The initial preview, however, is slightly slower than the regular preview. If the selected zoom still lies within the data parameters, the magnifying glass will turn green.



- **Scratch Volume**

It is possible to allocate a special scratch volume (a special partition) to *SilverFast* so temporary files can be stored there. Such temporary files can occur by scanning in a batch mode, for example. After completion of the scan process, the files will automatically be deleted again.

- **Gamma Gradation**

This adjusts the general brightness of the image for mid-tone and shadow. In general, a gamma of 1.6-1.8 is recommended. For transparency, the gamma is normally higher than for reflective (transparency 1.8-2). Check that your monitor is set to the correct gamma in order for the tonal values to be displayed evenly. For best results scan a grey calibration strip and adjust your gamma accordingly.

- **Gamma Gradation for HDR Output***

By clicking this check box the current gamma value will be applied to the 48 bit data during processing. A 48 bit scan will appear somewhat brighter in the image application.

- **Gamut Expected in 48bit/HDR**

Here the expected gamut of the following images may be entered.

A value of "1" (preset) makes *SilverFast* operate linear. All scanned images are treated as if they have an embedded, linear gamut. No adjustments are made.

A value of more than "1" makes *SilverFast* display the images darker; a value of less than "1" makes the images look brighter.

- **Q-Factor**

The Q-factor is the quality factor for an image. The range is from 1 to 2.5. Please refer to addendum ("Calculating the scan resolution").

***Attention**

The "default dialogue" windows differ from scanner to scanner and some features are only available for certain scanners or certain imaging software.



***Attention**

The “default dialogue” windows differ from scanner to scanner and some features are only available for certain scanners or certain imaging software.

- **Reopen *SilverFast* after Scan* (only with *SilverFastAi...*, *-SE*)**

Normally *SilverFast* (as Photoshop plug-in) will be closed after scan and has to be started again for next scan.

- **Reopen *SilverFast* after Processing* (*SilverFastDC...*, *-HDR...*)**

Normally, *SilverFast* (Photoshop plug-in) is closed after processing the image and must be reopened manually for the next image. This only applies when working in a mode of “normal” and “Batch”.

When using the “...(File)” or „to Album“ modes, *SilverFast* remains open after processing.

- **Open *VLT* at Start Up***

If the *VLT* should be opened at each start of *SilverFastDC...*, *-HDR...*, check this box.

If active, the main windows of *SilverFast* will not open and the *VLT* will show. In case the *VLT* is then closed, the *SilverFast* main Dialogue window is opened immediately.

- **Displaying a Processed Image* (only with *SilverFastDC*, *-DCPro*, *-HDR* with *SFLauncher*)**

If this option is selected, the finished file will be opened by the finder. (Applicable if “Normal (File)” and “Batch mode (File)” are selected.

- **Realtime Correction**

The normally present realtime correction can be turned off here for use with older and slower computers.

- **Mask Edge Size (Width of Soft Mask)**

In *SilverFast 6*, you can define the border softness of masks being used with selective colour correction. Previously you had a sudden transition, you can now define a very smooth transition.



The example on the left shows the old function being represented by the value “0.00”. On the right the transition is defined by the value “0.05”



By changing the value and clicking onto the button “Apply”, the effect can be monitored in the preview window. If the result is satisfactory, close the “Options...” dialogue by clicking “OK”.

- **Preserve Settings for a New Image***

Only available in *SilverFastDC*, *-DCPro*, *-HDR*.

Activating the check box enables *SilverFast* to preserve all settings and parameters after correction. Opening a new image hence means transferring these settings on to the new frame.

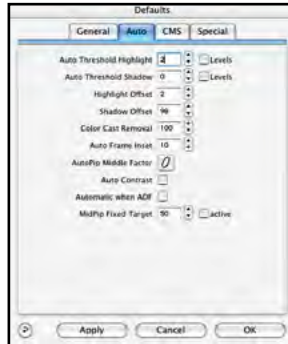
If the check box is deactivated, all settings and parameters are reset to their initial values.

- **Welcome Dialogue**

Opens the welcome dialogue. The *LaserSoft Imaging* homepage can be reached by means of the respective buttons with the dialogue.

Auto Defaults*

“Auto” Palette*
left: SilverFastAi
right: SilverFastDCPro



Standard defaults in DC... and HDR... for camera RAW data:
Auto-threshold for highlights: 6
Auto-threshold for shadows: 1

Standard defaults in Ai... for 48 Bit scanner RAW data:
Auto-threshold for highlights: 2
Auto-threshold for shadows: 2

- **Auto-threshold for Highlights and Shadows**

Determines the sensitivity (0-30) for the auto-adjust. Smaller values = more sensitive. Recommended values are 2 to 12. You can use RGB levels instead of pixel ratio when moving into the histogram by selecting “Levels”. This function is efficient if you wish to optimise an image by only using “auto-adjust” in order to remove base colour like a white or a black in the scanning image.



Attention! Please be aware that when changing thresholds, highlight or shadow details can get lost. This is due to possible clipping effects.



- **Highlight Offset (Brightest Point)**

Minimum value for the brightest point in % (eg. 3%)



- **Shadow Offset (Darkest Point)**

Maximum value for the darkest point in % (eg. 98%)



***Attention**

The “default dialogue” windows differ from scanner to scanner and some features are only available for certain scanners or certain imaging software.

- **Colour Cast Removal***

Here you can determine how much of an existing colour cast is removed automatically. A value of “100” means that the colour cast will be completely removed.

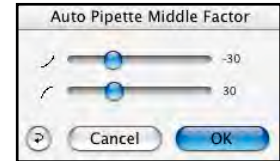
The automation may be activated or deactivated by checking the “active” box respectively.

- **Auto Pipette Middle Factor**

The Auto Pipette Middle Factor influences how the gradation-automatic makes an image that is too dark, brighter and an image that is too bright, darker, by means of the automatic adjustment of gradation curves.

Both sliders generally limit the “range“, the “strength“ of the auto-adjust.

Both sliders do only determine how much the auto-adjust influences the mid-tones of an image. Highlights and shadows will not be effected.



The “downward bent“ slider determines, how much the auto-adjust decreases the mid-tones of an image, ie, how much a gradation curve may bend downwards.

The “upward bent“ slider determines, how much the auto-adjust may increase the mid-tones of an image, ie, how much a gradation curve may bend upwards.

Example: If the preset values -30/30 are changed to max values -100/100, the effect of the auto-adjust on the mid-tones of an image will be strongest. With such settings it may be likely, that the auto-adjust would react too strong and an image would most likely be “over-corrected“.

If the preset values -30/30 be changed to minimum -0/0, the auto-adjust cannot perform any correction of the mid-tones. A gradation curve would be unchanged so to speak stay „linear“.

Independent of that, the contrast-automatic could still generate a change of the gradation curve. In this case it would be necessary to check, whether the contrast-automatic has been activated under “Options...” \ \ panel “Auto“ \ \ check box “Auto or not“.

The numerical values of the sliders are values with no reference to any dimension. They reflect “Strength“ of the influence of the automatic. A value of “0“ represents “no influence“, the value “100“ represents “maximum influence“.



***Attention**

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- **Frame Inset**

Determines how much of the current frame will be deducted for actual use of the image auto-adjust or *NegaFix* auto orange mask removal. A 10 would mean that 10% of the current frame will be deducted from the outside.

- **Auto-Contrast***

If this check box is checked, the image auto-adjust will evaluate the current contrast for the image and increase or decrease the contrast accordingly.

This function is integrated into many scanners, but not always active by default. With film scanners this function is usually not active. With flat bed scanners auto-contrast is active for reflective and not active for transparency.

In case your scanner exhibits too much contrast, please check whether Auto-Contrast is active and deactivate accordingly in this menu.

- **ACR with Auto-Adjust**

If this box is checked, the image auto-adjust will evaluate the current saturation for the image and increase or decrease the saturation accordingly.

- **Automatic when ADF***

When doing a batch scan from an automatic document feeder, this function will perform an auto-adjust on each image while scanning. This option has the same effect as if the user would click on the shutter-symbol in the main *SilverFast* window for each scan.

This option is not available on all scanners.



***Attention**

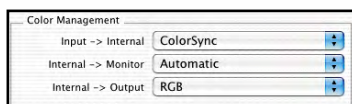
The "default dialogue" windows differ from scanner to scanner and some features are only available for certain scanners or certain imaging software.

CMS (Colour Management) Settings*



“CMS” Palette*

left: SilverFast Ai
right: SilverFast DCPro



Colour Management

Here it is determined where and whether at all colour management will be used in the work flow.

- **CMS Scanner > Internal / CMS Input > Internal***

Here the preferred model for correcting the colour deviations of the current scanner can be selected. The choice is between “none”, “use embedded profile” (only with *SilverFastHDR*, *-DC*, *-DCPro*, *-PhotoCD*), and “ColorSync” calibration (Windows: “ICM”).

- **CMS Internal > Monitor***

Here the matching from the internal colour space of *SilverFast* to the current monitor is being defined. “None” is if the user does not want any matching. “Auto” indicates that Photoshop’s internal colour space settings will be used collectively (Please check the internal ICC profile set in *SilverFast* should be the same as the one allocated in Photoshop’s internal colour space). “ColorSync” (Windows: “ICM”) is for those applications that do not supply matching from inside the application but the the user does want colour matching.

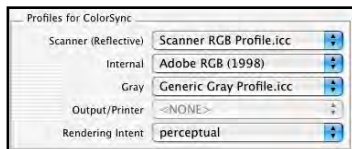
- **CMS Internal > Output***

The preferred system for defining the output colour space generation can be chosen here. Select “RGB” for no output matching. “ColorSync” (Windows: “ICM”) if you want ColorSync to do the output matching. “Cie-Lab” if you want to generate device independent colour space. “P&P CMYK” for *SilverFast*’s own powerful separation to CMYK with Photoshop matching.



*Attention

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Profiles for ColorSync (ICM)

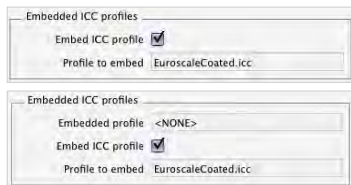
Here it is determined where in the colour management work flow which profiles will be used.

- **Input*** (*SilverFastDC..., -HDR...*)
ColorSync profile for the input device, e.g. the digital camera.
- **Scanner (Reflective)*** (*SilverFastAi..., -SE*)
ColorSync profile for the reflective unit of the scanner.
- **Scanner (Transparency)*** (*SilverFastAi..., -SE*)
ColorSync profile for the transparency unit of the scanner.
- **Internal**
ColorSync profile for the internal colour space.
- **Profiles for ColorSync / Grey**
Here you can select a Grey Profile for greyscale scans, which can also be embedded into the image file.
- **Output / Printer**
ColorSync profile for the printer.
- **Rendering intent**
Selection of the Rendering Intent: perceptual, relative colourimetric, saturational, absolute colourimetric.



*Attention

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Embed ICC profiles
on top: *SilverFastAi*
below: *SilverFastHDR*

Embed Profiles*

- **Embed ICC Profiles***

This option enables the user to pass the image data to an application which would do automatic matching with the embedded profile. When a TIFF-file is generated from *SilverFast* the ICC profile is embedded into the TIFF data. With *SilverFastHDR...*, or *-DC...* an already existing and embedded profile is additionally displayed.

- **Calibration Profile***

The calibration profile from the IT8 target calibration. This is to calibrate the input device (scanner, digital camera). For *SilverFastHDR...*, *-DC...* it can be selected here.



Plug&Play CMYK*

The separation table or ICC-profile for Plug&Play CMYK separation is chosen here.



*Attention

The "default dialogue" windows differ from scanner to scanner and some features are only available for certain scanners or certain imaging software.

Special Defaults*

Special Defaults Palette*

left: SilverFastAi
right: SilverFastDCPro



- **Halftoning***
Dithering algorithms for scanning halftone images in line-art mode
- **Colour Filter (Blind Colour)***
Select the colour, which you wish the scanner to ignore during monochrome scans. You can choose between red, green or blue.
- **Prescan monochrome***
In case there is scanning in greyscale or black and white only, you can speed up the prescan considerably by selecting “Prescan monochrome” (filter has to be set to green or any colour except white).
- **Prescan, Scan Faster***
In both these modes, some of the scanner-specific hardware functions such as a faster tray movement across the CCDs (which results in a faster scans of lower quality) is activated. A precise, general statement about the expected results however, cannot be made.



*Attention

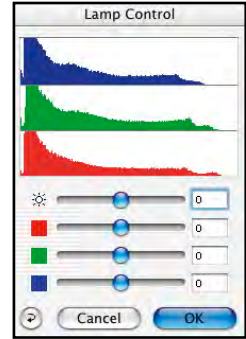
The “default dialogue” windows differ from scanner to scanner and some features are only available for certain scanners or certain imaging software.

- **Lamp Brightness***

This dialogue has a slider, “Exposure“, as well as an RGB histogram of the current preview image.

It is now possible to simulate the increase or decrease of the lamp brightness of the scanner and monitor the effect on the histogram and the preview window.

With this “control”, overexposing bright areas, which will show as clipping in the histogram, can now immediately be avoided.



You do not have to wait until the scan is done and then have to start all over!

- **Limit Gamma Slope***

May be checked if much noise is encountered in the shadows. The slope of the gamut curve which is especially steep in the shadows, will then be reduced to an almost linear function.

- **Albums Folder***

The location and the path for the albums (only *SilverFastHDR...*, *-DC*, *-DCPro*) may be adjusted here.

- **Maximum Cache Size***

Adjustment for the cache memory size. This is mainly used by *SilverFastHDR*, *-DC* and *-DCPro* where, for example, the conversion of RAW data takes up much space while this data is only of temporary interest.

- **Full Screen Preview***

Only with *SilverFastDC...*, *-HDR...* The full screen preview mode can be selected in the presets as full screen or 1:1 display. In the *VLT* these settings can be changed temporarily at any time.



***Attention**

The “default dialogue” windows differ from scanner to scanner and some features are only available for certain scanners or certain imaging software.

- **Super Fine Scan***

Some scanners that use multiple CCD rows may deliver images with lines in the shadow parts. Activating the “Super Fine Scan” mode results in the scanner using only one CCD row; the others remain deactivated.

- **Prescan Without Auto Focus***

This function deactivates the auto focus only for the large prescan. The prescan will be significantly faster for some scanners.

The auto focus will be used only in the final scan (as long as the focus button is activated respectively).



The prescans that are generated within the filter dialogues (USM, De-screening, *SRD*, etc.) are independent of the “prescan without AF” function and are treated as final scans; if the focus is activated then the focusing will be done.

- **Automatic Orientation Detection***

Activating this option allows some film scanners to automatically detect the orientation of the film frame. This is especially helpful when performing batch scans – the software automatically detects if a scan frame is to be positioned vertically or horizontally and rotates the frame respectively. The function usually works with 35 mm slides. Smaller formats or square formats will not be detected.

If this function is de-activated, the current, active, manually drawn and positioned frame will be used for all film strips of the entire batch. All slides in the batch are hence optimized with the same frame; regardless of the orientation of the slide.

Adjusting Scan Parameters*

Before scanning, enter the desired parameters in the “General” and “Frame” Panel.

General Palette



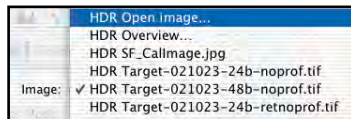
“General” Palette*
left: SilverFastAi
right: SilverFastHDR



- **Device*** (*SilverFastAi...*)

When two or more scanners of the same manufacturer are connected to your Macintosh or PC, it is required to select the desired scanner.

Otherwise you can via “Search Device” have the bus system of your computer search for the devices connected.



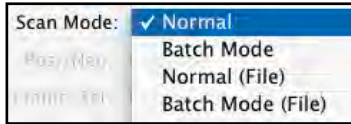
- **Picture*** (*SilverFastHDR..., DCPPro...*)

The names of the current image, as well as the recent images are displayed here. By clicking “Open image” a new image in the directory can be searched for and opened.



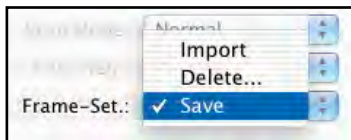
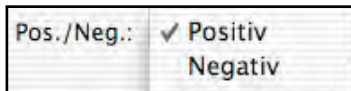
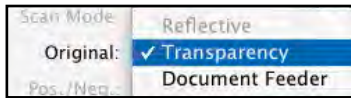
*Attention

The “default dialogue” windows differ from scanner to scanner and some features are only available for certain scanners or certain imaging software.



***Attention**

The “default dialogue” windows differ from scanner to scanner and some features are only available for certain scanners or certain imaging software.



• **Scan Mode* / Process Mode**

Under scan mode select between “Normal”, “Batch Mode”, “Normal (File)” and “Batch Mode (File)”.

With “**Normal**” the current scan frame will be scanned and the image will directly appear in a window in the imaging application (e.g. Photoshop).

With “**Batch Mode**” all scan frames on the prescan will directly be scanned into separate windows in the imaging application.

“**Normal (File)**” will scan the active scan frame directly to the hard disk.

“**Batch Mode (File)**” will scan all scan frames on the preview to the hard disk.

“**to album**”* will save the current image after optimization back to album as a copy.

• **Original***

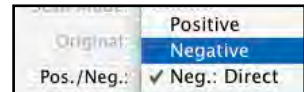
Three different types of originals can be selected from:

“**Reflective**”, “**Transparency**” and “**ADF / Document Feeder**” “Transparency” and “ADF / Document Feeder” are only available with flat-bed scanners when the appropriate hardware addition is available (and connected).

• **Positive/Negative***

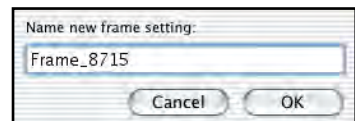
You select between “positive” and “negative” according to the film type used. Clicking “**Negative**” opens the dialogue window “*SilverFast NegaFix*”.

Scanners that have a hardware solution for positive-to-negative conversion, this can be reached by “Neg.Direct”. *SilverFast NegaFix* will then be deactivated.



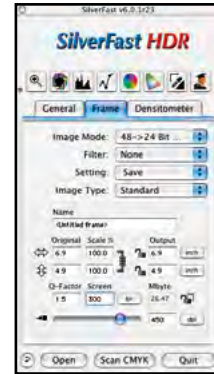
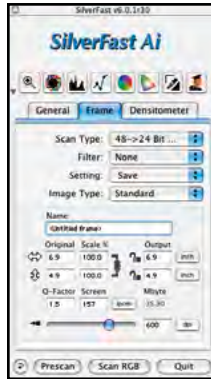
• **Frame-Sets***

This menu enables to save all all scan frames on the preview including their individual positions and all individual parameters under one name. Previously saved frame sets can here be loaded or deleted.

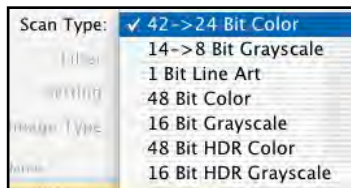


Frame Palette*

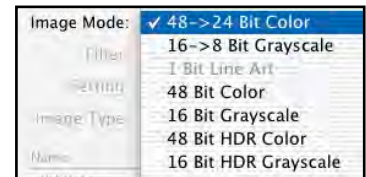
“Frame”-Palette*
left: SilverFastAi
right: SilverFastHDR



- **Scan Type*** (*SilverFastAi*)
Image Mode* (*SilverFastHDR...*, *-DC...*)



In “Scan-Type” (*SilverFastAi...*) resp. “Image Mode” (*SilverFast HDR...*, *-DC...*) you choose the colour depth (bit-depth) of the fine scan.



Based on the internal colour depth of the hardware the selection in this combo box determines the colour depth of the output scan.

Most scanners produce internally more than 24 bit colour data depth, i.e. 30 bit (3x10 bit per channel R, G, B), 36 bit (3x12 bit) or 48 bit (3x16 bit), which is reduced for 24 bit output depth.

SilverFastAi reads the internal colour depth of your scanner and adapts the contents of this drop down menu accordingly.

The entry “42->24 bit colour” shows that the scanner uses an internal colour depth of 42 bit. *SilverFast* will internally use 42 bit, incorporate your adjustments and create a standard 24 bit output.

The selection “...Grayscale” indicates the output of a black / white halftone image file with a correspondingly fine differentiation of grey tone levels.

The selection “...1 bit line art” indicates the scan with pixels of only pure white and pure black values.



*Attention

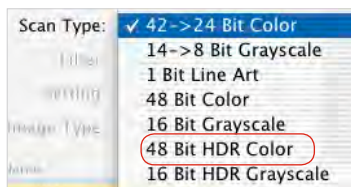
The “default dialogue” windows differ from scanner to scanner and some features are only available for certain scanners or certain imaging software.

With some scanners *SilverFastAi* is able to deliver not only standard 24 bit of data. but also the entire internal information of the hardware`s capable colour depth. This can be 36 bit, 42 bit or more depending on the hardware used.

However, as computer programs only understand 8 or 16 bit of data per colour channel the next higher output format must be chosen. If the hardware data (internal colour depth) is less than 48 bit, the gap is filled with zero values in order to meet the required 48 bit data depth.



NOTE that 48 bit files are twice the size of standard 24 bit files!



SilverFast offers the output of 48 bit files as pure, uncorrected **“raw data format”**.

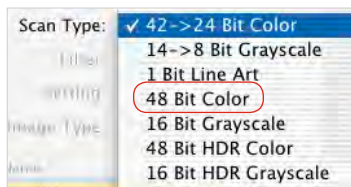
The corresponding selections for this kind of data are “48 bit HDR colour” and “16 bit HDR greyscale”.

These two selections will deliver the “raw data” read by the hardware “as is” (unchanged) as RGB file in uncompressed TIFF format.

The only available software controls in the raw data scan mode are:



output correction and output resolution. All other software tools will become unavailable as soon as the Image Mode is set to raw data scan mode.



In addition to the pure raw data output *SilverFast* version 5.5.2 and



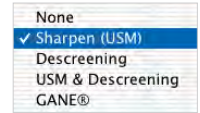
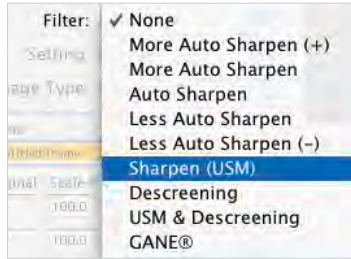
higher features the **high-bit colour corrected output**. In this mode all image correction tools remain available. The corresponding selections are “48 bit colour” and “16 bit greyscale”.

For more information about the advantages of high-bit data, please refer to chapter “Meaning and purpose of the *JobManager*”.



*Attention

The “default dialogue” windows differ from scanner to scanner and some features are only available for certain scanners or certain imaging software.



- **Filter***

Depending on scanner type* and requirements you can choose between different levels of Unsharp Masking (Sharpness) “None”, “Less...”, “Auto...” and “More ...”.

Or you can directly bring up the USM dialogue. In addition you can select “descreening” or “USM + Descreening” or “GANE”.



NOTE! Only one filter may be applied to the active scan frame at one time. The filters cannot be summed together.

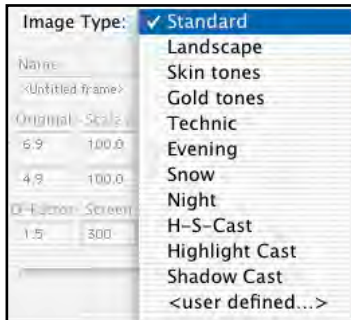
- **Setting**

All settings concerning image manipulation (but not frame position, name and scan size) can be saved or imported.



***Attention**

The “default dialogue” windows differ from scanner to scanner and some features are only available for certain scanners or certain imaging software.



- **Image Type**

By selecting the correct image type you can influence the function of the auto-adjust tool to suit your requirements more precisely.

Standard: With colour cast removal. Highlights and shadows are optimized.

Landscape: Range (contrast) adjusted without colour cast removal.

Skin tones: Reduced range (contrast) without colour cast removal

Gold tones: Range (contrast) adjusted without colour cast removal.

Technic: Range (contrast) adjusted without colour cast removal.

Evening: Highlights are preserved, shadows are optimized. For images with predominant dark tones (i.e. at night).

Snow: Shadows are preserved, highlights are optimized. For images with predominant highlights.

Night: Highlights are preserved, shadows are optimized. For images with predominant shadows.

H-S-Cast: Highlights and shadows are fully optimized with colour cast removal.

Highlight Cast: Highlights and shadows are optimized – colour casts are removed in the highlights.

Shadow Cast: Highlights and shadows are optimized – colour casts will only be removed in the shadows.

User defined: for saving your own automatic adjustment.



***Attention**

The "default dialogue" windows differ from scanner to scanner and some features are only available for certain scanners or certain imaging software.

Size Adjustments / Scaling

The values in the input field for setting the image dimensions of width and height of an original are automatically set by drawing a scan frame on the prescan. Enter a quality factor (1.5 recommended) and the desired final size and *SilverFast* will calculate the optimal resolution and scaling factor for you.



Scan resolution for 1:1

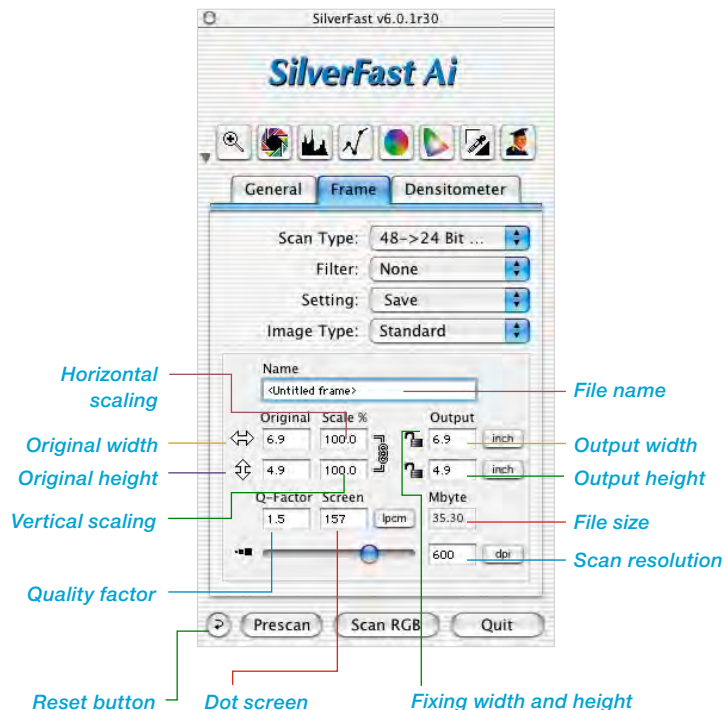
SilverFast calculates internally for scaling and quality factor, so here the resulting resolution for the entire output image is indicated.

Showing scan resolution

By pressing the "Ctrl" key **CONTROL** *SilverFast* shows the hardware scan resolution in the edit-field.

Showing interpolated resolution

"Ctrl" key **CONTROL** and "Shift" key **SHIFT** shows the resulting interpolated resolution for the actual scan.



Scan Resolution for Scaled Images

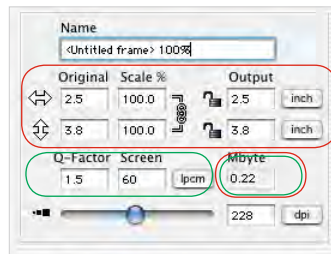
You can either scale the image by entering a scaling factor, or by entering the desired output size. *SilverFast* will calculate the missing factor and do the scan accordingly. For example, if you have a 35 mm image in the scanner, and wish to enlarge this to 4x6", you just set the output size to 4 x 6 inches in *SilverFast*, and set your dpi to the desired output resolution (for printing, we suggest a dpi between 200 and 300). *SilverFast* will then calculate the required scan dpi internally in order to perform the enlargement. So even though the dpi is set to 300, the scanner internally scans at a much higher dpi (which can be monitored by pressing the "Control" key).

Showing scan resolution

By pressing the "Ctrl" key **CONTROL** *SilverFast* shows the hardware scan-resolution in the edit-field.

Showing interpolated resolution

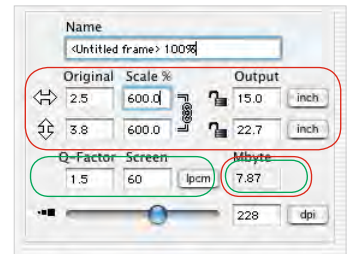
"Ctrl" key **CONTROL** and "Shift" key **SHIFT** shows the resulting interpolated resolution for the actual scan.



Effective resolution with 100%



Interpolated resolution with 100%



Effective resolution with 600%



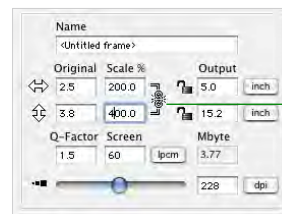
Interpolated resolution with 600%



Uneven Scaling of Images

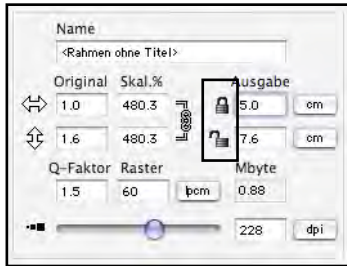
Images can be scaled with uneven horizontal and vertical proportions. In order to unevenly scale an image, click on the black line connecting the horizontal and vertical scaling input fields to unlock it. Type in the desired scaling into the appropriate field and click on the black line again to re-lock.

In order to allow the proportion of width and height to be varied, simply click on the lock to open or close it.



Lock

Click to open for uneven scaling



Proportional Scaling

Proportional Scaling while Keeping Output Width and Height.

In order to keep output height and width (or both), for example in catalogue production, two locks were implemented into the scan dialogue.

Normally the locks are open. By clicking on it, the lock closes and the entered width or height (or both) are fixed.



Fixing Output Width and Height

In order to keep the ratio of **height and width** (proportional scaling) the locks must be closed. Move the hand onto one corner of the scan frame and a crossed cursor appears.

Now you can freely adjust the frame size while keeping the aspect ratio.

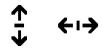


Fixing Output Width or Height

In order to keep output **height or width**, one lock must be closed. Move the hand onto one side of the scan frame, and a horizontal cursor will appear.

Now the frame width can be changed without influencing the output height.

Do likewise to alter the height and maintain the output width.



Pixel Lock*

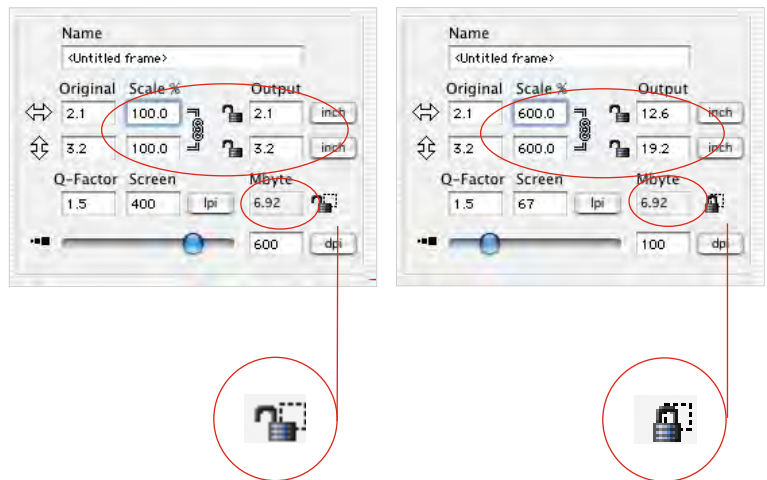


Pixel lock* makes sure that no interpolation is taking place with the original data.

When the lock is closed the original number of pixels of the original data will be preserved. The output size can still be altered but the file size and accordingly the number of pixels will not change. Only the output screen and the scaling values will change accordingly.

After opening an image in *SilverFastHDR...*, *-DC...* you can close the pixel-lock and change output size and scaling without any influence on the file size. The amount of pixels remains unchanged.

Please note: dot screen and output resolution may not be altered!



*Attention!

The pixel-lock is only available in the scanner independent versions of SilverFast, such as HDR, DC and PhotoCD.

Drag & Drop

In *SilverFast* it is now possible to directly generate scans via „Drag & Drop“.

You simply need to click-drag an optimized scan frame over the border of the prescan window and release it there.

If you release the mouse key after dragging it to a document opened in the background of a different application, i.e., a letter in *Microsoft Word*, the scan will fall right into the document.

In a different situation, the scan can be written into a temporary file, for Mac, i.e., into „Scrapbook,“ or it will land on the „desktop“ or „Finder.“

If the amount of available RAM is insufficient, scanning with „Drag & Drop“ will quickly run into limitations. It is therefore recommended more for scanning of smaller pictures (file size). In addition, drag & dropped scans are restricted to RGB-mode.

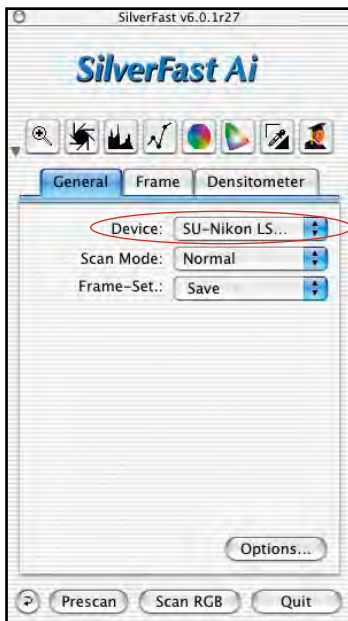
Switching Scanners

The „General“ palette in the main dialogue of *SilverFast* contains an additional pop-up menu called „Device“. It lists all devices found. This pop-up menu is the same menu that you may reach when you click the title line of the preview window, while keeping the „Ctrl“ key pressed.

SCSI: The number of the buses and the SCSI IDs are indicated with SCSI devices. You can simply switch from one to the other when several devices are connected.

The entry „search devices“ offers you the choice of using a scanner added after the computer was started and therefore not included in the list.

USB and FireWire: The entry „search devices“ is missing here, because all devices are already recognized when *SilverFast* is started.



Chapter 4

Prescan Design



4. SilverFast Prescan Design

This chapter introduces into the core design of *SilverFast*. All controls rely on what you see and monitor on the prescan. This concept of working with a low res image and a greater than 8 bits per colour dynamic range is substantially different from other concepts of optimising images.

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SilverFast Prescan Concept

An entirely new prescan concept was developed with *SilverFast*. It allows you to make all necessary corrections on the prescan. All parameters for the individual scan frames are retained.

Realtime Processing

Starting with version 5 by *SilverFast*, all image corrections such as gradation, global and selective colour corrections which the user would like to use by inputting or slider are presented in “Prescan” in realtime. This is of particular advantage in colour processing, tonal values and gradation correction.

The Prescan Concept Advantage

It is very important to understand the prescan design concept, because especially with a scanner, you want to take full advantage of the internal capabilities of your scanner. For this reason it is vital to control all quality factors based on what you see (and measure) on the prescan.

Since the prescan is fast and is only a low resolution image of the final scan, all operations are realtime so that you get an immediate response from what you are doing to your image.

Another advantage is that everything you do can be undone.

Never do you do anything to the final image until you hit the “Scan” button.

SilverFast Prescan Design

The following advantages of the prescan design are clearly oriented for productivity and ease of control.

1. Saved Prescan for Reflective and for Transparency

SilverFast can retain all parameters from multiple scan frames when scanning both reflective and transparency. All parameters inside a scan frame are automatically stored and can be reloaded at any time.



2. Multiple Frames on Prescan

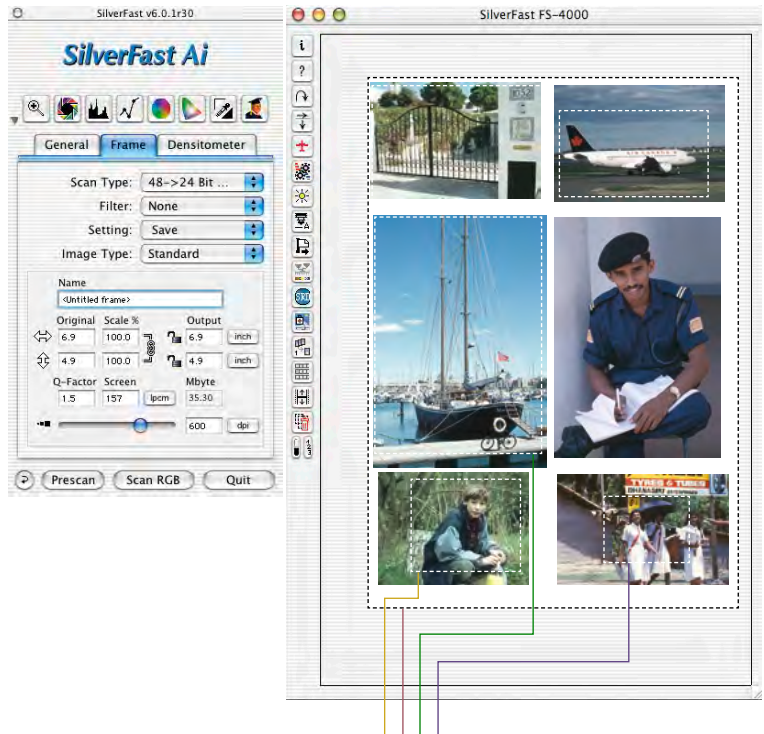
You can create any desired number of scan frames on the prescan image. In order to do this, move the mouse to the upper left corner of the desired new frame, hold the mouse button, and drag the mouse to the lower right corner of your desired frame. Only one frame is active at a time and the image inside can be changed with *SilverFast's* tools. By clicking inside an image the appropriate frame becomes activated.

The starting point of a new frame must be outside existing frames. The new frame can then be positioned anywhere in the preview; resize frame as needed.

Attention!

Please check when "Auto Frame Inset" – under "Options..." / "Auto" is set to "0" scan frames have to be inside the image itself, so that no insignificant parts of the border or outside of the image influence the result of the Auto-Adjust. **Otherwise you will have wrong highlights or shadows values.**

After you have set the Auto-Adjust or set manually the darkest / brightest point you can enlarge the scan frame.



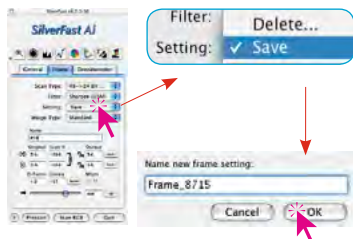
Individual parameters of all scan frames are automatically stored within a SilverFast Prefs file.

Multiple scan frames

Here any desired number of frames can be drawn on the preview area representing the flat bed scan area of the scanner.

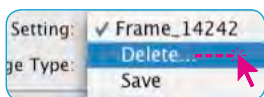
3. Loading and Saving single Scan Frame Parameters

SilverFast enables you to save and reload frames with their associated settings like scan-mode, highlight-shadow-values, gradation curves, scaling and scan-resolution. This will help you in having your most wanted settings and frames quickly available.

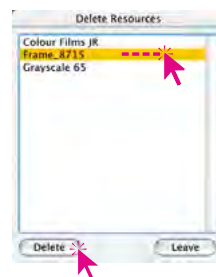


In order to save a new scan frame with all its settings, go to “Setting” – “Save” under the frame panel and input an appropriate name.

If the name does already exist you will be asked whether you would like to replace that name.



In order to delete a setting go to “Delete” under the same menu. You will get a list of all existing settings. Select the settings you would like to delete and click on “Delete...”.



4. Batch Scans from *SilverFast*

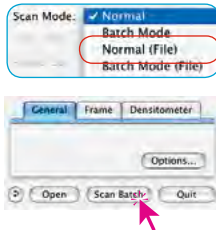
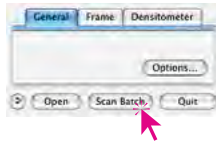
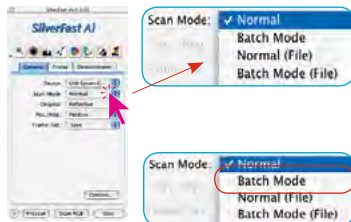
Batch scans represent automated processing of numerous scans (scan frames) on a computer. *SilverFast* supports various kinds of batch scans.

First you draw several scan frames and allocate individual settings to those frames if desired.

Clicking on the right half of the “brightest-darkest point / show frame number” button will show the **frame numbering**.

Now one of the Batch modes will be activated.





In the “General” panel click the pull-down menu “Scan Mode”. The following scan modes are available: “Batch Mode” and “Batch Mode (File)”.

a. Batch Scans directly into the Imaging Application

In order to scan all frames one by one, under “**Scan Mode**” go to “**Batch Mode**” and click the scan start button “Scan Batch” – all frames are scanned into the imaging application the order mentioned. All scans will be numbered accordingly.

b. Batch Scans directly to the Hard Disk

In order to scan all frames to hard disk one by one, go to “Scan Mode” - “**Batch-Mode (File)**”. After clicking the “Scan Batch” button the following dialogue will come up.



In the dialogue window you can define the file destination hard disk and the folder as well as define the general file name, which will automatically be appended with numbers 1 to ...

As file format you can choose between “TIFF”, “JPEG” and “EPSF”.

5. Saving and Loading several Scan Frames as one Setting

SilverFast allows to save a whole set of all scan frames on the prescan with all its individual settings and reload them a any time.

This function is of special significance for flat bed or large format scanners.

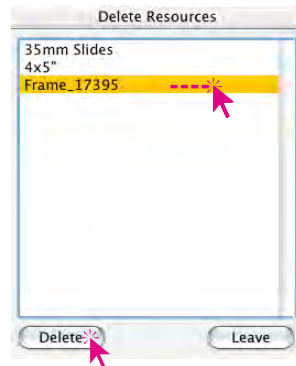
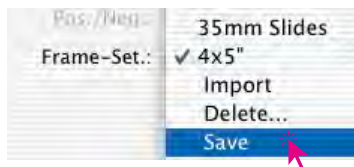
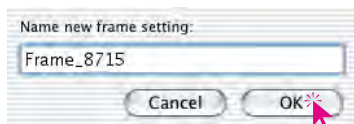
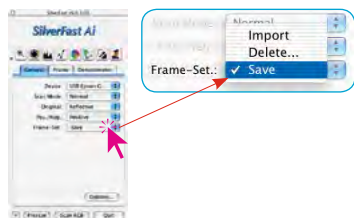
The function saves all settings including scan frame position, scan mod, highlight-shadow values, gradation curves, scaling and resolution.

This way you can quickly allocate settings to repeatedly upcoming tasks (e.g. several framed 35 mm slides) and also set up the required processing.

In order to save a set of scan frames with their settings, go to “Settings” under the General Panel and input an appropriate name.

In case this name does already exist you will be asked whether you want to overwrite (replace) that name.

In order to delete a settings go to “Delete” under the same menu. You will get a list of all existing settings. Select the settings you would like to delete and click on “Delete”.



6. Activating Scan Frames

In order to activate a scan frame, simply click on it. The scan frame will show the marquee being active.

7. Deleting a Scan Frame

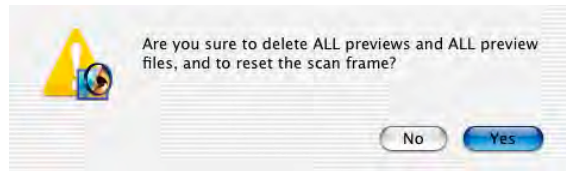


In order to delete a scan frame, activate the frame (by clicking onto it), then click the “Delete Frame” button in the vertical tool bar.

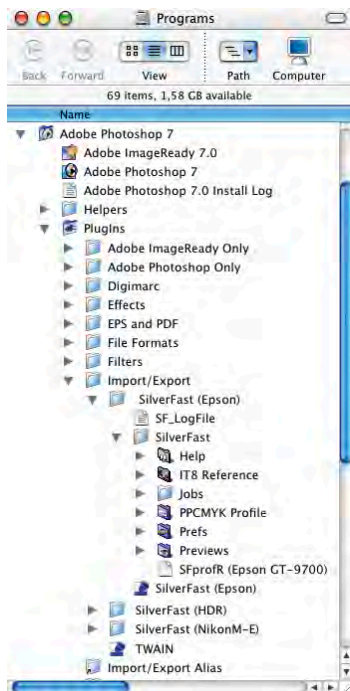
8. “Reset All” during Deletion of the Prescan Frame

If only one scan frame is still showing in the prescan window, a general reset can be accomplished by clicking the icon for deleting the frame.

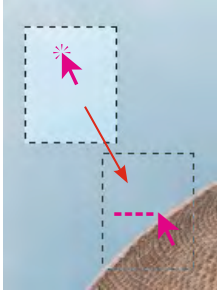
In this way, all parameters are set back to “work settings” and the content of the folder “Previews” is deleted.



When opened again, *SilverFast* will have a white, empty “prescan window” and all parameters will have default settings.

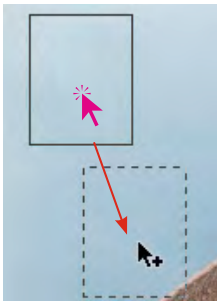


9. Moving and Copying of Scan Frames



All *SilverFast* plug-ins from version 5 on have modified the use of scan frames.

The **moving of a scan frame** by click dragging remains the same as before. However, during moving, a track of the original position of the scan frame remains at the exit position. This makes it easier to orient yourself. As you release the mouse key, the old frame track will disappear. At the same time, the new scan parameters will update the frame content at the new position.



You can now **copy a scan frame** by click-dragging while holding down the “Alt” key. A “Plus” sign will appear next to the cursor.

You can continue to use the previous function for copying. Hold down the “Alt” key and click next to the active scan frame. *SilverFast* will produce a copy of the previous active frame in the prescan window (including all parameters and settings that it contains.).

10. Copying Parameters into another Scan Frame

Macintosh:

First activate the source frame. Then click into the desired frame you want to copy parameters to with “Alt” key a depressed. Click another time into the desired frame, this time without “Alt”- key. The desired frame will be updated by the parameters copied.



Mac:   + 

Windows:

First activate source frame. Hold the “Alt” key depressed and simply click into the desired frame.



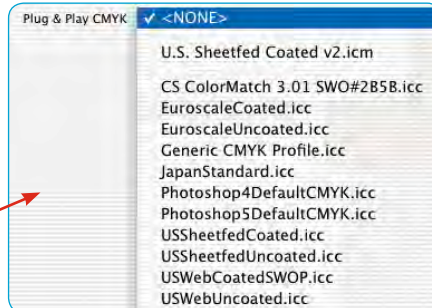
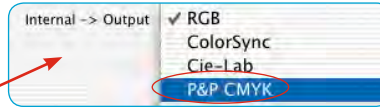
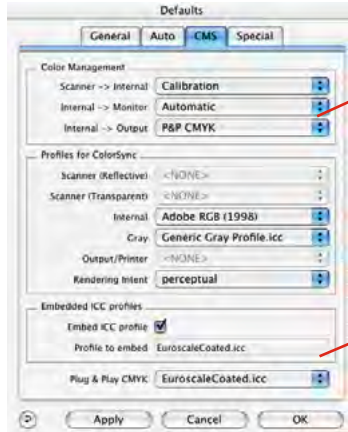
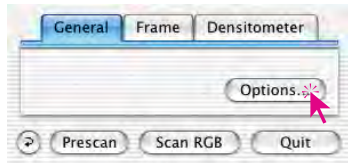
Win:  

11. Permanent Softproof

Starting with version 5 of all *SilverFast* plug-ins, the normal RGB colour monitor display of the prescan window can be permanently converted to a CMYK colour simulation. In this way it ensures that the user can inform himself about the colours that he can choose in the text before the actual scanning.

The precondition for switching is that “P&P CMYK” is selected in the “Colour-Management / internal → Output” found in the “CMS” settings under the “Options...” dialogue, and that in the same palette under “P&P CMYK” a suitable separation profile is selected.

Please make sure that the same separation profile is selected in your imaging program!



After establishing these settings, you can switch between the RGB and the CMYK settings in the densitometer window as often as you wish.

To achieve this, click on the button for softproof.



By activating this icon with the mouse, softproof is turned on or off. If softproof is activated, the icon is bright, otherwise it is dim.



12. Softproof of CMYK Colour Separations



If the permanent softproof function is activated, the respective colour can be displayed in the prescan window when clicking on C, M, Y or K buttons of the densitometer.

Any combination of these colours is thus judgeable prior to scanning.

Clicking on the summary symbol will turn back to the full CMYK display.

Colour separation softproof



Cyan



Magenta



Yellow



Black



Combination C + M



C + M + Y



C + K



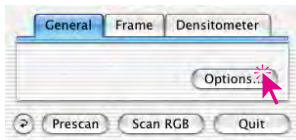
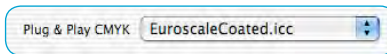
Y + K

Changing the Separation Parameter and Control on the Effect of Shadow-build-up, for Example

It appears to be very practical to already show the effect of various separation profiles in prescan.



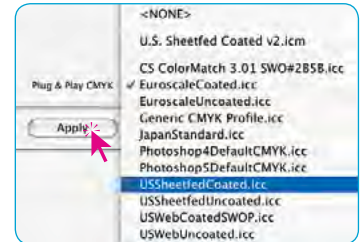
Activate the permanent softproof function and choose (e.g.) black, “K” (C, M, and Y are to be deactivated). In the prescan window, the image will now be displayed in accordance with the pre-selected separation profile.



In order to switch to a different separation profile, open the “Options...” dialogue.



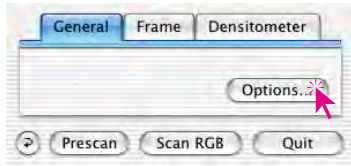
Switch the profile under “Plug&Play CMYK” in the “CMS” palette.



By clicking on “Apply” the display in the prescan window will be updated. Changes can immediately be seen on the prescan window.

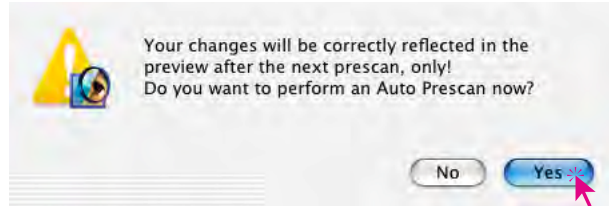


When an appropriate separation has been found, the dialogue can be closed by “OK”.



13. Automatic Prescan

If parameters in the “Options...” dialogue have been changed that require a new prescan (Gamma, ICC profile, ...), it is pointed out by a note that this prescan is required for a correct monitor display. The user can then decide for himself if he should start a new prescan.



14. Displaying Frame Number



By clicking and holding on to the right half of this button, an individual frame number is displayed in the upper left part of the frame.

The order of these numbers is also the order in which batch-scanning takes place if selected.

The currently activated scan frame always has the number “1”; the previously clicked frame “2” and so on.

By clicking on to the individual frames, the numerisation of these is changed which in turn affects the scan order in batch scans.

Zooming in the Prescan



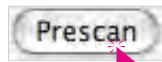
Depending on the version of, there are a number of methods to zoom into the large preview window.

Zooming in *SilverFastAi* and *-SE*

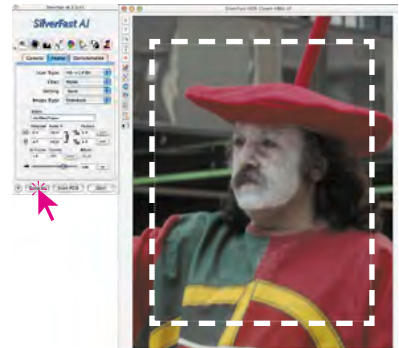
To quickly zoom into any part of the prescan window, drag a frame around the image and click the magnifier in the tools palette.



A quick zoom into the prescan window takes place. In order to get back to the overview prescan, relick the magnifying glass. The magnifying-glass button functions like a “toggle switch”.

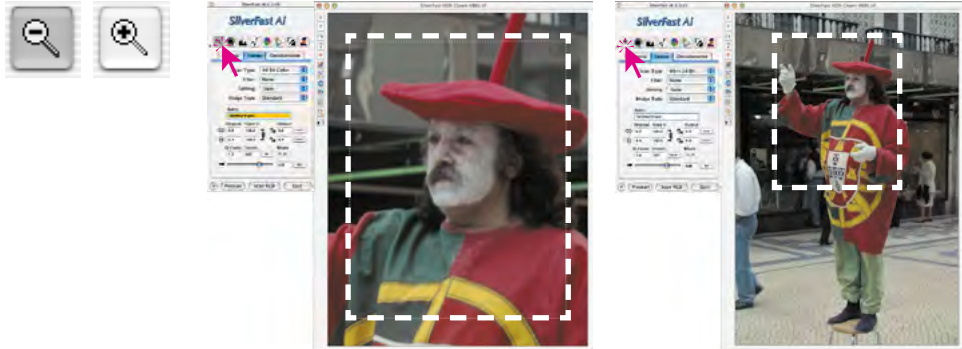


If you want to enlarge the zoomed preview further, minimize the scan frame in the zoomed preview and click the “Prescan” button again.



The zoomed-in frame will always stay slightly short of the scan window. This was done so the frame selection can always be corrected later.

You can jump back to the normal preview from the zoomed-in preview by clicking on the zoom tool again. Clicking again on the zoom tool brings you back into the zoomed preview.



When working with scanners with more than one optical lens (Resolution) see page 103 (“Scanner with Different Optical Resolutions”).

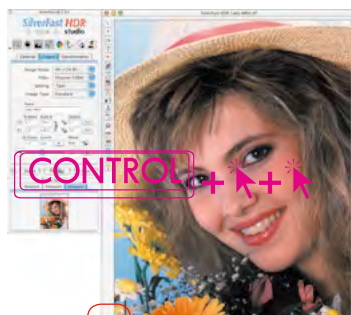
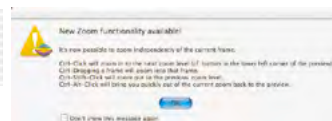
Zooming in SilverFast

In addition to the previously described zoom functions, the scanner independent *SilverFast* versions, as well as the *SilverFastAiStudio* version, now contain three extensions of the zoom concept. After opening an image in the large preview window, *SilverFast* now allows to zoom into the prescan without the need of frames.

Zooming by Mouse Click*

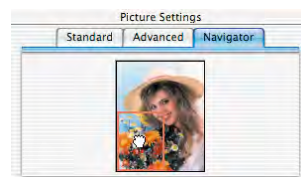
In our example (first illustration on the right) the frame is drawn across the entire preview window.

After clicking the magnifier button, initially only a help dialogue which describes the new functions is opened.

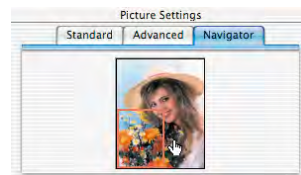


By pressing the “Ctrl” key, the mouse button turn into a “Plus” magnifier. Clicking into the image results in a step-by-step enlargement of the view with each click. In the second example (2nd image left), a double click has been done and the zoom has increased from 55% to 100% in two steps. The value of the current zoom is displayed on the lower left of the preview window. The maximum zoom value is 200%.

Simultaneously, a new palette “Navigator” is added to the “Image Settings” window. The entire image is shown here. The smaller red frame shows the current position of the window on the image.



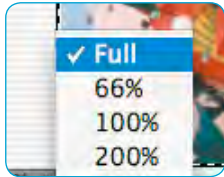
The current view can be changed by dragging the red frames (3rd illustration left), or by clicking the mouse (4th illustration left). The large preview window changes accordingly.



**This “Zoom by mouse-click” function is only available in the SilverFastAiStudio versions if the “High resolution Prescan” has previously been set to level 2 or higher, in the “Options... / General” settings menu.*

Keeping the “Ctrl” and the “Alt” keys pressed while clicking the mouse makes the view jump back to the full scale preview. The letter “P” then appears within the mouse cursor magnifier.

Zooming by the Zoom-Display Popup



The value field of the current zoom level also functions as a popup menu.

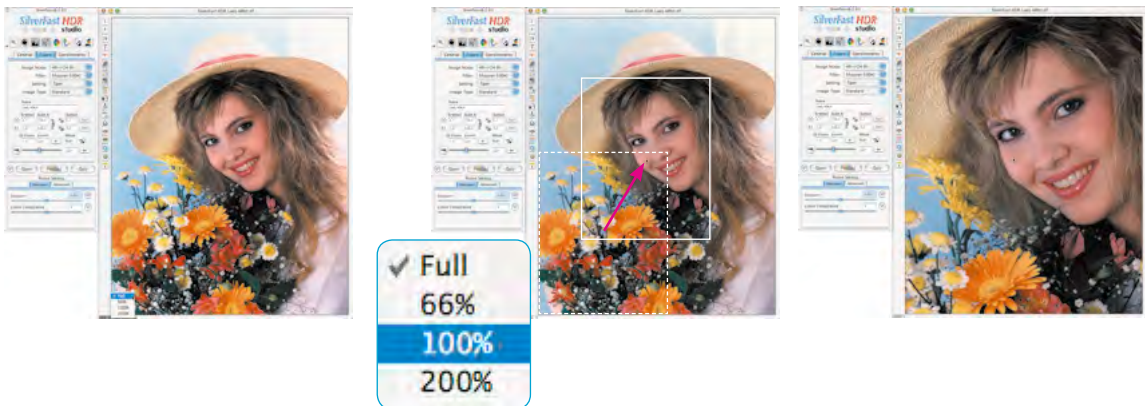
By this, any of the preset zoom levels can be applied.

Re-activation of the full preview can be done by choosing “Full” in this menu.

When switching from a small to a larger zoom value, a white frame is displayed initially.

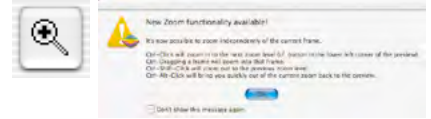
This frame is moveable by dragging the mouse (do not drag, do not click – just move the cursor).

Once the desired part is reached, a click will fix the frame and the contents of this frame are displayed (Illustration below right).

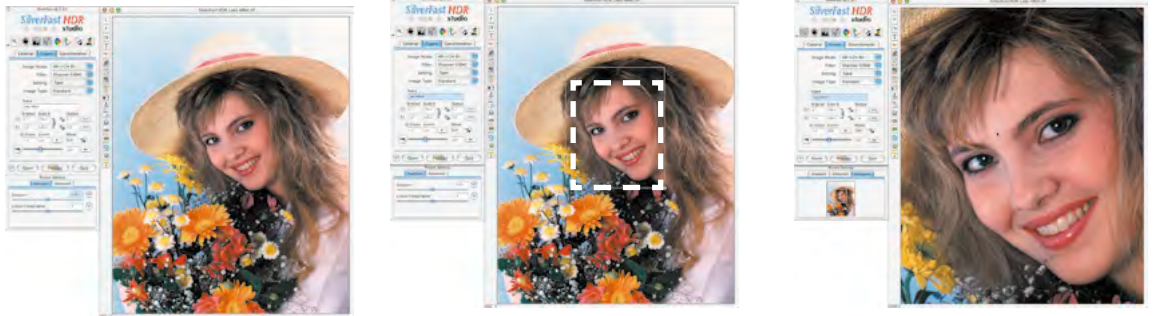


Zooming by Click-Dragging the Mouse

After clicking the magnifier button, a help dialogue which explains the new functions appears.



By subsequently click-dragging the mouse in the large preview area, a new frame may be drawn (middle illustration below). The contents of this frame are enlarged when the mouse button is released (Illustration below right).



Alternatively, an enlargement frame can be drawn by directly click-dragging the mouse while holding the "Ctrl" key pressed. By this method, the magnifier button does not need to be clicked.

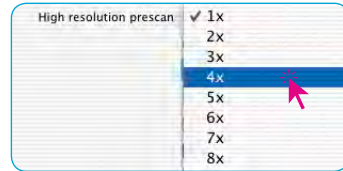
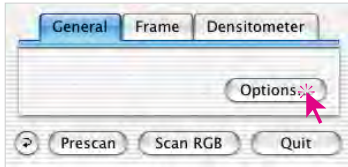
The current zoom level is again displayed in the value fields.

The maximum magnification has been reached if a white area is shown instead of the "Plus" symbol while keeping the "Ctrl" key pressed. No further zooms are possible at this stage.

High Resolution Prescan

In order to process work more quickly with *SilverFast*, a prescan can be selected which has a resolution that is up to eight times greater than actually necessary for a normal prescan.

Activation of high resolution prescan is done in the “**General**” palette found under “**Options...**”.



The advantage is that by utilizing a zoom by means of the magnifying glass, *SilverFast* can retrieve data that is already available and immediately show the enlarged preview, without scanning it again. The first prescan will therefore take somewhat longer than normal.



If the selected zoom still lies within the data parameters, the magnifying glass will turn green.



If *SilverFast* has to interpolate the data, (you may already see single pixels in the prescan) the magnifying glass will turn red.



You can still choose a new prescan from your hardware with a click of the prescan button. In this way you can be assured that the most important user interface, the preview, always has optimal resolution.

Zoom and Difficult Corrections

In order to carry out advanced corrections in *SilverFast*, especially when you need to base your corrections on more image details, *SilverFast*'s zooming concept is the ideal solution. Please follow the outlined steps below.



1. Zoom the selection you want to see in more detail.
2. Fix a densitometer point, to monitor the output values. (In order to fix a densitometer point, press the “Shift” key and click on the desired spot on the image).
3. Perform the required corrections (gradation, highlight / shadow, selective colour correction).



4. Jump back to the overview preview (click the zoom tool again).

While in the normal preview, you might need to look into the zoom again. You can do this by clicking on the zoom tool once again. Only when you change the selection substantially on the preview a new zoom scan be initiated.



5. Now pull out the zoom selection across the whole image (the correction you have done on the zoom selection will be automatically applied to the whole image).

SilverFast always keeps two prescans in memory: the main prescan of the whole scan area and a zoomed prescan.

As long as the selected frame lies inside the area of the zoomed prescan in the memory, no new zoomed prescan will be initiated. If you have zoomed into an image and have decreased the frame size afterwards, clicking the zoom tool will not cause *SilverFast* to do a new prescan with a higher magnification. Instead, push the Prescan button again when in zoomed mode.

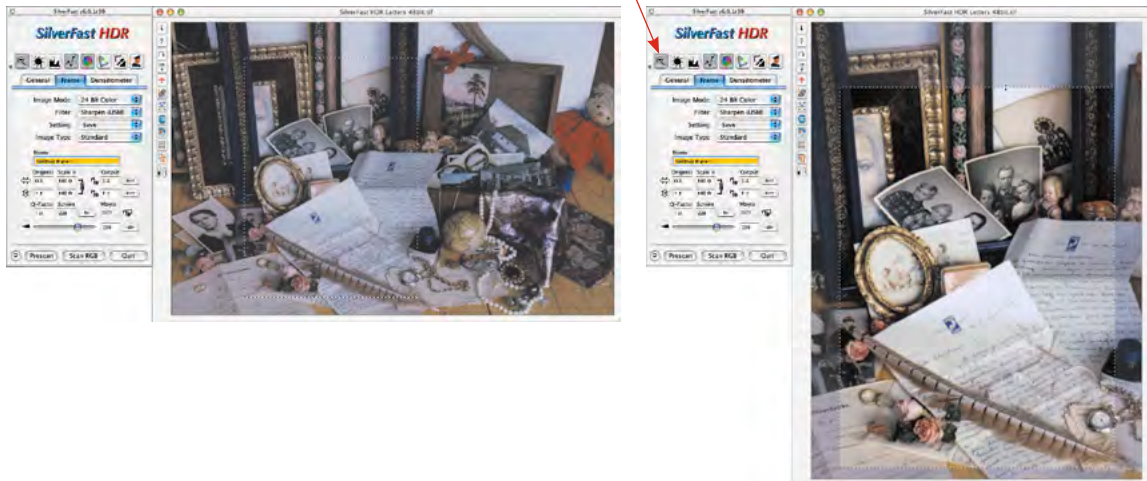
*Setting of fixed measure points (Multiple FixPip)

please refer chapter “Multiple Densitometer (Fixed Pipette, MidPip4)”
page 145.

Editing a Zoomed Prescan

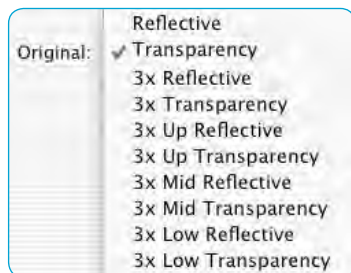
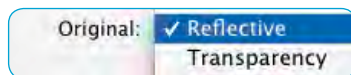
A zoomed section can be edited at any time. All *SilverFast* tools are available.

The zoomed selection can be made slightly bigger or smaller. Move the mouse over the frame border until horizontal or vertical arrows indicate that you can move the selection marquee. The arrows show in which direction the frame can be moved. After you have made your changes, go back to the full image by clicking on the magnifying glass.



After editing the zoomed prescan you can easily jump back to the overview scan frame by clicking onto the zoom tool.

Scanner with Different Optical Resolutions*



Menu "Original"

On top a scanner model with one optical resolution. The scanner shown below has three optical relations to switch over.



*NOTE!

Functions are different from scanner to scanner and some of the functions are only available with specific scanners.

**NOTE!

some film scanners allow only a maximum scan area of 6x9 cm, even if the material holder itself allows for much larger originals!
Please refer to your hardware manual for maximum allowed original dimension.

A few scanners* have the ability to use different optics* to supply different optical resolutions. Normally a higher optical resolution has to be switched on with a distinct command. This will result in a different (smaller) usable scan area. Very often only a small vertical strip in the middle of the flat bed can be used.

Even with the software set to high-res scan mode the first prescan reads the entire scan area. With flat bed scanners, for example, the entire length of the high-res scan area is read at once.

Depending on the scanner model you can find the different resolution modes in the "General" > "Original" menu (where you can also alter between "Transparency" and "Reflective" or "Document Feeder" if your scanner supports those features).

Having selected a scan frame of your choice, clicking the zoom button will induce a new prescan of the selected area. The zoomed high-res preview can be as large as the monitor screen, where the proportions of the scan frame determine the proportion of the new preview scan. A square-shaped scan frame results in a square-shaped preview.

One main advantage is that thanks to this new approach even large format panoramic films ** (for example 6x17 cm rollfilm-negative**) can be previewed at once in the zoomed preview.

If you want to zoom further into the zoomed preview, simply downsize the scan frame over the zoomed preview and click the prescan button again to initiate a new preview.

With a click on the zoom button (magnifying glass) you switch back the initial preview of the entire scan bed ("toggle-switch").

Chapter 5



Tools

5. *SilverFast* Tools

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Tools for Brilliant Images

SilverFast has all the tools to generate brilliant images from your scanner or from raw data (*SilverFastDC...* and *SilverFastHDR...*). Make yourself familiar with the best way to get brilliant results from your scans. Use the *ScanPilot* in the beginning to help you with the right sequence.

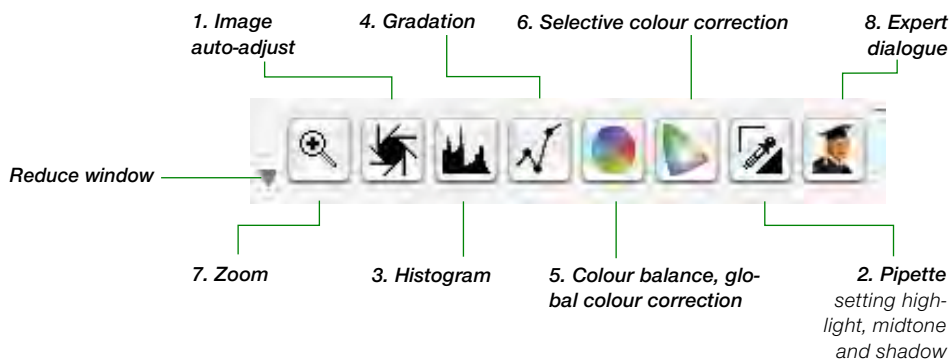
When using the auto-adjust make sure you select the appropriate Image Type to adjust the operation to your specific image.

Also check that your settings for highlights and shadows (under “Options...” > “Automatic”) are in accordance with your printing requirements.

It is also advised to read the chapter about optimum scan resolution in the addendum.

Tools palette, overview

SilverFast's powerful image adjustment tools can be accessed through the tool. Study the usage of these tools well in order to obtain optimal results with *SilverFast*.



Tool 1: Image Auto-Adjust (Auto-Gradation)

(Mac: $\text{⌘} + \text{2}$, PC: $\text{CONTROL} + \text{ALT} + \text{2}$)

By means of the auto-gradation, the highlight / shadow points are automatically optimised. Colour cast removal is automatically applied (or not applied, depending on the scanner model and image type selected).

Tool 2: Setting Highlight, Midtone, Shadow

Sets the brightest and darkest point and midtone on the image manually.

Tool 3: Histogram

(Mac: $\text{⌘} + \text{3}$, PC: $\text{CONTROL} + \text{ALT} + \text{3}$)

With the histogram tool, the highlight / shadow points are controlled and optimised.

Tool 4: Gradation

(Mac: +**4**, PC: **CONTROL**+**ALT**+**4**)

In the gradation dialogue, the tonal values are influenced through RGB- or CMY-curves. Here the gradation curves can be controlled by sliders, numerical input or curve manipulation. You can choose between RGB and CMY representation.

Tool 5: Colour Balance (Global Colour Correction)

(Mac: +**5**, PC: **CONTROL**+**ALT**+**5**)

With global colour correction, the colour balance can be changed for all tonal values including quarter-, half-, and three quarter tones.

Tool 6: Selective Colour Correction

(Mac: +**6**, PC: **CONTROL**+**ALT**+**6**)

With this very powerful tool, single colours can be changed without influencing the overall colours.

Tool 7: Image Zoom

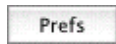
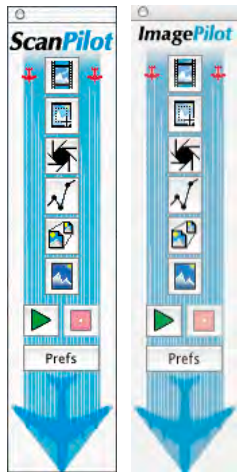
With the image zoom (magnifying glass), you can zoom into any part of the image.

Tool 8: Expert Dialogue

(Mac: +**8**, PC: **CONTROL**+**ALT**+**8**)

All parameters that influence the image are shown by number and can be changed. You can switch between RGB to CMY display.

ScanPilot* / ImagePilot*



The *ScanPilot** / *ImagePilot** is an efficient tool that helps the novice with the subjects of “Scanning” and “Optimization” acting as a kind of road-map in order to reach successful and brilliant results. It is an instruction to use the available tools (automatic or manual) in the correct order.

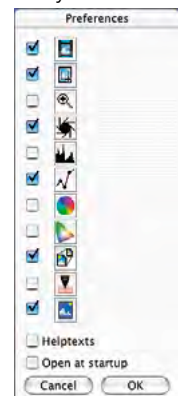
It is easy to use and delivers good quality results:

- Click the first, uppermost icon and press the green launch button after that.
- *SilverFast* now works its way along the column of the tools palette partially automatic.
- Some tools require additional input fields and *SilverFast* will halt and open the respective dialogues in order for the user to enter his own parameters. The primary stop will, for example, be done while adjusting the gradation.
- Regardless of whether changes have been made within the tools-dialogue or not, hit the „OK“ button or press the „Enter“ key in order to close the window.
- The *ScanPilot** / *ImagePilot** may be halted at any time by clicking the red “Stop” button and then allow moving on to the regular tools in *SilverFast*’s main dialogue.

Preferences

By pressing the “Prefs” button you can expand the tools-list used by the *ScanPilot** / *ImagePilot**. Click on the check boxes beside the tool buttons. The *ScanPilot** / *ImagePilot** will show you at which point you use these tools best. The detailed description of the tools can be found in this manual.

In the preferences dialogue window you define whether the *ScanPilot** / *ImagePilot** will supply concise help texts beside the tools during its operation.



* Difference between ScanPilot and ImagePilot

There are no differences! The „ScanPilot“ is available in *SilverFastAi...*, and the „ImagePilot“ in *SilverFastDC... and -HDR...*

If you would like to use the *ScanPilot** / *ImagePilot** permanently, click the check box “Open on Start-up”. The *ScanPilot** / *ImagePilot** will then open at every *SilverFast* start up (this is the default setting of the *ScanPilot** / *ImagePilot**).

Click the icon with an image of an aeroplane in the vertical tools palette, located left of the preview window, once you are finished using it.

Help Texts in *ScanPilot** / *ImagePilot**

Brief help texts beside the tool buttons of the *ScanPilot** / *ImagePilot** inform you about what to do next!

During the task “Frame position” you will be asked, “Which part you do want to scan?” Click and hold with your mouse on one corner of the frame and drag it to the size you want.

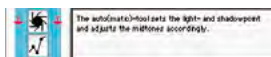
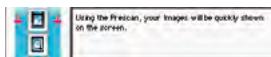
After that the image Auto-Adjust will be automatically applied and the next dialogue window will come up (here gradation).



Attention!

Please note that some dialogues that have been opened using the *ScanPilot** / *ImagePilot** are only partially available!

This, for example, is the case when using the gradation dialogue and merely serves security purposes. In the example, only the slider that is moveable is the one for the mid-tones. In order to obtain satisfactory results while using the other sliders, a certain level of expertise is necessary. In any case, the *ScanPilot** / *ImagePilot** can be closed and the full accessibility to all other sliders and parameters is given.



Comparison of the different gradation dialogues

Left: The appearance of the dialogue when opened using the *ScanPilot** / *ImagePilot**

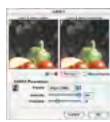
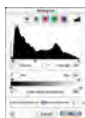
Right: The appearance of the dialogue when opened from the main menu.

With the completion of the last step, the scan frame will be scanned into the imaging application.

All running processes can be halted at any time, in order to allow manual intervention with the help of the tools in *SilverFast's* main dialogue.

The Concept of Optimising Images

When optimising scanned images, using the tools in the correct order significantly influences the results that can be obtained and leads to the optimal output quality.



1. Basic Choice of White / Black Point and Colour Correction

The black / white points and colour correction can be set manually or by using the auto-adjust function.

2. Optimising Gradation

If necessary, further individual optimising of the image with gradation curves (midtone and contrast) is possible.

3.+4. Global Colour and/or Selective Colour Correction

If necessary, individual colours can be corrected by using selective colour correction, or the total colour characteristics can be corrected by using global colour correction. It is also possible to use an ICC scanner profile for applying colour correction.

5. Size Adjustment and Scaling

Scale the image and scan frames individually in height and width.

6. Retouching

Removal of dust and scratches by means of *SilverFast SRD* and/or the clone tool.

7. Applying Filters: Sharpening (Unsharp Masking) / Descreening / GANE

Choose, according to type of image and scaling, the optimum setting for Unsharp-Masking or descreening and *GANE*.

8. Output RGB, LAB or CMYK

Select "Scan RGB" – "LAB" or "Plug&Play CMYK". Select the appropriate separation profile (in case you scan CMYK) for your type of printing.

9. Scan

Workflow of Optimising Images



5.1 Image Auto-Adjust (Auto-Gradation)



The auto-adjust is a convenient tool for achieving a quick image optimisation. This function investigates the end points of the image data; i.e. it looks for the brightest and darkest points of the image in the current frame and sets highlight and shadow points respectively. Also the distribution in the half- and three-quarter tone is checked and depending on this distribution a gradation curve (linear or logarithmic) is generated for correction.

In *SilverFast* the the image auto-adjust button can have the following states:



Grey

Standard setting with most scanners. Clicking the auto-adjust button triggers the image automatic and corrects existing colour casts. Colour casts will be eliminated in highlights and shadows.



Coloured

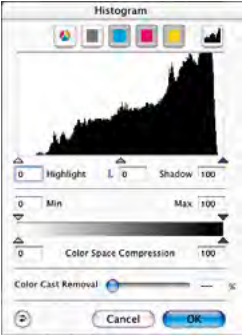
Standard setting with few scanners, which already have a fairly neutral image rendering with the factory settings. Also with active IT8 calibration (optional). Clicking the auto-adjust triggers the image automatic and keeps any existing colour casts.



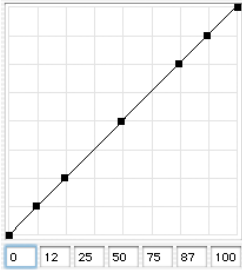
Coloured + “C” The small “C” within the coloured auto-adjust button indicates that a ColorSync workflow (Windows: ICM workflow) is active within *SilverFast*. It will become active when input calibration has been switched to ColorSync (ICM) and an ICC profile (Windows: ICM-profile) has been allocated in the colour management settings (under “Option”) in *SilverFast*.

The following example shows the image before and after usage of the auto-adjust and the corresponding histograms.

The image appears a little flat because no correct highlight detail is present in the image. The reason is: Within the image there is no value for white – merely 10 % grey. The histogram shows that the first pixels in white begin between 9 and 13 %.



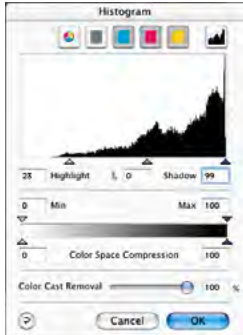
*Histogram
without auto-adjust*



*Gradation
without auto-adjust*



A moment after pressing the auto-adjust button, we realise, how the image has gained in brilliance. In general, a strong difference between the parts of the image within the scan frame and the parts outside this frame can be seen. The effect of the automation is also shown by the change of colour of the neighbouring buttons for the histogram and the gradation dialogue.

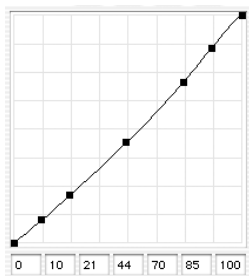


Histogram with auto-adjust

In the histogram we can observe that the little black triangle marker shows that the highlight is now at 13%. This means, that every point which has had a value of 13% in the previous image, now has become the colour white (2-3%). Simultaneously we can observe that the red colour cast has vanished from the brighter areas. The auto-gradation has eliminated the colour cast.



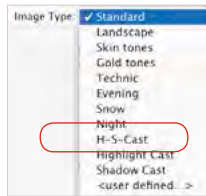
The gradation curve on the left shows that the auto gradation has made the image slightly brighter in the midtone.



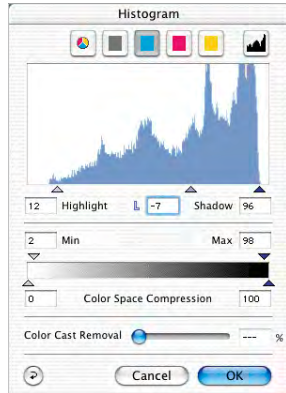
Gradation with auto-adjust

Please note, that the artificial intelligence inside *SilverFast* evaluates images on the basis of what is inside the scan frame selection. You can change the effect of the auto-adjust by making the selection smaller or larger.

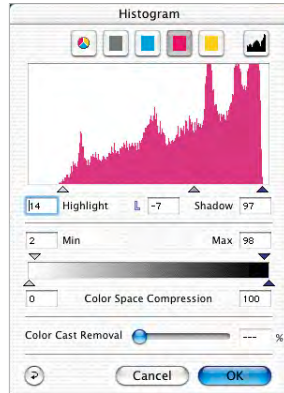
Auto-Adjust and Colour Cast Removal



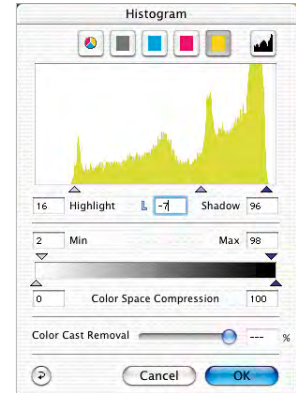
By pressing the aperture-button, the active scan frame will undergo a highlight-shadow optimisation with colour cast removal. In the following three histograms, it is easy to see the influence on the cyan, magenta and yellow channels.



Cyan, highlights set to 9%



Magenta, highlights set to 14%



Yellow, highlights set to 16%

By setting the highlight for cyan to 9%, magenta to 14% and 16% for yellow, the colour cast has been removed.



Original with a cyan cast



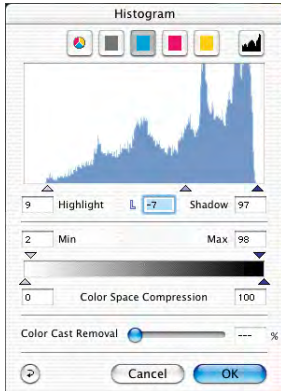
Cyan cast removed with auto-adjust

Auto-Adjust and Colour Cast Preservation

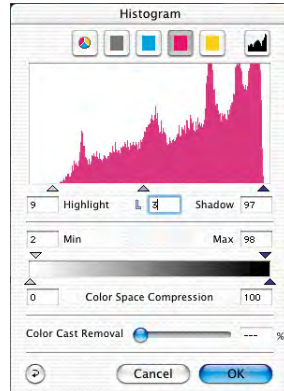
Auto-adjust reset

In order to reset the auto-adjust tool, press the “Alt” key and click on the aperture (auto-adjust tool) icon.

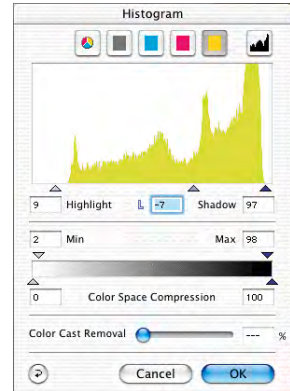
If your image contains sunset colours, a kind of reddish cast, you probably would like to keep this characteristic in the image. In order to prevent the automatic colour cast removal from eliminating this, keep the “Shift” key pressed down and click the aperture button. The highlight-shadow points will be optimised, the colour effect will remain untouched in the image. The highlight-shadow triangles of the above histograms will look like this:



Cyan, highlights set to 9%

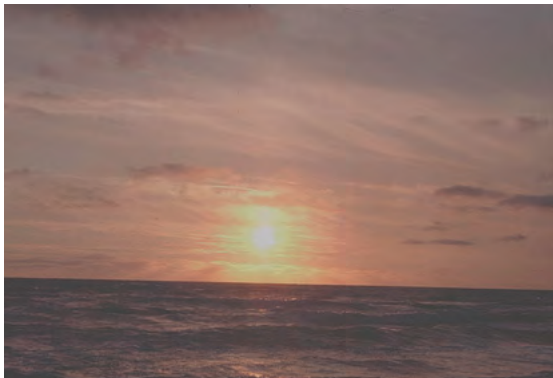


Magenta, highlights set to 9%

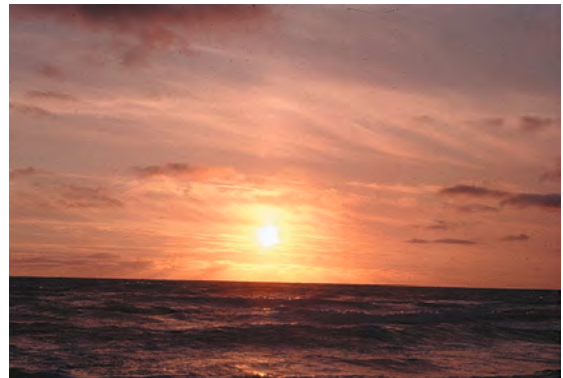


Yellow, highlights set to 9%

The values for highlight and shadow points are 9% in the highlights and 97% in the shadows. This way, the colour cast is completely retained in the image.

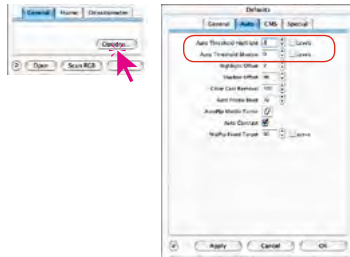


Original not optimised

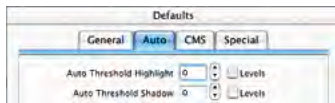


Optimised with colour cast removal suppressed

Auto-Adjust and Threshold

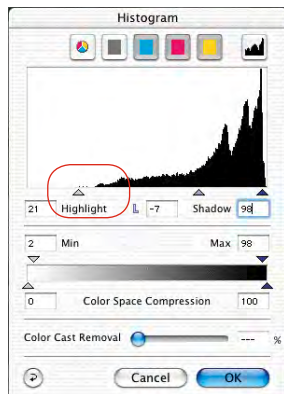


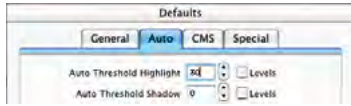
Under “Options...” / “Auto” a threshold can be determined for the auto-adjust. This threshold controls the sensitivity of the auto-adjust. If the auto-adjust is set to small values, it will react to few pixels. If the threshold is set to very larger values, it will skip more pixels at the end points in the histogram. This is made clear by the following two examples:



1. Automatic Threshold on “0”

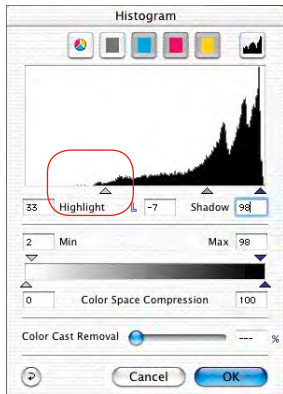
The auto-adjust is set to greatest sensitivity. If the threshold is set to “0”, the highlight / shadow points are set on individual pixels. This could, however, lead to undesired results in some images, since these first pixels could represent insignificant image information not visible to the eye. For this reason, the threshold should be set to values between 2 and 10.



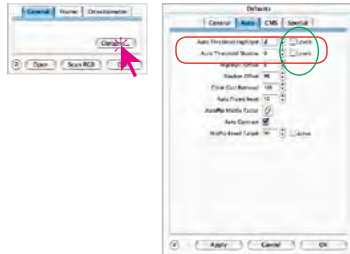


2. Automatic Threshold on “30”

The other extreme of the auto-adjust threshold is the value “30”. It can be clearly seen in the histogram that the highlight triangle points at the value “33”. Therefore, some of the highlight details will be lost. Depending on whether more or less pixels with a bright tonal value are present, the auto-adjust with this extreme threshold of “30” will disregard more pixels.

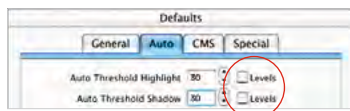
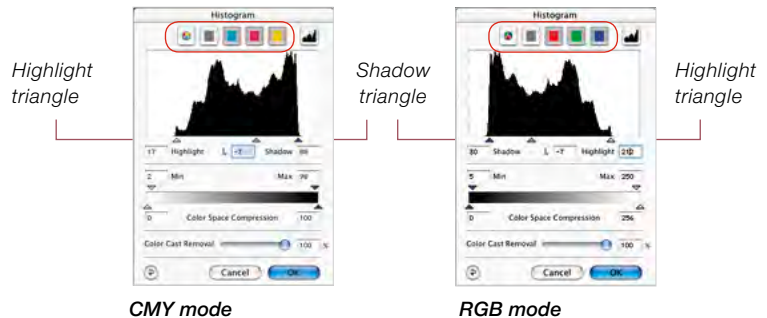


“Auto Threshold Highlight” and “Auto Threshold Shadow”



“Auto Threshold Highlight” and “Auto Threshold Shadow” are adjustable within a range from 0 to 100 steps and can be varied in the “Options...” / “Auto” dialogue. These adjustments influence the function of the Image auto-adjust and become visible in the histogram dialogue.

At using the Image auto-adjust the triangles for highlight and shadow are placed automatically in the histogram as set in these defaults.



Remember: The histogram window depicts the whole range of greyscale - in 8 bit RGB mode from step 0 to step 255 (right hand) and in 8 bit CMY mode from 0% to 100% (left hand).

If one or both boxes “Levels” are marked the factors “Auto threshold highlight / shadow” are treated as real RGB steps and not as relative factors that correspond to the total quantity of pixel. Working with the CMY mode it is the same.

Example

The adjustments should be used with motifs of flat bright or dark background. It is also worth using it for scanning texts and graphics on coloured grounding (see following example).

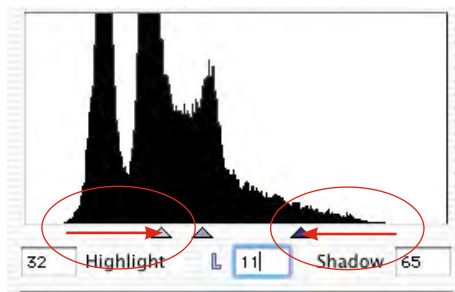


Using “Levels” emphasises the text from the background clearly.

An alteration factor of “50” effects a defined skip of the position of highlight and shadow triangle within the histogram. Starting from the first columns near the margins of the histogram, 50 RGB steps are skipped. Hence each alteration in steps is an “absolute” movement of the triangles.

Using the CMY mode (see picture below) 50 RGB steps are skipped too.

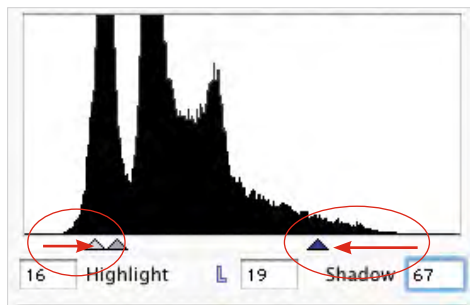
The example shows that highlight and shadow triangle are shifted identically (red arrows are of equal length).



Without “Levels” background looks too dark.

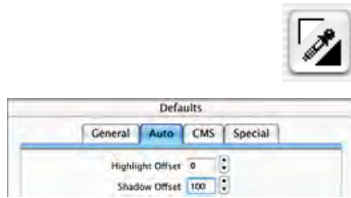
If the boxes “Levels” are not marked the adjustment will just effect a “relative” change of the triangle position. The alteration factor is then related to the quantity of pixels within the edge areas of the histogram.

If the marginal columns are high and contains a big amount of pixels the alteration factor of “50” effects a relatively small movement of the triangle (short red arrow for highlights), compared to a long shift for only some few pixels (long red arrow for shadows).



5.2 Highlight / Shadow Tool

Highlight / Shadow with Offset "0"



With the highlight / shadow tool, the brightest and darkest point of the image can be specified manually. For this tool, a highlight offset and a shadow offset can be chosen in the "Options..." / "Auto" dialogue. If the highlight offset value is set to 0 and the shadow offset to 100, the highlight will be brought to 0% and the shadow to 100%. The following example shows the usage with the densitometer readings.

Setting Highlight



To set the highlight, click on the top left corner (the mouse pointer will turn into a white triangle) and find the brightest point on which you want to set the highlight. While moving the triangle over the image, the densitometer displays the values. Now click on the brightest point. The densitometer will display "0" in the output display for CMY.

C	27	→	21
M	19	→	14
Y	20	→	15

C	27	→	0
M	19	→	0
Y	20	→	0



The brightness of the image immediately changes at this point. Accordingly all other shades of the image will be influenced.

Setting Shadow



To set the shadow (the darkest point), click onto the down right corner of the highlight-shadow tool, the black triangle will appear. Search for the darkest point on the image by observing the densitometer reading, then click on the image in the prescan.

C	99	→	96
M	99	→	96
Y	99	→	98

C	99	→	100
M	99	→	100
Y	99	→	100



Note how the CMY values on the right side of the densitometer are set to 100%. Now the highlight and shadow values for this image are set.



Please note that in printing, the highlight shadow values should not be set to "0" or "100" percent, because, in printing, white should have a printing dot between 3-10% and black between 90-98%. On the next pages you will see this more clearly.

Highlight / Shadow Reset

Macintosh

To reset the highlight / shadow values, press the "Alt" key, and click on the pipette of the highlight / shadow tool.

Windows

Press "Alt" key and click on the pipette icon in the tools palette.

Setting Midtone



In order to define a midtone (neutral point) click on the pipette like icon of the highlight / shadow tool – the cursor becomes a grey rectangle. Move the tip of the rectangle over the colour you want to be neutral grey and watch the densitometer (select CMY reading).

C	40	→	27
M	39	→	25
Y	30	→	18



C	40	→	23
M	39	→	23
Y	30	→	22



The densitometer reading before might be C27 / M25 / Y18. Now click onto the desired spot in the prescan and you will see how the CMY colours become the averaged value of C23 / M23 / Y22 – the colour tint has become neutral.

MidPip4 • Multiple Neutralising Pipette

MidPip4 (Advanced Colour Cast Removal) allows removal of colour casts comfortably, which e.g. result from a mixed light situation.

In order to achieve this, you can set up to four neutral points in your preview window. The neutral values of any such point can be directly edited in a special dialogue.

To activate the *MidPip4* you click onto the pipette (in the tool bar) and then onto the desired image detail in the preview window. The neutral points set will be marked with a numbered cross.



If you want to set several neutral points at once, click onto the pipette and hold the “Option” key while setting up to four neutral points. The pipette will remain as a cursor until you either click the pipette again or you have set the fourth neutral point! In the example below 3 neutral points have been set.



Editing the *MipPip*



In order to fine tune a neutral point, double-click onto the pipette tool and the *MidPip* dialogue window will appear. The value fields show the “before-after“-RGB- or CMY values of all neutral points. They are fully editable. *SilverFast* version 6 offers the possibility of the most sophisticated colour cast corrections!



CMY <-> RGB Switch

Conversion of values measured from RGB to CMY and vice versa

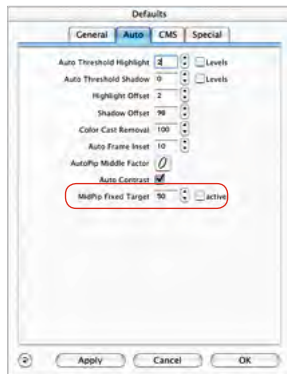




The first line “*MidPip # Src.*” represents the RGB or CMY source values. The second line “*MidPip # Dest.*” represents the RGB or CMY destination values. The latter will normally show the same values for the three colour channels, since the midtone selector pulls the chosen midtone to neutral.

Now the user can change these target values and instead can retain a certain colour tone as a result of the midtone correction. If the user alters the first line or the source values, then the midtone correction effect will have different original colours in the picture details.

Adjusting Neutral Values to a Determined Density



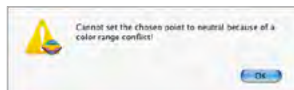
An additional development of the midtone selector tool appears in the “Auto” tab of the “Options...” dialogue.

If the “active” check box next to “*Midpip Fixed Target*” is chosen, the following clicks of the midtone selector will lead to more neutral mid tones, whose target value is not dynamically determined to retain the brightness of the clicked picture detail. Instead, a determined target value is used here. It can be any CMY value, if preset as per default, it has a value of 50% (RGB 128).

Deleting Neutral Points

In order to delete neutral points, click onto the midtone pipette, hold the „Alt“-key depressed and click onto the neutral point you wish to delete.

Alert Messages



An alert message will always appear when the tonal values of the desired point are too distant from the destination value and fall outside a reasonable correction range.

Further indications of limiting errors are: If the third or fourth neutral point does not exhibit the desired results and casts are not neutralized, you have obviously hit the limits of the correctable range.

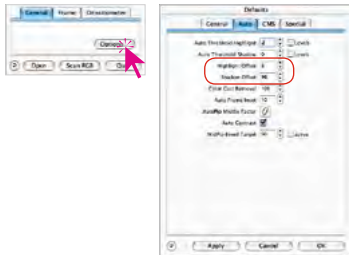
Highlight and Shadow Offset

You may have noticed that where the highlight is set to 0% , the highlight details got lost, that is to say, there are no fine details visible any more.

In order to prevent this from happening, *SilverFast* enables to change highlight and shadow offset in the "Options..." / "Auto" dialogue. Here you can enter values between 0 and 10% for the highlight and 90 to 100% for the shadows.

For the highlight offset a setting of 6 means that 5-6% remains within the highlight. This means that where you place your highlight point, 5-6% of the halftone dots remain. Likewise in the shadows, the density must be set at less than 100%.

In the following example, this is shown more clearly: the details in the highlight are preserved.



C	27	→	7
M	19	→	6
Y	20	→	6



Preserving a Colour Cast with the Highlight / Shadow Tool

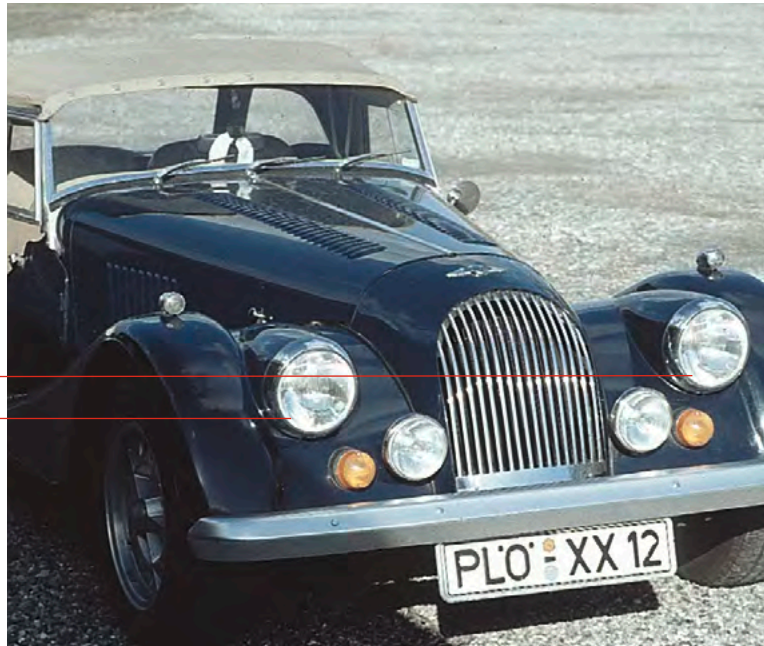
You probably have noticed that colour cast removal is related to the highlight / shadow setting. If you desire to preserve the colour cast, press the “Shift” key while setting highlights or shadows, and the colour cast will not be removed.

Preserving Specular Highlights

Specular highlights are reflections of light on sparkling surfaces, like glass, jewellery, etc. Specular highlights shouldn't have printable dots, so that the image maintains brilliancy.

In order to keep those specular highlights, under “Option”>”Auto” set “Highlight Offset” to “0” or fix a densitometer point within these specular highlights and move the highlight end points in the histogram until you get the desired results.

Specular highlights



Displaying Brightest and Darkest Point of an Image

Since it is important to know where the brightest and darkest points of an image are, we have implemented a display of these points.

Displaying Brightest Point



To display the brightest point, move the mouse cursor over the white patch of the display-brightest-darkest point button and click the mouse. A red circle with an “Cross” displays the brightest point. Additionally, all pixels with the same brightness are displayed in negative form.



Brightest point

Displaying brightest point:

Macintosh

Press “Command” key and “Shift” key

Windows

Press “Ctrl” and “Shift” key



Displaying Darkest Point

To display the darkest point, move the mouse cursor over the black patch of the display-brightest-darkest point button and click the mouse or press the following combination: “Command” key and “Ctrl” key on Macintosh (make sure that you press the “Command” key first!) PC: press only “Ctrl” key.

A red circle with an “cross” marks the darkest point.

In Combination with Highlight / Shadow Tool

The above mentioned displays can also be shown while using the highlight / shadow tool, with the advantage that the highlights and shadows can be set accordingly. Simply use the above mentioned keys.



Darkest Point

Displaying Darkest Point:

Macintosh

Press “Command” key and “Ctrl” key

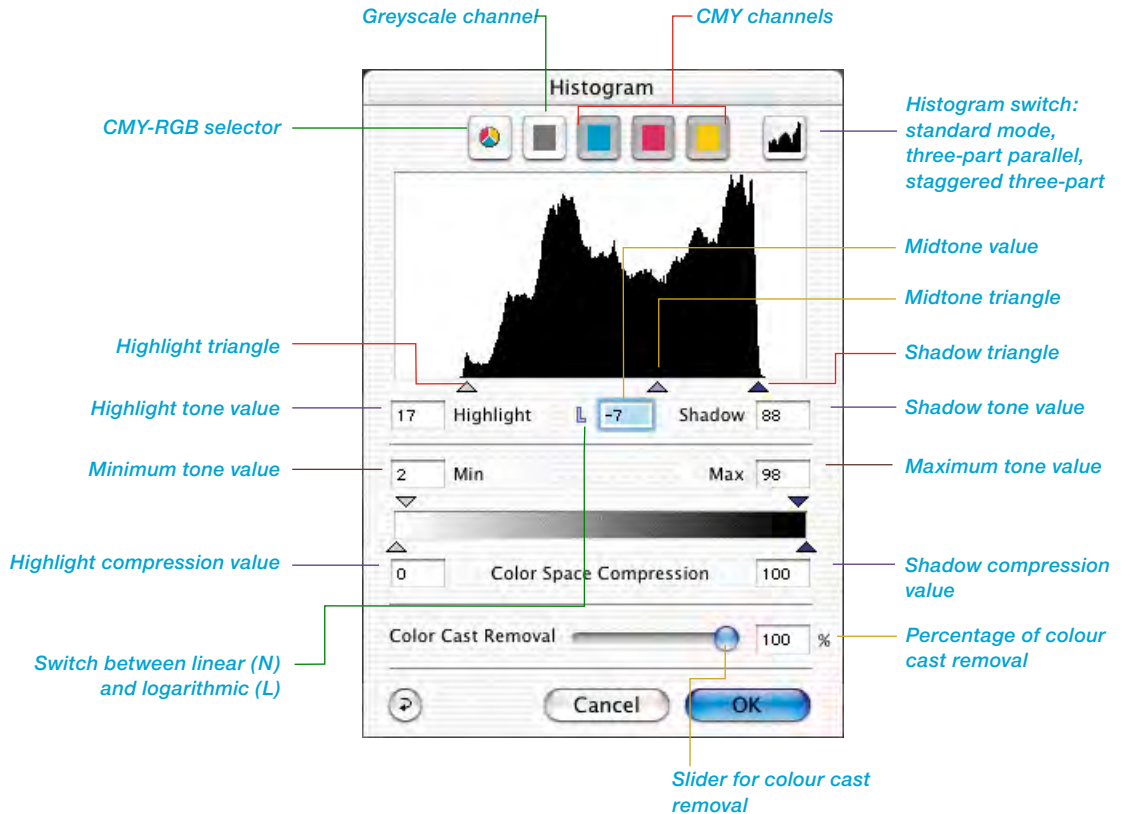
Windows

Press “Crtl” key

5.3 The Histogram

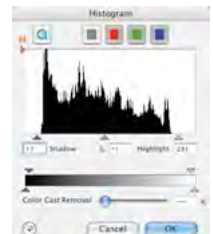


The histogram in *SilverFast* is a powerful tool with which you can examine image data in order to optimise them manually. We already used the histogram with the auto-adjust for control purposes.



Histogram-Dialogue in *SilverFast...SE* versions

The dialogue is simplified in all *SilverFast...SE* versions and is recommended for novice users.



By setting the highlight / shadow points in the histogram, the available tonal values are expanded to occupy the entire greyscale of 256 values. The image becomes significantly more brilliant. In *SilverFast*, a variety of methods can be used to manually optimise the histogram.

a. By Observation of Image Display

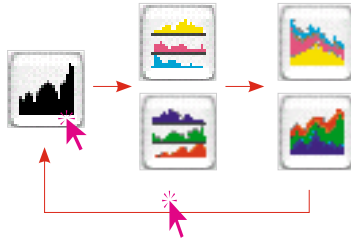
While moving an end-point in the histogram, the image will be updated in the scan frame in realtime, showing the effect of the adjustment immediately.

b. By Observing the Densitometer Readings

While moving an end point in the histogram, you can immediately observe the changed values in the densitometer readings. By pressing the “Shift” key and clicking on a part of the image with the hand-symbol on the scan frame, the densitometer will be fixed at this point until you click again while pressing the “Shift” key. Now you can control exactly what changes on certain parts of the image occur when moving the triangle points on the histogram.

For further info check out the chapter “Multiple densitometer (Multiple FixPip)”.

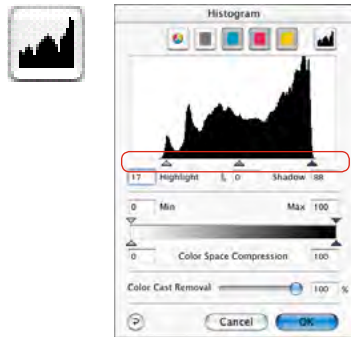
Three-Part Histogram



The histogram of the presentation of each individual colour channel (R, G or B, or C, M or Y) can be switched to the parallel presentation of all three-colour channels (R, G and B, or C, M and Y) in all *SilverFastAi* plug-ins, starting with version 5. A feature which greatly simplifies working with the histogram and make it clearer.

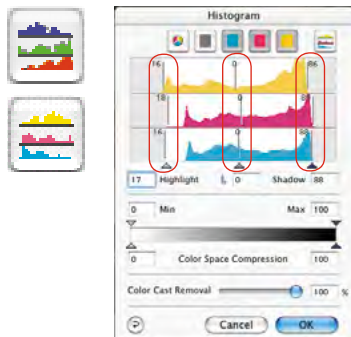
Switching is done by clicking an icon in the upper right portion of the histogram dialogue. An additional click on the icon will switch to the next indicator mode. The indicator modes are as follows:

1. Standard Mode



Only one colour channel is shown in the dialogue window in this mode. By means of the icons above the graphic, you can choose between total presentation and individual channels. Setting lights, depths and middles can be done by click-dragging the small triangles below the graphic.

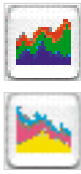
2. Three-Part Parallel Presentation



All three-colour channels are each shown as a single graphic in this mode.

Dragging the numbered vertical lines in the individual diagrams will set the lights, depths and midtones. The numbers at the lines indicate the amount of shading that will be used for light, midtone and depth.

In addition, you can switch between total presentation and the presentation of the individual channels by using the icons above the graphic.

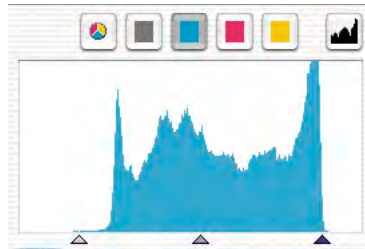


3. A Staggered Three-Part Presentation

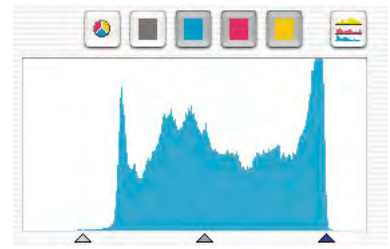
All three colour channels are displayed, one after the other, in a graphic, together with the total curve. Setting lights, depths and middles is done by click-dragging the small triangles below the graphic.

Histogram Channel Selection

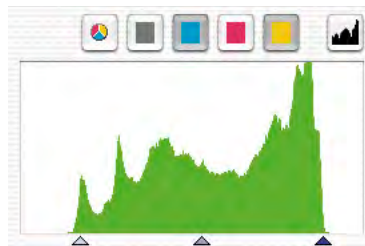
To choose a single colour channel in the histogram, for example the cyan channel, click on the appropriate button. To manipulate two channels simultaneously, hold down the “Shift” key and click on a second channel button. To activate all three channels, click on the grey button.



*Histogram in standard mode,
only cyan is selected*



*Histogram in three-part mode,
only cyan is selected*



*Histogram in standard mode,
cyan and yellow are selected*



*Histogram in three-part mode,
cyan and yellow are selected*

Automatic Colour Cast Removal

The procedure for removing colour casts from scanned artwork has been greatly improved since the *SilverFast* version 5. Now the user can not only remove a possible colour cast automatically, but also determine the degree of colour cast reduction by means of a slider. The changes will appear in the large preview of *SilverFast* in realtime.

Of course, the automatic function can be deactivated or activated as desired by using keyboard shortcuts and the degree of the automatic colour cast adjustment can generally be limited to desired optimum values (see “Options...” \ “Auto” \ “Colour Cast Removal”).

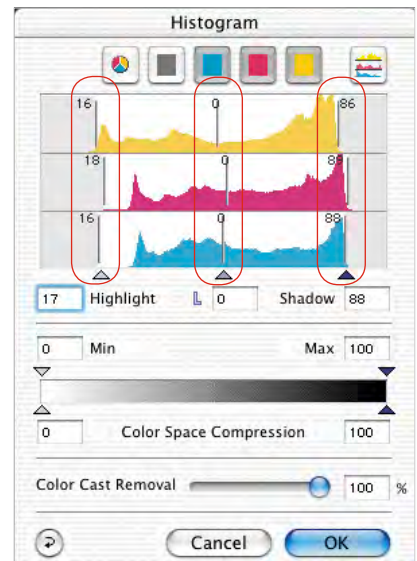
The automatic function for colour cast removal can be activated or deactivated by presetting, depending on the scanner and its qualities.



If the icon for “auto-adjust” is “normal”, meaning it has a grey background, *SilverFast* will remove an existing colour cast by clicking on the icon.

The result can be seen in the histogram as follows:

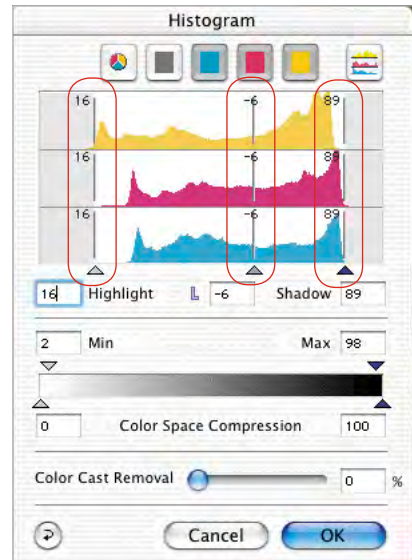
The sliders for highlight, midtone and shadow areas are off-set, indicating different values and the amount of colour cast removal is shown in the indicator panel as a percentage.





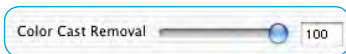
If the icon for “auto-adjust” is coloured, *SilverFast* will retain an existing colour cast and it will **not** be removed by clicking on the icon.

The result can be seen in the histogram as follows: The sliders for highlight, midtone and shadow areas are all vertically in line, indicating identical values and the amount of colour cast removal is shown in the indicator panel as a line with no value.

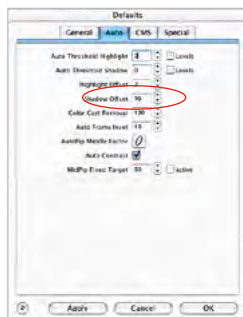


Using the Slider for Manual Colour Cast Removal

By using the slider you can determine how much of an existing colour cast you would like to remove. By moving the slider with your mouse you can see the resulting changes in realtime in the preview, as well as in the individual diagrams of the histogram dialogues. A value of “zero” for colour cast removal means that the colour cast will be retained. A value of “100” means that the colour cast will be completely removed.



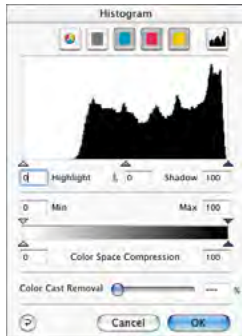
If you would like to remove a colour cast by manually dragging the slider to an individual histogram, the automatic function is of course eliminated. The indicator panel for the colour cast removal is then crossed out.



You can change the presetting of optimal values for automatic colour cast removal in the dialogue “Options...” / ”Auto” / “Colour Cast Removal”.

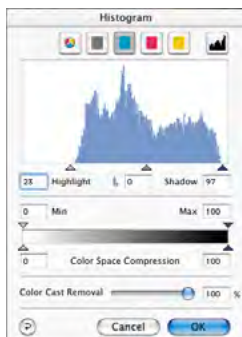
Optimising a Histogram Manually

In the left image at the bottom of this page, we have fixed the densitometer on the white area (which should become a neutral white). The values displayed show that a slight touch of red (C11-M17-Y16) is present. We now want to eliminate the reddish cast and generate a neutral white of a value of 5-5-5 and start with the cyan channel first.



Histogram not optimised

C	18	→	11
M	25	→	17
Y	24	→	16

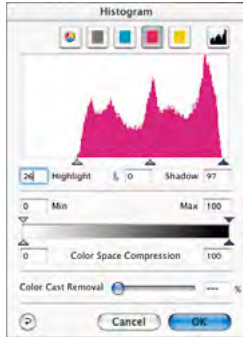


Histogram optimised (cyan only)

a. Optimising the Cyan Channel in the Histogram

Click on the cyan button. Now we move the highlight triangle in the cyan channel towards the beginning of the first cyan pixel until the densitometer reads the value “5”. Notice that we had to move the triangle slightly to the left of the first pixels. Had we moved the triangle exactly onto the first pixels, the densitometer would have read a value of “0” for cyan.

C	18	→	5
M	25	→	25
Y	24	→	24



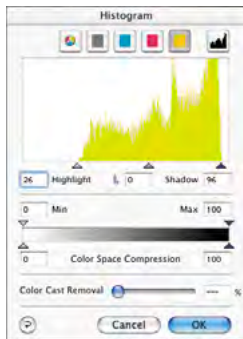
b. Optimising the Magenta Channel in the Histogram

Click on the magenta button. As above, we now define the magenta channel. By moving the triangle we also realise the value of “5” for the magenta display in the densitometer.

C	18	→	5
M	25	→	5
Y	24	→	18

c. Optimising the Yellow Channel in the Histogram

Click on the yellow button. Here, too, we move the triangle until the densitometer shows a value of “5”. We now can see that within the image a beautiful, neutral white has developed, as shown on page before.



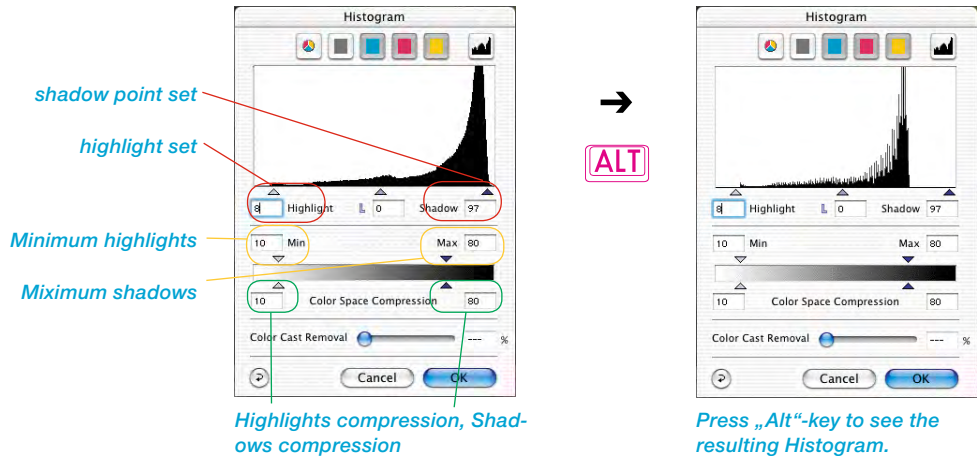
C	18	→	5
M	25	→	5
Y	24	→	5



Compression of Colour Space in Histogram

In order to adjust the colour space to certain output- or printing requirements, you can compress the colour space in the histogram dialogue.

This does not mean that the source- or scanner-colour space is cut-off, but that the existing tonal values of the scanner are evenly distributed to the compressed scale of the new destination- or output-colour space.



The *SilverFast* histogram is controlled by five significant values:

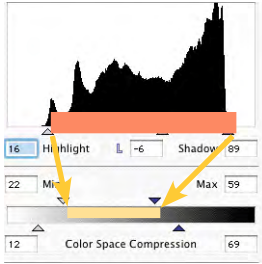
- the absolute 0% value (“specular highlight”),
- white point set (“highlights”),
- midtone value (“midtone“),
- shadow point set (“shadows“) and
- absolute 100% value (“max black“).

Movable triangles controlling the compression are intelligently connected. This assures, values for “highlights-“ or “shadows compression“ never to become smaller than values for “Min“ and “Max“.

Movable Triangles and Value Fields „Min“ and „Max“

“Min“-, “Max“- movable triangles’ position represent the values for highlights and shadows in the histogram.

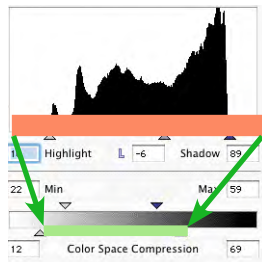
The range between highlight and shadow points set will be projected to “Min“ and “Max“ values for the final scan and should the situation arise be compressed.



Movable Triangles and Value Fields “Colour Space Compression”

Colour Space Compression triangles’ position represent the absolute values “0%“ and “100%“ in the histogram.

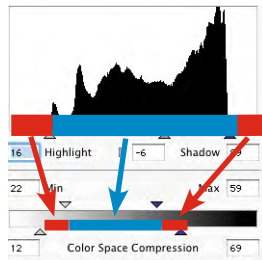
For the final scan the whole range of the histogram will be projected into the colour space range marked by the two triangles and will be compressed accordingly.



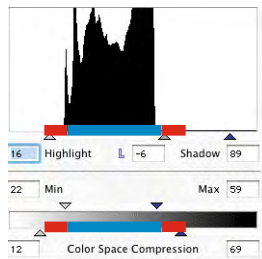
Final Result

The visible tonal range in the histogram, occurring before the white point (0 to 9%) and after the black point (88 to 100%) will become 12 to 22%, resp. 59 to 69% after the colour space compression.

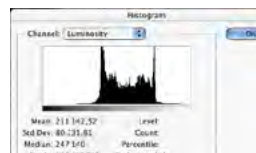
Tonal values between white and black point (9 to 88%) will be projected to Min- and Max-values (22% to 59%).



ALT



Pressing the “Alt“ key will simulate the final scan histogram already here.



Resulting histogram in Photoshop

Example for Colour Space Compression



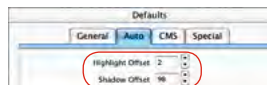
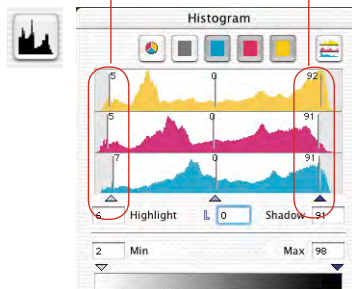
After doing a prescan height and shadow point are manually set with the highlight-shadow triangles in the histogram.



The Position of the highlight and shadow point becomes obvious with position of the outer movable triangles.

These are somewhat inset from the edges of the complete tonal range, here at 5% and 93%.

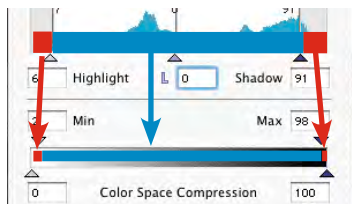
Highlights and shadows still have detail information visible and are clearly distinct from the specular highlight (0%) and the very black (100%) ab.



According to the general settings for Min and Max values under OPTION / panel „Auto“ / menu „Highlights at %“ and „Shadows at %“ have been set, the complete tonal range can be compressed for the output.

Values for Min and Max can also be changed for the actual scan frame directly in the histogram dialogue. Both movable triangles „Min“ and „Max“ are serving this purpose.

The example has a min value for highlights set to 2% and a Max value for shadows set to 98%.

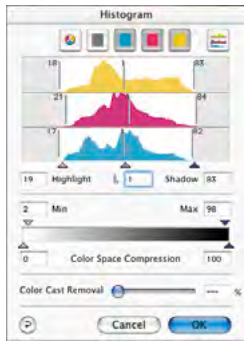


Visible tonal values in the histogram, occurring before the highlights (0 to 5%) and after the shadows (93 to 100%), will become 0 to 2%, and 98 to 100% with the compression.

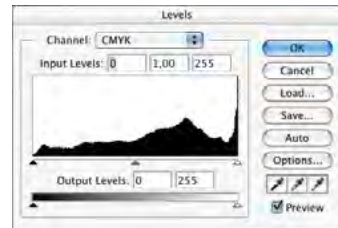
Tonal values between white- and black point (5 to 93%) will be projected in between Min- and Max-values (2% to 98%)

Compressing Colour Space via Histogram

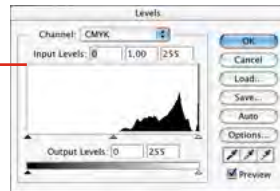
You can see a few examples of colour space compression with the help of the histogram in *SilverFast*:



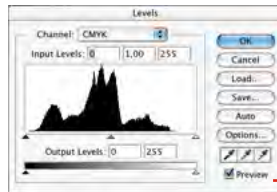
Colour space without compression



Compression to 3-40%



*Resulting histogram
(3-40%) in Photoshop*



*Resulting histogram
(54-94%) in Photoshop*



Compression to 54-94%

Multiple Densitometer (Fixed Pipette, MidPip4)



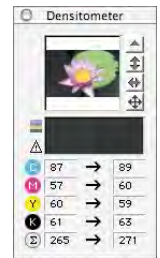
Up to four densitometer measurement points are available in any *SilverFast* plug-in (*MidPip4*).

The measuring values of these pipette measuring points will no longer be shown in the densitometer window, but in their own window. The windows will attempt to adapt to the number of measuring points, meaning they will change their size, depending on the number of fixed points and the selected colour types (RGB, CMYK, grey etc.).

The colour types can be adjusted for each pipette independently of each other.

If all fixed points have been deleted, the window will close automatically. If the window is closed, all fixed points will automatically be deleted.

A fixed point can be created by pressing the mouse key on preview and holding down the “Shift” key as before. If the mouse hits on an existing fixed point, the point will be deleted. If the mouse hits on an existing fixed point and the mouse is moved, the fixed point will be shifted.

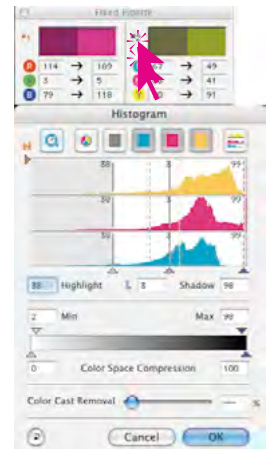


Displaying the Densitometer Measure Points with the Histogram and Gradations Dialogues



The measurement values of the active densitometer point are displayed as a coloured, vertical line within the open histogram dialogue. They are represented as coloured points on the gradation curve in the respective dialogue.

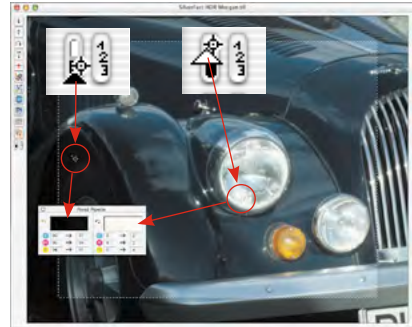
The activation of an inactive densitometer point is done by simply clicking onto it (here Point #2). The respective values are immediately taken into the dialogues.



Transfer of the Brightest/Darkest Point to the Multiple Densitometer



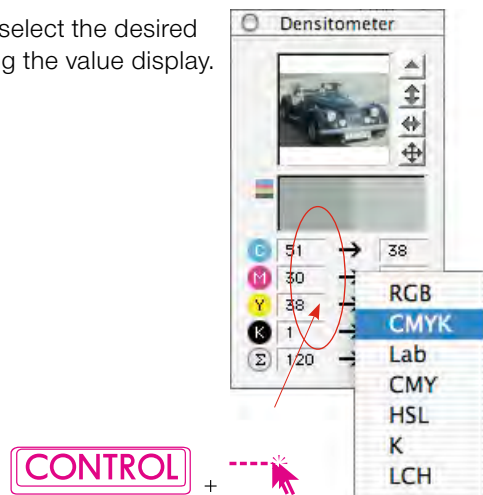
By clicking the white or black area in the icon for “darkest/lightest point” while holding down the “Shift” key, the reading found by *SilverFast* will be transferred to the window “fixed pipette”. Good control of corner values can thus be assured.



Selecting the Colour Space in the Densitometer

Hold down the “Ctrl” key and click into any of the measuring value cells of the densitometer. A pop-up window opens and by selecting another colour space the measured values in the densitometer will be converted to the values of the selected colour space. The following colour spaces are available: RGB, CMYK, Lab, CMY, HSL, K and LCH.

Now as before you can select the desired colour spaces by clicking the value display.



5.4 Gradation Dialogue

Gradation Curves

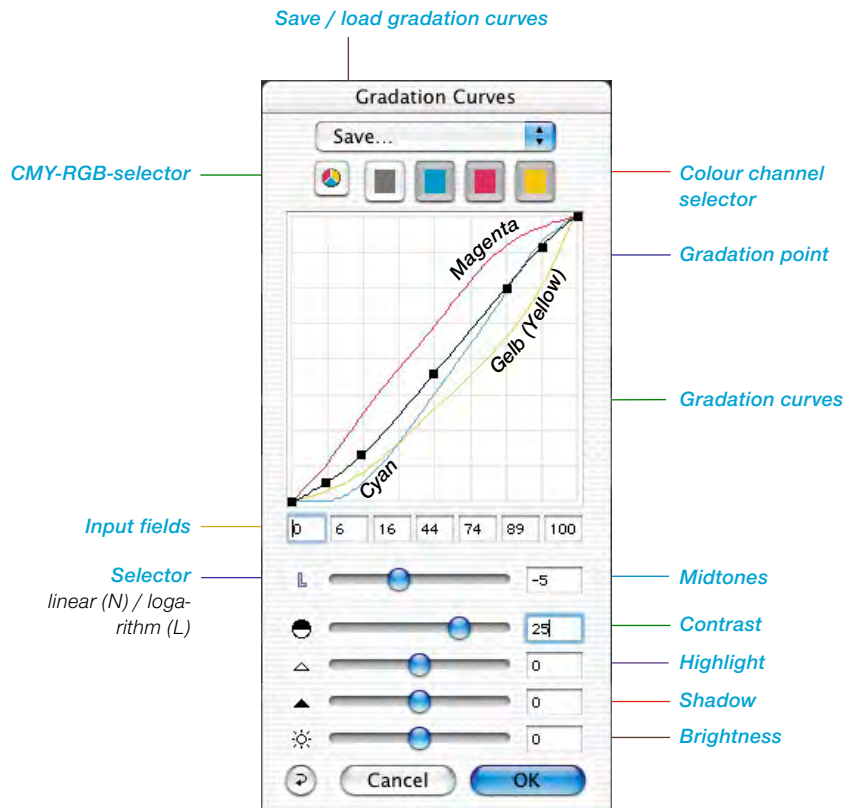


Gradation refers to the relationship between input and output. The tonal values of an image are optimised in such a way that the adjustment of highlight / shadow points and gradation give the best possible result. Inexperienced users will often try to optimise the image by means of brightness and contrast control, thus leading to significant deterioration of the image. The correct way of image optimisation can be achieved as follows:

1. Setting highlight and shadow
2. Optimising gradation
3. Selective colour correction
4. Size adjustments
5. Sharpening (unsharp mask)

If you regulate by contrast or brightness control, the danger exists that the highlight will “burn out” and the shadow will “burn in”.

Overview



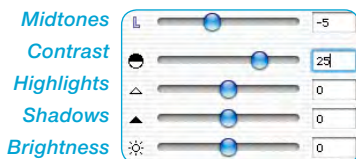
Gradation Dialogue in *SilverFast...SE* versions

The dialogue is simplified in all *SilverFast...SE* versions and is recommended for novice users.



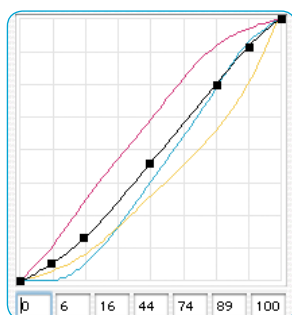
Adjusting Gradation Curves

Gradation curves can be changed in four ways:



a. By Using the Sliders

By using the sliders, the gradation curves can be conveniently altered. The input fields relating to the curve points and those relating to the slider position are updated accordingly. The slider position can also be changed by entering values into the input fields right of the slider.

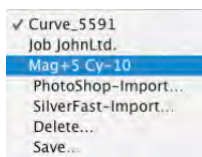


b. By Moving the Curve Points

The curve points of a gradation curve can be moved by the mouse. Here, the values in the input fields below the curve points are automatically updated.

c. By entering Values into the Input Fields

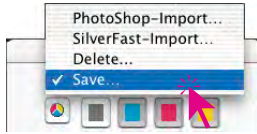
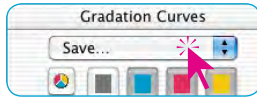
The curve points can be moved accordingly by changing the values in the five input fields.



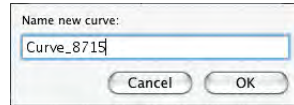
d. By loading Saved Gradation Curves

You can load previously saved gradation curves out of the list and these will take effect immediately.

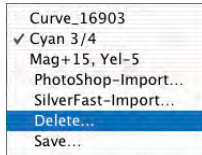
Saving a Gradation Curve



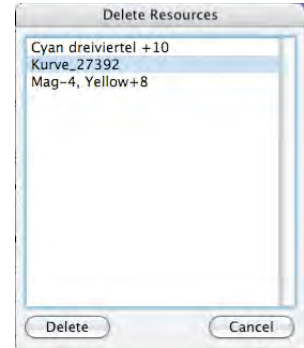
Enter the gradation curve dialogue and get the pull down menu “Save”; the dialogue to the left will open and ask for the name of this curve.



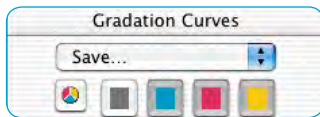
Deleting a Gradation Curve



In order to delete a gradation curve from the list, click on “Delete” and select the curves you want to delete from the list. You can also select more than one curve. Clicking the “Delete” button will delete all curves selected.



Gradation Curve Channels



Cyan - Magenta - Yellow
(Red - Green - Blue)

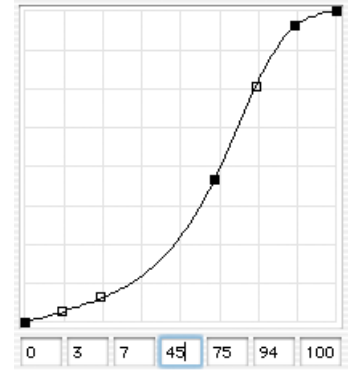
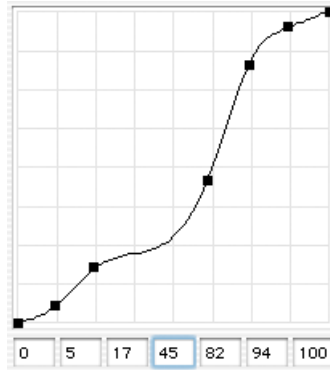
To choose a single gradation curve channel, for example magenta, click on the appropriate button. To manipulate two channels simultaneously, hold down the “Shift” key and click on a second channel button. To activate all three channels, click on the grey button.

Deactivating Gradation Curve Points

To change gradation curves without the limiting influence of nearby existing curve points, You can deactivate any of the existing curve points.

The following example shows the effect of a curve correction without (left) and with (right) deactivated curve points.

The limiting influence from the neighbouring curve points is obvious.



Deactivated curve points

In order to deactivate a curve point, press the “Alt” key and click on the desired curve point – it changes into a black outline.

In order to reactivate a curve point, press the “Alt” key once again and click on the desired curve point – it becomes black again.



Resetting Deactivated Curve Points

In order to reset all deactivated curve points just click on the “Reset” button in the gradations dialogue.

Control of the curve points:

Point activation/deactivation

Mac+Win: while holding down the "Alt" key, clicking on a curve point makes it active (filled in black) or passive (empty).

Moving the point vertically

Mac: click-dragging while holding the "Ctrl" key down keeps the X coordinates constant.

Moving is only possible in the Y direction.

Windows: click-dragging while holding down the "Alt" key will keep the coordinates constant.

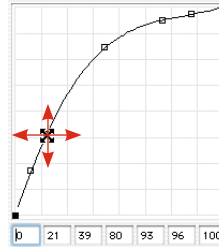
Moving is only possible in the Y direction.

Hottrack in a vertical direction

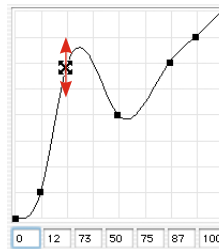
While holding down the "Command" and "Ctrl" key ("Strg" + "Alt" for Windows), the Hottrack shift will take place for one point only in a vertical direction.

Hottrack Gradation

Starting with version 5 of all *SilverFast* plug-ins, there are improved control possibilities of the curve points in the gradation dialogue. If the "Command" key ("Strg" key for Windows) is pressed while dragging the curve points (track points) in the gradation dialogue, the chosen curve point will automatically become active and all other curve points (except 0% and 100%) will become passive. After dragging, the original condition of the active and passive points will return to their prior settings.



Upon pressing the "Ctrl" key, ("Alt" key for Windows), the clicked curve point can only be shifted in a vertical direction.

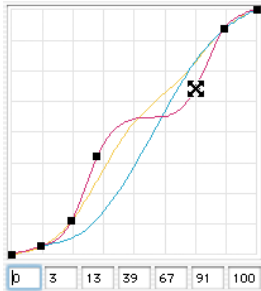


Marking the Condition of Gradation Points (On/Off)

Starting with version 5 of all *SilverFast* plug-ins, the last entered command of the individual tracking points of the gradation curve will be saved up to the next change. The condition of the active (filled in black) or passive (empty) tracking points will remain and is also available after restart.

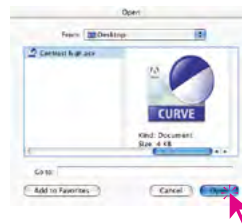
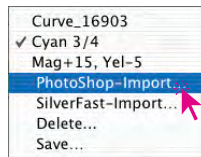
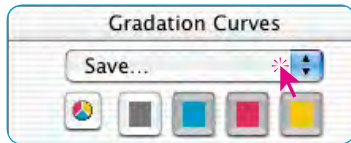
Extended Gradation Curves

Extended gradation curves allow the generation of complex curves. The gradation curve points can freely be moved both horizontally and vertically. Even the most complex gradation curves can be generated in this way.



Loading Photoshop Gradation Curves

Gradation curves, which were generated by Photoshop, can be loaded by means of the import-function within the pop-up on top of the channel selector.



Selecting Gradation Curves

Gradation curves can be loaded from an existing selection. More curves can be added later.

Linear and Logarithmic Midtone

The midtone slider is the most important slider to achieve the correct over all brightness. For normal images correction of the mid-tones is sufficient to get the correct tonal balance.

If however an image has a lot of shades in the three quarter tone, it might be necessary to use a different curve to influence the three quarter tone range.

In order to influence the three quarter tone range, click on the "N" (normal) at the very left of the midtone slider – the "N" turns into an "L" (logarithmic) and the gradation curve changes to brighten up the three quarter tones.



Normal midtone curve



With normal midtone gradation

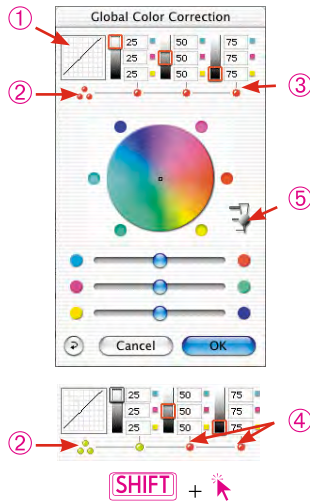


Logarithmic midtone curve



With logarithmic midtone gradation

5.5 Global Colour Correction Dialogue (Colour Balance)



All *SilverFast* versions have a very intuitive global colour correction.

The actual gradation curve ① will be overlaid in the top of the dialogue window. It will now be easy to determine exactly what is happening in the gradation curve during global correction.

One mouse click will determine if the total tonal value area will be corrected globally or only in portions, i.e., only the highlights, the midtone selector tones or the shadow areas. For the total tone value region, click on the three yellow/red batched points ② (below the miniature gradation curve); for a portion, click on one of the single red/yellow points ③④ (below the value indicators). Desired portions can be combined by holding down the “Shift” key and clicking once ④. A red point below the value indicators and a red frame on the respective greyscale will indicate that this tonal value region has just been activated and can be changed.

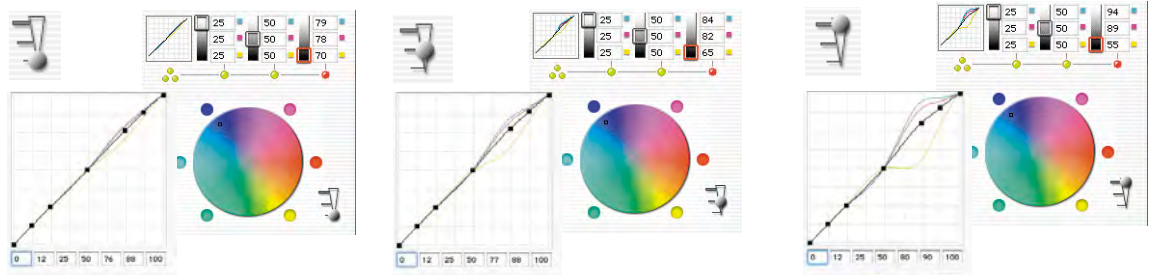
In addition, a three-step slider ⑤ has been included, which will allow adjustment for the degree of change. The bottom step allows small changes. The upper step will produce more intense changes.

The other operations of global correction have remained the same: the use of the slider, or click-dragging within the colour circle.



*SilverFast...SE Versions

The dialogue is simplified in all *SilverFastSE* versions and is recommended for novice users.



Example for the effect of the slider

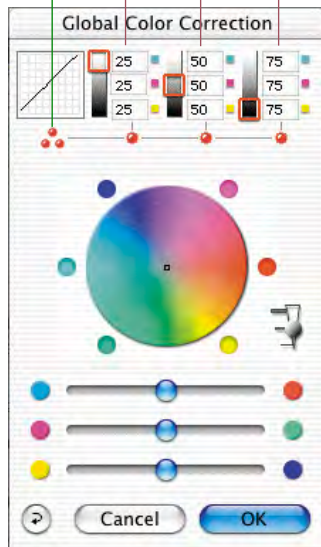
Each time one correction was undertaken in the shadow area. In order to make it clearer, the central image point in the colour circle was completely moved from the middle to the outside into the blue. The window of the gradation curve shows the change according to the corresponding “step” of the slider.

Colour Balance

The colour balance is edited in the global correction dialogue. We assume here that a colour cast has already been neutralised by the highlight / shadow tools, and should merely be modified in a few tonal ranges. This is a gradation curve change.

Colour balance is used to correct the all over impression of the image. It has to be presumed that highlight and shadows are already neutral and that it is intended to slightly shift the colour balance in the midtone or 3/4 tone. For this purpose the “global correction dialogue” was designed.

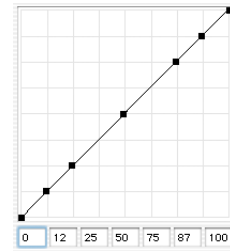
Range Selection for:
All 25% 50% 75%



Global correction unchanged



Preview unchanged



Gradation curve unchanged

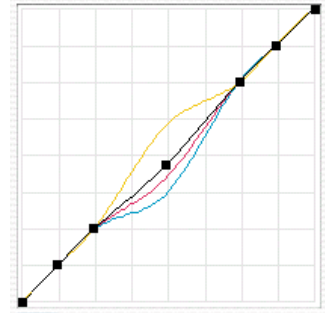
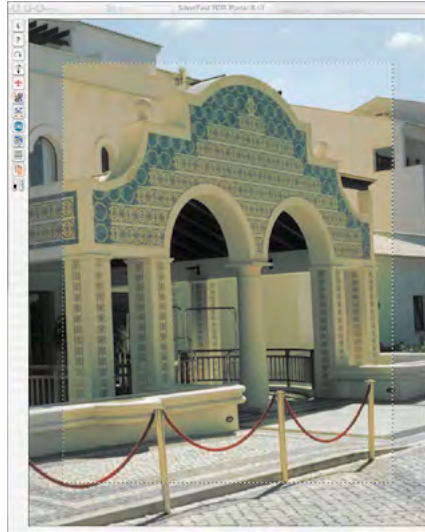
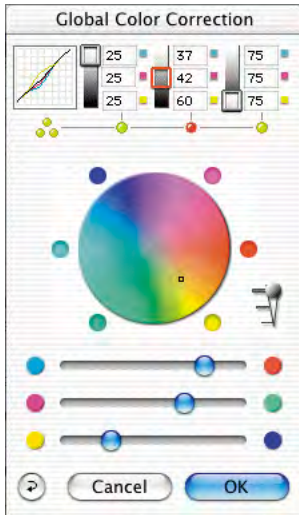
Resetting Colour Balance

The movement of the gradation curves can only be reset in the gradation curve dialogue by clicking the “Reset” button. Then all values in the global correction dialogue are also reset to their default values.

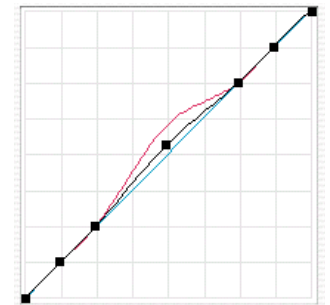
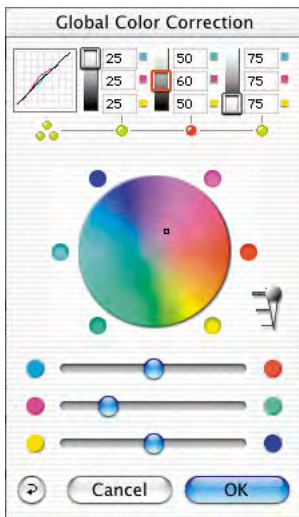


Changing Colour Balance

The colour balance is changed by moving the hand, clicking on one of the six coloured circles or by using the sliders. The movement is effective only for the selected correction range.



Global correction
all elements, except highlights
and shadows.



Global correction
25% to 75% has been changed
to magenta.

5.6 Selective Colour Correction

Colour in Colour Correction



Selective colour correction was developed for high-end scanners, and consists of a changing colours within a colour. The colours red, green, blue, cyan, magenta and yellow as well as the 6 colours in between are corrected. The contaminating colour can be reduced and the current colour can be increased. The cast colour of red is cyan, of green is magenta, of blue is yellow.

The type of selective colour correction that is used in *SilverFast* can be called a sector correction, as it is correcting colours within a band of 60° or 30° angle – depending on which matrix is being used (read about further explanation of the colour model in the addendum).

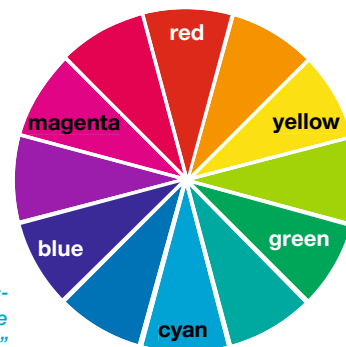
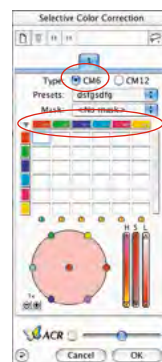
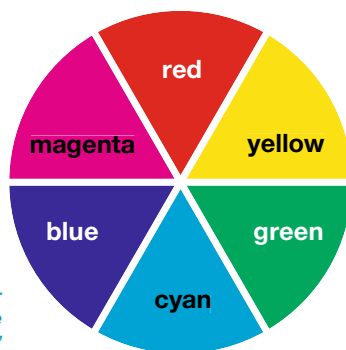


*SilverFast...SE Versions

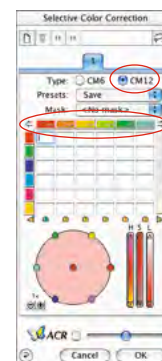
The dialogue is simplified in all SilverFast...SE versions and is recommended for novice users.



The 6 colour sectors while using the "Colour Matrix 6"



The 12 colour sectors while using the "Colour Matrix 12"



Overview

Activation of Selective Colour Correction



Button for opening dialogue window



Grey background indicating Colour correction is active

Administration of Layers



Add new layer



Delete active layer



Move layer in front of previous



Move layer behind following

Creating Masks

Changing mask tools: Click button and hold mouse depressed, when pop-up comes up change to tool desired.



Brush



Polygon



Lasso

Sector-Presets (triangles)

Loading and saving settings only for the relevant sector

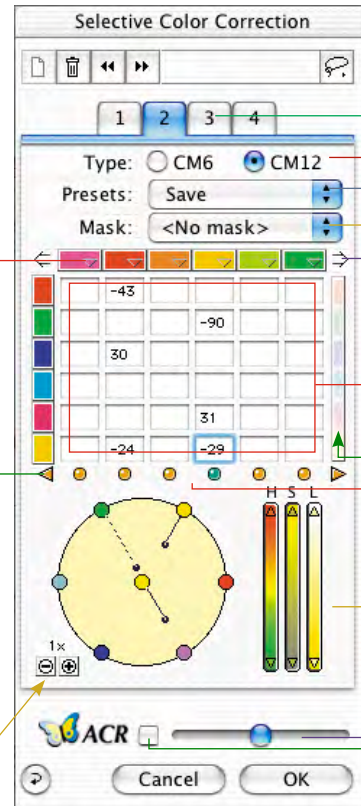
Indicator-Triangles

Green: Left / right there are other active sectors

Red: Left / right there are no other sectors active.

Colour Space Zoom

Increases / decreases the magnitude of change enabling bigger / finer corrections.



Layers

Single Layer panels

Type CM6 or CM12

Switch between 6-colours or 12-colours

Presets

Save or load settings

Mask

Save or load Masks

Overview Colour Sectors (arrows)

Only with CM12 available! Showing other channels which are further right or left.

Colour Matrix

Colour table for all Colour sectors

Changing all Colours

When active, all colours of the selected sectors can be made brighter or darker by dragging with the mouse from the inside or outside of the colour wheel.

Active-Switch / Indicator

Green: Sector is active
Red: Sector is not active

HSL Controls

Change by holding the small triangle at the top or bottom of the control depressed

ACR control

Switch ACR- On / Off

OK

Apply settings and close dialogue

Reset / Reset all

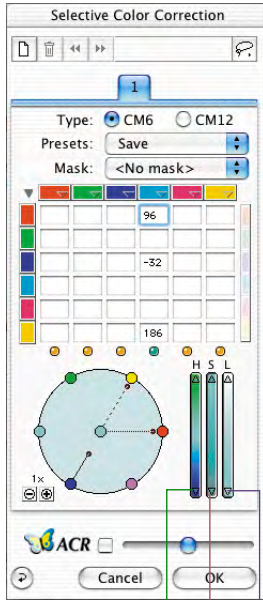
Reset Settings. By pressing the "Alt" key, all parameters are reset.

Cancel

Close dialogue and don't apply settings.

Objective of Selective Colour Correction

The object of the selective colour correction is to reduce the contaminating colour and enhance the primary colour, as much as necessary. In the upper row, all colours that are to be corrected are displayed horizontally. The colours which are displayed vertically are those colours with which the upper colours are to be corrected.



Hue control

Saturation control

Luminance control

1. Colour matrix

In the upper row of the colour matrix, you will find the RGBCMY colours that can be corrected aligned horizontally - these can also be corrected by the vertically aligned colours. For example, the magenta part of the red can be increased by entering +10 in the respective field.

2. HSL controls

These controls change the hue (H), the saturation (S) and the luminance (L).

3. Colour circle

By means of the colour circle, colours can be altered by adding or subtracting colours.

Selecting the Correction Colour

Often it is difficult to tell if a colour tone is red or magenta, blue or cyan. Simply click on the colour in the prescan window, and *SilverFast* shows the type of colour that is to be corrected, in the middle of the colour circle. The colour sector recognized will be the colour in the centre of the colour wheel. At the same time the corresponding column in the colour matrix will become active.



HSL Correction by Sliders

Hue (H): click on the small triangle located at the end of the Hue pillar until you reach the desired correction (Keep the “Shift” key pressed down in order to increase the correction speed).

Saturation (S): Comfortable adjustment of saturation.

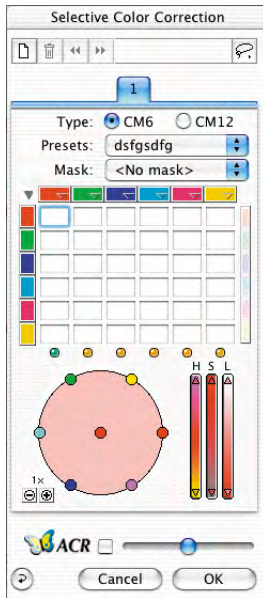
Luminance (L): Comfortable adjustment of luminance.

Correcting an Image Selectively

We will use an example to show how to selectively correct colour. Go by the following steps to correct the green colour of the blouse and sari selectively:



1. Click on the “Selective colour correction” icon in the *SilverFast* tool bar. The dialogue on the left appears.

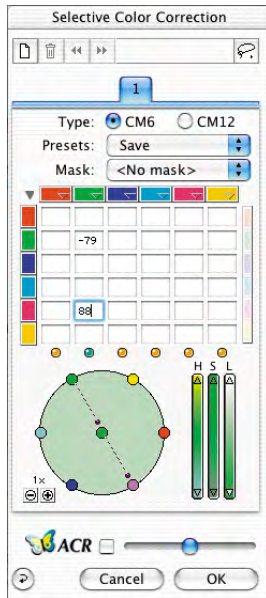


Green colour to be corrected



2. Click onto the green blouse of the woman in the centre. The colour circle and the HSL correction change to green.

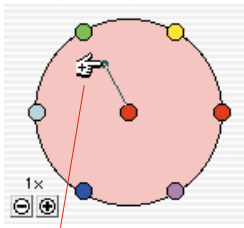
- Now move the cursor over green on the on the outer colour circle (the cursor turns into a hand cursor with a minus sign inside).
- Press the mouse and drag towards the centre of the colour circle (a line is pulled out of the green spot and the green becomes weaker within the blouse and sari).



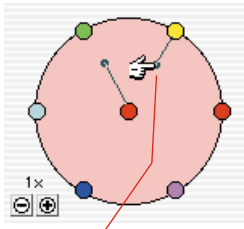
Green colour changed to blue.



- Move the cursor over the green spot in the centre of the colour circle and press and drag towards the Magenta spot on the outer circle (the blouse and sari colour now changes to blue).



Plus correction (adding colour)



Minus correction (subtracting)

Colour Circle

In order to add one colour into another, move to the centre of the circle (the hand cursor symbol shows a “plus” sign) and drag it towards the colour that you wish to add (a line with a bullet is pulled out). In the case shown, the primary colour (red) is enhanced by adding red, so the red colour will become stronger. More than one colour can be added to the chosen colour in the centre of the circle.

In order to subtract colour, move the cursor over a colour on the circuit of the circle (a “minus” sign appears on the hand cursor symbol). The colour chosen will now be subtracted from the colour to be corrected (in the middle). In the example shown, red is subtracted from red, so the red colour will become weaker.

The correction lines in the circle can be scaled by the small “plus/minus” buttons bottom left of the colour circle.



By pressing the “shift” key and simultaneously clicking on the LEDs or into the prescan, you can add another colour to the existing selection.

This way you can select and work with three or more neighbouring colours. This is especially useful when using the HSL controls while increasing the saturation of the selected colours.



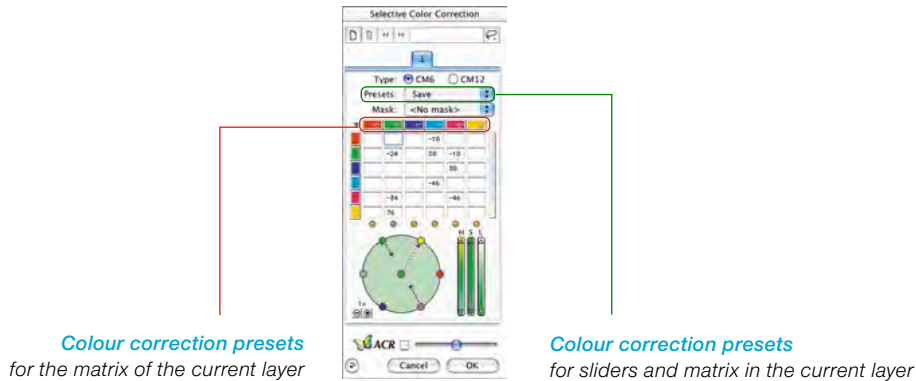
Selecting all colours with keyboard shortcut “Command + A” possible (PC: “Strg + A”).



Right of the matrix you have a vertical colour bar, which can be used to couple all colours for subtracting or adding colours. This is only relevant when using the colour wheel for corrections. If for instance you would try to add yellow to red (with coupling activated) by dragging from the centre to the outside of the colour wheel, all colours will be added to red instead, making the red much darker.

Colour Correction Presets

Any desired number of presets can be saved in the selective colour correction under each of the six correction colours red, green, blue, cyan, magenta and yellow, and re-loaded later. Also, a combination of these presets can be saved accordingly (see next page).



Colour correction presets for the matrix of the current layer

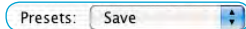
Colour correction presets for sliders and matrix in the current layer

Presets for the Colour Matrix

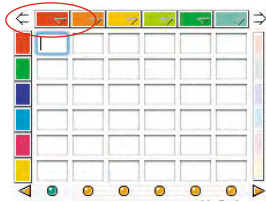


The small triangles indicate the presets in the colour matrix. For each single colour, several corrections can be made. In order to delete a preset from the list, keep the “Alt” key (PC: “Shift” key) pressed down while dragging the mouse over it. Release the mouse button and the preset is removed.

Presets for Controls and Matrix Combinations



Using the button “Save” in the dialogue window you can save correction combinations of matrix presets and slider positions under the pull-down menu for the active layer.

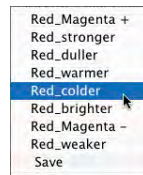


Working with Colour Correction Presets

Open the selective colour correction dialogue and click onto the preset symbol in “RED”.



You will see a pull down menu with red presets. Choose a correction and release the mouse button.



The respective values will now be entered into the colour matrix automatically.



By the same method, each of the six correction colours can be loaded.

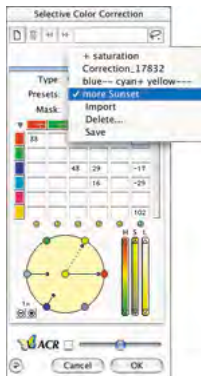
In order to delete a preset from the list, keep the “Alt” key (PC: “Shift” key) pressed while dragging the mouse over it. Release the mouse button and the preset is removed.

Joining Presets for a Complete Correction

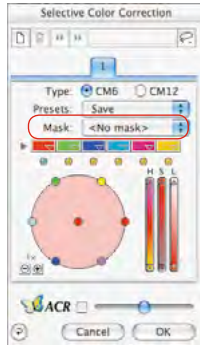
Any desired presets can be combined to a complete correction and saved under a specific name.

By means of the import function, saved parameters from other *SilverFast* products may be loaded and applied to the current version.

The presets are loaded from the “prefs” folder of the *SilverFast* source version out of the file “SFApp”.



Working with Masks



Normally all settings in the selective colour correction will effect the entire image (frame).

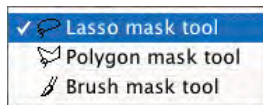
If you want to limit the correction to certain areas of the image, you have to apply masking.

The mask can be freely drawn with the mouse inside the preview window.

For assignment and containment of the current selection a “Lasso”-, a “Brush”- and a “Polygon”- tool have been implemented.



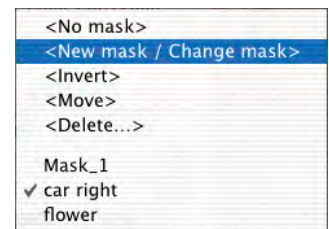
After drawing a mask the colour corrections are applied within the activated area. They are only visible if the active area also covers or touches some parts of the scan frame. Lasso- and polygon-tool are applicable in both the 6x and the 12x matrix.



Selecting a Mask Tool

By clicking and holding the mouse over the lasso tool, you will get a pop-up with the other mask tools. Still holding the mouse, you can now change to one of the other mask tools and release the mouse.

The mask menu immediately switches to “New mask / extend mask” icon order to enable immediate drawing.



New Mask with Lasso Tool



The active region of the mask has to be drawn in one move while holding down the mouse button. Upon releasing the mouse button, the region of the mask designated in this manner will immediately be furnished with the already programmed selective colour correction, or the correction to be made will immediately be applied to the active surface area.

A “Save” dialogue will appear immediately after the symbol so the mask may be saved.

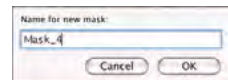


New Mask with Polygon Tool



The active mask area will be defined by subsequent single mouse clicks. A line is drawn from mouse-click to mouse-click. Completing the geometric area is achieved by clicking the start point of the Polygon again. The region of the mask designated in this manner will immediately be furnished with the already programmed selective colour correction, or the correction to be made will immediately be applied to the active surface area.

A “Save” dialogue will appear immediately after the symbol so the mask may be saved.

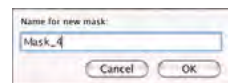


New Mask with Brush Tool



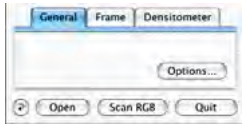
The brush tool creates a mask using small lines. Only these small areas will be effected by the selective colour correction.

A “Save” dialogue will appear immediately after the symbol so the mask may be saved.



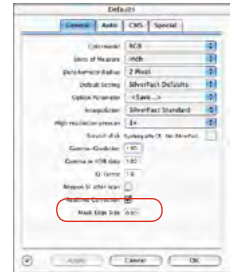
Hard or Soft Mask Edges

The edges of the drawn masks are variable in their softness. The standard setting for the mask edge is defined as “hard”. The cross-over at the border is freely definable in its width.



Click on the “Options...” button on the “General” palette. Choose “General” in the popup window “Presets” and continue to the menu “Mask Edge Size”.

The standard setting here is “0”, which defines a hard mask edge.



Mask Edge Size = „0.00“

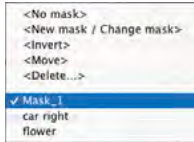
By changing the value and clicking onto the button “Apply”, the effect can be monitored in the preview window. The influence, taken by the value typed in, depends on the currently used output resolution.



Mask Edge Size = „0.05“

If the result is satisfactory, close the “Options...” dialogue by clicking “OK”.

The setting chosen here will then be valid for all mask edges.



Changing of a Mask

The existent masks may be altered at any time. To do this, simply choose the desired mask in the mask menu.

Adding to Mask: Press “Shift” and draw desired addition. The mouse pointer will display a “plus” symbol.

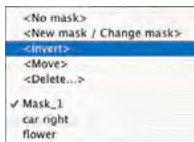
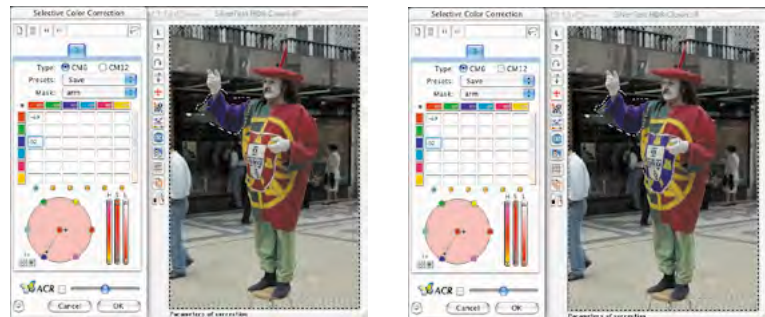


Subtracting from Mask: Press “Alt” and draw desired subtraction. The mouse pointer will display a “minus” symbol.



Changing a Mask

On layer 3 of the left picture on the left, only the sleeve has a mask “Arm”. In the picture on the right the emblem has been added to the previous mask.



Belated Inversion of a Mask “inverse”

The menu “invert” is a switch. It allows switching between the previously active mask area and the previously inactive area.

Directly new Redraw of an Inverted Mask

Depressing the “Alt” key with any of the mask tools activated will invert the mask function. The mask will become kind of a negative mask. Now encircle the area with the mask tool you do not want get affected by the correction.

This function is similar to the invert mask function from the mask menu.

Changing a Mask

The menu “Masks” shows all previously created masks. Masks can be created and deleted here.

The mask currently active is highlighted by a check mark before the mask name.

Changing from one mask to another is accomplished by clicking onto the masks name.

The dialogue is closed and the preview window will be updated.

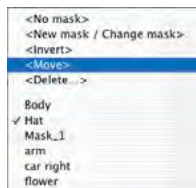
Changing Masks

On layer four we switch from the current mask “Arm” to mask “Hat”.



Changing the Position of a Mask “move”

By click-dragging, the active mask area can be shifted as a whole, within the prescan window i



De-activating a Mask “no mask”

By means of the menu entry “no mask”, an existing mask for the active layer is de-activated.

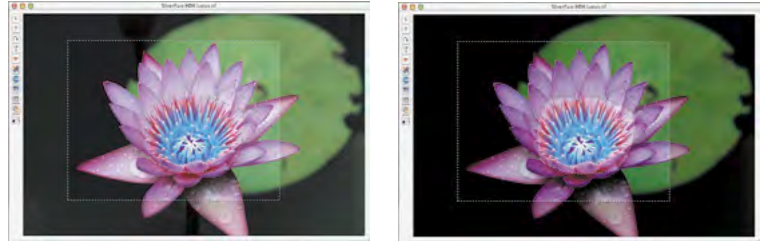
The mask will not be deleted.

Displaying an Inactive Mask Area

If the selective colour correction dialogue window was closed with an “OK”, the inactive mask area in the prescan window is displayed in dimmed form when pressing “Cmd” + “Alt” keys simultaneously (“Ctrl” + “Alt” for Windows).

The active mask areas are not dimmed.

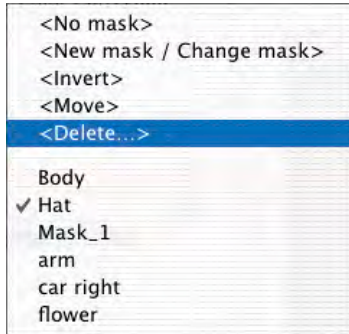
Mac:  + **ALT**
Win: **CONTROL** + **ALT**



Removing a Mask <delete>

A dialogue window can be opened here where all previously saved masks are shown.

A single mask can be marked by clicking and deleted from the menu. By clicking while holding down the “Shift” key, several masks can be marked and deleted from the menu. By clicking while holding down the “Command,” rows of masks can be marked and deleted from the menu.



Example

Single Mask



Inverted Mask



Mask with several partial selections



Correction of 12 Colours



The second panel of the selective colour correction dialogue allows the correction of 12 colours. You can now correct half-tints like violet or orange. It can be used instead of the 6 colour matrix.

Because all of the input fields of the colour matrix cannot be shown at once there are two arrows on the top left and right to scroll the matrix horizontally.

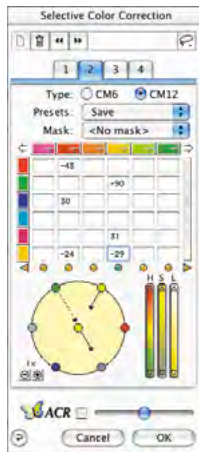


If you select a colour which is not visible by clicking on the preview the matrix scrolls automatically.

The arrows on the bottom left and right show that there are selected colours that are not in view which will be corrected.



Selective Colour Correction with Multi Layers and Masks

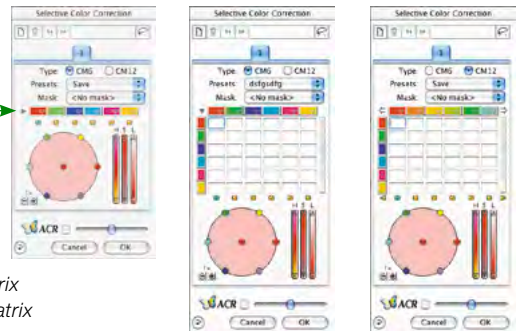


The new selective colour correction in *SilverFast* version 6 or higher now includes up to your layers. Each layer can have its own independent colour correction including masking. For example, four red apples can now each become a different colour. Most complex colour corrections can very comfortably be achieved.

Selective colour correction is one of the most significant functions of colour reproduction. The new selective colour correction increases the correction ability of the user, without making the workflow more complicated. A single click onto the object the user wants to change and *SilverFast* recognises its colour. Using the controls, it is now very easy to change the colour. By adding layers and masking objects, one colour can now be split into different colours.

The special function “Mask Edge Size“ under the “General“ panel in the “Options...” dialogue, can even define the degree of smooth edges of the masks.

The user can also define the appearance of the selective colour dialogue. The whole colour matrix can be hidden (when not needed) by clicking onto the small triangle left of the colour channel indicators.



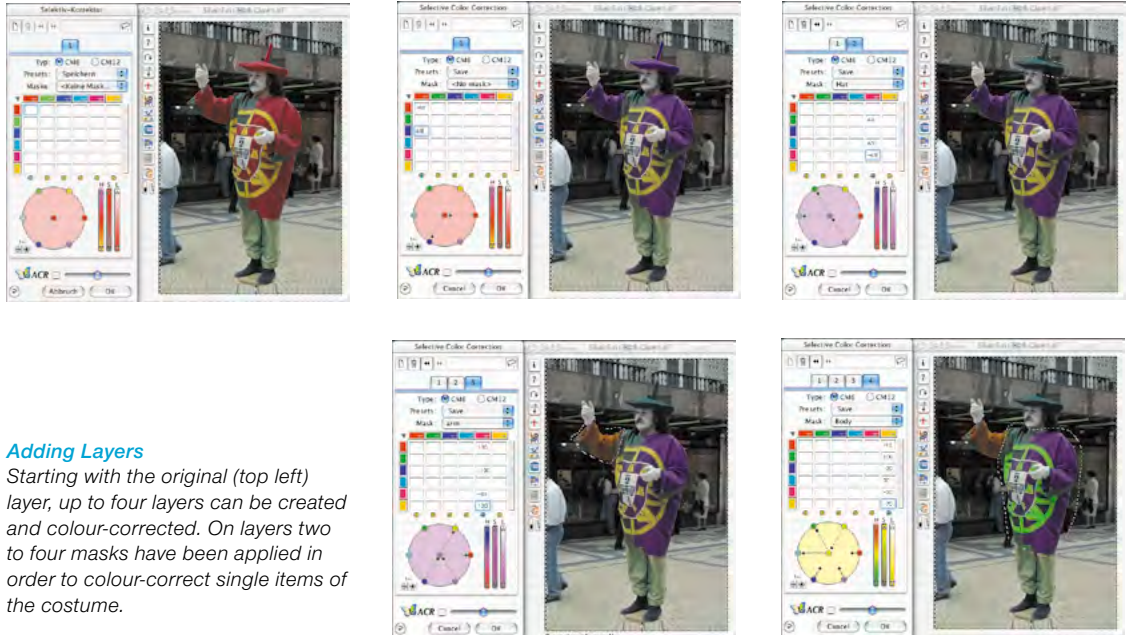
Appearance

Left: CM6 with closed matrix
Middle: CM6 with open matrix
Right: CM12

Creating new Layers



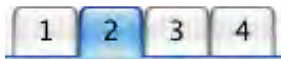
A new layer is created by clicking onto the layer button. Up to four layers can be created. Each new layer will start with default settings but will build upon the underlying layer. In case, as shown in the example below, red is turned into blue on the first layer, the second layer will not show red as red but as blue (since it has been changed in the first layer).



Adding Layers

Starting with the original (top left) layer, up to four layers can be created and colour-corrected. On layers two to four masks have been applied in order to colour-correct single items of the costume.

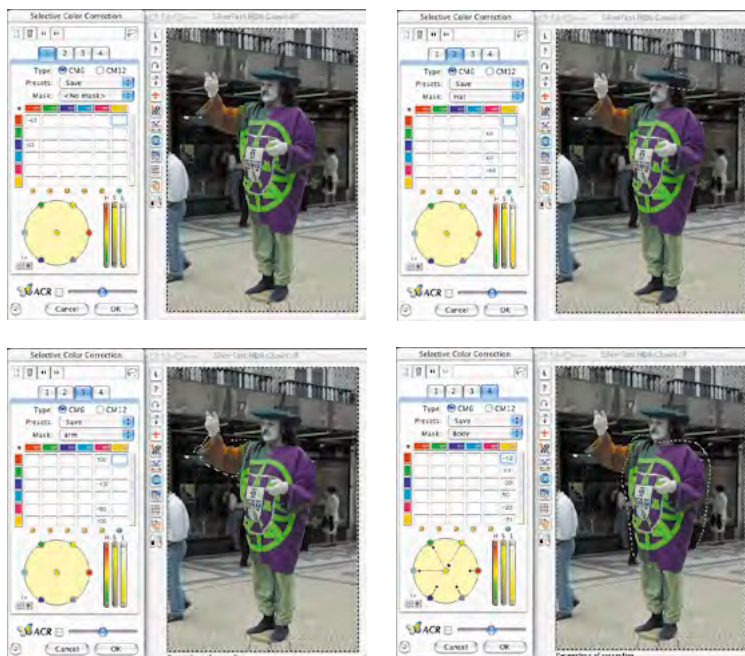
All settings within one layer are somewhat independent, but always built on the underlying layers with reference to its results. For this reason it is vital to understand the difference of the functions “Moving layers” and “Changing layers”.



Changing Layers (“Switching“)

By clicking onto the layer number you will switch to the desired layer with all its settings. You will also see the masking that is active on this layer. Masking marqueees of other layers will be invisible.

The preview itself such as its colour representation will always stay the same when switching to other layers! The changes that you will see are only those with reference to masking appearing in different locations of the preview.



Turning Layers over

Starting with the original layer, all layers will be shown in turn once.

Deleting Layers



Each layer can be deleted by clicking onto the “Delete” button (trash).

One layer will always have to remain. The last remaining layer can not be deleted.

Moving of Layers (“Change order“)

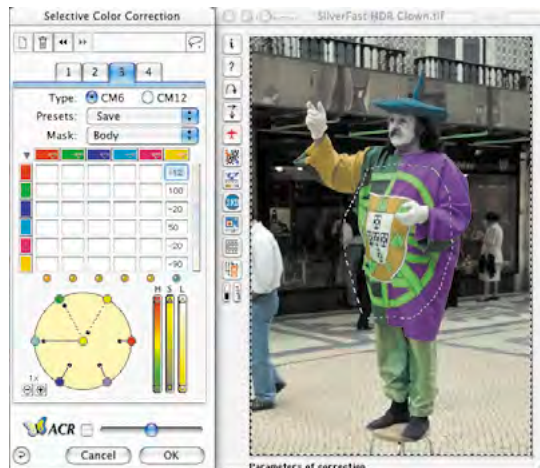
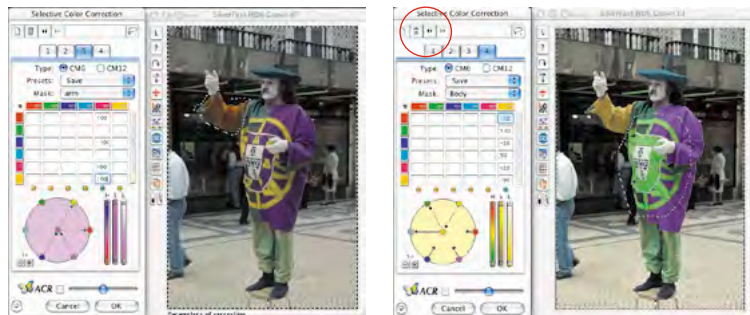


By clicking onto the double-arrow buttons the stapling order of the layers will be changed.

If you have e.g. four layers, you can move layer number 4 under layer number 3 by clicking onto the left pointing double-arrows.

The layers will swap positions with each other.

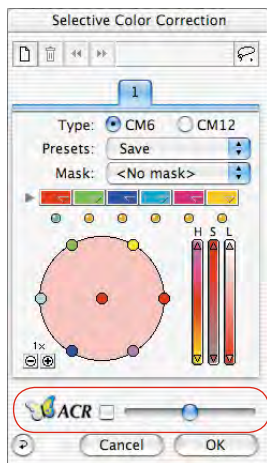
If the layers have masks, you may get unwanted effects when parts of the masks overlap in the two layers. Since the mask areas will be calculated over all layers, the result can be a totally different colour than expected. Mask areas not overlapping other masks will remain unchanged.



Moving Layers

Here layer 4 will be moved before layer 3. The masks which have been applied to both layers, overlap in the area of the emblem. By moving a layer, the emblem's colours get changed.

SilverFastACR® Adaptive Colour Restoration



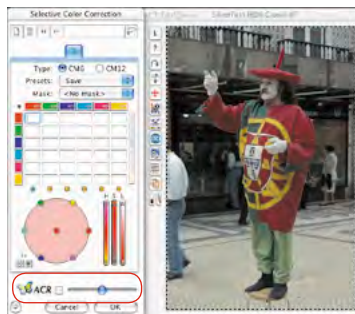
SilverFastACR (ACR = Adaptive Colour Restoration) is part of the selective colour correction dialogue and can be switched on and off via a check mark.

This automatic function enables the user to restore faded out colours or normalise oversaturated colours. Using the slider, colour saturation can be increased or decreased.

ACR can be used in combination with the selective colour correction. All settings can be influenced when the user activates ACR. If e.g. more or less saturation is needed, the user only has to adjust the ACR slider. The relation between the colours that have previously been corrected in the selective colour correction, will be preserved.



If the dialogue box is closed, an activated ACR function is marked by a short “ACR” imprint below the vertical buttons, located to the left of the prescan window.



ACR-Slider

In middle position ACR does influence the image very little.

Moved to the left, the image will get desaturated.

Moved to the right, the image will get much more saturated.

SilverFastSC2G® Selective Colour to Grey Conversion

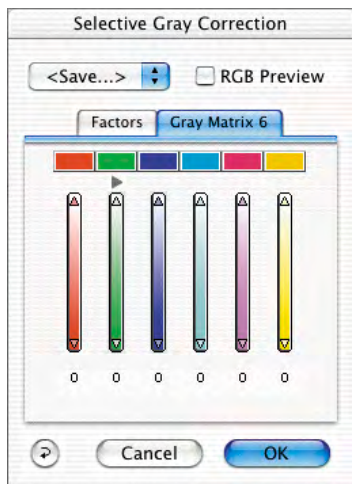
SC2G (Selective Colour to Grey) is a unique function to control how colours of an image are converted to grey.

By directly controlling the conversion of primary and secondary colours into shades of grey, the user can enhance the distinction between adjacent areas of similar shades of grey.

Daily newspapers and magazines and other periodicals very often have black and white photographs with too little differentiation between the greys. The original colour image might have had good shade rendering, but in the conversion process differentiation between adjacent greys is often lost.

SilverFast's SC2G, can preserve or even enhance the differentiation between the shades by controlling the conversion process for all six colours (red, green, blue, cyan, magenta, yellow).

The user can define which shade of grey to convert a colour to. Since the whole process is interactively monitored (the final result is visible), the user can quickly achieve the desired result.



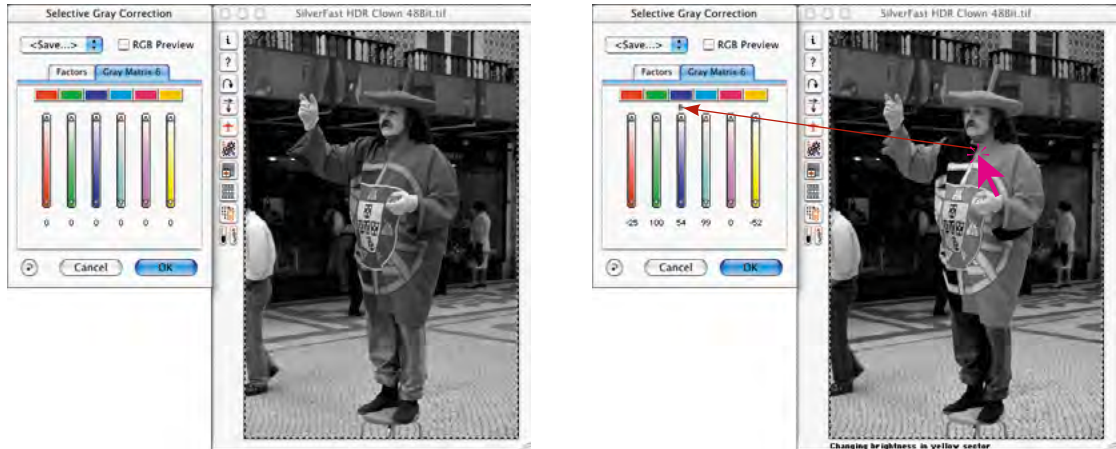
Activating SC2G

The first step is switching to grey-mode from colour-mode under "Image Mode". Clicking onto the selective colour correction button will bring up the SC2G dialogue.



Changing a Colour Image to Grey

Click onto an area where you need to adjust the grey and SC2G will recognise which colour this grey is originated from. Above the relevant colour sector you will see a small right pointing triangle indicating that SC2G has recognised the original colour.



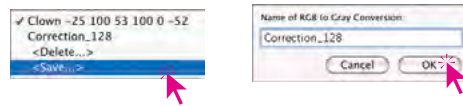
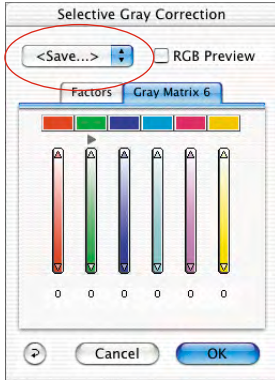
You can now begin your selective grey correction. Clicking and holding the mouse on the small triangle at the top of the control will raise the brightness for the grey selected. The bottom triangle will decrease the grey brightness. You will see the number below the control increasing or decreasing accordingly as well as the image gets updated once you release the mouse.

By clicking onto “RGB Preview” you can cross-check which original colour your are effecting.

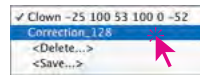


Saving / Loading / Deleting SC2G Settings

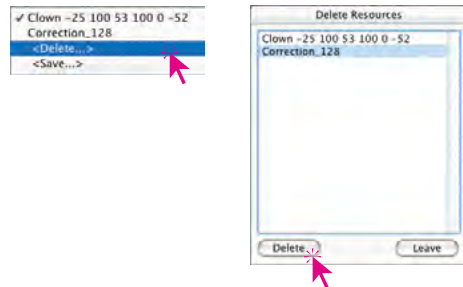
Settings can be saved and reloaded just like other settings in *SilverFast*.



To switch between different SC2G settings, you only have to switch from one setting (name) to another.



Settings that are not needed any more can easily be deleted.



Changing the Conversion Factors

The SC2G dialogue has another alternative method for colour to grey conversion named: "Factors". Here you can define, how the original RGB values of an image are converted into shades of grey.

The upper part of the dialogue shows the primary colours with their current percentage relationship. The lower part shows a colour bar with the relation of the three primary colours. The sum of all colours is always 100%. The larger the part of one colour, the brighter the grey shade converted from that colour.

According to the example on the left, the colour brightness from the Red-channel will be used at 30%, that from the Green-channel at 59% and that from the Blue-channel only at 11% for the grey conversion. That means, green colour tones will become brighter than red tones (the increase of brightness with reference to the existing colour brightness). In this example blue colour tones appear to become the darkest with this setting.

With the mouse you can grab the colour border in the colour bar and move the border (red / green and green / blue) accordingly to get the desired result.



With Standard-Settings the colours of the clown's outfit are converted to nearly similar grey tones. The example clearly shows how significant the image changes with the red (middle image) or green (right image).

5.7 Zooming In Prescan



Refer to Page 95.

From the prescan, you can zoom into any frame. The Zoom will scan the active frame into the free available space of the monitor window. Click on the magnifying glass to initiate the zoom. Corrections can be made at any time on the zoomed frame. In order to return to the original prescan window, click the magnifying glass in the tool bar again.

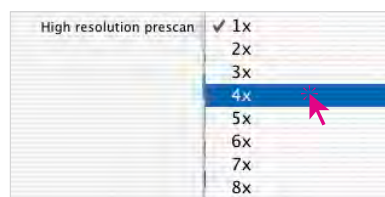
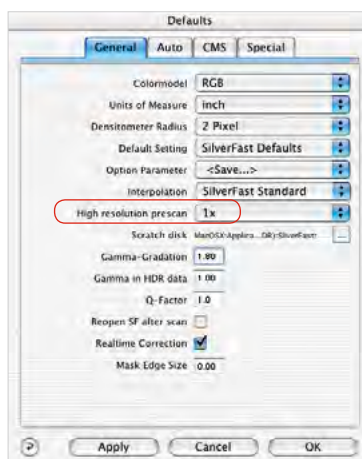
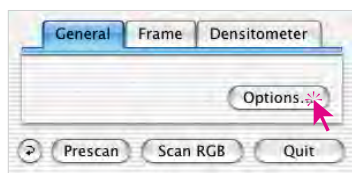
The Zoom tool will act as a “Toggle-switch”.

Aborting Prescan

With “Command” + “Period” (PC: “Ctrl” + “Period”) you can abort the prescan at any time. The previously scanned image remains.

High Resolution Prescan

In order to process work more quickly with *SilverFast*, a prescan can be selected besides which has a resolution that is up to eight times greater than actually necessary for a normal prescan. The high resolution prescan is activated in the “General” palette under the “Options...” dialogue





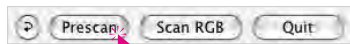
The advantage is that by utilizing a zoom by means of the magnifying glass, *SilverFast* can retrieve data that is already available and immediately show the enlarged preview, without scanning it again. The first prescan will therefore take somewhat longer than normal.



If the selected zoom still lies within the data parameters, the magnifying glass will turn green.

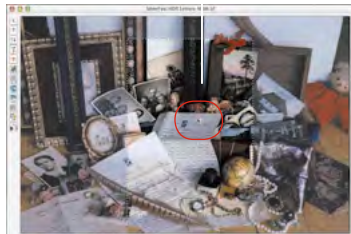


If *SilverFast* has to interpolate the data, (you may already see single pixels in the prescan) the magnifying glass will turn red.



You can still choose a new prescan from your hardware with a click of the prescan button. In this way you can be assured that the most important user interface, the preview, always has optimal resolution.

Zoom and Densitometer

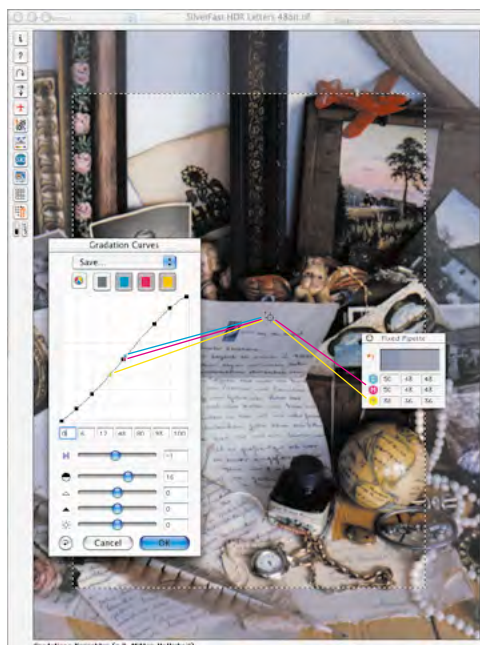


*Densitometer measuring point
in prescan*

Four densitometer measure point can be fixed on the prescan which are saved in the zoom. To fix a densitometer point, just press the “Shift” key and click the mouse. Do the same to release the densitometer point again (refer Chapter Multiple FixPip, Page 122).

Densitometer Reading and Gradation Curves

After having fixed a densitometer point and activating the zoom, the value of the three colours will be shown as coloured dots directly on the curve. This way it becomes easy for any user to find out where the curve has to be changed to get specific results.



*Densitometer measuring point
in zoom*

For example, if the magenta value for the appropriate densitometer point has to be changed, select the magenta channel with the top buttons and drag the curve point next to the magenta dot on the gradations curve.

5.8 Expert Dialogue

Dialogue for Professionals



In the expert dialogue, all parameters which are set in the scan frame are shown and can be checked and edited. For the experienced user, the quick overview of all major parameters is available. In order to change expert dialogue parameters, simply enter the new values into the editing fields.

	C:	M:	Y:	Gr:
000 %:	0	0	0	0
012 %:	11	16	9	12
025 %:	23	32	18	25
050 %:	48	57	43	50
075 %:	73	82	68	75
087 %:	86	91	84	87
100 %:	100	100	100	100

Range-Max: 100 100 100 100
Range-Min: 0 0 0 0
Shadow Pnt.: 100 100 100 100
Highlight Pnt.: 0 0 0 0
Shadow: 0 0 0 0
Middle: 0 0 0 0
Highlight: 0 0 0 0



**SilverFast...SE Versions*

This dialogue is not available in the SE versions.

Equal Parameters for a Row

To equalise parameters for a row, that is to say, for the gradation of the CMY values for a 50% tone, enter the value into a field and press the "Alt" key and click into the field again- all values are now equal (in a row).

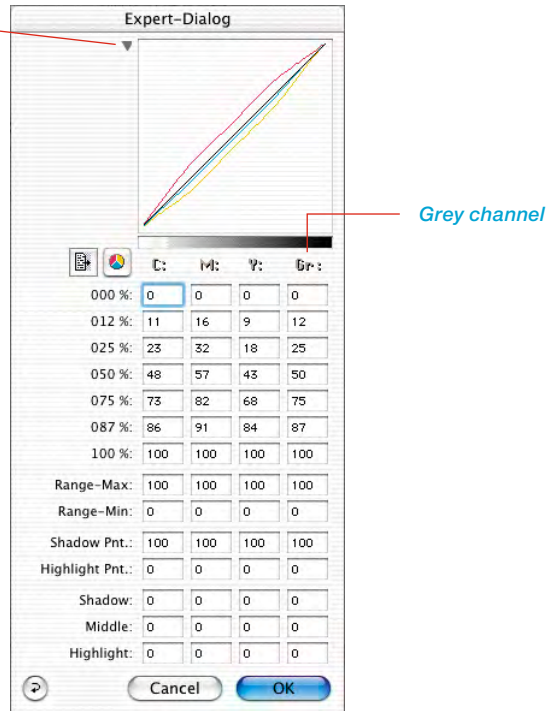
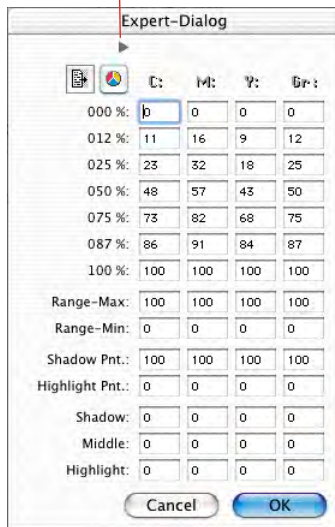
Fourth Column for Grey Values

Besides the values for red, green, blue or cyan, magenta and yellow, the expert dialogue has an added fourth column. This fourth column (Gr.) is a separate channel for greyscale images and always reflects the grey values of an image

Showing / Hiding the Curve Window Dialogue

With the small rectangle, the curve window dialogue on top of the expert dialogue can be hidden or shown

Button shows or hides the curve window



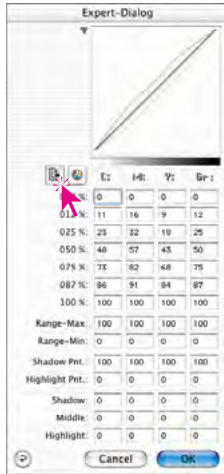
Exporting the Image Parameters as a Text File

All set parameters for image optimisation are exportable into text files by *SilverFast*.

This allows independent archiving of important parameters, i.e. especially in regard to critical scans. It also allows for an easier exchange of adjustment values between different operating systems.

In order to export previously selected optimising parameters, simply click on the text icon, located in the vertical icon opening on the left side of the prescan window.

A dialogue appears which allows you to choose the save position of the text file. By clicking "Save" the dialogue is closed and the parameter file is generated.

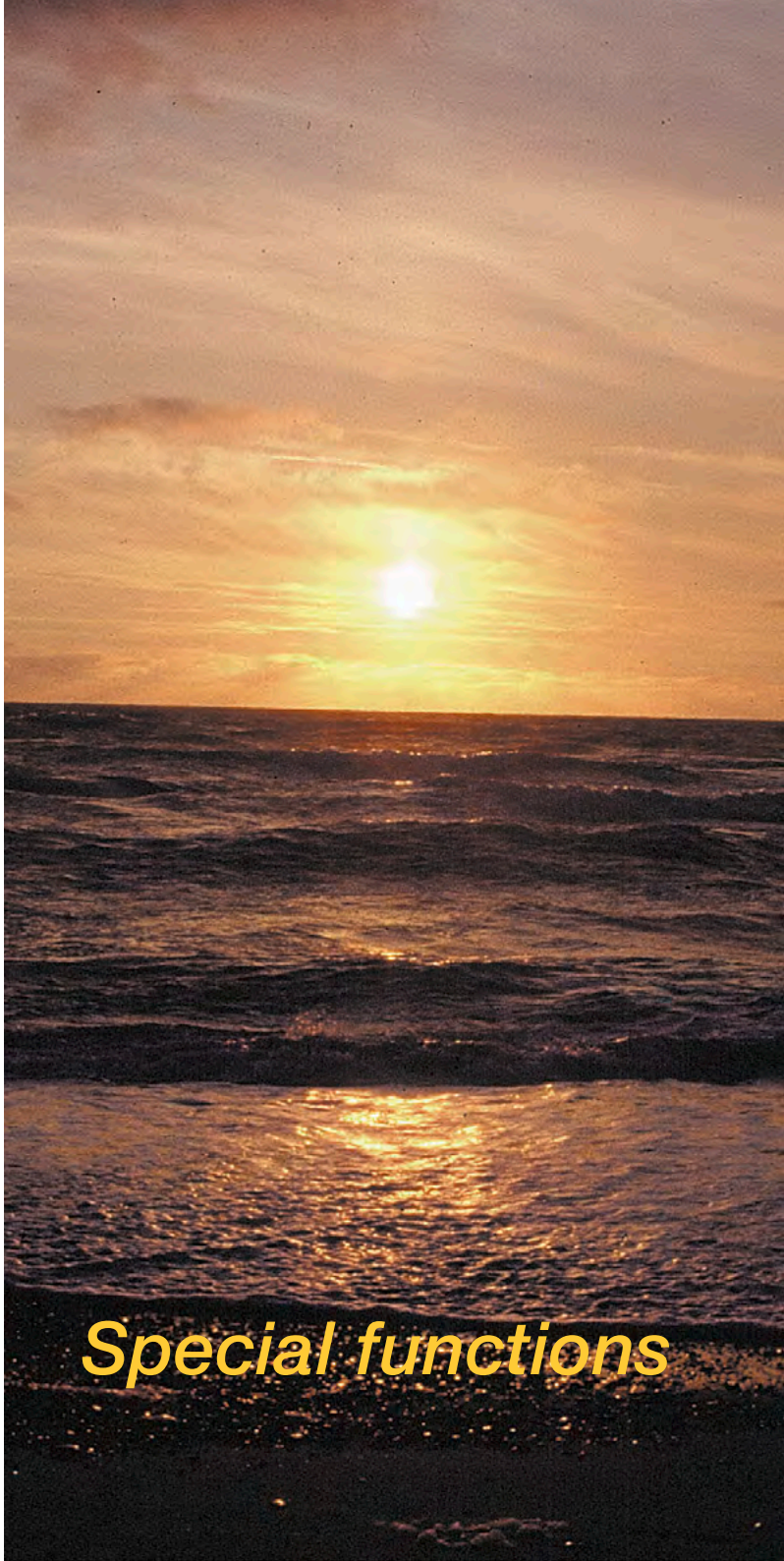


SF_Statistic.txt
Example file.



Chapter 6

Special functions



Special Functions

All additional and special functions are described in Chapter 6. Some of these functions are scanner specific and may behave differently depending on the combination of the software and hardware and some menus may differ or not be displayed at all.

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6. Special Functions

6.1 Densitometer

For precise monitoring of density values

6.2 Unsharp Masking

To enhance the image with better sharpness (detail contrast)

6.3 Descreening

To eliminate possible moire patterns when scanning printed images.

6.4 SilverFast GANE

Filter for reduction of grain and noise structures in film scans

6.5 Line art

To scan black and white samples (not greyscale)

6.6 Negative Scans

To scan greyscale or colour negatives.

6.7 Multisampling

Multiple scan-runs to eliminate noise.

6.8 Using the various film holder with film scanners

APS film adapter, film strip holder, slide feeder.

6.9 File formats in SilverFast

For scanning black&white images as well as colour negatives.

6.10 Focussing the Scanner

For optical focussing of the scanner.

6.11 SilverFast DC..., -HDR...

Scanner independent SilverFast products and their differences to SilverFastAi.

6.12 SilverFast JobManager

The high-end development of batch scanning.

6.13 SilverFast SRD / SilverFast iSRD

Smart removal of defects; remove scratches and dirt by the software.

6.14 SilverFast AACO

Auto-adaptive contrast optimization.

6.15 Clone tool

Retouching tool.

6.16 PrinTao

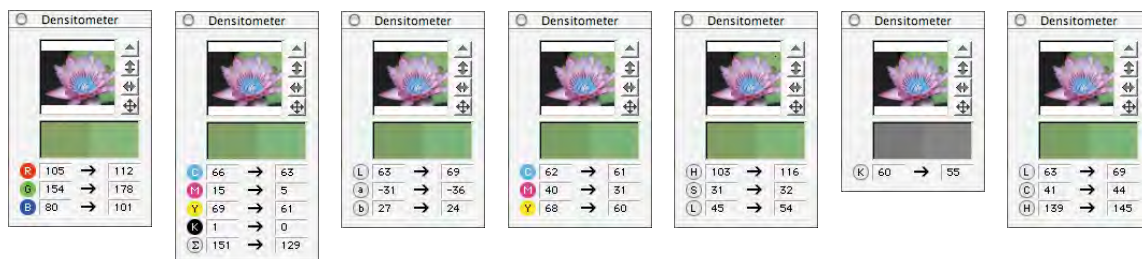
The extended print dialogue of SilverFast...Studio.

6.17 Image settings

Important image parameters in an overview; including real-time output histogram in SilverFast...Studio.

6.1 The Densitometer

Colour models supported in the densitometer are RGB, CMY, LAB, CMYK, K, LCH and HSL.



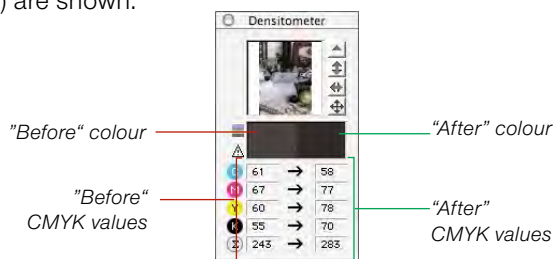
Monitor of Before and After Values

The densitometer shows the unchanged values in the left column. In the right column, the changed values (image auto-adjust, gradation etc.) are shown.



*SilverFast...SE versions

The densitometer values in SilverFast...SE versions only show the RGB and K values..

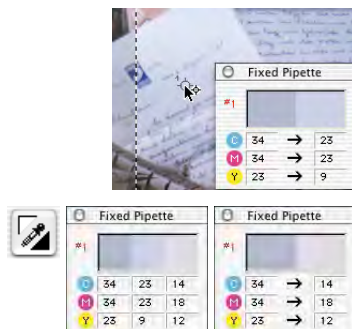


Densitometer is Displayed in the Gradation and the Selective Colour Correction Dialogue

Fix a densitometer point within the scan frame. While opening the gradation or selective colour correction dialogue, the densitometer switches to a threefold monitor.

When corrections are done, the third (right) column shows the altered value in respect to the second column.

Acknowledging the gradation dialogue with clicking "OK" will switch the densitometer back to two columns. The third column will become the second column.



Switching the Densitometer



All densitometers may be switched to a different colour space by two methods:

”Toggle switch“ by clicking on to the measurement columns of any densitometer, it will jump to the next colour space mode. Keep clicking here until the desired colour space is shown.

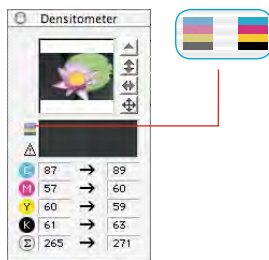
Directly switching in the context menu: Hold down the “Ctrl” key and click into any of the measuring value cells of the densitometer. A pop-up window opens and by selecting another colour space the measured values in the densitometer will be converted to the values of the selected colour space.

CMYK Values Visible on the Prescan

(refer also: „Permanent Softproof, page 91)

In all Full Versions of *SilverFast*, the CMYK output values can already be seen on the prescan itself.

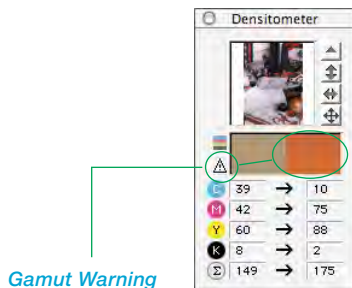
In case no ICC separation profile is chosen in *SilverFast*, the Photoshop separation settings will be used for the densitometer display. If, however, an ICC profile is selected this profile will be used for the densitometer display. This is done for both the floating single densitometer as well as the multiple densitometer „fixed pipette“.



If a CMYK profile is selected in *SilverFast*, a small button in C, M, Y and K colour is shown left of the colour “before/after” display in the densitometer window. This button is the activation of the softproof display on the monitor. Simply press this button to activate or deactivate this function. The condition for this is that the scan-button shows “Scan CMYK“. After a short calculation, the CMYK colours will be simulated on the prescan.

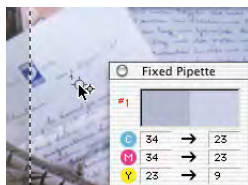
By this method, it is possible to predict the final separation values derived from the Photoshop- or the ICC profiles.

Gamut Warning

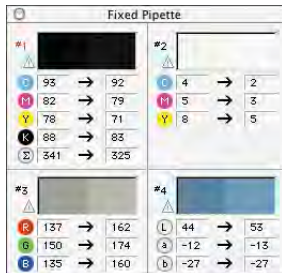


Warning signal when colour at measured position cannot be printed with CMYK colours. The colour cell above right column will be splitted horizontally, where the upper part displays the current monitor colour and the lower part displays the colour which would be the printable colour.

Multiple Densitometer (Multiple FixPip)



By pressing the "Shift" key and clicking on the scan image, up to four individual measurement points can be placed and fixed on any spot of the image. In order to delete these points, simply repeat the procedure. A fixed measurement point is marked in the pre-scan window by a small numbered circle.



The measuring values of these pipette measuring points will no longer be shown in the densitometer window, but in their own window. The windows will attempt to adapt to the number of measuring points, meaning they will change their size, depending on the number of fixed points and the selected colour types (RGB, CMYK, grey etc.).

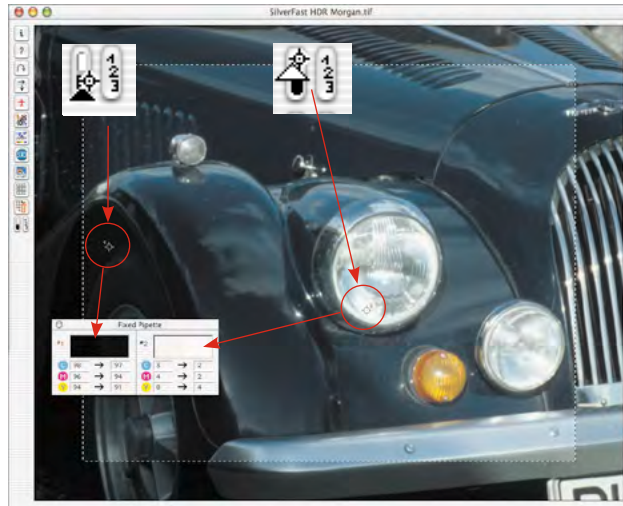
The colour types can be adjusted for each pipette independently of each other. The quickest way to switch is done using the context menu (keep "Ctrl" key pressed and click on to the value display column)

If all fixed points have been deleted, the window will close automatically. If the window is closed, all fixed points will automatically be deleted.

Transfer of the Brightest/Darkest Point to the Multiple Densitometer



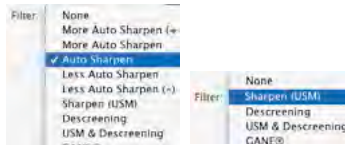
By clicking the white or black area in the icon for “darkest/lightest point” while holding down the “Shift” key, the reading found by *SilverFast* will be transferred to the window “fixed pipette”. Good control of corner values can thus be assured.



6.2 Improving the Sharpness of Artwork

SilverFast has a specially designed sharpness function, called an "Unsharp Mask" (USM). The concept stems from traditional lithography, while it was still a chemical process. Contour sharpness was improved by means of an out-of-focus film mask in the copy processes. This process is now used in software and assures a very good, natural-looking sharpness. Normal sharpness functions generally increase detail contrast and intensify all image irregularities of the artwork, making the image appear very unnatural.

Automatic USM

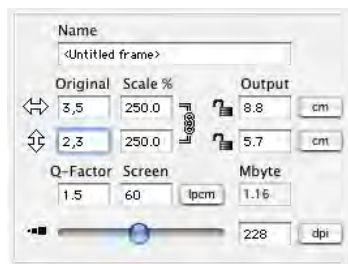


Filter menu "Unsharp Masking" in *SilverFastAi* and *SilverFastHDR*

Auto unsharp masking is done automatically if "Auto sharpen", "Less auto sharpen" or "More auto sharpen" is chosen in the filter menu of the scan dialogue window for *SilverFast*. "Auto sharpen" is the basic default setting. Default in *SilverFastAi*. By this automatic setting the unsharp masking is done with reference to the previously entered scan resolution.

In this setting, unsharp masking is automatically applied to the problem that has been selected. It avoids errors and has good result with most scans. If more or less sharpness is desired simply use the enhancing or reducing settings.

Manual USM



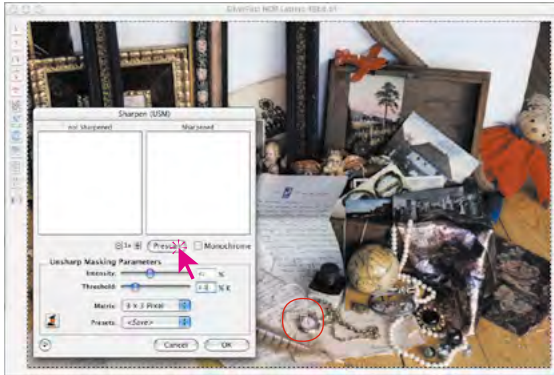
In order to set the unsharp mask manually, the following settings have to be done first:

set the scaling, set the output frame, and enter the final output resolution.

The setting of the output parameters is absolutely necessary for a proper function of the USM

Only after the above-mentioned points have been done, should the „USM“ function be used in the filter menu in the „frame“ pipette.

First, click on the “Prescan” button in the USM dialogue and then in the main window of *SilverFast* click on the picture area that is suitable for determining sharpness. *SilverFast* will then scan an image detail in the final resolution that is selected. The two small preview windows will show the scanned image detail, the left one without the sharpen effect and the right one with it.



The sharpen parameters can quickly and easily be adjusted by using the slider “strength” and “threshold” as well as using the popup menu “matrix”. All sliders are calculated in realtime

- **Strength:** this adjusts the intensity of the strength effect (0-500). Customary values are between 50 and 150.
- **Threshold:** the threshold value (0-10) determines where the sharpening of grey shades will take place (normally between 2-10).
- **Matrix:** this determines the distance at which pixels are sharpened to their surroundings. Larger pixel radii are only necessary with images having higher resolutions (standard is 3x3). For an enlargement of 300% we suggest a matrix of “5x5” and from 600% on a matrix of “7x7”.



***SilverFast...SE versions**

The dialogue is simplified in all *SilverFast...SE* versions and is recommended for novice users.

The selected parameters can be saved in the menu “presets” for subsequent scans.

All parameters are returned to their default setting by using the “reset” button.

Zooming into the Preview

In order to zoom into the preview, please use the “Pixel zoom”. Simply press the “+” key to reach a maximum magnification of 8.



Zoomed Prescans

Magnifying factor up to 8x

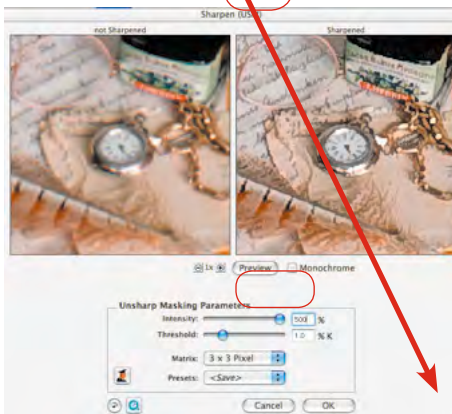
The image of the small prescan can be moved by holding down the “Shift” key (only in the zoom mode!) and click-dragging with the mouse cursor.



USM Dialogue with Scaleable Prescan

In the latest *Studio* versions of *SilverFast*, the USM dialogue is now fully scalable. By this means it is possible to obtain a realistic sharpening preview on a larger part of the image.

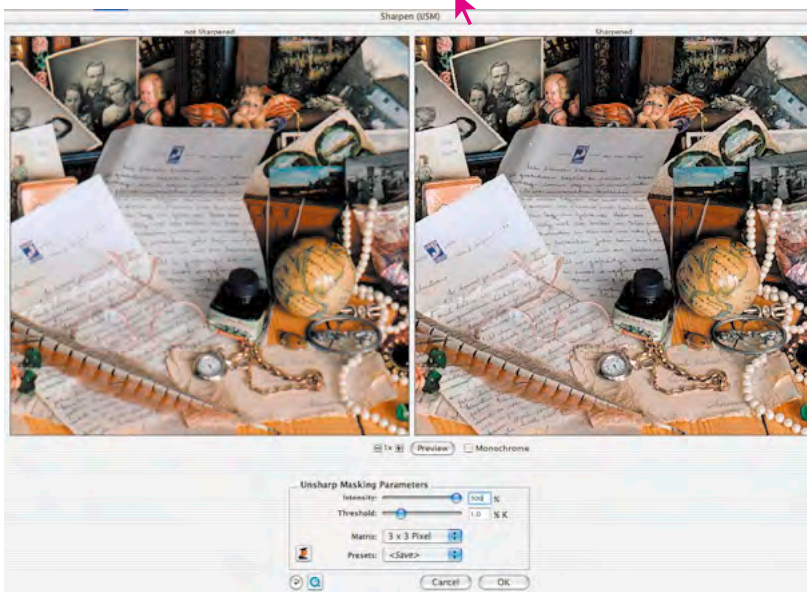
The size of the dialogue box is now resizable by means of a resizing button.



By clicking and dragging the corner button, the USM window can be expanded up to the entire monitor size.

Initially, the contents of the prescan window are only enlarged by pixel-enlargement – the same effect as pressing the “+” button.

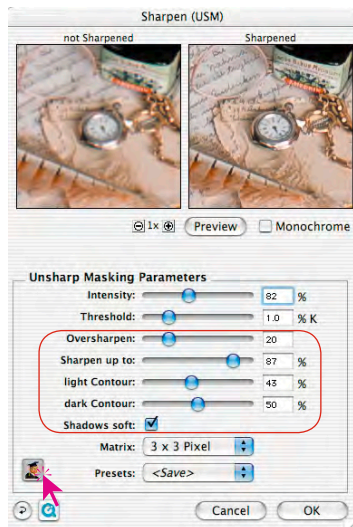
The real expansion of the visible area is achieved by keeping the “Shift” button pressed while clicking the “Prescan” button (i.e. it functions like an “Update-button”). (Ref. Illustration lower left).



Resizing the window preserves the captured part of the image. (Ref. Illustration lower right)



Manual USM in the Expert Dialogue



Advanced users can use the extensive expert mode in order to set up optimal sharpening parameters.

A click on the small “Expert button” in the dialogue window will elongate the window and offer additional setting possibilities. An additional click on the “Expert button” (which is now red) will bring the dialogue window back to its normal size.

Additional parameters:

- **Over sharpening:** Reduces the generation of disturbing artifacts at the edges. A value of “Zero” suppresses this generation completely, but often delivers a seemingly artificial image. Low values (10 – 20) allow slight artifacts to appear, but the image appears more plastic and more natural.
- **Sharpening up to:** will determine the percent value of the grey value (0-100%).
A value of e.g. 80% means that all tones below 80% will be sharpened. The dark tones between 80% and 100% will remain unsharpened.
- **Sharpen from (only in negative-mode):**
Determines from which percentage (greyscale) sharpening will take effect. (0-100%)
A value of e.g. 20% means that all tones above 20% will be sharpened. The lighter tones (negatives) from 0% to 20% again remain unsharpened.
The slider „sharpen up to“ / „sharpen from“ is important to prevent noise in images with shadows to become intensified by the USM.
- **Light Contour / dark Contour:** depending on the desired sharpness of the subject matter, one or the other value can be intensified. In most instances the values are set the same.

- **Shadows soft:** a check in the check box will determine, that “sharpen up to” will be shown soft from that point on. The possibility of noise appearing in images with shadows is mostly eliminated with a good combination of the „sharpen up to“ and the „shadow soft“ settings.

Example for Sharpening Bright Contour / Dark Contour

In order to achieve the desired sharpness results, which will depend on the actual image, you have to change one of the two value accordingly. In general it is advised to keep both values the same. Merely the sliders for bright / dark edge have been changed in all four images.



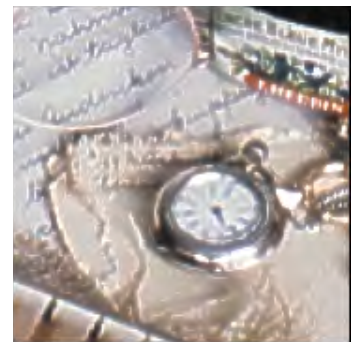
*Bright Contour = 0
Dark Contour = 0*



*Bright Contour = 40
Dark Contour = 60*



*Bright Contour = 0
Dark Contour = 100*



*Bright Contour = 100
Dark Contour = 0*



*Availability

...**Studio versions**: have the new full functionality including the two full automatics and the scalable dialogue.

...**Ai-, ...DCPro-, ...HDR versions**: Offer the complete descreening dialogue with preview, manual selection and automatic screen-detection. The fully automatic functions are not included.

...**SEPlus versions**: offer the scalable descreening dialogue, without preview but with manual screen input and also contains the two automatic descreening options.

...**SE versions**: contain the new descreening, the descreening dialogue without preview, but with manual screen input. The two fully automated functions are not available.

6.3 De-screening an image*

From Version 6.4.2r4 onwards, *SilverFast** uses a completely new descreening in order to remove any screen dots from printed images.

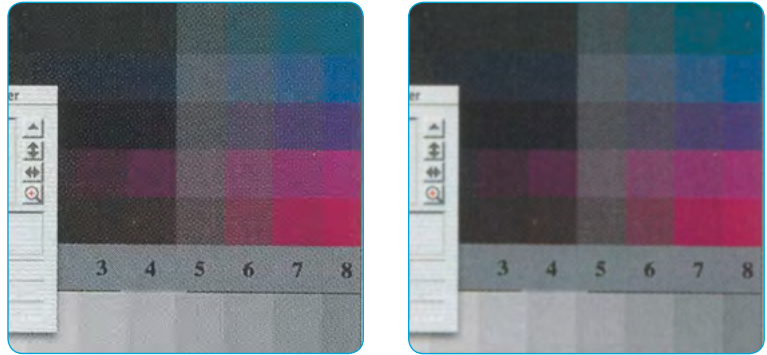


Image taken from a magazine, enlarged 300%

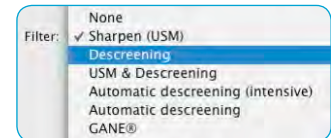
Left: normal Scan without descreening. The moiré on the print is clearly visible...

Right: Scan with descreening. The moiré is completely removed.

Adjusting the Frame of the Image*

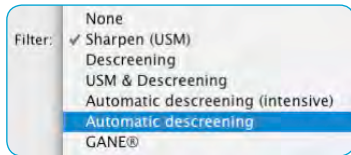
To activate *SilverFast*'s descreening, select one* of the menu points* from the filter menu, located within the frame palette:

- Automatic descreening
- Automatic descreening (intensive)
- Descreening
- USM & Descreening



The newly developed descreening in *SilverFast* is able to detect the actual screen of the image automatically.

“Automatic descreening” and “Automatic descreening (intensive)” are fully automated and are available without any further dialogues. In case “Descreening” or USM & Descreening” is selected, a sub-menu will appear, within which more individual parameters may be set.



Automatic Descreening

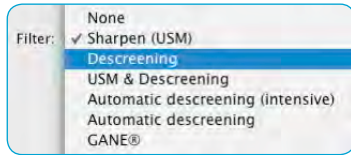
This function launches a fully automated descreening of the image. No more dialogues or menus are necessary. The “Automatic descreening” is recommended for medium and fine screens. The result is only visible after the final scan and is not displayed in *SilverFast*’s preview window.



Please note that the image to be descreened consist of enough image elements and not only textures and graphics.

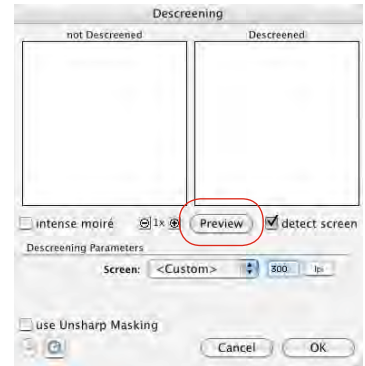
Automatic Descreening (intensive)

The “Automatic descreening (intensive)” function operates like the “Automatic descreening” function, but in addition uses a specialized calculation algorithm. This selection is recommended for cruder screens and low screen width. The intensive descreening needs more system resources and is more time intensive. The result will only be visible in the final scan and not in *SilverFast*’s large preview window.



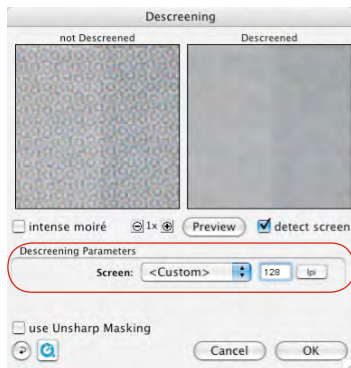
Descreening

This dialogue allows an automatic and manually adjustable descreening. In order to judge the quality of the descreening, a "before-after" view is available. Here, a freely sizable 100% view of the image is shown.



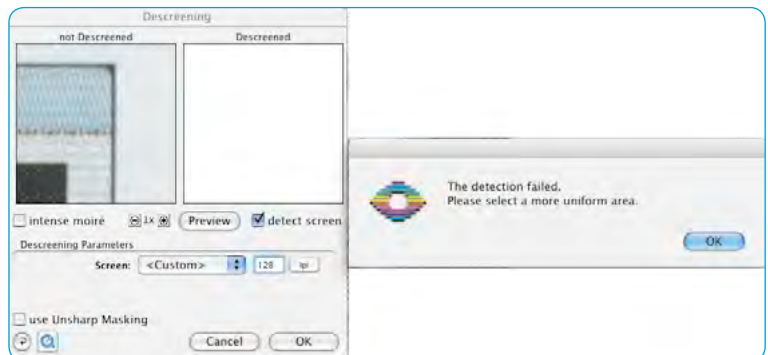
In order to generate a preview, simply click the "Preview" button within the opened dialogue. The mouse pointer changes to a square, with which a homogenous part with medium brightness of the image should be chosen and clicked. The scan starts immediately.

The previously activated input field "detect screen" ensures that the correct screen is calculated automatically.



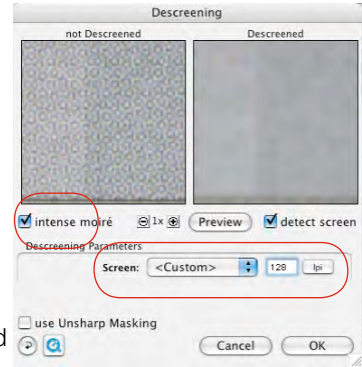
The result of the descreening is displayed after the end of the final scan in the "After" window. Simultaneously, the detected screen is displayed in numerical values in the "Descreening Parameters" window.

In case an inadequate part of the image was chosen, an error message will be displayed. In this case, please choose a different, more homogenous part of the image.



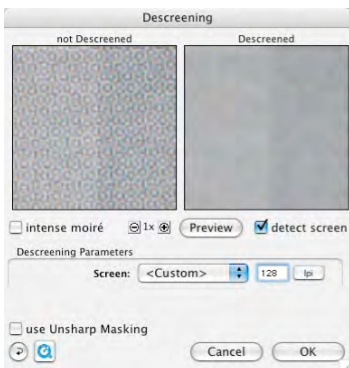
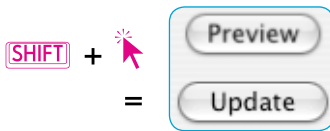
If the result is satisfactory, the dialogue may be closed by clicking the “OK” button, which closes the window.

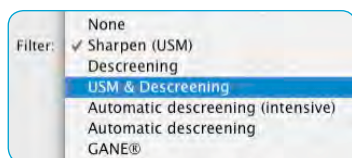
If any artifacts can be found in the “After” window, a different screen may be entered. Alternatively, the field “intense moiré” may be activated. This makes sense while descreening a rough raster with small screen widths. The “After” image is generated immediately after altering any numerical values. The intense descreening needs notably more system resources and is hence more time intensive.



Due to the low monitor resolution of the large preview window, the effect of the descreening cannot be simulated by *SilverFast*. Only once the final scan has been launched, will the parameters for descreening be calculated into the scan.

It is, however, still possible to get an idea of the quality of the final scan prior to performing it; the dialogue-window of the *Studio* and *Plus* versions may be scaled! Simply drag it open by click-dragging the lower right edge of the window. By pressing the “Shift” key and a click on the Update button, the preview will be recalculated and a much larger part of the image is displayed.





USM & Descreening (Descreening with Unsharp Masking)

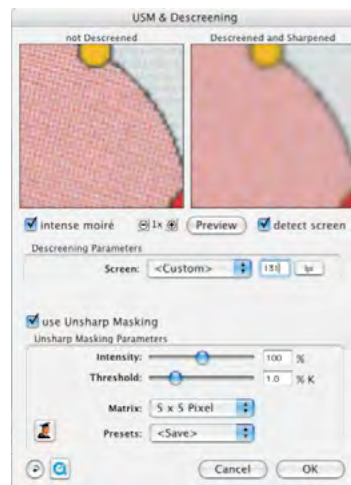
If you simply descreen printed artwork it, often looks very soft and appears quite unclear in the image processing program. In order to avoid this, you can add “unsharp masking” to the descreening process.

For this, the descreening in the filter menu may be launched under “USM & Descreening”.

Alternatively, in case the descreening dialogue is already opened, the USM may be activated by checking the “use Unsharp Masking” box.

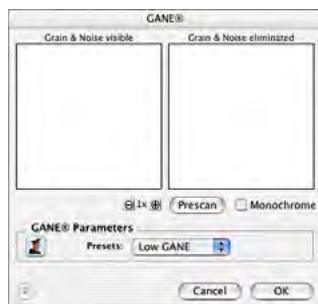
For this purpose, mark the check box “use unsharp masking” with a check mark. All parameters in the elongated dialogue window can be used, just as in normal unsharp masking. You can also choose here between the standard mode or expert mode.

Finally, enter the desired output screen in the field for “screen” in the “frame” palette.



6.4 GANE®

Grain- and Noise Removal



GANER (Grain- and Noise Elimination) is a *SilverFast* filter to remove or reduce film-grain and CCD noise

The reduction of grain-pattern and noise can be monitored in *SilverFast*'s "Before-After preview" and enables a secure judgement of the final results.

Today's modern, high resolution scanners bring out the grain from film, especially from films with high ASA/ISO-values. Suppression of noise is more relevant with older scanners or with digital cameras.

The intensity of the *GANER* filter can be easily controlled by the user with the before-after-preview. For finer adjustment the Expert-mode helps with additional slider. The Expert-mode is only available in *SilverFast* full versions.



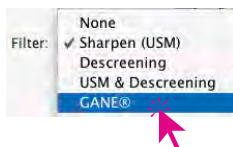
Important Preparatory Steps



Since *GANER* works like the "Unsharp Masking (USM)" filter in *SilverFast*, it is first necessary to carry out all steps of the normal *SilverFast* image optimisation workflow!

GANER is best used as last step, directly before starting the scan. You should at least set scaling and output resolution!

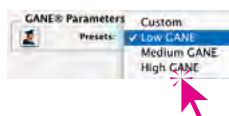
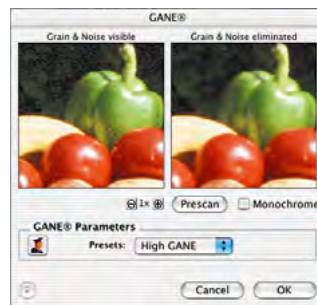
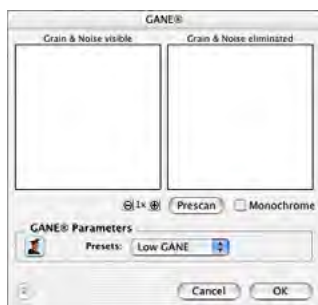
Activating GANE



GANE gets activated under Filter in the *SilverFast* main dialogue "Frame". The GANE dialogue window will open up.

In order to monitor the GANE effect in the Before-after-preview, click the "Prescan" button and with the square mouse cursor click onto a significant image area in the image preview, so you have relevant image details to see the effect.

SilverFast will prepare a 1:1 scan, with the preset resolution, and display the results in the before-after-preview.



Now you only have to select a setting from the "Presets" menu. In the example above the setting "High GANE" has been selected.

Expert Mode



Whenever the presets seem insufficient, you can activate the Expert-Mode by clicking onto the Expert button. The dialogue window will now become larger and three extra sliders become visible.

Intensity: indicates the magnitude of the effect. The maximum value 100, indicates *GANE* will try to eliminate 100% of the noise in all of the image.

An “ideal” image without any noise will easily be interpreted as “artificial” by the human brain. For instance, an “ideal” single colour flat area, will seem artificial to the onlooker. On the other hand, an area containing a small amount of noise looks much more “natural”.

Due to these facts, it seems to be reasonable to reduce the intensity with high quality scanners to 80% or less, or when the results look “unnatural” or “artificial”.

Threshold: Here *GANE* tries to distinguish between unwanted noise and image details that have to be preserved. A small value means a smaller level of noise.

6.5 Line Art Scans (1 Bit)*

Resolution of Line Art Scans

Line art is 1 bit information, where the number of pixels, effectively the resolution, is the key factor (whereas with greyscale images the number of shades or colours is most important) standard flat bed scanner . With *SilverFast*, the scanner can scan different optical resolutions depending on the scanner hardware – with interpolation up to 4800 dpi. But is such a resolution necessary?

The answer is “NO!” - Generally a resolution between 800 and 1200 dpi is enough. Only in rare cases is there a need for a higher resolution, that is to say, slide scanners need higher optical resolution, because of the high level of enlargement that is possible.

Line art image



*SilverFast...SE versions

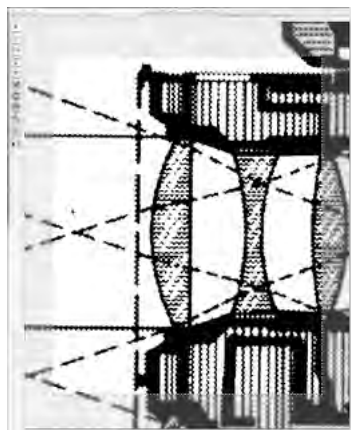
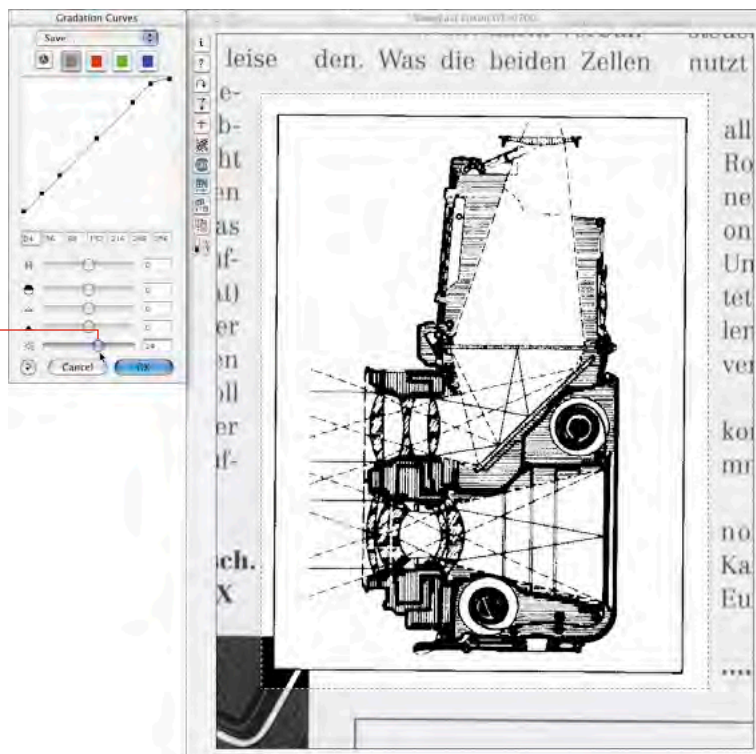
This function is not available in SilverFastDC... and -HDR... versions.

Zooming for Optimum Threshold Definition

Normally prescans are not useful in determining a threshold value. In order to do so however, the zoom from *SilverFast* is an excellent help.

Zoom into the line art image so that you can see the critical lines and adjust them by means of the threshold slider. The zoom on the left shows that you can zoom into every detail of a line art image so that the threshold can be adjusted perfectly.

Threshold settings
in single zoom prescan



Double zoom prescan

6.6 Multiple Sampling



Multiple sampling can be applied for some scanners that show a visible, strong noise in the shadow areas, in order to eliminate the artefacts.

From Version 641r6 onwards, *SilverFastAiStudio* and *SilverFastSEPlus* allows any scanner that runs with *SilverFast* to perform the multi-sampling function. This also includes scanners that were not initially meant to support this function.

This does not work with scanners having weak positioning behaviour. Frankly speaking, most scanners are mechanically not precise enough and overlaying several scans for noise reduction would result in „unsharp, out of focus“ scans. Therefore we had to develop a special process that would eliminate the lack of mechanical precision between the sampling scans.

This process is called *Multi-Sampling with Auto-Alignment*. The result is sharp scans with the noise artefacts eliminated or significant reduced depending on the number of samples (4, 8 or 16). Now, in principle every scanner can profit from this method which as a result enhances the usable dynamic range showing scans with nice shadow details. Another benefit is, that with a much cleaner scan, so much more Unsharp Masking can be applied for a crisper image, without pronouncing the noise artefacts (since they are gone).



Multi sampling can be activated with its own button. The number of scans per scan frame can be 1, 4, 8 or 16 (the number depends on the scanner). A small number in the button will show the number of sample scans.



Please note that the entire scan time increases proportionally to the number of sample scans.



* Attention!

This function is hardware dependant and is only available for some scanners.

Multisampling is done by software and is available for all SilverFastAiStudio und SilverFastSEPlus Versions.

Only a few scanners use the multi-sampling while the CCD is not moving. The scanner stops and reads the CCD more than once, according to the preset number of sampling scans. The advantage lies in the faster speed (not much longer than a standard scan), but there is also perfect precision of register. In general, there is no loss of sharpness with this method.

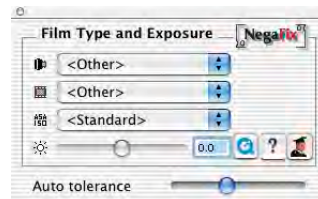
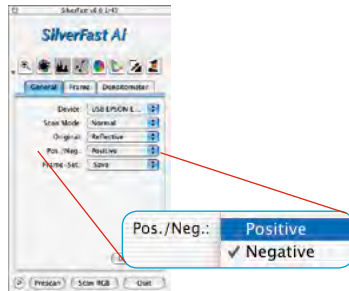
NegaFix

6.7 NegaFix - Scanning Negatives*

1. Optimisation of Negatives (Film) with Integrated Profiles

The negative-positive conversion of normally-exposed and developed negatives using *SilverFast's NegaFix* can be achieved with a few easy steps.

Go to the “General” panel and switch the menu “Pos./Neg.” to “Negative” mode. When this occurs, the “Negative” dialogue window* with “NegaFix” will appear.



**Which versions of SilverFast contain NegaFix?*

SilverFast...SE contains merely a simplified dialogue.

SilverFastDCSE and -DCVLT versions do not contain this feature.

**Auto-tolerance slider and expert dialogue*

The slider is available only in the SilverFastAi..., -DCPro... and -HDR...-full versions.

The *NegaFix* window offers three pop-up menus and two* sliders. The pop-up menus are used for the selection of the appropriate characteristics of the negative film:

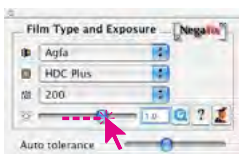
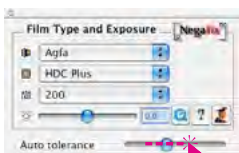
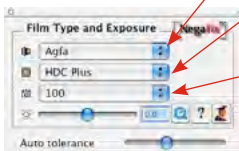
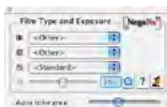
- Manufacturer**, or film brand
- Film type** or film name
- Film speed** (sensitivity)

By means of the slider “**Exposure**”, or the input field, the **film exposure** of the negative can be adjusted within plus/minus 3 f-stops.

The slider* „**Auto tolerance**“ allows adjustment of highlight in the automatic Film mask recognition.



Begin with a prescan in order to obtain an overview of the image. The preview will display an uncorrected positive image. Please follow the steps on the following page:



1. Image Frame Selection

Ensure the selection marquee is inside the image and does not touch the perimeter of the film material. The image on the right has been automatically optimised with the integrated “Standard Profile”.



2. Select Film Manufacturer

Select manufacturer or negative film brand: e.g. Agfa.

3. Select Film Type

Select the film type: e.g. HDC

4. Select Film Speed

With the pop-up menu, select the film speed (ASA/ISO value) of the actual film. All chosen settings will be instantly updated in the preview window.



5. Auto tolerance

In case the image still lacks neutrality, this slider can be used to adjust the tolerance of the mask-recognition (in the high-lights)



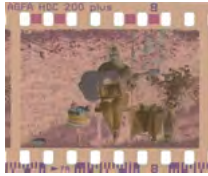
6. Correct Film Exposure

Normally, a correction of film exposure is not necessary. If the image appears too bright or too dark, use the slider to simulate a film exposure of ± 3 f-stops. You will see the correction in real-time on the preview.

7. Apply Auto-Adjust

Now the process of negative-positive conversion is complete. To fully optimise your image, press the *SilverFast* auto-adjust button from the tool bar as usual and/or apply other *SilverFast* tools as desired.

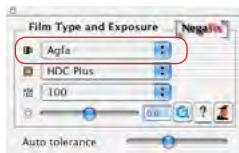
2. Example Optimisation of a Negative



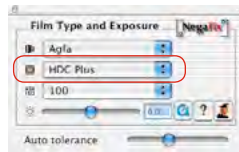
This example shows the optimisation of an “Agfa, HDC 200 plus” Negative:

First, switch the mode from Positive to Negative and start a prescan. The prescan window will show an image converted to positive.

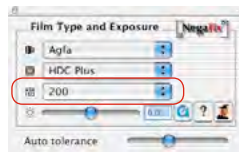
Change the scan frame so that it is only covering the actual image pixels and does not touch the perforation holes of the film.



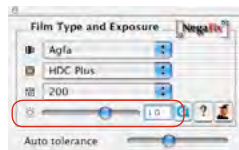
- Film manufacturer: “Agfa”
This pop-up allows selection of the manufacturer of the Negative film. The selection effect will update the preview window in real-time.



- Filmtype: “HDC plus”
Select the specific film type in this pop-up. Every film preset will distinctly change the frame in the preview window.



- Film speed: “200 ASA”
In this pop-up, you can select the film speed (ASA/ISO value) of the film being used. The selection will again update the preview window.



- Exposure correction: “+1 f-stops”
Finally, with this slider, you can correct the film exposure within +1 f-stop.





This completes the process of converting a negative to a positive.

In order to get optimum results, you only need to click the *SilverFast* auto-adjust button.

The auto-adjust will set the correct high-light-shadow values as well as the overall brightness for the active scan frame.



NOTE!

The IT8 calibration only applies to the "positiv"-scan mode (slides and photographs). Calibration is automatically disabled in „negative“- mode.

In case the results are not as desired, try other film presets (manufacturer), film speeds, sometimes even with a profile of another manufacturer to get better results.

Switching to expert mode is only necessary if the above suggestions aren't suitable.

You can now continue with the normal *SilverFast* tools for further optimisation until you start the final scan:

e.g. naming the image, scaling, USM, descreening, selective colour correction, ... and finally scan in CMYK or RGB.

3. The Expert Dialogue*

When should the Expert Dialogue be used?

In any case you should first use the normal procedure to convert a negative to positive as outlined in chapter 2.

*** Attention!**

the expert dialogue will only be available in *SilverFastAi*, *SilverFastHDR*, *SilverFastDC*, etc.

SilverFastSE-Versions will not have the *NegaFix* expert dialogue



When these steps do not yield the desired results, open the “expert dialogue”. This could for, instance, be the case when profiles for a specific film are missing, or when the existing profiles do not convert the negative correctly.

Importing film profiles: All film profiles embedded in *SilverFast-NegaFix* can be found by this link:

<http://www.silverfast.com/show/negafixprofiles/en.html>

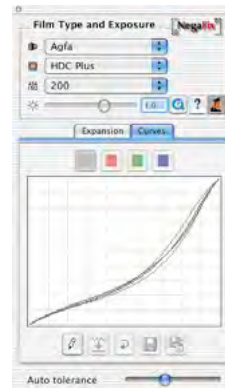
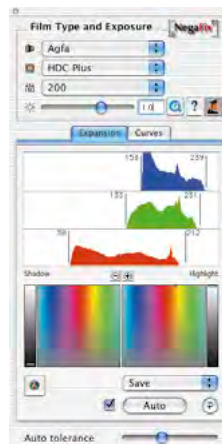
The unpacked data can be imported into SilverFast by means of the import menu, found in the *NegaFix* dialogue -> Film manufacturers -> Import.



Expert Dialogue Overview

The expert dialogue comes up when you click the “Expert” button and consists of two major panels:

- the dialogue “Expansion” to monitor and control the dynamic range and expansion of the negative
- the dialogue “Curves” to characterize the profiles and eliminate colour casts.



Workflow of Expert Mode

A short description of how to optimise a negative with the expert dialogue:



1. Standard menu: Select a film profile

Even when none of the profiles will yield a good result, the best possible should be selected. If the deviation is too strong it would be better to switch to “Other”, or “Standard”.

Refer to the procedure for selecting profiles on pages 5, section 1 to 5.



2. Expansion Menu

Using the slider “Auto tolerance” will adjust the strength of the auto-masking process.

The effect can be monitored in the histogram and preview window. The slider at the position utmost left indicates minimal effects



3. Curves Menu: Adjustment of curves

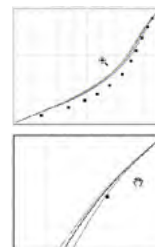
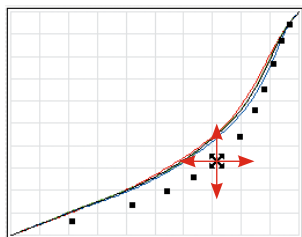
Change to “Edit” mode (click on pencil). Drag the curves so that the image in the preview window will look as desired.

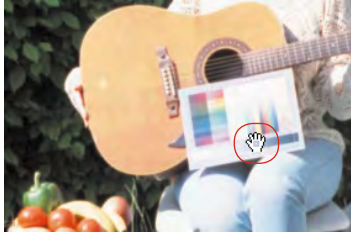
Single curves can be selected by clicking the colour patches (red, green, blue for single curves) above the curves dialogue (to select all curves, click grey patch). All curves are selected by default.

Single curve points can be moved with the mouse.

For a more precise adjustment, it is possible to zoom into the curves (“plus” magnifier; pressed “Alt” key “Minus” magnifier)

In the zoomed mode, the visible area may be moved with the pressed “Shift” key.





4. Curves Menu: Set Neutral Grey

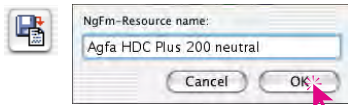
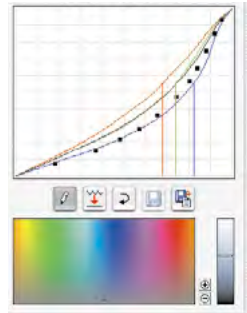
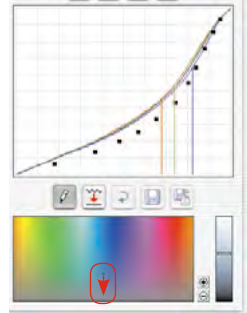
Sometimes image areas that should be neutral have a colour cast. This can be easily neutralized or even changed into another colour:

With the curves in edit mode, click onto the colour cast area in the preview. This point in the gradation curves is marked by vertical lines and marked in the HS and L dialogue display below by a single point or a line respectively.

Drag this point in the HS dialogue vertically down to the horizontal grey axis.

The preview window will reflect the change immediately.

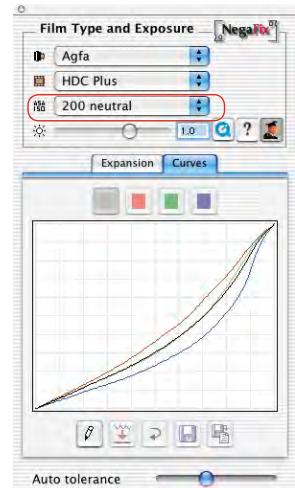
If you do not want this point purely neutral, you can drag the point into any other area of the colour space. It is now up to you: which tint you will give to your grey: colder and more blue, warmer and more red, or ...



5. Curves Menu: Save the newly Created Profile

Click on "Save as"- button and give the newly created profile a new name.

Custom profiles will appended in the pop-up "ASA/ISO".

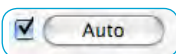


The Expansion Menu in Detail

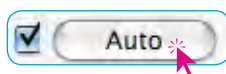
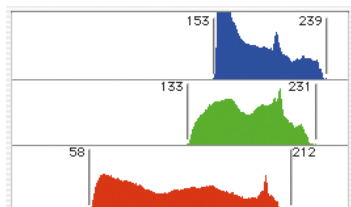
The upper portion of the expert dialogue, the “Expansion” menu, monitors the orange mask histogram and how *NegaFix* will optimise the orange mask. The histogram will also allow optimisation of the orange mask manually.

Automatic Mask

The upper half shows the negative histogram, and how the mask automatic has set the highlight and shadow points.



The automatic mask is continuously active, indicated by the check mark, left of the button “Auto”. In case the scan frame must be altered after optimizing it with the *NegaFix* function it is advisable to turn off the mask automation. If this is not done, *NegaFix* will calculate new values and hence alter the current colours.

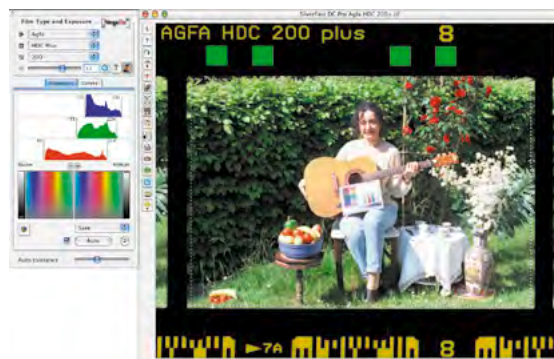
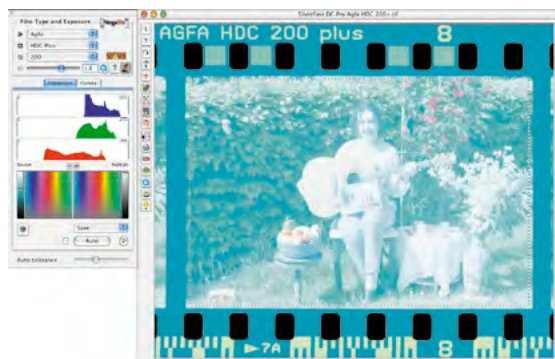


Clicking the button “Auto” will activate the automatic mask manually. *NegaFix* will analyse the negative again, remove the orange mask, and show the resultant histogram and preview image.

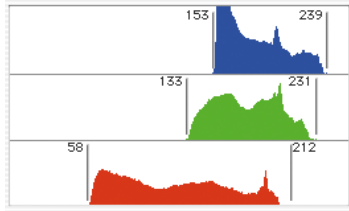
Note!



This icon indicates a warning when the automatic mask is inactive. It will appear in the upper area of the *NegaFix* control window. It will also appear after clicking the button “Reset”.



The orange mask removal will be indicated (or controlled) through the position of the vertical delimiters left and right of the single histograms. The orange automatic mask will move the delimiters to the initial pixels in the single histograms channels.



The numbers beside the delimiters will indicate the corresponding tonal value. The delimiters can also be used as sliders and actively control the orange mask removal process.



The strength of the orange automatic mask can be controlled with the slider “Auto Tolerance” Moving the slider to the far right will have the greatest effect.

Any change can be monitored in the *NegaFix* dialogue window and also immediately updated in the large *SilverFast* preview. This way you will always be in full control over the results of your corrections.

Additional Buttons in the Dialogue Window



Clicking the “Reset” button will reset all settings and will also switch the orange automatic mask off. After a reset the warning icon (auto-mask off) will appear as a reminder.

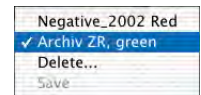
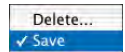


This button will switch the appearance of histograms for monitoring between RGB (“tonal values” 0 to 255) and CMY (“percentage values” 0 to 100).

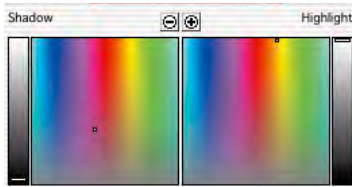
The button will only switch the appearance and will have no influence on image quality or any other changes.



The pop-up menu “Save” allows saving of custom highlight/shadow points for the orange mask process or loading of previously saved orange mask H-S points.

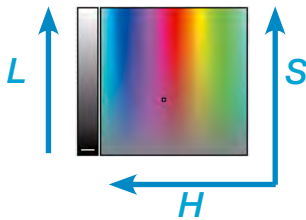


Setting Orange Mask Highlight Shadow points



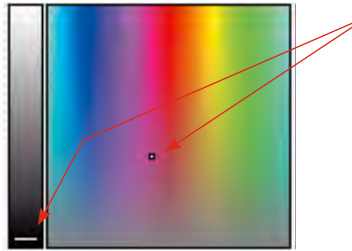
The lower part of the “Expansion” dialogue monitors the position of the orange mask highlight-shadow points within the 3-dimensional HSL colour space.

Both, highlights and shadows will normally have a visible colour cast. The auto-mask will recognize and remove this cast.



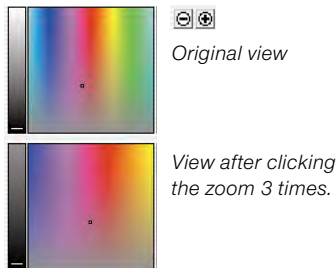
The position will be displayed within the square colour space and within the vertical luminance field.

The vertical fields indicate luminance (“L”). The colour square will show the colour hue (angle) horizontally and the saturation (“S”) vertically.



The markings (short bars within the vertical fields, small points within the colour square) indicate the exact position of the highlight-shadow points in the colour space.

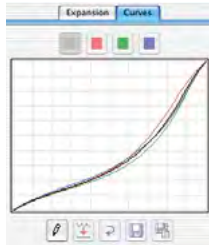
The bars, as well as the points, are colour cast correction controls and must be moved with the mouse. Any change will be displayed within the *NegaFix* dialogue window and immediately updated in the *SilverFast* preview window.



With the integrated zoom function, you can freely zoom into and out of the colour space.

This will enable very subtle corrections of the neutrality of the orange mask highlight-shadow points.

The Curves Menu

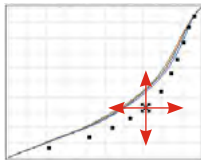


The second window of the expert dialogue, the “Curves” panel, monitors the RGB-curves of the active film profile: All curves (black), as well as the single curves red, green and blue. This dialogue allows modification of an existing film profile directly and allows it to be saved as a new profile. The colour character of the negative profile can be changed and colour casts can be removed as well.

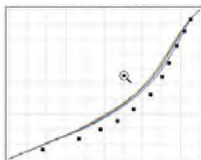
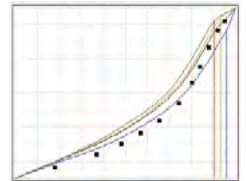
Changing the Film Gradation Curves



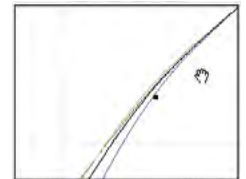
The “Edit” button activates the curves dialogue. A black overlay curve, defined by a succession of black curves points will appear. The sequence of points represents the character of the original film manufacturer profile.



For a more precise adjustment it is again possible to zoom into the curve (“Plus” magnifier; and with the “Alt” key pressed the “Minus” magnifier). Within the zoomed mode, the visible area can be moved by pressing the “Shift” key and moving the mouse.



Single points on the curves may be touched and relocated with the mouse. For a more precise adjustment, it is possible to zoom into the curves („plus“ magnifier; pressed „Alt“ key „Minus“ magnifier). In the zoomed mode, the visible area may be moved with the pressed „Shift“ key.



Selecting any of the RGB selectors above the curves will activate any of the red, green or blue curves accordingly. Clicking the grey selector will activate all curves .



The button “Smoothen” allows to smoothening of an active curve which might be slightly rough. This function can be used repeatedly: Additional clicks will invoke further smoothening operations. Several clicks will increase the effect.

Neutralizing Colour Casts



First click the edit button to activate the curve dialogue.

Move the cursor into the image preview window and click onto the area you want to neutralize. While moving the cursor, you can monitor the colour values (CMY recommended) in the floating densitometer.

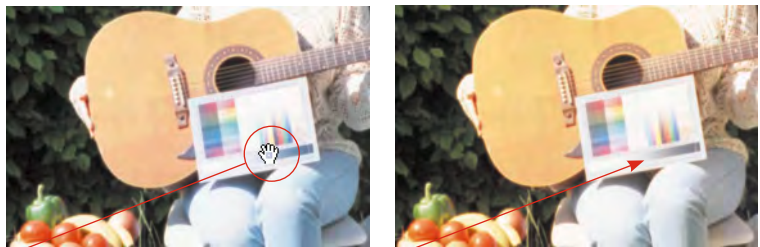
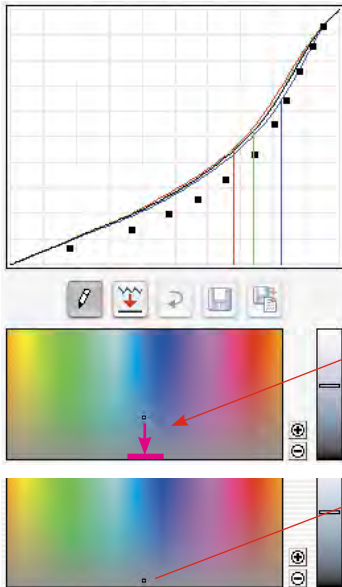
Clicking onto the image will bring up a new dialogue below the *NegaFix* curve dialogue window. The image point you have clicked onto will be monitored as a small point in the HSL colour space, and the tonal values will be indicated as vertical lines in the film gradation window.

Again the markings in the HSL dialogue represent controls which can easily be moved with the mouse.

For more subtle control, zoom buttons can be clicked to zoom in and out of the colour space.

All changes of all controls will immediately be displayed in the *SilverFast* preview window.

Neutralizing a colour cast is achieved by dragging a point in the HSL dialogue down to the neutral grey axis.

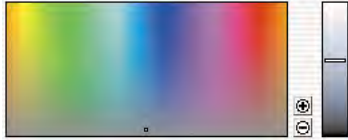


After releasing the mouse the preview window will be updated.

Producing a Colour Cast Deliberately

Naturally any point within the HSL colour space can be moved to any other colour. This will produce a colour cast..

With many images, pure neutrality will look unnatural,



Think about pictures of a sunset. A warm reddish colour cast is surely desired versus a cold neutral rendering



Image with neutral grey

Image with yellowish grey

Saving Changes as a New Profile

Once all changes are done and the preview window shows the desired results, the updated settings can be saved as a new profile:



Clicking the “Save” button will save all parameters in the current profile. Of course the previous profile will be overwritten.



It is safer to use the option “Save as”. Here you can give the profile a new name.

New profiles will be saved under the “ASA/ISO” pop-up menu list and can be reused at any time.

4. DIGITAL ICE technologies used with Kodachrome- and b/w films



The much implemented scratch and dust removal solution “DIGITAL ICE technologies”, which is hardware-implemented in many different scanners, does not operate properly with Kodachrome and conventional b/w films (for both negatives and slides)!

Because of the tanning that occurs while developing the film, a structure is generated on the film which gives different calculation indices in the different layers of the film. This and the high percentage of silver in these films, may lead to unsatisfying scan results.

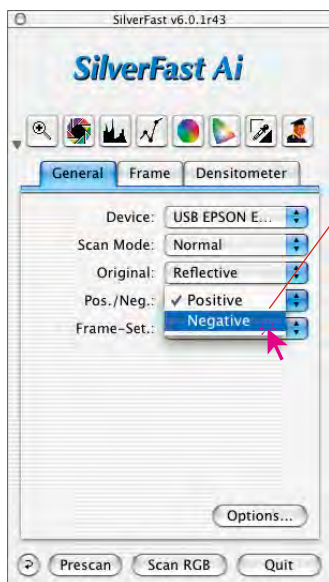
It is hence advisable to deactivate the “DIGITAL ICE technologies” for such films.

The *SRD* function implemented in *SilverFast* works fine with all types of film.

5. Reference Card *SilverFast NegaFix*

Overview *SilverFast*

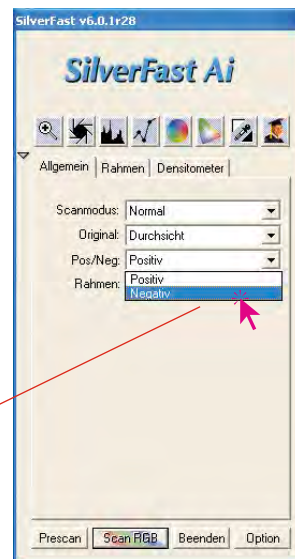
NegaFix can be activated from the “General” panel by selecting the “Negative” pop-up.



NegaFix dialogue in *SilverFast Ai* under Macintosh



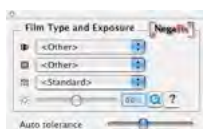
NegaFix dialogue in *SilverFast Ai* under Windows



Overview *SilverFast SE*

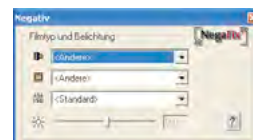
The extended functionality of the “expert dialogue” is only available in the full versions of *SilverFast Ai...*, *SilverFast HDR...*, *SilverFast-DC...*, etc.

In *SilverFast SE...* versions, the expert dialogue is not available. All film parameter selections can be fully applied.



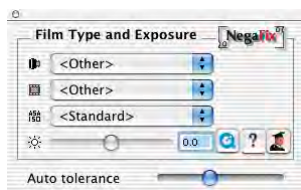
NegaFix dialogue in *SilverFast SE* under Macintosh

NegaFix dialogue in *SilverFast SE* under Windows









SilverFastNegaFix Components

The standard dialogue can be extended by clicking onto the “Expert” button*. In extended mode, you can switch between the panels “Expansion” and “Curves”:



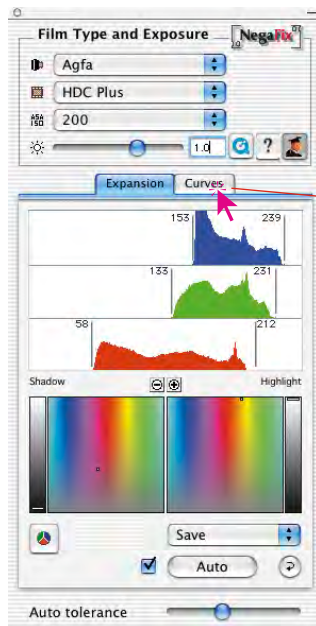
NegaFix Dialogue

Standard dialogue editing of negative film contains these controls:

-  Pop-up to select film manufacturer
-  Pop-up to select film-type
-  Pop-up to select film speed
-  Slider for film exposure control
-  Button to open / close expert dialogue*
-  Button to open help-file
-  Warning to indicate automask*



* Note!

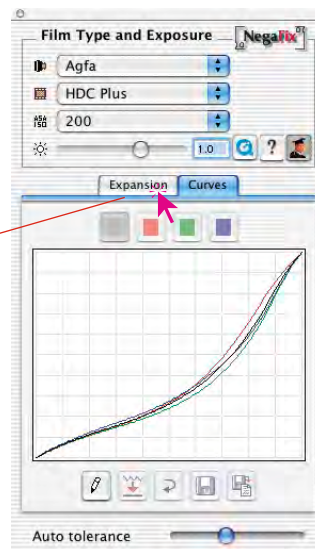
Only available in full version of SilverFast Ai, not available in “SE” version!



Expert-Dialogue* “Expansion”







Single control elements:

-  Switching between CMY- or RGB- monitoring in the histogram
- Auto Mask automatic button
-  Reset button
- Save Save menu
- Auto tolerance slider for mask automation



Expert-Dialogue* “Curves”

Single control elements:

-  Edit-Mode on/off
-  Smoothen curves
-  Reset button
-  Save button
-  Save-as button
-  Select single colour channels (RGB)

6.8 The Use of Various Film Holders* for Film Scanners*

After the film adapter has been changed, *SilverFastAi* in general must be restarted in order to recognise the new adapter.

APS Adapter



APS adapter

If the APS adapter is connected, a film cartridge has to be put in, otherwise a message will come up saying: "There is no scanner connected."

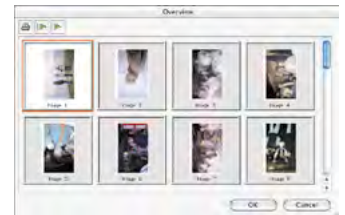


In the preview window a button for the APS overview (Index scan) will be visible. Calling up this function, you can start displaying small overview images using the *Start* button. If images are available in stock, the procedure will be continued behind the last image available. Note: There is no way to identify a loaded film cartridge. After you have changed the film, you will have to refresh the overview!



*Attention:

Functions are different from scanner to scanner and some of the functions are only available with specific scanners or imaging applications.



Inside the small button bar above the image overview, there is a print button allowing you to print the overview (1. button). You can also refresh the overview (2. button) after having changed the film or you can stop or continue to refresh an overview (3. button).



Clicking onto the second button commands the scanner to generate an overview of the current medium (film strip, APS, etc).

The creation of the overview can be monitored and stopped or continued if desired.

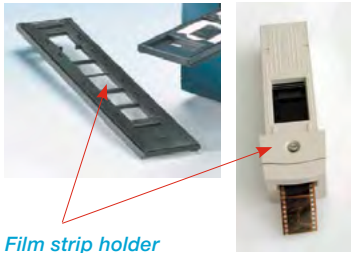


To select an image, click on it and confirm with the “OK” button. By means of the numbers you can select an image for which no overview scan has yet been created. After selecting an image, the dialogue will close only when the overview scan for the current image being processed has been completed.



To unload an APS film, it must be rewound first. Use the “Eject” button on the left border of the prescan window to do this. If this does not work occasionally, turn the scanner off and on. Then the scanner will start rewinding the film automatically. Turn off again before the scanner starts reloading the film strip from the cartridge, and take out your film (listen to the rewind noise). Then switch the scanner on again.

Film Strip Holder*



Film strip holder

Using the film strip holder* is very similar to the APS adapter. Before launching *SilverFastAi*, the scanner must be switched on, and a film strip must be loaded. In the “General” palette, select “Negative” or “Positive” according to your original. In case there has not been a prescan accordingly, a preview scan of the first image on the film strip will be generated.



As with the APS adapter, use the appropriate button in the prescan window to open the image overview dialogue. The overview scans (Index scan) will automatically be created or completed, respectively. You can select an image by clicking on it and then on the “OK” button. Again, you can select an image by clicking on the frame even if no thumbnail image has yet been created.



Use the “Eject” button on the left border of the main prescan window to eject the film strip.



*Attention

Functions are different from scanner to scanner and some of the functions are only available with specific scanners or imaging applications.



***Attention:**

Functions are different from scanner to scanner and some of the functions are only available with specific scanners or imaging applications.



Adjusting the Film Strip Position

This button enables to set a new position of start or end of a film strip, in case the motor driven transport has not positioned the film correctly.

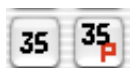
By clicking on to the positioner button, the mouse switches to an arrow. With the base of the mouse the exact beginning of an image in the slide is set. The scanner will then readjust and update the prescan preview.

By pressing the "Shift" key and clicking on the positioner button, the direction of the arrow is switched. The exact end of the image can now be marked by clicking on it with the base of the arrow. The scanner will readjust and update the prescan preview.



Filmholder for Middle Formats*

Some scanners support holders for different formats. Here the buttons for the middle formats 6x4.5, 6x6, 6x7 and 6x9cm are shown.



Film Holder for Panorama Captures

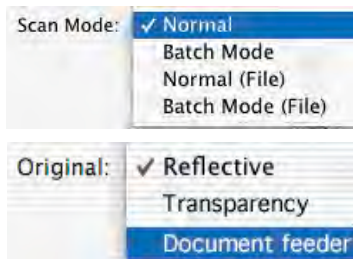
Some film scanners are delivered with special holders for panorama formats. In our example the button for a regular 35mm film ("35"), as well as the button for 35mm panorama ("35P") are differentiated. By clicking on the respective button, the mode is changed.

Batch Scans for Automatic Document Feeders (ADF)*

Films and slides can automatically be scanned in with the help of automatic document feeders, slide feeders, APS adapters, etc. Slides can be scanned directly to Photoshop (batch mode) or a fixed disk (batch mode file) with or without automatic imaging. Proceed as follows after the document has been inserted, or the slide magazine has been loaded and inserted:



Slide holder,
slide magazine

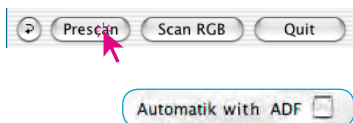


1. Choose "Batch mode" or "Batch mode (File)" from "Scan mode" in the "General" palette.

This switches to "Document feeder" under "Original" and activates the adapter automatically.

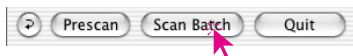


2. Load the first slide (or picture, ...) by clicking the mouse on the button for load image.



3. Click on "Prescan".

4. Now adjust the prescan with or without auto-adjust accordingly. If you scan all pictures manually and wish to correct them with automatic imaging, check the field "automatic with ADF" in preset under the "Options..." menu.



5. Click on "Scan Batch".

SilverFast Dialogue after Interruption of a Batch

If a batch scan (scan mode "Batch...") is interrupted, it may be continued with a restart of *SilverFast* automatically if the "Alt" key is pressed simultaneously.

If *SilverFast* is launched regularly the batch scan will not be continued. Otherwise, *SilverFast* will launch normally.

Film scanners with a magazine*

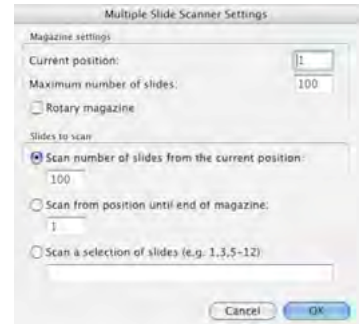
For film-scanners that support regular film magazines used by projectors, *SilverFast Ai* offers additional special functions*. The transport control is done by means of buttons in the vertical toolbar, located to the left of the preview window.



Holder transport*: For scanners that operate together with regular slide holders*, special buttons* for the transport of the holders are required.

The first button opens the dialogue box “Multiple Slide Scanner Settings”. Here the current position of the magazine are to be entered (the slide case number in the cassette). The preset here is “1”.

The size of the inserted magazine can also be entered (max. “100”). The option “Round magazine” is to be selected when using such a magazine.

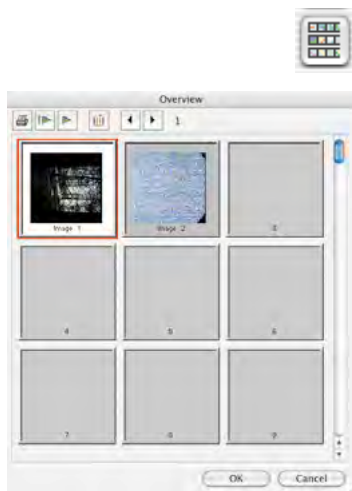


The second button moves the film-magazine forwards and backwards. Clicking on the left arrow will cause the magazine to move backwards; i.e. a lower numerical value and vice versa.

The current position of the magazine is displayed by the number that is displayed below the respective button.

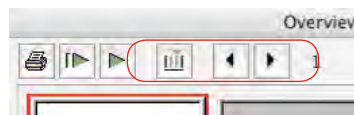
*Attention!

These functions are different for each scanner and some functions are only available for certain scanners or imaging programs.



Overview dialogue*: All functions for the magazine transport, as well as an additional button for the settings can be found. Here the user may choose between three settings:

- **Number of slides, starting from the current position:** Specifies how many slides are to be scanned, starting from the current position.
- **Scan from the following position:** Specifies from which position the slides are to be scanned.
- **Area:** Here, different areas of the slide magazine can freely be chosen. For example: The slides of the magazine "1", "3" and "5 - 12". In this case, a total of 10 slides.

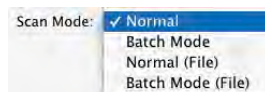


6.9 File formats in SilverFast

Saving different File Formats

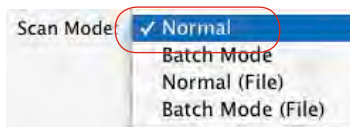
The following table shows the formats that can be generated with programs of the *SilverFast* family:

File format	Channels, data depth (.suffix)	SilverFast Ai	SilverFast SE	SilverFast DCProStudio	SilverFast DCPro	SilverFast DCVLT	SilverFast DC SE	SilverFast HDRStudio	SilverFast HDR
TIFF	K, 1 bit line art (.tif)	☑	☑	-	-	-	-	-	-
	K, 8 Bit Grayscale (.tif)	☑	☑	☑	☑	☑	☑	☑	☑
	K, 16 Bit HDR Grayscale, uncorrected (.tif)	☑	☑	☑	☑	☑	-	☑	☑
	K, 16 Bit Grayscale, corrected (.tif)	☑	-	☑	☑	☑	-	☑	☑
	RGB, 24 Bit colour (.tif)	☑	☑	☑	☑	☑	☑	☑	☑
	RGB, Cie-Lab, 24 Bit colour (.tif)	☑	-	☑	☑	☑	-	☑	☑
	RGB, 48 Bit colour, uncorrected (.tif)	☑	☑	☑	☑	☑	-	☑	☑
	RGB, 48 Bit colour, corrected (.tif)	☑	-	☑	☑	☑	-	☑	☑
	CMYK, 32 Bit colour (.tif)	☑	-	☑	☑	☑	-	☑	☑
	CMYK, 64 Bit colour (.tif)	☑	-	☑	☑	☑	-	☑	☑
All Tiffs afore mentioned alos with LZW		-	-	-	-	-	-	-	-
JPEG	K, 1 Bit line art (.jpg)	-	-	-	-	-	-	-	-
	K, 8 Bit Grayscale (.jpg)	☑	☑	☑	☑	☑	☑	☑	☑
	K, 16 Bit HDR Grayscale, uncorrected (.jpg)	☑	☑	☑	☑	☑	-	☑	☑
	K, 16 Bit Grayscale, corrected (.jpg)	☑	-	☑	☑	☑	-	☑	☑
	RGB, 24 Bit colour (.jpg)	☑	☑	☑	☑	☑	☑	☑	☑
	RGB, 48 Bit HDR colour, uncorrected (.jpg)	☑	☑	☑	☑	☑	-	☑	☑
	RGB, 48 Bit colour, corrected (.jpg)	☑	-	☑	☑	☑	-	☑	☑
	CMYK, 32 Bit colour (.jpg)	☑	-	☑	☑	☑	-	☑	☑
CMYK, 64 Bit colour (.jpg)	☑	-	☑	☑	☑	-	☑	☑	
JPEG2000	K, 1 Bit line art (.jpf)	-	-	-	-	-	-	-	-
	K, 8 Bit Grayscale (.jpf)	-	-	☑	-	-	-	☑	-
	K, 16 Bit HDR Grayscale uncorrected (.jpf)	-	-	☑	-	-	-	☑	-
	K, 16 Bit Grayscale corrected (.jpf)	-	-	☑	-	-	-	☑	-
	RGB, 24 Bit colour (.jpf)	-	-	☑	-	-	-	☑	-
	RGB, 48 Bit HDR colour uncorrected (.jpf)	-	-	☑	-	-	-	☑	-
RGB, 48 Bit colour corrected (.jpf)	-	-	☑	-	-	-	☑	-	
DCS	CMYK single file, 32 Bit colour (.eps)	☑	-	☑	☑	☑	-	☑	☑
	CMYK multiple files, 4x8 Bit Grayscale + 1x 32 Bit colour (.eps)	☑	-	☑	☑	☑	-	☑	☑
EPSF	K, 8 Bit Grayscale (.eps)	☑	-	☑	☑	☑	-	☑	☑
	RGB, Cie-Lab, 24 Bit colour (.eps)	☑	-	☑	☑	☑	-	☑	☑
	CMYK, 32 Bit colour (.eps)	☑	-	☑	☑	☑	-	☑	☑
PSD	RGB, 24 Bit colour (.psd)	-	-	-	-	-	-	-	-



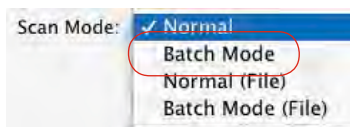
The choice of file format is done in the “Scan mode” menu in the “General” palette.

If “Normal (File)” or “Batch mode (File)” is chosen, a new window for determining the file format will open in the scan is started.



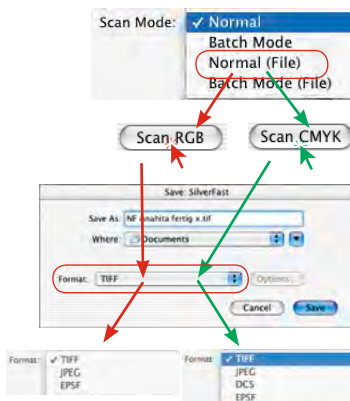
Scan Mode “Normal”

This setting will scan the just activated scan frame of the prescan window and the image file will be opened in the image editor immediately after the scan. The user can then store it from the application as a file.



Scan Mode “Batch”

This setting will scan all scan frames of the prescan window and will be opened in the image editor immediately after the scan. The user can then store the images from the application as a file.



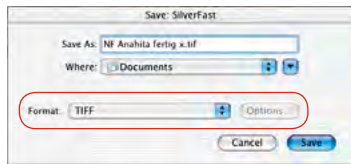
Scan Mode “Normal (File)”

The activated scan frame of the prescan window is scanned with this setting and the image will be automatically saved as a file when the scan is completed.

The setting in the “save” dialogue will determine which file format will be written. The “save” dialogue will appear when the button “Scan...” is clicked.

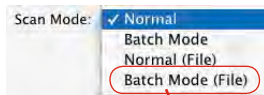
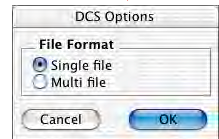
Naming of the scan frame: If the scan frame already has got a name in the *SilverFast* main dialogue, this name will become the actual file name. If no name has been allocated there, the “Save” dialogue will propose “Unnamed 1”. It is advised to allocate an individual name here.





File format: You can choose between various file formats under “Format”. The file formats that are offered will depend on whether the scan will be in the RGB (see red arrows) or in the CMYK colour space (see green arrows). The existing table will give you an overview.

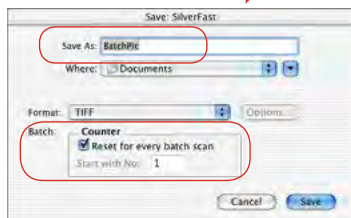
In the case of some formats, i.e., “JPEG” and “DCS”, an additional box “Options ...” will become active. Additional parameters for these special file formats can be set up.



Scan Mode “Batch Mode (File)”

All scan frames of the prescan window will be scanned with this setting and the images will automatically be saved as files upon completion of the scan.

The setting in the “save” dialogue will determine which file format will be written. The “save” dialogue will appear as soon as the button “scan batch” is clicked.

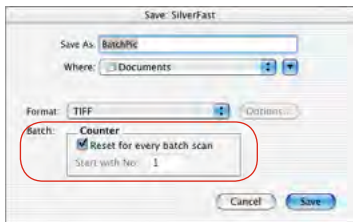
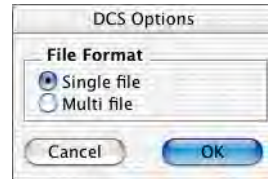


Naming of scan frames: If the scan frame already has got a name in the *SilverFast* main dialogue, this name will become the actual file name. In case no name has been given to the scan frame, the file name “Batch image ...” will be allocated and an incrementing number attached: “Batch Image 0001”, “Batch Image 0002”, ...

If some of the scan frames have been given a name and some not, there will be a mixture of both principles: “Batch Image 0001”, “NameABC”, “Batch Image 0003”, “NameDEF“...



File format: By using “Format” you can again choose from two different file formats. The prominent table will be easily identified. An additional box named “Options...” will be come active with the formats “JPEG” and “DCS.” Additional parameters can be set for these special file formats.



Setting of an image number in the batch: The box “Reset for each batch scan” is activated as a starting set up point, whereby each new batch scan will start with “1” again. The first scan of the batch will get “...0001” attached.

If the box is deactivated or not marked, *SilverFast* will remember the last scan number (i.e., “...0057”) and will give a consecutive number to the next batch (“...0058”).



Saving into JPEG File Format

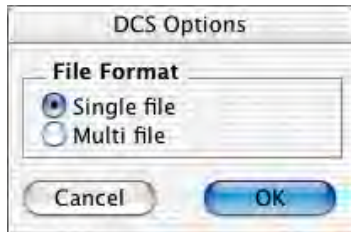
Quality: By means of the slider the user can decide between “low quality with high image compression” and “high quality with smallest image compression”.

Format: Between three parameters can be chosen

“Baseline” is the standard setting. The file format will be universally readable.

“Baseline optimised” will generate a somewhat smaller, optimised file, which will not be readable from all applications and brings about limitations

“Progressive JPEG” is a format favoured for the internet. The file will be structured into several resolution layers. During file transfers there will be a low resolution image visible immediately, which will be refined with the progressing transfer until final resolution has been reached.



Saving into DCS File Format

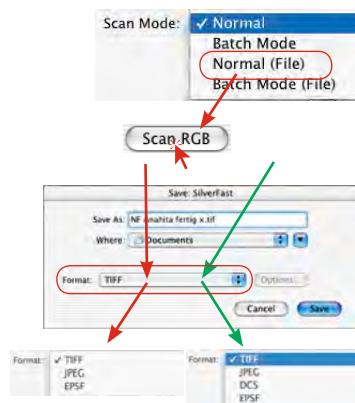
Single file: All separation layers will be saved into a single CMYK file.

Multi file: Each separation layer will be saved into a separate file plus one extra file for preview.

JPEG 2000

Images may now be saved in the new “JPEG2000” (.JPF) format in all new *SilverFast...Studio* versions.

This option may only be chosen once the scan process has been started, and if the scan mode is set to “Normal (File)” or “Batch Mode (File)” has been selected.

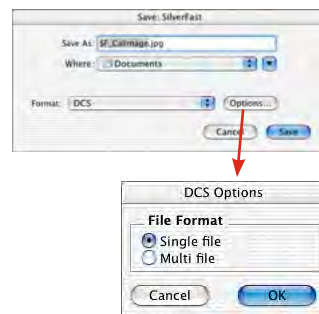
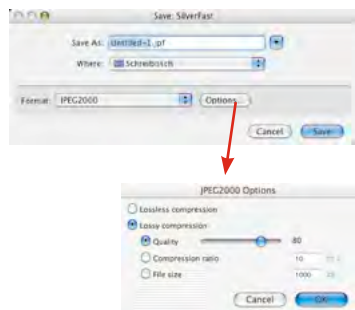


Scan Mode “Normal (File)” or “Batch Mode (File)”

These adjustments advise the software to scan the active frames automatically as a file on to the hard disk.

The setting in the “save” dialogue will determine which file format will be written. The “save” dialogue will appear when the button “scan...” or “process“ is clicked.

File format: You can choose between various file formats under “Format”. The file formats that are offered will depend on whether the scan / process will be in the RGB (see red arrows, images top left) or in the CMYK colour space (see green arrows, images top left). The existing table will give you an overview. In the case of some formats, i.e. “JPEG2000”, “JPEG” and “DCS”, an additional box “Options ...” will become active. Additional parameters for these special file formats can be set up.



Reading different file formats

The *SilverFast* applications recognize and open the following file formats:

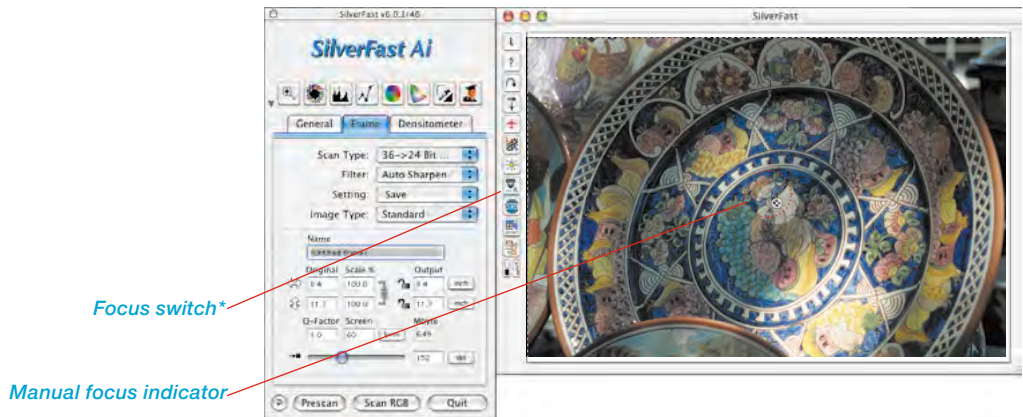
File format	Channels, data depth (.suffix)	SilverFast Ai	SilverFast SE	SilverFast DCProStudio	SilverFast DCPro	SilverFast DCVLT	SilverFast DC SE	SilverFast HDRStudio	SilverFast HDR
TIFF	K, 1 bit line art (.tif)	-	-	-	-	-	-	-	-
	K, 8 Bit Grayscale (.tif)	-	-	🔒	🔒	🔒	🔒	🔒	🔒
	K, 16 Bit HDR Grayscale, uncorrected (.tif)	-	-	🔒	🔒	-	-	🔒	🔒
	K, 16 Bit Grayscale, corrected (.tif)	-	-	🔒	🔒	-	-	🔒	🔒
	RGB, 24 Bit colour (.tif)	-	-	🔒	🔒	🔒	🔒	🔒	🔒
	RGB, Cie-Lab, 24 Bit colour (.tif)	-	-	-	-	-	-	-	-
	RGB, 48 Bit colour, uncorrected (.tif)	-	-	🔒	🔒	🔒	🔒	🔒	🔒
	RGB, 48 Bit colour, corrected (.tif)	-	-	🔒	🔒	🔒	🔒	🔒	🔒
	CMYK, 32 Bit colour (.tif)	-	-	-	-	-	-	-	-
CMYK, 64 Bit colour (.tif)	-	-	-	-	-	-	-	-	
All Tiffs afore mentioned alos with LZW		-	-	🔒	🔒	🔒	🔒	🔒	🔒
JPEG	K, 1 Bit line art (.jpg)	-	-	-	-	-	-	-	-
	K, 8 Bit Grayscale (.jpg)	-	-	🔒	🔒	🔒	🔒	🔒	🔒
	K, 16 Bit HDR Grayscale, uncorrected (.jpg)	-	-	🔒	🔒	-	-	🔒	🔒
	K, 16 Bit Grayscale, corrected (.jpg)	-	-	🔒	🔒	-	-	🔒	🔒
	RGB, 24 Bit colour (.jpg)	-	-	🔒	🔒	🔒	🔒	🔒	🔒
	RGB, 48 Bit HDR colour, uncorrected (.jpg)	-	-	🔒	🔒	-	-	🔒	🔒
	RGB, 48 Bit colour, corrected (.jpg)	-	-	🔒	🔒	-	-	🔒	🔒
	CMYK, 32 Bit colour (.jpg)	-	-	-	-	-	-	-	-
	CMYK, 64 Bit colour (.jpg)	-	-	-	-	-	-	-	-
JPEG2000	K, 1 Bit line art (.jpf)	-	-	-	-	-	-	-	-
	K, 8 Bit Grayscale (.jpf)	-	-	🔒	-	-	-	🔒	-
	K, 16 Bit HDR Grayscale uncorrected (.jpf)	-	-	🔒	-	-	-	🔒	-
	K, 16 Bit Grayscale corrected (.jpf)	-	-	🔒	-	-	-	🔒	-
	RGB, 24 Bit colour (.jpf)	-	-	🔒	-	-	-	🔒	-
	RGB, 48 Bit HDR colour uncorrected (.jpf)	-	-	🔒	-	-	-	🔒	-
	RGB, 48 Bit colour corrected (.jpf)	-	-	🔒	-	-	-	🔒	-
DCS	CMYK single file, 32 Bit colour (.eps)	-	-	-	-	-	-	-	-
	CMYK multiple files, 4x8 Bit Grayscale + 1x 32 Bit colour (.eps)	-	-	-	-	-	-	-	-
EPSF	K, 8 Bit Grayscale (.eps)	-	-	-	-	-	-	-	-
	RGB, Cie-Lab, 24 Bit colour (.eps)	-	-	-	-	-	-	-	-
	CMYK, 32 Bit colour (.eps)	-	-	-	-	-	-	-	-
PSD	RGB, 24 Bit colour (.psd)	-	-	🔒	🔒	🔒	-	🔒	🔒
Kodak PhotoCD	YCC, (.pcd)	-	-	🔒	🔒	🔒	-	🔒	🔒
CRW (Canon)	RGB, 48 Bit colour (.crw)	-	-	🔒	🔒	🔒	-	🔒	-
CR2 (Canon)	RGB, 48 Bit colour (.cr2)	-	-	🔒	🔒	🔒	-	🔒	-
CS (Sinar)	RGB, 48 Bit colour (.cs1 / .cs4 / .cs16)	-	-	🔒	🔒	🔒	-	🔒	-
DC2 (Kodak)	RGB, 48 Bit colour (.dc2)	-	-	🔒	🔒	🔒	-	🔒	-
DCR (Kodak)	RGB, 48 Bit colour (.dcr)	-	-	🔒	🔒	🔒	-	🔒	-
DNG (Adobe)	RGB, 48 Bit colour (.dng)	-	-	🔒	🔒	🔒	-	🔒	-
ERF (Epson)	RGB, 48 Bit colour (.erf)	-	-	🔒	🔒	🔒	-	🔒	-
HDR (Leaf)	RGB, 48 Bit colour (.hdr)	-	-	🔒	🔒	🔒	-	🔒	-
K25 (Kodak)	RGB, 48 Bit colour (.k25)	-	-	🔒	🔒	🔒	-	🔒	-
KDC (Kodak)	RGB, 48 Bit colour (.kdc)	-	-	🔒	🔒	🔒	-	🔒	-
MOS (Leaf)	RGB, 48 Bit colour (.mos)	-	-	🔒	🔒	🔒	-	🔒	-
MRW (Minolta)	RGB, 48 Bit colour (.mrw)	-	-	🔒	🔒	🔒	-	🔒	-
NEF (Nikon)	RGB, 48 Bit colour (.nef)	-	-	🔒	🔒	🔒	-	🔒	-
ORF (Olympus)	RGB, 48 Bit colour (.orf)	-	-	🔒	🔒	🔒	-	🔒	-
PEF (Pentax)	RGB, 48 Bit colour (.pef)	-	-	🔒	🔒	🔒	-	🔒	-
PEF (Samsung)	RGB, 48 Bit colour (.pef)	-	-	🔒	🔒	🔒	-	🔒	-
RAF (Fujif)	RGB, 48 Bit colour (.raf)	-	-	🔒	🔒	🔒	-	🔒	-
RAW (Leica)	RGB, 48 Bit colour (.raw)	-	-	🔒	🔒	🔒	-	🔒	-
RAW (Panasonic)	RGB, 48 Bit colour (.raw)	-	-	🔒	🔒	🔒	-	🔒	-
SRF (Sony)	RGB, 48 Bit colour (.srf)	-	-	🔒	🔒	🔒	-	🔒	-
TIFF (Phase One)	RGB, 48 Bit colour (.tif)	-	-	🔒	🔒	🔒	-	🔒	-
X3F (Sigma)	RGB, 48 Bit colour (.x3f)	-	-	🔒	🔒	🔒	-	🔒	-

6.10 Focussing the Scanner*



A few scanners* feature an original focussing function*. As known from conventional photography, the focus point can be shifted. Not only can it be altered in distance to the original, but also can it be moved freely to any spot on the image. This function makes it possible to compensate for material roughness of the original. Many slide positives are placed in relatively thick frames or are convex in shape, which - when not taken into account - would cause defocussing of the image.

By clicking on the auto-focus symbol*, the respective focussing mode is turned on or off (refer next page).

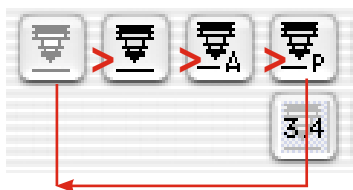


* Attention!

Which of the focus functions available will depend on the current scanner model!

Some scanner support all focussing functions.

Other scanners instead only support switching auto focus on or off.



Focus function

1. Auto-focus "off"
2. Manual focus "on"
3. Auto focus "on"
4. Focus with preview

The activation of a focus function occurs by clicking the focus button. With each click, the appearance of the button changes, signifying a different function. After four clicks, the first function will again be available.

Auto-Focus "Off"



In the standard position, the focus button is grey. The auto-focus is turned off.

Auto-Focus "On"



The focus button shows a black symbol together with the letter "A". The auto-focus is turned on.

Focussing always takes place in the centre of the active scan frame. The focus function orients itself by use of contrast differences in details in the centre of the image. If there is no visual information in this point of the image which can provide sufficient details for the focus function, the auto-focus cannot be successful. The same holds true when the auto-focus encounters a black surface. An error message will appear. In such cases please switch from auto-focus to manual focus.



Manual Focus "On"

The focus button shows only a black symbol of a stylized camera lens. The mouse arrow changes to a pen with which the edge point can be set. The manual focus should be placed on a point on the image where sufficient visual details can be differentiated. Move the mouse to the picture; the mouse pointer changes to a pen symbol. Click on the point in the picture where you want to set the focus. A small circle with a cross appears; the focus point is set.

Manual Focus with Preview



The focus button depicts a black symbol together with the letter “P”. The focus value is displayed in millimetres in an additional icon below



First, set a sufficiently high output resolution for the current frame.

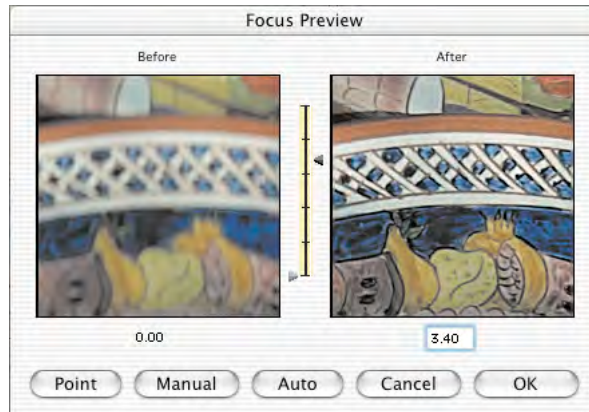


Click first on the focus button. Move the mouse across the picture until the mouse pointer changes to a pen symbol.



Next, click on the point in the picture where you want to set the focus. The point will be marked with a cross symbol.

The “focus preview” dialogue appears and, in the before-and-after window, a preview is produced with the entered resolution. A new scan will automatically begin.



In order to change the focus in the dialogue window, the following tools are available:



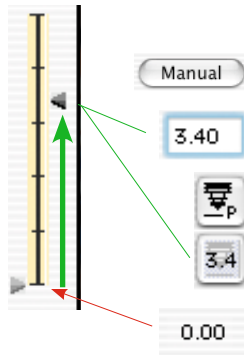
1. If the focussing is sufficiently precise, leave the dialogue by clicking "OK". The entered focus point will be employed in the end scan.



2. The "Cancel" button ends the focus dialogue. Focal change will not be used in the end scan. The window closes and the *SilverFast* symbol is available again.

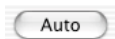


3. If the focussing is insufficient, or if the focussing needs to be checked against a different point in the picture, a new focus point can be placed on the picture via the "Point" button. A new scan will be started.



4. Alternatively, the level of focus can be changed by moving the mouse through the slide controller (between preview images). By pushing the right arrow, you can adjust the level of focus via the mouse. The distance of this push is shown in the box under the right preview window and on the button next to the focus button, using "mm" as the unit of measure.

By clicking on "Manual", a new scan is started and the resulting preview produced. By clicking "OK", the level of focus is accepted and used in the later scan.



5. By clicking on "Auto", you can return to the normal auto-focus function.

6.11 Description of the Special Functions of *SilverFastHDR...*, and *SilverFastDC...*

The scanner independent *SilverFast* versions *SilverFastHDR...* and *SilverFastDC...* principally have the same basic functions of the scanner modules of *SilverFastAi...*

The differences are listed in detail in Chapter 6.11.

What are the Basic Differences?

SilverFastAi*, *SilverFastAiStudio* and *SilverFastSE

SilverFastAi is a true scan software and was developed individually for single scan types. The supported scanners are directly controlled by utilizing the internal dynamics of the scanner. The result is maximum quality.

SilverFastAi is the name of the full version. This version may be extended by two features (at the time of printing this manual). “IT8 calibration” and “StudioUpgrade”. The IT8 calibration is included with several scanners, and may be purchased optionally for other scanners. The *Studio Upgrade* is generally available only as an option and turns a *SilverFastAi* version into a *SilverFastAiStudio* version.

SilverFastSE is the special edition of the *SilverFast* scanning software. The dialogues and functions are limited and more recommended for novice users.

SilverFastHDR*, *SilverFastHDRStudio

SilverFastHDR works without a scanner and is used as a tool for optimising existing pictures. All RGB image files having a colour depth of 24 bits (8 bits per channel) and 48 bits (16 bits per channel) can be processed. The files can be in Tiff or JPEG.

SilverFastHDRStudio also works with RAW data of many digital cameras.



SilverFast DCVLT, SilverFast DCPro, SilverFast DCPro Studio, SilverFast DCSE



The *SilverFast DC...* versions are also hardware independent software packages for imaging that have been specially adapted for use by digital photographers.

SilverFast DC... can read and open TIFF, JPEG, 48bit TIFF scanned images and most of the common RAW data files of modern digital cameras. Which camera and which RAW data is already supported can be seen on *LaserSoft Imaging's* homepage:

<http://www.silverfast.com/show/dc-cameras-raw/de.html>

SilverFast DCSE is a special edition of *SilverFast DCVLT*. It can only open the common 24 Bit standard-formats (JPEG, TIFF), and is limited in its functionality and recommended for novice users.

Attention!

Many functions are similar or the same in all *SilverFast* version. This is especially true for the hardware independent versions of *SilverFast*.

This is the reason why the manual should be cross-read!

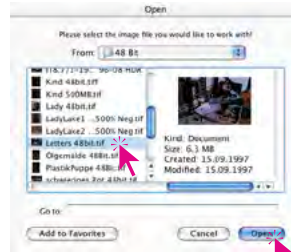
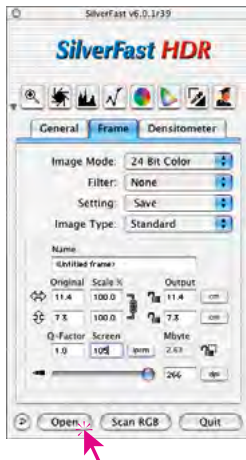
This is why the following passage only briefly describes *SilverFast HDR* since almost all functions are described in detail in the passage about *SilverFast DC*.

The principal functions of *SilverFast*, like for example, the usage of the image automation, etc. are described in detail in the main part of this manual.

SilverFastHDR, SilverFastHDRStudio

Opening an Image with the “Open” Button

Clicking the “Open” button activates a dialogue for selecting the device or folder containing the images:



Open an image directly by double clicking on the name or by single clicking on the name and then the “open” button. The image will be opened within the *SilverFastHDR...* prescan window.

The Virtual Light Table (VLT)

The *Virtual Light Table* named “VLT”, is available from *SilverFast* Version 6.0.2 onwards, and replaces the previously used dialogue “Image overview”.

The VLT is an outstanding tool, because it combines the four most important steps in one single window while working with images:

- Viewing, getting an overview and searching
- Sort, look over and organizing
- Processing and optimizing of images
- Printing of contact sheets and single images

The usage of the *VLT* functions are more precisely described in the following section about *SilverFastDC...*



Alternative Opening of Images

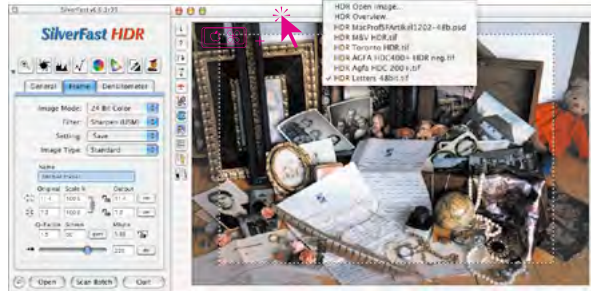
Pressing the “Command” key and clicking on to the header line of the *SilverFastHDR* prescan window opens a popup menu. Window users can use the right mouse key to open this menu.

Macintosh

Click into header while keeping “Command” key pressed

Windows

Right click mouse into prescan window

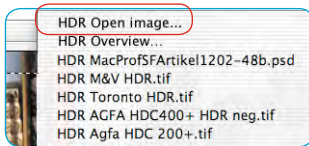


The pop up lists the items “open HDR image”, “HDR overview” and the names of the previous images. A check marks the name of the current displayed image in the prescan window.

The individual entries in detail:

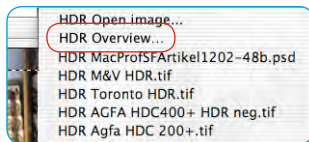
HDR Open Image

Opens a (see: page 255, “Open an image with the “open” button”) dialogue box which requests the device or folder with the images.



HDR Overview

Opens a (see: page 255, “Open an image with the image overview window”) dialogue box used for selecting an image from the overview window.



SilverFastDCVLT, -DCPro, -DCProStudio

SilverFastDC... versions are especially adapted for use with images that were captured by digital cameras. Hence, *SilverFastDC...* versions are able to directly read most of the common native camera formats.

An overview of the formats and the version of *SilverFast* that can read the specific formats can be found in section 6.9 “Reading different file formats” of the manual.

The “virtual light table” called “VLT” is an excellent tool that combines the four most important jobs of digital imaging in one window:

- Viewing, getting an overview and searching
- Sort, look over and organizing
- Processing and optimizing of images
- Printing of contact sheets and single images

If the interaction of camera and computer functions properly, the images may be taken directly from the digital camera by the *VLT* for further processing.



When launching *SilverFastDC...* the *VLT* will open. By clicking these buttons, the user may switch between the *VLT* and the *SilverFast* main dialogue.

Working with RAW Data in SilverFast DC Pro



SilverFast DC Pro is able to directly read the most common RAW data formats of professional digital cameras.

Apart from the previously supported classical 48Bit RGB-Tiff format, the RAW data formats CRW (Canon), CR2 (Canon), CS (Sinar), DC2 (Kodak), DCR (Kodak), DNG (Adobe), ERF (Epson), HDR (Leaf), K25 (Kodak), KDC (Kodak), MOS (Leaf), MRW (Minolta), NEF (Nikon), ORF (Olympus), PEF (Pentax), RAF (Fuji), RAW (Leica, Panasonic), SRF (Sony), SR2 (Sony), TIFF (PhaseOne) and X3F (Sigma) are now supported. The complete list of supported cameras can be found on our website at:

<http://www.silverfast.com/show/dc-cameras-raw/en.html>

System Requirements

Working with RAW data implies working with large files. Subsequently, the system requirements are quite high.

- **System Requirements Macintosh**

MacOSX, 256 MB RAM, 150MB free disc space

- **System Requirements Windows**

CPU 1 GHz, 256 MB RAM, 150 MB free disc space

Presets and Cache

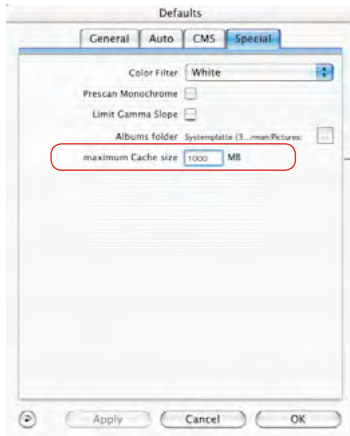
In order to ensure optimum usage of the computer system, some thoughts should be devoted to memory requirements and the expected file sizes.

Accordingly, 2 presets should be made in the palette “General” / “Options...” / “Special”

- **Setting the Path for the Album Folder**

Here, the user may generate and assign an individual directory for the saving of the *SilverFast DC* albums.





- **Setting the Cache Size**

In order to convert large amounts of RAW data in the background, a respectively large cache memory size is needed.

The conversion of RAW data means that a RAW data file is converted into an uncompressed “48Bit RGB Tiff” format.

An example of a generous calculation of the expected memory assignment:

A digital camera with 6 megapixels delivers a RAW data file of about 6 MB. Converted into 48Bit RGB this will mean a file size of almost 36 MB.

$6 \text{ MB (RAW)} \times 3 \text{ (RGB, 8 bit per channel)} \times 2 \text{ (RGB, 16 bit per channel)}$.

If, for example, 100 RAW data files with an average size of 6 MB are converted, the required cache size increases to around 3,6 GB. An adequately large hard drive is recommended.

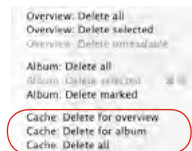
In case the capacity of the hard disk is reached while converting, *SilverFast* halts and displays a corresponding message. The user then has the chance to alter the assigned cache size in the “Options” / “Special” dialogue.

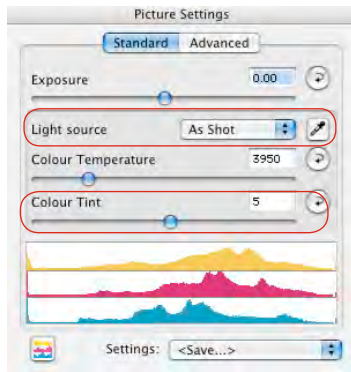
Naturally, *SilverFast* can continue without increasing the cache size. If the limit is reached and additional files are to be converted, *SilverFast* overwrites the cache of an older image. This happens analog to the cache memory as is done in internet browsers.

The older image thus loose its blue dot, and the new image will receive it after conversion.

The contents of the cache memory remain until the user actively deletes it.

The cache may be deleted directly by means of the popup menu “Delete”.





- **Internal RAW Data Conversion Profile for your Camera (*SilverFastDCPro*)**

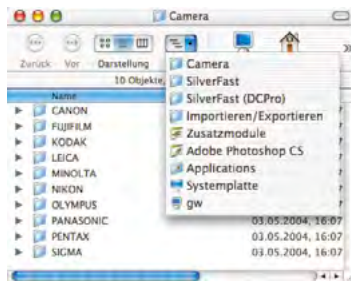
LaserSoft Imaging has developed special internal RAW data conversion profiles that can also be installed with the software.

Note: Only if such a profile for your camera has been installed will a third slider “Colour tint” and the light source pipette appear in the “Image settings” window. If this is missing, either no RAW data file was opened or no “internal RAW data conversion profile” was found for the image. Please refer to our website for a complete list of supported cameras.

If no profile can be found, none will be used. In this case a simple, linear conversion of the RAW data is done which does not always deliver adequate results.

In case your RAW data images in *SilverFastDCPro* generally have colour problems, it is likely that no RAW data conversion profile for your camera has been installed.

These RAW data conversion profiles are found in the installation folder of *SilverFastDCPro* in the folder “Camera”.





- **Manually selecting a camera specific ICC profile**

By means of the implemented IT8 calibration of *SilverFast DC Pro*, it is possible to generate an ICC camera profile manually.

The ICC profile that was generated by *SilverFast DC Pro* by means of the embedded IT8 – Calibration can be selected in *SilverFast*'s main dialogue: “General” / “Options...” / “CMS” in the menu “ColorSync profiles” / “Input”.

Please ensure the following settings: “Colour-Management“ / “Input > Internal” set to “ColorSync” (Windows: “ICM”).

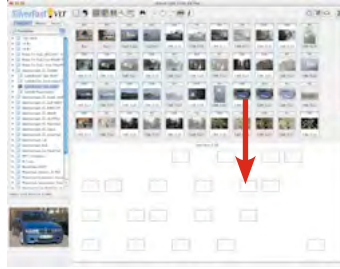
Workflow for Conversion of RAW Data Files

SilverFastDCPro allows a quick conversion of RAW data files in the background.

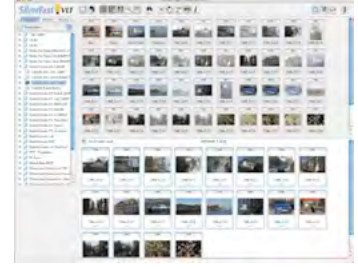
This is done by choosing the images to be converted in the overview of the *VLT*, and dragging them into an album.



Left: First select the images that are to be converted




Middle: Drag them into an Album




Right: The conversion commences immediately

The conversion of camera RAW data was fully automated and not alterable until *SilverFastDCPro* version 6.1.0. The progress of the conversion was displayed by a progress bar in the header on the *VLT*.

From version 6.2.0 onwards, this has been changed. The user can now decide if and when he wishes to perform a conversion.

As soon as camera RAW data are moved into the active album from the browser or the overview, a small button with a green arrow is shown in the header of the album window.  5% of cache used

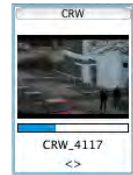
The amount of used cache memory is displayed next to it.

In case the cache is almost full, it may be deleted or the cache size may be increased before launching.  1/20 converted

Clicking the green arrow commences the conversion. The arrow turns into a red square.

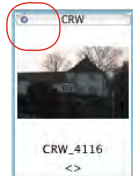
The conversion is a background task, allowing continuous use of *SilverFast*. If, however, the album is changed, the conversion process is stopped automatically.

The conversion status is displayed in the text next to the button. It can also be seen from in thumbnails or the progress bar.



The conversion can be halted at any time by clicking the red square. The square will then turn back into a green arrow.

If the RAW image has been converted, its thumbnails in the album are marked with a blue dot on the upper left.



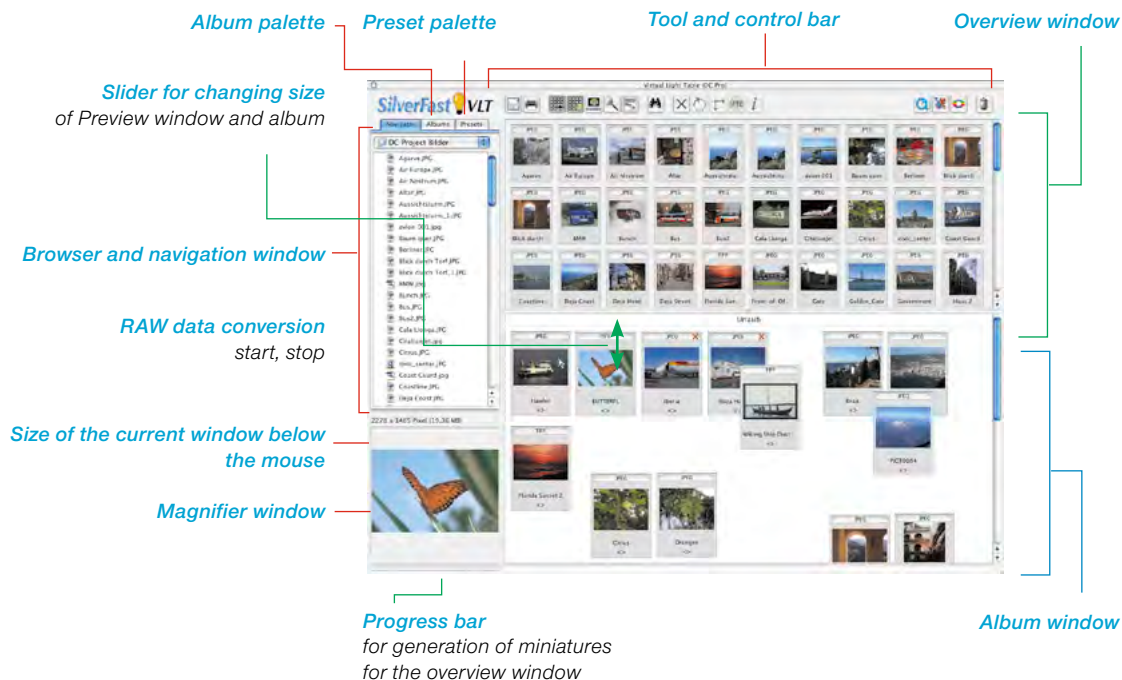
Because *SilverFast* can do the conversion as a background process, the user has the possibility to continue his work at the same time. This could be the continuation of editing previously converted images, editing different albums or optimization of a different image in *SilverFast*'s main dialogue.

Launching the Virtual Light Table (VLT)



Click on the vertical button bar, left of the preview window, the “VLT” icon. The VLT opens immediately and fills the entire monitor. The *SilverFast* main dialogue will be hidden

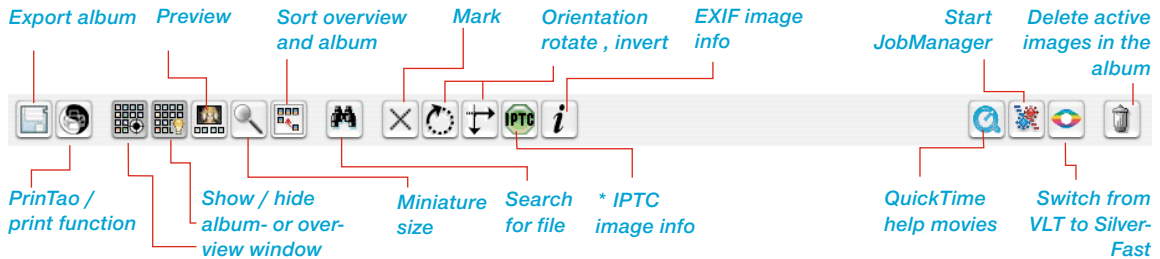
Arrangement of the VLT



The VLT is divided into five areas:

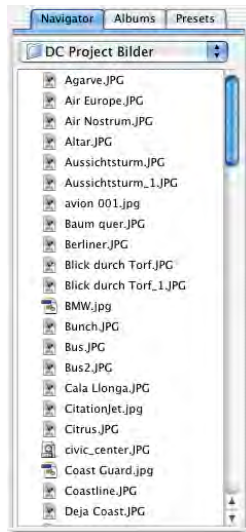
- Browser and navigation window
Alternative: Album palette with albums, or Preset palette
- Overview window
- Album window, the actual working area
- Magnifier window
- Tool and control bar

Tool and Control Bar Details



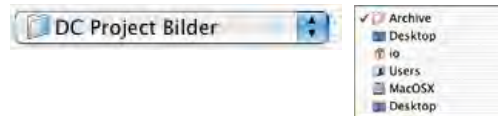
* This function is only available with special SilverFast... versions.

Browser- and Navigation Window

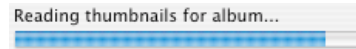


By means of the browser, the entire directory as well as all external storage medium may quickly and easily searched for images. Depending on the camera, the images can also directly be accessed from the device.

The upper popup menu shows the directory. It is possible to jump into any folder.



The contents of the folder are immediately displayed in the long roll bar. The images may be seen here, next to the folders. *SilverFast* displays thumbnail images for any picture recognized. A progress bar describing the background generation progress of thumbnails (max 512 x 512 pixels) is displayed below the magnifier window.



The thumbnails are saved in the cache of the file "SFthumbs". The cache may be emptied by the context menu at any time. When using read-only files (on DVD or CD), no thumbnails are generated as they cannot be saved on the medium.

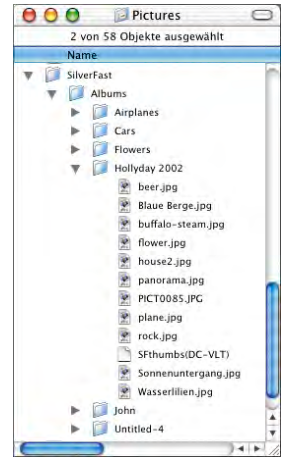
Album Palette



The images are managed in the album palette and the respective album window. Any desired number of individual albums may be created. The contents of the album are displayed in the VLT window and can be processed there.

New albums are created as an empty directory in the “Images” folder, located in the sub-directory “SilverFast \ Albums”. By dragging images from the overview window, from the navigator or from the desktop into the album window, copies of the original files are created. The original files always remain untouched.

By means of the “Plus” button a new album is created. By clicking the “Minus” button, the active album is deleted.

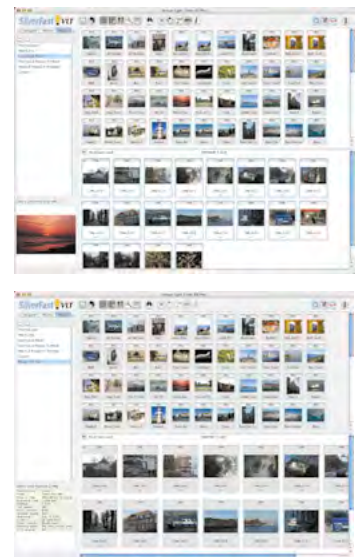


Presets Palette



By means of the five defined entries in the “presets” palette, the user-interface of the VLT may be changed by a single mouse click. These are: the parameters of the VLT, the visible VLT window, the thumbnail sizes, setting of the magnifying window and the parameters of the full image view.

Individual settings of the user may be saved and deleted by clicking on to the “Plus”/“Minus” buttons.



Overview Window and Toolbar

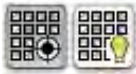
If *SilverFast* recognizes images in the chosen directory, it will display miniatures in the overview window.



For later use, *SilverFast* generates a small file called "SFthumbs(DC)" into the chosen image folder.

Imported camera images are automatically orientated (rotated), if *SilverFast* find the orientation information within the image data.

The overview window is freely scalable. The scroll bar on the right allows a quick overview even of a large amount of images.



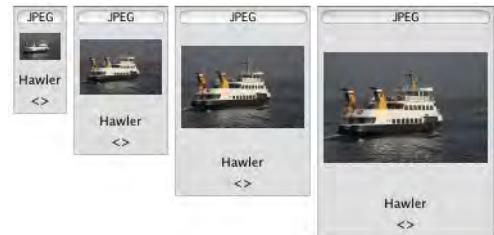
If a max overview is desired, the album may be hidden by clicking the "Hide/Show" button.



Clicking the button "Thumbnail size" allows the altering of the miniature sizes varying from 32x32 to 128x128 pixels. The example shows the difference in sizes:

Overview: 32 * 32
✓ Overview: 64 * 64
Overview: 96 * 96
Overview: 128 * 128
Light table: 32 * 32
Light table: 64 * 64
✓ Light table: 96 * 96
Light table: 128 * 128
Magnifier: 256 * 256
✓ Magnifier: 512 * 512
Magnifier: size to fit
Magnifier: display EXIF data

The magnifier window can display up to 512x512 pixels. By means of "Display fitting" the image will always be displayed in maximum size of the magnifier window. By clicking "Show EXIF data" some of the basic EXIF files may be viewed in the magnifier window.

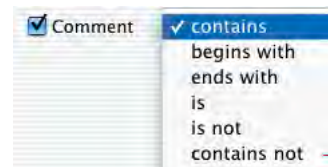
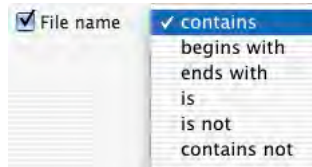
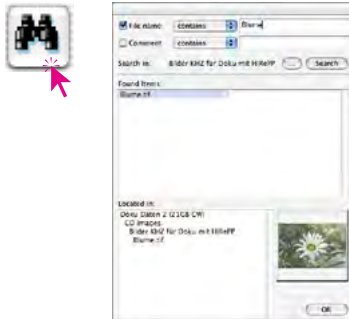


Size comparison

32², 64², 96², 128² pixel

Searching

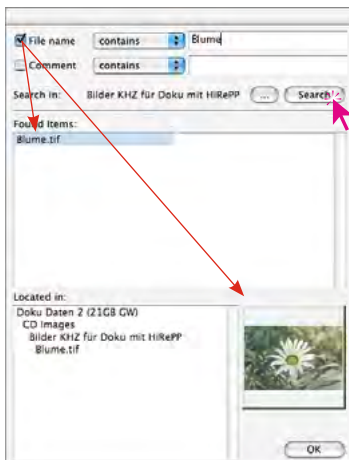
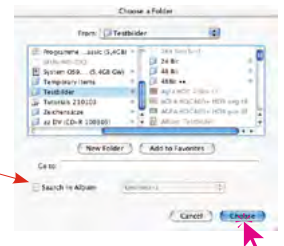
If you wish to directly search for a filename or the image comments, a simple click on the “search” button is sufficient. More search criteria may be entered:



The “Directory” button marks the directory to be searched. An album to be searched can alternatively be chosen here.



The search is started by clicking on the “Search” button.



All images that match the search criteria are immediately displayed in the middle window. By clicking on the file name, the entire path is shown and the miniature is displayed in the window.

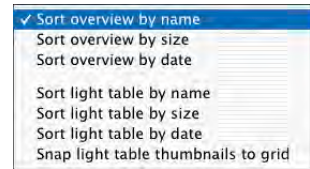
The found images may be dragged into the album window. By keeping the “Command” key pressed, single images may be added into the selection, and if the “Shift” key is pressed an entire series of images is marked.

Pressing “OK” closes the dialogue.

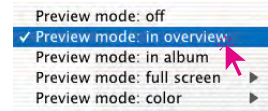




The miniatures in the overview window and album window are also sortable by the respective buttons name, size and date.



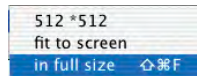
By means of the “display preview” button it is possible to display an enlarged activated image. The overview or the album windows are used for this purpose.



Activate Preview mode:

Full screen preview  + **SHIFT** + **F**
or type **Space + clic**

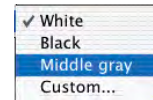
The “Preview mode; entire Monitor” option allows another size adjustment.



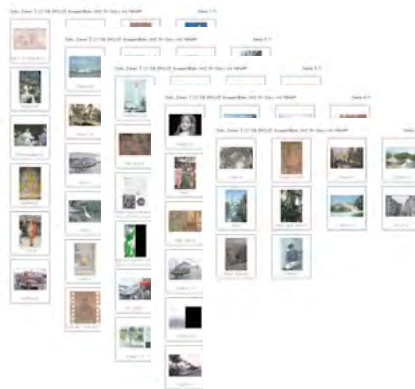
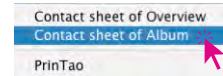
With activated Preview mode:

Next image 
Previous image 

By the “Preview mode: Colour” option, the background colour of the monitor may be selected.



By clicking the button “PrinTao” \ “Contact sheet overview”, the contents of the overview window may be printed like a contact sheet. The adoption of the image sizes is done automatically.



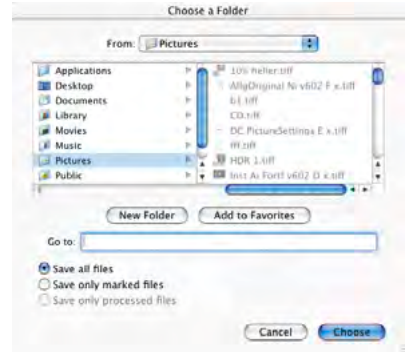
The header of the contact sheet includes the path and the page numbers.



Export Albums

The images of any album as well as all set parameters may be saved by clicking the “Export Album” button. By default the albums are saved in the “Images” folder of the registered user in the sub directory “SilverFast” \ “Albums” (Mac OS X)

Windows: Desktop \ user data \ user
Images \ SilverFast \ Albums



Export album...

Unload removable media...

Unloading Camera Storage Media

SilverFast allows reading and copying of data from a camera or for example flash cards, directly on to the hard disk. During this process, predefined IPTC information of the images may be entered. These images can also be renamed automatically.

Workflow for Unloading

- Launch *SilverFastDC*, *-HDR* and the *VLT*
- Attach camera or card reader observing the security regulations for these.
- If the camera or medium is detected, the Import dialogue “Unload images“ appears.



Input
Path: NO_NAME:DCIM:100NIKON:

Transformation
Renaming: Rename files during import
IPTC: Include IPTC during import

Output
Albums: Unload folder GW
Path:

Close Import New album
 Show this dialog, when new media is inserted

- The detected storage mediums are displayed under “**Input / Path**”. If more than one medium is found, please choose the correct one.

LEXAR_MEDIA:DCIM:100NIKON:
 NO_NAME:DCIM:100NIKON:
- The field “**Transformation**” describes how images are to be treated when importing.
 The menu “**Renaming**” allows complex changes of file names of single or all imported images.
 The menu “**IPTC**” offers additional link to IPTC information of the imported images.
- The destination of the imported images can be set under the “**Output**” dialogue. By clicking “New album”, a new and empty album is generated.
- The import dialogue will then open with each new media that is attached - as long as the *VLT* is open.
 The small check box “Show this dialogue when new media is inserted” can be activated for comfortable import.

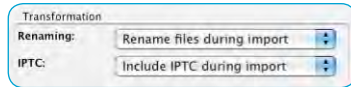


Attention!

Prior to removing the storage media it should always be removed by the system to avoid damage and loss of data.
 Please refer to the respective operating instructions!

Re-naming Images Automatically

The re-naming of images can be done while unloading them or later, with already saved image files.



Automatic Re-naming while Unloading

The “re-name” menu allows complex changes of filenames of any part of, or the entire collection of imported files.

The re-naming dialogue is divided into 5 parts:

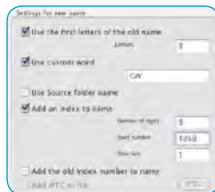


- **Image List**

All images that have been found on the storage device or that have been selected by the *VLT* are listed here.

More images may be added by means of the “plus” button, and images may be removed by the “minus” button.

The button “Preview” and “Original” is a switch. By this the new names or the old names of the images can be shown.



- **Settings for New Names**

The check boxes define how the old file names are to be treated.

“Use the first characters of the old name”: Specifies the number of characters that are to be used from the old file name. By this means, for example, an old camera-specific numerical system may be given new names that are added in front of the previous names of the files.

“Use custom word” - The entered text will be added in 2nd position to all file names.

“Use source folder name” - if this field is checked, the name of the directory will be added in 3rd position of the new name.

“Add the old index number to name” - by this field, a new numerical system can be added to the file names in 4th position.

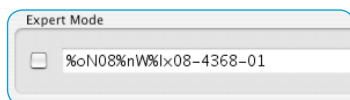
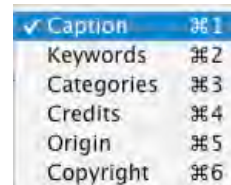


“Add the old index number to the name“ if checked, this will add the old, already used file name in 5th position.

“Add IPTC to file“ If IPTC information is to be entered (e.g. Image author, image rights, etc.), it can be done here.

Clicking the “IPTC“ button opens the respective dialog. The IPTC dialogue is divided into 5 separate text fields. By means of the “Previous“ / “Next“ buttons, the different areas can be reached.

A defined IPTC dialogue may be saved and reloaded at any latter time.



- **Expert Mode**

Experienced users may enter the file names directly, as a kind of program command..

Every check box in the “Settings for new names“ dialogue resembles a shortcut, consisting of the percent symbol and 2 letters, followed by the used values.

The commands are entered without the “Space“ key separating them.

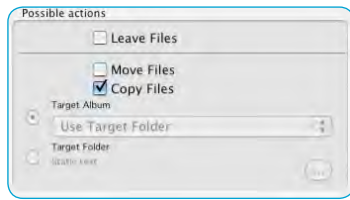
Example: %oN14%nW U-Test %oF%i x04-0-01%i t

%oN14: The first 14 letters of the old filename shall be used

%nW U-Test: the images are added with the new name “U-Test“ - NOTE: The spaces - they are applicable here

%i x01-0-01: The images receive an index that starts with “Zero“ and are increased by “One“ for every additional image

%i t: the old index of the images is added to the new name at the last position



- **Possible Actions**

In this part of the dialogue it is decided if the images are to be renamed, moved or copied while importing them.

If images are moved or copied, the destination is to be specified. Any album or any directory may be chosen here.



- **Re-naming Example**

A demonstration how the set parameters will affect the file names.

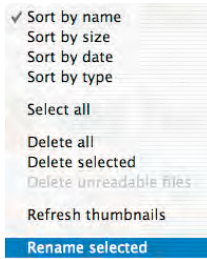
Subsequent, Automatic Renaming

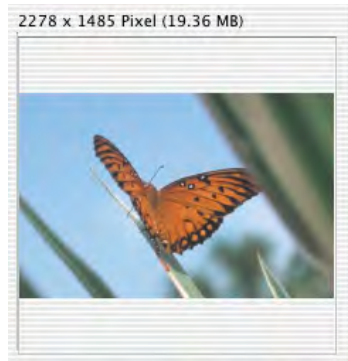
This action is launched from the *VL T*. First select the images to be renamed from the *VL T* overview.

Next, use the context menu (Windows right mouse click) to choose the option “rename selected”; the respective dialogue opens.

Once the renaming dialogue has been opened, any number of images may still be added. The user is not limited to just one source directory.

The usage of this dialogue is the same as the one already described earlier under “Renaming images automatically”.





Magnifier

The magnifier may be used in both the overview window and the album. If you move over any miniature, the contents of the image are immediately displayed in the magnifier window.

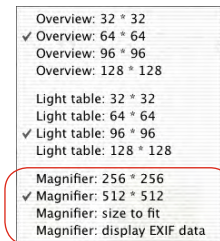
By clicking the “Size of miniatures” button the display size of the magnifier is adjustable in two steps, either 256 x 256 pixels or 512 x 512 pixels.

In the highest level there will be a slight increase in the size of the display so that the viewable area will move with the mouse.

By means of the “Display fitting” button, the image file is always displayed in maximum size within the magnifier window.

By clicking “Show EXIF data” some of the basic EXIF files may be viewed in the magnifier window.

Above the magnifier window the pixel size of the current image is displayed.



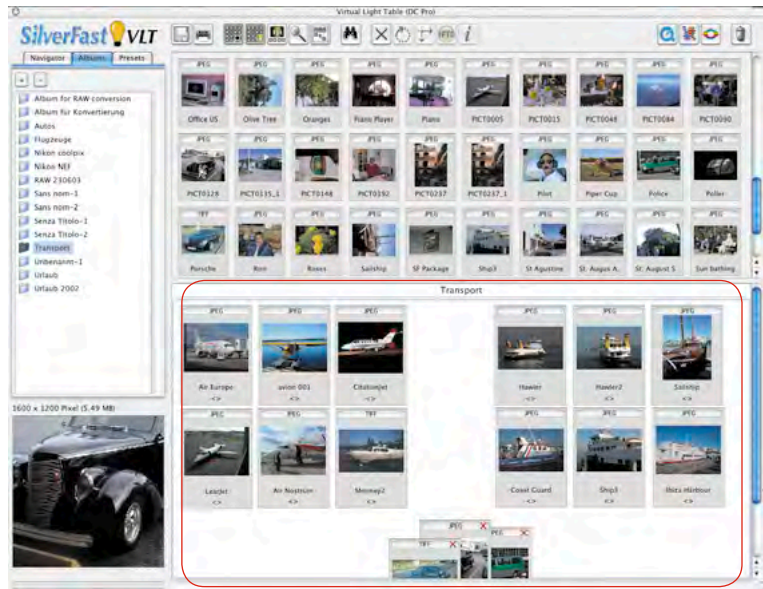
Blue* or Green Dots within the Thumbnails

RAW data images that are already converted are marked by a blue dot. These dots may be visible in the overview and in the album. Green dots mark images that have previously been corrected via the main menu of *SilverFastDC*, and been saved back as a copy into the album. Green dots are only available in the albums.

* This function is only available with special *SilverFast...* versions.

Album Window – the Central Working Place of the VLT

All previously introduced parts and functions group around a central window in the VLT – the album window. This is the main working area.



All directories containing image data are identified and saved by means of the browser. The central album window now acts as an organizer for these images.

Any number of individual albums are available. By clicking the album names in the album palette, the user may switch between the albums directly.

When switching, merely the album window window is changed. The browser and the overview window remain untouched.

The path for saving the albums may be set to “General-palette / Options... / Special-palette / ..”

For *SilverFastDCPro*, the size of the cache memory may also be set here.



Drag & Drop

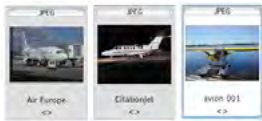
“Drag & drop” is the quickest and easiest working method. Images may be dragged out of the browser, out of the overview, out of the search dialogue or even directly from the desktop into the album window. Capture the files, drag them over the album window and release the mouse button.

Even entire folders may be copied directly from the desktop by this method.

If the album window is hidden, images may be dragged directly onto the “Show / hide album” button, or onto an album name in the album palette.



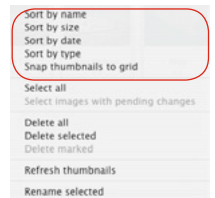
Each newly dragged image file is active; this is shown by the coloured border and the bright background colour.



Sorting Images in Album Window

All images dragged into the the album may now be sorted. The easiest way is by drag & drop.

By using the context menu (Mac: “Ctrl” key, Windows: right mouse button) these images may be sorted by name, file size, type or date and aligned automatically in the album window.



Choose all

All images in the active album can be chosen by the “Command A” combination. (Windows “Ctrl A”)

This can be done in two ways:

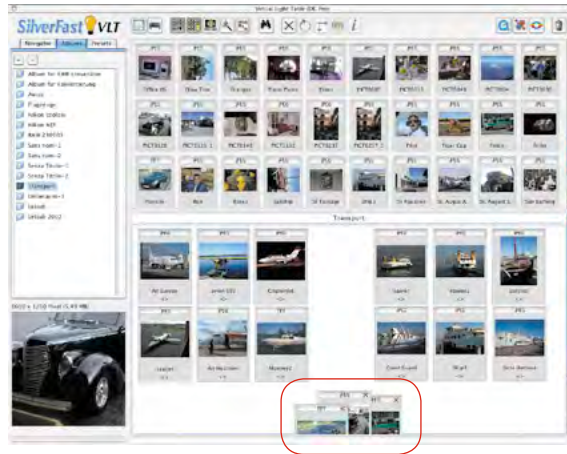
Sort by drag & drop: Activate the desired by a single mouse click and drag it onto an album in the album palette. Activate the desired image by clicking on it and dragging it over any of the three other *VLT* icons.

With the “Command” key pressed (Windows. “Ctrl” key) more single images may be marked and added to the selection.

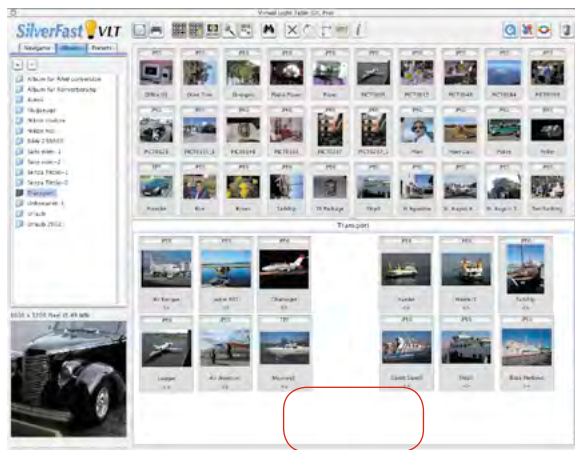
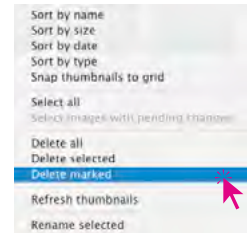
Naturally the images are also manually re-positionable and re-sortable within a one album.



Sort images by marking: First click on the “Mark” button. The mouse pointer switches to a cross as soon as it touches an album window. By clicking onto an image it will be marked with a little cross in the upper right corner.



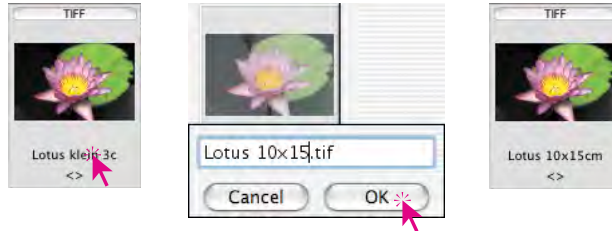
The undesired images may then be deleted by the context menu.



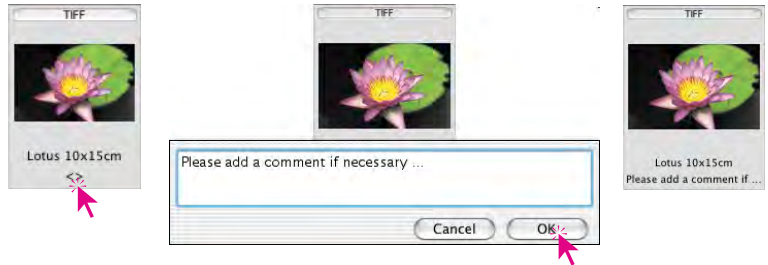
Editing Name and Image Comments in the Album

A small text field for image comments is available beneath the image name below the miniatures. Both may be edited in the album

Editing the file name: Click the name



Editing the comments: click on the empty tip of the brackets; i.e. on an already existent comment.

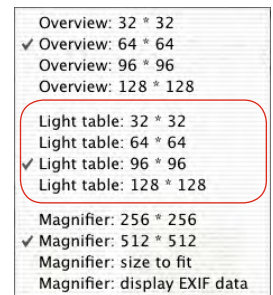


Setting the Size of the Miniatures in the Album Window



The thumbnails of the images are adjustable in their size, just as they are in the overview window. Again, four levels are available.

These settings are then valid for all albums.



Rotating and Flipping Images in the Album

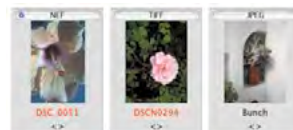


The images in the album window may be rotated and reflected by these two buttons.

The **rotation** is done clockwise in 90° steps; counter-clockwise if the “Shift” key is pressed.

The **reflection** is done by clicking the respective arrow head. By clicking the right arrow the image is reflected horizontally; and vertically by clicking the other arrow.

When clicking onto the rotation- or invert tool, a popup will appear stating that the selected image are being transformed without loss of data.



JPEG files will immediately be transformed without loss of data. In all other formats, only the thumbnail will be transformed initially. To display pending changes in the image, the file name will be marked in red. The marked images may then be selected by means of the context menu “Chose images with pending changes”, or Drag & Drop it into the *JobManager* to be transformed there.



Printing the Album Contact Sheets



By means of the “PrinTao” \ “Contact sheet of album” button, the sorted contents of the album window can be printed like a photographic contact sheet. The adoption of image size, number of pages etc. is done automatically.

Each album is to be printed individually.

Only the page number is printed in the header of the contact sheet.





IPTC Image Information in the Album *

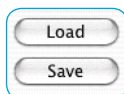
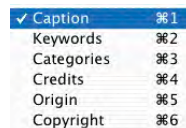
Attention: This function and the respective button are only available with *SilverFast DC Pro...*!

By clicking this button, the extensive IPTC image data may be viewed and edited for an active image in the album.

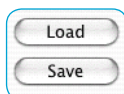
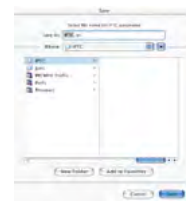
“IPTC” means “International Press and Telecommunication Council” and includes a standardised collection of information data which may be used by the image-authors, the holders of the image rights as well as image users for database purposes. Apart from copyright issues, the author may enter further data such as image title, date of image, keywords etc. By means of a database, the images may then be searched for specific criteria, making specific searches easy and fast.



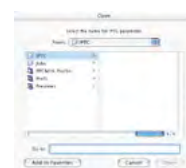
A variety of palettes is available in the “Selection” menu.



The entered IPTC data may be saved by clicking the “Save” button for reoccurring files.



By clicking the “Load” button, the set and saved IPTC data may be recalled.

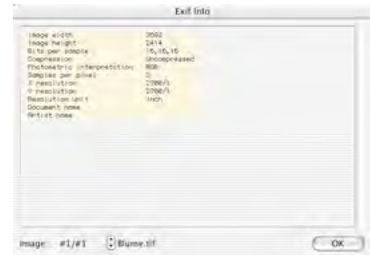
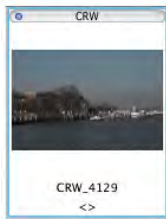


* This function is only available with special *SilverFast...* versions.

Gathering Image Information (EXIF)



By clicking this button, all EXIF information of the image (if available) is displayed.



In this example the complete EXIF information is shown in the left window, and the information of a 48bit RAW data scan on the right.

Size of the Album Window



The album window is freely scalable. The scroll bar on the right allows a quick overview even of a large amount of images.

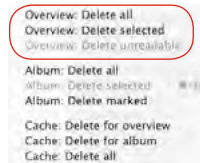
If a max overview is desired, the album may be hidden by clicking the “Hide/Show” button.



Deleting Images in the Albums



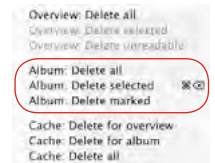
By means of the popup menu “Trash” the images in the overview and the album may be deleted.



Popup menu “Trash”

for the overview

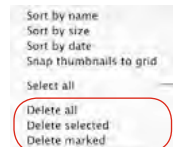
for the album



With help of the the context menu (Macintosh: Ctrl + click, Windows: right mouse button) images may be deleted too.



*Context menu
for the overview*



for the album

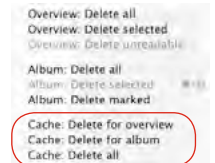
By the “drag and drop” function entire albums may be pulled to the trash.

Deleting the Cache Memory *



The cache memory saves temporary files as well as help files from the RAW data conversion. This cache memory may be directly deleted by the popup menu “Delete”.

The path for saving and the cache size may be entered in the main menu of *SilverFastDCPro*: “General palette / Options... / Special palette / ...”



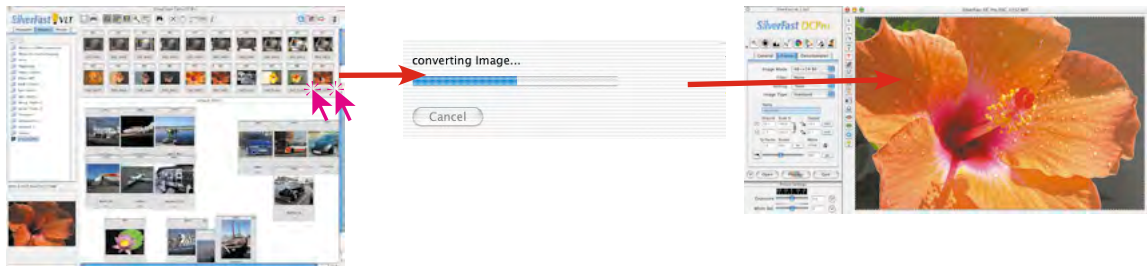
* This function is only available with special SilverFast... versions.

Optimizing Images

Direct Optimization in *SilverFast* Main Dialogue

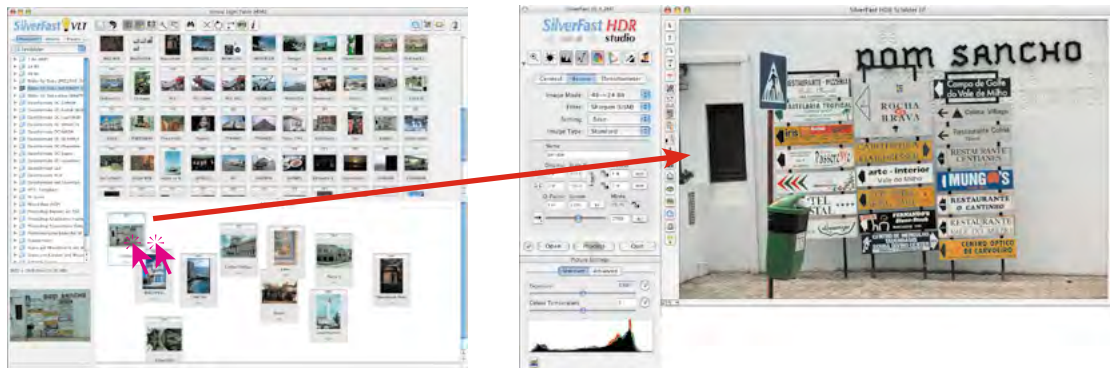
By double-clicking an image in the overview or album window it is directly passed on into the *SilverFast* preview window.

Double-clicking on an unconverted RAW data file (only possible in *SilverFastDCPro*), will commence the conversion. The progress is displayed in the window.



SilverFastDCPro

Double-clicking a RAW data file in the VLT will start the conversion, and will open the file in the main menu after that.



SilverFastDC, -HDR

Double-clicking an image file in the VLT opens this file directly in the main menu.

All *SilverFast* tools are again available here.

* This function is only available with special *SilverFast...* versions.

The thumbnails of the RAW data images are marked with a blue dot after successful conversion.



After finishing the optimisation, the image may be calculated and returned to the album as a corrected image by clicking the “Process” button.

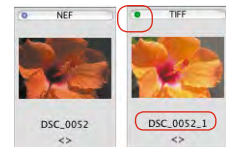


Please note that the option “To album” is selected in the “General” palette in the *SilverFast* menu “Process mode”!

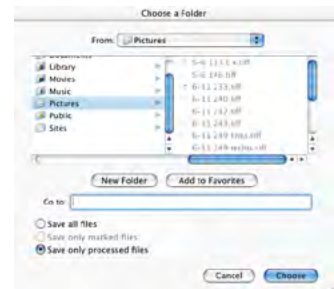
If not, the corrected image will be placed directly into the application, e.g. Photoshop; will be opened or placed in a different, yet to be distinguished directory.



The finished image is marked with a green dot in the upper left corner when placed back into the album. A numeric value is added behind the file name: “Name_1.jpg”.



If the optimisation of all images is done, the final images may be relocated directly out of the album into any different directory by means of the export button.



* This function is only available with special *SilverFast...* versions.

Optimization by SilverFast JobManager

The second possibility to optimize images is the passing on to the *JobManager*.

This is recommended if time is to be saved and several images or even entire directories are to be optimized.



The *JobManager* is activated by clicking the respective button in the *VLT* toolbar. The selected images may then be passed on to the *JobManager* by the drag & drop function and will be processed there.

The selected images may directly be handed over to the *JobManager* from the *VLT* windows by drag & drop.

Even complete albums may be dragged into the *JobManager* window.

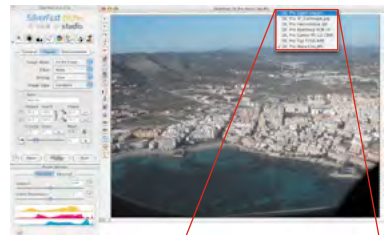


Unconverted RAW data images* are converted when handed over to the *JobManager*. This is done in the background. Editing these images is only possible after complete conversion.

Alternative Opening of Images

Hold down the “Command” key while clicking the title of the *SilverFastDCPro* prescan window to open a pop up menu. Windows users can right-click the title of the *SilverFast* prescan window.

The pop up lists the items “open DCPPro image” and the names of the previous images. A check marks the name of the current displayed image in the prescan window.



- **DCPro Open Image:** Opens a dialogue box which requests the device or folder with the images.



Macintosh

Click the header of the prescan window while keeping the “Command” key pressed.







Windows

Use right mouse click in the prescan window.

* This function is only available with special SilverFast... versions.



A VLT Workflow Example
















1. Launch *SilverFastDC...* and start *VLT*
2. **Browser:** Search for and choose file directory or drag images directly into the album window.
Image overview: Select images and drag them into the album window
Search function: Search for file names or comments and drag into album window. 
3. Repeat step 2 until all images are found.
Possibly hide overview window.
4. **Album window:** Sort images in desired manner
5. Edit **file names** and **image comments**.
Align incorrectly positioned images with the rotation and flip tool. 
Mark with the **Mark tool**
Alternatively the images may also manually be sorted into different albums by the drag & drop method 
6. **Delete the files marked** by the context menu. 
Re-sort the remaining images and **save the albums**.
Print **contact sheets** if needed. 
7. Hand over the first image to the **PreScan window** of *SilverFast* by double clicking it, optimise it there and by clicking the “Process” button hand back the corrected image to the album.
Time saving alternative: Start the *SilverFast JobManager*, pass on the images by the drag & drop function and start the optimization there. 
8. Chose the next image for optimisation.
Repeat steps 7 to 8 until all images have been optimised.
9. If necessary, copy the optimised images into a different directory.

VL T Keyboard Shortcuts (Macintosh)

General

Select image series Shift + :  + 
Select single images Command + :  + 

VL T Window















Open context menu Ctrl button and click into VL T window:  + 
Activate all Command + A:  + 
EXIF / Image infos Command + i:  + 
Delete image Command + Backspace:  + 
Mark image as Bad Shift + click with marker:  + 
Full size Preview Command + Shift + F:  +  + 
or type Space + click
With activated Preview mode: Next image 
Previous image 

VL T Keyboard Shortcuts (Windows)

General

Select image series Shift + :  + 
Select single images Ctrl. + :  + 

VL T Window

Open context menu Ctrl button and click into VL T window:  + 
Activate all Ctrl.+ A:  + 
EXIF / Image infos Ctrl.+ i:  + 
Delete image Delete: 
Mark image as Bad Shift + click with marker  + 
Full size Preview Ctrl + Shift + F:  +  + 
or type Space + click
With activated Preview mode: Next image 
Previous image 

Red Eye Tool



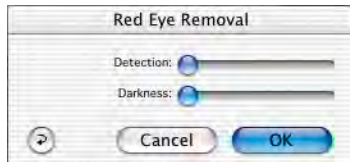
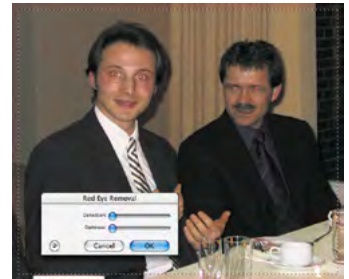
A new function is available from *SilverFastDC... 6* onwards. It is located in the vertical button row, left of the prescan window; a tool for colour correction of “red eyes”.

Red eyes occur in flashlight portraits, if the distance between the flash and the lens is small and the pupils of the photographed person are open wide.

First start a prescan of the portrait to be corrected. Click the button “Remove red eyes”.

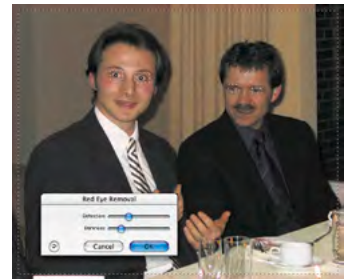
A note will appear, mentioning that a frame is to be drawn around the eyes on the image.

Click “OK” and use the mouse to draw a frame around the eyes. By keeping the “Shift” key pressed, numerous individual frames may also be drawn. By pressing the “Alt” key, these individual frames can be removed.



Within the now opened dialogue window, the red eyes may now be neutralised by means of the sliders. By clicking “Detect” the sensitivity of the colour detection is determined, and by clicking “Darkness” the degree of darkness of the pupil can be adjusted.

By clicking the “OK” button, the settings are accepted.

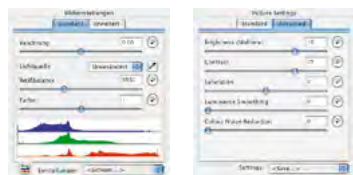


The “Remove red eyes” button now displays a darkened centre. By clicking onto the button and then into the correction frame this function is disabled.

Image Settings Dialogue (Correction of Exposure and White Balance)



The “basic” image settings dialog



The “extended” image settings dialog

In *SilverFastDC*, *-DCPro* from version 6.2 upwards, the divided window “Image settings” appears as an individual dialogue which usually appears below the main dialogue.

Depending on the kind of opened image, the window changes its appearance. If JPEG, TIF or RAW data files that are not fully supported by *SilverFastDC*... are opened, the “basic” version of the dialogue opens.

If a camera RAW data file that contains an internal “RAW data conversion profile” is opened an extended dialogue will appear.

Exposure: The slider simulates a change in exposure time of the image. The range is generally 3 apertures.

White balance: The white balance of the image can be set by this slider. By this, an incorrect alignment can be compensated.

Light source: By means of the popup menu, presets for certain standard light sources can be chosen. e.g. “Daylight”. The preset is “unchanged”, as long as the value is set in the camera; else the colour temperature will be set by *SilverFast*’s automation.

Pipette: The colour temperature of the image can directly be measured by the pipette. For this, a colour-neutral (grey, white, black) point should be selected. The white balance slider will instantly jump to the measured position.

Colour (Colour tint): The colour cast in the image is affected by this slider. Simply said: the colour temperature refers to a shift between RED and BLUE. By means of “colour”, an element of GREEN can be added or subtracted from the image.

Brightness (mid-tones): This slider regulated the brightness of the mid tone values of the image. The slider is coherent with the mid tone sliders of the gradation- and histogram dialogues.

Contrast: This slider controls the contrast of the image. The slider operates like the one within the gradation dialogue.

Saturation: This slider affects the saturation of the image. In the far left position, the image appears completely unsaturated and looks like a greyscale image.

Smoothing of luminance: This operates like a filter. By this, the highlight noise within the luminance channel of the image can be corrected. The filter thus only affects the luminance (The “L” channel in the Lab colour space), and not the colours.

Colour-distortion reduction: This is a filter that corrects the noise in the colour channels (“a/b” channel) of the image.

Settings: Saves parameters for RAW conversion for reloading.

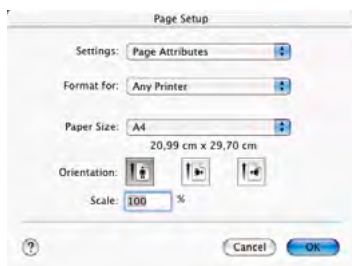
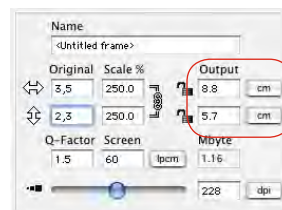
Realtime Histogram: At the lower edge a result histogram of the current picture frame is indicated to the “standard” dialogue. The display reacts in realtime. In contrast to the normal histogram dialogue, the picture settings dialogue shows the final or result histogram. Thus the histogram, of the resulting picture - after the conversion in *SilverFastDC...* All parameters applied in *SilverFast*, are thus already contained herein. In the normal histogram dialogue however the source or input histogram is shown, which displays the picture - before the editing with *SilverFastDC...* Only if one presses the “Alt” key in the normal histogram dialogue, the goal histogram is indicated there also.

Printing Directly out of the Prescan Window



In *SilverFast DC* version 6 it is possible to pass on the contents of the active image frame in the preview window directly to a connected printer. Hence it is unnecessary to save and reload the image in an imaging software for a quick printout.

The size of the image to be printed can be set in the scaling dialogue in the “Frames” palette.



The printing menu is opened by clicking the “print” button in the vertical button bar located left of the preview window. The settings in this menu are dependant on the printer driver and vary respectively. Enter your settings here and start the printout.

SilverFast remains open after commencing the printout. By this means it can be decided if the image is to be saved even after the actual printout.

PrinTao – The Enhanced Print Dialogue in *SilverFast*



What is *PrinTao*?

In simple terms *PrinTao* is a very enhanced and ultimately powerful print- and layout dialogue with useful features and high productivity. There are numerous functions especially designed and tailored to the requirements of photographers. Especially when having to print many images on i.e. large format printers *PrinTao* will show its strenghts. The feature overview:

PrinTao Features

1. Imaging Functions

- a. Position images freely 302-303, 306-304, 309, 319, 322, 326-327, 328
- b. Rotate or mirror images 303, 309
- c. Scale images 302-303, 308-309, 324-325
- d. Crop images 303-305, 309, 319-320, 325
- e. Center images on printing page 302-303, 309
- f. Align images with guides 326-327
- g. Fit images to page 302-303, 309
- h. Zoom images inside their frames 305, 325
- i. Adjust selected image part 305

2. Page Functions

- a. Generate arbitrary number of pages 306-307
- b. Save and load pages with layout embedded 318
- c. Individual or sets of images can be transferred to the printing page from the image list 302, 306, 309, 319-321
- d. Image dimensions can be set with priority to either the long or short side 307
- e. Images can overlap and be sent to front or back 306-307, 309, 328-329

3. Page View

- a. A page view can be zoomed 299, 323
- b. Any page out of multiple pages can be selected with a click of the mouse. 307, 321

4. Text Function

- a. Text input can be attached to images 310-317
Position of text can be set to the left, middle, right, above or under the image. Alignment left, centre or right is possible. Fonts as well as font size and colour can be freely chosen.
- b. Attach text from meta tags to the image 314-316
Easily attach meta tag text, e.g. image name or EXIF info, to the image. All texts may automatically be attached to the selected images.
- c. Copyright text function 310, 317
Copyright text can be transferred to an arbitrary number of images with desired colour, font and font size with a single command.
- d. Free text function 316, 328-329
Any kind of text (with arbitrary colour, font and size) can be placed e.g. on the top of the page or freely on the page.

5. Image-Templates

a. Standard-templates 319-322

From the standard set of templates, any one template can be transferred to one or several pages. Various pages can be modified with different templates. Images can be transferred to a page's template via *drag and drop* or by a button. Images in a template can all be replaced or individually replaced.

A template can be automatically assigned as the default for subsequent pages.

Single images can be zoomed (scaled) inside the frame while the desired area can be selected.

b. User-defined templates 319-320

Current templates can be freely altered and saved as user-defined templates. It is also possible to create new templates and use them as user-defined templates.

c. Template-generator 319-320

A template-generator allows creation of templates for any amount of images on the page, such as 3x3 or 5x8 or 7x7 pictures.

Existing generated templates can be altered freely and saved as user-defined templates.

6. Colour Management 331

Printer ICC profiles and rendering intent can be chosen and allocated to all pictures to be printed.

Which *SilverFast* Versions include *PrinTao*?

PrinTao is a component of all scanner independent *SilverFast* versions, in which it is implemented into the *VL T*.

Other than that, *PrinTao* is also a part of every *SilverFastAiStudio* version and may be launched by clicking the respective button located in the vertical toolbar, left of the preview window.

SilverFastDCProStudio and *SilverFastHDRStudio*

The *Studio* versions of *SilverFastDCPro* und *SilverFastHDR* contain additional functions in *PrinTao*:

- Sets of **default Templates** for automatic alignment of the images on the printing pages.
- **Selfconfigured templates** for page layout are saveable.
- Freely define and positionable **picture text***.
- Selectable **EXIF/IPTC data** to be embedded into Image text.

Users, which have the optional *SilverFastPhotoProof* function enabled, will find the additional *PhotoProof* settings in *PrinTao*, for embedding a FOGRA media wedge and the according reference profiles. Please examine chapter *SilverFastPhotoProof* for more information.

SilverFastAiStudio

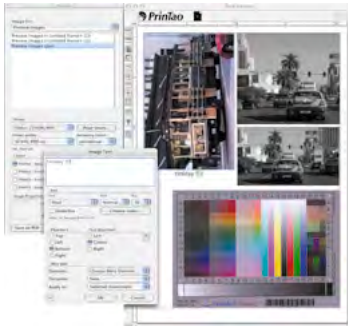
Since the scanner-dependent *SilverFast* versions do not have direct access to the previously saved image, the functionality of some *PrinTao* functions are different or reduced. For example:

- The file browser is not available. Instead, all drawn image frames are displayed within the image list.
- The input field for textures is integrated into the popup menu and may not be floating. The functionality is reduced accordingly.
- There are no templates.



*Attention

This function is available in the *Pro* and *Studio* versions only and operate only under Mac OS 10.3.1 or newer.





Contact sheet of Overview
Contact sheet of Album

PrinTao

PrinTao in VLT

Via the *PrinTao* button in the *VLT* the user gets to choose whether to create contact sheets of the images in an album or overview as well as to print a random of images from an album or the overview.

Page number
Page breaker

Headline
free position

Page
Add or delete

Navigator / File browser
Browser for selecting images and templates

SilverFastPhotoProof
(only in Studio versions)

Printer settings
and selection of ICC profile

Page- and Layout settings
presets whether the long side, the small side or the exact size of the images should be used for the printing page

Thumbnail preview
of image selected in image list

Scaling and image size
of the active image within the printed page

Start printout

Output resolution (slider and edit field)
of the active image within the printed page

Close dialogue

Printing area
marked by purple border

Tools

- Add
- Delete
- Rotate
- Stacking sequence
- Reflect vertically
- Reflect horizontally
- Centre
- Adjust
- Cut
- Image text
- Export as XML
- QuickTime help

Copyright text
here: right margin, left hand

Window of printed page

Image text
here: lower margin, centred

Active image
Marked by blue surrounding

Image information (image below cursor)
Path, file name, output size, output resolution

Rulers
Measurement unit: cm

Scaling of printed page

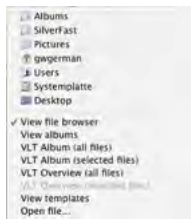
Navigator / File Browser in *PrinTao*

The first step in *PrinTao* is the selection of images to be printed. This can be done by using the integrated navigator or file browser. The popup menu in the head of the navigator contains several inputs by which individual images or entire directories may be selected.

The contents of the chosen directory is displayed in the list.

By means of the little blue arrow, the directory may be switched to the parent directory.

The menu contents:

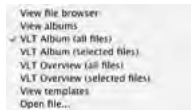


- **View file browser:** The contents of the current directory are displayed.

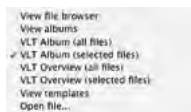
The path of the directory is shown above.



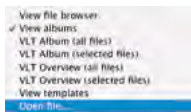
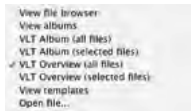
- **View albums:** Displays all albums that have been previously created in the *VLT*.



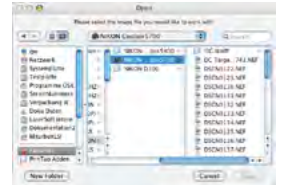
- **VLT Album (all files):** Displays all images of the current album.



- **VLT Album (selected files):** Only displays the selected images within the album.



- **VLT Overview (all files):** Lists all images in the current overview of the *VLT*.
- **VLT Overview (selected files):** Lists only selected images in the current *VLT*.
- **View templates:** Displays all current templates that were created with *PrintAo*.
- **Open file...:** By this “Open“ dialogue, a single image may be dragged directly on to the print page of *PrintAo*.



After choosing the image directory and selecting the images that are to be printed, these images are passed on to the print page and arranged there.

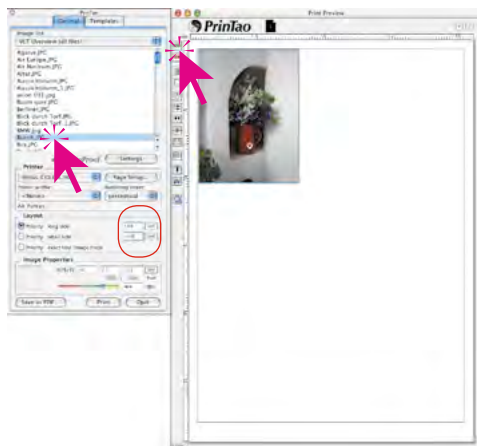
The next paragraph describes the procedure for printing single images:

Print Single Image

- ✓ VLT Album (all files)
- VLT Album (selected files)
- VLT Overview (all files)
- VLT Overview (selected files)

By means of the navigator popup menu, an image directory, an album or the overview of the *VLT* may be chosen. The images are displayed in the dialogue window.

Select an image by a mouse click in the image list and enter the values for the desired printing size in the *Layout* (here 15x8cm)



The dimensions of each individual image can be changed after placement on the print page document by changing the *image settings* %/X/Y numerically. The actual output resolution is symbolized by the rainbow gradient coloured slider, underneath the size input box. The values itself are displayed in the input box next to the slider. The image file features a ready-to-print resolution if the handle of the slider is within the yellow or better green area of the slider.



By clicking the *Add* button, the image will be passed on to the printer and automatically be placed in the upper left corner of the printing sheet by *SilverFast*.

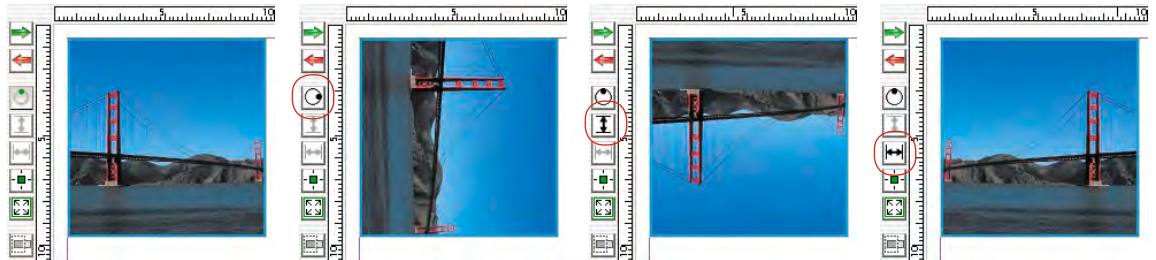
If you want to change the placing or the size, this can be done by means of the buttons located left of the printing window.



Left: Centre image in printout
Right: Fit image to printout



The orientation is also alterable. By clicking the *Rotate* button, the image is rotated in 90° steps. By means of the *Invert* buttons, the image may additionally be inverted vertically and horizontally.



All previous changes left the image in its original size-relation. If you want to change the proportions of this image, simply activate the *Cut image* option. In the activated mode the selection can be done in an active image by click-dragging the image. Doing this on the edges allows cutting of the image. Clicking and dragging will reestablish a once cropped image to its original dimensions, admittedly only within the actual dimensions of the original image.

If the *Cut image* mode is deactivated, the proportions of the image may not be altered; only size, position and orientation is alterable. A cut image can be protected against further changes.

Lower left: Image in its original proportion (*Cut mode deactivated*)

Centre: Cut image (*Cut mode activated*)

Right: Cut image fit to page (*Cut mode deactivated*)



Quick and easy Image Cropping by Using Key Shortcuts

There is an even faster alternative to the regular cropping mode, using key shortcuts:



- The image can be cropped directly (while cropping mode is deactivated) by pressing the *Alt* key while click-dragging the frame or corner of an image.



- The image can be cropped symmetrically (while cropping mode is deactivated) by pressing the *Alt* and *Shift* key while click-dragging the frame or corner of an image. Dragging the frame will move the opposite frame edge accordingly. Dragging the corner of a frame edge will move all corners of the frame symmetrically.

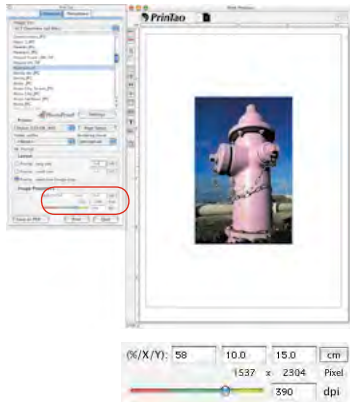


Image after import with priority "exact size", "10x15 cm". The right size of the image shows that a small strip of the image has been cropped automatically.



Reestablish the original proportions by "Alt" upon corner.



Cropping by "Alt" upon corner.



Symmetrical cropping by "Alt + Shift" upon the edges.

Please note that the input box for the image settings (%/X/Y) will display the actual dimension at all times.

Changing the Image Clipping within the Image Frame



The image clipping of a cropped image can be changed afterwards within the image frame.

Pressing the *Shift* key while click-dragging upon the image will move the image clipping inside the frame.

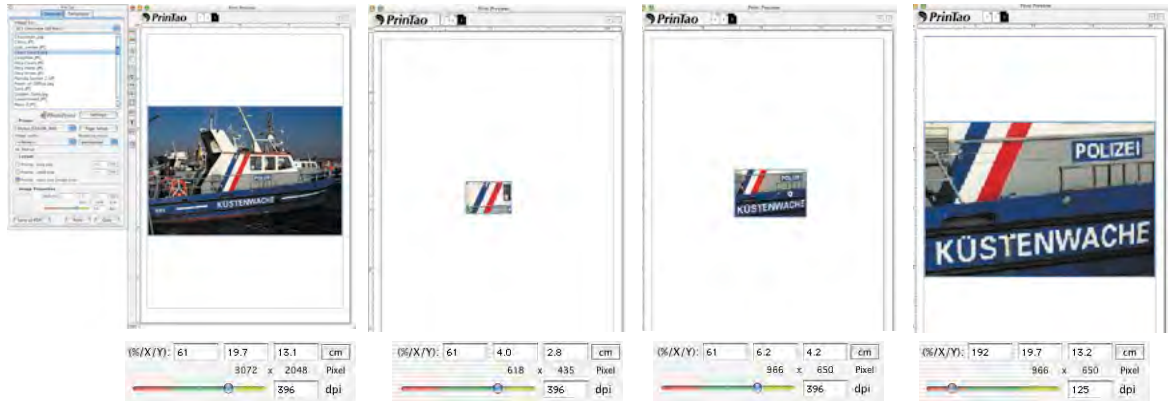


Image after import and adaption to page size.

Cropped image.

Rearranging the image clipping while pressing the shift key.

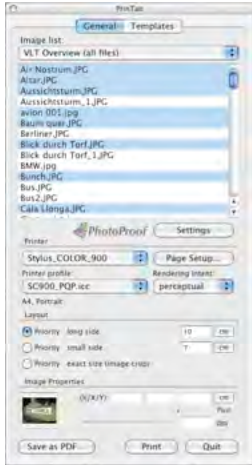
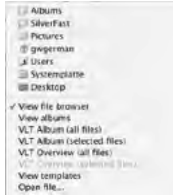
Scaling by readapting to the page size.



If the cropping mode is not activated, the image can be scaled proportionally by pressing the *Shift* key. For that purpose the image frame can simply be resized by touching the the edge or corner of it.

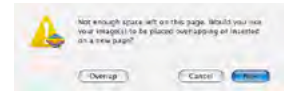
Transfer Several Images to Printout

By means of the navigator popup menu, an image directory, an album or the overview of the VLT may be chosen. The images are displayed in the dialogue window.



Images are to be selected from this list by the *Add* button to pass them on into the printout window. *SilverFast* will automatically try to place these images in an optimum manner on the print sheet.

In case the printing area is not enough, *SilverFast* will ask if more printing sheets are to be used.

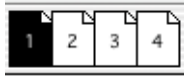


By clicking "New", *SilverFast* automatically attaches the necessary additional pages.



Choosing interleaving causes all images on the current page to be added. Supernumerary images are collected at the lower right edge of the printing window. They may then manually be arranged, deleted, moved etc.





The number of pages as well as the number of the active page are displayed above the window. The pages may be switched by clicking the respective thumbnails.



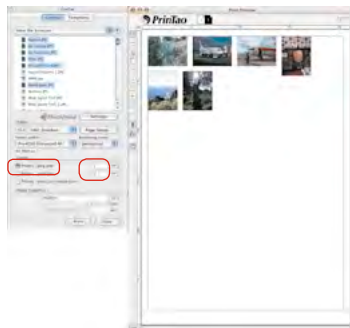
By clicking the *Plus* and the *Minus* buttons respectively, printing sheets may be added or deleted manually.

In case there are many pages, the images may be switched between these pages:

- **Moving images:** Select and click-drag the thumbnails of the current page and simply drag them on to the desired page. These images are then removed from their original position and disappear from that page.
- **Copying images:** Select images of the current page and, while keeping the “Shift” key pressed, drag the thumbnail on to the desired page. The images will then remain on the original page as well.

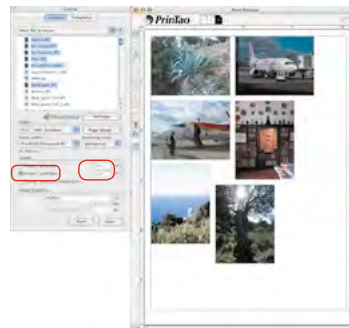


The size of the images that will be printed out is adjustable in the presets under the *Layout* menu. The *Priority* determines if all images use the same long page, the same short page or the exact entered values on the printout.



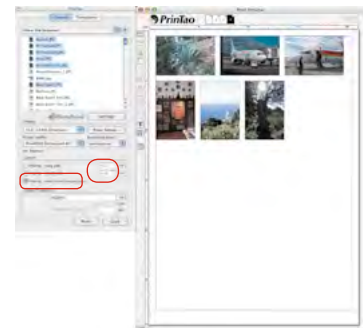
Priority long side

The selected images were all inserted with a long page of 4 cm.



Priority small side

The selected images were all inserted with a short page of 8 cm.



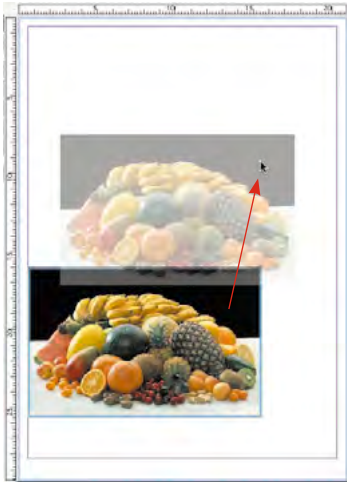
Priority exact size

The selected images were all inserted with an exact size of 4x8 cm. Since in this case the image contents were larger, they were cut to 4x8 cm.

Naturally all single images may also be varied in size by click-dragging them manually in the printout window:

Click-dragging within an image moves the entire image.

Click-dragging an edge / a corner alters the image size (proportionally if the “Cut image” button is deactivated, i.e. it appears grey).



Control buttons

By means of the navigation buttons left of the print window, rotating, inverting etc. is possible:



Add: The images selected and marked are passed on to the printing window.

Delete: The selected images are removed from the printout. Clears the selected picture frame.

Stacking sequence upwards: in the printing area marked pictures are shifted upward one level in the stacking sequence.

Stacking sequence downwards: in the printing area marked pictures are shifted downward one level in the stacking sequence.

Rotate: The selected image is rotated in 90° steps. The dot at the circle shows the orientation.

Reflect vertically: The active image is reflected vertically in the print window.

Reflect horizontally: The active image is reflected horizontally in the print window.

Centre on page: Places the image centrally in the printout

Adapt to page size: The active image is proportionally adapted to the printing area.

Cut image: If this mode is activated the area of the image can be selected manually by click-dragging the mouse. If this option is deactivated, the proportions of the image may not be changed; only size, position and orientation may be altered.

Text tools*: With the help of this feature, any text may be added to images and additional text may be entered and placed freely on the print page.

Saving, loading and exporting: The page layout may be saved, re-loaded for future use and also be exported together with the images.

QuickTime movies: A short video that introduces *PrinTao*.

*Attention!

This function is available in the Pro- and Studio-Versions only and operate only under Mac OS 10.3.1 or newer.



***Attention!**

This function is available in the Pro- and Studio versions only and operate only under Mac OS 10.3.1 or newer.



Adding text to images*

In *PrinTao* a very high performance text tool is contained, which hides itself behind the button with the **T**.

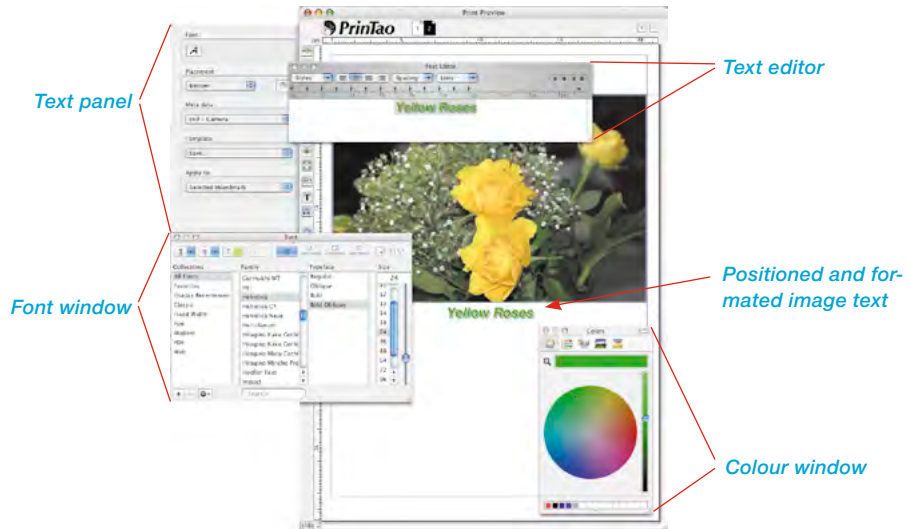
By clicking a selection menu opens. Here one can specify any picture text

Define image text
Create a new box for free movable text
Add copyright notice

- which will be shown outward at an edge of the picture,
- to provide a freely positionable text field for layout purposes,
- to add copyright notes as text within the picture.

The text dialogues can be opened directly, by double-clicking upon a placed image or an existing text box.

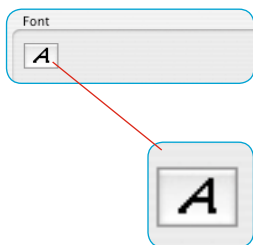
In combination with the free placing and scaling of the pictures on the print pages one has a functionality, which is attainable otherwise only in layout programs.



The text box will be closed by deselecting the edited image (deselect by clicking next to the image).

The three points in detail:

Define image text
 Create a new box for free movable text
 Add copyright notice



1. Define Image Text

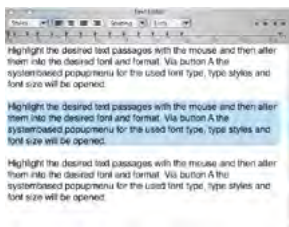
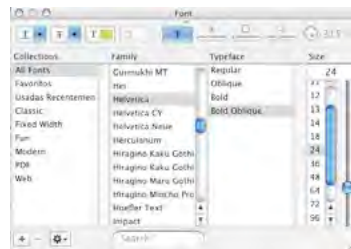
This very substantial dialogue will enable you to create print page documents with individual as well as automated text. The settings are valid for the text as a whole as well as all the meta data visible in the text box.

- **Text editor window:** free text can be entered here and it will show the commands of the placed meta data. Meta data can be separated via punctuation marks. The “enter” key will create a line break. Furthermore any type of external text from the system’s clipboard can be pasted here. By means of the mouse, marked textures may be formatted individually.

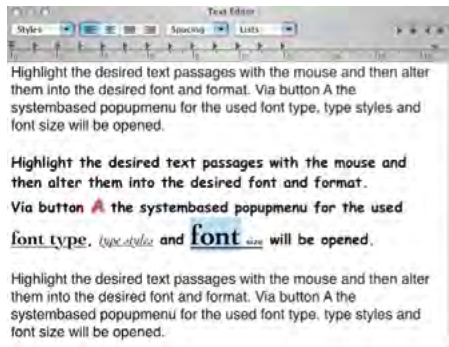
- **Font:** All the system fonts may be viewed here. (This function is available under Mac OS 10.3.1 or higher).

Highlight the desired text passages with the mouse and then alter them into the desired font and format.

Via button **A** the system based popup menu for the used font type, type styles and font size will be opened. Alternatively, the menu may also be opened by means of the shortcut “Cmd +T”.



Unformatted text with selected text passage



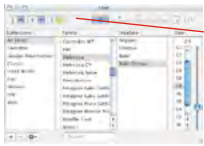
Formatted text



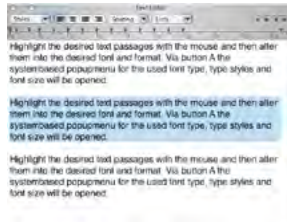
Undo / Redo

There is an unlimited “Undo / Redo” within the text editor:

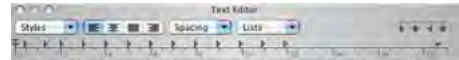
Command + Z Undo
 Command + R Redo



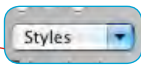
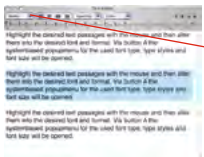
From within the fonts-palette, the colour of the text may also be changed. The button for the colours opens the system owned dialogue for choosing the text colour. The highlighted text is changed into another colour by drag-clicking onto it.



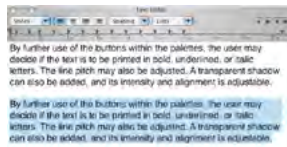
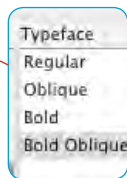
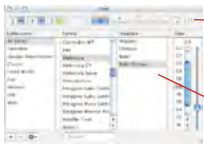
Unformatted text with selected text passage



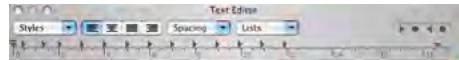
Formatted text



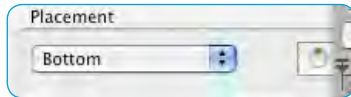
By further use of the buttons within the palettes, the user may decide if the text is to be printed in bold, underlined, or italic letters. The line pitch may also be adjusted. A transparent shadow can also be added, and its intensity and alignment is adjustable.



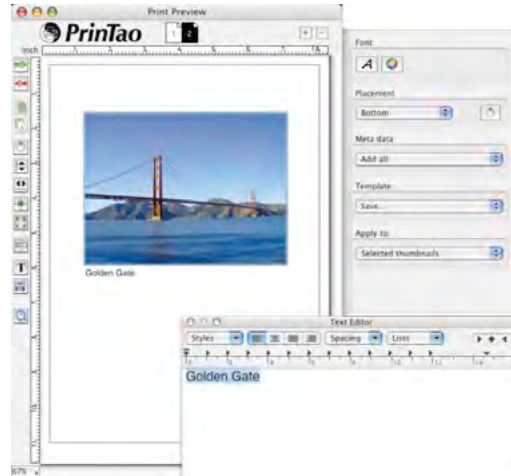
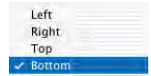
Unformatted text with selected text passage



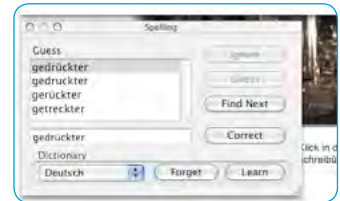
Formatted text

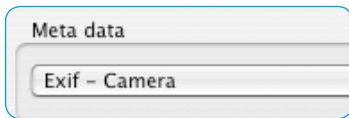


- Placement:** This popup menu addresses the placement of the text at the edges of the image. Via the button on the right hand side the text can be rotated perpendicular clockwise with each mouse click. Holding down the shift key will rotate anticlockwise.

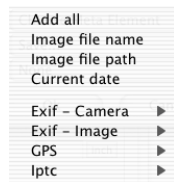


- Spelling check:** By pressing the “Ctrl” key and clicking into the text window, a sub-menu for spelling and grammar may be activated.





- **Meta data:** A very extensive menu with several sub-menus for the designation of the meta data that is to be entered into the image texts opens here. Each choice of a meta date adds this to the current position of the text cursor.

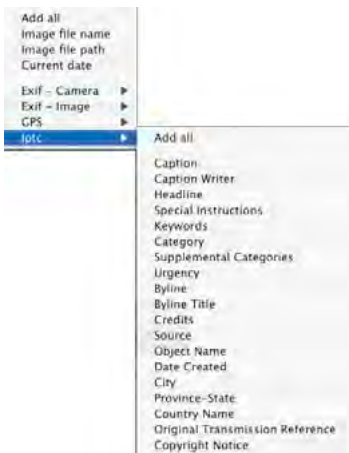
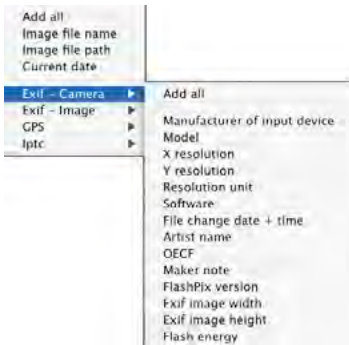


The meta data commands in sharp brackets within the text field will only lead to an actual printing of the data if the meta data entries are available in the image data. Thus, a meta data entry does not automatically lead to a printed text on the image. An "empty" meta date will simply be ignored in the printout.

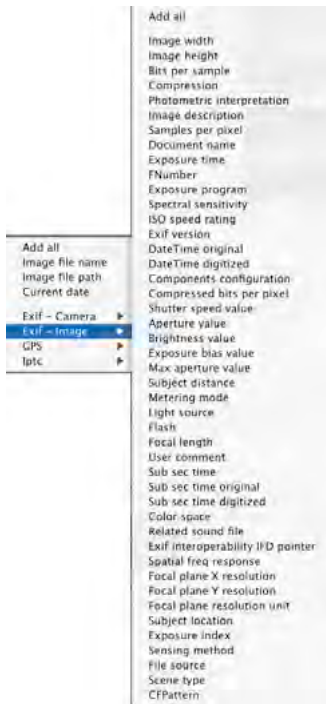
«**Insert all**» will cause all available meta data to be entered into the image text - this can easily become a very large text!

«**Current date**» enters the current system date into the image text.

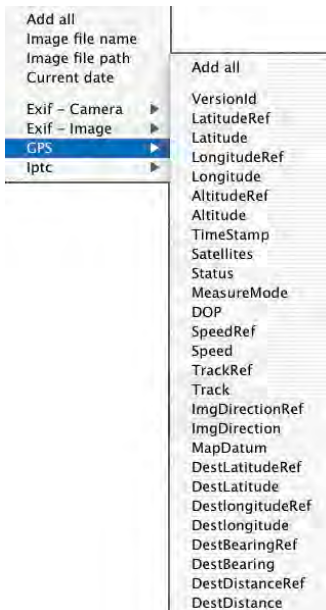
«**EXIF - camera**» is a menu for camera specific meta data.



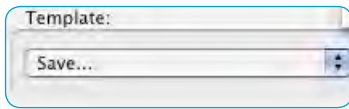
«**IPTC**» allows the embedding of IPTC meta data into the image text.



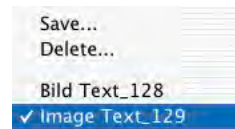
«EXIF - image» displays a large menu for capture- and image specific meta data.



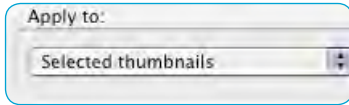
«GPS» lists the meta data of satellite supported positioning which is integrated in some cameras.



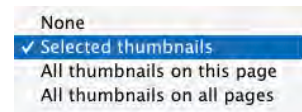
- **Templates:** here, all entered settings can be saved as a set and reloaded at a later time.



Saved sets can also be reloaded by entering their respective names.



- **Apply to:** In this menu the user can choose which images are to be furnished with text.

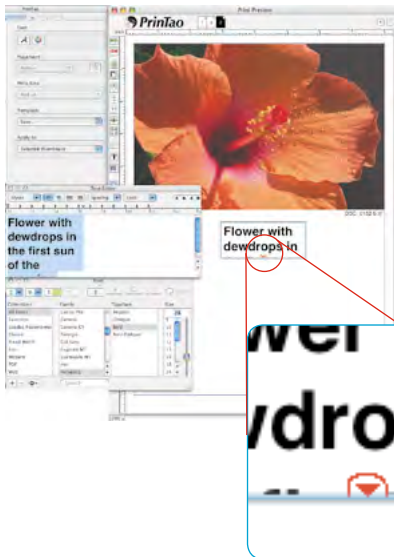
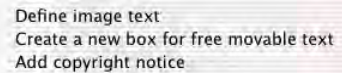


The text printing can be deactivated (*No image*), applied only to selected images (*Chosen image*), or for all images (*All images on this page*), or even assigned to all to all print pages (*All images on all pages*).

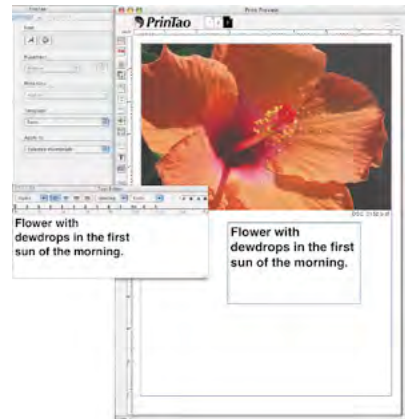
2. Create Freely Positionable Text Framework



After choosing this option a text editing dialogue will be opened and the mouse pointer will change its status to a small cross. Click and draw a rectangle on the printing area in which you wish to position the text. The size and position of the rectangle can be corrected at any time afterwards.



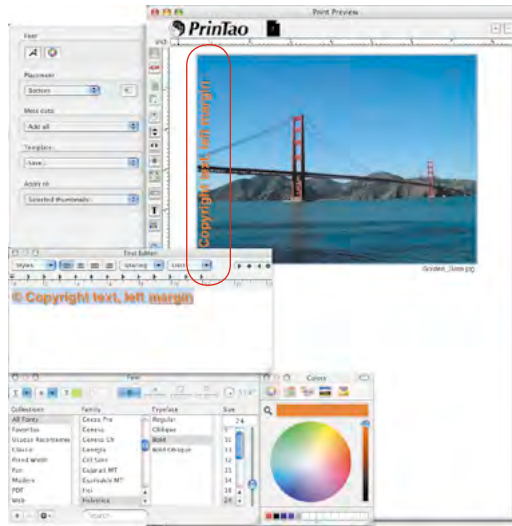
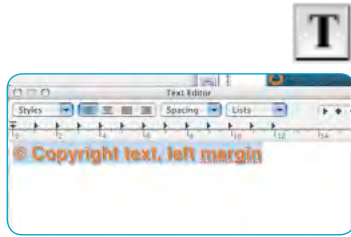
If the text is too long for the according rectangle, a red sign for text overflow will be shown at the bottom. Just increase the size of the rectangle as shown in the example or adjust the font parameters to smaller values.



3. Place Copyright Notes Within the Image

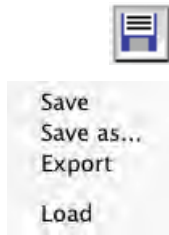
After choosing this option a text dialogue will be opened. A copyright note can be entered now, which will then become visible as a new image text within the image. The text can be placed at any corner of the image.

- Define image text
- Create a new box for free movable text
- Add copyright notice



In our example we have placed a short text left hand within the image.

For changing the copyright note at any time afterwards the dialogue can simply be opened again by choosing the entry in the text menu.



Export Print Documents as XML Files

Print page layouts can be saved from within *PrinTao* for a repeated application. By the “Save as” function, existing and modified templates may be saved under a new name.

Files are saved in XML format, containing all frame parameters and text, but no image data.

When exporting print page layouts they are saved in XML formatted files as well including the images used on the page. The image data will be named «PictureExport_00000000.JPG, PictureExport_00000001.JPG, ...». It is advisable to create a new destination folder for each Export.

Via *loading* both the saved and the exported print page layouts can be reloaded into the *PrinTao*.

Templates in PrinTao

Under the second tab in the *PrinTao* dialogue the user can find a number of predefined templates in order to place numerous images in certain adjustments or alignments on numerous pages very quick and very easy. As a matter of course one can create their own templates.

This is where *PrinTao* creates many opportunities for creativity. Any image can be placed anywhere on the print page document.



All parameters for the modification of templates as well as creating your own templates can be applied in the lower area.

New Template from Page

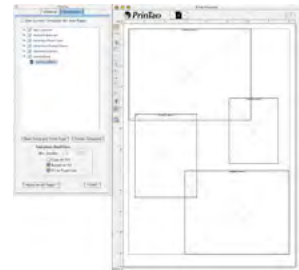
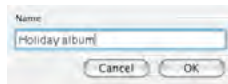
- **New Template from Page**

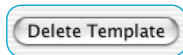
This is for creating image frame templates in three easy steps.

1. Create your own print page document. Include image frames according the desired layout, crop or place randomly. Then switch to the *Templates* tab.

2. By clicking the button for *New template from page* a small save dialogue will pop open for naming and saving the new template. Enter a name. By clicking *Ok* the template will be included under the list of *user defined templates*.

3. Open a new print page document and activate your own template by clicking the new entry under the template list. The placed frames will appear instantly in the chosen sizes.





- **Delete Template**

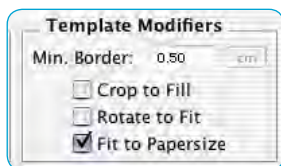
Will delete the selected template from the list.



- **Create Layouts**

The number of images per template can be entered here.

The *x-value* sets the number of columns, the *Y-value* will set the number of rows. In Example: X3 x Y5 means: 5 image rows with 3 frames each will be created on the template page. Therefore it adds up to 15 frames overall.



- **Adapt Template**

These are general parameters, valid for all images within an activated template of the present print page document.

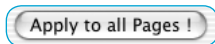
Minimum border: specifies the minimum distance of the picture frames among themselves.

Crop to fill: images will get cropped to the proportions of the present image frames. Example: A square frame is supposed to contain a rectangle image. This will result in a square clipping from the centre part of the rectangle image. The top and bottom edge of the image remain obtained, just the left and right edges will get cropped.

When pressing the *Shift* key the visible clipping of the image can be moved inside the image frame.

Rotate to fit: Images in portrait format will automatically get rotated in order to fit right into the landscape oriented image frame. The same is valid for landscape formatted images and portrait formatted image frames.

Fit to paper size: Will fit the chosen template to the adjusted printer paper size.



- **Apply to All Pages**

Will apply the present template to all selected print page documents.



- **Undo**

Will undo the last performed adjustment or setting

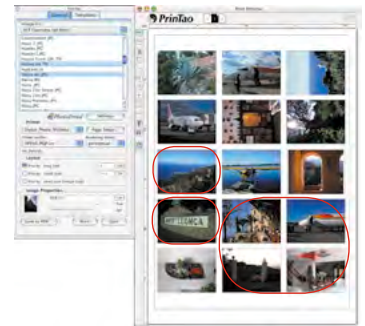
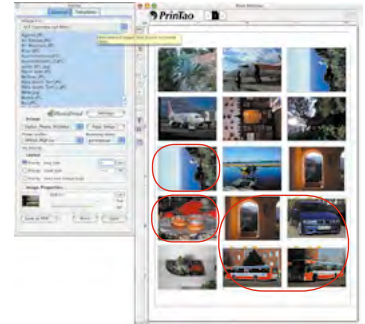
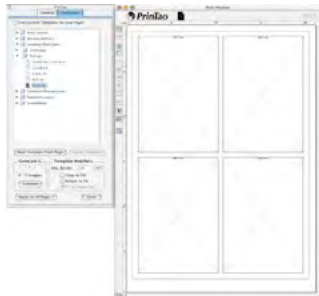
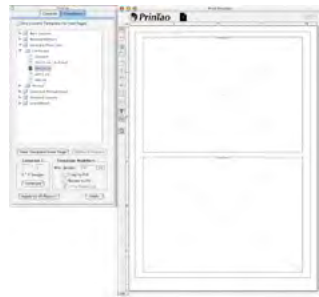
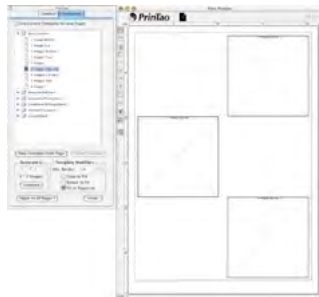
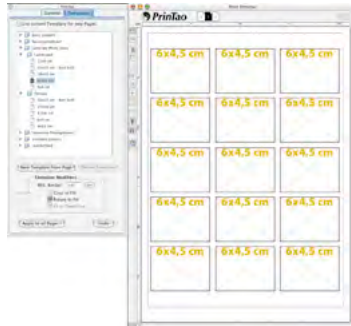
Application of Default Templates

- Switch from the *General* tab to the *Template* tab
- Choose an adequate template. When choosing the template the according empty image frames will appear on the print page.
- Switch back to the *General* tab
- Choose the images to be printed
- Enter the images to the template image frames via the green *add* arrow.

Alternatively the images can be placed on the print page document by drag&drop. The according image frame can be chosen individually by dragging & dropping a single image.

- The subsequent exchange of single images is easy (see red circles):

Activate the image to be exchanged by single-clicking on it, remove the contained image from the print page by clicking the red *remove* arrow, choose a new image from the list and enter it.



Delete Image Frame

Every selected image frame, no matter whether an image has been entered or still empty can be removed from the print page document by pressing *Shift + backspace*, or by clicking the red *remove* arrow.

Arranging Image and Template Frames via Keyboard Shortcuts

Image and template frames can be arranged incrementally by using the cursor (arrow) keys:

- *Command + cursor*: adjustment by 1 pixel
- *Command + Shift + cursor*: adjustment by 10 pixel
- *Command + Alt + cursor*: adjustment to the next guide line accordingly to the end of the print page document

Activate / Deactivate Templates

The templates can be activated / deactivated via a command of the context menu (right mouse click). The function key *F7* can alternatively be used for activating / deactivating of templates. The *magnetic behaviour* is not available when templates are not activated, because the guide lines are deactivated with the same command.

Zoom and Scaling Functionality

PrinTao features many possibilities to change the displayed size of the print page document or to scale the image embedded and for zooming.

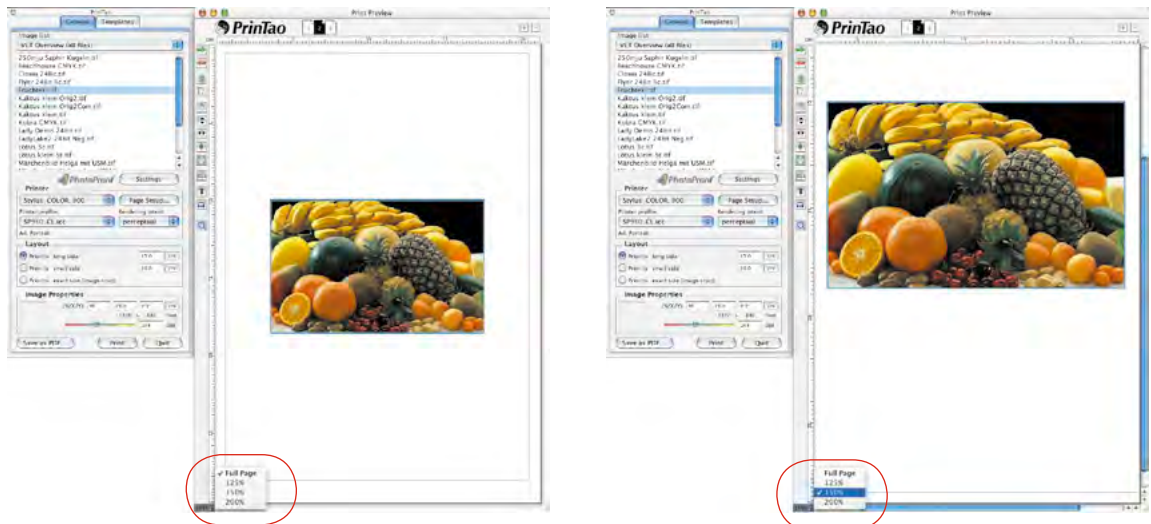
Zoom Print Page Document

For precise work in details it is eventually necessary to display the print page enlarged. There are two kind of ways to zoom the print page:

- **Print Page Zoom via Inputbox**

In the lower left corner is a inputbox displaying the actual size of the window, which works like a popup menu.

Different zoom steps can be chosen. The collateral scroll bars can be used for navigating inside the enlarged print page.

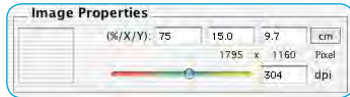


- **Print Page Zoom via Keyboard Shortcuts**

Zooming can be done in 10% steps by using the keyboard shortcuts. All images need to be deselected prior to the zooming.

Command + plus: enlargement by +10%

Command + minus: reduction by -10%.

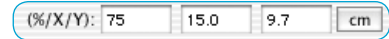


Scaling Images on a Print Page

Every single image of a print page can be scaled as a whole, thus including its frame. The inputbox *Image settings* displays the scaling value in percentage, as well as the X/Y size of the image.

- **Slider**

The coloured slider can change the size of an image infinitely variable by dragging the handle.



Caution is necessary if the slider is moved into the red range. The resolution of the image does not suffice for a high fidelity print.

- **Keyboard shortcuts**

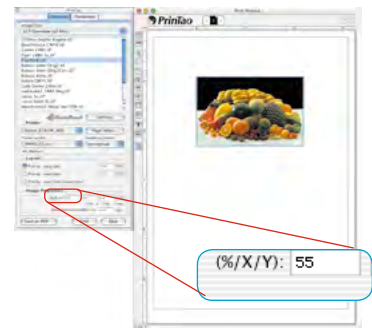
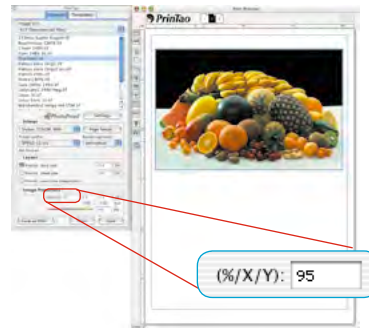
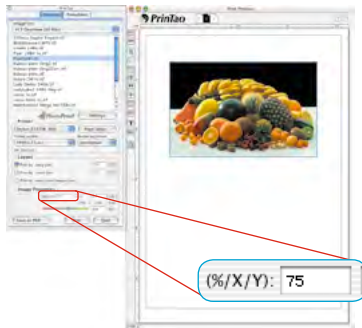
Image frames can be scaled step by step by keyboard shortcuts:

Command + plus: will enlarge the whole image frame by +10%,

Command + minus: will decrease the whole image frame by -10%.

Command + Shift + plus: will enlarge the whole image frame by +1%,

Command + Shift + minus: will decrease the whole image frame by -1%.



- **Clicking and dragging**

Clicking and dragging the edge or a corner of an image frame with the mouse will also scale the image infinitely variable

(%/X/Y):	75	15.0	9.7	cm
----------	----	------	-----	----

- **Input Box**

Scaling values can be entered directly in the according input boxes.

Scaling Images Within the Image Frame

There is a way to scale an image within it's frame. The size of the image frame will remain the same and does not change.

- **Keyboard shortcut**

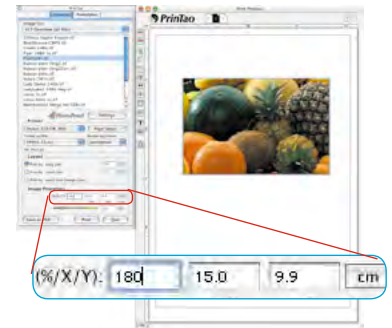
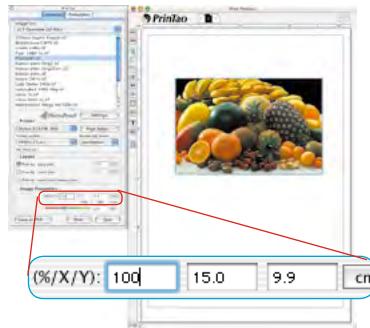
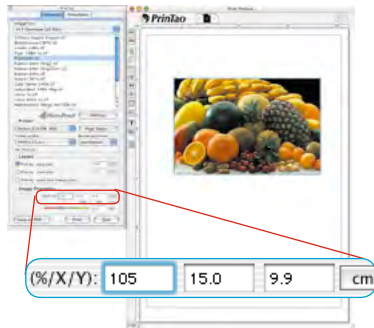
Images can be scaled within it's frame step by step via keyboard:

Command + Alt + plus: enlarge image clipping by +10%,

Command + Alt + minus: decrease the image clipping by -10%,

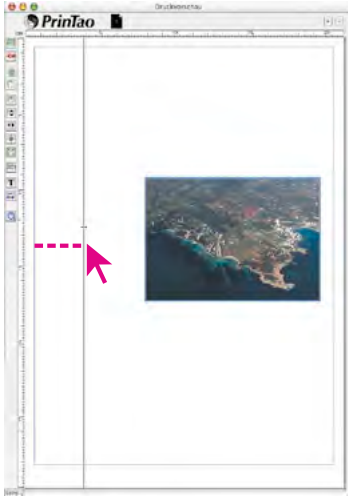
Command + Alt + Shift + plus: enlarge image clipping by +1%,

Command + Alt + Shift + minus: decrease image clipping by -1%



Help Lines and Grid Frames on Print Pages

Similar to a layout-software, *PrinTao* can set Help lines and grid frame for exact positioning of image- and text frames. The simple and structured assembly can be simplified and speed up with the *magnetic behaviour* of the guide lines.

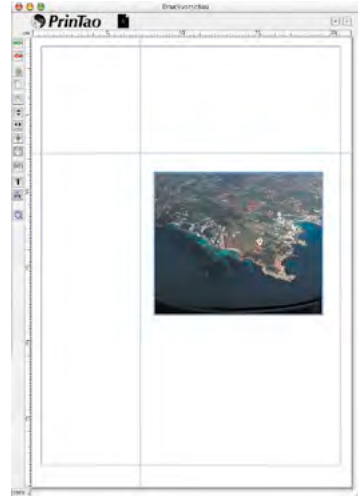


- **Creating Guide Lines**

Guide lines are created by simply clicking and dragging on either the horizontal or the vertical ruler.

- **Scrolling Guide Lines via Mouse Click**

The guide lines can be scrolled on the print page by using the mouse. The mouse pointer will change accordingly, if the mouse is parked above a guide line.

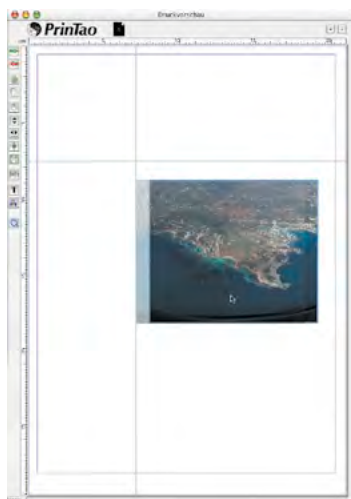


- **Delete Guide Lines**

The guide line simply needs to be dragged outside of the print page document in order to delete. Alternatively a command from the context menu (right mouse click) will do the same job.

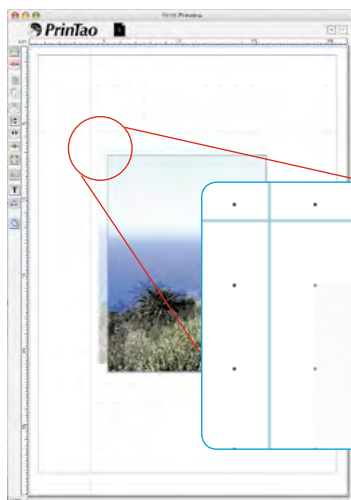
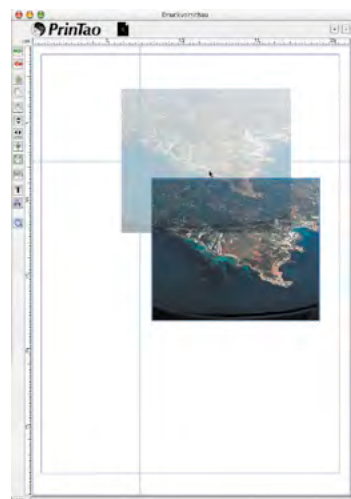
- **Show / Hide Guide Lines**

Via a command from the *context menu* (right mouse click) the guide lines will be shown or hidden. Alternatively the state of the guidelines can be toggled via *F7*. The guide lines lose their *magnetic behaviour* if not shown on the print page.



- **Magnetic Guide Lines**

If the edge or center of an image approaches a guide line, the image will be protracted to the guide line and engage there.



- **Grid Frame**

By means of the context menu (Win: right mouse button) or, alternatively by the F7 Key, a fixed grid frame will be displayed. It consists of fine points and fills the entire print page.

Images may be aligned by means of their magnetic left upper corner to these points.

By means of a double-click on the horizontal or vertical ruler, the settings for the grid may be altered. The grid distance is freely choosable.

- **Moving Images by means of Keyboard Shortcuts**

Cmd + Alt + Arrow moves the image to the next help line, the margin or the next grid line, depending on which is closest.

Creative Techniques: Composing Images and Texts

The simplest case is a basic superimposition of a couple of images to a collage i.e. one large scale image in the background and a couple of small scale image on top.

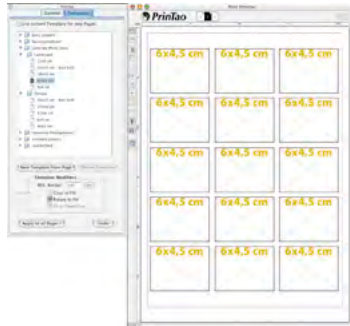


Right: the final result in the print



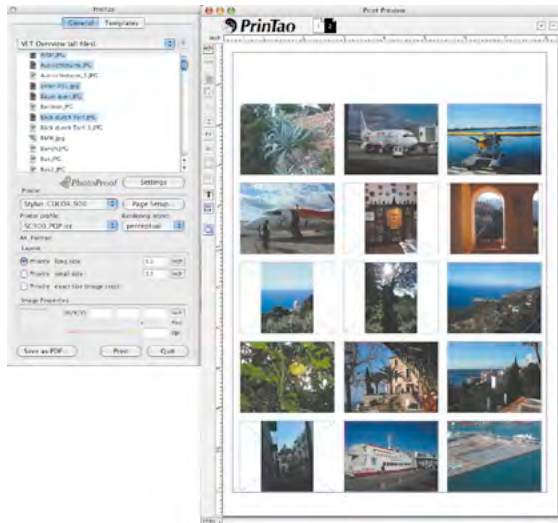
Every collage can be added with any text passages. An example of a small holiday brochure is displayed here.

More complex compositions can easily and widely be accomplished via the templates automatically.

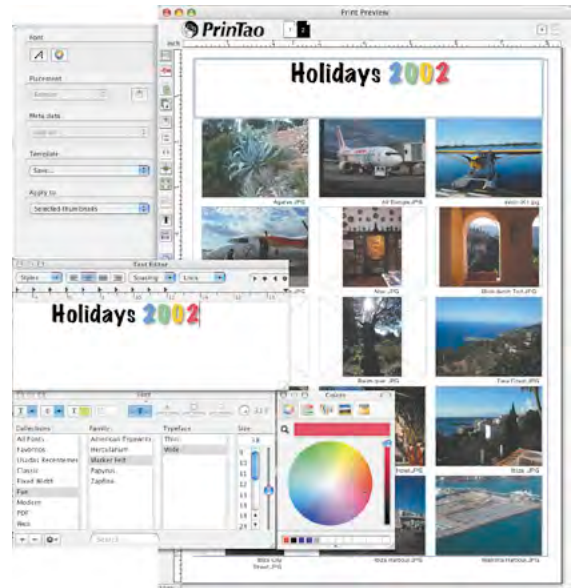


Print page document with empty frames and no text

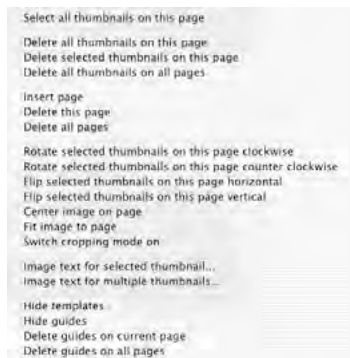
- At first choose a template.
- Select images to be entered into the image frames.
- Add image subtitles automatically with the text tool.
- Enter a title for the print page document.
- Possibly interchange individual images later.
- ...



Print page document with images.



Print page document with images and text and a free movable text title.



Context Menu (right mouse click) upon a Print Page Document

The substantial context menu features another simplification and assistance assembling layouts and print pages. Changing the structure of a page quick and easy, deleting images, mirroring and rotating, adding or deleting pages, ... almost all button functionality left of the print page window can be accessed via the context menu.

Printer Setup

The parameters of the connected printer can be defined in the menu "Printer".

In case a printer profile is available, the according profile can be chosen under "printer profile" for the appropriate printer/paper setup. This even permits working with calibrated printers. Please read the according chapter "*SilverFast PhotoProof*".

NOTE: Please note that the following menus for setting up the printer vary substantially, depending on the operating system and the different printer models.



*Attention!

SilverFast PhotoProof is only available as an option in *SilverFast DC Pro Studio* and *SilverFast HDR Studio*.



Please note for *SilverFast PhotoProof*!

In order to verify that your desired results will be colour consistent and legally binding please follow these requirements:

- Switch off colour management in your proof printer driver
- Your proof printer has to be calibrated to the necessary ink and paper combination. The corresponding printer profile must be chosen accordingly in the *PrinTao* dialogue.
- The papers used for creating the proofs need to meet the settings in the printer driver as well as the specifications in the chosen Output profile.

Keyboard Shortcuts in *PrinTao*

Action	Macintosh	Windows
Activating /deactivating templates and Activating /deactivating guide lines and activate/de-activate grid frame	F7	F7
Delete image frame from print page.	Shift + backspace	Delete
Rotate image with template frame	Alt+click. on rotate button	Alt+click on rotate button
Rotate image counter-clockwise.	Shift+click on rotate button	Shift+click on rotate button

Cropping Mode Not Active

Crop image.	Alt + click-dragging edge or corner	Alt + click-dragging edge or corner
Crop image symmetrically	Alt + Shift + click-dragging edge or corner	Alt + Shift + click-dragging edge or corner
Scroll image clipping within image frame	Shift + click-dragging within image	Shift + click-dragging within image
Scale image proportionally.	Shift + click-dragging edge or corner	Shift + click-dragging edge or corner

Moving Image- and Template Frames via Keyboard Shortcuts

Adjustment by 1 pixel.	Command + cursor.	Ctrl + cursor
Adjustment by 10 pixel.	Command + Shift + cursor.	Ctrl + Shift + cursor
Adjustment to the next guide line or rather edge of printable area	Command + Alt + cursor	Ctrl + Alt + cursor

Action

Macintosh

Windows

Zooming the Print Page via Keyboard Shortcuts

Enlargement by +10% Command + plus Ctrl + plus
Decrease by -10% Command + minus Ctrl + minus

Scaling Image Frames Stepwise in Percentage

Enlarge image frame by +10% Command + plus Ctrl + plus
Decrease image frame by -10% Command + minus Ctrl + minus
Enlarge image frame by +1% Command + Shift + plus Ctrl + plus
Decrease image frame by -1% Command + Shift + minus Ctrl + minus

Scaling Images Inside it's Frame

Enlarge image clipping +10% Command + Alt + plus Ctrl + Alt + plus
Decrease image clipping -10% Command + Alt + minus Ctrl + Alt + minus
Enlarge image clipping +1% Command + Alt + Shift + plus Ctrl + Alt + Shift + plus
Decrease image clipping -1% Command + Alt + Shift + minus Ctrl + Alt + Shift + minus

Text Functions

Open text menu Command + T not available
Select complete text of text box Command + A not available
Print selected text **bold** Command + B not available
Print selected text *italic* Command + I not available
Underline selected text Command + U not available
Launch spelling check Ctrl + click not available
(menu) into the input field
Undo Command + Z not available
Redo Command + R not available

Action

Macintosh

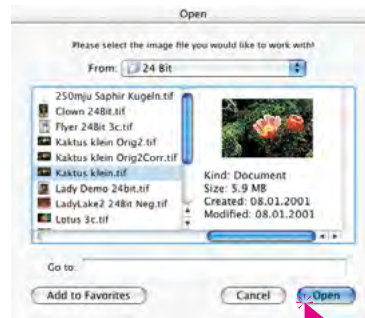
Windows

Navigator / File Browser

Navigation within image list	Arrow up / down	Arrow up / down
Extend selection	keep Shift pressed.	keep Shift pressed
Add selected images to printing page ..	Alt + arrow right	Alt + arrow right
Add selected images to printing page ..	Alt + Enter	Alt + Enter
Open directory.	Arrow right	Arrow right
Back to superordinated directory. (if a directory is selected)	Arrow left	Arrow left
Back to superordinated directory. (if files are selected only)	Alt + arrow up.	Alt + arrow up
Close directory. (if <i>file browser</i> is selected)	Arrow left	Arrow left
Define selected directory as Root (if a directory is selected)	Alt + Enter	Alt + Enter

Opening an Image with the “Open” Button

Clicking on the “open” button activates a dialogue used for selecting the device or folder containing the images:



Open an image directly by double clicking on the name or by single clicking on the name and clicking the “open” button. The image will be opened within the *SilverFast* prescan window.

Macintosh

Clicking on the header of the prescan window, while keeping the “Command”- key pressed.

Windows

Right click the mouse in the prescan window.

IT8 Calibration with *SilverFastDCPro*

Differences in Calibration Between a Scanner and a Digital Camera

When calibrating a digital camera, several factors have to be taken into account.

The great advantage of scanners is that they work with almost constant conditions: it has an almost constant light source, a fixed colour temperature and a constant distance between the object and the sensor, as well as an absolute array between object and sensor.

This is completely different with digital cameras! Nothing is really constant or standardised, leaving the camera much more flexible and therewith hard to calculate.

An IT8 calibration can be performed but, strictly speaking, lasts only as long as no changes are made to the surrounding factors.

These conditions are generally only found in photo studios, table-top or during repro photography. They are strongly variable when working with changing light conditions, outdoor photography, etc. Each deviation of the factors makes the calibration work for only one single photo. If a light source is moved in a photo studio, a new calibration-photo is to be made. In order to do this, simply place a suitable IT8 target on a prepared stand into the photo to be taken, and capture the IT8 target in the photo. Then remove the target from the set, and re-shoot the photograph. By this method, two photos are taken, first one for calibration and after that the actual photograph. Professionals know the procedure with grey card tests – the objective is the same with the steps described here.

Steps of a Calibration with *SilverFastDCPro*

Other than with flat bed or film scanners, digital camera users will often come across angularly photographed IT8 targets. A chart that is exactly perpendicular to the optical axis of the camera could reflect and hence make the photograph useless for later calibration.

For compensation of angular distortions, *SilverFastDCPro* is equipped with a flexible and perceptively variable scan frame. This frame contains a grid that resembles the individual measurement fields of the IT8 target.

The calibration itself is the same as in all other *SilverFastAi* versions. The only difference is the different positioning of the scan frame.



Launch *SilverFastDCPro* and load the IT8 image into the preview window of the main menu.

Open the IT8 dialogue by clicking the respective button in the vertical toll palette, located left of the preview window.



The grid will immediately appear in the preview window.

Position the grid exactly over the IT8 target.



By means of one mouse click into the IT8 Image of the dialogue window, the frame is set back to the standard position



Once the frame is set correctly, the calibration may commence by clicking the “Start” button.

The following sequence is identical to the normal *SilverFast* IT8 calibration.

For more information please read Chapter 7 “Calibration of your Scanner using *SilverFast* IT8 calibration”.



SilverFastHiRePP



HiRePP (High Resolution Picture Performance) is a new technology designed to dramatically increase the **speed of loading** large image files (larger than 30 MB) in conjunction with *SilverFastAi* and the scanner independent *SilverFastHDR* and *SilverFastDC*.

This is true for all *SilverFast* versions loading *HiRePP*-accelerated image files, such as 24 bit and 48 bit Tiff-files.

The function cannot be seen in the *SilverFast* interface, since it works totally invisible requiring no interaction from the user.

Though its impact becomes more effective, the larger image file size becomes.

Loading or opening large image files (e.g. 500MB) depending on the software and computer CPU power, may last several minutes respectively. If these large files have been generated with a version of *SilverFast* with *HiRePP*, opening these files in *SilverFastHDR* or *-DC* will only be a matter of seconds.

Of course it is also possible to instill *HiRePP* into already existing non-*HiRePP* files with *SilverFastHDR* accordingly. That would be an ideal task e.g. for the *SilverFastJobManager*. Whole directories of old data can automatically become *HiRePP*-capable. All without any loss of quality!

How much Time will be Saved?

Test configuration: Macintosh G4, 450 MHz, 384 MB RAM, Adobe Photoshop 6 with 120 MB RAM allocated.

Image file with:	100 MB without HiRePP	100 MB with HiRePP	500 MB without HiRePP	500 MB with HiRePP
opens in				
<i>SilverFastHDR</i> with HiRePP in	≈11 sec	≈2,5 sec	≈34 sec	≈2,5 sec
<i>Photoshop 6</i> in	≈15 sec	≈15 sec	≈90 sec	≈90 sec

How does HiRePP Function?

HiRePP functions as a two-step system:

- The first step is to make the image data *SilverFastHDR HiRePP* compatible, or to re-scan with a new *SilverFastAi* software.
- Second step: All *HiRePP* capable image files can be loaded and edited in real-time with *SilverFastHDR*.

HiRePP is Especially Significant for Whom?

Large image files are generally generated on high end scanners, with high optical resolution, as well as with large format scanners. Since image files will have no loss of quality with *HiRePP*, but generate a large time-saving potential, *HiRePP* is recommended for those types of scanners. as mentioned above.

In addition all users having to process a large number of files: Publishing companies, Image data archives, photographers,...

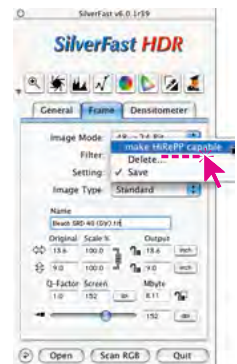
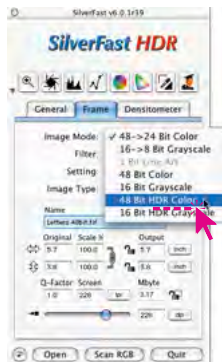
The time saved will plainly increase with the number of images processed.

Furnishing existing Image Data with HiRePP

How do you make an existing stock of images *HiRePP* compatible without changing anything in the images?

First, deactivate *SilverFastSRD* and switch to “48 bit HDR colour” mode. All tools and filter are now de-activated.

Save the settings in the palette “Frames” under “Adjustments” with a suitable name; e.g. “make *HiRePP* capable”.





Start the integrated *JobManager*
It initially opens as an empty window.

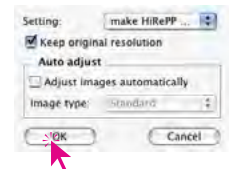


Now open the *Virtual Light Table (VLT)*
Chose image data that is to be made *HiRePP* compatible: individual images from a directory or an album, complete directory contents or combinations of images from different directories.

Pull the selection by “Drag & Drop” into the *JobManager* window.



The window in which you just saved the
“make HiRePP capable” will re-open.



Important:

Check the box “Keep original resolution” and de-activate “Adjust Images automatically”.

Only now will the image parameters remain unchanged.

By clicking “OK” the selected images are passed to the *JobManager*



Select all images (Mac: “Cmd + A” / Windows “Ctrl + A”).

A new directory is chosen in which the newly updated images are to be saved.

The job now only has to be launched by pressing the “Start” button.

6.12 SilverFastJobManager

Purpose of the JobManager

What is the JobManager?

SilverFastJobManager (from here on referred to as “JM”) is a built-in function for the scan software *SilverFastAi...*, as well as for the Photoshop plug-ins which operate independently of a scanner and the Twain modules *SilverFastHDR...*, *SilverFastDCPro...*

What is the Purpose of the JobManager?

If a user wants to scan a whole row of images (for example, an entire film strip), he would normally proceed image by image. The user would sit at his work place with a calculator and scanner and proceed one after the other with image optimising (gradation, histogram, colour correction, focus, etc.) and the final scan, image by image.

This is a time and cost-consuming procedure if there are many images and optimum quality is desired. The time required for the hardware to make preview scans, fine scans and save files is dead and wasted time for the user. In terms of modern, fast work processing, it is really a dinosaur!

When using *JM*, there are additional advantages for using a flatbed or drum scanner. Thanks to *JM*, you can process transparent and reflective artwork and even mix slides and negatives. They can be processed in one pass, using *JM*.

Therefore, *JM* is a tool that will drastically increase the efficiency in the workflow process and is also a means for decreasing costs.

What is a Job?

A *Job / Job entry* is a collection of settings, parameters and manipulations, which can be used

- a) for an image to be scanned,
- b) for an already existing image file or
- c) for complete folders with image files.

* *Note!*

Only applicable when using JM with SilverFastHDR... or SilverFastDC...

A job or job entry can also be seen as an instruction list, from which images, image files* or image folders* can be processed automatically.

How is JobManager Different from “Batch Scanning”?

When using a **flatbed or drum scanner**, the automatic processing of image frame parameters in the preview window will be by batch scan. Thus, the batch scan is restricted to the preview window of the flatbed or the drum scanner.

With regard to film scanners, the batch scan is defined in a similar way. Only now you have the choice of scanning additional images in a filmstrip with the same or with individually modified parameters. You can also choose to scan selected images instead of all of them. Changing individual settings for subsequent images is generally not possible in a batch scan.

With **SilverFast versions that are independent of scanners**, such as *HDR...*, and *DC...*, *JM* accepts 48 bit** raw data from files*, directories* containing RGB image files, and disks over the network*, etc.

RGB scans of negative films, transparent material and reflective material can be processed simultaneously in any desired sequence.

** *What is RAW data?*

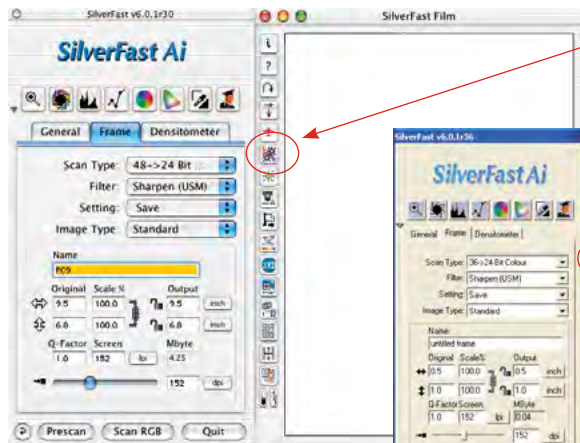
*A few scanners and digital cameras can also scan in a “raw data” or **HDR format** (high dynamic range) with **48 bit colour** or **16 bit greyscale** by means of the SilverFastAi scan software.*

*In this manner, the raw data of the scanner is read as an **RGB file**. Here (with scan type “48 bit HDR colour”), the only means of adjustment during scanning is the output scale and the degree of resolution.*

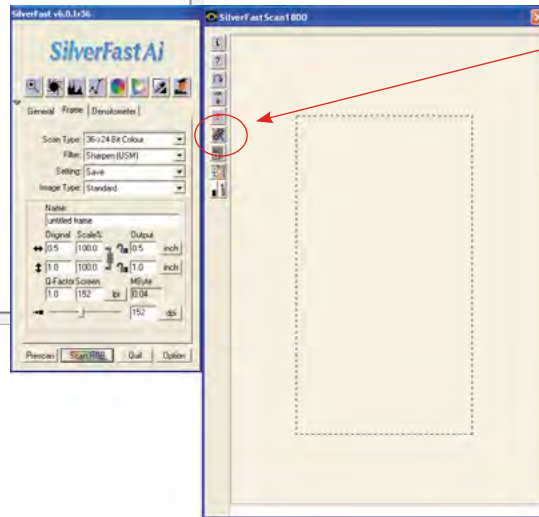
SilverFastAi can embed a scanner profile (which describes the deviation of the scanner) into the RGB data during the output of 48 bit data. The scanner deviations can then automatically be corrected during later processing with SilverFastHDR....

Overview

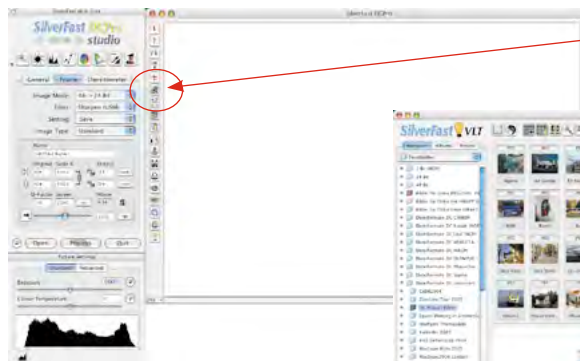
To activate the JobManager, click on “JobManager” button.



SilverFastAi
dialogue using Macintosh



SilverFastAi
dialogue using Windows









SilverFastDCProStudio
dialogue using Macintosh











SilverFastDCProStudio
VLT

SilverFastJobManager Tools

Icons indicating the current corrections and the output format chosen:

-  Execute **auto-adjust** before scan
-  **Gradation curve** changes in effect
-  **Selective colour correction** active
-  **RGB output format** selected
-  **Lab output format** selected
-  **CMYK output format** selected

Icons representing actions with reference to the Job:

-  **Add the active frame** from the preview
-  **Add all frames** from the preview
-  **Add images from image overview** dialogue window (filmscanners only)
-  **Activate VLT** (SilverFastDC..., HDR... versions only)
-  **Delete the job entries** selected
-  **Edit parameters** of the job entry selected
-  **Copy job-entry parameters**
-  **Select all job entries**

SilverFastJobManager Menu

Referring to actions with relation to complete jobs (such as saving and loading)

Name of current job

A star (*) indicates, whether a job has been changed

QuickTime

Launch tutorial movie.

Image information

File name

Active filter

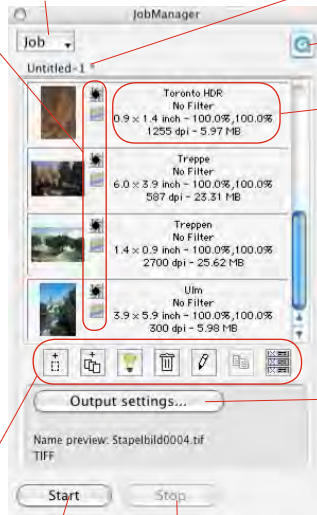
Output dimensions / scaling

Horizontal and vertical

Output resolution – file size

Output options

A menu for setting file formats, directories and file names.



Starting and stopping

of job execution

Differences in JobManager between SilverFastHDR..., -DC..., and SilverFastAi...

There are only two minor differences:

a) It's more easy to move images in the scanner independent SilverFast versions than in SilverFastAi...

In SilverFastHDR... and -DC... you can drag&drop images directly from VLT into the JobManager.

In SilverFastAi... you have to use the corresponding buttons.



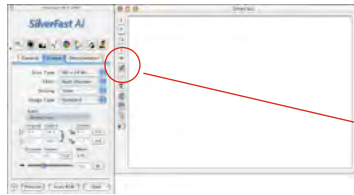
b) In SilverFastHDR..., -DC... the button "add all frames" is not available.

You will find the VLT button instead.



Using the *SilverFastJobManager* with Film Scanners* and Film Strips*

Activating the *JobManager*



First, start *SilverFast Ai*. You do not need to do a preview scan after start-up, since an orientation regarding the total content of the inserted film strip has to be set first.

To activate *JM*, click on the “*JobManager*” button in the vertical list of buttons that are to the left of the large *SilverFast Ai* preview window.

The *JM* window will open.

The window will remain empty and carry the designation “Untitled-1”, as long as no images have been added to *JM*, or no saved jobs have been loaded.

First, add the image files as individual job entries to *JM*. Each *job entry* will define the parameters for exactly one scan. All *job entries* within the window will be combined as one *job*.



There are Several Ways you can Produce *Job Entries*

There are three buttons in the tool list of the *JM* window, which control the addition of image files to a *job*:

The first buttons are used primarily for framed individual images. The first two buttons are mainly used for single images that are already visible in the preview window. The third button is used for unframed film strips* or complete films*.



* Attention

Some functions are only found with certain types of scanners.

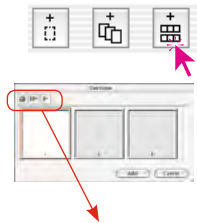


Image Overview of Inserted Film Strip (Index Scan)

Click on the third button to get an overview of the inserted film strip contents.

The window “Image overview”, which may still be empty, will open. The size of the window, i.e. the number of thumbnails is restricted and depends on the scanner type and the length of the film strips.





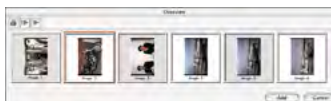
You can print an overview by using the buttons at the top (1st button), refresh the overview (2nd button) if for example a new film strip has been inserted, or you can pause the refresh that has already begun. (3rd button)







Clicking on the 2nd button will tell the scanner to produce an overview of the whole film strip.



 The overview progression will display on your monitor and can be stopped and started. 



Selecting Desired Images

In the resulting image overview, you can select individual images by “Command + click” (Win: Control + click), or you can select a connected sequence of images with “Shift + click”  (Win: ) or select all images with “Command + A”.  (Win: ).







The activated images will have a wide white frame in the image overview. The frames of the non-activated images will remain grey.









By clicking on the “Add” button, the images will be added to the JM window.

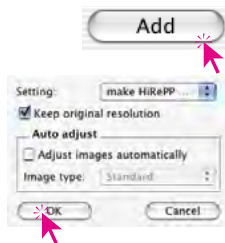
Selection of images:

Macintosh

 +  additional single images
 +  image sequence
 +  all images

Windows

 +  additional single images
 +  image sequence
 +  all images



Since no parameters have been defined for these image files (in contrast to a scan frame in the preview window), a dialogue will appear after you click on the “Add” button, from which you can choose a previously saved presets (or the *SilverFast* basic setting) as a parameter substitute for the images.

In addition, you can designate if image auto-adjust should be applied before the processing of these images (job entries).

The images selected are only visible in the *JM* window.

If images without thumbnails are added to the *JM* a standard icon will display, as done with the third image here.

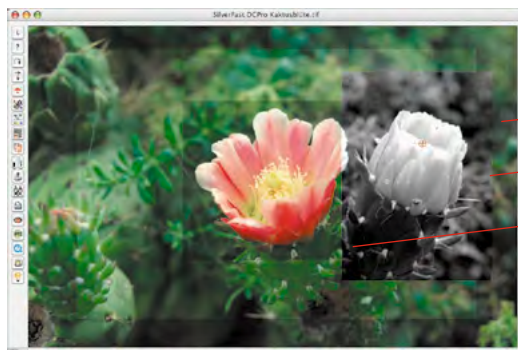


Adding All Frames of the Preview Window



By clicking on the 2nd button, all frames displayed in the preview window will be added to the *JM* window.

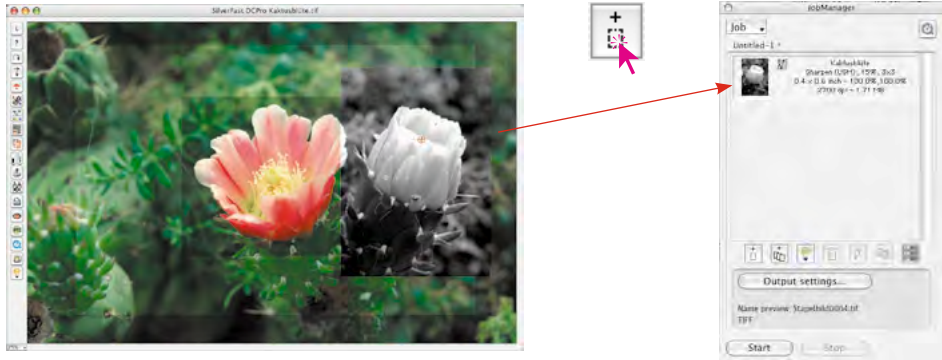
In the example below, 3 frames were displayed. Each frame encompasses a different image section and was optimised with different parameters. Each frame enfolds a different name, a different display window and contains different parameters for optimization.



Adding a Single Frame

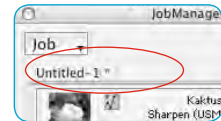


By clicking on the first button with the mouse, the currently activated frame of the preview window will be added to the *JM* window.



You can also mix the three types of *job* entries.

If you make changes in a *job* or *job* entry, and the job changes have not been saved yet, they will be designated with an asterisk * behind the job name.



Attention!



If an image overview appears above the *JobManager* button (in the margin to the left of the prescan window), the keyboard short cuts found there cannot be utilized. This overview appears only for the purpose of selecting a single, new image for the default preview scan. You cannot transfer an image from here to the *JM*.

Deleting Job Entries



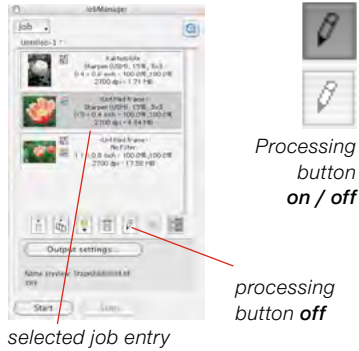
Individual *job* entries can be deleted at any time. To do this, you must select the *job* entries to be deleted in the window of the *JM*. One click of the delete button will remove the marked entries.

Processing Job Entries

Switching to the Processing Mode

The *job* entry to be processed must be selected with a click of the mouse. *SilverFastJobManager* marks the default job entry found in processing with a frame in the selection colour.

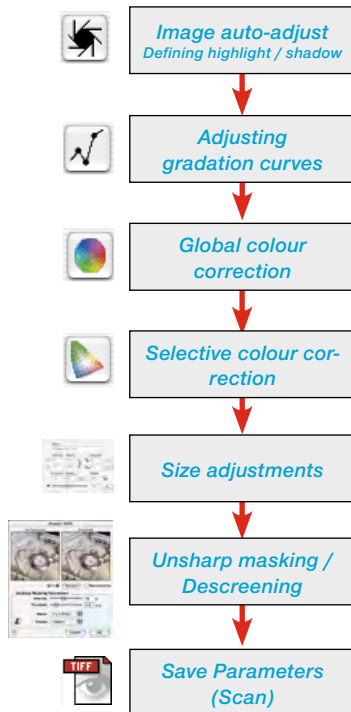
Start the *JM* processing mode by clicking the mouse on the “Processing” button. When switching into the edit mode, a small preview window will appear. This “easy-edit” mode is very useful and time saving if parameters are to be altered quickly and a new preview is necessary (e.g. change of resolution or name, etc.)... if desired, a click on to the “prescan” button immediately launches a preview of the selected image.



Hold the “Processing” button down in order to signal the active processing mode (see screenshots at the left).



Workflow of optimising images



The Actual Image Processing

The next steps are easy. Now, all *SilverFast* tools needed for processing the selected image are available to you, just as in the processing of a normal scan procedure.

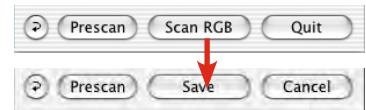
Of course it is important to retain order of the workflow steps of image correction.

The sequence for optimising images is shown in the margin.

The *SilverFastScanPilot* is also available as an additional means of assistance.

The only difference is in the last processing point. The corrections applied will not be processed immediately, they are saved in *JM*.

The “Scan” button of the normal scan software has been changed to a “Save” button in *JM*.



When “Save” is pressed, a scan will not be initiated at this point!

You can immediately proceed to the next image and process it as well. Simply click on the *JM* window and it will automatically be loaded into the preview window. Proceed with the next image optimising. By clicking on “Save”, the parameters will go back to *JM* and will again commit the operation. Using this method, you can optimise all desired images of the film strip in the shortest time.

Leaving the Processing Mode

After finishing the last image optimisation, you can leave the processing mode again by clicking on the “Processing” button. Now you can choose the job entries which are to be scanned. You can do this in the following way:



“Command click”  +  (Win:  + ) for individual images.

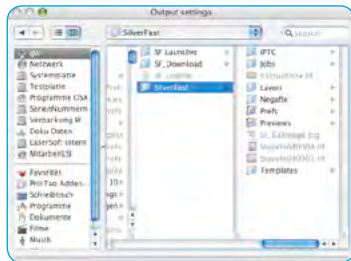
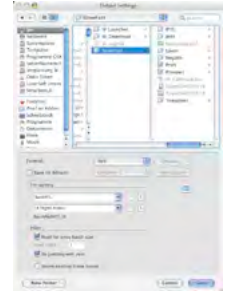
“Shift click”  +  (Win:  + ) for a sequence of images.

“Command A”  +  (Win:  + ) for all images of the jobs.

In the example, only three of the four entries have been selected.

Output Settings

This field consists of an extensive dialogue for selecting the path of the generated image data, setting the output formats and for handling the file names.



- **Choosing the Location for Scans**

The browser, located in the upper part of the dialogue window, allows selection of the path of the scan and is freely selectable.

A new directory may be created by clicking the “New folder“ button.

New folder

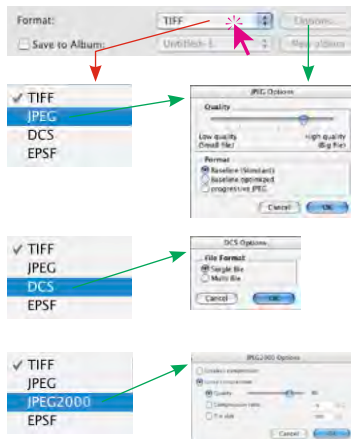
If the check box “Save to album“ is activated, images may be saved into an existing or into a new album. This option is only available in the *SilverFastDC...* and *HDR...* Versions.

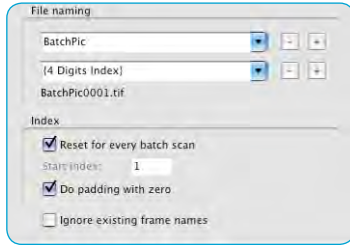
Save to Album:

- **Selecting File Format**

The format selection menu (bottom right) shows the available file formats in which images can be saved. The choice of format varies with the selection of the colour space used for digitalization (RGB or CMYK). Please refer to the table on page 219 for an overview of available file formats.

Additional parameters (“Option” button) can be set in some file formats like “JPEG“ and “DCS“.



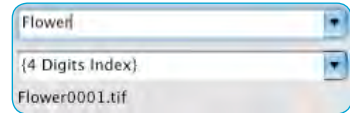


- **Usage of File Names**

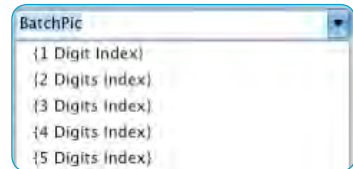
The lower part of the dialogue window is dedicated to file names.

The kind of name may be chosen from the “File naming” menu. For this, at least two input fields/popup menus are prepared:

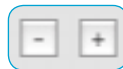
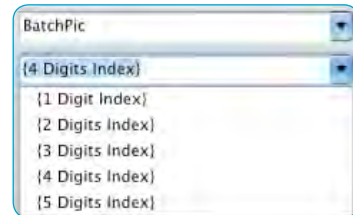
The upper input field / popup menu shows the term “Batch Pic”. This name may be changed to any other term.



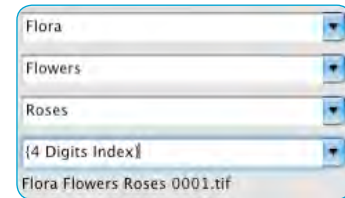
Alternatively, pre-defined index-elements may also be chosen from the input field / popup menu



Since each file name is given a numerical value, the index, it will normally be named by means of the second popup menu.

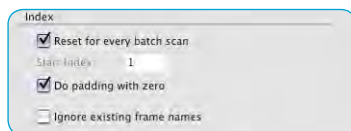


For more complex image series, the names and the indexes may be extended by pressing the “plus” keys which in turn will show more input fields / popup menus.



The “minus” button deletes the respective input field / popup menu.

For clarification, an example of the currently selected combination of name and index is given below the last popup menu.



The “Index“ field allows the setting of further options, indicating how the Index is to be used:

Reset for every batch scan: With each launch of a batch scan, the index is reset to the initial settings.

Start index: The numeration of the index is freely selectable. Even a negative starting point may be chosen. This is commonly used with film strips, which already contain the film strip number of “1“ and have one or more exposures.

Do padding with zero: Image numbers that have less positions than the previously set index number are automatically filled with zeros in front of the number. An image numbered 13 will receive a 4 digit index number; i.e. 0013.

Ignore existing frame names: Current file names are completely ignored and are replaced with new names.

Use image number instead of sequence number: Only valid for film scanners. With the check box activated, the actual number of the scan frame is selected instead of the sequential number.



Starting the Real Scan Processing

A click on the “Start” button in the *JM* window will initiate the automatic processing of selected entries. This process can take more time depending on the intended settings for image optimisation, particularly when using maximum scans, high resolutions, large greyscale, or multisampling, etc.

The advantage is the user can now leave his workplace, take care of other things and allow the scanner and computer to processes the job by itself.

Job Status

An LED will show the status of each *job* entry during and after the *job* processing:

Yellow, when the entry is being processed

Green, when the entry has been successfully processed

Red, when the entry has been unsuccessfully processed

Grey/White when the entry has not been processed yet.



If no entries have been selected in the *JM* window, all *job* entries will be carried out, otherwise, only the selected entries will be processed.

Processing of *jobs* can be interrupted at any time by clicking on the "Cancel" button in the progress dialogue or by clicking on the "Stop" button in *JM*.

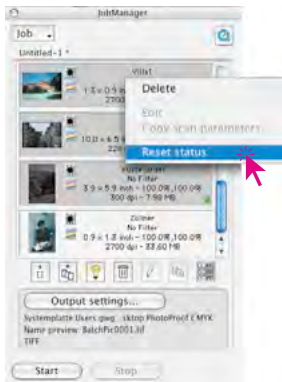
If you restart at a later time, processing will continue where you left off, however, only entries whose status is not green or red will be processed.

Changing Back a Job

If you want to carry out *job* entries again that have already been processed, their status has to be reset. First, the entries must be selected from the *JM* window.

"Ctrl click" (Win: right mouse button) will open a contextual menu, which in addition to the *job* entry command contains the instruction "Reset status". It will change the selected entries back to "Unpro-cessed" and to the colour grey.

Now you can again start a new selection of *job* entries and processing.



SilverFastJobManager Workflow with Film Scanners



APS-Adapter



Filmstrip holder



1. Start the film scanner and place the filmstrip in the scanner.



2. Start the image-processing program (i.e. Photoshop) or *SFLauncher*



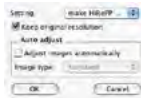
3. Launch *SilverFastAi* for your scanner.



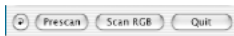
4. Activate the *SilverFastJobManager*.



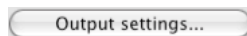
5. Produce an overview scan.



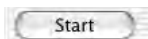
6. Select images and add to *JM*.



7. Optimise each picture and save it.



8. Set target directory, name and file format of the final scans.



9. Start processing the job.



X. Computer and scanner continue unassisted processing.



10. Close *JM* and *SilverFastAi*.

The *SilverFastJobManager* with Flat bed Scanners*

The Difference to Working with Film Scanners

The *JobManager* of *SilverFastAi...* is in general similar to all scanners. The possible differences arise from the constructional differences of the scanners* themselves:

- Flat bed scanners can usually be fitted with a transparency unit*. By this, reflective- and transparent images may be scanned with the same machine.
- By means of the transparency unit film positives and negatives may be processed. Even the film sizes do not matter, as all formats may be placed on the scanner.
- Flat bed scanners with an integrated drawer* for transparencies may utilize both a reflective and transparency unit for the same job at the same time. Both scan areas may be fully fitted with images. Even the combination of negatives and positives is possible.
- The scan area of flat bed scanners is huge in comparison with film scanners. The orientation of the different images does not matter. By using the *JobManager* is it easy to optimize the scan on the prescan itself and simultaneously bring the image to the desire output orientation.



In order to avoid triple repetitions, the descriptions of the individual *JobManager* functions are collected and thematically and are distributed among all areas of chapter 6.12. It is highly recommended to read about the full functionality of the *JobManager*.



* Attention

Some functions are only found with certain types of scanners.

Differences in Working with Scanners

The *JobManager* provides the greatest advantage when used with the scanner independent plug-in *SilverFastHDR...*, *-DCPro...*

In combination with these plug-in the user will find the greatest potential for saving time.

Normally, image files are digitalized in one step with a scanner. The user sits at a workstation with a computer and a scanner and optimizes the images (gradation, histogram, colour correction, sharpening etc.) and the final scans for each picture one at a time. If the volume of images is high and maximum image quality is desired, it is a time and cost intensive procedure. The time required for the hardware in order to carry out prescans, fine scans and saving the files is dead, wasted time for the user. In today's fast workflows, it is considered unacceptable.

JM is thus a tool, used to drastically increase the workflow efficiency and also a means of lowering costs.

Compare the normal workflow to the one made possible by *JM* (See next page).

The graphic representation shows the traditional work flow represented on the left and the new workflow controlled by *SilverFastJobManager* represented on the right.

In the traditional manner, the operator has to continuously remain at the scanner workstation, since the short wait does not make it practical to work at a second workstation. Each image is processed individually and made available to the network.

With *SilverFastJobManager*, there are long free periods, in which the operator can pursue additional activities at other workstations. As the computations show, scanning 72 slides can save 6 full hours of work.

Processing time - example:

Job order: 2 color slide films (each 36 slides) having different brands (A and F), which were exposed individually (thus do not represent a series) are to be scanned: including color and gradation correction: sharpening: scaling A: 900%, B: 200%: output A: at 228 dpi CMYK, B: at 72 dpi RGB.

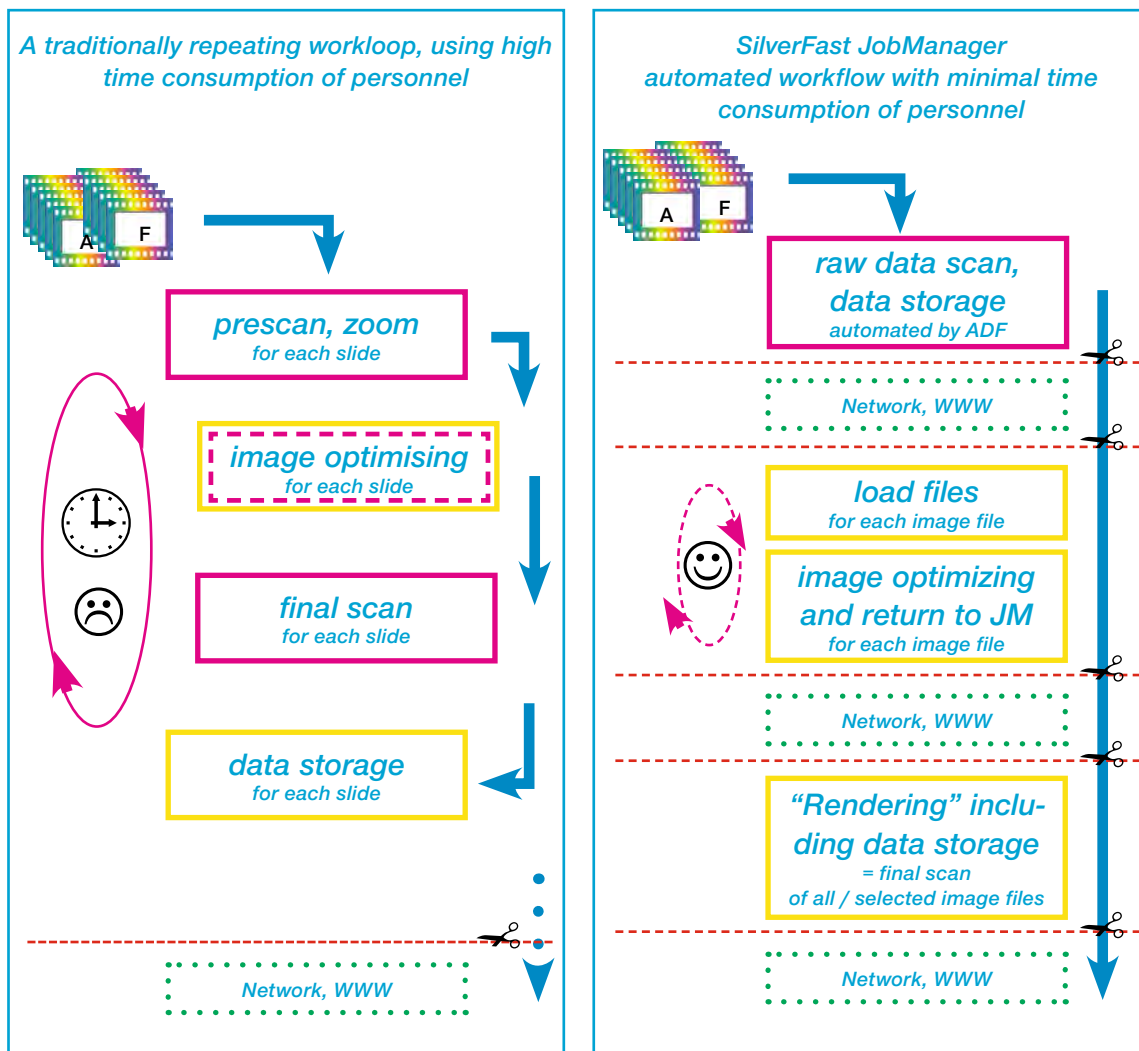
Typical time requirement:	Min
prescan, zoom: each 30 sec.	1
optimising	2
USM prescan	0,5
Batch scan: A 1 and B 3 min	4

$$\begin{aligned} \Sigma &= 7,5 \\ &\times 72 \text{ slides} \\ \Sigma\Sigma &= 540 \text{ min} \\ \Sigma\Sigma &= 9 \text{ hours} \end{aligned}$$

Time requirement with JM:	Min
raw data each 4 min	4
prescan, zoom: each 2 sec	0,033
optimising	2
USM prescan 1 sec	0,0167
rendering: A 5 sec., B 40 sec	0,75
	$\Sigma = 6,8$
	$\times 72 \text{ slides}$
	$\Sigma\Sigma = 489,6 \text{ min}$

Less machine times:	Min
for raw scans: (72 x 4 min.) - 30 min	258
for rendering: (72 x 45 sec.) + 1 min 55	$\Sigma = 313$
	$\Sigma\Sigma\Sigma = 176,6$
	$\Sigma\Sigma\Sigma < 3 \text{ hours}$

processing time saved: 6 hours



Comparison of the traditional workloop controlled by an operator to an automated workflow after installation of the SilverFast JobManagers.

- Legend:
- magenta** high expenditure of time, e.g., by being tied to a scanner
 - yellow** the time requirement is only dependent on the computer system
 - green** preparation of data and availability for all types of Networks
 - possible interruption of the workflow, e.g., passing the job on to someone else.

Copying of Job Entry Parameters

Often the desire may arise the parameters of several *job entries* at the same time fairly often (e.g., changing the output conversion from RGB to CMYK for several entries), but this is not directly possible (what values would be indicated in regard to several *job entries* that would be processed at the same time?). Yet still only one single job entry has to be done. Proceed as follows:



- First activate the edit mode and select an entry you wish to change. Now you can do the desired changes (for example to set the output conversion to CMYK). The normally saved gradation curves will be utilized while the changes are being saved. Automatic imaging will not be started.



- The *job entries* that are to be changed will also have been selected in the JM window: as always with "Command click" (⌘ + ⌘) (Win: CTRL + ⌘) for individual images, with "Shift click" (⇧ + ⌘) (Win: SHIFT + ⌘) for a sequence of images and with "Command A" (⌘ + A) (Win: CTRL + A) for all images.



- By clicking on the now activated "Copy" button, all changes made in the current *job* can be copied into the other *jobs*.

The user may define which parameters are to be copied

(Please note: the last settings in this dialogue are active and will still be there during the next start of JM).







- By clicking the "OK" button, the highlighted parameters will be copied into the selected *job entries* -> done!



Copying of Complete Job Entries

It is also possible to copy individual, several or all *job* entries of a job into a newly created or already existing job. Just use the "Copy & Save" commands:

- Exit "processing mode".
- Select the job entries or entry that you want to copy.
- Copy the job entry into the buffer with "Command + C"
 + **C** (Win:  + **C**).
- Open or create the final job.
- Copy the buffer content to the final job with "Command + V"
 + **V** (Win:  + **V**) to the target job.



Managing Complete Jobs

After processing and saving individual *job entries*, you can turn to managing the completed *jobs*.

The entries of the *SilverFastJobManager* menus can be used with completed *jobs*. Here, all base operations can be used for completed *jobs*.

Specific menu points:

New: Creates a new, empty *job*. If there is a job already in the *JobManager* which has not yet been saved, you will be asked whether you want to save that *job* first.

Open: Contains a list of all saved *jobs* in a submenu. The *job* will be loaded by selecting the appropriate entry from the menu. The currently loaded job is highlighted in the submenu.

Close: Closes the current *job*.

Save: Saves the current job. If the job is new (i.e. it has not been saved before), a dialogue pops up, which prompts you to input a name for the *job*. The location to save the *job* cannot be specified., instead, all *jobs* will be saved into the folder “Jobs” within the *SilverFast* folder.

Save as: Saves the current *job* under a new name (i.e. creates a copy of the *job*, if the job has already been saved before).

Delete: Contains a list of all *jobs* saved in a submenu. By selecting the desired entry from the menu, the *job* will be deleted. Additionally, there is a menu option “All Jobs” which will delete all saved *jobs*.

Mulit Job: Opens a window with a list of all saved *jobs*. Selecting of one (or more) *jobs* and clicking on “start”, launches processing of all selected jobs. The status of finished *jobs* can be reversed by clicking the checkbox “reset status before execution”.

Workflow of the Steps in *JobManager*

The following graphic representation shows a possible sequence of the steps in the

It starts with the addition ① of *job entries* to the *JM* window or the collecting of *job entries* for a *job*. The image files can be imported from outside or they can be taken over directly from the prescan window of *SilverFastHDR*.

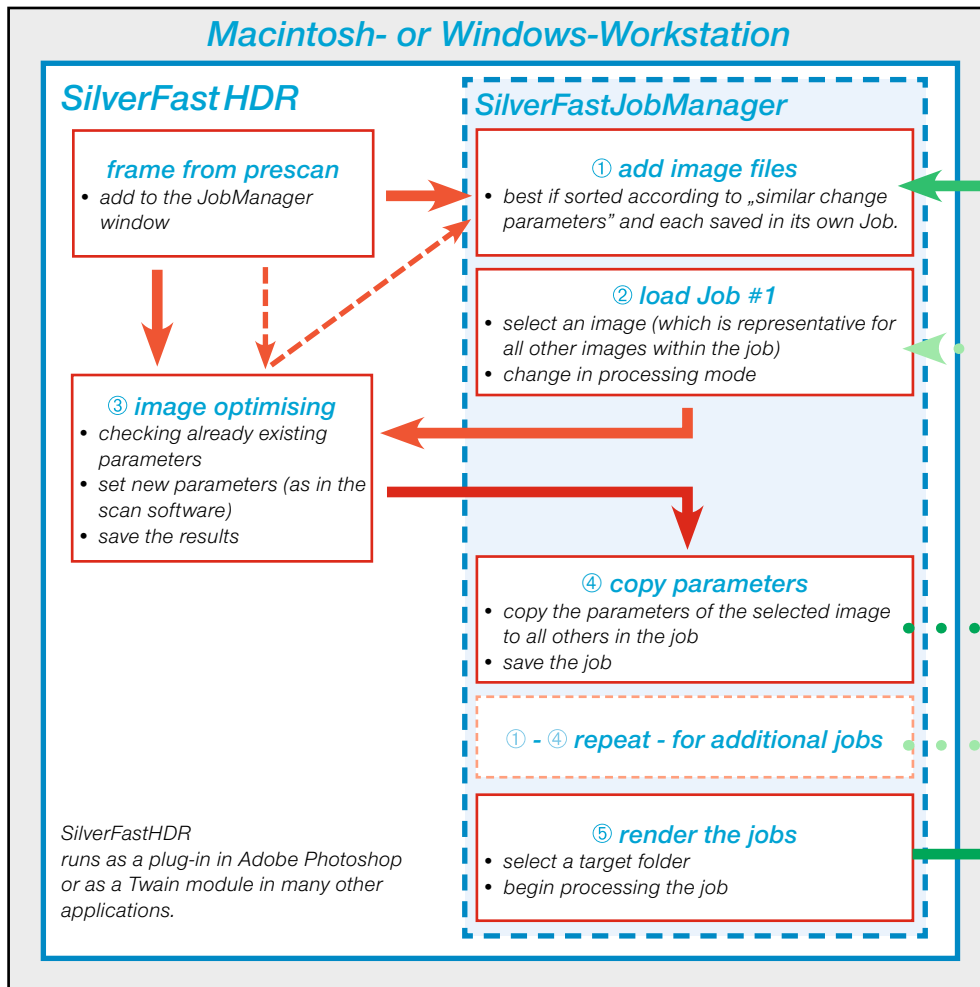
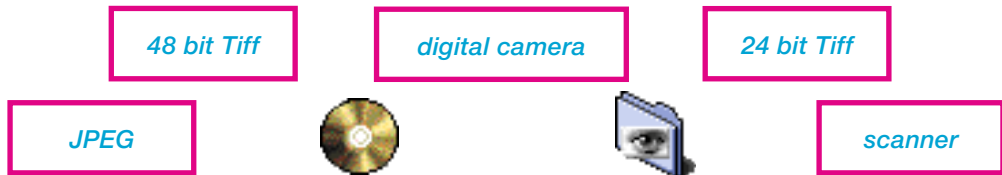
Of course, you can also retrieve existing *jobs* directly (Step ②). Subsequently, an individual image representing all others in the *job*, or several, or all images of the *job* one after the other can be optimized (Step ② and ③).

If a selected image optimization is valid for additional image files, the parameters of the optimized image can be copied (Step ④) by means of many desirable additional files without any problems. Finally, the *job* can then be rendered (Step ⑤). Several *jobs* can be combined and calculated.

The image files whose calculations have been finished are immediately available to the network.

Completed "old" *jobs* can also be of additional interest. They can be edited at any time and can be recalculated with new parameters.

External/internal data carrier, network, WWW, ...
 Delivery and saving of all types of image files



Error Messages

Source File is Missing

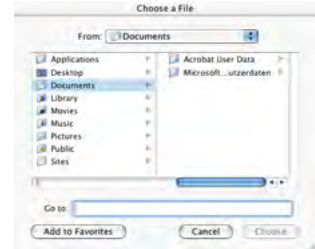
SilverFast JM checks for the existence of the necessary source file during the loading of *jobs*. If the files are not found in their original location, the following dialogue will appear:

You can delete the *job entry*, delete all *job entries*, or determine the location of the missing file.



You can search for the *job entry* and assign it by means of an additional window.







After the new relocation, you can transfer the path change to the *job entry* or to all respective *job entries*.



Keyboard Shortcuts in *SilverFastJobManager*







Macintosh

Selecting images in the *JobManager* image overview

add additional individual images	“Command click”	 + 
a sequence of images	“Shift click”	 + 
all images	“Ctrl A”	 + 

Windows

Selecting images in the *JobManager* image overview

add additional individual images	“Ctrl-click”	 + 
a sequence of images	“Shift-click”	 + 
all images	“Ctrl-A”	 + 



6.13 SilverFastSRD (Dust- and Scratch Removal)

Eliminating dust and scratches by standard means of retouching is an extremely time consuming “pleasure”. There have been quite a few approaches in software to solve this problem, but none has reached a professional level so far. Those software packages that have tried showed poor quality and did not solve the challenge of «How can Software differentiate between the true details and unwanted artifacts?»

How does SilverFast Recognise Dust and Scratches and How will they be Eliminated?

With *SilverFastSRD* (Version 6.x and above), even inexperienced „retouchers“ can obtain convincing results with just a few clicks of the mouse and a small number of masks. “SRD” stands for „Smart Removal of Defects“. More than 95% of burdening retouchings can be saved by means of *SilverFast’s integrated SRD™* (Smart Removal of Defects).

SilverFastSRD uses a multi-stage process based on masking and layer technology over which the user has complete control. (*SilverFastSE* can only use one layer with reduced controls).

The starting point for this process is an intelligent automatic mechanism which achieves very good results for an average intensity of application and in most cases produces a successful outcome. It makes sense to start with fine, smaller defects and move up layer by layer and mask by mask to more pronounced scratches and artifacts.

This elegant method enables to keep the image detail and leave a minimum (if at all) for removal with a clone tool.



Description of the special functions of
iSRD can be found on page 389.

For optimum recognition of artifacts *SilverFast* uses two different methods: regular dust and scratch removal and the removal of linear artifacts. These work with parameters with similar names, yet have different effects on different artifacts.

Another advantage of *SilverFastSRD*: all processing uses the full dynamic range (bit depth) of the scanner involved! The better the scanner, the better will be the result of any processing.



Uncorrected slide

*With SilverFastSRD
corrected slide*

Effect from SilverFastSRD

Left: uncorrected slide

Overview

Expert Mode



Allows usage of slider "Environment size" and opens menu "Longish scratch removal"

Administration of Layers



Add new layer



Delete active layer



Move layer in front of previous



Move layer behind following



Reset parameters

Creating Masks

Changing mask tools: Click button and hold mouse depressed, when pop-up comes up change to tool desired.



Brush



Polygon



Lasso

View of Artifacts



Realtime correction on / off



Original, without correction



Artifacts removed



Artifacts highlighted (red)



Help

Opens help, instructions and description of functionality

iSRD[®]
LaserSoft Imaging

Description of the special functions of iSRD can be found on page 389.

Activation of SilverFast Dust and Scratch Removal

Depending on SilverFast version and scanner model different functionalities of dust and scratch removal are available. The corresponding buttons can be found in the vertical tools bar, left hand of the big preview window.



SRD/iSRD is **deactivated**.



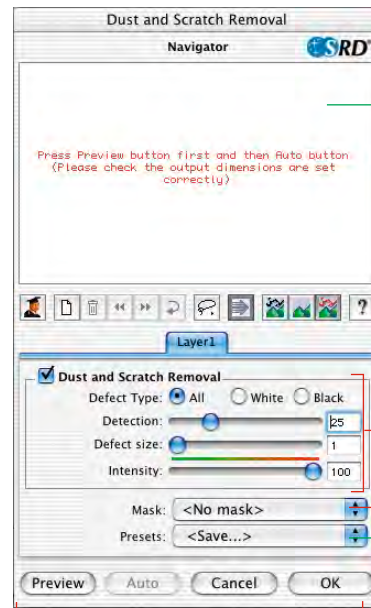
iSRD is active and running in **automatic mode**.



SRD/iSRD is active and running in **manual mode**. Clicking the bottom button opens the dialogue.



SRD/iSRD is deactivated and ICE is active.



Navigator Window

Areas with red frame: available image area

Areas with yellow frame: selection visible in preview window can be moved with mouse.

Control Menu for Dust- and Scratch-Removal

Defect Type: All, white (bright) or black (dark) artifacts

Detection: Recognition Sensitivity

Defect Size: Artifact size

Intensity: Differentiation of image detail and artifact

Mask

Loading* and Saving* of Masks

Presets*

Loading and Saving of presets

Control Buttons

Preview: High resolution preview to monitor elimination of artifacts

Auto: Activates initial slider setting

Cancel: Leaves the D&S dialogue, without applying parameters

OK: Applies current parameters and closes control window.



* DIGITAL ICE technologies hardware based dust and scratch removal is not user-controlled and can only be switched on or off. Does not work with black & white nor Kodachromes.

digital
ICE
technologies

Workflow of SilverFastSRD

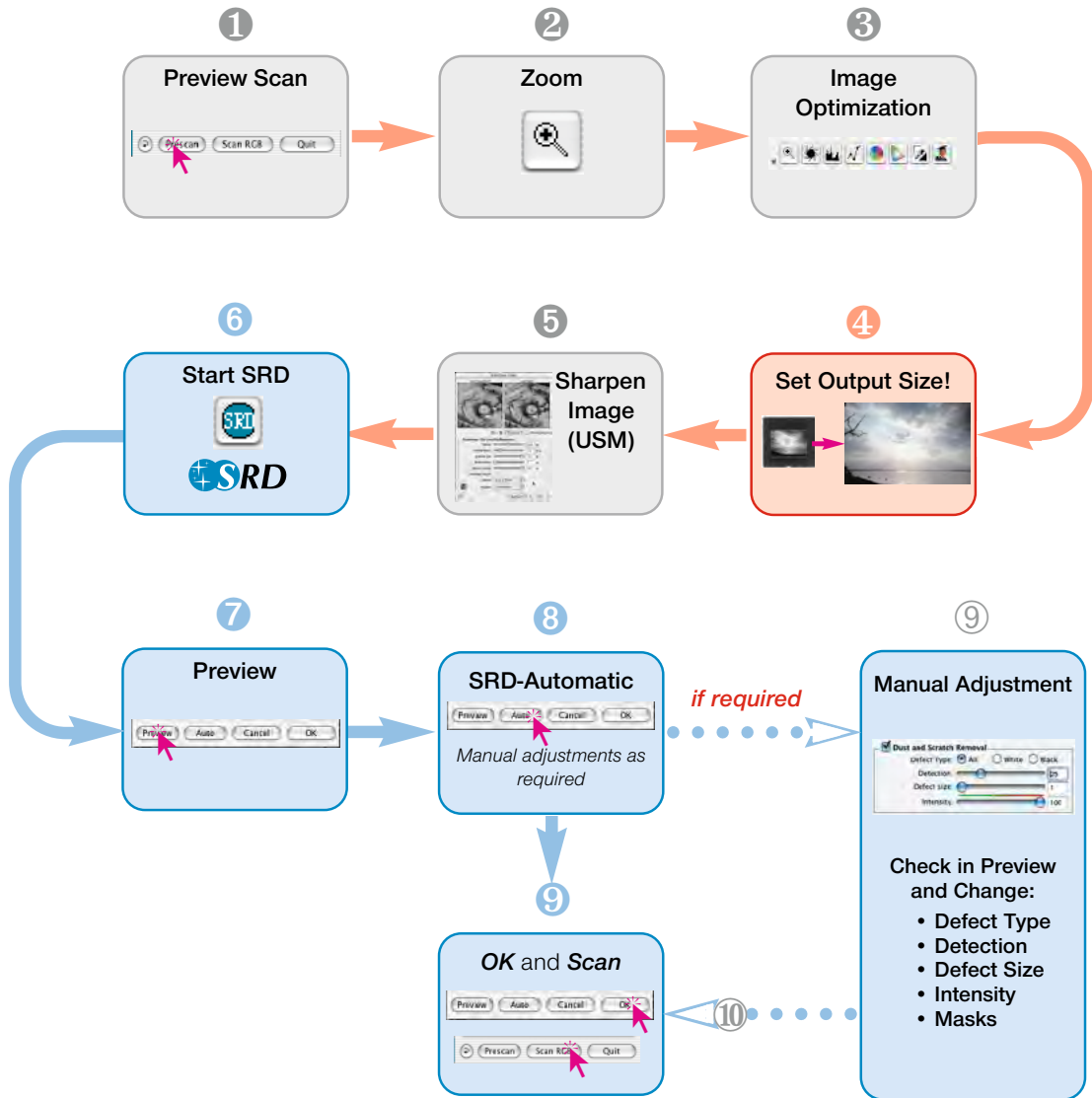
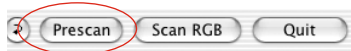


Image Optimization Workflow with SilverFastSRD

Briefly we will illustrate how an image will be optimized and *SilverFastSRD* (dust and scratch removal) be applied, on the following pages.

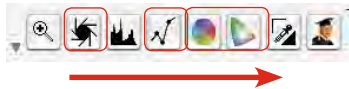
1. Preview scan

Start *SilverFast* and initiate a preview scan. Within the selected image position your scan frame.



2. Zoom

In order to see more image details (if required) start a zoom (click zoom tool).



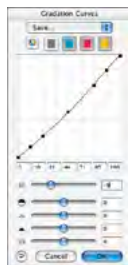
3. Image Optimization

Start with *auto-adjust*, with different adjustments (if needed) such as *midtone* (top slider), *contrast* (bottom slider) or *global* or *selective colour correction*, all tools for image enhancement can be applied.

If you are not familiar with the best possible workflow the *ScanPilot* can help you effectively.

Image Optimization

Gradation, global- and selective colour correction in *SilverFastAi*

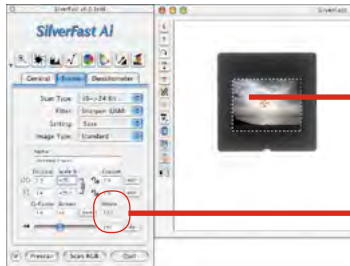
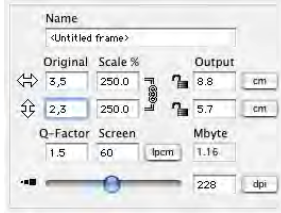


4. Output Resolution



You have to set the required output parameters for your image: Scaling (or width and height) and output resolution.

It should be noted, that file size increases (MB!) with increased resolution, as well as recognition of image artifacts such as dust and scratches. Small resolutions will show less scratches than higher resolutions.

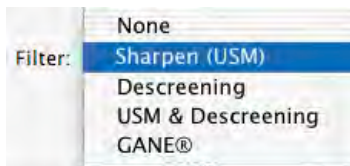


5. Sharpen Image (USM)

From version 6 *SilverFast...* will have a sharpen dialogue with »before« and »after« preview combined with automatic presets. With »before« and »after« preview the final scan sharpness can be monitored and nicely adjusted in real-time.

The strength of the applied sharpness, as well as the quality of the scanner used, will have significant influence on the appearance of dust and scratches.

A high quality scanner, with good optical resolution, hence very good sharpness will clearly bring out every image detail and dust and scratches. Any additional sharpening might bring out exaggeration of the sharpness effect.



*USM Dialogue
in SilverFastAi*



6. Activating SilverFastSRD



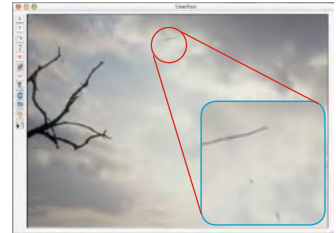
Click onto the *SRD* icon to open the *SilverFastSRD* dialogue. In case you have a scanner with hardware supported descratch function such as *DIGITAL ICE technologies*, you can switch between e.g. *DIGITAL ICE technologies* and *SilverFastSRD*. All other scanners will only have *SilverFastSRD*. The upper of the two buttons is intended to switch *SilverFastSRD* off.

SRD Dialogue
in *SilverFastAi*

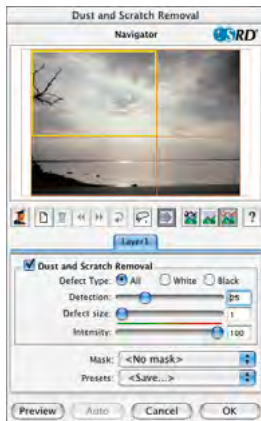


When opening *SilverFastSRD* the first time you will see an empty Navigator window. Please follow the instruction inside the Navigator window:

a) Clicking on **“Preview”** initiates a preview scan, whose resolution is related to the output resolution that has been set.



b) Clicking on **“Auto”** analyses the image with *SRD* automatic. Artifacts will be recognized and highlighted with red.



After you have deactivated *SilverFastSRD* and then reactivate the function, the previous preview scan will come up again, with all previous settings inside the control window. In case the previous preview is not the one you want, since you would like to work with another image which is already in the normal *SilverFast* preview window, you have to:

a) Click onto the *SRD* **“Preview”**, and initiate a new preview scan and b) click on **“Auto”**, to start an new *SRD* automatic.

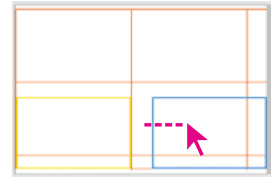
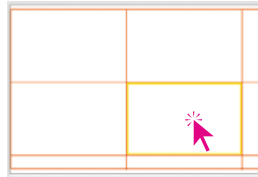
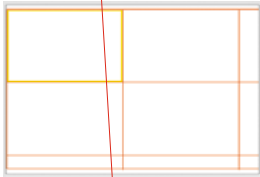
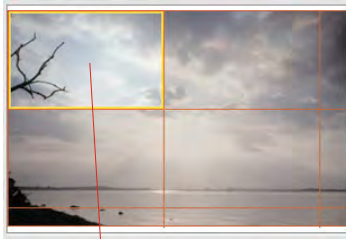


7. Navigator • Working with the SRD preview dialogues

Most of the image artifacts have already been identified by the SRD automatic mechanism (step no. 6) but no differentiation has been made at this stage between subject details and actual artifacts, a process to be undertaken manually at a later stage.

In order to effectively monitor and check the results the whole image is divided into tiles in the Navigator window.

The **“Navigator” window** displays the position of each tile with regard to the image. The size and number of tiles depend on the image size and output resolution set.



Using the “Navigator”

The **yellow-framed** tile represents the image in the high resolution preview window. The yellow-framed tile can be freely moved to any position inside the Navigator window, while the high res window will be updated accordingly.

By clicking into a **red-framed** tile the image selection related will be displayed inside the high res window. The selected tile will then become yellow-framed.

There are three **“Monitor modes”** available, which can be activated by clicking the appropriate button:



- Original image, without correction,
- Corrected image, artifacts eliminated,
- Original image with artifacts highlighted in red.

In modes b) and c) you can temporarily switch into mode a (original view) by clicking into the high res preview window. Keeping the mouse depressed will show mode a (original). Releasing the mouse the display will show b or c.

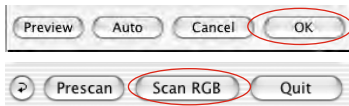


Monitor modes:

a) Original view

b) Corrected view

c) Artifacts highlighted



In case the result is satisfactory, the *SRD* dialogue can be closed with “OK” and the scan can be started from the *SilverFast* main dialogue. If it is not, further use needs to be made of the manual mask and layer technology.

Activate / Deactivate Real-Time Correction



Clicking onto the blue / red arrow will activate or deactivate the *SilverFastSRD* real-time correction.



If the arrow is blue any change will only be processed and displayed in the large preview after mouse has been released. This can take a moment depending on the processing power of your computer. The real-time correction bypasses this problem.

If the arrow has turned red, a small rectangular frame will appear on your image representing the area of real-time correction. This real-time frame can be freely moved around in the preview window. Any changes of *SRD* parameters will be displayed in close to real-time inside the real-time frame.

Manual Correction

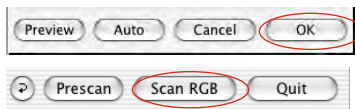
If the result of the SRD automatic is not sufficient and there are further corrections needed, a few points should be observed:

- Always start with bigger, clearly visible artifacts and step by step, while adding layers (if required), attack weaker less pronounced artifacts.

For each layer only one set of parameters can be applied.

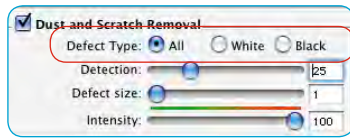
Multi layers and masks are only available in *SilverFastAi*. In *SilverFastSE* and *DCSE* only one set of parameters and only one mask can be applied.

- Initially use the first method of “Dust and Scratch Removal” and only when required with artifacts dominantly consisting of or resembling lines use the second method.



After all corrections have been completed click “OK” acknowledge the parameters set and leave the dialogue. Now only the final scan has to be started from the *SilverFast* main dialogue.

1. Changing Defect-Type



Before starting a manual correction, check whether a different “Defect Type“ could produce better results.

Switch from the current Defect-Type, e.g. from “All” to “White” or “Black” and monitor the effects in the preview window.

Check the different monitor modes! Also check different tiles for more artifacts in other areas of the image!

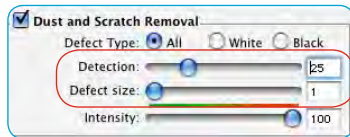


uncorrected original

Defect-Type “All”

Defect-Type “White”

Defect-Type “Black”



2. Slider “Defect Recognition” and “Defect Size”

Both sliders have been preset by the *SRD* automatic.

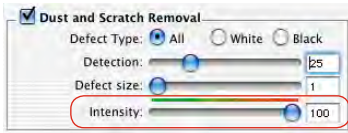
“**Defect**” represents sensitivity of recognition. Optimum parameters will depend on the image character. With sharp or images that have been sharpened, detection will be mostly between 1 and 60. With unsharp or images that have been smoothed detection will most likely be between 60 and 100.

“**Defect Size**” equates to pixel size of the artefact. Values are small respectively and are mostly between 1 and 5.

Always monitor the effect of both sliders in the large preview window, if necessary check different tiles of the image.

Recommended procedure: Start with defect size = 1 then adjust defect recognition. If the effect is still too small use defect size = 2 for further enhancement and approach the best possible result through small changes .

Important: At first leave the “Intensity” slider on its default value “100”.



3. Slider “Intensity“

Only when the results of the previous two sliders do not yield the desired results, you can change “Intensity“ in small increments to values smaller than 100. This will predominately be the case with images with a lot of details.

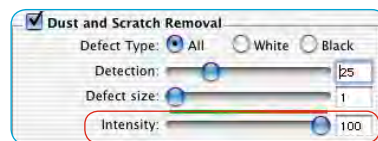
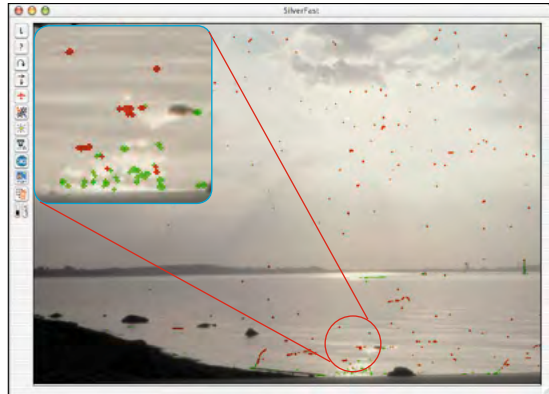
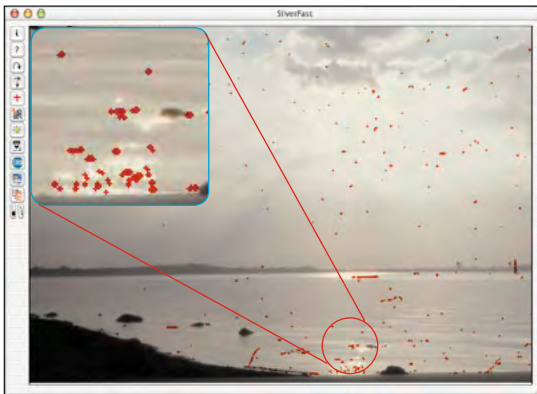
This slider enables to reduce the amount of “erroneously“ recognised artifacts. This function controls the differentiation of which image details are recognised as true details and which are supposed to be recognised as artifacts.

Always monitor the effect of the slider in the large preview window, if appropriate also for different image tiles.

If the *Intensity* slider is at the very right, which is the “100” position, all recognised artifacts will be highlighted in red and will be eliminated in the final scan respectively.

The more a slider will be moved to the left, the more the amount of artifacts that will be highlighted in green colour. Green highlighted details will be preserved in the final scan.

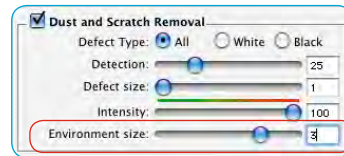
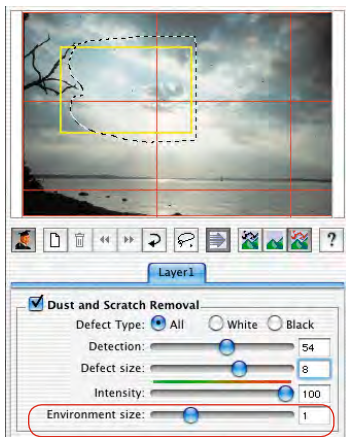
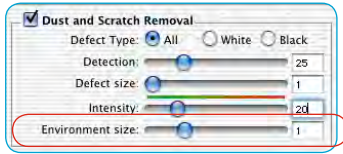
The red-green colour bar above the slider indicates the relation of the function.



4. Slider “Environment Size”

This slider is only available in full versions of *SilverFast* and become visible when activating the expert mode.

This slider is used to control the recognition of the defect border. Parameter values are small. Usually between 1 and 6.



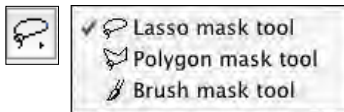
5. Using Masks



In general all parameters set in *SilverFastSRD* will be applied to the whole image.

However, mask technology should be used if an image has just a small number of very pronounced artifacts, there are defects only in certain parts of the image or the subject means that *SilverFastSRD* is restricted to specific areas of the image.

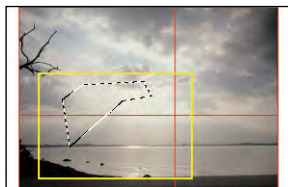
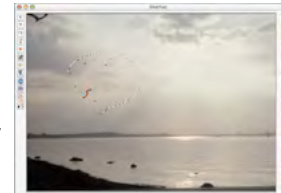
A mask can be freely drawn with the mouse in the preview as well as in the Navigator window. Mask tools available are “Lasso”, “Polygon” and “Brush”:



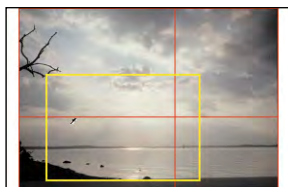
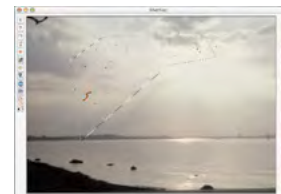
Selection of mask tool: Clicking onto the mask tool and holding the mouse depressed will bring up a mask tool selection pop-up. With the mouse still depressed you can now move to the desired mask tool and release the mouse.



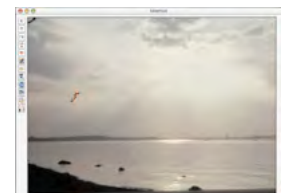
With the **Lasso tool** you can freely encircle any area of the image inside the preview or navigator window you want to apply the dust and scratch removal to.



With the **Polygon tool** you can encircle any desired area with straight line segments by click-drag, click-drag, etc. until hitting the start point again.



With the **Brush tool** you can cover thin longish defects, by just drawing over it. Only these areas covered will be corrected by *SilverFastSRD*.



Drawing an inverted mask: Depressing the "Alt" key with any of the mask tools activated will invert the mask function. The mask will become kind of a negative mask. Now encircle the area with the mask tool you do not want get affected by the correction.

This function is similar to the invert mask function from the mask menu.

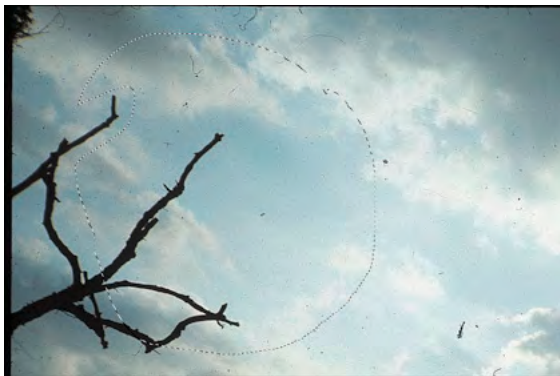
Adding and subtracting from an existing mask: After a mask has been drawn you can add or subtract from the existing mask.



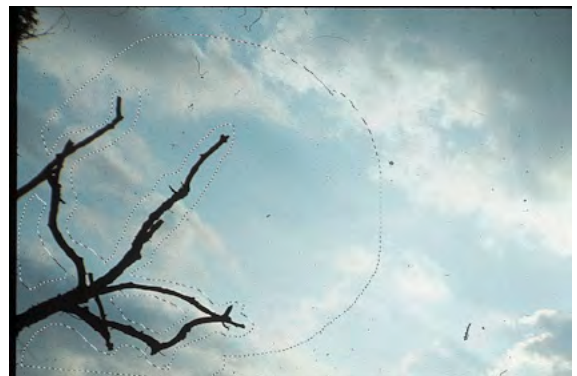
Adding to mask: Press "Shift" and draw desired addition.



Subtracting from mask: Press "Alt" and draw desired subtraction.

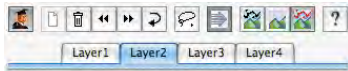


Active Mask with marquee



Mask adapted with „Shift“- and „Alt“

6. Working with multiple layers



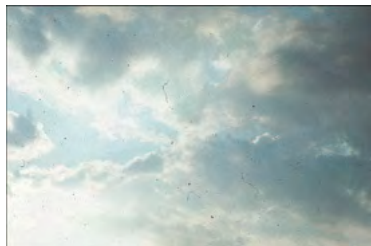
When starting *SilverFastSRD* you will get the 1st layer automatically. On this layer you will perform the first corrections of coarser artifacts. If the settings only enable to get rid of some of the artifacts, the remaining artifacts should be treated on the next layer. Start with the larger distinct artifacts and proceed increasingly, layer by layer to less distinct scratches and artifacts.



New layers can be added by clicking onto the “Add Layer” button. You can have a maximum of four layers.



Double arrow buttons allow to move layers between each other. Here you would change the order of stapling similar to the layer function in Photoshop. This is especially significant with overlapping mask areas.

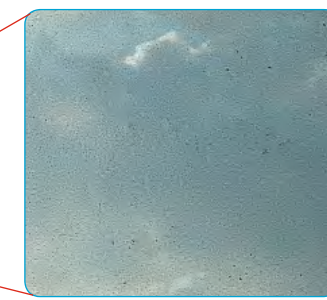


Uncorrected original



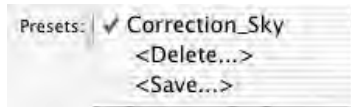
Layer 1

Correction of more subtle artifacts. On the right you can see that some of the artifacts are not recognized.



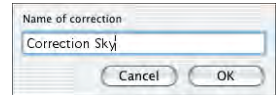
Layer2

Correction of more distinct artifacts with more aggressive setting. Remaining artifacts from layer 1 can now, one by one, with help of masking be eliminated without problems.



7. Save / Load Settings

Clicking onto the “Save” menu will save the current settings. In the “Save” dialogue you can input the desired name for your setting.



In order to delete previously saved settings highlight the settings you want to delete in the “Delete Resources” dialogue and click “Delete”.



Expert Mode

Activating the Expert Mode

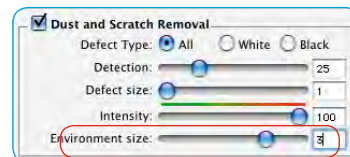
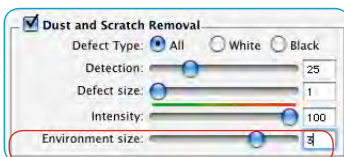
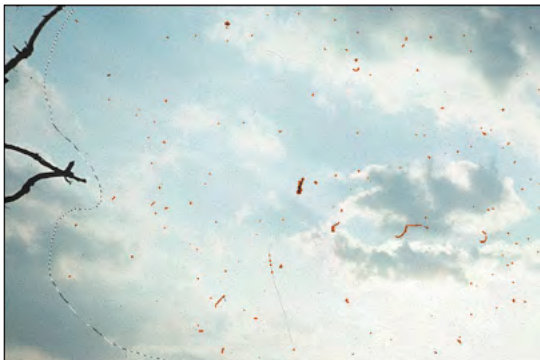
Clicking onto the Expert button will extend the *SRD* dialogue and show the second alternative method's settings to eliminate longish artifacts. In addition you will see the slider "Extension".

Both alternative methods can be used either alone by themselves or in conjunction with each other. It is advised to allocate a separate layer for each of the different methods.

1. Slider "Environment Size"

This slider is only available in *SilverFast* full versions and can only be seen after activating the expert dialogue.

With this slider you can precisely control the defect border. Parameter values are small and are usually between 1 and 5.





2. Longish Scratches

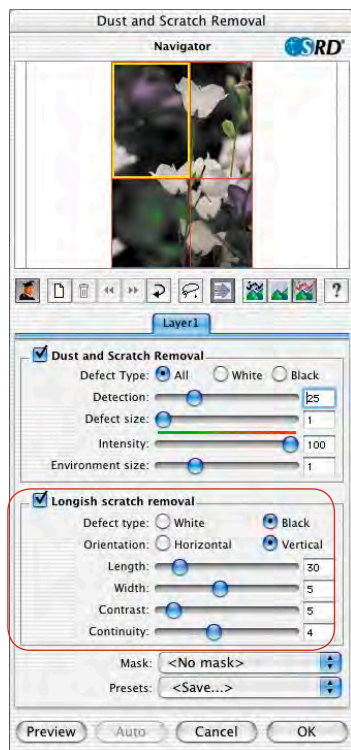
The following controls and options are in the menu “**Longish Scratches**”. This menu is only available in *SilverFast* full versions and will only be visible after clicking onto the Expert button.

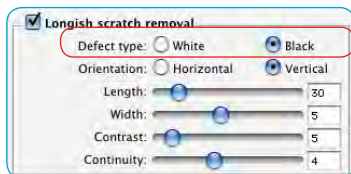
This alternative method can be applied to e.g. 35 mm film where the surface has been scratched while reversing the film by small dust or sand particles. Mostly these scratches proceed across several images, sometime even across the whole film. They are frequently always parallel to the edge of the film.

In order to eliminate longish scratches, the following controls are available: **Defect Type, Orientation, Length, Width, Contrast and Continuity**.

Usually using the first three controls (Defect Type, Orientation, Length) are sufficient to get adequate results. Other controls such as Width, Contrast and Continuity can remain at their default settings.

The order and position of the controls is related to the work flow.



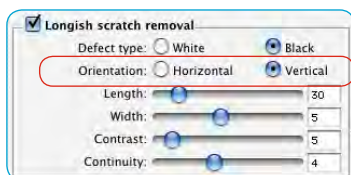


3. Selection "Defect Type"

First you would select the colour of the defect type: white or black. Longish scratches most likely can be related to one or the other of the two defect types. depending on the original you will see a white or a black line.

This selection will be offered to the user since longish scratches can have different origins. It could for instance be a "real" scratch or sometimes also a faulty or dirty CCD cell in the scanner.

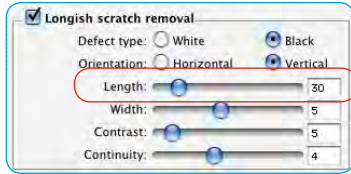
In case you have to consider both defect types, you can use another layer to treat the second type.



4. Selection "Orientation"

Depending on the orientation of the scratches on the scan original, you can switch between horizontal or vertical orientation.

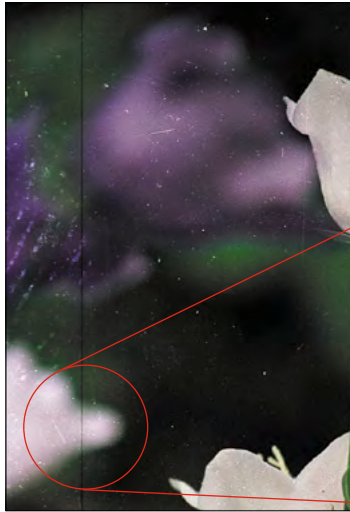
In case scratches are vertical and horizontal, you can create a second layer and get rid of both of them.



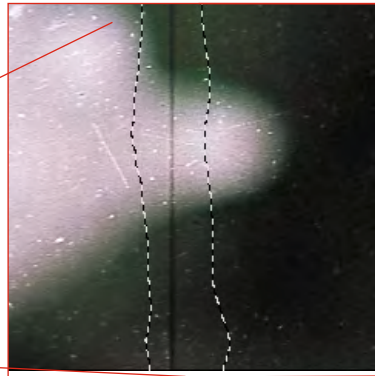
5. Slider “Length”

This slider determines the maximum length of a scratch. This parameter is the most important and has strongest effect on the recognition of artifacts with reference to other parameters. The default value is 30. Value range is between 5 and 200.

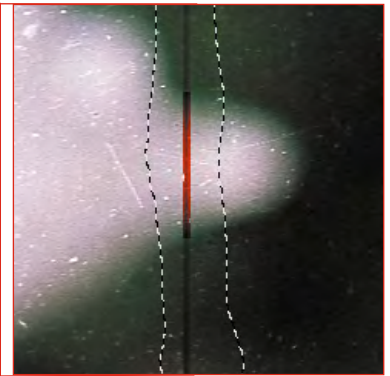
Smaller value recognize longer structures, larger values recognize smaller structures.



Original



Length = 100



Length = 10

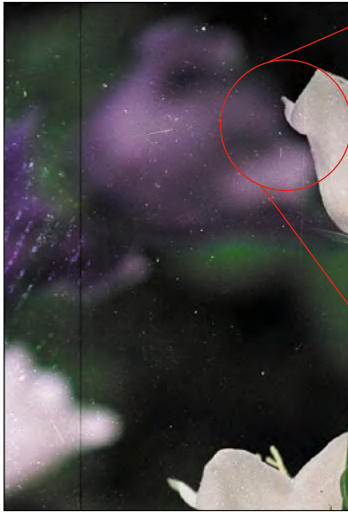
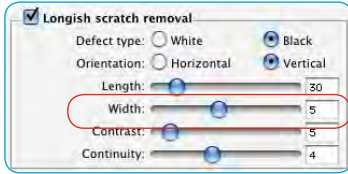
In case parameter settings of this slider lead to results which could be further improved, use the other sliders.

6. Slider “Width”

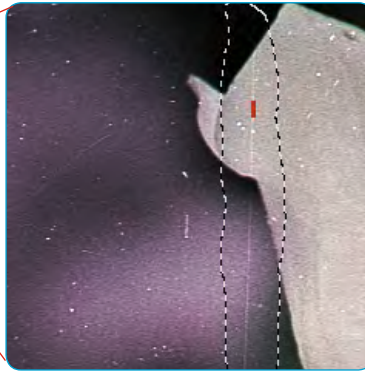
This slider determines the maximum width of a scratch.

In most cases the range for optimum recognition is between 1 and 5. Larger values will have wider and longish artifacts recognized.

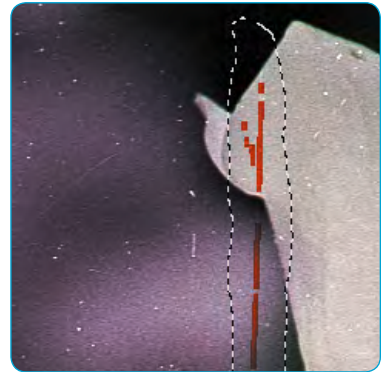
With very wide scratches (high resolution and wide artifact) it is sometimes necessary to enhance the image manually.



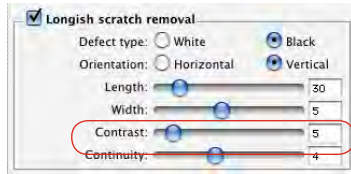
Original



Width = 1

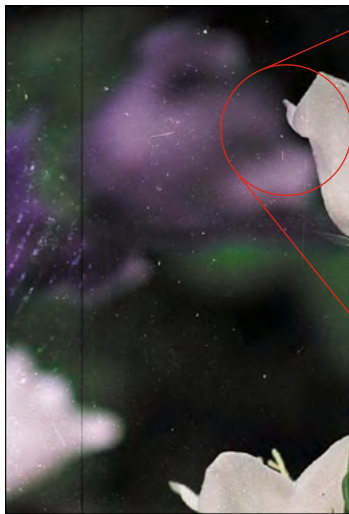


Width = 3

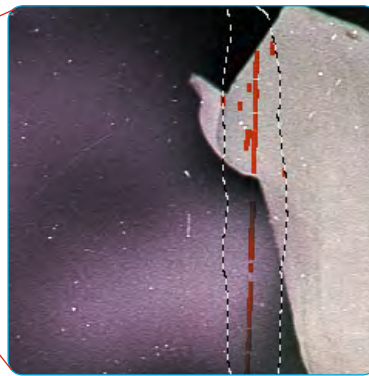


7. Slider “Contrast”

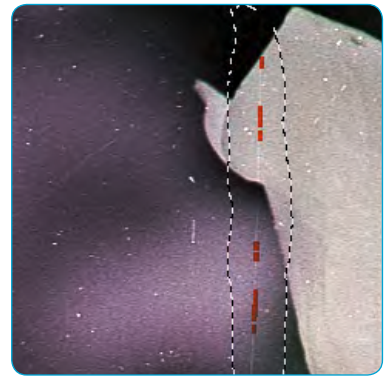
This slider relates to the local contrast of the scratch against its background. A very bright scratch on a dark background can be recognized with a high contrast value. In order to recognize a scratch that is barely visible against its background, the contrast value must be set to a low value. Smaller contrast values (1 to 5) in combination with small “Length” values (5 to 20) can lead to faulty recognition. This might recognize small image details. For this reason the contrast value should be greater than 5 if possible.



Original

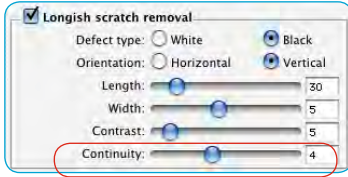


Contrast = 2



Contrast = 6

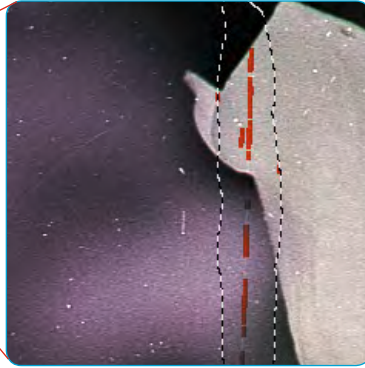
8. Slider “Continuity”



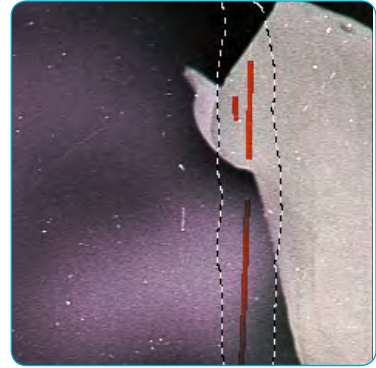
With noisy images or when the scratch is inside a part of the image with lots of details, the value of the Continuity slider should be readjusted (between 0 and 10). A greater value will enable a better recognition of scratches in a “difficult” environment (noisy or very detailed images).



Original



Continuity = 1



Continuity = 9

Remark: In some cases the longish scratches are slightly bent. Since this method is designed for horizontal or vertical scratches, it is required to watch the parameter settings more closely. For instance: A horizontal scratch which is 120 long and 1 pixel of width and with a slight bent extends to 4 lines of the image, cannot be recognized with values of 120 and 1 for length and width. In stead a value of roughly 30 (120 divided by 4) would be needed.



Dust and Scratch Removal with Infrared Technology*

The latest development* in dust and scratch removal using *SilverFastSRD* is the addition of hardware* linked technologies which use infrared light.

This solves the problem faced by any software which has to both recognise and remove dust, scratches etc., differentiating between dust to be removed and image information to be retained.

How does iSRD work?

Thanks to the long wavelength of infrared light, it can penetrate the colour emulsions of film negatives and slides virtually unhindered. There are only problems if it encounters scratches, dust particles, lint etc. which also cast shadows in infrared light.

iSRD exploits this characteristic by scanning the image in two passes. The first pass is the infrared scan and the second pass the normal RGB scan.

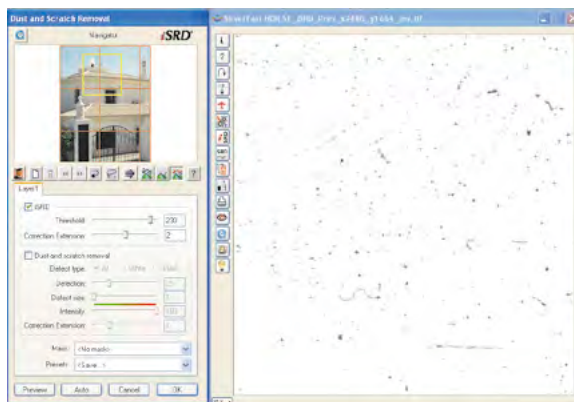
Once the software has completed both scans, an additional image channel created automatically from the infrared image is used for the dust and scratch removal calculation.

On completion of the calculation, the results can be displayed in the large preview window. The default display is the RGB scan but by pressing Ctrl + Shift and holding down the mouse button in the large preview scan, the infrared channel is displayed.

* Warning!

SilverFastiSRD is only available for certain scanners.

In *SilverFastSE* versions, *iSRD* only works in automatic mode. Please see our website for the current situation and compatible scanners.

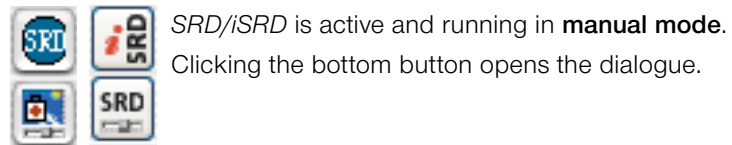
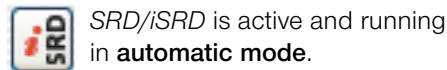
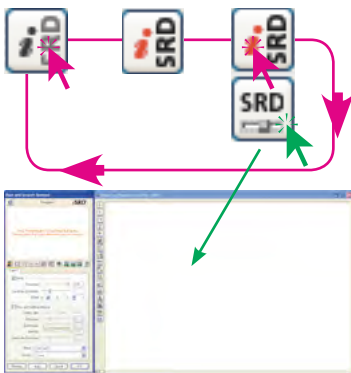


Which Films can *iSRD* be Used With?

iSRD can be used with conventional colour negatives (developed using the C41 process), colour slides (developed using the E6 process) and paper proofs. Due to the silver content in conventional black and white negatives and slides, these **CANNOT** be retouched using *iSRD*. However, special black and white negatives which have been developed using the C41 process behave like colour negatives and are *iSRD* compatible.

Activating *iSRD*

Since *iSRD* is an additional function within *SRD*, it is activated and deactivated in the same way, by clicking the relevant button on the vertical button bar to the left of the large *SilverFastAi* preview window.



iSRD Automatic Mode



In automatic mode, *iSRD* works completely autonomously and the *iSRD* automatic mechanism covers the entire content of the active scan frame. The user does not need to enter any settings but the effect of *iSRD* cannot be seen in advance in the large *SilverFastAi* preview window. This is only possible in manual mode.

iSRD Manual Mode

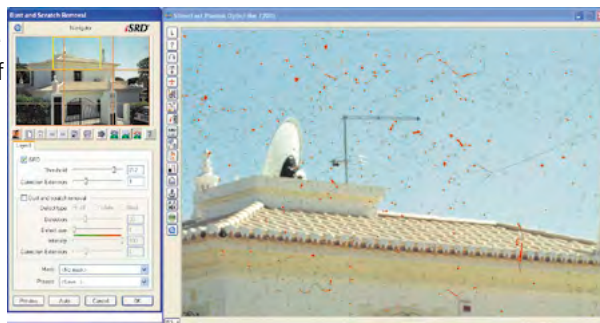


In order to start *SRD*/*iSRD*, the final scan frame output resolution must always be set in advance!

If manual mode is activated, it is possible to decide whether to work with *iSRD* or just with the normal *SRD* by checking the relevant box in the dialogue. The subsequent steps are the same as those described in the section on *SRD*: “Prescan” button, “Auto” button, select the area to be analysed in the navigation window and decide on the display mode. The correction process can then start.

The *iSRD* function has two sliders – Threshold value and Expansion correction.

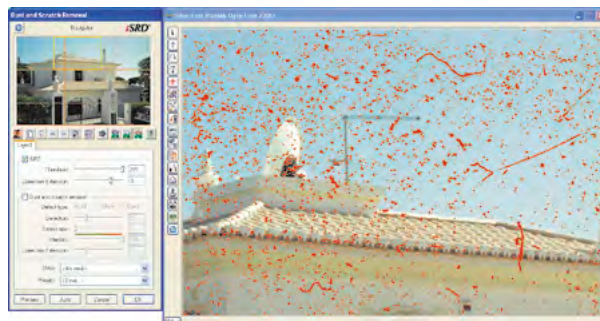
Threshold value: This slider is used to set the level of recognition. The higher the value, the more sensitive the software reaction and the higher the number of probable defects recognised.



* Warning!

The “Expansion correction” slider is only available in full versions of SilverFastAi in expert mode.

Expansion correction*: This slider is only available when the expert button is activated. It controls the scope of correction.



Using *SRD* and *iSRD* Simultaneously (Layer Technology)*

iSRD and *SRD* can of course be used simultaneously. The built-in layer function can be used to maximise the positive effects of both technologies and rule out undesirable side-effects.

The *SRD/iSRD* default setting only shows the first layer „1“. For this first layer, the default setting is for *iSRD* to be activated. It can be deactivated and replaced by *SRD* at any time.

If a further layer is created (by clicking on the relevant toolbar button), the initial default setting for this layer is *SRD*. Here again, it is possible to switch to *iSRD* at any time.

With regard to the use of masks, the same applies to *SRD* as applies to *iSRD*! Mask technology can be used for any layer (see the previous section on *SRD*).

Examples:

- ***iSRD* in Several Layers*:**

Since masks always work within their specific layer, it would be possible, for example, to create two layers which both use *iSRD* but work with different levels of correction on specific parts of the image.

- **Combining *iSRD* and *SRD**:**

The first layer uses *iSRD* in the entire image (for basic correction). A second layer uses *SRD* (possibly in combination with a mask) to remove residual artifacts which *iSRD* was not able to remove completely.

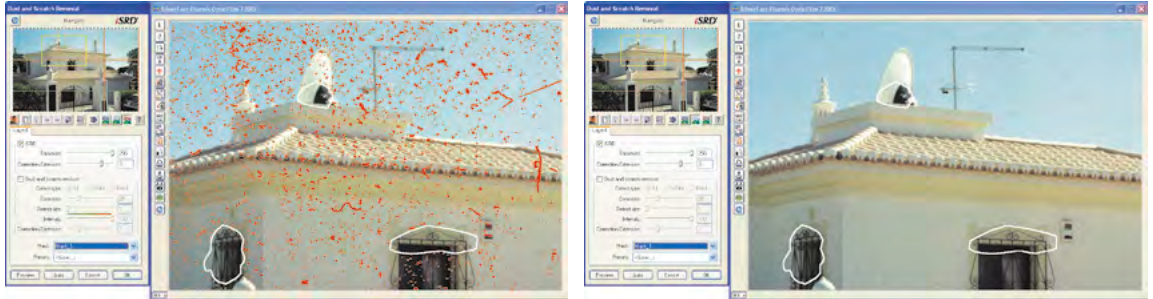


*** Warning!**

Multiple layers and masks are only possible in the full versions, not the SE versions.

Use of Freehand Masks in iSRD

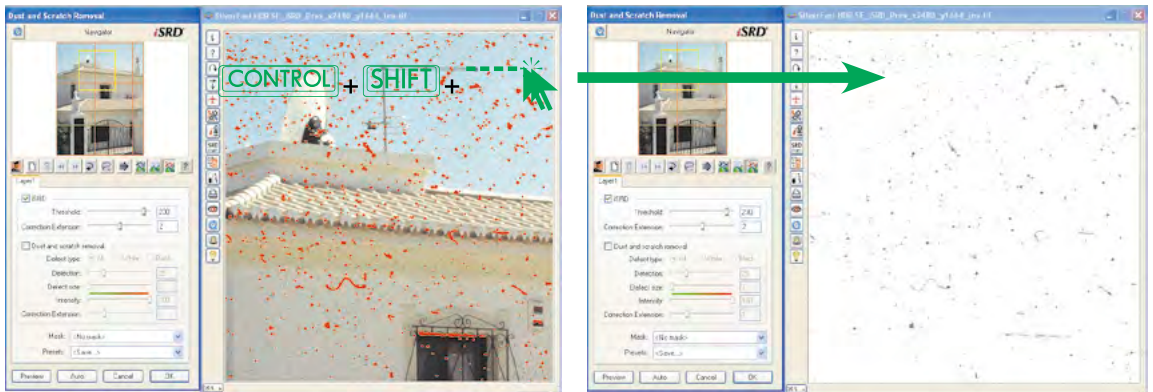
Freehand masks in all shapes and sizes can of course also be used in iSRD which then only works within the mask areas drawn. Please read the previous section on SRD for details of how to use the masks.



Infrared Channel Display

Once the software has completed the infrared and RGB scans, an additional image channel created automatically from the infrared image is used for the dust and scratch removal calculation.

On completion of the calculation, the results can be displayed in the large preview window. The default display is the RGB scan but by pressing Ctrl + Shift and holding down the mouse button in the large preview scan, the infrared channel is displayed.



6.14 SilverFastAACO Auto-Adaptive Contrast Optimization



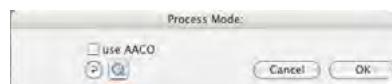
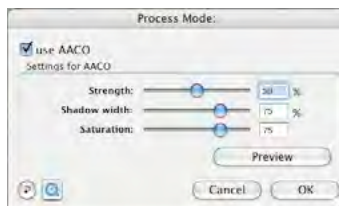
AACO button
left: not active
right: activated

SilverFastAACO is an excellent tool for the correction of dark, too much contrast bearing image parts while preserving the details in the highlights.

AACO is activated by clicking the respective button located in the vertical toolbar, left of the preview window.



A dialogue will open, and the therein set parameters are directly projected onto the current image.



For checking the before/after effect, AACO can be activated and de-activated by means of the checkbox.

Manual corrections can be done by means of the 3 parameter settings. After each change of a parameter, the preview is updated by pressing the “Preview” button.

Clicking the “Reset” buttons sets back the parameters to the original preset values.

Strength: The upper slider regulates the intensity of the effect on the image.

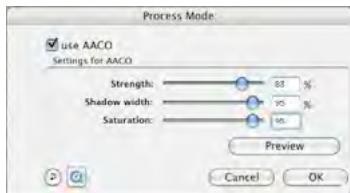
The values range from 0 to 100%. Default setting is 50%.

Shadow width: This regulates how deep the AACO is to interfere in the highlights; i.e. up to what brightness is will apply.

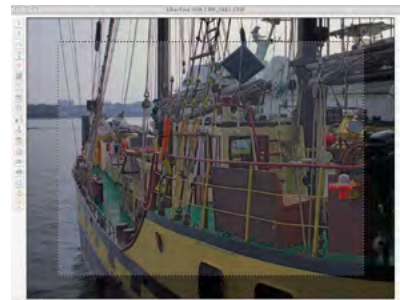
Smaller values only affect the very dark areas of the image.

High values will also interfere with the mid-tones.

Saturation: The third parameter regulates the saturation of the colours, but only those which have been altered by “Intensity” and “Shadow-width” adjustments.



The example shows that even severe changes to the shadows will not affect the highlights, while the shadows have been corrected.

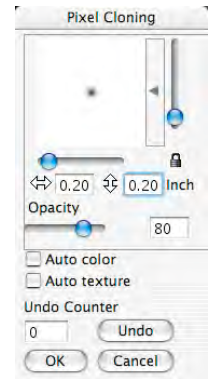


6.15 Clone Tool



The powerful clone tool in the new *Studio* versions now allows complete retouching of images. This 16bit based retouching tool is an excellent supplement to *SilverFast...* with its implemented *SRD* function. Major defects and severe scratches on the image may easily be removed or corrected. Furthermore, even entire areas of the image may be removed, retouched, altered, etc.

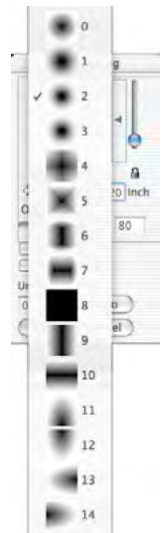
Clicking on the “Clone” button, left of the preview window opens the according dialogue. Size and shape of the clone tool may be adjusted in the upper part of this dialogue by means of vertical and horizontal sliders.



Clicking on the palette next to the preview of the tool will open a context menu that contains different preset tool tips. The selected tool tip appears in the preview window and may further be altered by means of the sliders.

An open lock enables asymmetric tool shapes. The lock should remain open while cloning, otherwise it will jump back into its previous, symmetrical shape.

The opacity of the clone tool can be changed by using the slider in the middle of the dialogue.



The correction is performed in three steps:



Select source
with Alt key pressed

Find target

Clone
with pressed mouse button

First, the image source is selected (click into the desired area of the image while keeping the “Alt” key pressed), then the target area is selected and then cloned by keeping the mouse key pressed. The marker of the source (circle with cross) follows the clone in a fixed distance.

The activated checkbox “Auto texture” allows *SilverFast* to detect patterns by which the clone tries to harmonically match the target area with that of the source area. By this method, the usual retouching-problem of having to try to exactly hit the edges or corners of the target area is solved. Here it is important that the texture of source and target almost run in parallel directions; a classic example of this is the retouching of hair and long edges, etc.



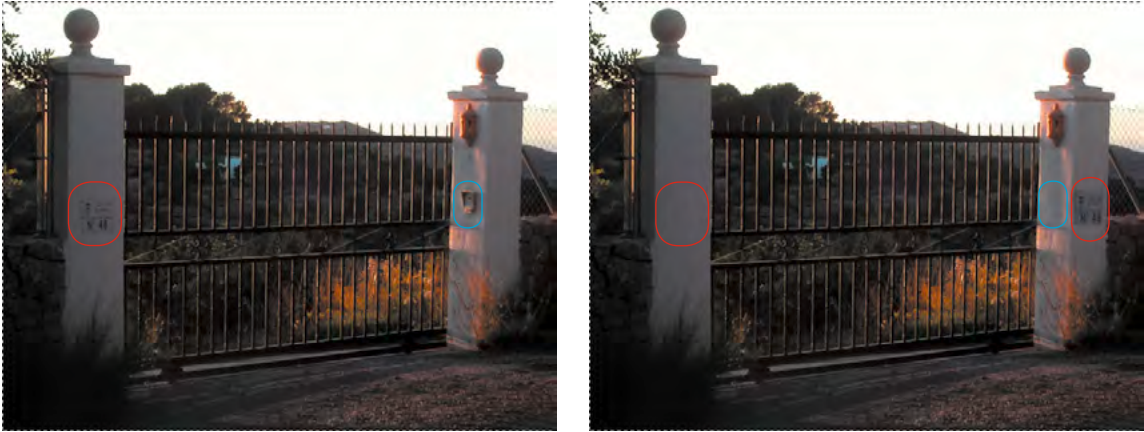
Retouching without “Auto-texture”

Objective: To remove the metal door stopper. Even a small difference between source and target area immediately results in a breach of the image and is clearly visible. Illustration left: Original. Illustration middle: Retouching attempt with incorrect source.

Retouching with “Auto-texture”

A slight mismatch between source and target is neatly evened out by the “Auto-texture”

Naturally, all clone steps may be undone. This can be done in the lower part of the dialogue. The field shows the current amount of performed retouching steps. By clicking the “Step back” button, all actions can be made undone. The preview window updates immediately.



Retouching example: What was changed?

The left image is the original and the right image shows the result or retouching. The sign on the left jamb was copied to the right jamb and then deleted from its original position. The deletion can be seen on the previous page. On the right jamb, the switch was completely removed – as was its shadow.

6.16 PrinTao



Extended Print Dialogue of *SilverFastAiStudio*

In the standard versions of *SilverFastAi*, the “Print” button merely opens a simple printing dialogue. Only single scan frames may be printed out. The *Studio versions* use this button to open *PrinTao*, the extended print dialogue.

Contents of the Extended Print Dialogue *PrinTao*

Page number
Page breaker

Page
Add or delete

Image List
Choosing scan frames in the preview window.

Printer Settings and Choice of ICC Printer Profile

Page and Layout Settings
Presets which size of the image should be considered in the print., and 1:1 copy function.

Thumbnail of chosen Image in the Image List

Start Printout

Print Resolution of Active Image in the Print Dialogue

Close Dialogue

Tools

- Add
- Delete
- Rotate
- Reflect vertically
- Reflect horizontally
- Centre
- Adjust
- Cut
- Image text

Window of Printed Page

Rulers
Measurement unit: cm

Printing Area
Marked by violet frame

Differences in the Print Dialogue in *SilverFastStudio* Versions as Compared to *DC-* and *HDR-* Versions

The basic functions are almost identical to extended print dialogue of the *VLT* (ref. *SilverFastDC...*, *HDR...*) of the *PrinTao* versions.

A more detailed description can be found in the respective sections of Chapter 6.11.

Some “logical” differences are derived from the nature *SilverFastAi* as scanning software – it cannot handle previously saved image files. Hence several functions of the *Ai* versions such as templates, meta-data, etc. are unavailable.

The main difference, however, is the “1:1 copy function” which simulates the usage of a photocopier.

- **1:1 copy function**

When switching from the scan dialogue to the *PrinTao* dialogue, all frames drawn within the preview window, including their exact positions and proportions are transferred 1:1 to the selected paper format.

The individually set frame parameters (e.g. filters) are also transferred.

The new qualities will help users that, for example, have to scan newspapers for archiving purposes regularly. It is now easy to de-screen images of newspapers while merely sharpening the textures. Care should be taken with selecting the batch order in the *PrinTao* dialogue. The batch order depends on the order in which the scan frames have been drawn or modified. It is, however, still easy to select the correct order of the batch scans by means of the two batch buttons in *PrinTao* dialogue.

An example of the workflow of an old brochure:

Preview Scan

In our example, 9 scan frames were drawn: One for textures (green frame) and eight for the images (red frames). The scan frame for the eight images all have identical parameters and were duplicated and positioned immediately after the first frame has been set.



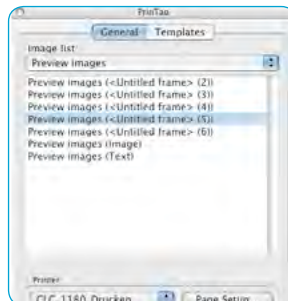
PrintAo

Switching into the PrintAo dialog activates the 1:1 copy function. All scan frames are automatically transferred to the print page.



Batch Order

If necessary, a different scanning order may be allocated to all images on the print page. To do this, click the scan frame and may be re-allocated forward or backward by use of the two batch buttons.



Text Function

For archiving purposes, a small text block is positioned on the page..

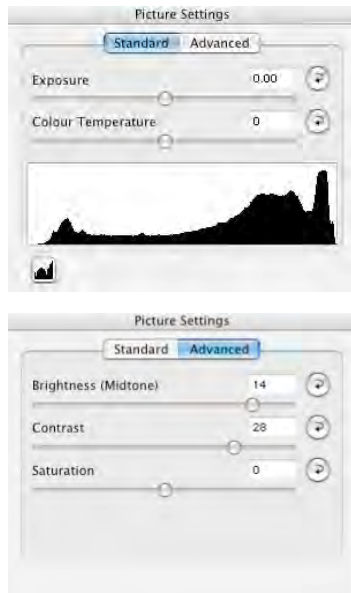


Result

The final result of the 1:1 copy function. The textures are clear and sharp and the images are descreened.



“Image settings” in *SilverFastAiStudio*



The dialogue window “Image settings” (known from the *SilverFastDC...*- and *-HDR...* versions) has now been modified and implemented into *SilverFastAiStudio*. A real-time output histogram that shows the effects of all *SilverFast* settings on the final scan is shown.

The difference to a normal histogram is that this feature shows the target- or final histogram. This is the actual histogram that is also shown after the scan has been done. All parameters that have been set in *SilverFast* are hence shown here. A normal histogram that shows the source or input histogram which shows the image before scanning. By pressing the “Alt” key in the normal histogram, the display will show the target histogram.

Chapter 7

Color Management



7. Colour Management

This chapter describes the concept of colour management, how to set up the appropriate settings in SilverFast, and how to calibrate your scanner to get precise colours.

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7.1 Colour Management

Introduction

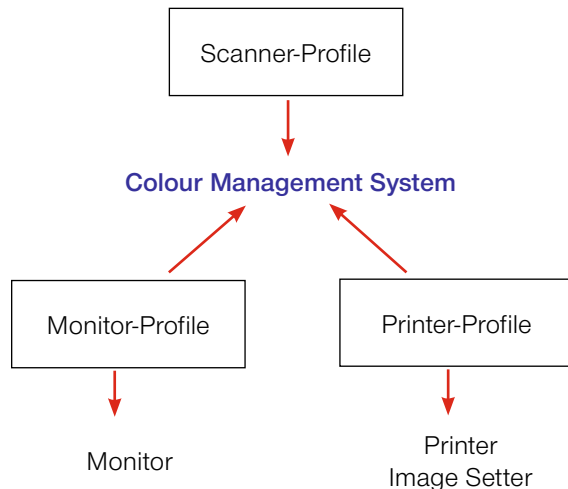
In the past getting professional results with colour reproduction was only achieved by highly educated professionals. There have been two major reasons for this:

1. Devices for colour reproduction demanded high investments
2. Operation of devices was complicated - complex Know-How was necessary.

Luckily the above mentioned reasons are not valid any more today, because the devices needed as, scanner, PC, printer have become affordable for almost everyone. Also operation has become easy with intelligent software and colour management matured.

Objective of Colour Management System (CMS)

Professional workflow without colour management is not conceivable any more today. To save time and money it is desired to see the result of the final scan on the monitor or printer already on the preview. Since every input- and output-device has its own colour gamut, one cannot assume colours to be consistent.



What is an ICC Profile?

An ICC profile characterizes the colour space behaviour of a device. An ICC profile is a data file and will be used to calibrate the device.

What is IT8?

IT8 is an industry standard test-form designed to measure the performance of input devices and generate ICC profiles.

This is where a CMS becomes relevant. A dedicated ICC profile has to be generated for every input- and output device describing their colour space behaviour. Within the workflow the colour management System compares two profiles, that of the data sender, i.e. a scanners, with that of the data receiver, i.e. a monitor, and calculates a relation for the conversion, which will translate the image data into the right colour impression.

Objective of the *SilverFast* Colour Management

SilverFast differs from the majority of scan software by its functional power. With reference to colour management *SilverFast* offers three significant functions:

1. Automatic Matching with Photoshop

The high level of integration of *SilverFast*'s architecture into the Adobe Photoshop 5 architecture, assures matching of the *SilverFast* preview with the final result in Photoshop. This is a very important highlight of *SilverFast*, because only this function makes sure that the user can predetermine (and control) his final result from the *SilverFast* preview.

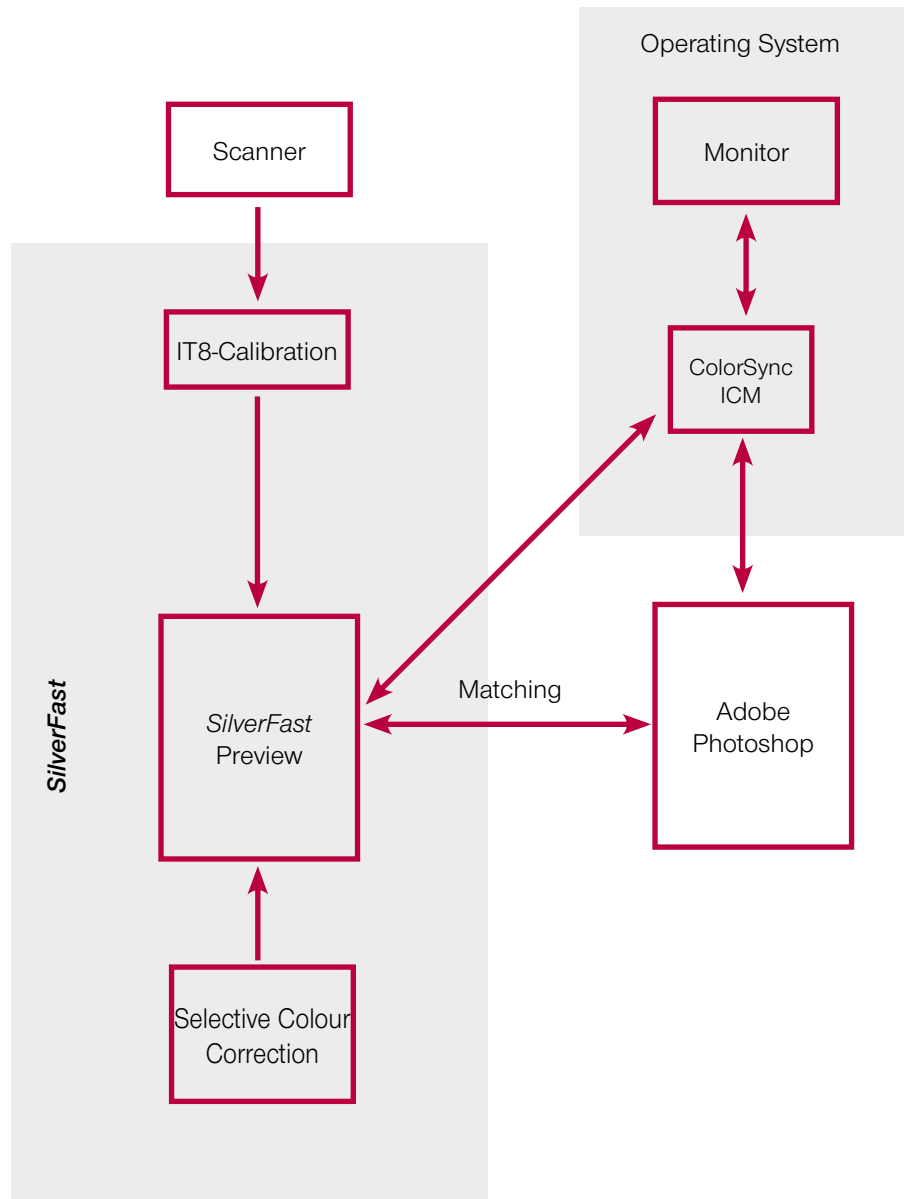
2. Safe IT8 Calibration (optional) with ICC Profiler

With *SilverFastAi* you can create a dedicated ICC profile for your scanner so your scanner can be used within the colour management workflow. *LaserSoft Imaging AG* offers (optional) IT8 calibration for all full versions of *SilverFast*.

SilverFast's IT8 calibration is integrated into the *SilverFast* application in such a way excluding any possible mis-operation.

3. Individual Colour Control with Selective Colour Correction

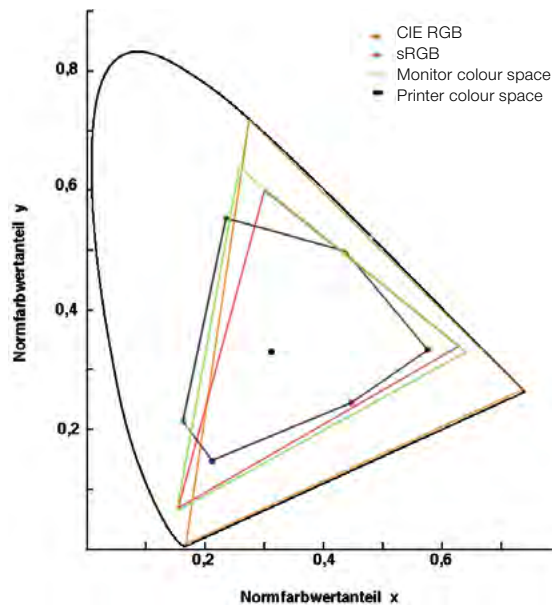
SilverFast's selective colour correction enables the user to change individual colours independently on the *SilverFast* preview. Controlling the colours of the final result at a very professional level without trial and error and integrated with the colour management, is a real boon for any level of user.



Note!

Do not select sRGB as your default colour space in Photoshop if you intend to do colour reproduction with printing.

Obviously there are limits to the ability to display the same data on different devices the same way. The different colour spaces have varying dimensions, i.e. displaying different amount of colours. Also the colour shades they can display are varying. This is resulting in colour deviations from the conversion. The colour space "sRGB", which Photoshop offers as a default colour in its set up is very small, so that even the small colour space of a printer will not be properly rendered. sRGB colour space is still big enough for any monitor. Making sRGB a suitable colour space for the internet. For any documents containing images, which have to be printed, sRGB is not suitable. Use Apple RGB or Adobe RGB instead.

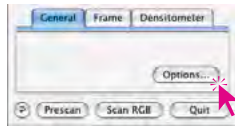


Comparing the colour spaces

Shown is a projection of the colour spaces on to a surface. The „curved triangle“ represents the L*a*b* colour space, which contains all visible colours.

SilverFast offers different possibilities for work flow integration. On the system level under ColorSync (Mac) or ICM (Windows98/2000/XP), or in with integration into the application - in general as realized with Photoshop. CMYK output can already on the preview be checked by *SilverFast's* softproof function.

The CMS Dialogue



Clicking on the “Options...” button in the “General” palette brings you to the basic settings dialogue. Among others you will find the CMS card, where you can adjust the colour management settings.

The “CMS” Palette has Four Different Sections

1. Colour Management

Here you can define whether and how *SilverFast* will communicate with its imaging functions and the different devices (scanner, digital camera, monitor, printer).

2. Profiles for ColorSync (ICM)

In case you have chosen ColorSync (Windows: ICM) as your preferred colour management system, you have to define the in- and output profiles for the different devices here.

3. Embedded ICC Profiles

Here you will define whether *SilverFast* will embed a profile into the output data in order to render colours on another output device correctly at a later instant.

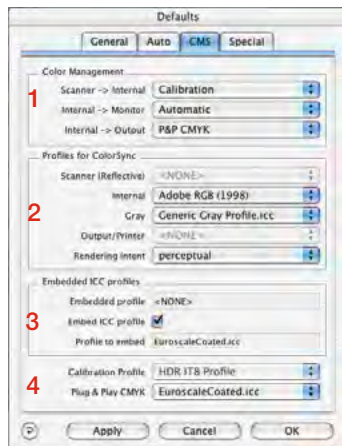
The name of the embedded profile in the current image is also displayed in ***SilverFastHDR...***, ***-DC...***

4. Plug&Play CMYK

When using P&P CMYK you have to choose a separation ICC (CMYK) output profile to separate your images for the printer.



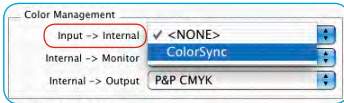
CMS palette in SilverFast Ai



CMS palette in SilverFast HDR

1. Colour Management

Scanner -> Internal

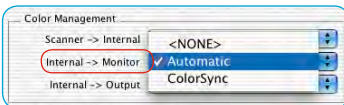


Here you define how your scanner's colour space will be matched to your system. You decide whether the original scan will be transferred to the imaging application with accurate colours.

<NONE>: You renounce matching of the scanner colour space to the colour space of the imaging software. Colours on the monitor may deviate from the image sample.

ColorSync / ICM: You decide to integrate the scanner into the operating system's colour management. By selecting the right ICC profile images will be scanned colour-exact. With *SilverFast's* IT8 calibration you can generate a profile describing your scanner (your scanner's colour gamut).

Internal --> Monitor

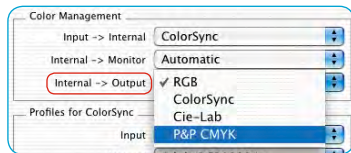


Here you define whether and how the monitor is matched to your system. You have to make sure that the work flow is consistent with the colour settings in your imaging application (e.g. Photoshop).

<NONE>: Data will be passed on to the monitor without any matching. You do omit colour management. Specially with Photoshop 5 it is very likely, that the *SilverFast* preview will deviate significantly from the results in Photoshop.

Automatic: You rely on Photoshop to do the matching to your monitor. It is advised, to set the same colour space (e.g. Adobe RGB) under "Profiles for ColorSync (ICM)" in the field "internal", you have defined inside Photoshop. Otherwise the colour of the scan data could deviate. Since the Twain-standard does not support such functions, it is not available with the *SilverFast* Twain-module!

ColorSync / ICM: You are integrating the monitor into the OS's colour management. The appropriate ICC profile for your monitor will be required. More sophisticated monitors get one supplied on disk or CD, if not, you might get it through the internet from the manufacturers web site, last resort would be to create one with a spectro-photometer. Adobe Photoshop 5 enables you to do your own monitor calibration (ICC profile). For this, utilise the installed Photoshop tool „Adobe gamma“ or, as a professional solution, use respective measurement tools.



Internal ->Output

Here you can define what type of data the printer will get from **SilverFast**. Data to be transferred to the imaging application (e.g. Photoshop), can be in different formats. CMYK- and RGB-files can have profiles embedded, so the data will be matched to the printer's colour space accordingly.

RGB: You can output data in RGB-data format. This setting is recommended for users having no Postscript- but other printers or have no printer ICC profile, or for those using their scans merely for internet- or multimedia projects.

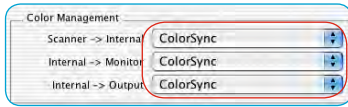
ColorSync / ICM: You are integrating your printer into the OS's colour management. The appropriate ICC profile for your printer will be required.

Lab CIE-L*a*b* is a device-independent colour space, representing all visible colours. Colour differences are not rendered very detailed, and many colours cannot be displayed on a monitor (see also graphic in introduction: the "curved rectangle" represents Lab).

P&P CMYK: High quality system to get CMYK data directly from the 4-colour separation built into **SilverFast**. To get precise colours it is vital to select the same CMYK colour space in Photoshop, (defined by the same ICC profile), as in **SilverFast**.

2. Profiles for ColorSync (ICM)

Only when you have chosen ColorSync (ICM) for colour management, you will have to select under “ColorSync profiles” the appropriate profiles for your device here. Exception is with the menu option “Internal ---> Monitor” which has to have an ICC profile allocated to under “Internal”.



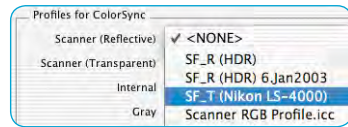
Scanner (Reflective), Scanner (Transparency)

Here you allocate the appropriate (input) scanner profiles, which you have created with *SilverFast* or you have received from the scanner manufacturer. The profiles generated by *SilverFast* have the following naming convention:

SF_R (Scanner name) or SF_T (Scanner name)

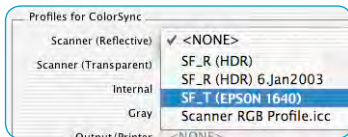
Where the “R” stands for reflective, and the “T” for transparency. In brackets after these again are the scanner names.

Profiles of hardware manufacturer do not follow standard structure. You will mostly find the name of the device where the file-suffix is „.icc” or „.icm”, does not have any significance, since the internal format is fully compatible.



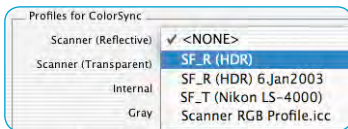
Film scanner

Only then option “Scanner (Transparency)” is available



Flatbed scanner with transparency unit

Both options are available here: “Scanner (transparency)” as well as “Scanner (reflective)”



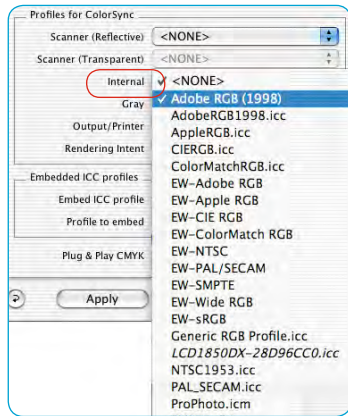
Flatbed scanner without transparency unit as well as SilverFastHDR, -DC, -PhotoCD.

Again, only one option is available: “Scanner (reflective)”

Internal

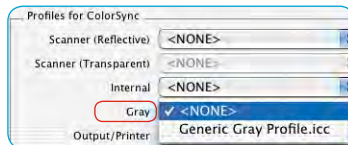
The internal colour space is independent from any device connected and is defined by a profile. This defines the colour matching foundation the colour management is building upon.. For the majority of users it is advised to select the monitor colour space in order to unburden the computer.

Once you have selected Internal --> Monitor ColorSync (ICM) you have to define the internal colour space by a profile you can select freely. In case you have chosen "Automatic" under "Internal", select the profile of the application's internal colour space. The Photoshop plug-in leaves the monitor matching to Photoshop.

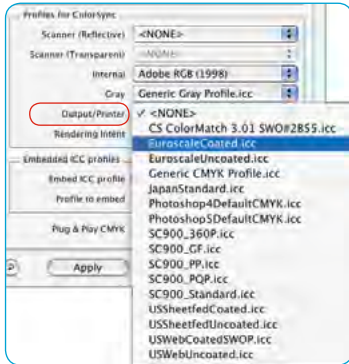


Grey

Here you can select a grey profile for greyscale scans, which can also be embedded into the image file.

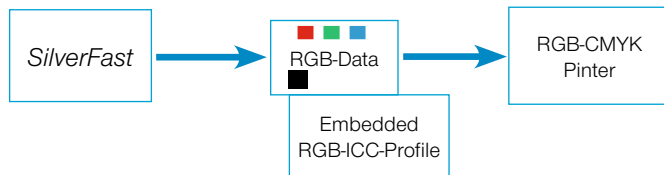


Output/Printer

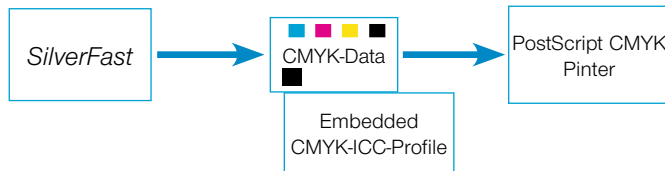


The integration of the printer into the colour management is the highlight, but also the part inducing the most difficulties. The scanner's colour space and the monitor's are the same in principle – RGB – there may be small differences in size, and the related white points are shifted against each other. The printer behaves differently: the output is not only depending on the inks but also on the paper stock - how is the paper white, how is the paper absorbency. All this information has to be considered by the profile. The modern inkjet printers are equipped with drivers, which generally take these issues into account, but they can not so well be integrated with ColorSync .

After having chosen Internal-->Output ColorSync (ICM) under colour management, you have to select the output profile of your printer or imagesetter here. This profile can be embedded into the file at your request.

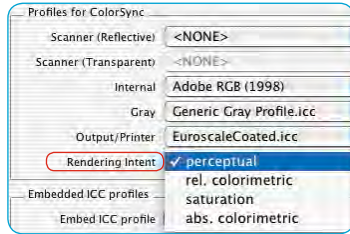


Profile-Embedding with Output on Non-PostScript-Printer



Profile-Embedding with Output on PostScript-Printer

“Rendering intent” for ICC-Profiles



“Profiles for ColorSync (ICM)” now has an additional popup menu in the “CMS” tab of the “Options...” dialogue. Now *SilverFast*’s “Rendering Intent”, which can be utilized for all ColorSync / ICM operations, can be switched on.

A differentiation of the Rendering Intent for various operations (i.e., input, monitor and output matching) is not possible.

Prior to this, *SilverFast* has utilized the Rendering Intent which was preset in the profile, thus generally “Perceptual Match.”

Instead of this default setting, one of the three other Rendering Intents supported by ColorSync / ICM, such as “relative colourimetric,” “saturation” and “absolute colourimetric” can be chosen. In comparison, the effect, when choosing “absolute colourimetric” appears to be the most similar to prior behaviour, because of the differences of the Media white points that appear here.

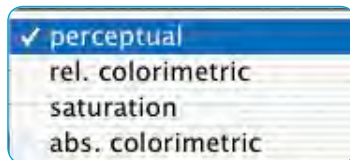
Image data, which has been produced from computer graphics or from renderings might require adaption of the Rendering Intent.

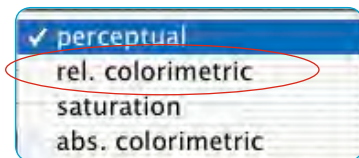
Rendering Intents

1. Perceptual

Relative colourimetry is used. A reproduction which provides a perceptual or pleasing appearance. This general means both in- and out-of-gamut colours are modified from their colourimetric representation.

Example usage would be for scanned images.

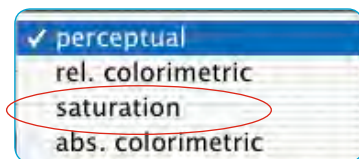




2. Relative Colourimetric

Relative colourimetry is used. For reflection print this means that “y” of paper (paper white) is taken to be “1”. All colourimetric measurements are normalized based on the paper’s colourimetry. A colourimetric reproduction is provided for in-gamut colours. Out-of-gamut colours are mapped to the border of the reproducible gamut. This has the advantage of providing a larger effective gamut so that bright colours will more likely to be in-gamut. It has the disadvantage of sacrificing exact colour matches for printers with different paper white points.

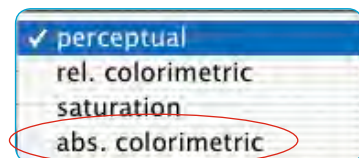
Example usage would be for spot colours where a colour reproduction relative to the paper’s white is desired.



3. Saturation

Saturation relative colourimetry is used. A reproduction in which saturation is emphasized. In-gamut colours may or may not be colourimetric.

Example usage would be for business graphics where saturation is the most important attribute of colour.



4. Absolute Colourimetric

Absolute colourimetry is used. For reflection print this means that “y” (paper white) of printed paper is less than “1”. A colourimetric reproduction is provided for in-gamut colours. Out-of-gamut colours are mapped to the border of the reproducible gamut. This has the advantage of providing exact colour matches from printer to printer. It has the disadvantage of causing colours with “y” values between the paper’s white and “1” to be out-of-gamut.

Example usage would be for spot colours where an exact colour reproduction is desired.

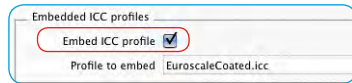
3. Embedded ICC Profiles

Nowadays, digital images are transferred in various channels onto different computers. To assure the rendering of colours to be true without knowing from where they came and how they have been processed, images get a profile attached which will assure a basis for the colour reproduction process.

If you want to embed the ICC profile into the data, you have to check this field accordingly. You will automatically see which profile will be embedded.

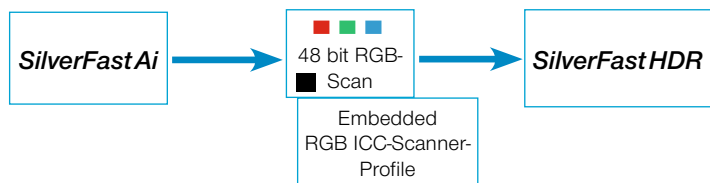
There are four possible origins for an ICC profile:

1. When selecting RGB in the section colour management under Internal->Output the profile originates from the field Profiles for ColorSync --> Internal (e.g. Adobe RGB).
2. When selecting ColorSync (ICM) under Internal-->Output, the profile originates from the field Output/Printer in the field "Profiles for ColorSync". (e.g. "Euroscale coated.icc").
3. If "P&P CMYK" is selected, it is the profile that was chosen under "Plug&Play CMYK".
4. When scanning in 48 bit mode and having selected the scanner-profile under "Profiles for ColorSync", the scanner profile will be embedded into the file.



Working in 48 bit mode?

SilverFastAi can embed a scanner profile (which describes the deviation of the scanner) into the Tiff data during the output of 48 bit data. The scanner deviations can then automatically be corrected during later processing with SilverFastHDR.



Embedding a Scanner-Profile into the 48bit RGB-File

4. Plug&Play CMYK

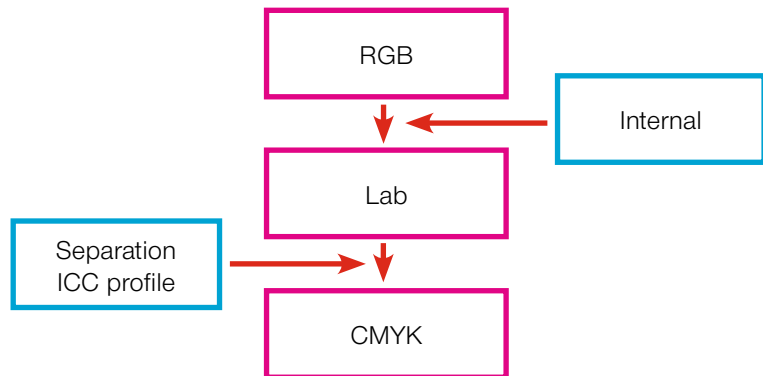
Scanning with Colour Separation

LaserSoft Imaging AG has developed a new solution for high-end separation through Plug&Play CMYK. A new and revolutionary technique solved the problem of separation because the CMYK preview always used to look too different from the final result. Not so with **SilverFast!**

The following diagram explains the functionality of the new separation:

1. RGB data is internally calculated to the hardware independent Lab colour space. Monitor settings are taken into account. The monitor should therefore always be adjusted properly (see below).
2. By using **SilverFast separation** as well as the Photoshop separation profiles with help of the ICC profile, we calculate via the Lab format into CMYK.

SilverFast Plug&Play Separation



CMYK Output with Colour Management

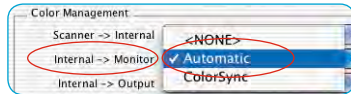
Plug&Play CMYK Separation

In order to activate the P&P CMYK separation, proceed as follows: Select Internal->Output” “P&P CMYK” under the **SilverFast** colour management dialogue. Under "Plug&Play CMYK" at the bottom of the dialogue, select the appropriate profile.

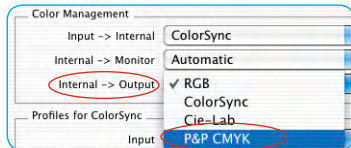
The ICC-CMYK output profile can be chosen at the base of the CMS dialogue.

Make sure you have loaded the same profile in Photoshop under "Colour Settings -->CMYK setup".

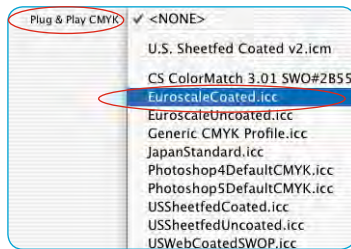
When leaving the "Options..." dialogue, the button "Scan RGB" will now show "Scan CMYK".



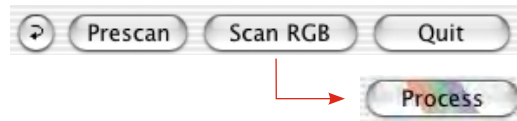
Selection of monitor setting



Selection of P+P CMYK



Selection of same profile or separation table



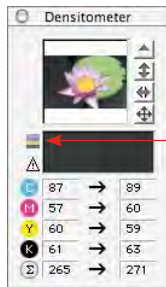
You may also switch **SilverFast** from RGB to CMYK by keeping the "CTRL" key pressed and click on the "Scan" button. A small popup window will appear in which the choice can be made. (refer also "Permanent softproof" Pages 87 and 191) If you have not selected a separation table or ICC profile previously, the selection will be grey and cannot be activated.

RGB-CMYK Toggling

Under Windows press right Mouse-button

Softproof - CMYK Simulation

"Alt"-command and click into preview



Button for switching on / off the softproof function

CMYK Colour Simulation on the Preview (CMYK Softproof)

When the scan button shows "Scan CMYK", you can switch the preview to CMYK simulation by clicking the softproof button within the densitometer window.

Example Settings SilverFast/Photoshop 5.02

Following is a selection of example settings for the **SilverFast** CMS dialogue with reference to Photoshop 5.02:

RGB Output under Photoshop without Colour Management

Under „Photoshop File/Colour Settings/ RGB Setup” you have selected e.g.: ❶ Adobe RGB as your working colour space. An ICC profile for this colour space should be exported, so you can select it later in *SilverFast*. To do this, you can save the settings with „save” into the ICC folder of the operating system.

Now bring up *SilverFast* (from the Photoshop “Import” menu).

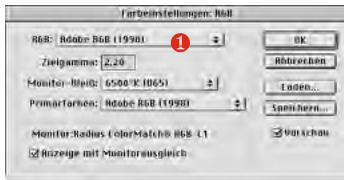
Go to “CMS” under “Options...” in the *SilverFast* main dialogue.

In “Colour management” select ❷ “Automatic” under “Internal --> Monitor”.

Select ❸ “RGB” under “Internal --> Output”.

In this case select ❹ <NONE> or “Calibration” under “Scanner->Internal”. You can only use Calibration with *SilverFast*’s own IT8 calibration. In this example we left it at <NONE>.

Select ❺ Adobe RGB under “Internal” in section “Profiles for ColorSync” as the RGB profile, which you have selected previously in Photoshop.



RGB-Output with Colour Management

You have selected an RGB colour space (e.g.: Adobe RGB) under “Photoshop /Colour Settings/ RGB Setup”.

For this you should have an ICC profile defining this colour space in which you can select later in the *SilverFast* CMS dialogue under “Profiles for ColorSync / ICM” - “Internal”.

(If you do not have this profile, use “save” to save the profile into the System’s profile folder.)

Now bring up *SilverFast* (from “Import menu”) .

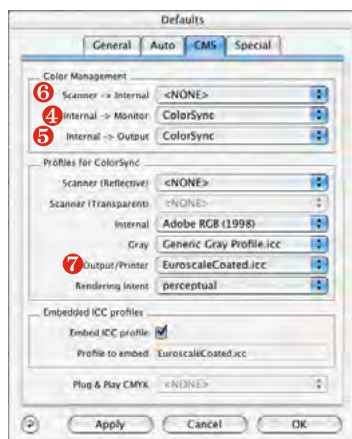
Go to “CMS” under “Options...” in the *SilverFast*’s main dialogue.

Select ❶ “ColorSync”(ICM) in the “Colour management” section under Internal -> Monitor and Internal --> Output.

Scanner->Internal is also set to ❷ “ColorSync” (ICM) in our example. This is only possible, if you have a Scanner ICC profile - either from *SilverFast*’s IT8 calibration, or supplied from the scanner manufacturer. The profiles of the hardware manufacturer are not very accurate, since they are more generalized instead of scanner specific.



Select the scanner profiles ③ (reflective/transparency) of your scanner in section “Profiles for ColorSync” and under Output/Printer your printer profile. Select the profile of the internal system colour space under “Internal”. *SilverFast* assumes your image application supports complete colour management. Please check for this feature in the manual of your software manufacturer.



CMYK-Output with Colour Management (CMS Separation)

You have selected a CMYK colour space under “Photoshop / CMYK setup”. For this you should have an ICC profile you can select later in *SilverFast*. If not, you can save the settings with “save” into the System profile folder.

Now bring up *SilverFast* (from the “Import” menu).

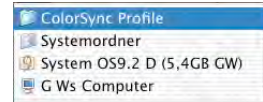
Under “Options...” go to “CMS” in the *SilverFast* main dialogue. Under the section “Colour management” select ④ “ColorSync” under Internal--> Monitor and ⑤ “ColorSync” under Internal --> Output.

Under Scanner--> Internal in our example it is again ⑦ <NONE>. In the section “Profiles for ColorSync” select the same CMYK profile under – Output/Printer, which you have allocated in Photoshop. Under Internal, select the profile of the internal system colour space.

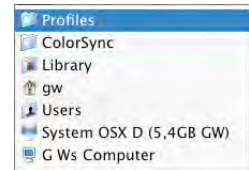
How to save Profiles from Photoshop 5.02

Go to “File”, Colour Settings: RGB Setup. In this dialogue you can prepare your own settings and “Save...” them. Make sure, the profile goes into the right folder, so the System and *SilverFast* can access (load) it.

The path to save it into using **MacOS 9** is
«.:System folder: ColorSync Profiles» and
to save the file into.



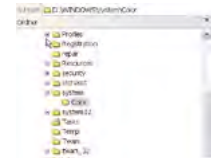
The path to save it into using **MacOSX** is:
«.: user : *user-identification* : Library : Color-Sync : Profiles ...».



The path to save it into using **Win98** is:

«C:/Windows/System/Colors»

Note: Profiles in *SilverFast* have a different name from the file name!

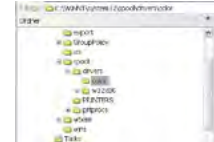
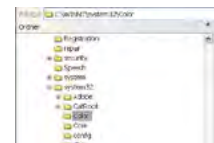


The path to save it into using **Windows 2000** is:

«C:/WinNT/System32/Color»

or

«C:/WinNT/System32/Spool/Drivers/Color»

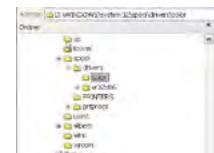
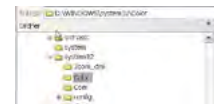


The path to save it into using **Windows XP** is:

«C:/Windows/System32/Color»

or

«C:/Windows/System32/Spool/Drivers/Color»



Attention!

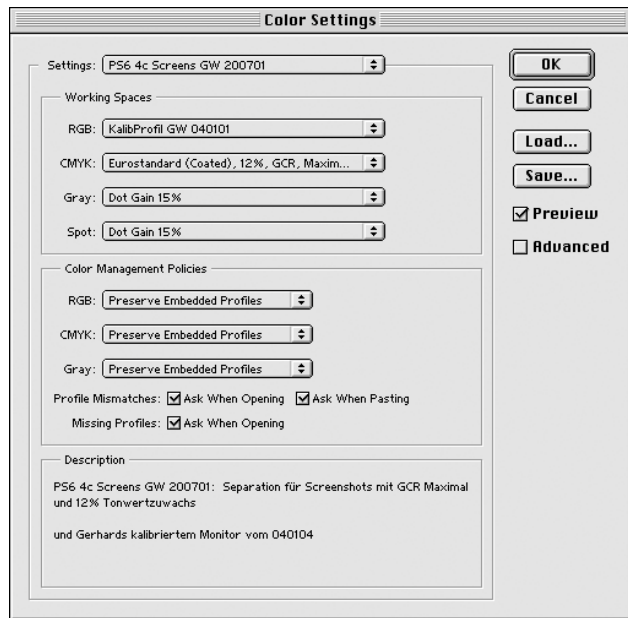
Under Windows profile descriptions do not correspond to profile name. To make sure you do not involuntarily select profiles you do not want, move those profiles temporarily out of the Windows / System Colour directly into a new directory (folder).

Example Settings SilverFast / Photoshop 6

In ADOBE Photoshop 6 all colour settings have been integrated into one menu under “Colour Settings”. It seems more complicated on first look but has become clearer structured in reality.

Once set up, you can save all as one setting and if required exchange with other settings.

Please carefully read the corresponding pages in your Photoshop manual.



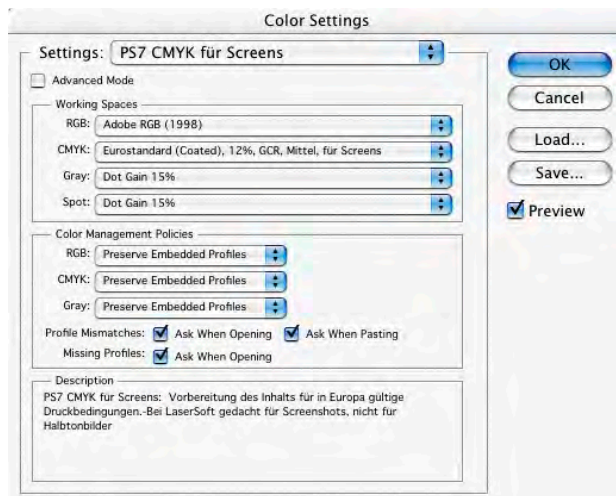
Example Settings SilverFast / Photoshop 7

In ADOBE Photoshop 7 all colour settings have been integrated into one menu under “Colour Settings”. It seems more complicated on first look but has become clearer structured in reality.

No changes were made to Photoshop 6. The same presets may be used.

Once set up, you can save all as one setting and if required exchange with other settings.

Please carefully read the corresponding pages in your Photoshop manual.



7.2 Calibration of your Scanner using SilverFast IT8 Calibration

IT8 calibration button, will open the IT8 dialogue.



IT8 button coloured = calibration is active.



IT8 button grey = calibration is disabled.



The IT8 button is NOT visible when this function is not activated in the software!

SilverFastAi for some high-end devices features a professional tool for calibration and generation of input ICC profiles. The calibration can be made for reflective and transparency positive originals. The calibration is NOT applicable to negative originals.

The IT8 calibration is an additional function in the **SilverFast** software. It is usually an option to the software and therefore has to be activated separately. In certain **SilverFast** versions - for selected scanners - this function is active by default. In cases where this function must be activated separately, a second CD Rom is required for this procedure - the "**SilverFast** Feature-CD". The separate activation procedure is described in chapter "SilverFast Feature-CD".

SilverFast has made the process of IT8 calibration very convenient – all steps are performed automatically by the software, just follow the instructions outlined below.



1. Position the IT8 Reference Chart on your Scanner Bed.

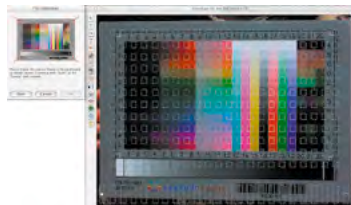
Make sure that the original is positioned inside the scan area of the scan bed. Avoid positioning on areas at the rim of the scanner bed, with some scanners this areas must be kept clear for hardware calibration. The orientation of the IT8 target should be as shown on the left.



2. Click "Prescan" (the Scanner performs a Prescan).



3. Click the button "Calibration"



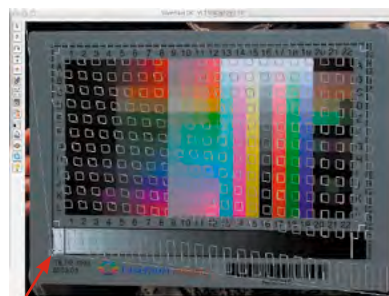
4. The Window "IT8 Calibration" pops up

The preview window and the grid will open.



By clicking into the IT8 image of the dialogue window, the grid is reset to its standard position.

Position the grid in such a way, that all edges are precisely covering the IT8 target.



5. Start the Calibration

If the frame is correctly set up, the calibration can commence by clicking the “Start” button.

SilverFast will now search for the respective reference file for the chosen IT8 target.

6. Identifying the IT8 target and Searching for the Correct Reference Data File.

6a. **SilverFast** Locates the Reference Data File on Its Own

This usually happens very quickly and runs automatically; the IT8 target is identified by the barcode on its front. **SilverFast** then searches for the respective reference data file, and then launches the calibration.

6b. *SilverFast* cannot find the Reference Data File

The automatic search is started within the installed folder for reference files. In case no matching data file is found, ***SilverFast*** will make an internet connection to the ***LaserSoft Imaging*** homepage, and search for the data file there. The reference file will quickly be loaded (size 20 to 30kB). The calibration will then be commenced.

In case no matching reference file is found, an options dialogue is opened. This may occur if the user has chosen a non ***LaserSoft Imaging*** IT8 target which does not contain barcodes. In this case, please locate the matching reference file manually.

Attention! Each reference data file contains exact information about the IT8 target. This means that for each IT8 target there is only one matching reference file. Not matching the exact targets and reference files will lead to a wrong calibration and false results.

SilverFast software usually installs some known reference files automatically inside the “IT8 Reference” folder, a subfolder of the ***SilverFast*** folder.

In case the reference file is not installed, you will find more files on the ***SilverFast*** installation CD, as well as on our website: <http://silverfast.com/download/it8calibration-en.html>

You can easily identify your reference file by its file name. That name is either a so-called “charge number” or a production date printed either directly on the calibration target or on its protective sleeve or below the barcode.



Make sure your reference file (text file) corresponds to the production charge of your IT8 calibration target (when in doubt, ask target manufacturer)!

Reference files for original KODAK reference targets (image) can be found here:

<ftp://FTP.Kodak.com/GASTDS/Q60DATA/>



Note!
When using IT8 calibration make sure you are only using targets with the correct reference data of the appropriate film manufacturer (e.g. Kodak, Agfa, Fuji).

For calibration in reflective mode, please make sure to select the corresponding reference file for reflective targets. The same applies for transparency calibration accordingly.

Confirm your choice with a click on the “Open” button.

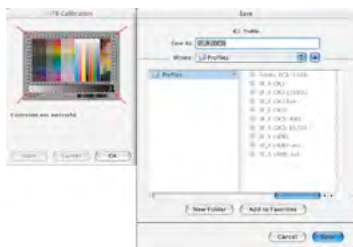
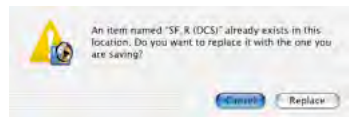
7. Saving the ICC Profile

After the calibration has been completed you will get the message “Calibration has been successful”.

You’ll then have the option to save the result of the calibration as an ICC profile for system-wide colour management. Name and location of the profile can be selected by the user.

Close the dialogue window by clicking “OK”. A new prescan will be launched simultaneously to update the preview.

If the name of the profile just exists you are asked for replacing the just existing older profile.



8. Calibration is now Active.

The IT8 calibration button is now coloured and not longer grey.

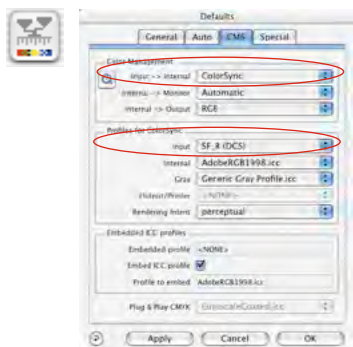


Attention!

Options... For a subsequent activation of the calibration, please choose the following colour management settings: Choose the option “ColorSync” (Windows “ICM”) in the “Scanner->internal” menu.

After this, choose the correct calibration profiles for both transparent and reflective images.

After clicking the “OK” box of the CMS dialogue, the IT8 calibration is activated.



Differences in Calibration Between a Scanner and a Digital Camera

When calibrating a digital camera, several factors have to be taken into account.

The great advantage of scanners is that they work with almost constant conditions: it has an almost constant light source, a fixed colour temperature and a constant distance between the object and the sensor, as well as an absolute array between object and sensor.

This is completely different with digital cameras! Nothing is really constant or standardised, leaving the camera much more flexible and therewith hard to calculate.

An IT8 calibration can be performed but, strictly speaking, lasts only as long as no changes are made to the surrounding factors.

These conditions are generally only found in photo studios, tabletop or during repro photography. They are strongly variable when working with changing light conditions, outdoor photography, etc. Each deviation of the factors makes the calibration work for only one single photo. If a light source is moved in a photo studio, a new calibration-photo is to be made. In order to do this, simply place a suitable IT8 target on a prepared stand into the photo to be taken, and capture the IT8 target in the photo. Then remove the target from the set, and re-shoot the photograph. By this method, two photos are taken, first one for calibration and after that the actual photograph. Professionals know the procedure with grey card tests – the objective is the same with the steps described here.

Sequence of IT8 calibration

A summarized run through the calibration process in the **SilverFast** software.



Prescan



1. Place the IT8 target into scanner and align the target
2. Initiate a prescan
3. Click once on IT8 calibration button (a dialogue opens).
4. In preview window, position the grid exactly over the IT8 target
5. Click once on “Start” button
(if a dialogue opens: browse to location of corresponding IT8 reference file and select it. Confirm selection by clicking the “Open” button.)
6. The IT8 calibration process itself runs automatically.
The IT8 dialogue window informs you about the progress of the calibration process.
7. Save the result of the calibration as ICC profile for system-wide colour management.
8. The IT8 calibration process is completed and automatically set active.

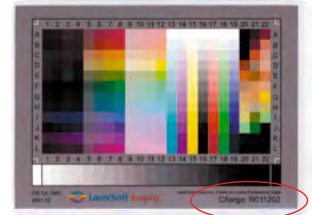
Examples Where to Find the Production Charge Number on IT8 Targets of Different Manufacturers.



LaserSoft Imaging target
35mm, transparent,
charge number is on slide mount.



LaserSoft Imaging target
4x5 inch, transparent,
sticker on the protective sleeve.

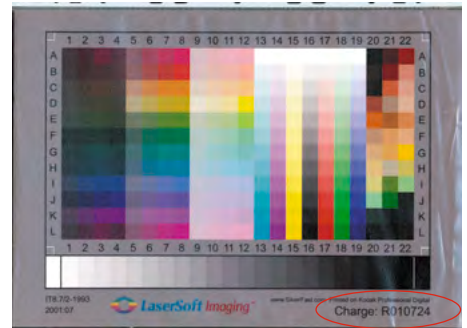


LaserSoft Imaging target
5x7 inch, reflective,
written directly on the target
- bottom right.



Kodak target
35mm, transparent,
reference is date printed directly
on the target and also on the slide
mount.

LaserSoft Imaging target
DIN A4, reflective,
printed directly on the target
- bottom right.



C-ROES target
35mm, transparent,
reference is date printed directly on
the target

C-ROES target
DIN A4, reflective,
printed directly on the target
- bottom left.





Non-calibrated Scan

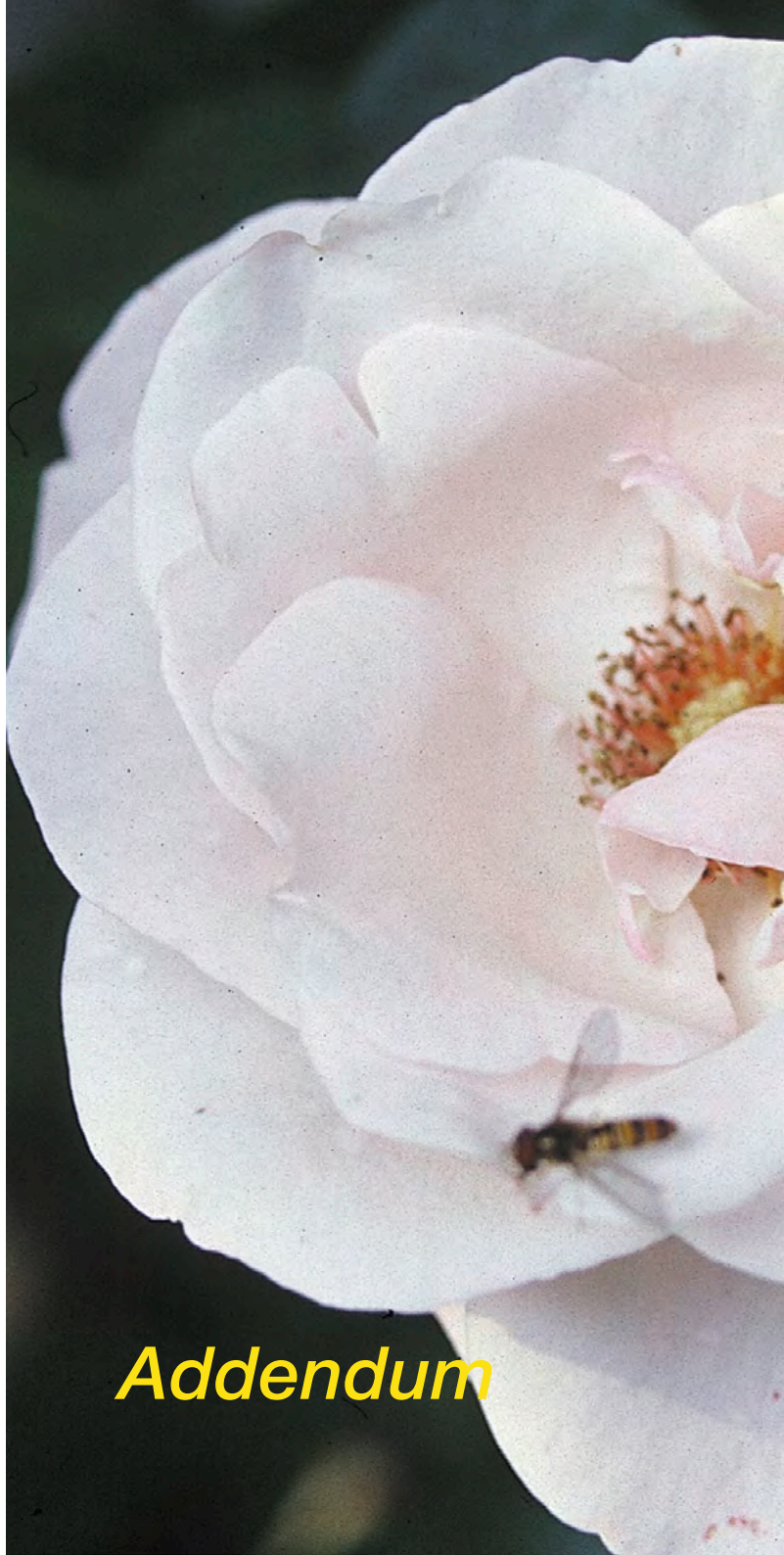


Calibrated Scan (IT8 Calibration)



Chapter 7.3

Addendum



7.3 Addendum

The following chapter introduces into basic scanning concepts and why a good scanner usually has more than 8 bits per colour.

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Scanning Concepts

What is a brilliant image? Do I really need very high resolution?
What is interpolated resolution?

Imaging has been an abstract science which was practised by well trained professionals. Now with the advent of low price PCs, scanners, printers and digital cameras imaging has become a mass phenomenon.

It is exciting to see how this technology is impacting and changing economy and society. It seems that in an information society imaging is becoming the premier tool to convey ideas and compact messages.

This recognition emphasises the importance to learn more and become familiar with the basic imaging concepts. It will help you to realise your visions and ideas much more quickly!

So for your own advantage do study the following pages carefully!

Scan resolution (dpi)

Some important definitions are clarified here. They form the vital basics of image reproduction theory.

Input Resolution

Resolution is a common expression that refers to the number of finest elements of an image or pixels (pixel is an artificial word made of picture and element), which a sensor, for instance a scanner, can record or distinguish. The unit of measure is in general „dpi“ = dots per inch or „dpcm“ = dots per cm. The higher the resolution, the greater the number of pixels can be scanned.

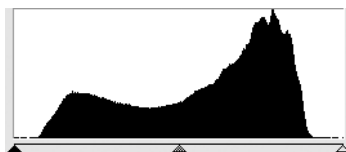
Optical Resolution / Interpolated Resolution

The optical resolution is also called physical resolution. It defines how many lines or points per inch or cm the CCD and optics of the scanner can clearly distinguish. This can be seen when two lines, being very close to each other, can still be seen as two different lines and not as one.

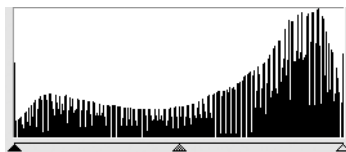
Interpolated resolution is mathematical resolution which, as we will see later, is only important for line art scans, not for greyscale scans. It is calculated via hardware or software.

Greyscale

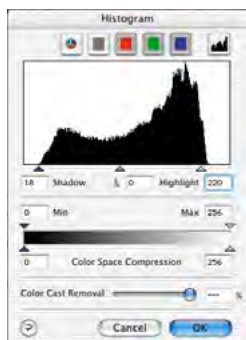
Greyscales are of very high importance for scanning technology because, in order to reproduce a greyscale image, the scanner has to sense every single image point with a certain depth of data in order to reproduce the different levels of grey correctly. A good scanner should be sufficient to distinguish 256 levels of grey (8 bit), but as we will see on the next page, this is not enough. The scanner should distinguish more than 256 levels of grey internally.



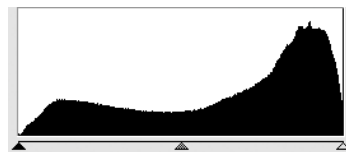
1. Histogram without spreading in Photoshop



2. Histogram with spreading in Photoshop



3. Histogram in SilverFast with automatic optimisation



4. Histogram after scan with SilverFast and 10 bit

Need for More than 256 Levels of Grey

Images are rarely ideal. Furthermore, the scanner itself can deviate (in itself) while scanning images. Adjusting the highlight–shadow values of an image on a prescan lets a scanner with an internal 10- to 8 bit transformation expand the reduced tonal range (fig. 1) to a full range of 256 levels of grey. By expanding a reduced tonal range with only 8-bit transformation, gaps in the tonal scale are produced where grey values are missing. Detail and sharpness of the image are lost or reduced. This can also happen when the transformation-algorithm from 10- to 8-bits is not optimised. The gaps in the histogram (fig. 2) also called spikes, become clearly visible.

Through an optimised transformation of the expansion of tonal values with 10- or 12-bits in *SilverFast*, the end result, that is to say, the final scan displays a gapless distribution of grey levels across the entire greyscale (see fig. 4).

The correct adjustment of highlight and shadow, for instance which values on the prescan become white and which become black, has a strong influence on the quality of a reproduction. *SilverFast* helps locate the brightest and darkest points in two ways: First, the densitometer can be set to CMY% and, by moving across the prescan, indicates where the brightest and darkest points are. Second, the highlight / shadow tool displays the brightest point when the “Ctrl” key is pressed, and the darkest when the “Alt” key is pressed (together with the “Command” key on Mac and the “Alt” key on PC, respectively). For displaying the brightest and the darkest point of the image on the prescan in combination with the highlight/shadow tool, click and hold the white or black square respectively.



Show brightest point



Show darkest point

Thus, the end points are easily set onto the correct spots in *SilverFast* (fig. 3).



Fig. 1



Fig. 2

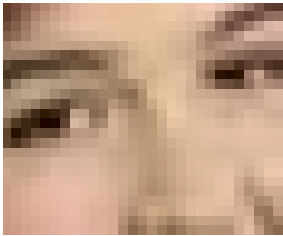


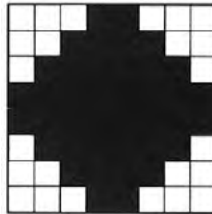
Fig. 3



Fig. 4

Screen Resolution (lpi)

In order to reproduce different shades of grey, the printing technology uses the screening technology. A dot matrix is the most economical way to produce shades of grey.



Screening Matrix

of an image point simulating grey through single image setter dots

An image dot from the scanner is transformed into a screening matrix (in general a 16x16 Matrix). If a screening dot is black, up to 256 image-setter pixels can be set in a screening cell. In a screen of 152 lpi there are 152 screening dots in a line. The unit of measure lpi (lines per inch) is often confused with printer resolution. The unit of measure for printer resolution is generally dpi (In some countries, lpcm (lines per centimetre) is the unit of measure for the image setter's resolution as well as for the screening frequency). Once again the units of measure:

Printer resolution: dpi / dpcm (lpcm)

Screening resolution: lpi / lpcm

The images on the left show the effects of different scanner and screening resolution. Image 1 shows a normal scan with 220 dpi printed on a laser printer with 120 lpi. Image 2 shows an enlargement of a selection. Image 3 shows a scan with very low resolution (under 72 dpi) printed with 120 lpi. Image 4 shows a scan from image 2 printed with a line screen of only 20 lpi.



High scan resolution

High scan resolution is important only in line art scans. It should be between 800 to 1000 dpi depending on the printer resolution.

Calculating the Scan Resolution

The best possible scanning resolution is very important and should be well thought out “the more the better” does not always hold true!

To Clarity:

Shades of greyscale images are converted into dots made of a 16x16 matrix when imaged on to an image setter. Ideally, a screening dot contains 256 individual pixels. When a photograph is scanned and printed onto a 150 line screen, each greyscale dot is converted into a 16x16 matrix. An image setter with a resolution of 2540 dpi is just capable of imaging such screening dots.

Since there are losses in the process of analog-digital conversion, an additional Q-factor (Q for Quality) is introduced. This factor is generally 1.4, and, with exception, 2.0.

As a result, the following formula for the calculation of the ideal scan resolution may be used:

$$\text{Scan resolution} = \text{output screen} \times 1.4 \times \text{scale-factor}$$

For Example:

The scan resolution for a 150 line screen with a 1:1 scaling-factor has to be calculated.

$$\text{Scan resolution} = 150 \times 1.4 \times 1 = 210 \text{ dpi}$$

The resulting file size for an A4 page for black and white greyscale is 5.77 MB, for colour 17.3 MB.

300 dpi would roughly double the file size. This shows the importance of setting the optimal resolution since memory requirements and processing time increase dramatically.

Automatic Calculation of Optimal Scan Resolution in SilverFast.

The calculation of optimal scan resolution results in maximum quality, less memory load and faster processing. For this very reason the automatic calculation of optimal scan resolution was integrated into SilverFast. Having chosen the quality factor of 1.5, you only have to input the desired output line screen (150 line screen) and the required output size. SilverFast automatically sets the optimal scan resolution for you.

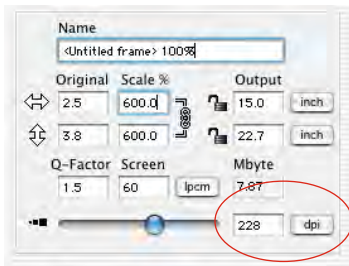
For a 121 line screen for a newspaper and a scale-factor of 50% the calculation is as follows:

$$\text{Scan resolution} = 122 \times 1.4 \times 0.5 = 85 \text{ dpi}$$

If you want to double the image size :

$$\text{Scan resolution} = 122 \times 1.4 \times 2 = 341 \text{ dpi}$$

The images on the right show, what has been explained earlier: that higher image resolution is not significant for better image quality.



Which “Resolution“ does *SilverFast* indicate?

In *SilverFastAi* you can monitor three different aspects of scan resolution:

a) **Output Resolution:** Will be continuously displayed. This represents the resolution, which the image will have after the scan, eg. in Photoshop. The value is derived from *SilverFast's* integrated formula, which relates quality factor and output-line screen.

b) **Optical Resolution:** Depressing “Ctrl“ key will display the optical resolution the scanner is using currently. Every Scanner can only use certain optical resolution increments, depending on the hardware. Eg. 300, 600, 1200 ppi, but not 249 ppi. *SilverFastAi* will always use the next higher hardware resolution, here 300 ppi, and will then interpolate down. This way the full quality is preserved. This way any loss in quality is eliminated .

c) **Interpolated Resolution:** To check whether the scanner does not interpolate “up“, you can depress the keys “Ctrl + Shift“. Now you can see the internally used, “calculated“ or “interpolated“ resolution. Here all values are possible such as 249 ppi from our example above.



Be alerted once the second value (with “Ctrl + Shift“) is higher than the first value (only with “Ctrl“). This indicates the scanner would interpolate “up“ and generate new pixels which are not present in the original image. Moderate interpolation up to 1.3 times max optical resolution puts you on the save side normally, depending on the quality of your scanner, of course.

Generally **SilverFast** inhibits “Misuse” by limiting the max resolution to a factor of 2 or 2.5.

Images with Varying Resolution



100 dpi



200 dpi




300 dpi



400 dpi

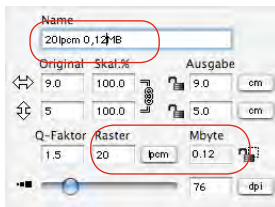
Optimum Scan Resolution for Inkjet Printers

In order to print image scans with an inkjet printer without Post-Script and without simulation of offset screens, effectively a few points should be observed already before the scan.

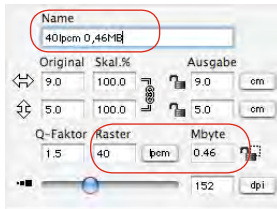
 Please note: You should scan with reference to file size really needed, i.e. Scan size (file size) should ideally reflect the number of pixels needed for the print. Larger than necessary files only congest the computer system and do not lead to a better printing result! All necessary tools to get to ideal file size are built into **SilverFast**. There are no complex formulas and no conversions required.

In order to get optimum results it is recommended to do an initial test. With this test you will find the optimum resolution for the current printer (the printer connected), with relation to a special paper:

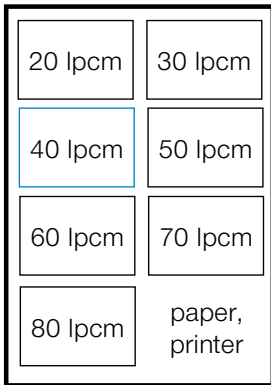
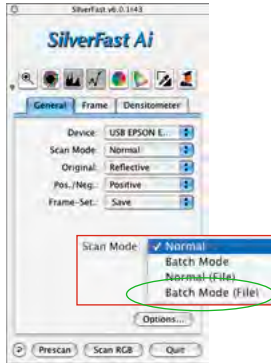
1. In the **SilverFast** main dialogue the “Quality factor is to be set” to 1.5 and “Scaling” is to be set to 100%.
2. The original to be scanned should be a contrasty slide with lots of details or a similar reflective halftone. do not use printed samples from magazines or books!
3. After the preview scan create a small scan frame (eg. 9x6cm) over an area with significant details.
4. The image will be optimized as usual: image auto-adjust, Gradation, colour correction. Under “Filter” the “Unsharp Masking”, if active should be switched off.
5. In the **SilverFast** main dialogue (“Frames” panel) under “Screen” input a value of 20 lpcm. In the same dialogue input “20 lpcm” as well as the file size as “Name” for this scan frame.
6. While depressing the “Alt” key and dragging the scan frame will be copied. Position the new scan frame exactly onto the same position as the first frame.



⑦



⑨



Example of positioned test scans on a DIN A4 format sheet.

7. For the new scan frame input “30 lpcm” under “Screen“. Then input “30 lpcm” for “name”.

8. Now repeat steps 6 to 7 for the values “40 lpcm” until “80 lpcm“, with steps of 10 in between.

9. In the main dialogue change to the “General“ panel and select “batch Mode (File)” under “Scan Mode“.

10. Start processing of the seven scan frames with clicking on “Scan Batch“. A dialogue will come up asking you for a destination for the final scans.

11. When the seven scans are done, mount them in a layout-program onto one paper, e.g. letter format. It is important that all scans get exactly the same frame size! Mark each scan frame with the full name of the image file respectively!

12. The test chart can now be printed and evaluated.

13. Evaluation of results:

Which image, resp. which “screen“, will get the best result with the current paper ?

Where can you distinguish fine resolution just about?

What is the optimum screen? Notice how rapidly file size increases with higher line screens!

In reality the limit for recognizing any enhancement in print quality will be between 40 to 50.

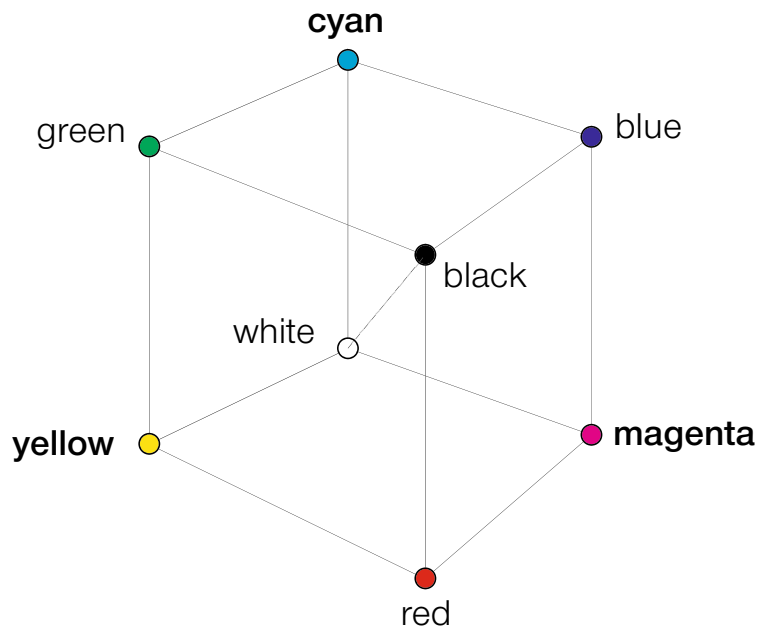
It will be interesting to see the comparison print of the same image file on different paper or other printers.

Selective Colour Correction

Colour in Colour Correction



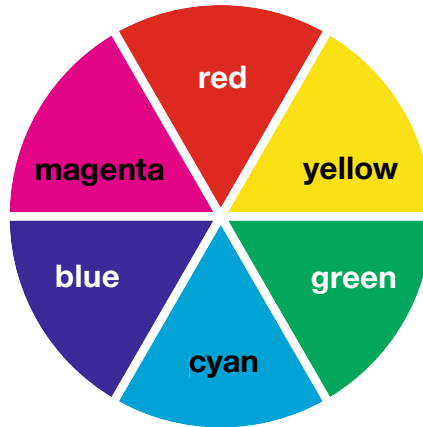
Selective colour correction was developed for high-end scanners, and consists of changing colours within a colour. The colours red, green, blue, cyan, magenta and yellow are corrected. The cast colour can be reduced and the current colour can be increased. The cast colour of red is cyan, of green is magenta, of blue is yellow.



The diagram above shows the relationship between colours. The primary colours red, green, and blue have opposite colours as their complementary colours. The neutral tones between black and white lie on a grey axis.

Colour Model Relations

The following model shows the relation between primary colours and contaminating colours (complementary colours). In the selective colour correction these colours can be increased or decreased.



Contaminating Colours

Contaminating colours are those which lead to a “dirtying” also referred to as a “blackening”. The colours lose their brilliance and tend to grey. The following table shows the relations:

Colour		Contaminating colour
Red	→	Cyan
Green	→	Magenta
Blue	→	Yellow
Cyan	→	Magenta / Yellow
Magenta	→	Cyan / Yellow
Yellow	→	Magenta / Cyan

Keystrokes in *SilverFast*

Action	Macintosh	Windows
Description of keyboard shortcuts and their respective counterparts		
Command.....	Command-/Apple-Key	-
Alt.....	Opion-/Alt-Key	Alt-Key
Shift	Shift-Key	Shift-Key
Ctrl.....	Control-/Ctrl-Key	Control-/Ctrl-Key
Return	Return-/Enter-Key	Return-/Enter-Key
Esc.....	Escape-/Esc-Key	Escape-/Esc-Key

ScanPilot / ImagePilot

Apply / Execute current tool	Return	Return
Scroll / Next action	Up and Down arrow	Up and Down arrow

Prescan, scan / Preview, process

Stop prescan / stop scan.....	Command+Period.....	Strg+Period
Switch to other colour space.....	Ctrl+Click on.....	Right mouse button+Click on
	Scan-/Process-button	Scan-/Process-button
Zoom	Ctrl+Click&Drag	Ctrl+Click&Drag

Image frames

Duplicate frame	Alt+Click&Drag.....	Alt+Click&Drag
Entire Window in one frame	Command+A	Ctrl+A
Delete frame (extended keyboard).....	Delete	Delete
Delete frame (normal keyboard).....	Alt+Backspace.....	Delete
Frame reset	Reset-button.....	Reset-button
Copy settings of one frame	Alt+Click on active frame,	Alt+Click into inactive
into an other frame	click then into target frame ..	target frame

Action

Macintosh

Windows

Auto-adjust

Resetting auto-adjust Alt+click on Alt+Click on
Auto-adjust button Auto-adjust button

Highlight / shadow / midtone tool (HSM-tool)

Set highlight Click on white triangle of HSM-tool
Set midtone Click on pipette of HSM-tool
Set shadow Click on black triangle of HSM-tool

Multiple attempts with pipette

Hold down pipette for multiple hold down Alt hold down Alt
attempts (only highlight, shadow)
Reset highlight / shadow Alt+Pipette of HSM-tool
Display brightest point  Click on white square F6
Display darkest point  Click on black square F5

Histogram

Show result histogram Alt in the histogram dialogue. Alt in the histogram dialogue

Selective colour correction

Select all colours Command+A Ctrl+A
Select additional colour Shift+Click into prescan Shift+Click into prescan
Select additional colour column Shift+Click on LED Shift+Click on LED
below column. below column
Show inactive mask area F7 F7
(dialogue must be closed)

Reset

Reset all parameters Shift+Click on Reset-button Shift+Click on Reset-button
Frame reset. Alt+Click on Reset-button. Alt+Click on Reset-button
Undo/Redo last operation Command+Z Ctrl+Z

Action	Macintosh	Windows
Opening a dialogue window		
Zoom in preview	Command+1	Ctrl+Alt+1
Image auto-adjust	Command+2	Ctrl+Alt+2
Histogram dialogue	Command+3	Ctrl+Alt+3
Gradation dialogue	Command+4	Ctrl+Alt+4
Global colour correction	Command+5	Ctrl+Alt+5
Selective colour correction	Command+6	Ctrl+Alt+6
Expert dialogue	Command+8	Ctrl+Alt+7
Leave dialogue/Leave SilverFast	ESC or Command+Period	ESC or Ctrl+Period
Start scan / Process image	Return/Enter	Return/Enter

Main dialogue

Undo/Redo last action	Command+Z	Ctrl+Z
Show current hardware resolution	Ctrl	F5
Show calculated scan resolution	Ctrl+Shift	F6

Masks in SilverFastSRD

Hide mask frame	Ctrl	Ctrl
Shade inactive mask area	Alt+Ctrl	Alt+Ctrl
Reduce mask	Alt	Alt
Extend mask	Shift	Shift

JobManager

Select all job entries	Command+A	Ctrl+A
----------------------------------	---------------------	--------

Action**Macintosh****Windows*****VL* (virtual light table)**

Context menu in album and overview ..	Ctrl+Click	Right mouse
Preview mode, full screen,	Command+Shift+F	Ctrl+Shift+F
fit to screen		
Display EXIF infos	Command+I	Ctrl+I
Album, mark all images	Command+A	Ctrl+A
Album, delete image.....	Command+backspace.....	Ctrl+backspace

***EP* (extended printing dialogue)**

Crop opposing edges / corners	Shift+Click&Drag	Shift+Click&Dra simultaneously
-------------------------------------	------------------------	-----------------------------------

SilverFast Launcher

Terminate	Command+Q	Ctrl+Q
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Chapter 7.5

Glossary



7.5 Glossary

A

additive primaries

Red, green, and blue light that produce white light when added together.

ASCII

(American Standard Code for Information Interchange) A standard format for representing data or text in 8-bit chunks.

B

bit

(binary digit) The basic unit of information used by computers. It has two states: on or off.

bitmap

An image made up of a matrix of dots, or pixels.

byte

A unit of information equal to eight bits.

C

calibration

The process of setting equipment to a standard measure.

CCD

(Charge-Coupled Device) A light sensitive electronic chip used by scanners to measure light.

channel

One greyscale scan or one of the three RGB components making up a colour scan.

CLUT

(Colour Look-Up Table) A collection of most-often-used colours stored in a file or the System.

CMYK

(cyan, magenta, yellow, black) The subtractive primaries, also known as the process colours, used for colour printing.

Colour separation

Dividing a colour image into its four CMYK components for printing. (Also refers to the C, M, Y or K film negative from which printing plates are made.)

comp

(comprehensive) A test print used to evaluate layout and design.

compression

The process of decreasing a file size.

contrast

The range between the darkest and lightest areas in an image.

D**daisy-chain**

link together sequentially as in linking multiple drives on the SCSI bus.

DCS

(Desktop Colour Separation) A format that contains five Post-Script files for each colour image.

densitometer

A hardware device to measure the amount of light transmitted through film to check the quality of imagesetter output. Also a software feature for measuring the grey and RGB levels of an on-screen image.

dithering

A halftoning process that uses clusters of dots rather than evenly spaced halftone cells.

dot gain

A printing defect in which halftone dots print larger than intended.

dpi

(dots per inch) The unit of measure for a printer's output resolution. Also used for scanner resolution although ppi or spi is more accurate.

dropout colour

A colour that you set the scanner not to recognise.

E

EPS

(Encapsulated PostScript) A file format that can contain both scanned images and PostScript images along with printer information.

gamma

A measure of contrast that affects the midtones of an image.

gamma correction

Application of an algorithm to correct images for the fact that machines and people perceive tonal gradations differently.

G

GCR

GCR (Grey Component Replacement) A technique for reducing the amount of cyan, magenta, and yellow ink in an area and replacing them with black ink.

Greyscale

An image type made up of black, white, and grey pixels. Also, the range of greys in such an image measured in either percent black (0% is white and 100% is black) or grey levels (0 is black and 255 is white).

H

halftone

An image that uses different sized dots to represent light and dark areas.

highlights

The white and nearly white parts of an image.

histogram

A bar graph of the number of pixels for each grey or RGB value in an image. The histogram helps you evaluate the tones in an image.

HSB

(Hue, Saturation, Brightness) A colour model that defines a colour by specifying its hue, saturation, and brightness.

I

imagesetter

A printer that prints computer files at high resolution on photographic paper or film.

interpolation

Mathematical calculation the scanner performs to increase resolution.

J

JPEG

(Joint Photographic Expert Group) A compression algorithm for image files.

K

kilobyte

A unit of memory equal to 1024 bytes.

L

Line art

An image type made up of black and white pixels only.

lpi

(lines per inch) The unit of measure for halftone line screen frequency, or how many halftone cells occur in an inch.

LUT

(Look-Up Table) The table of colours a computer can display at a given time.

M

megabyte

A unit of memory equal to 1024 kilobytes.

memory

Computer hardware that can store information for later retrieval. This term can mean either hard disk memory or RAM memory. See also RAM.

midtones

The range of tones between the shadows and highlights of an image.

moire

Undesirable banding when scanning a halftone image due to the halftone screen interacting with the scanning grid.

O

overprinting

Printing over areas already printed, as opposed to using a knockout.

P

PICT

The native Macintosh file format for images.

pixel

(Picture Element) The smallest point in a scanned image. Line art pixels are black or white, greyscale pixels can be from grey level 0 to 255, and colour pixels can be from 0 to 255 for each RGB channel.

Plug-in module

Software that runs from within another application.

posterisation

Visible tonal banding in an image.

ppi

(pixels per inch) The unit of measure for a pixel based image, such as an image displayed on a monitor. Also used for scanner resolution.

prepress

The industry that prepares the film from which printing plates are made.

preview

A low-resolution version of an image that appears in the *Silverfast®Ai* Preview window to help you set the scan area and scanner controls.

proof

A representation of what a final printed piece will look like so that it can be evaluated before the expense of printing.

R

RAM

(Random Access Memory) The short term chip-based memory in a computer that applications load into to run.

RGB

(Red, Green, Blue) The additive primary colours used to display images on a monitor.

S

scan head

The part of the scanner containing fluorescent lamps that passes across an image.

screen frequency

See lpi.

SCSI

An acronym for Small Computer System Interface. An industry standard interface that provides high-speed access to peripheral devices.

SCSI chain

A group of SCSI devices linked to each other through SCSI peripheral interface cables and linked to the SCSI port on the computer through a SCSI system cable.

SCSI ID number

A number assigned to each SCSI device connected to a computer. The Macintosh itself is assigned ID 7. Other devices may use IDs 6 through 0, with 6 indicating the highest priority for communications and 0 the lowest priority.

service bureau

A business that specialises in printing computer files on an imagesetter.

shadows

The black and nearly black tones in an image.

stripping

The traditional process of assembling colour separations and typeset text by hand prior to making printing press plates.

subtractive primaries

The ink colours cyan, magenta, and yellow that add together to make black.

T**terminator**

A device used in an SCSI chain to maintain the integrity of the signals passing along the SCSI chain. An SCSI chain should have one terminator at the start and end of the SCSI chain.

TIFF

(Tagged Image File Format) A file format for exchanging files between applications and computers.

trapping

A technique of overlapping abutting colours to compensate for printing press misregistration

U**UCR**

(Undercolour Removal) A technique for reducing the amount of magenta, Yellow, and cyan ink in neutral areas of an image and replacing them with an appropriate amount of black ink.

V

virtual memory

A feature of some applications (and System 7) that lets you use hard disk space as RAM.



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LaserSoft Imaging AG
Luisenweg 6-8
24105 Kiel • Germany
Tel.: +49 (0) 431/5 60 09-0
Fax: +49 (0) 431/5 60 09-96
E-Mail: Info@SilverFast.com
www.SilverFast.com

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