HOW TO SCAN PHOTOS WITH LASERSOFT SILVERFAST SE 6

David B. Brooks © 2004

A Practical Guide To Image Adjustment With SilverFast SE Version 6

PREFACE

This step-by-step guide in how to use Lasersoft SilverFast SE tools to make final scans of photographic images, is intended to supplement the Lasersoft documentation that accompanies the application. There are many versions of SilverFast SE supporting a variety of different scanner brands and models. This guide was put together using the Epson Perfection 4870 Photo scanner. Although there is a great deal of consistency between the different versions of SilverFast SE to support different scanners, the use of the tools for image adjustment previous to a final scan should be essentially the same. Even though there may differences in the look and configuration of the interface from the screenshot examples in this guide, the functions described and illustrated should apply to all versions of SilverFast SE 6.

This guide will not include instructions for the physical operation of any scanner and how media for scanning should be handled with different scanners. Please refer to the manufacturer documentation supporting the operation of the scanner to learn how to handle photographic media and operate the scanner. In addition, some controls of features of different scanners such as focus and creating thumbnails of image film frames with some 35mm scanners, will not be referenced in this guide. In addition the use of two of the three new features in version 6 of SilverFast SE, GANE and SRD, are not covered in this guide. Any questions about the access to and control of all of the features applicable to a particular scanner should be referred to the Lasersoft Guide for your version of SilverFast SE that is found on the installation CD.

CONTENTS

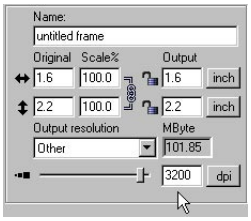
INTRODUCTION

Just as important as the software itself to the success you may achieve using Lasersoft SilverFast SE in this new Version 6, is your attitude and thinking applied to its use. Although there are some automated functions in SilverFast which help make the process of adjusting what you see in a preview scan to result in an ideal final scan easier, the software alone will only provide part of the entire solution. You must first consider the photograph you want to scan in all its attributes, what it contains and looks like, particularly realizing each image is an entirely unique picture that SilverFast is incapable of recognizing as such. Then you need to consider specifically how that unique image should look to satisfy your expectations, which is also something software is incapable of recognizing and understanding.

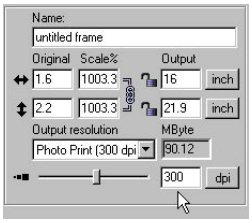
In other words you have as a beginning the unique picture you want to scan, and your goal is what the image should look like once scanned and displayed on your monitor. SilverFast is like a carpenters
toolbox with saw and hammer, neither of which will do anything towards building something without the carpenter's effort and intelligence used to direct the work of the tools. So each photograph you want to scan is like a different building plan a carpenter would undertake, and each will demand using the tools in the toolbox differently, with thought and vision applied to how the final goal is to be achieved.

Each SilverFast tool and function is identified and explained in the Lasersoft documentation that came with your copy of the software (Adobe Acrobat .PDF file on Lasersoft SilverFast SE CD), including three entirely new features: SRD dust and scratch removal, GANE grain reduction, and ACR color restoration. What this step-by-step guide will attempt to accomplish is how each of the tools and processes can be applied to different kinds of images to achieve an optimal final scan. Obviously this guide cannot provide a solution for every kind of photograph and every subject variation you may want to use SilverFast to scan. You should, based on the examples included, relate what needs to be done considering the characteristics of a particular photograph and subject, and then decide which tools and how they can be applied as demonstrated, to get to that ideal final scan.

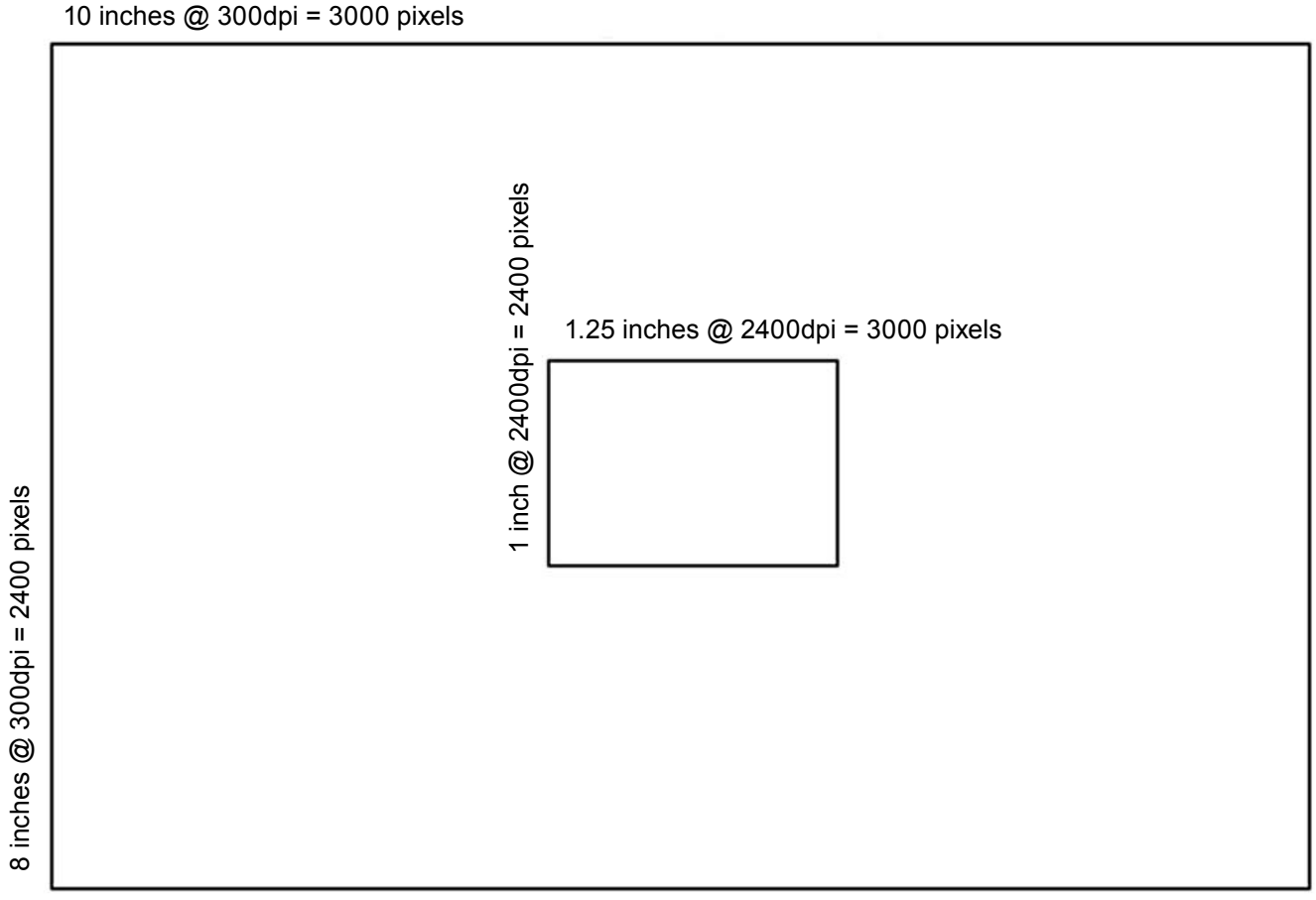
SETTING UP SILVERFAST SE TO MAKE A SCAN
INPUT AND OUTPUT - SIZE & RESOLUTION



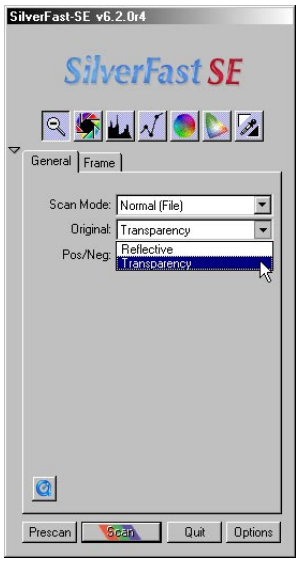
The one question I am asked most frequently about scanning (particularly film scanning), has to do with the relationship of image size and resolution. So I will deal with it first, and in part by means of an accompanying illustration. As far as setting up a scan, there are two practical approaches. One is to scan with the same output size as your original size and then setting the scanner resolution at an arbitrary value. To scan an image for archival purposes to save for future use, one economical approach is to make all scans at the scanner's highest optical resolution. Then the resulting image file will be sufficient for all future reproduction purposes, large or small. If you scan at a lower resolution, later you may want to make a large print, and then you would have to scan the original again at a higher resolution. I think most of us want to be conservative of our time and energy, so you may find it best to scan at your scanners maximum optical resolution.



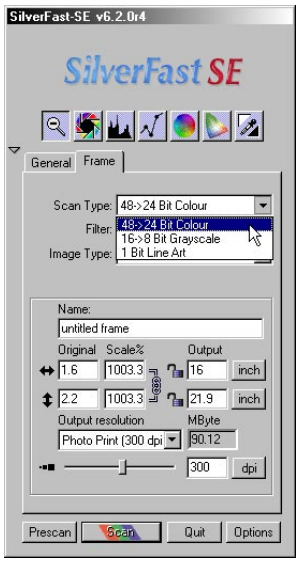
The other option is to scan to a particular print size. Again you can apply the same logic of economy and scan at the largest print size you would make if the scanners optical resolution will support it. The usual and most convenient print image resolution is 300dpi. So instead of scanning a 35mm film frame at 2400dpi (1x1.25 inches x 2400dpi output) for instance, the same result would be achieved by setting the output at 8x10 inches x 300dpi. (To scan a photo print I would not recommend scanning to a size larger than the next bigger standard size up from the original, from a 4x6 to a 5x7, or and 8x10 to an 11x14, for instance.)



SETTING UP SILVERFAST SE MEDIA SELECTION



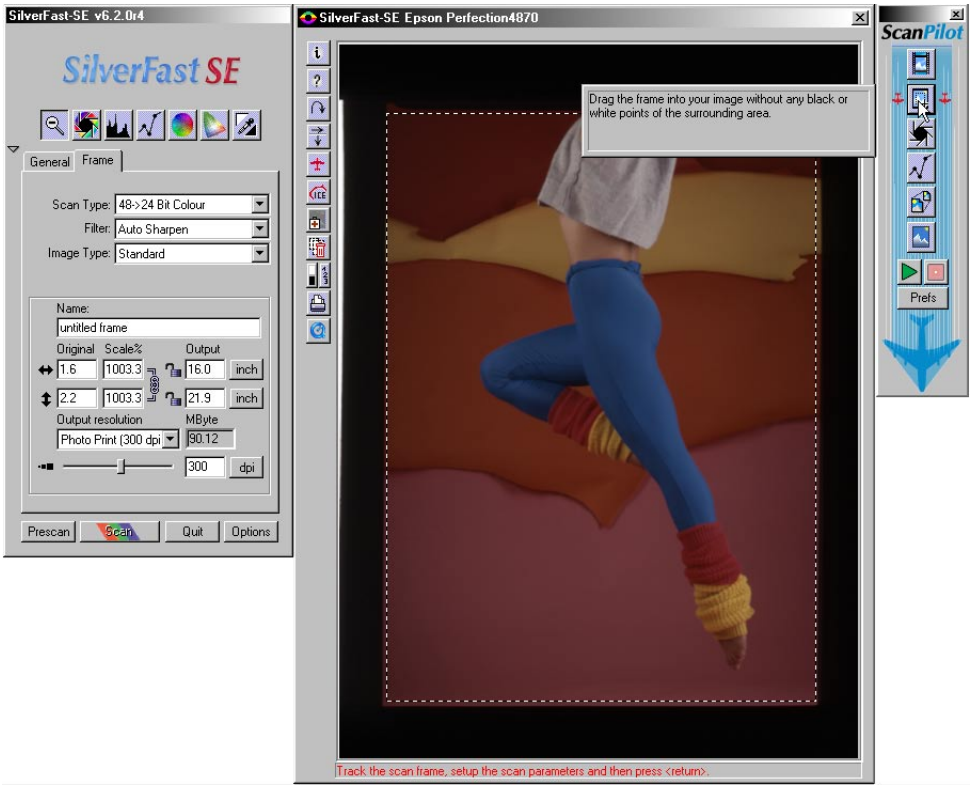
Before making a PreScan of a photograph you want to scan, you need to tell SilverFast what you are scanning and what kind of file to output as a final scan. You do this in the main control window, first clicking on the General tab. There are two sets of options to choose from, to first select what the original is, a transparency (film) or reflective (a print). Then if Transparency is selected, below that select whether it is a positive or a negative type of film.

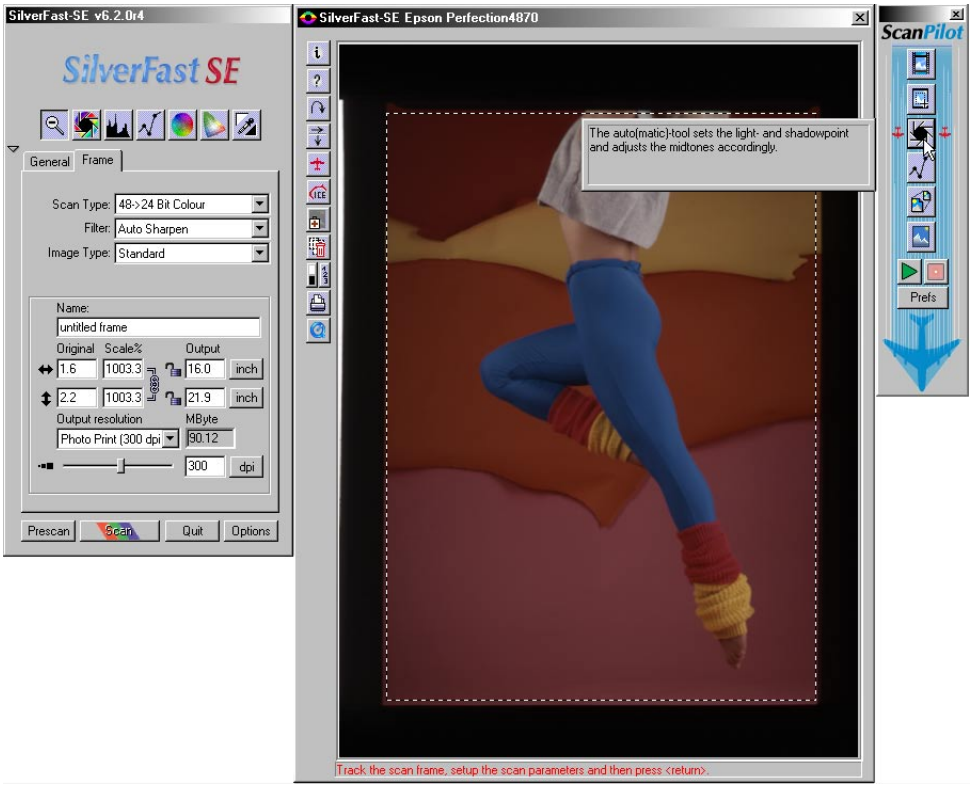


Now click on the Frame tab. At the top is Scan Type from which you can select Color (RGB) 24-bit output, Grayscale or Line Art for your choice of output. You can then select size and resolution below according to one of the schemes described above (Input-Output, Size-Resolution).

BEGINNING THE SCANNING PROCESS
SCAN PILOT

When you first launch SilverFast SE four components will appear on screen. On the left the main control window is located with the PreScan window to its right. The third component is a vertical bar of icons which repeat the icon buttons in the main control window immediately below the SilverFast headline. A small window named the Densitometer is the fourth and provides a highly magnified window that represents the portion of the PreScan image under the mouse cursor. The Scan Pilot with its hint wing is a metaphor for an aircraft pilot's check list. Obviously at first glance, the Scan Pilot is a convenience and a guide to using SilverFast SE. But really more important, it requires you to follow a sequence of steps in an order that is functionally essential. To again use the carpenter analogy, you undertake the building of a house with a foundation first, framing second, roof and siding next followed by windows and then the details. If the order of the construction of a house is not followed it will not be a sound structure. If the order of adjusting a PreScan is varied from what Scan Pilot suggests and demands an effectively adjusted final scan will not result. Each adjustment is built upon the previous adjustment.



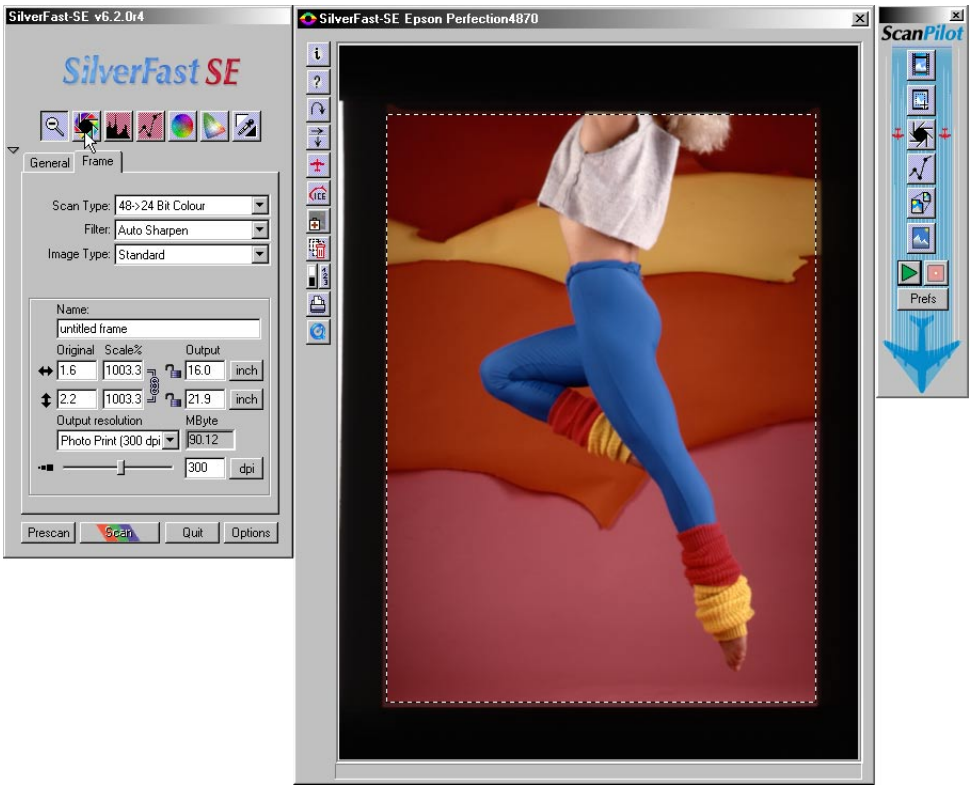


Assuming you have placed a print or film image in your scanner, and then clicked on PreScan, you will have a raw unadjusted image of everything the scanner's CCD sensor has read represented in an image in the PreScan window. If you are scanning a small print or piece of film with a flatbed, or have cropped a small part of the PreScan image, you should click on the topmost icon in the Scan Pilot the magnifier with the plus symbol (Zoom Tool), and the scanner will make a new PreScan so the preview

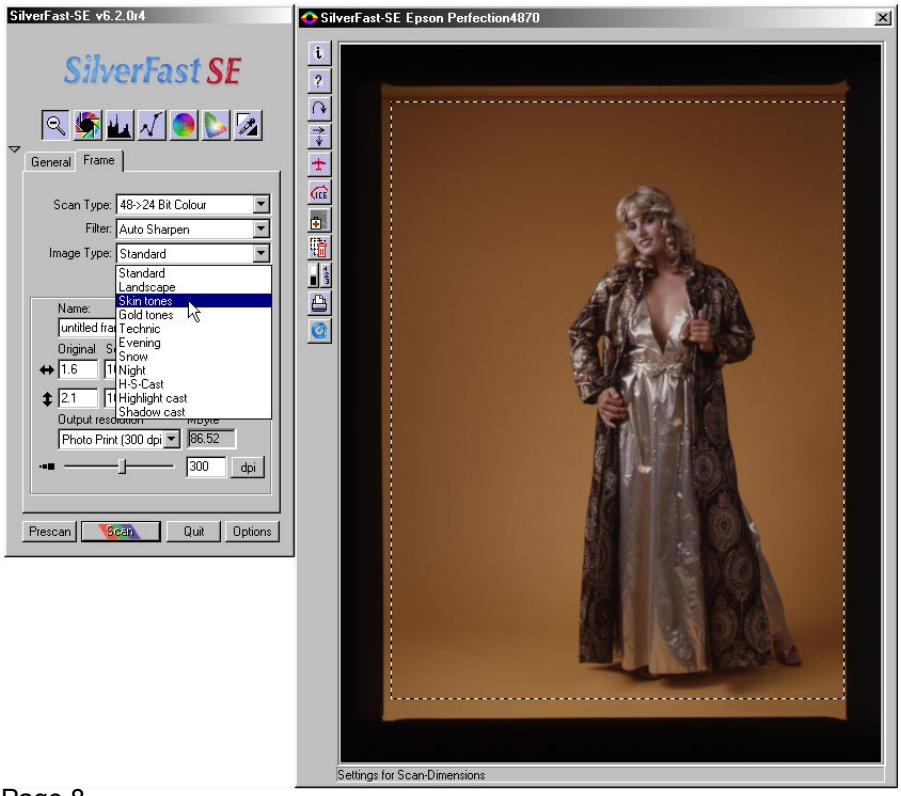
image fills the PreScan window.

Then click on the next icon button, the one that looks like a camera lens diaphragm. This is the primary automatic adjustment tool in SilverFast SE that identifies and sets the high (white) and low (black) density points in the image.

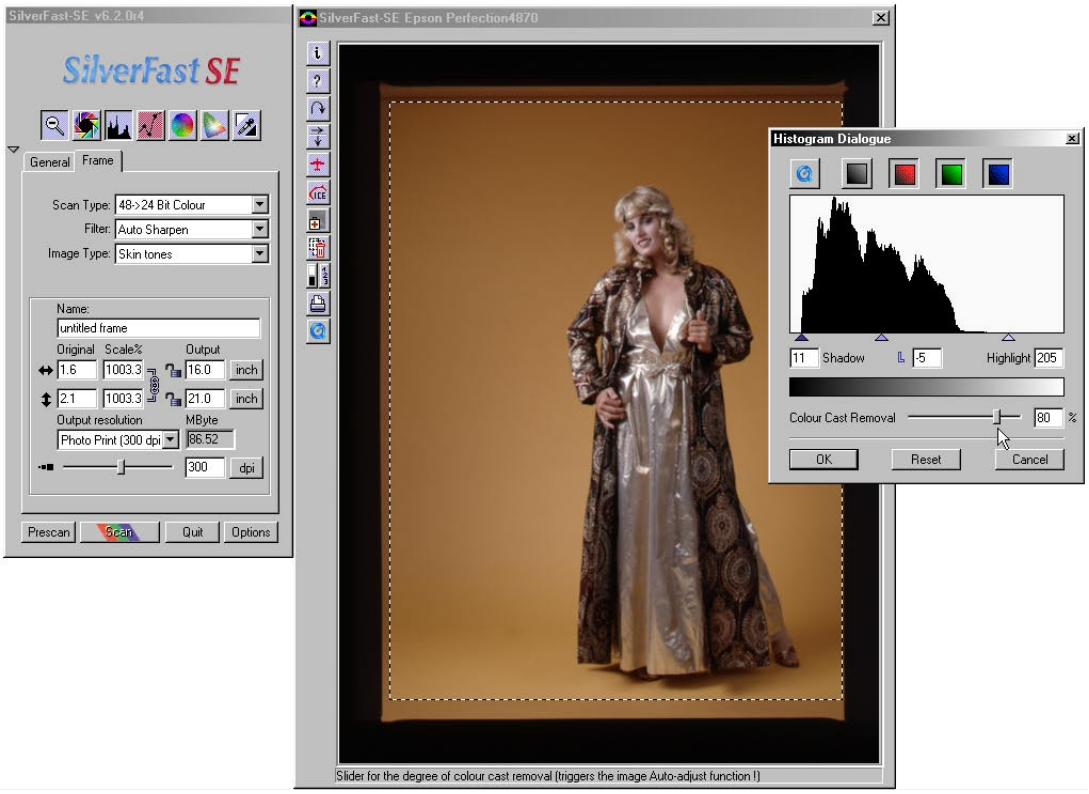
Once the auto adjust has been activated the results will be reflected in the PreScan window image, and the Histogram and possibly the Gradation Curves Icons in the main control window will change to a red color indicating those functions have been adjusted. At this position on the Scan Pilot if the PreScan image appears the way you want the final scan to look, you need not go any further, and you can click the Scan RGB button at the bottom of the main control window to execute a final scan.



AUTO-ADJUST IMAGE TYPE OPTIONS



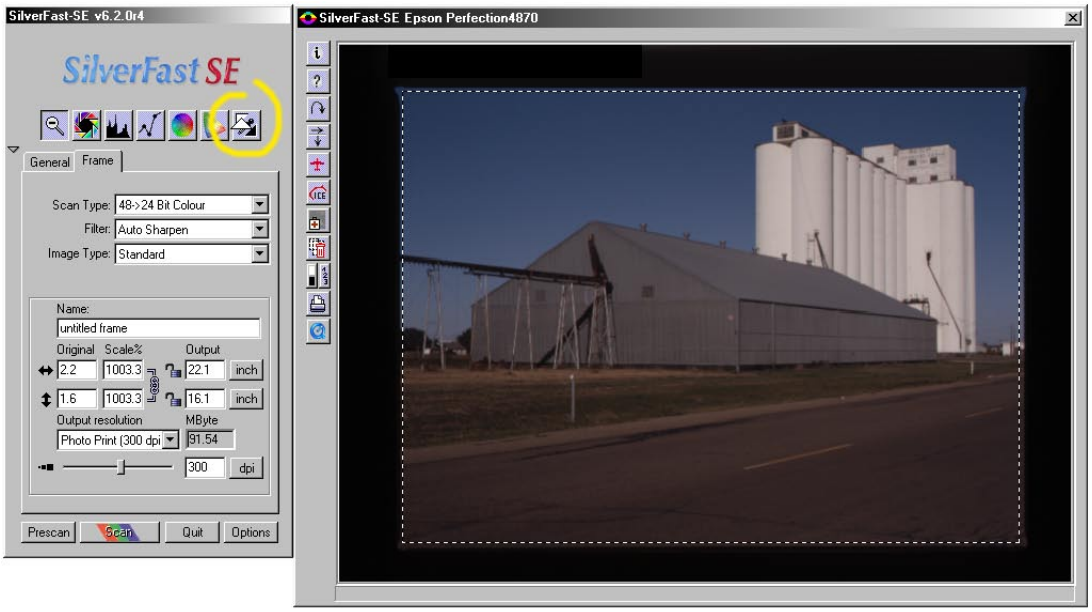
Lasersoft is quite aware that all kinds of photographic subjects and images cannot be successfully adjusted by just one set of criteria. By clicking on the ImageType: pull-down in the main control window you will see besides Standard, 10 additional options for automatic adjustment of the image high and low density points as well as the Histogram and Gradation Curves settings. One of the most photographed subjects is people, and a portrait may be more effectively adjusted by selecting Skin Tones to automatically adjust the primary parameters of image quality.



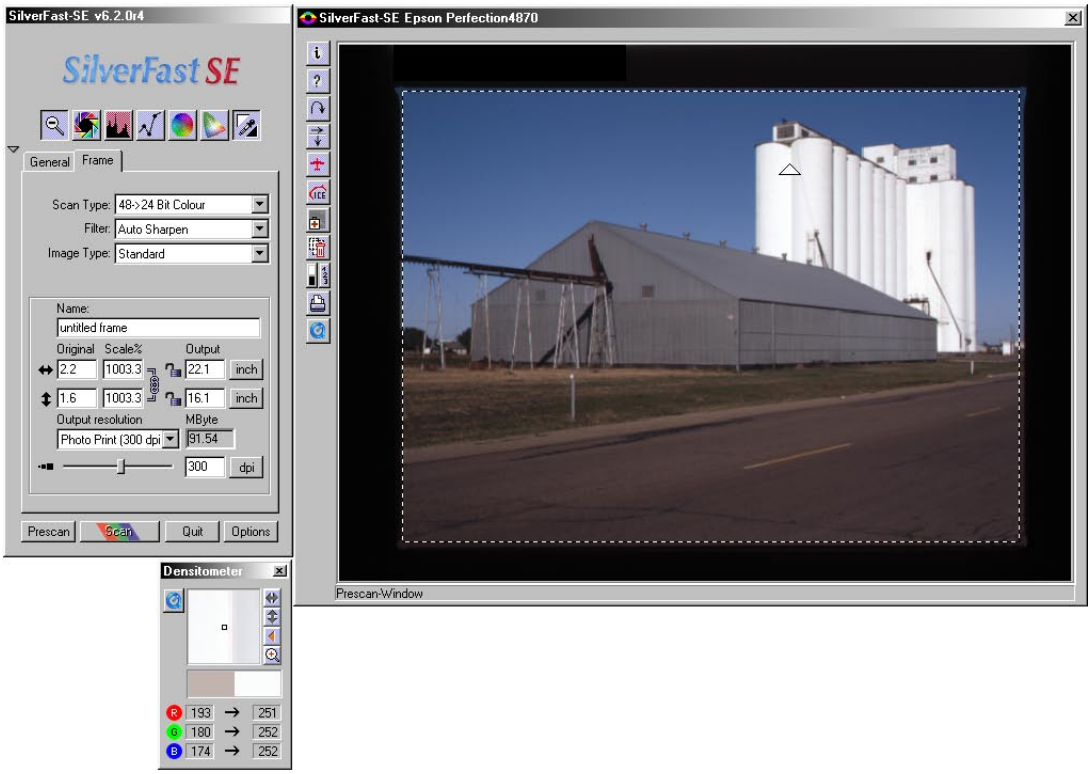
Once the skin Tone adjustment is made, the next icon down in the Scan Pilot is the Histogram, which when clicked on displays the Histogram window showing the points set by SilverFast for high, intermediate and low densities. With Histogram open it is always a good idea once that automatic adjustment is made to trial apply the Color Cast Removal by moving the slider from the zero position towards the maximum of 100%. At any point along the slider path of the Color Cast Removal at which the image colors appear cleaner and more what you want in a final scan, then leave the slider adjustment at that setting.

SETTING THE HIGHLIGHT AND SHADOW POINTS MANUALLY

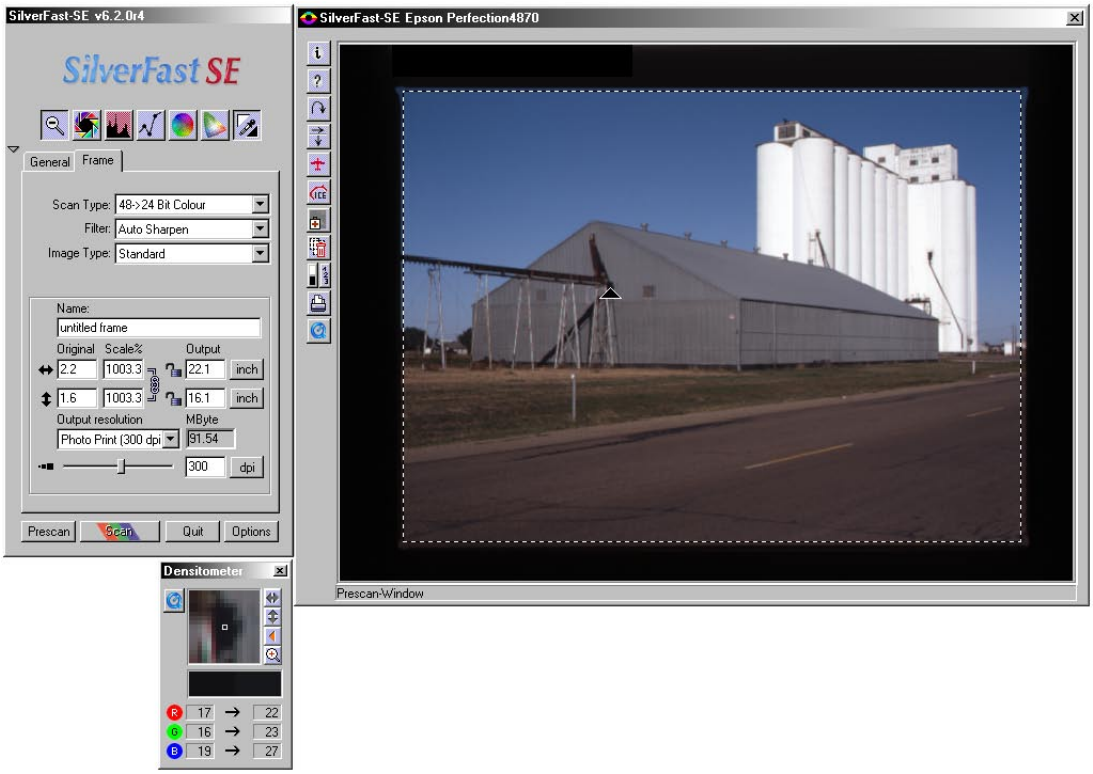
With some images and subjects the brightest highlight the automatic high and low density points SilverFast would set automatically may not be what you or the subject demands to ideally adjust a final scan. In this photo, which was slightly underexposed there is considerable density in the white granary some of which should be clear white highlights. To manually set the highlight point in a Prescan image, click on the white triangle in the icon to the far right at the top of the main control window of SilverFast SE (circled in yellow).



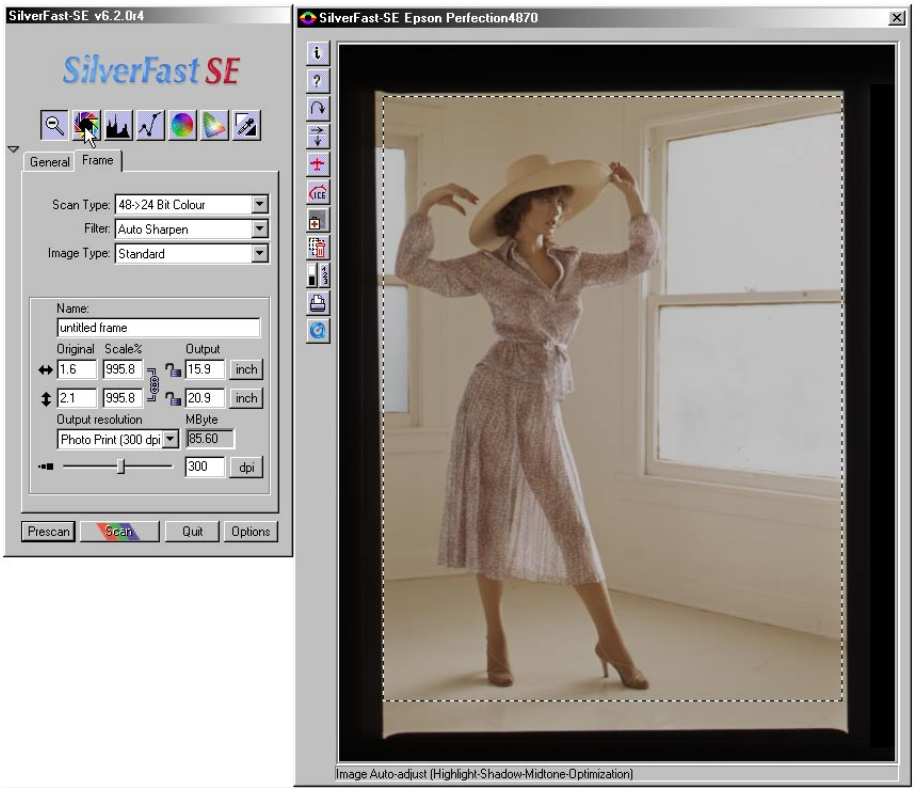
Whenever you are manually selecting an image value in the PreScan window, click also on the Densitometer tab in the main control window if the small Densitometer window is not on screen. Its magnified view of what is under the mouse cursor when it is moved into the PreScan image will assist you in accurate selection of the pixel that represents the precise image value you want to select. Once the cursor, which should be a white triangle on-screen in the PreScan image, is placed over the value you want to be the highlight point, click the mouse button to set that value to be the brightest image highlight.



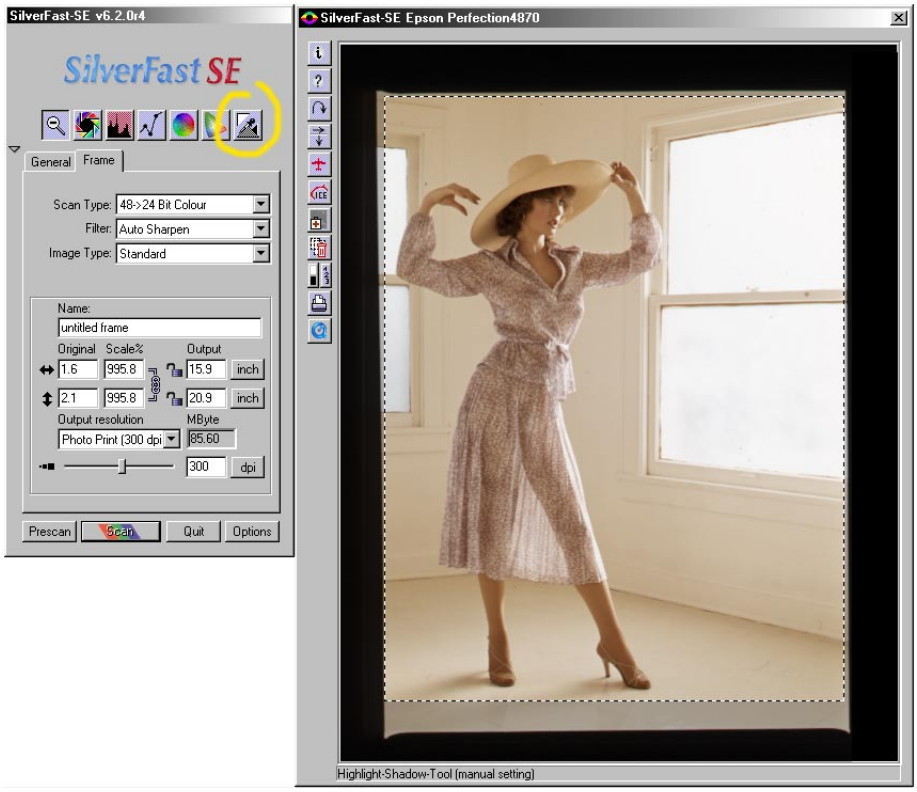
Once the highlight value is set the Histogram icon will turn red in the main control window and the PreScan image appearance will reflect the change. Then continue with the images adjustment by setting the shadow level by clicking on the black triangle and manually moving the black triangle to a part of the image which should be pure black again using the Densitometer window to exactly place the cursor.



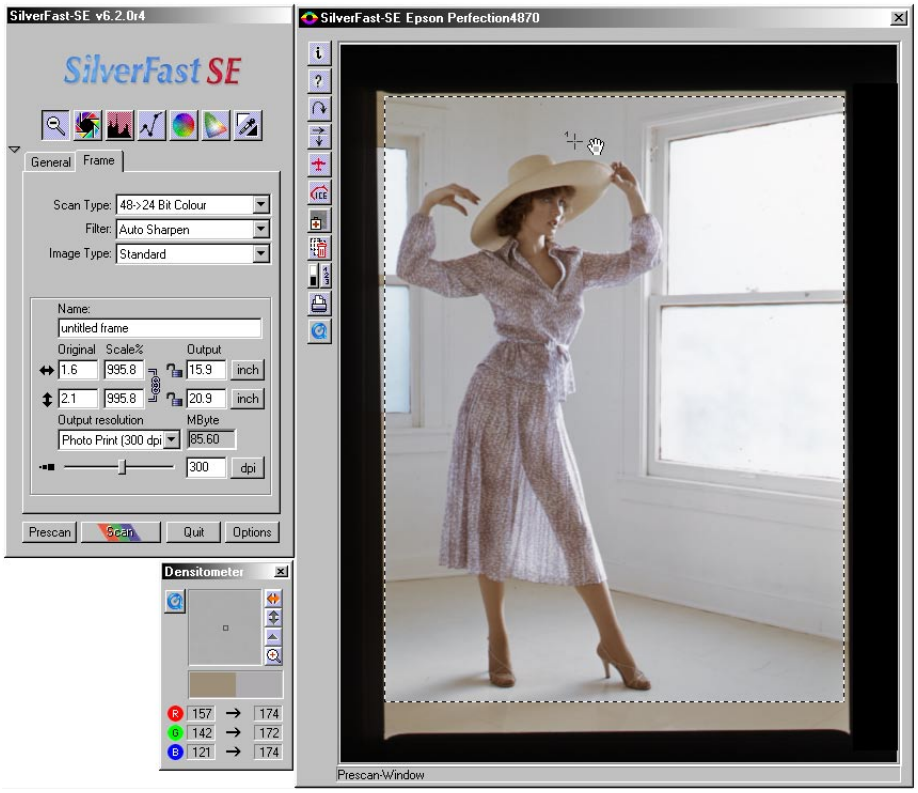
MANUALLY SETTING A MID-POINT NEUTRAL GRAY



Numerous factors can effect an exposure on film to alter the color result including the film processing, the light sources like fluorescents, or atmospheric conditions like the fog in which this fall image was made. If there is within the scene an area of the subject that should be neutral gray, then there is a SilverFast SE tool that will provide a correction for the color shift.



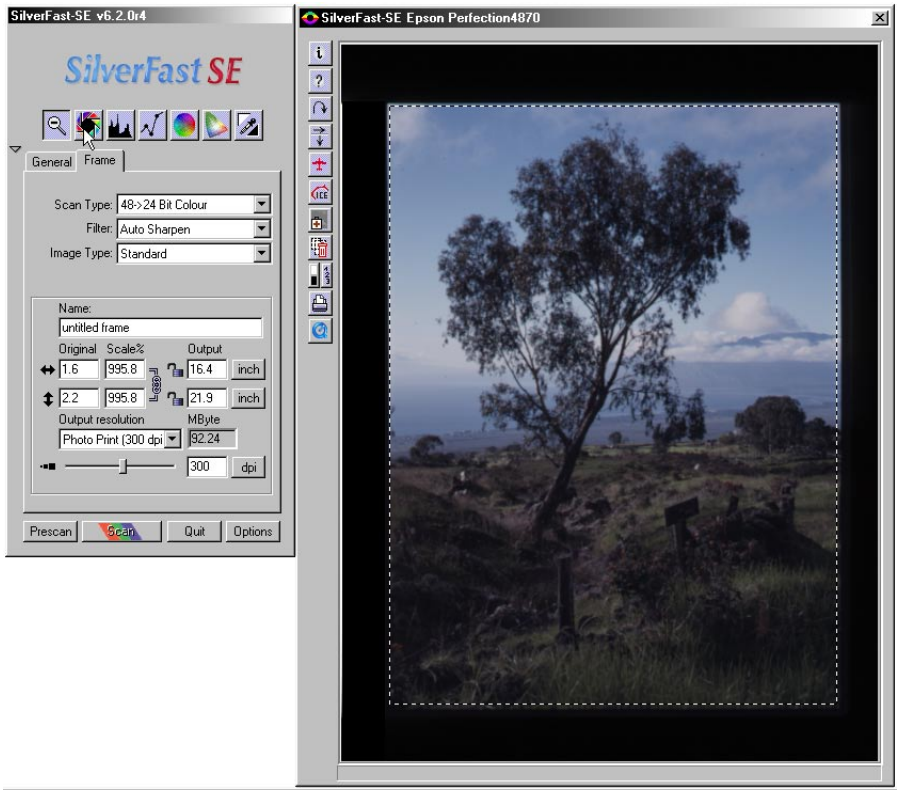
First you may use the Automatic Standard feature, the aperture icon second from the top of the Scan Pilot to set the high and low image density values. Then going to the icon on the far right of the main control window and click on the eyedropper symbol in the middle between the white and black triangles.



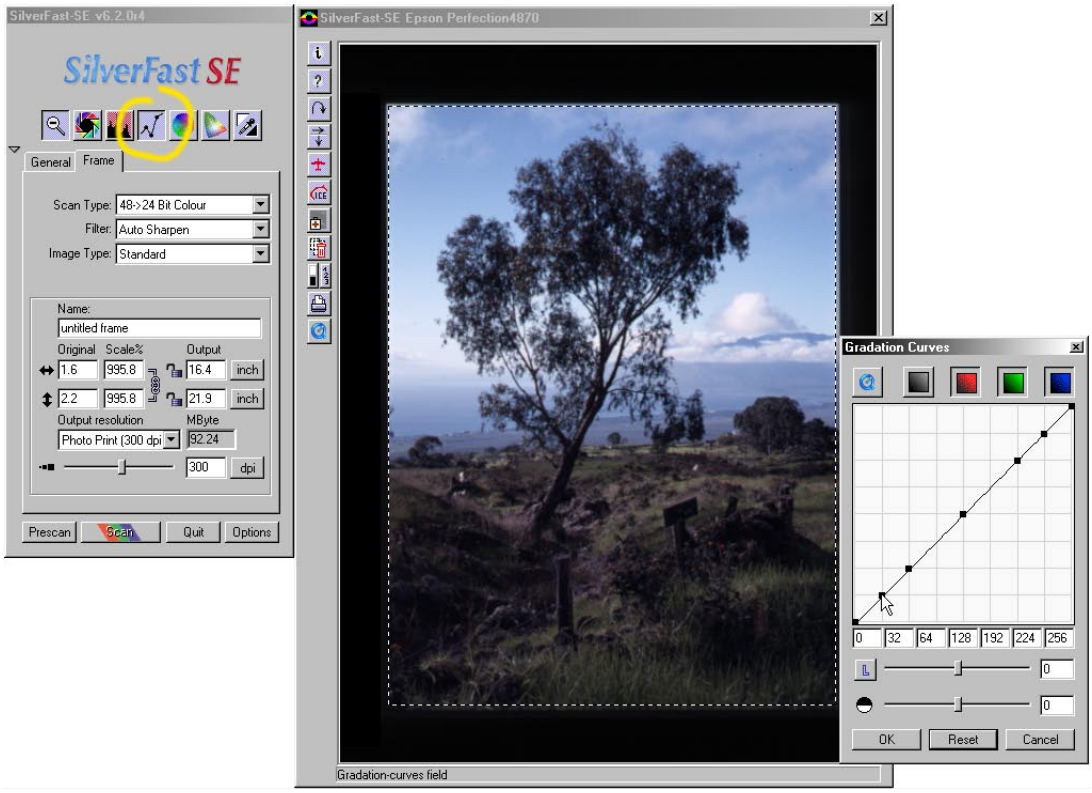
Click on the Densitometer tab in the main control window so the Densitometer is on your desktop. Then move the gray triangle cursor to the image area that should be neutral grays using the Densitometer window to precisely locate the image value, and use the mouse button to click on that point. In this indoor, window-lit setting, the walls of the room were a neutral white, but late afternoon light caused a very warm color cast. Using the eyedropper (gray) tool clicking on a middle value representing the wall behind the subject the color cast is removed which is indicated in the two-part bar immediately below the Densitometer zoom window.

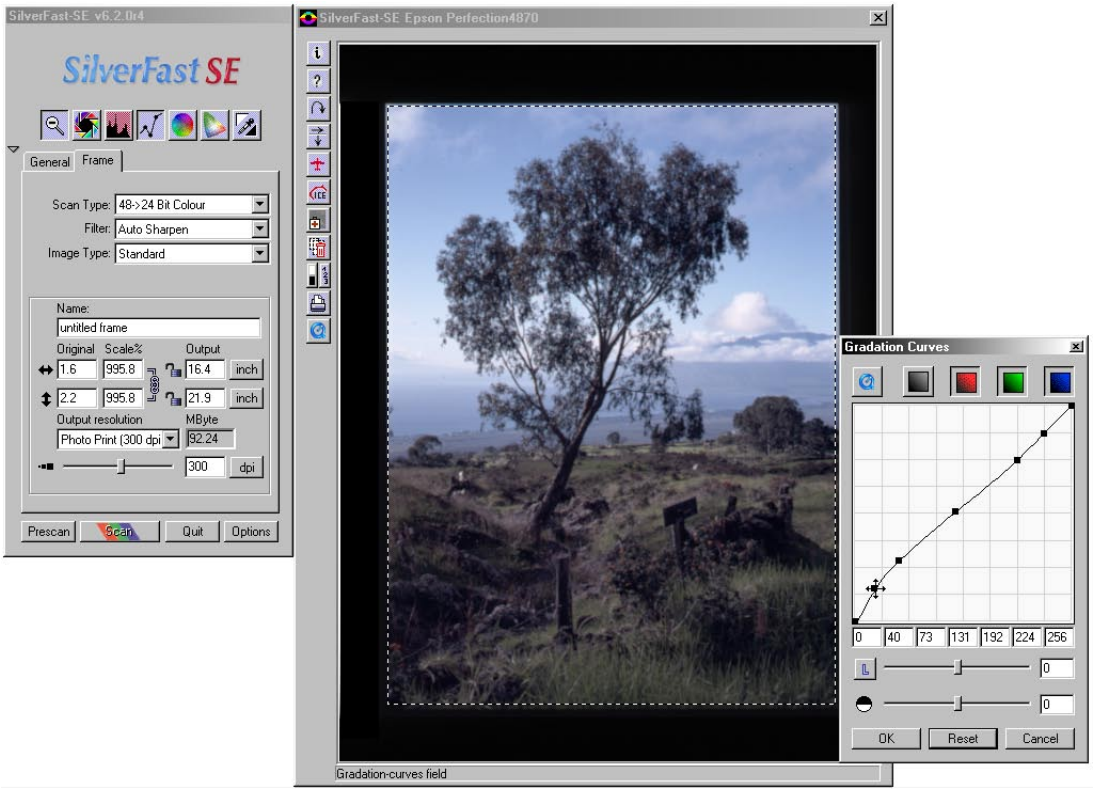
USING GRADATION CURVES TO ADJUST TONE RELATIONSHIPS

Human vision has a greater sensitivity range and is inherently more accommodating of extremes in subjects than film. With some subjects to compensate for this limitation you can use the SilverFast tools to darken light tones or lighten dark tones so they reproduce with more information in a digital image.



In this image of a brightly lit scene taken on the island of Maui, Hawaii, the highlights defining the clouds, the distant ocean and beach are very high on the density scale, while the dark volcanic rock and tropical grasses are below the threshold of perceptible detail in comparison. Even after the gamut is optimized the foreground remains almost a silhouette against the bright background.

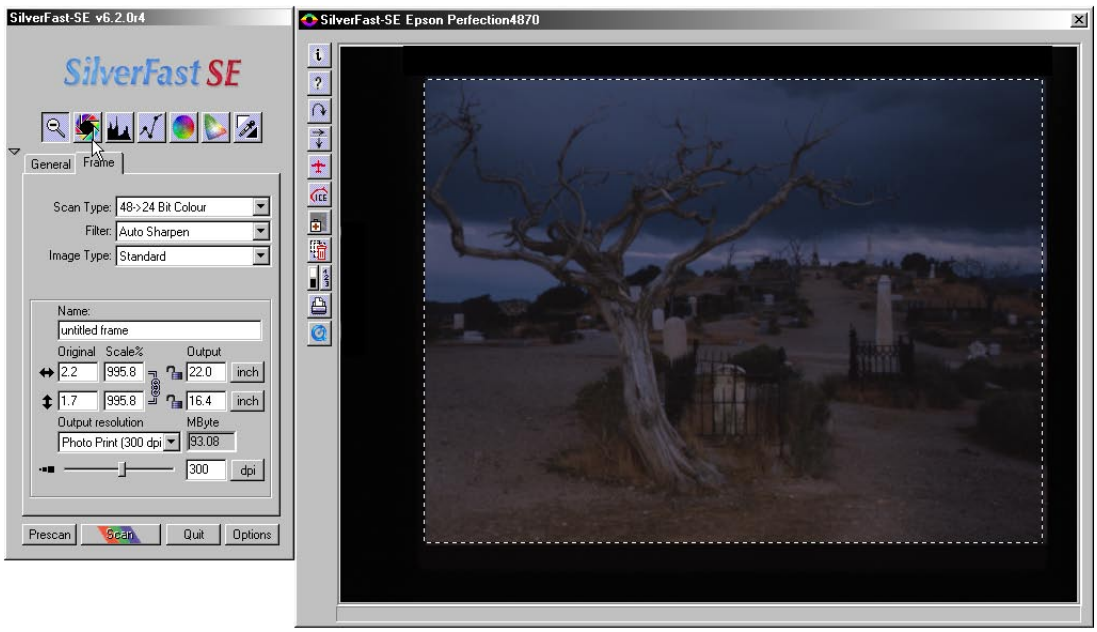




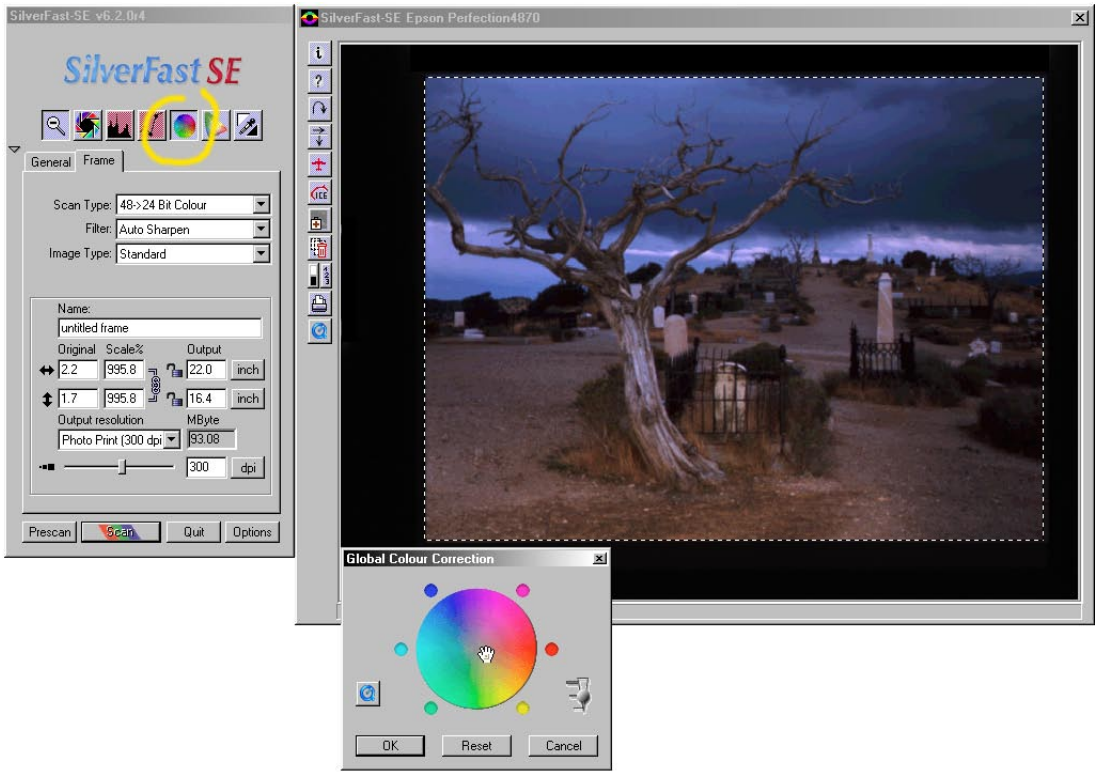
Although after clicking on the fourth icon (circled in yellow) to bring up the Gradation Curves dialogue window, you might correct the excess contrast of the scene using the contrast slider moving the center node to the left to reduce overall contrast. the result would be a lowering of the differences that also define the clouds and distant parts of the scene. A better solution is to lift the darker values represented by the lower three nodes along the curve line. Gently move the nodes up and to the left with your mouse cursor until the foreground is sufficiently lightened. Then fine tune the adjustment so the curve line is smooth and gentle to avoid any posterization by making adjacent tone values too starkly different.

GLOBAL COLOR CORRECTION

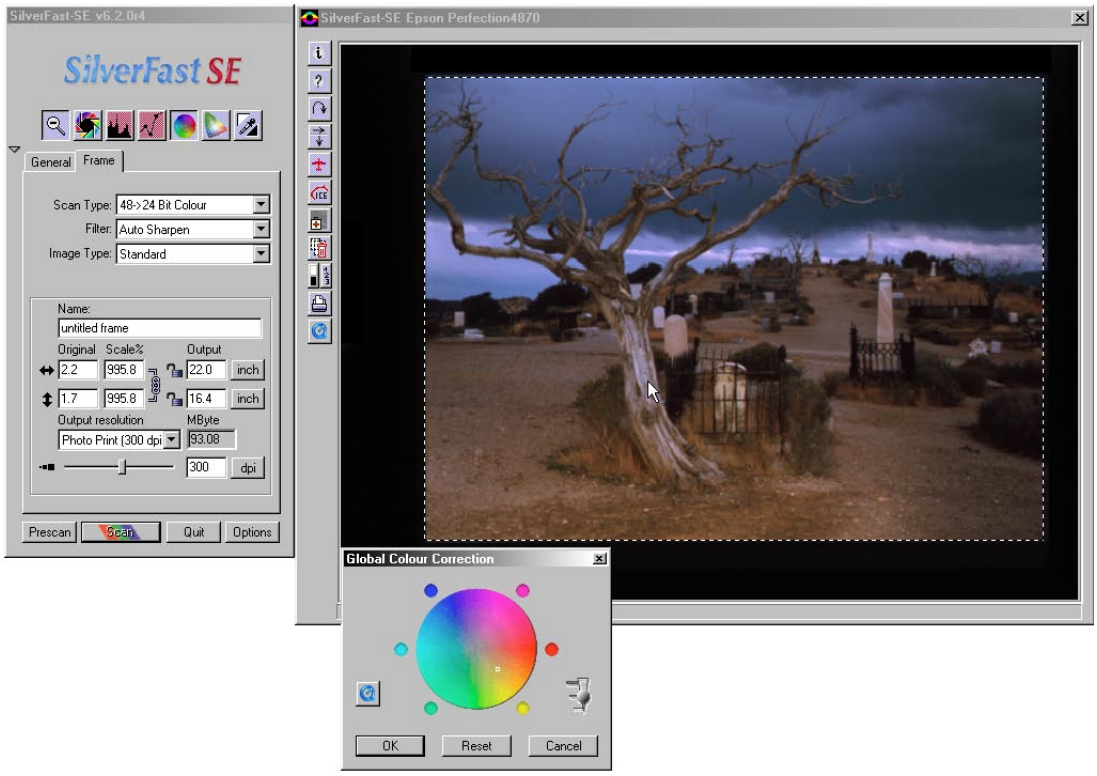
This scene of the graveyard in Virginia City, Nevada was taken after the sun had just set behind the mountains behind and a band of thunder clouds had just passed over the scene. The immediate foreground was illuminated only by blue sky overhead creating a excessive blue cast. Unfortunately there was nothing in the foreground that was clearly a value which should be a neutral gray, so the Gray eyedropper could not be used to eliminate the blue cast in the foreground.



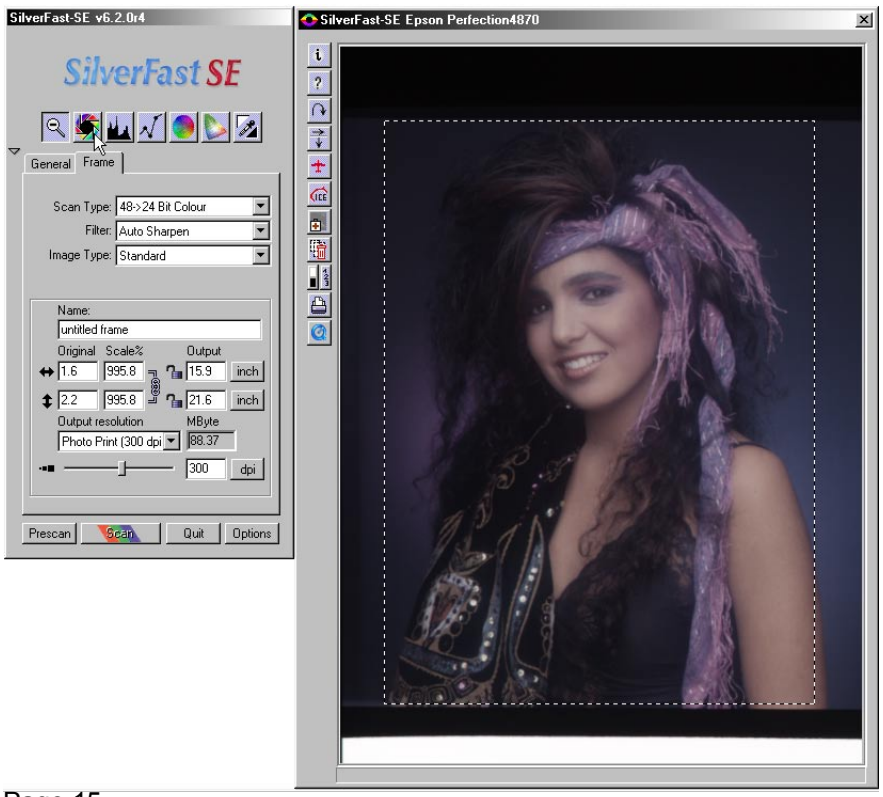
After clicking on the auto-adjust icon to optimize the image gamut, the next option was to open the Global Color Correction dialogue window by clicking on the fifth icon from the right (marked in yellow). Next, use the mouse cursor to click on the center node in the color wheel and begin dragging it away from the blue segment of the color wheel, leaving the value adjustment at the lower left set on mid-tones.



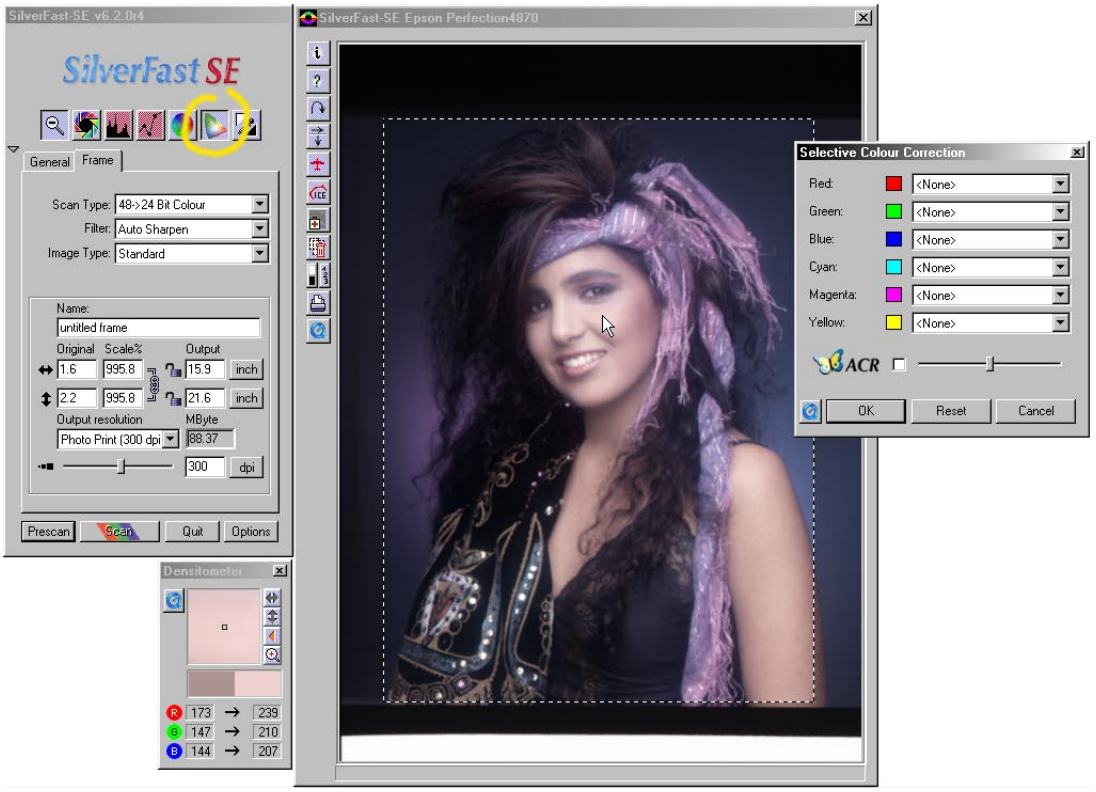
The adjustment node in the color wheel of the Global Color Correction dialogue may be moved freely, and by watching the interactive effect on the PreScan preview you can find a position which will yield an effectively neutral balance of subject colors that eliminates, in this case a strong bue cast.



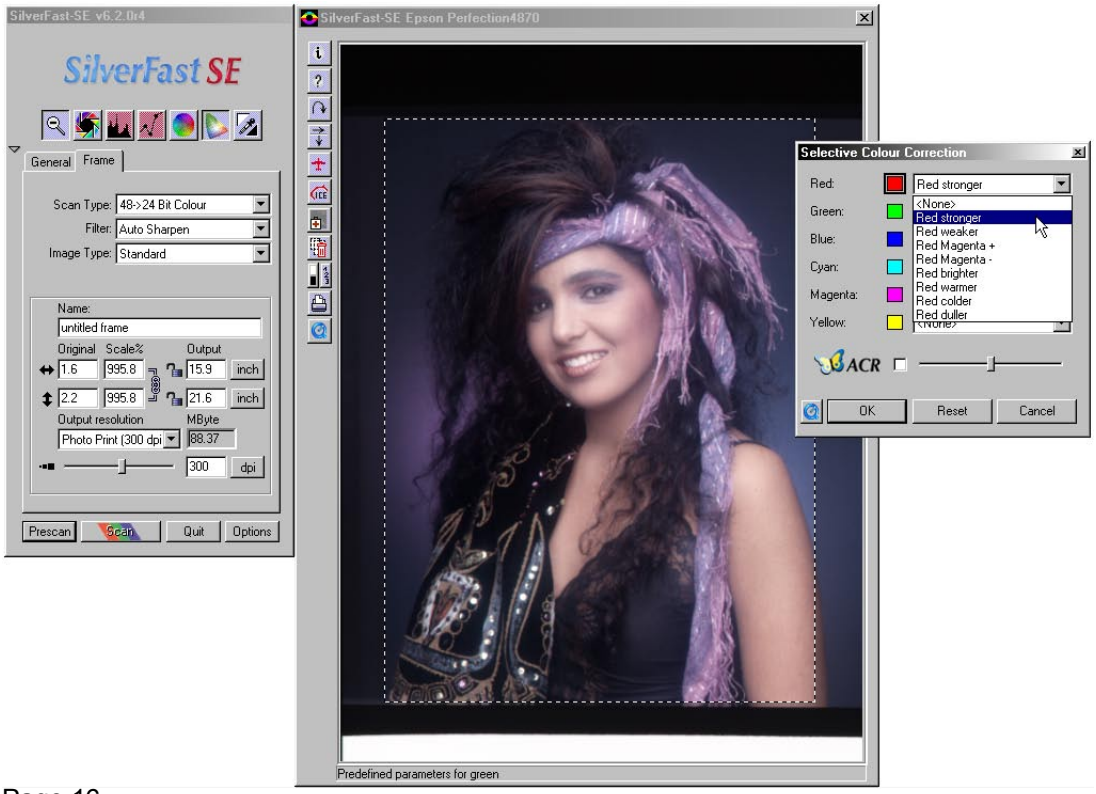
SELECTIVE COLOR CORRECTION



Not infrequently with photographs even when adjusted ideally, setting the highlight and shadow, and removing any color cast that may be present, some of the colors may be off and inaccurate to be true to the subject, or may be subdued or shifted by local conditions within the scene. For instance a picture of a subject in sunlight might also have person in it that is in shade, and that person's skin tones, after the overall adjustment of the image is corrected to an ideal level, remain rather gray and cool looking. Selective Color Correction is a SilverFast SE tool that supports making an adjustment to one color, like skin tones, without affecting any others, or the overall adjustment of the image.



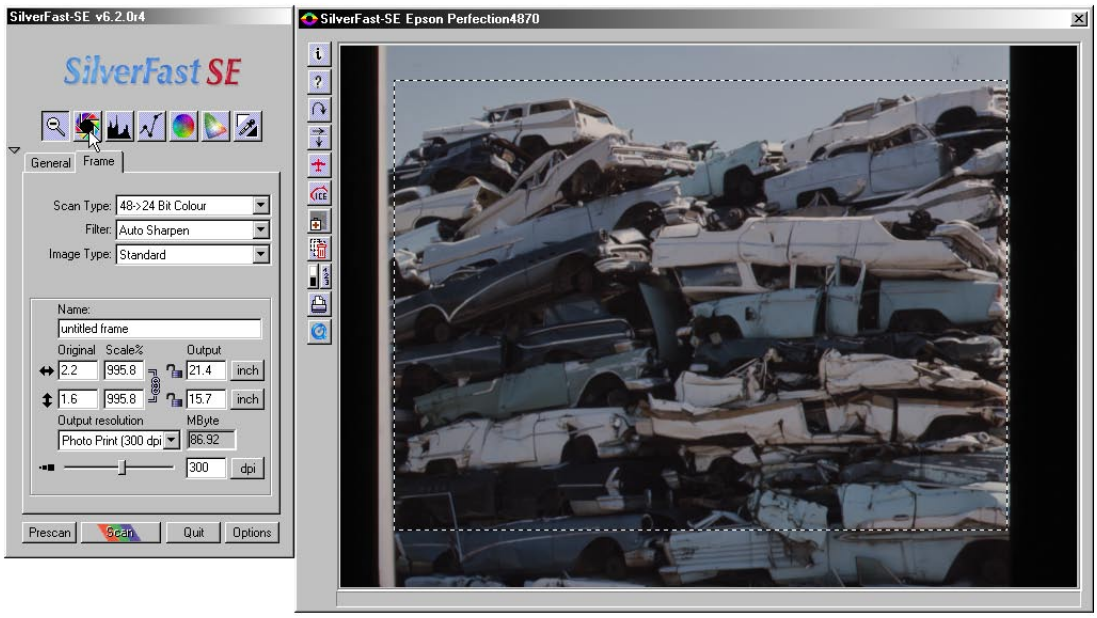
This studio portrait after it was auto-adjusted to optimize the gamut was close to an ideal range of values and there was no overall midtone color cast that needed removal. However, relative to the overall color balance the subject's skin tones were too pale. To add complexion color open the Selective Color Correction window by clicking on the 6th icon button in Scan Pilot, or 6th from the right in the icon buttons at the top of the main control window. Also be sure the Densitometer window is on screen so its magnifier window supports precise image color selection in the PreScan window image. Then click on the color you want to change with the mouse cursor in the image as it appears in the PreScan window. That color will then be highlighted as one of the six displayed in the Selective Color Correction window. Using Selective Color Correction you may click on and highlight more than one color to selectively adjust each color, one at a time.



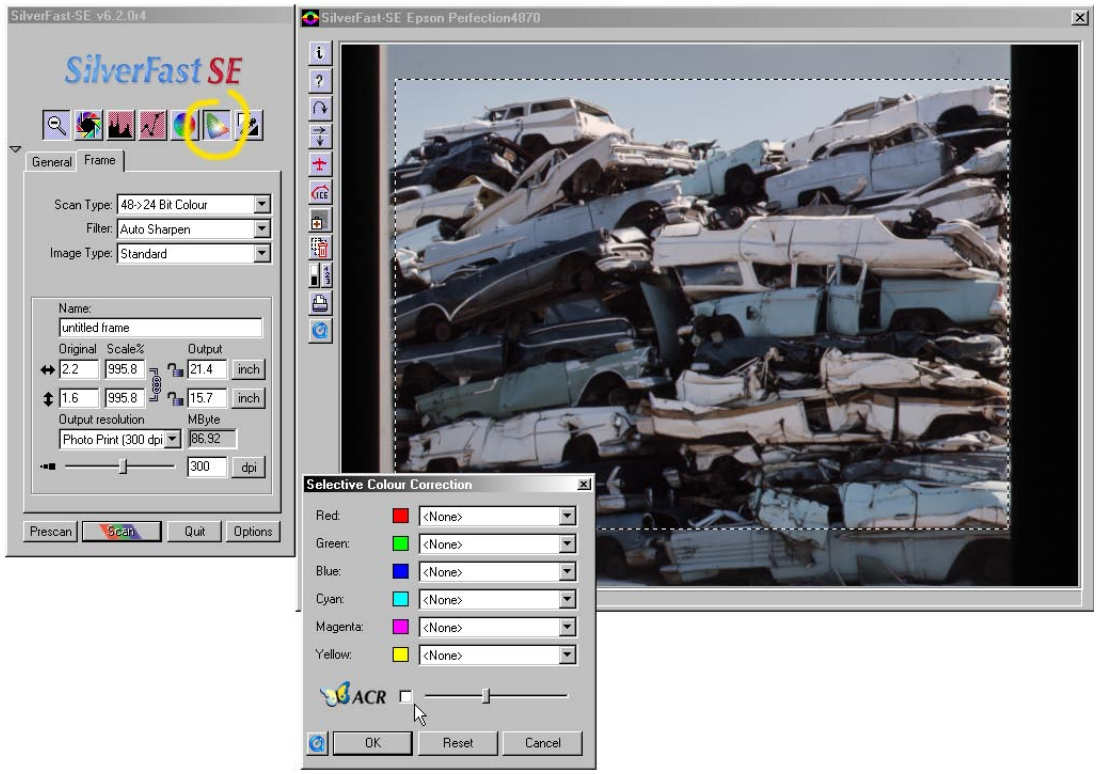
As this screenshot appears at this stage, the subject's cheek was clicked on with the mouse cursor and the Red segment of the spectrum was activated. Clicking on the drop down menu choices "Red Strong" was selected with the cursor. It was a sufficient addition of color to restore a normal complexion tone without affecting any of the other colors in the photograph.

SELECTIVE COLOR CORRECTION
ACR COLOR RESTORATION

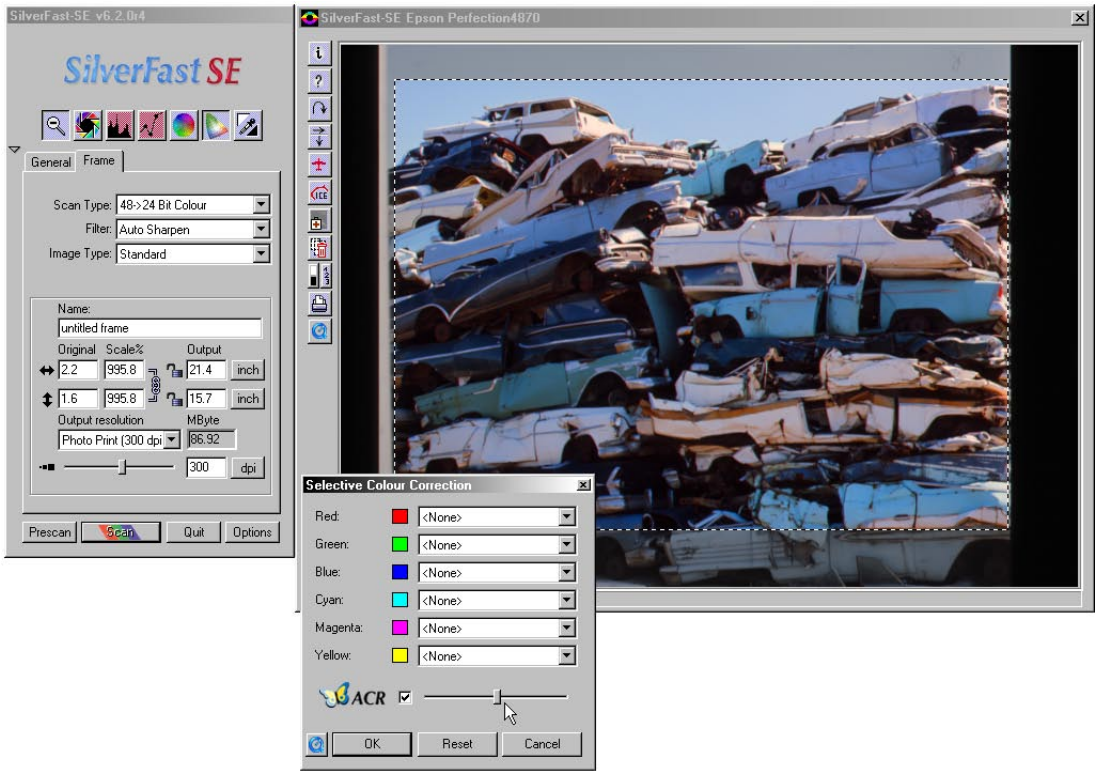
One of the new features of SilverFast SE 6 is ACR (Adaptive Color Restoration), which is accessed and controlled by a radio button and slider located at the bottom of the Selective Color correction dialogue window. To demonstrate its use I selected a photograph of an automobile wrecking yard on Ektachrome that had faded very noticeably from age.



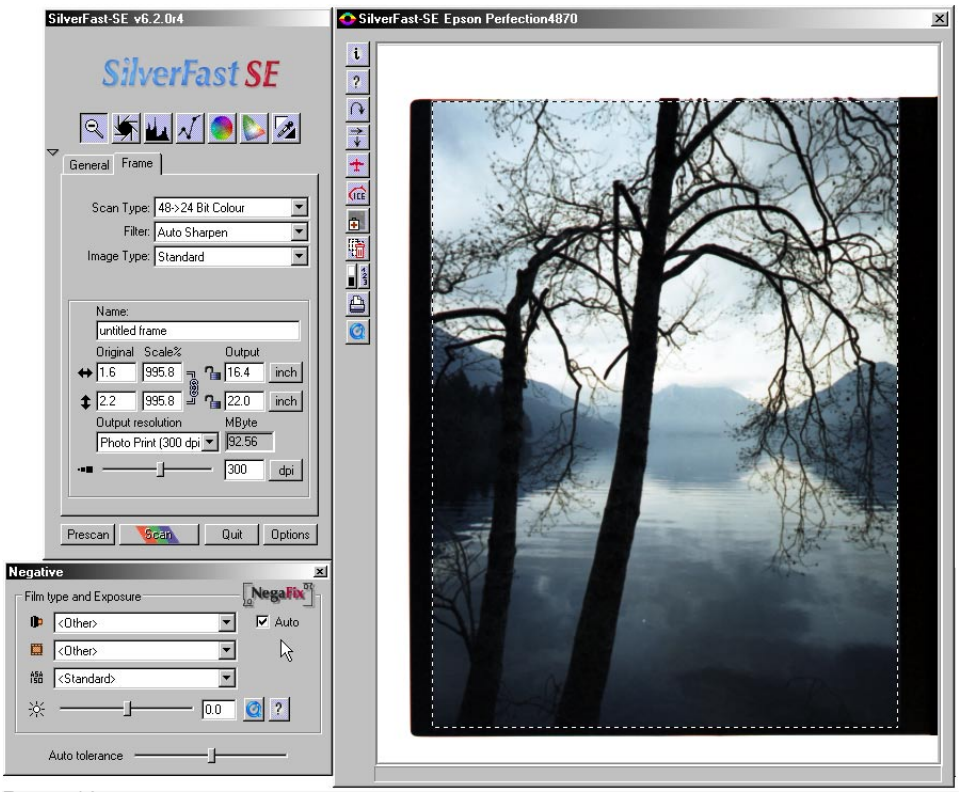
First, after doing a PreScan, click on the auto-adjust icon to optimize the gamut, and make any further adjustment to obtain an image fully corrected for brightness and contrast. In this case, although it cleaned up the color somewhat and brightened the look of the image, the colors remained dull and faded. Next click on the sixth icon (circled in yellow), to get the Selective Color Correction dialogue open on screen.



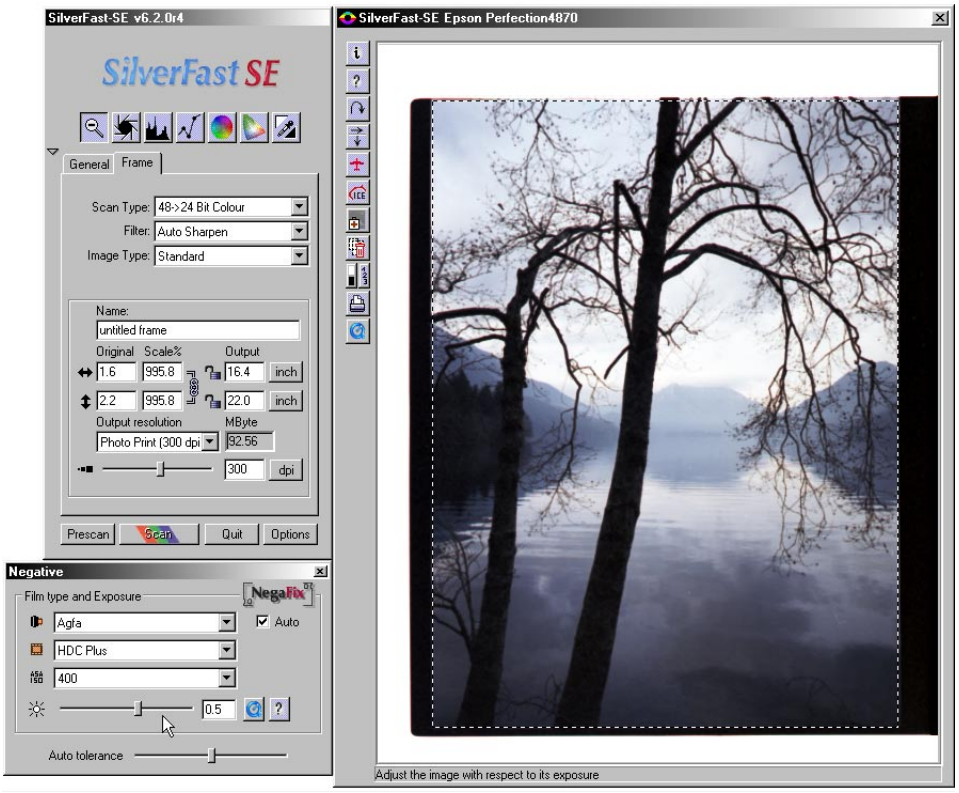
Using ACR is quite simple. First activate the function by clicking in the radio button to the right of ACR. The interactive process will reveal an increase in color intensity in the preview window on screen. If the added color intensity is too strong, you may reduce it by moving the center node of the slider to the left, and if not sufficient move the slider node to the right.



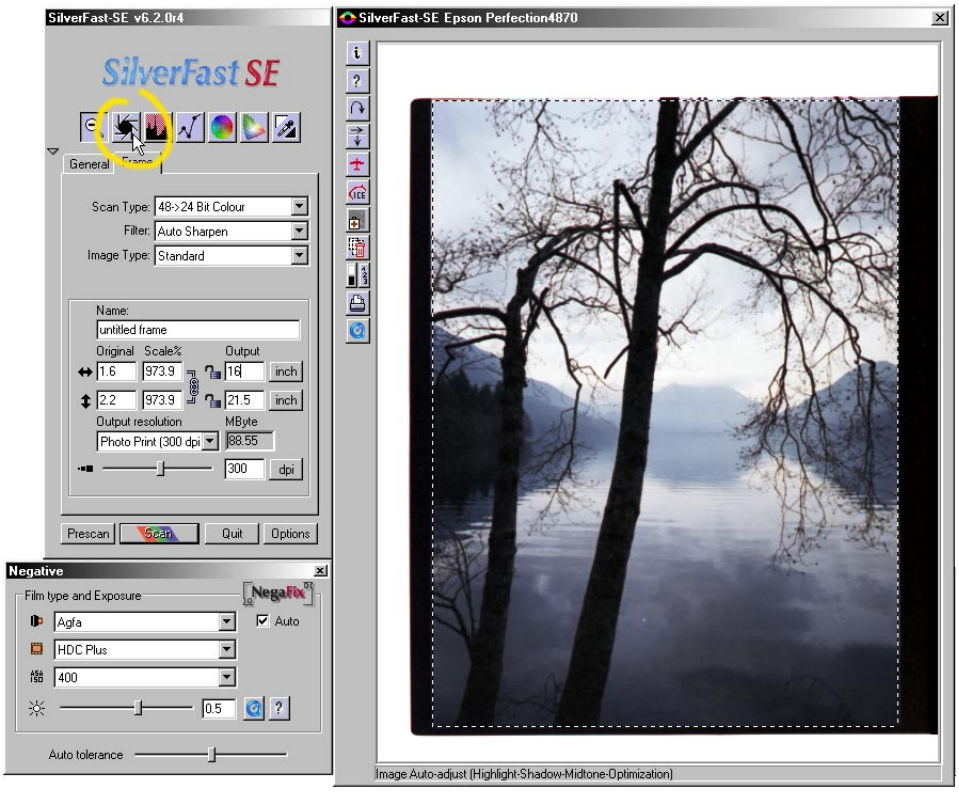
COLOR NEGATIVE SCAN ADJUSTMENT WITH NEGAFIX



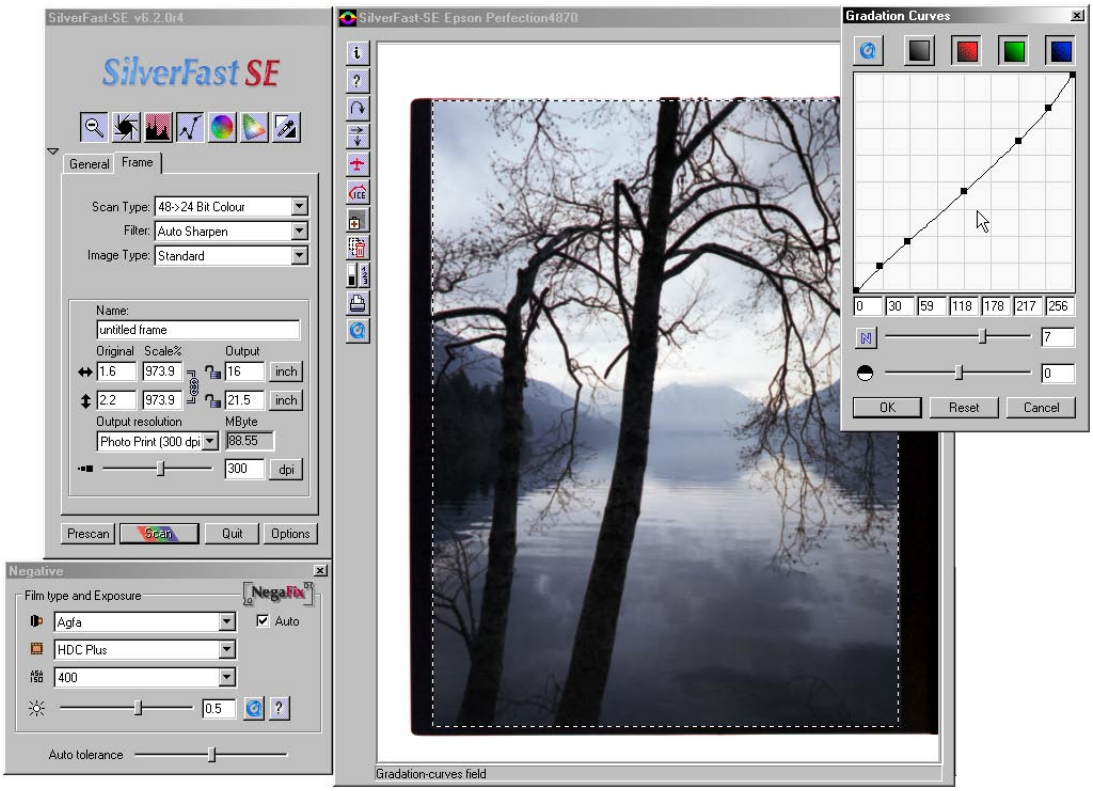
When you put a color negative in your scanner, go to the General tab in the main SilverFast SE control window and select Negative in the bottom Neg/Pos: drop down menu. The Negative, NegaFix window dialog will then appear on screen. In that dialog select from each of the three drop down menus: the film manufacturer, the brand name of the film, and the ISO speed rating of the film you are about to scan. If these setting are made in NegaFix before, then when you click on PreScan the image that will appear in the PreScan window will be a positive image already adjusted for the characteristics of the film you are about to scan. Be sure that the image is cropped carefully to include only the image. That will assure a precise NegaFix application of the adjustment for the particular film selected.



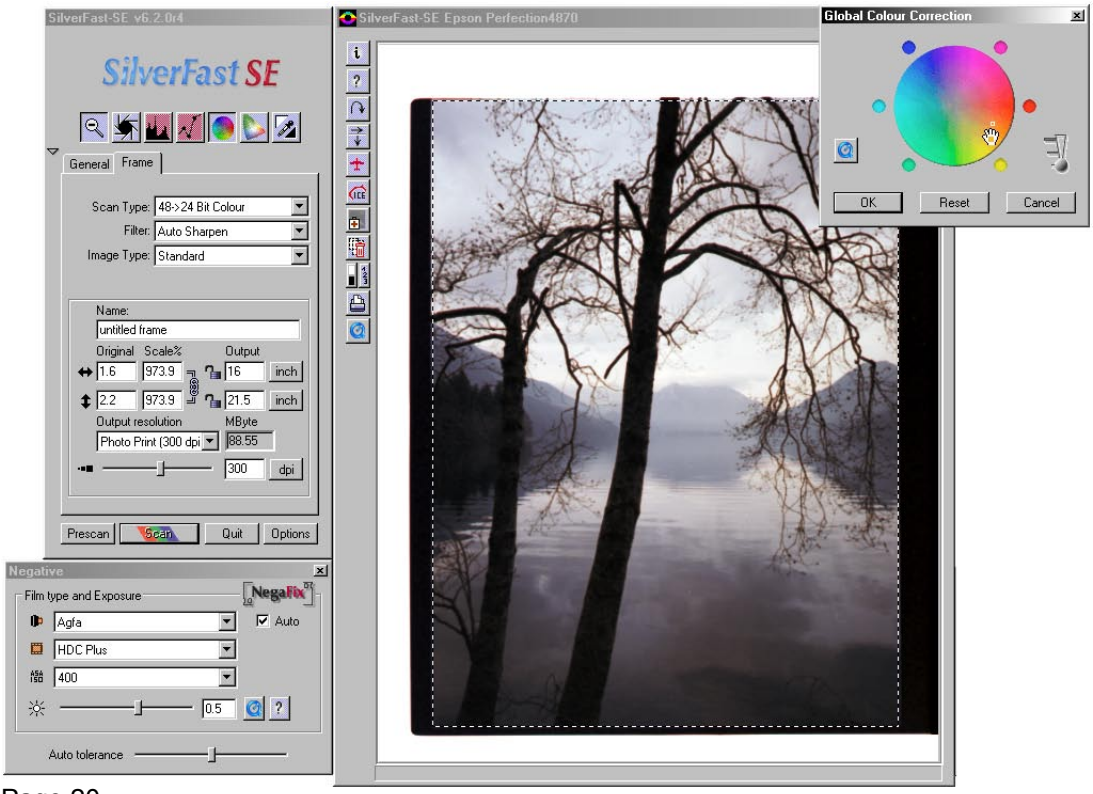
Before using any of the SilverFast SE tools like the buttons in Scan Pilot to correct the image to what you want in a final scan, use the Exposure slider at the bottom of the Negative (NegaFix) window to adjust the brightness of the image in the PreScan window if it needs to be lighter or darker than the appearance of the preview indicates.



Once the NegaFix Exposure slider adjustment is made, then you can proceed to use the SilverFast SE tools including the auto-adjust diaphragm icon button (circled in yellow) to set the white and black points in the image.



When that was done in this color negative image, a small adjustment to darken just the image highlights was needed. This was accomplished by opening the Gradation Curves dialogue, and lowering the second and third nodes to make a small, gradual indent at the top of the curve line.



The color correction of this image was accomplished by opening the Global Color Correction dialogue. The intent was to warm and remove the excess blue in the highlights in the distance of the scene, so the tone level control at the lower right was moved to just involve the highlights, and the center node of the color wheel was dragged towards the red-yellow segment.

GALLERY
FINAL SCANS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