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## ArtixScan 4000tf/ SilverFast Ai 6.0

by David B. Brooks



The Microtek ArtixScan 4000tf 35mm and APS film scanner.

## Microtek & LaserSoft Offer The Latest Advances In Film Scanning

All I need do is look at my oldest archive files from 35mm scans going back over a decade to realize how much scanners and their software drivers have progressed. The first 35mm film scanner I tested cost as much as a new car, was half the resolution of today's, and was slow. The software was bare and basic with just a few crude slider controls. But for this report I will refer back not to those early days but to the original Microtek ArtixScan 4000t and LaserSoft SilverFast Ai 5.0 I have been using ever since December, 1999. That combination was highlighted by a new resolution plateau of 4000dpi, sufficient motivation for me to begin re-scanning much of my 35mm film library. Today, with this latest ArtixScan 4000tf and SilverFast 6.0, I am compelled by the improvements in scan quality to begin to re-scan many of my film images yet again.

### New Microtek ArtixScan 4000tf Features

Although the appearance of the ArtixScan 4000tf is little changed from the original 4000t, some key elements are new. Most significant is

*Until a short while ago my most frequently used film was Fuji Reala 100. My enthusiasm fading for the film was not due to its qualities, which remain excellent, but I found it to be difficult to scan and the advantages of the film were diminished by mediocre scan results. Now SilverFast's NegaFix has literally fixed that problem with a very effective profile. This time I obtained scans equal in superiority to the analog results which first attracted me to Fuji Reala.*

the 5300 pixel Sony trilinear CCD, which now captures at a color depth of 14 bits per RGB channel (42 bit) and has an optical density range of 4.3, plus outputs through its A/D converter either 24 bit or user selectable 48-bit RGB. Equally significant, in a different way, is that the 4000tf provides two easy, fast connection interface options: FireWire (IEEE 1394), and USB. Besides enhancing the efficiency of data transfer to the host computer, the scanner can be connected and turned on without having to reboot your computer.

The software support provided with the scanner is now diverse and comprehensive, including Microtek's own ScanWizard Pro TX, LaserSoft's SilverFast Ai 6.0, Kodak/Microtek Scanner Profiler, including a Kodak slide Q60 target, LizardTech Genuine Fractals, and Adobe Photoshop Elements.

### New LaserSoft SilverFast Ai 6.0 Features

There are three entirely new functions that are the leading features in LaserSoft's upgrade of





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*Even less common films like Ferrania/3M are supported with profiles in SilverFast 6.0. This shot of the ancient Castello in Milan, Italy, with its subtle range of earth tones is advantaged producing a scan that preserves the neutral values cleanly and renders variations in similar values with acute separation and richness of hue.*

*I had attempted scanning this series of flower images on a preproduction sample of Kodak Royal Gold previously and obtained very strange crossover color casts. With the 4000tf and SilverFast 6.0 I tried again using NegaFix and the Royal Gold profile. What a difference! Now I have excellent digital files with the colors that look just like the flowers appeared originally when I photographed them.*

SilverFast to Version 6.0. The first of these is SRD (Smart Removal of Defects) that offers dust and scratch removal from a scan as part of the scan process. ACR (Adaptive Color Restoration) is a part of the Selective Color Correction function, and is intended to provide recovery of color intensity in faded film originals. And GANE (Grain And Noise Elimination) is a variable "filter," before and after perceptual control to remove a grain or a noise pattern as part of the scan process. Another entirely new capability included with Version 6.0 is an "applet" facility to run SilverFast as a stand-alone application in addition to running it as a Photoshop plug-in or TWAIN driver from within an image-editing application. This is a potential advantage if a user is running a large application such as Quark XPress concurrently, as the stand-alone requires little RAM and outputs scans directly to file.

In addition to the new features, many of SilverFast's functions have been added to and refined. The performance of NegaFix has been enhanced by added and more refined "profiles" for color negative and black and white films. The Selective Color adjustment capability has been extended by the addition of multi-layers and multi-masking capabilities, supporting the individual adjustment of similar, as well as different color areas within an image. Converting or scanning color to result in gray scale is a unique new feature that makes it possible to control gray tone separations of different colors in the original. SilverFast's already powerful color cast removal has been enhanced to accommodate correction of casts resulting from mixed light or other differentiated casts within an image by being able to select up to four points that can be edited in a special dialog box.

### Scanning With The ArtixScan 4000tf And SilverFast 6.0

With the scanner unpacked and the software installed, if you've experienced older 35mm scanners, you'll notice and appreciate the FireWire/USB interface for being a no hassle, direct access to your scanner by just turning it on and starting the driver. This was the case after installing the software on a Sony Vaio Digital Studio PC and a Mac G4, including putting SilverFast in both the OS 10.2 and Classic 9.2

operating systems. And, of course, I had to try running SilverFast 6.0 as a stand-alone as well. After just a short time I had the ArtixScan running on both a PC and a Mac G4, using both the Microtek ScanWizard driver and LaserSoft SilverFast 6.0 both as a plug-in from Photoshop and a stand-alone, also running SilverFast in both OS 10.2 and Classic OS 9.2.

As I intimated up front, it was logical for the purpose of evaluation to re-scan images I had scanned with the original ArtixScan 4000t and earlier versions of SilverFast for comparison. There were, of course, a lot of images I could choose from, but I narrowed the selection to films that were difficult to scan in the past, like several color negative and black and white films, in addition to some challenging images on Kodachrome. The latter choice was in part to test SRD dust and scratch removal, as well as to evaluate the advantages, if any, of the 4000tf's greater dynamic range and color depth. And, I also must admit a personal interest in these choices because much of my earlier work was on Kodachrome and black and white (both of which cannot be scanned with Digital ICE dust and scratch removal), while a lot of my more recent photography has been done with color negative films that have not been easy to scan or have not provided entirely satisfying results.

### Dust And Scratch Removal

Right at the outset I tried LaserSoft's new SRD feature. The SRD dust and scratch removal is purely software, unlike Digital ICE, and will function with all films and even reflective scans. It will also work with all scanners supported by LaserSoft in addition to the 4000tf. It is similar in one respect to Digital ICE because it involves a means of recognizing defects and distinguishing them from the underlying image information. SRD is also different beyond being a purely

*Although I did not expect much improvement from previous scans of my first tests of Kodak's Supra 100 color negative films, I was pleasantly surprised. First of all with the 4000tf and SilverFast 6.0, the Supra negatives were easier to adjust for an accurate color reproduction of the subjects, resulting in cleaner, more brilliant scanned images. The use of SRD defect removal functioned quite effectively eliminating more than half the dirt and scratches requiring little post-scan use of the Rubber Stamp tool in Photoshop.*

software solution by providing user interaction with a visual identification of what it is recognizing.

These functions can be adjusted via three dimensions of control with sliders: Detection, Defect Size, and Intensity. This allows you to adjust the SRD function so that it selects what you can see as defects in an enlarged view of the pre-scan image and ignores everything else. The advantage of this over any other software dust and scratch removal methods is that it does not soften the overall image. I found that it works sufficiently well with most film images to substantially reduce manual cleanup with the Rubber Stamp tool in Photoshop. However, with grainier films, SRD is less adept at distinguishing between dust and grain, and its advantage is lessened.

### Color Restoration

Although applicable to a much smaller portion of images that may be scanned, ACR (Adaptive Color Restoration) can be an effective tool used sparingly on more than just faded

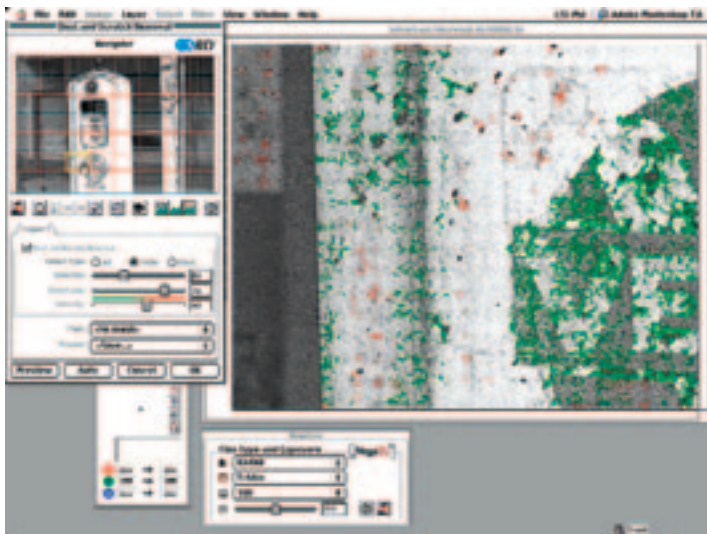


# test report

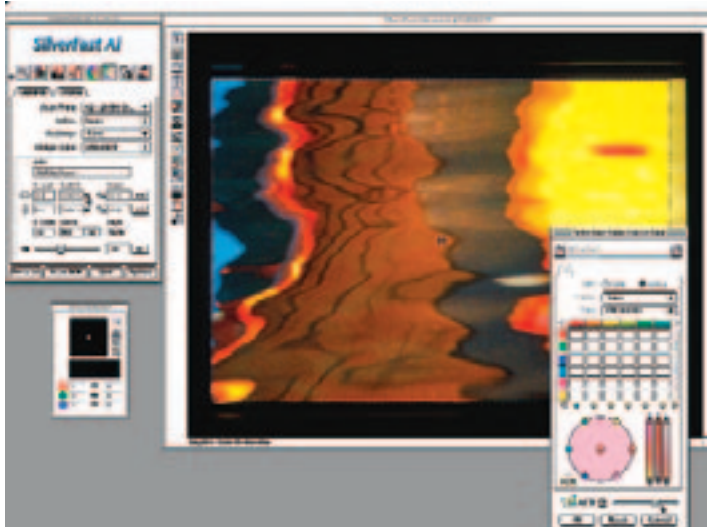
## ArtixScan 4000tf/SilverFast Ai 6.0



LaserSoft SilverFast 6.0 supports all versions of Microsoft Windows and both Apple Macintosh operating systems. Here it is shown running as a stand-alone application on the Mac OS 10.2 system.



One of the most valuable new features of SilverFast 6.0 is SRD (Smart Removal of Defects) dust and scratch elimination providing user interaction to control the selection of defects to be removed (red) and leaving those non-defects and the remainder of the image area unaffected by the process. This keeps detail and grain as sharply defined as a normal scan. SRD also has the advantage of functioning with all kinds of film images including Kodachrome and silver-based black and white.



This Kodachrome image made in a daylight studio I had years ago was published several times in the days of analog color separations. So besides having a long range of tones from the pure white walls of my studio to the black of Marianne's blouse, it had a lot of dirt and flaws acquired from handling, making it a real test of both the 4000tf and SilverFast and its SRD defect removal feature. The results were more than I could hope for. The scan produced a clean, sharp image with brilliant and accurate colors, and it's the best the image has ever looked.

slides. As an example, I made a sizable collection of colorful water reflection photos over time, and in hindsight I should have used a polarizing filter to reduce the overhead influence of the sky to enhance the intensity of the subject being reflected, but did not. ACR produced a result that is quite like the effect of using a polarizing filter with a camera.

### Grain And Noise Elimination

Because I have always had a penchant for grainy pictures made on very high-speed films, I first tried GANE (Grain And Noise Elimination) with some of those images. Sorry LaserSoft, but it just turns really grainy images into mushy images. However, with finer grained films, GANE can virtually eliminate grain, which in some kinds of photography, like commercial illustration of products, can be a distinct advantage. It provides very pristine-looking results, particularly when small format-size cameras like 35mm are used for this work.

### NegaFix For Color And B&W Negs

The most significant advantage I found with SilverFast 6.0, however, were the improvements in NegaFix with more and better profiles for color negative and black and white films. Even with what I have come to consider definitely the best color negative film for scanning, Kodak Supra 100, NegaFix in SilverFast 6.0 provided just about the best overall scan results I have obtained from any film. Possibly of more value overall, the results I obtained with SilverFast 6.0's NegaFix with previously difficult films to scan, like Fuji Reala 100, Agfa Optima, and even Ferrania/3M, as well as significant improvements scanning Kodak Royal Gold for instance, really boosted my enthusiasm to see what gems I'd previously passed over in my film archives.

In the past the inability of any scanner software to do a good job of interpreting silver-based black and white prompted me to write a recently published article on scanning black and white manually for the best results. With SilverFast Version 6.0 I found I obtained very good results and in some cases ideal scans with NegaFix. However, this was only after trying profiles for films not related to the actual film I was scanning until, by the process of elimination of the entire black and white profile choice, I discovered the one that worked best. This worked

(Left) Another useful new feature in SilverFast 6.0 is ACR (Adaptive Color Restoration) which can be used to both restore colors in faded film images, but can also be used to advantage with images with poor color due to atmospheric conditions, flare, flat lighting, and surface reflections, as in this example of a shot of water reflections.

*Silver-based black and white film scanning has been the forgotten stepchild of the scanning industry, that is until now with SilverFast 6.0 and NegaFix. Now you can find a black and white film profile that will provide an effective translation of the image without any posterization, highlight blocking, or dropped out shadow detail, at least with medium speed, (ISO 100-400) finer grained films. SilverFast 6.0 SRD dust and scratch removal also functions quite well with most images to reduce the amount of "spotting" that must be done with a clone brush in post-scan editing. However, LaserSoft has yet to provide a profile I could find that will function effectively with slow-speed, very fine-grained films. Maybe in the next upgrade it will be added.*

well with a number of film/developer combinations I have used, with one exception: slow speed, fine-grain films like Kodak Panatomic-X, Agfapan 25, and Ilford Pan-F. LaserSoft needs to develop a profile for these films that accommodate the contrast buildup produced by the scanner's optics, which from my experience is like going from a diffusion to a condenser enlarger in wet darkroom printing.

All of these tests of the functions of SilverFast also revealed the practical advantages provided by the physical improvements in the ArtixScan 4000tf over the previous model. Most dramatic in what I obtained were scans with superior detail in highlights and shadows from slides, particularly Kodachromes. I am sure that some of the quality improvements in scans from color negative film—including smooth tone transitions, better detail definition and separation of tones were due to the scanner's increased capabilities. And I should mention that



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better success with scanning black and white is also somewhat attributable to factors like the 4000tf's greater dynamic range and color depth specifications.

### **Evaluation And Recommendation**

Both of the upgrades in the specifications for the ArtixScan 4000tf from the previous model and of SilverFast from 5.5 to 6.0 may not seem dramatic compared to some of the progress recently shown in digital cameras. But on closer inspection, considering the very definite refinement in performance of both hardware and software, the upgrades are more than worthwhile. Looking at the Microtek ArtixScan 4000tf from a first-time buyer's

perspective and considering that the software bundle now includes LaserSoft SilverFast Ai 6.0, the advertised price (on the web) of from \$1066 to \$916 offers a lot of scanning power and quality at a very modest cost. Compare those prices to the original 4000t price, which did not include the cost of the SilverFast software, at just under \$1800, and you'll understand why this is a substantial gain for photographers.

For more information visit the Microtek web site at [www.microtekusa.com](http://www.microtekusa.com), and LaserSoft at [www.silverfast.com](http://www.silverfast.com).

For a full listing of specifications go to the *Shutterbug* web site at [www.shutterbug.net](http://www.shutterbug.net) and type SB#DI0303.