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First Exposure by Jack and Sue Drafahl
Nikon Super Coolscan 4000ED & 8000ED Scanners

Nikon 4000ED with all film Modules

For years, Nikon has been helping bridge the gap from film to digital technology with its full line of scanners. Their most recent offerings, the Super Coolscan 4000ED and 8000ED, feature just about anything a serious photographer could imagine.

The Super Coolscan 4000ED is designed to handle 35mm and APS positive and negative film. It features the Nikon LED technology, which is famous for its light source color accuracy and consistency. The 4000ED features a Nikkor ED high-resolution lens with high-dispersion glass to guarantee maximum sharpness. A large opening on the front of the scanner accommodates a variety of film modules. Best of all, any of these modules can be removed and swapped with other modules while the unit is turned on.

Starting with the basic modules that are included with your scanner purchase, you have slide and negative strip devices. A single slide can be inserted in the Slide Mount Adapter (MA-20), which is then replaced by the next slide after performing the scan. A Film Strip Holder (FH-3) enables you to insert a single frame or multiple frames of film into this Slide Mount Adapter. The Strip Film Adapter (SA-21) accepts from two-six 35mm film frames and allows you to batch scan the strip. When your batch scan is complete, simply eject the strip. You can open the top of either module if you have trouble with either the film strip or slide during scanning.

Nikon features several optional modules to satisfy your scanning demands. The IA-20 pulls an entire APS roll into the scanner and creates thumbnails of each image. You can make adjustments to each image, and then batch scan selected images from the roll. If you want to scan large amounts of slides at one time, you can use the optional SF-200 Slide Feeder, which has a tray that feeds, scans and re-stacks up to 50 slides at a time. The SA-30 Roll Film Adapter allows you to feed unmounted film from 2–40 frames for unattended batch scanning.

Nikon 8000ED film scanner with film holder inserted andsetup menu on monitor.

Nikon 8000ED film holders.

Nikon 4000ED with SF-2000 bulk slide module.

The 4000 dpi optical resolution of the 4000ED has a dynamic range of 4.2 to provide detail throughout the entire image. It allows you to scan images up to 3946 x 5959 pixels in as little as 38 seconds. Computer communication is with a Firewire adapter card and uses plug-and-play technology. The 4000ED works with Mac OS 8.6 or later, Windows/98

2nd Edition, Windows/ME, and Windows/ 2000. The firmware in the scanner can be updated with downloads from Nikon technical support. Since the operating software is the same for both the 4000ED and 8000ED, we will discuss its features after we look at the 8000ED.

The 8000ED scanner is designed for the advanced photographer with scanning needs ranging from 16mm strips up to 6x9 medium format images. This unit does not use the adapter modules found in the 4000ED, but instead uses a film holder system. You simply match your film type to a specific holder and insert it into the front of the scanner. The scanner immediately identifies which holder was inserted and sets up the proper software. The 8000ED scanner system supports more than 20 different film and film strips, including scientific microscope slides.
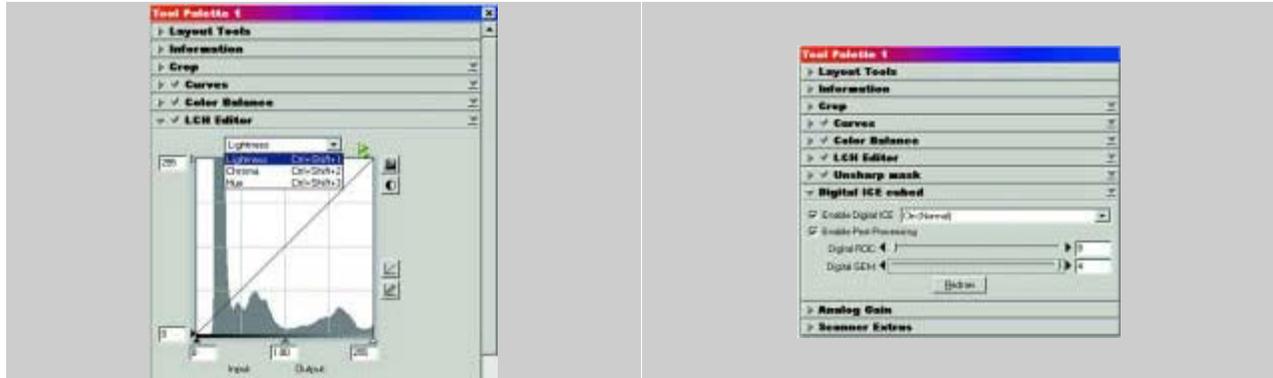
Tool Palette with lightness, chroma, and hue menu.   ICE has a "Normal" and Fine Setting. GEM and ROC are set with sliders.

This 4000 dpi scanner has a dynamic range of 4.2 and can scan an area up to 10,000 x 13,860 pixels. The resulting scan can result in 48-bit images with file sizes up to 790 megabytes. The 8000ED also uses Firewire board communication, and works with Mac OS 8.6 or later, Windows/98 2nd Edition, Windows/ME, or Windows/2000.

When the 4000ED and 8000ED scanners were first introduced, they were shipped with Nikon Scan 3 software, but before long, Nikon was offering an improved 3.1 version. It featured just about every image control you could imagine. It allows you to crop, set resolution, rotate, adjust color and contrast, correct gamma, set the bit rate to 8 or 16, and set up color management to match your computer's editing system.

Analog gain is used for underexposed slides and overexposed negatives.   Color management menu.   NikonScan 3 tools palette with ICE cubed technology

As if all these features weren't enough to encourage you to purchase the 4000ED or 8000ED scanners, there is even more. Both scanners incorporate the suite of sophisticated enhancement tools from Applied Scientific called Digital Ice. Digital Ice (Image Correction and Enhancement) is designed to remove small scratches, fungus, dust, and fingerprints during the scan. ROC (Reconstruction of Color) technology gives new life to images that have faded and lost color over time. This scanner software analyzes the color layers and reconstructs the color to closely match the original photo.

GEM (Grain Enhancement and Management) is used when you scan high speed film or pushed film with a large grain pattern. Using different levels of grain reduction you can achieve a perfect combination of reduced grain, while still maintaining image detail.

The Coolscan products also include a full version of Altimira Genuine Fractals for lossless compression of image data. With this software, you can use the scanner's highest resolution, convert the file to this compression format, and then resize it without loss of image quality or pixelation.
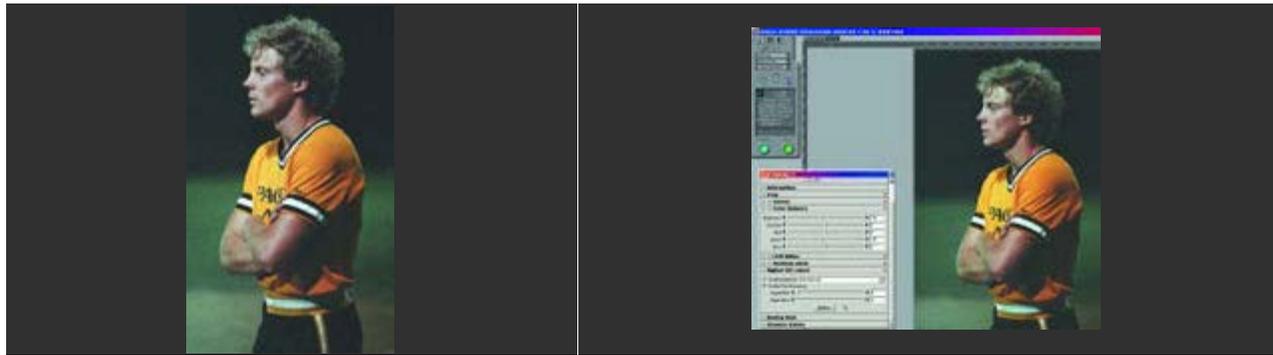
ISO 3200 color negative image with normal scan.   ISO 3200 color negative image with GEM technolgy applied.

About eight months ago we started the project of archiving 80,000 film images. We had heard about the Super Coolscan 4000ED, so we added it to our Nikon LS-2000 scanner for the project. We found the 4000ED it to be an incredible film scanner and the color management system was the best we had ever seen. Even the most difficult images were scanning better than we could have imaged. When we did occasionally encounter a difficult image, the various scanner software controls allowed us to easily make the necessary corrections.

Since we had so many images to scan, we sorted them according to film types, exposure problems or slide mount type (plastic or paper). We set up the scanner to batch scan slides and negatives with the Digital ICE technology turned on all the time. Although the scan times increased, we no longer had to worry about dust and scratches. This saved editing time and the headache was well worth the added scan time.

In the middle of the project we ran across about 2000 slides that had been photographed on a remote location and had faded due to incorrect processing. We turned on the ROC technology, and were amazed at the color reconstructive teamwork of the 4000ED and powerful ROC software.
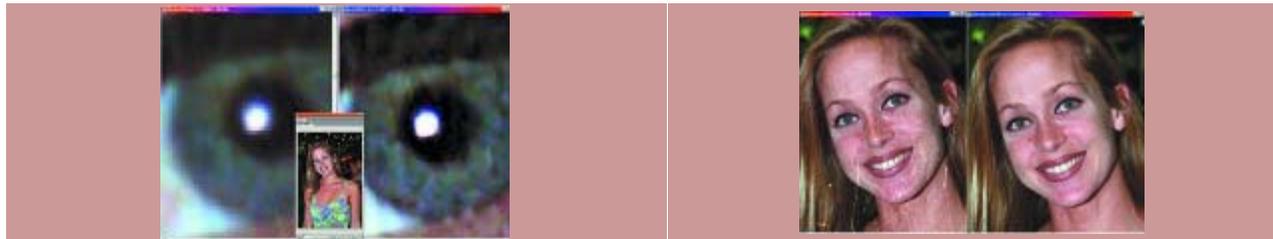
JPEG compression on left and Fractal compression on the right.   Comparison of scans with no ICE on left and ICE on right.

During a recent visit to Applied Science Fiction in Austin, Texas, we had the opportunity to try the Nikon 8000ED scanner. We planned ahead and brought several of our problem images with us to put the 8000ED to the test. Since the software was the same, it was an easy process to setup and scan images. Only the method for loading the images was different. We did notice minor differences from one menu to the next due to the different film formats and scanning capabilities of the 8000ED. The final scans were great, just as we have come to expect from sophisticated Nikon scanners.

The biggest problem we found with these new scanners was that they did a better job scanning than the scanners we have previously used. We now feel that we need to go back and re-scan our images on the newer systems. Thanks to all these technological advancements, we will have very little post editing to do once they are scanned.

We also found that these new scanners change the way we shoot film. Even though high speed films have tighter grain patterns, they do have noticeable grain when enlarged. With the new GEM grain reduction technology, we find ourselves grabbing the higher speed films and worrying about correcting any grain problems during the scanning process. This allows us maximum flexibility in our photo efforts.

As this article entered production, we received a press release stating that Nikon has just introduced new software creating seamless integration between Nikon scanners and Mac OS X. The patch is currently available at: www.NikonTechUSA.com. For more information on Nikon digital products, log onto their web page at www.nikonusa.com and check out their demos on Nikon scanners. Further information on Applied Science Fiction can be found at www.asf.com and Altamira Group's web site is www.altamira-group.com.

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