NIKON LS3510-AF FILM SCANNER

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WHEN PERSONAL COMPUTERS WERE INTRODUCED JUST A SHORT TIME AGO, FEW PEOPLE REALIZED THEY WOULD HAVE SUCH AN INFLUENCE ON PHOTOGRAPHY TODAY. COMPUTERS ARE USED FOR ACCOUNTING, SLIDE LABELLING, ORDER TRACKING AND NUMEROUS OTHER TASKS. NOW, THE COMPUTERS HAVE TAKEN US ONE STEP FURTHER INTO THE ELECTRONIC DARKROOM. THIS NEW ELECTRONIC DARKROOM ALLOWS PHOTOGRAPHERS TO BE EVEN MORE CREATIVE THAN THEY EVER THOUGHT POSSIBLE. NOW THEY CAN FIX DAMAGED PHOTOS, DO ELECTRONIC AIRBRUSHING AND EVEN CREATE NEW AND EXCITING IMAGES WITH THE HELP OF THE COMPUTER.
SEVERAL PHOTO ELECTRONIC DEVICES ARE ALSO RESPONSIBLE FOR HELPING IN THESE NEW ADVANCEMENTS IN PHOTOGRAPHY: THE SCANNER, FILM RECORDER, AND THE DRY THERMAL COLOUR PRINTER. THE SCANNER IMPORTS THE PICTURE INTO YOUR COMPUTER SO EITHER THE FILM RECORDER CAN OUTPUT THE IMAGE ON FILM, OR THE THERMAL PRINTER CAN OUTPUT THE IMAGE ON PAPER. IN THIS REPORT WE WILL REVIEW THE NIKON LS3510-AF FILM SCANNER.

BASIC CONSTRUCTION OF THE NIKON LS3510-AF SCANNER

The Nikon scanner itself is about the size of a slide projector and is connected to either a MAC or an IBM/PC computer via a special communication cable. If you are using a MAC system, the cable will attach to your SCSI port on the back of the computer. The IBM/PC system requires a special communication board in your computer called a GPIB board to link the scanner and the PC system.

The scanner is controlled by photo manipulation software installed on the computer. This special software is bundled with the LS3510-AF scanner and is determined by the customer's choice of either Adobe PhotoShop or Letraset ColorStudio for the MAC system, or IBM users will receive Aldus PhotoStyler for Windows.

COMPUTER REQUIREMENTS FOR THE NIKON SCANNER

In order for your scanner system to be practical, we recommend the use of a very fast computer, large memory capacity, and a lot of file storage space. If you use an IBM type system, you will need at least a 386 with a minimum of 8 Megabyte of Ram and a 200 to 300 Megabyte hard disk. Macintosh users with system 7 installed need 64 Megabytes of Ram, while those without system 7 will need 8 - 32 Megabytes of Ram. Either MAC system will need 200-300 Megabytes of hard disk space.

NIKON SCANNER CONTROLS

The Nikon scanner can read a variety of film types including colour slides, colour negatives, black and white negatives and black and white positives. The scanner converts the analogue data to digital using 256 tonal gradations for each colour or gray scale and reproduces them into 16.7 million colours. All control of the image is done with the photo manipulation software that comes with the scanner. To help you better understand the operation of the scanner, we will walk you through a couple of scanner operations.

Insert a colour slide into the special 35mm slide carrier

Nikon Scanner screen Edit and Scan.

Combined photos with "Select" "Paste" and "Smudge" tolls.

Stock shot of Blue Angels Jet.

Stock shot of clouds.

designed for the Nikon scanner. Select the "Scan" function from the photo manipulation software and a screen will appear that will allow you to select film types,

colour balance, exposure, and focus. Select "Colour Positive" as the film selection and press the preview button on the scanner menu. The scanner will then make a quick, low

Image stretched with "Select" and "Free Re-size" Comm.

Stock photo of Bi-plane.

resolution pass of the slide and present a small full version of the scan in the lower right portion of the screen. The scanner will do an auto-exposure of the image, and focus the slide as it is scanned into the computer.

You can adjust the colour balance and exposure with the "Colour" and "Exposure" controls of the scanner menu. Each time an adjustment is made the new version is displayed in the preview box on the screen. When you are happy with the preview image, press the "Scan" function and the scanner will make a high resolution scan of the red,

green, and blue components of the slide and blend them together on the screen. As soon as the full image is scanned into the computer, further enhancement to the image can be made and then it is sent to a file, film recorder, or thermal colour printer.

If you had a colour negative to scan, a special negative carrier would hold the negative in place and you would select "Colour Negative" in the film type menu. When you press this function, a second Kelvin temperature menu will appear. Select the type of lighting used for that specific image. For example, you could select daylight, tungsten, early sunset, north light, or a specific numerical Kelvin temperature. The image is then preview-scanned, adjusted, and full-scanned into your computer system.

Once the image is in your computer, you can save it to file, send it to the film recorder, or print it on a thermal printer. If you save the image to file

you will need a considerable amount of disk space for storage of the image. For example a 1/4 resolution image (794 DPI) will take up 4 megabytes, a 1/2 resolution file (1588 DPI) will be approximately 9 megabytes in size, and a full resolution image will occupy at least 34 megabytes of space. There are three basic solutions to the storage of these large photographic files - cartridge hard drives like the SyQuest 44-125 megabyte cartridges, a tape backup system that handles up to 2 Gigabyte of information, or a special file compression technique called JPEG. The file compression technique is available for both MAC and IBM and can reduce an 8 megabyte file down to 800k bytes with very little loss of information.

PHOTOGRAPHIC APPLICATIONS OF THE NIKON LS3510-AF SCANNER

Once you have learned the basic operation of the scanner, the fun begins. We quickly

Studio shot of model with scratch in forehead.

Scratch removed with "Select" "Copy" and "Smudge" tools.

found dozens of photographic applications for this handy tool. Many replaced tedious and expensive traditional processes in the photo lab and some applications were not even possible before the scanner came into existence. Here are just a few of the applications that illustrate the potential of this scanner.

SCRATCH REPAIR - How many images have you trashed because of large scratches that made the image unusable? We're talking about deep emulsion scratches that cut through all the color layers of the film and actually flake off into your hand. To repair this image, you would first scan it into the computer, and then magnify the damaged section with the "Magnify" tool. Using the "Select" and "Paste" tools, you can select similar areas next to the scratch and place it over the scratch. You can then use a "Smudge" tool to cover up any unevenness between the new paste and the background. This technique works extremely well with large sky areas that have scratches, imbedded dust, or fungus growth. Once the image is repaired, you would send it out to the film recorder so it can be imaged on a new frame of film. The resulting

image quality would be about the same as a very high quality duplicate slide. Agreed, the image is not as sharp as the original, but at least it's not in the trash!

FILM CONVERSIONS - With the Nikon LS3510-AF scanner and a high resolution film recorder, you can take any film type and convert it to any other film type. For example, you can scan in a Kodachrome 25 slide, an Ektachrome 100 colour slide, and a Fujicolor negative and send them all to T-Max black and white film for

making black and white prints in the lab. You could also convert all these images to black and white in the software and then send them out to Ektachrome 100 as a black and white slide image. For those photographers having trouble converting their black and white negatives to positives, without going through a print first, the scanner is the solution. Merely scan in the negative and send it back out to a high resolution colour film on your film recorder. For example, T-Max

Reflections removed with "Select" "Copy" and "Smudge" tolls.

Studio shot of underwater video reflections on domes.

negatives can be converted to black and white on Velvia or Kodachrome. The possible combinations of film conversion are endless.

PORTRAIT RETOUCHING - Now you can retouch 35mm portraits just like photographers who shoot on the larger format systems. You can remove strangling hairs, fix red eyes, change blinks, and repair backgrounds. Most of these problems can be repaired with the "Copy", "Paste" and "Smudge" tools found in the photo manipulation software. Composite portraits of several people from different negative

and slide sources can be combined by scanning in each image and then blending them together with the "Copy" and "Paste" tools.

CREATION OF NEW IMAGES - A somewhat controversial use of the scanner is for the creation of new images. These images are created from original images scanned into your system which are then modified to generate a new image. This process is especially useful for images with problem backgrounds, such as a telephone pole obstructing the background. Using the "Copy" and "Paste" commands you can copy the surrounding area and place it over the telephone pole. The "Smudge" tool allows you to smooth out any unevenness in your "new" original photo.

The controversy arises from the fact that the photo has been altered beyond the means of standard darkroom manipulation. Because of the never ending technological advances, electronic image

manipulation is now a reality. The problem rests with the fact that we have to figure out a way for photographers worldwide to live with this reality. We feel that one way around this controversy is to generate a new symbol to be used in conjunction with the standard copyright symbol. It would be a circle with a "M" inside to indicate that the photo was "Manipulated". Articles by other writers have suggested this usage and we strongly support this solution and hope that it will eventually become another international standard in photography.

COMMERCIAL PHOTOGRAPHY - If you use a 35mm camera for commercial photo assignments, you will love what the Nikon scanner can do for you. You can scan in photos of products taken on a white background and place them on a gradated colour background, computer generated backgrounds, or scenic photo backgrounds. A variety of special effects are

Combined photos with "Select" "Paste" and "Smudge" tools.
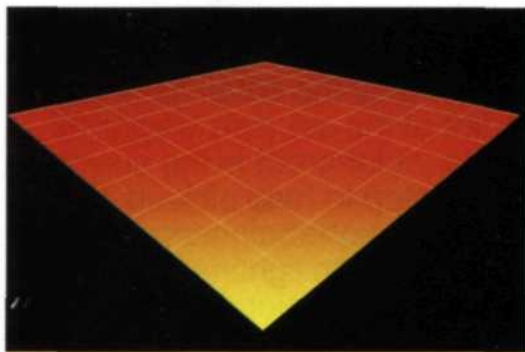
Stock shot.

Stock shot of a Nikon Camera.

also available to enhance your photos. For example, you may want to streak part of the image and keep the remainder of the image sharp.

This is accomplished with the "Free Re-size" command. Simply, take your normal picture and select portions and re-size (stretch) it until it is off- edge of the image.

THE ENVIRONMENT

There are a number of old time photographers who consider the Nikon LS3510-AF scanner a threat to photography because there is virtually no limit to what you can do with it. As photographers for the last 30 years, we don't consider the scanner a threat, but rather a valuable tool. When you use the scanner to replace many of the tedious darkroom processes, three things happen. Firstly, you will be able to create images you only visualized when you had your eyes closed. Secondly, when you reduce the time and money required to accomplish these tasks, it allows you the freedom to produce more pure photography. Last, but most importantly, by going to electronic manipulation and reducing the amount of wet

photo process, you are helping to reduce pollution of the planet. If you have any doubts about this, just remember how much film, developer, fixer, and time were required to make a single posterization. You can now accomplish the same exact effect with a single keystroke.

CONCLUSIONS

While attending the last Photo Marketing Association convention, we took a long hard look at where photography was heading. Most convention vendors agreed that film was definitely here to stay as the main source of image capture. It seems that as soon as still video improves, films improve twofold. So, in order to take advantage of this electronic darkroom revolution, you need a high quality method for transferring your 35mm film into your computer. The Nikon LS3510-AF film scanner opened the door to the electronic darkroom and let all the dark leak out.