# DIGITAL DIRECTIONS

The gamma curve editor allows you to manipulate changes on screen.
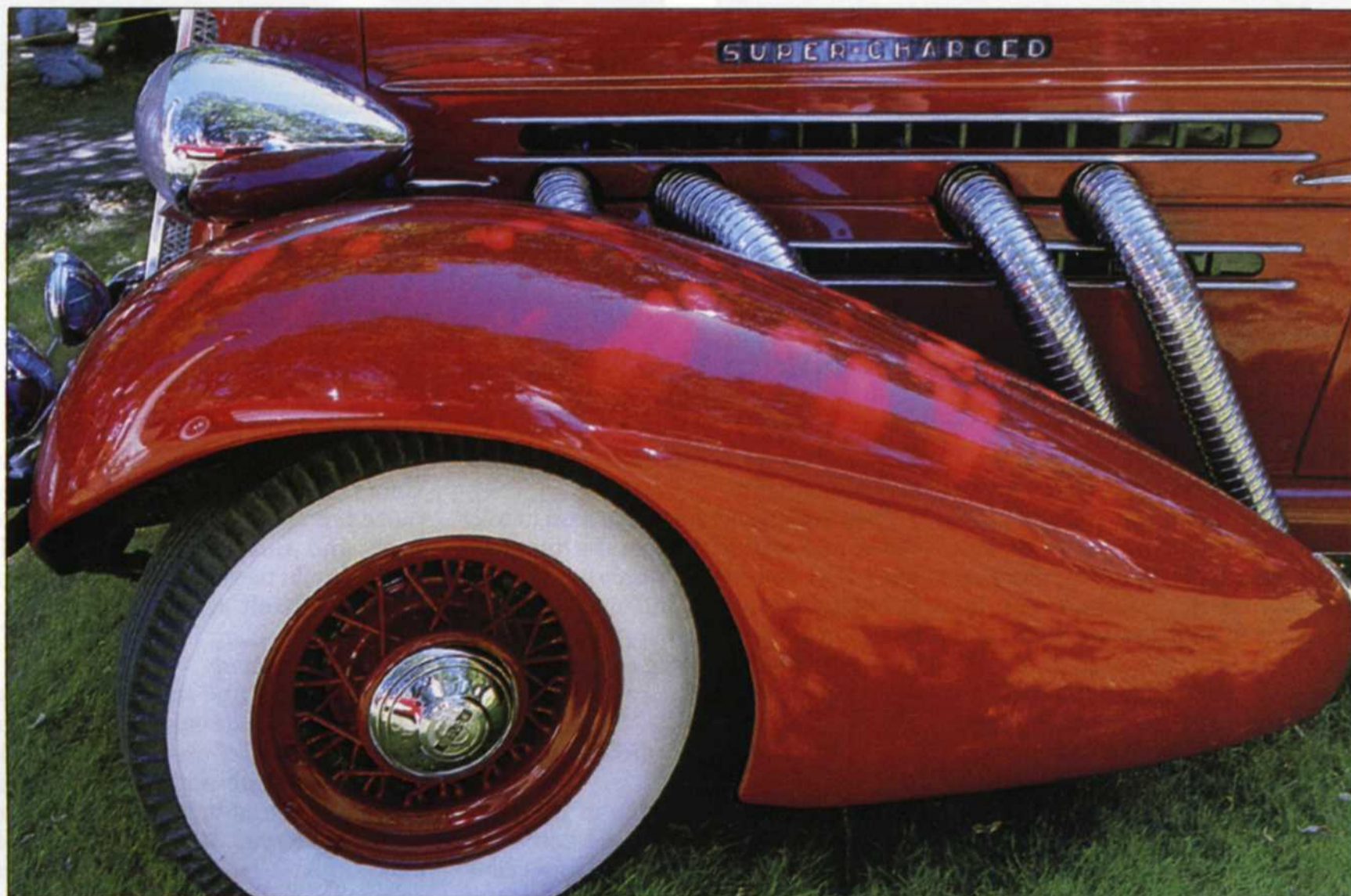
Nikon Coolscan Film Scanner

Jack and Sue Drafahl

OKAY, YOU HAVE HEARD from everyone that you need to get into electronic imaging, but just how do you make that initial plunge without getting soaked? You have been told that you need Brand X computer with some beast called RAM, this scanner, that film recorder, and even a machine that spits out electronic prints.
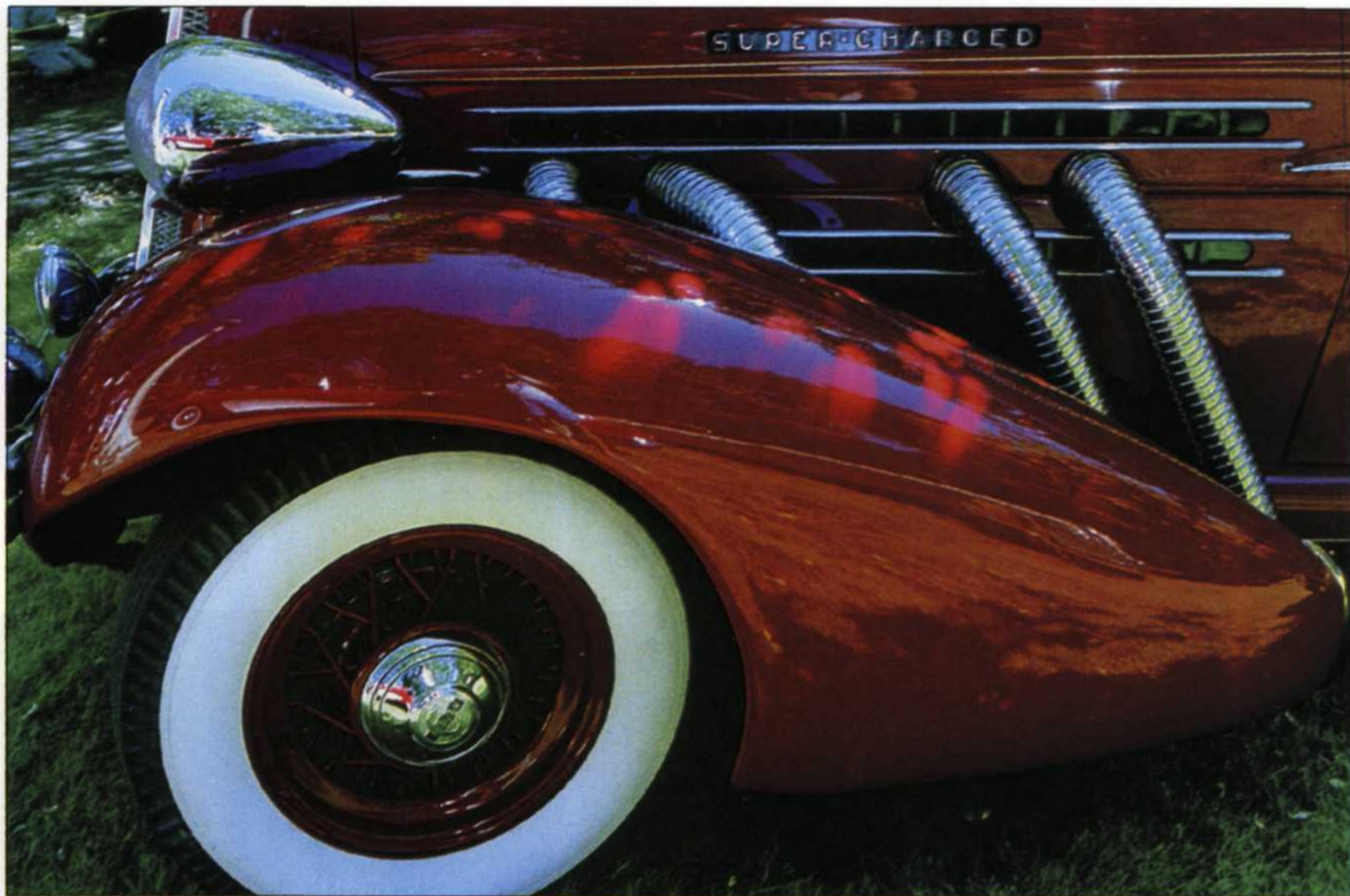
Normal scan with no gamma control.

Normal scan with gamma control.

Color slides scanned in may be converted with several added effects (original scan).

Black and white conversion.

Coolscan emboss.

Coolscan posterization.

Nikon Coolscan

Yet, you still have doubts as to how all of this will fit into your photo lab when most of the year's budget has gone for processors, enlargers, and new employees. Nikon Electronic Imaging offers an inexpensive first-step solution with its hottest scanner addition for 1993, the Coolscan.

Basically, the Nikon Coolscan is a high resolution, compact, inexpensive 35mm film scanner. It offers 2700-pixels-per-inch which is high enough resolution for scanned images to be used in publication and stock photography. It is also compact enough to fit directly in a disk drive bay. Priced around $2,400, the Coolscan

is available for either Macintosh or the PC environment.

The Coolscan allows you to scan in color slides, and color or black and white negatives that can be manipulated and adjusted in thousands of different ways. The 8-bits-per-color images can then be output to any electronic printing device or sent to a service bureau for final output.

Photo Lab Applications

To appreciate the value of the Coolscan, you need to analyze just how it can enhance your present photo lab services. One of the best applications of the Cool-

scan is as an electronic retouching device. Once the image is scanned in, you can remove hairs, scratches, blemishes, flashback, and annoying backgrounds. This service could be very useful as an adjunct to your portrait service, where you can salvage a problem image instead of expensive re-shooting.

If you have a film recorder, or access to one through a service bureau, you can set up a variety of electronic conversions that may require considerable time and expense in a traditional lab environment. For example, you can scan in a color slide and output it as a color negative, black

Nikon Coolscan

and white negative, or a black and white slide. Or, in one session you could scan in a color slide, color negative, black and white negative, and output all three corrected images on the same roll of color slide film. The possibilities are endless.

If you are having trouble converting color negatives with Kodak 5072 slide film, you could scan the negative with the Coolscan and output it onto any slide film through a film recorder. Special slide duplication techniques can also be accomplished using the characteristic curve function in the scanner controls. Contrast, exposure and color balance can all be adjusted with these controls.

You could also set up a scanning service for the local desktop publishers who use photographic images in their publications. These clients would bring in various slides or negatives for scanning to disk. You would then charge them for the scanning time and disk storage.

Your audio-visual customers can also benefit from your scanning services. You can scan in their images and place them into photo windows or even add text. These images can then be compressed to a file format, such as JPEG.

Successful Scanning and Output

If you only want to look at scanned images on the computer screen, you don't need any output devices, but if you purchased the Coolscan to make money, you will need some kind of output device. Typically, the two types of output include film recorders and electronic printers, such as a dye sublimation printer.

If the Coolscan is your first electronic purchase and you're not sure just how much more you want to get involved, we would recommend the use of a service bureau. These companies take images from business graphics programs and scanned images, and output them to the desired film or paper format. If you like the results of the output, you might later consider adding that output device to your Coolscan system, so that all the services are in-house.

Setting Up the Nikon Coolscan

The Nikon Coolscan is available for Macintosh and PC in either the internal or external version. The Coolscan is

linked directly to the PC computer via a SCSI (Small Computer System Interface) cord and the Macintosh system has its own SCSI system, so none is required. Once you have hooked up the scanner and installed the operating software, you are ready to restart your computer and make your first scan. The software is designed to either operate the Coolscan without any third-party software, or it can work with a variety of Macintosh and PC programs such as Adobe Photoshop, Aldus PhotoStyler, Micrografx Picture Publisher, and Nikon's own Image Access Program.

Making Your First Scan

Let's say your first scan is a 35mm color slide. You would insert the slide so that long dimension (36mm) is inserted parallel to the long dimension of the scanner. Push the slide gently until it stops. Color negatives and black and white negatives use a special carrier that can take strips of six images. Select the "Scan" function, and wait for the Nikon scan screen to appear.

From the "Film Type" box, select color positive for slides, or color or black and white negatives. Press the preview button and the Coolscan makes a low resolution scan of the image.

Basic focus is accomplished automatically by the scanner, and fine-tuning is accomplished using a focus bar or image magnifier that allows you to magnify a portion of the image and visually focus the image. A special warning in the Nikon manual indicates that the scanner cannot make the image any sharper than it was when it was originally taken. The scanned image however can be sharpened after the scan, if your editing software has a sharpening tool.

Color balance and exposure can be adjusted with four controls which adjust the white level, and red, green, and blue colors. The scanned image can also be cropped at this point, if you only want a section of the image scanned. Image resolution can be set from 2700 DPI (3700 pixels x 2445 pixels) down to less than 100 DPI where the image becomes a thumbnail. For more information on understanding image resolution, see our article in the June 1993 issue of *PLM*.

Now you are ready for the actual scan. This may seem like a lot of preparation for a scan, but bear in mind that you can use the same information for several similar scans. You can also save specific settings as a special data file, so

that you can recall them at a later date.

Once the scan is complete, the photo will be presented on your computer screen as a bitmap image. If the scanned image is brought into an editing program such as Photoshop, you can further edit and modify the image before saving it out as a bitmap file for final output.

For years photographers have enjoyed the high quality Nikon cameras and superb optics. It stands to reason that when they entered the electronic imaging marketplace they would produce high quality products that we have come to expect from anything with the Nikon label.

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