

## Images on the Fly: *Adjust Your Output!*

Jack & Sue Drafahl

The speed you can attain in digital image output depends greatly on the control you have over each image as it goes through your system. Labs today deal with input from a variety of sources, such as digital cameras, scanners and Photo CDs. Since some of these images are created in the lab and others come directly from customers, there is little chance of all of them going smoothly through the system without needing corrections.



Normal saturation



-50% color transportation



+50% color transportation



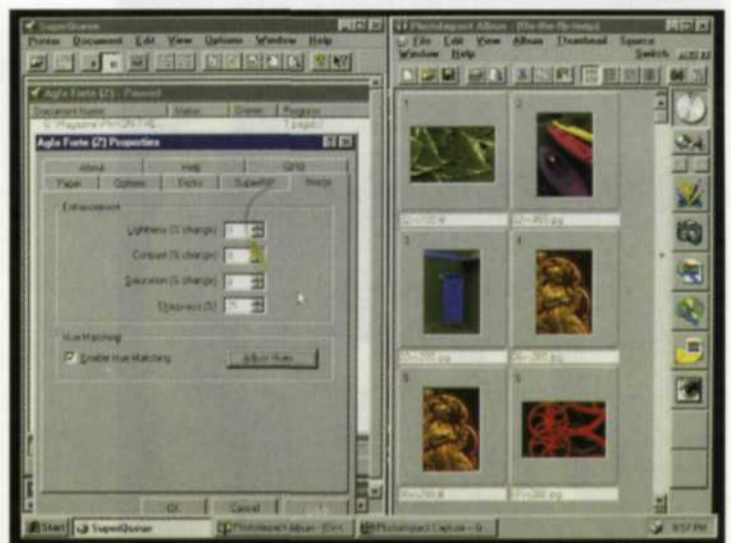
-100% color transportation



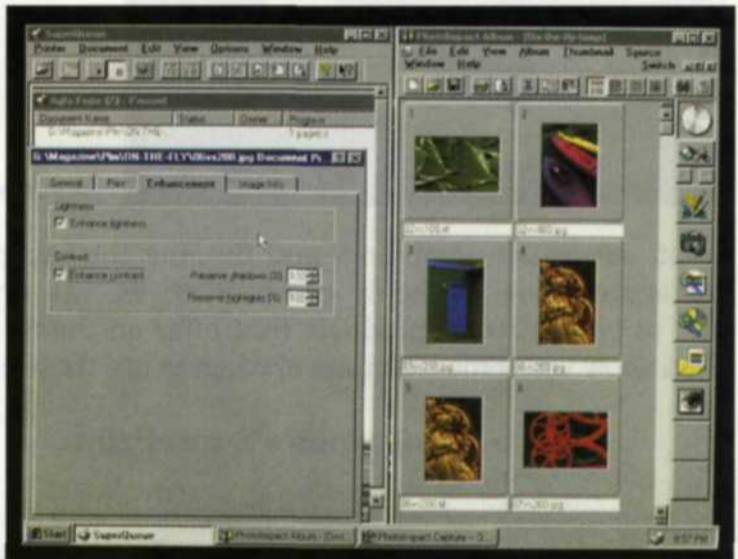
Normal contrast



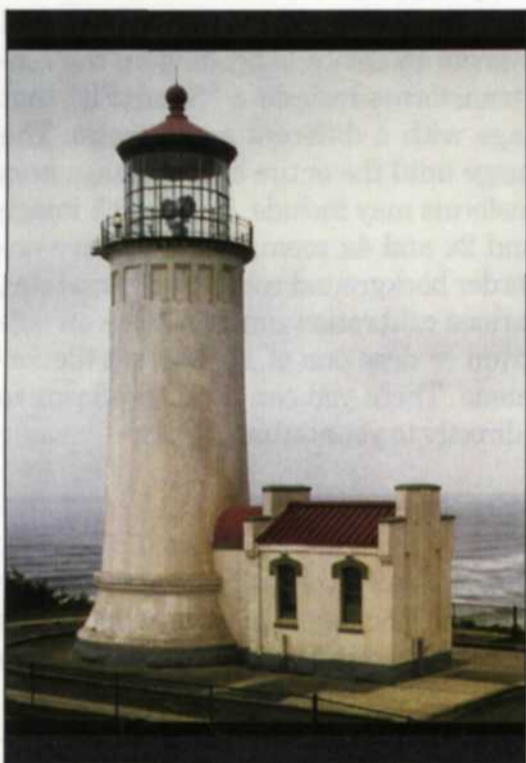
+15% contrast



SuperPrint sharpness change



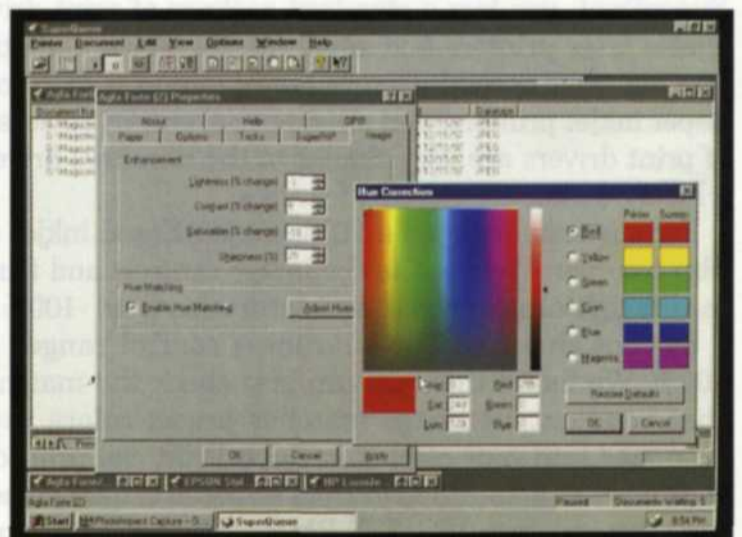
SuperPrint image enhancement



Autofit



Autocrop



SuperPrint hue adjustment

**T**HE IMAGING LAB HAS the choice of letting digitally "imperfect" images go through the system as is, or making the necessary corrections before output.

Of course it takes time to make the changes, which means you have to pass the additional charges on to the customer. We find that customers want the best end-product possible, even if they have to pay more.

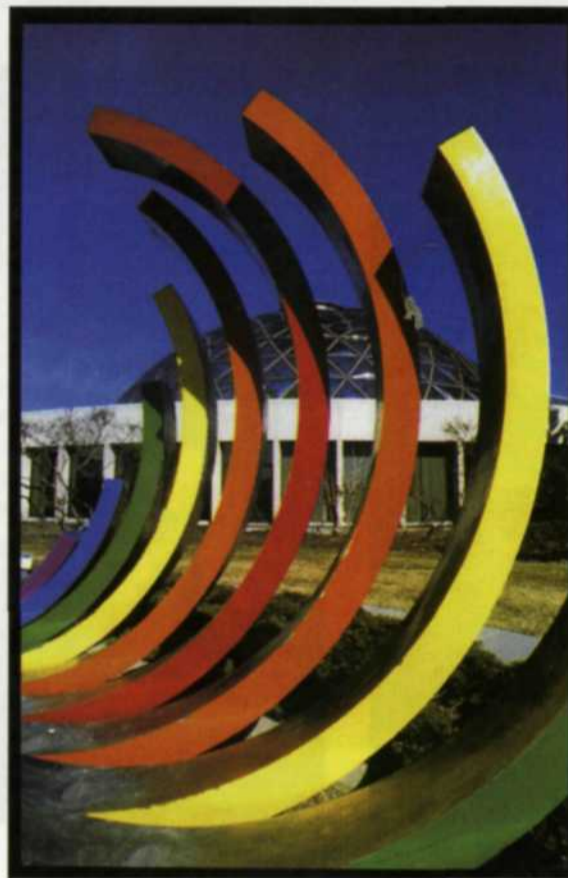
Problems usually occur more with film output than paper, because you can readily monitor paper output as it comes off your machine. Output to a film recorder is usually done in large batches, so you really don't catch the problem until it is too late.

Customers have a tendency to procrastinate, so there is rarely time to do the job over. Fortunately, there are several software companies that make film recorder and printer software with "on-the-fly" capabilities. Unfortunately, most labs don't take advantage of these features and often either have a less-than-perfect product to hand the customer or end up re-doing the entire job.

On-the-fly effects are applied to an image as it is being sent to an output device. The correction to each image does not affect the original image, but only the image as it is output to film or paper. You can apply the effect to a single image or to a whole group of images. Some of these effects include sharpness, con-



Full image no zoom



-8% border

trast, saturation, cropping, and flipping the image. To better understand how on-the-fly effects work, we will first introduce you to two software products that offer on-the-fly effects, and then show you some examples of when to use these effects.

### Zenographics SuperPrint

Zenographics has been around a long time, at least in computer years. The company started out with software packages such as Mirage, Pixie and SuperPrint. As more digital output devices appeared, Zeno added support to them. When you buy SuperPrint, you buy a standard package of print drivers that includes laser printers and small inkjets. For an additional charge you can add special drivers for high-end film recorders, wide paper inkjet printers, and other special output devices. Both levels of print drivers are very similar to the Windows drivers, but offer a lot of additional on-the-fly features.

For our tests we tried a HP laser jet, Epson inkjet and an Agfa film recorder. We went to the image controls and found we could modify lightness, contrast and saturation from -100% to +100% in 1 percent changes. The sharpness control ranged from 0% to 100%. We found that you can also check the match hue box so that your output image matches preset colors you have programmed into your computer. SuperPrint can print directly from your favorite application or from a special SuperQueue, where you can drag and drop JPG, Tiff, BMP, GIF, and Postscript files.

Before you use these effects in your lab, run some test images with no correction and also ones with various levels of correction. Label these images and have them available to the lab techs who operate the output device. You should also have a sample sheet for your order desk, so that customers can see possible changes that can be made to their digital images.

### Graphx RasterPlus95

Graphx has been around since 1985, and initially made software to drive some of the first high-end film recorders. As the company grew, so did its film recorder drivers, plus new drivers for a variety of high-end paper output devices. The latest version, RasterPlus95, uses a Postscript Level II engine to process the images at high

speed with the least amount of problems.

The on-the-fly effects for RasterPlus95 are called "Visual Transforms" and vary from device to device depending on the controls necessary. The basic transforms include a "SmartFit" that automatically re-fits an image with a different aspect ratio. The "SmartCrop" enlarges the image until the entire output image area is covered. Other "zoom" transforms may include .5 zoom, 8% image reduction for screen shots and 2x and 4x zoom. You also have on-the-fly controls over film recorder background color (black or white), color balance for film, and various calibration controls. You can output from your printing program or drop one of 17 different file formats into a RasterPlus95 queue. There you can add transforms to images and then send them directly to your output device.

### On-the-Fly Applications

Since every digital lab differs in size and client base, not everyone will use the same on-the-fly effects. The key is to learn what effects you have available with your print drivers, test them and use them to improve the speed and quality of your output images.

**Sharpness:** We use this function on almost every image that comes through our scanner systems. We could sharpen each image as we scan and save to disk, but the time saved by not doing it allows us to edit more images. We ran tests at 5% increments and found that a 25% sharpness increase was great for 2k scans, and a 33% increase was best for 4k scans. If there is a time when we use the sharpen tool that comes with the editing software, we add an "S" to the file name. For example: Chair1.tif becomes Chair1S.tif. These images are then sent directly to the output device with no added correction.

**Brightness/Contrast:** Some of the lecture images that come through our lab are very dark or light and need adjustments to look good when presented. The customer may have selected a dark background, or used a fine type on a white background. To correct the dark background, we look at our sample backgrounds and select a lighter one and send the new batch to the film recorder. The white background is corrected by using two different effects.

First, we reduce the brightness level for that image and increase the contrast. The brightness reduction cuts down the white blooming, and the contrast increase makes the fine type more visible. This

is all accomplished without making any changes to the original file.

**Saturation:** This is a less technical effect and is used more for adding the creative touch to an output image. We use this control to correct bad scans where the gamma was set too low and the color saturation looks like a cross between color and black and white. We also use this control to over-saturate images for special effects.

The same control can create a full color image with 100% saturation, and one with 0% saturation to create a black and white image. When the two images are placed in a dissolving slide show, the pin registered images dissolve from black and white to color or visa versa.

**8% Image Reduction:** Many of our customers are in the computer industry and use screen photos for use in slide presentations. It doesn't matter how many times we tell them, they always capture full screen without borders. When the output image is mounted in a slide mount, the top and bottom of the screen is always cut off. By using the 8% reduction effect and the on-the-fly functions the image is reduced just enough to fit inside the slide mount. We generally also use a brightness reduction on these images as most screen captures are on white or light gray backgrounds.

**Autofit/Autocrop:** We use this function when clients bring in images originally designed for a different aspect ratio. A good example is an image created for 8.5x11 inkjet is now destined to become a 35mm lecture slide. We have two choices at this point of how to solve the problem. If we use the on-the-fly autofit effect, it enlarges the image until the 8.5 side fits edge to edge with borders at each end of the 11-inch side.

The second option is to fit the 11-inch side to the edge of the

slide image and crop a portion off the 8.5 side. The second method can only be used if the edge of the 8.5 side is blank.

**Zoom/Flip:** We use the zoom control for lecture presentations where we want to make a zoom from .5 or full screen to a 4x zoom. The flip control is handy for customers who want to have film recorder images for use in a rear screen slide production. The slides can be normally mounted and still have the emulsion towards the screen.

**Print Preview:** If you're not sure about the effect you are going to apply to an image, just use the print preview found in both software packages. These print previews show the image exactly as it is to be sent to the film recorder. If a background edge is showing, or the cropping is wrong, it will show in the print preview. We use this function when a customer has used a variation of a font or a font substitution. Some of these off-the-wall fonts create havoc with film recorders and the print preview is our only salvation.

**Updates:** When we researched this topic, we talked to tech support and surfed the Web. We discovered that even more sophisticated print drivers will soon become available. The trend continues to be more programs that provide image control as it goes to the output device. In order to make these programs work properly for your lab, you need to learn how to use your output device driver, make samples, and keep track of updates from the Web. If you don't, your time and money will be on-the-fly.

For further information contact Zenographics on the Web at [www.zeno.com/](http://www.zeno.com/) and Graphx at [www.graphx.com/](http://www.graphx.com/).

*Jack and Sue Drafaehl own an imaging lab in Portalnd, OR. They are also professional photographers, specializing in underwater photography.*

## Did you just get a wide format digital paper printer?

Colex introduces the RTK 55-60DP *DIGITAL READY* RA4 processor as the perfect companion for Durst Lambda, Symbolic Science Light Jet, Gretag Sphera or any other wide format digital paper writer.

- ♦ High Speed for Display Transparency productivity
- ♦ Special user friendly feed system for heavy rolls
- ♦ The utmost in process stability

**COLEX<sup>®</sup>** RTK 55-60DP  
is *DIGITAL READY*

Colenta America Corporation  
347 Evelyn St. P.O. Box 1487 - Paramus, NJ 07653-1487  
Telephone: (201) 265-5670 Telefax: (201) 265-7093 <http://www.colex.com>



**COLEX<sup>®</sup>**