Getting the Most Out of Your Scanner by Randy Zaucha

Desktop scanners can capture a wide range of photographic tones and colors. These color devices use an interface consisting of a menu with controls that set the range of tones from light to dark that the scanner sees. When you purchase a scanner, the factory interface setting is not always correct for accurate reproduction quality.

The scanner interface will work in an automatic mode to sense the lightest and darkest tones of the original item being scanned. The automatic mode can make good scans or it can clip critical detail from the image. It is important to crop inside the image prior to scanning. Cropping outside the image will cause the device to scan the scanner's bare glass, which will confuse the auto sensor by showing it the scanner's light source only. (See figure 1 for example of incorrect cropping outside the image)

Some interfaces offer an alternative to the auto mode, which allows the user to manually adjust the tonal range that the interface captures. Then the user can adjust interface controls that control the capture of the light to dark tones. The highlight control adjusts the lightest tones, the shadow control adjusts the darkest tones and the gamma or midtone control adjusts the overall contrast of the image. (See figure 2)

Manually Setting the Interface

To set the scanner's interface manually, a test image should be scanned. The test image can be a full range (light to middle to dark tones) black and white photo or a color chart that contains tones from light to dark and a collection of typical color hues. (See figure 1)

1. Scan the print or chart and print.
2. If the overall contrast is heavy or light, adjust the gamma (or midtone) control, rescan and print. Keep adjusting until the contrast of the print approximates the contrast of the print being scanned.
3. After the contrast is adjusted, look at the lightest tones.
4. Adjust the interface's highlight control if the brightest tones are too light or too dark. Keep adjusting and printing until the light details of the print approximates the light tones of the print being scanned.
5. After the light tones are correct, look at the darkest tones.
6. Adjust the interface's shadow control if the darkest tones are too light or too dark. Keep adjusting and printing until the dark details of the print approximates the dark tones of the print being scanned.
7. Double-check the contrast now that the highlights and shadows have been fine-tuned. Adjust if necessary.
8. Save this interface setting. If your interface does not allow you to save the settings, write down the new control settings.

You have now set your scanner's interface to capture all the detail and contrast of a typical photographic print. Use this setting for all future scans of prints.

Other Scanning Tips

1. Scan at the highest bit depth setting allowable by your scanner. The bit depth determines how much detail the scanner captures. Typical bit depths are 8, 10, 12 or 16. For best quality, always set the interface for the highest bit depth available.

2. More is better when it comes to resolution unless scanning for the web. Web scanning only needs 72 spi (samples per inch). A resolution of 300 spi is fine for inkjets and 400 spi is sufficient for print. This extra resolution allows a "fudge factor" for additional image enlargement in layouts. Another term used for resolution is dpi or dots per inch. Insufficient resolution makes images reproduce looking choppy and phony.

3. Whenever possible, do not sharpen while scanning if you are bringing your image into Adobe Photoshop. Photoshop has a sharpness preview window that allows you to make the best sharpness setting without having to re-scan. If you sharpen during scanning, you will not be able to see the results until the scan is finished.

The author, Randy Zaucha, is the principal of Managed Color, manufacturer of The ZBetterscan Method. ZBetterscan is a set of tools and instructions for color correcting scanners with Adobe Photoshop. It can be found on www.ZBetterscan.com.