Gamut

The Colour Management Newsletter

Take a bite out of colour correction

APRIL 2003

n°3

PANTONE Yellow C

PANTONE Warm Red C

PANTONE Process Cyan

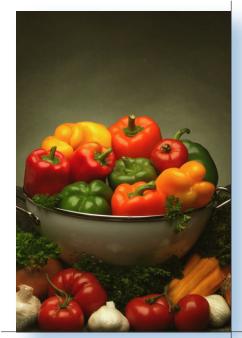digitalsolutions
the digital imaging specialists

Take a Bite
out of Colour Correction

Two months ago we talked about Photoshop's Auto Colour Correction options. As I mentioned, Auto Colour can work on specific types of images, usually images that are flat and lacking in contrast. This month we are going to take the art of colour correction a step further, giving you the control to colour correct any image.

The first step to correcting an image is to make adjustments to the white point and the black point. This can be done two ways, via Levels or Curves. For some, Levels can be a more intuitive method but lacks the power of Curves. With Curves it is possible to make adjustments to any part of the tonal range. With levels you are limited to only three adjustment points - the white point, the black point and the mid point. As you progress in making more colour corrections you will find Levels to be limiting.

This exercise assumes you are working with RGB images. I am a great advocate of doing the majority of your colour adjustments in RGB. It is faster to set your white point and black point in RGB because you can set your eyedroppers in Curves to a specific target colour and when you click within the image, using the eyedropper, you get exactly what you set as your target colour. So when ever possible it is best to start with an RGB image.

Lets start by opening an uncorrected RGB image. I am going to open the image Peppers.jpg in the samples folder within the Photoshop 7 application folder. This image like many scans or digital captures has an incorrect gray balance and needs to have its white point and black point re mapped to reflect how the scan actually looked.
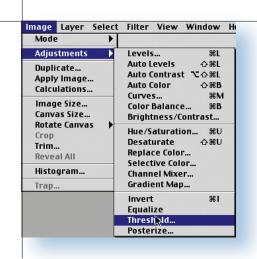

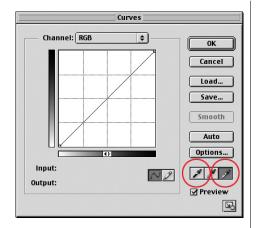*Original peppers.jpg Image from Photoshop Application Folder*

In order to set the white point and black point we need to find the lightest and the darkest part of the image. Be aware that in some images will have what is called a "specular highlight"; this is a white point that is a zero value. An example of a specular highlight would be a reflection from metal or water. When looking for your white point you want to be sure you are looking for the white point that will have tone as apposed to a specular, which has no value.

You can locate the images white point and black point two ways. One, the slow way, by dragging the eyedropper over the entire image and reading the numbers to find the lowest and highest values or you can use this cool time saving trick.

To find the whitest and the darkest spots in any image go to Image/ Adjustments/Threshold. In the image Peppers.jpg drag the slider to 250 and notice the specular highlight around the bowl. Now if you move the slider to 240 you will see the white area at the base of the image. This represents the whites area in the image with tone. This is the area we are going to set as our white point.

To mark this point hold down the shift key and place an eye dropper in the white area in the pepper. Now lets do the same for the black point. Move the slider to 20 and place a marker in the dark area under the bowl, using the same technique. The final step is to hit Cancel to close the Threshold dialog box.
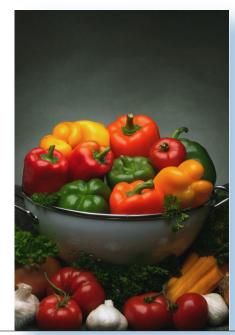

Now open Curves and double click on the white eyedropper icon, just above Preview. Put in the following values, C:4 M:2,Y:2 K:0 and click OK. Next double click on the black eye dropper and put in the following: R:15 G:15 B:15 and click OK.

To set the white point click once on the white point eye dropper (the one on the right) and then click in the image directly on top of the white point eyedropper you set using the Threshold method. If you have your info pallet showing (press F8 if you don't) you will see that the white point has now been set to a C:4, M:2 Y:2, K:0. These numbers will work for most prepress conditions.

To set the black point you click on the black eye dropper in the curves dialog box and click in the image on top of the black eye dropper you set prior in Threshold. You can also experiment using the neutral eye dropper (the middle eye dropper) by clicking anywhere in the image that is a neutral gray. Try clicking on various spots of the gray bowl.

That's all their is to re-mapping the white point and the black point. By using this method you will see a much greater degree of accuracy in your colour corrections. This should be the first correction you make to an image, as it will correct many of the colour problems in most images. The next step is to move on to Hue and Saturation to make any selective corrections.

Black and White Point corrected