INTRODUCTION TO GRAPHICS

Color Correction the AP Way

Information Sheet No. PS694

This information is based on the techniques used by the guys at AP (Associated Press). The AP process over 800 photos a day with this process, so it should work for you.

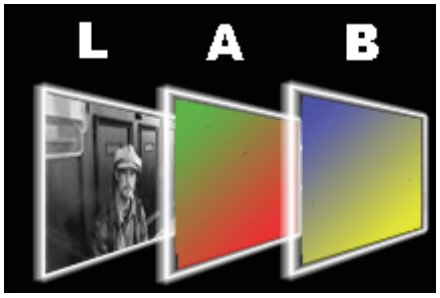
There is a simple 4 step process to getting the perfect color correction everytime with your photos. In order for this process to work make sure you have accurately adjusted your monitor based on the adobe gamma correction application which comes with Photoshop.

It will demonstrate the process in any version of Photoshop. There just maybe slight differences in the location of the tools

The 4 step process is broken down like this:

1. Noise
2. Levels
3. Curves
4. Hue/Saturation

To begin we need an image. Lets take the donated image from Delilah above and work it up. Our first step is to adjust the noise. Noise is anything from artifacts from the digital camera processing, to grain in film. *(Artifacts are areas where the digital camera cannot get the data from the scene and it substitutes in blobs of color to fill the missing areas.)* We will do this correction in LAB color mode. Changing to LAB mode from RGB ***will not*** do anything to the photo.



So what is LAB? Well LAB is broken down like this. LAB color is designed to be device independent; creating consistent color whatever the device (such as monitor, printer, computer, or scanner) used to create or output the image. LAB color consists of a luminance or lightness component (L) and two chromatic components: the (A) component (from green to red) and the (B) component (from blue to yellow). L is the actual layer where the image resides. This layer you do not want to touch since it manipulates the actual image itself. The A and B layers are the layers we want to manipulate since this will only effect an area above the photo and not the image itself. So we will lose no image quality. Like all the steps we will go through, you will not degrade the image at any point.

To take a look at the LAB setup, open the Channel toolbar and you will see original image on the LAB layer, the grayscaled version in the Lightness layer, and the two color screens in the A and B layers. We will now adjust the A and B layers.

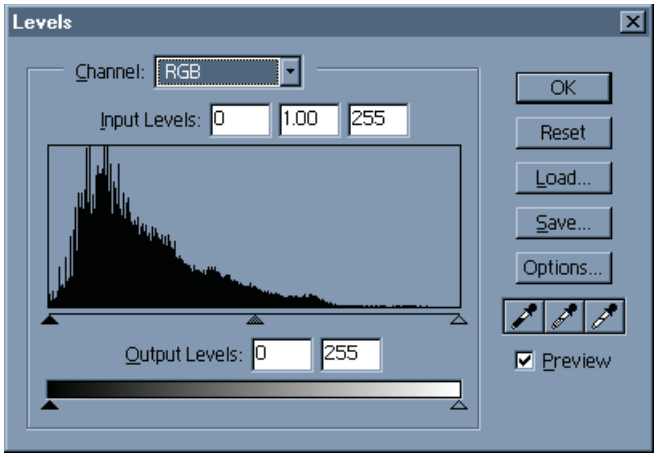
First select the A layer. Once you select it the other layers will deselect and you will see the A channel in your image area. If you zoom in on the image you can visibly see the noise we are going to correct.

To get rid of the noise start by selecting **Filter>Blur>Gaussian Blur**. Now adjust the blur so the image becomes just barely smooth all over. You usually will never exceed a radius of 1.0 but this varies for each photo. Then hit **OK**.

Repeat this for the B layer and you have successfully completed removing the noise from the image. You will notice when you select the LAB layer again that the image has not changed at all, this is because we changed the color screens above the image.

Once you have gotten rid of the noise you can take the image back to RGB mode. Once again remember you have not lost any image quality switching modes. You are ready to start the color adjustment now.

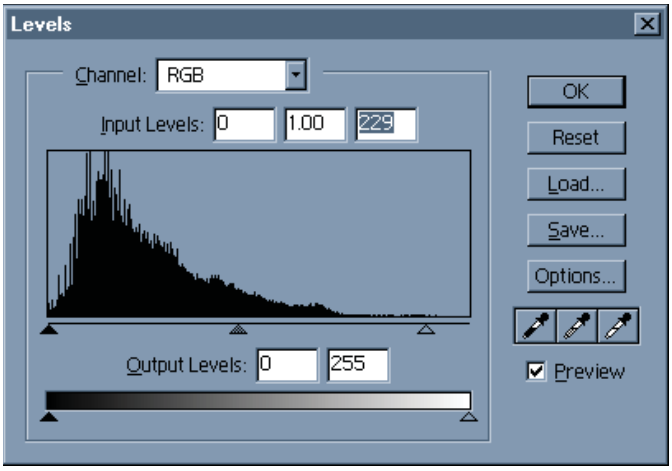
Go into **Image>Adjust>Levels**. In the main RGB Channel you will see this histogram. All you are going to do is remove the non-data from the image and do this process in each color channel.



To remove the non-data, slide the arrows so they come to the beginning of the histogram on each side. In this particular channel you only need to slide the right arrow over to the start of the color data.

You should repeat this step for each color channel R, G, and B as well as the main RGB channel you just did. Each channel will be different so make sure you bring each arrow to the start of the histogram on each side. Do not adjust the middle arrow.

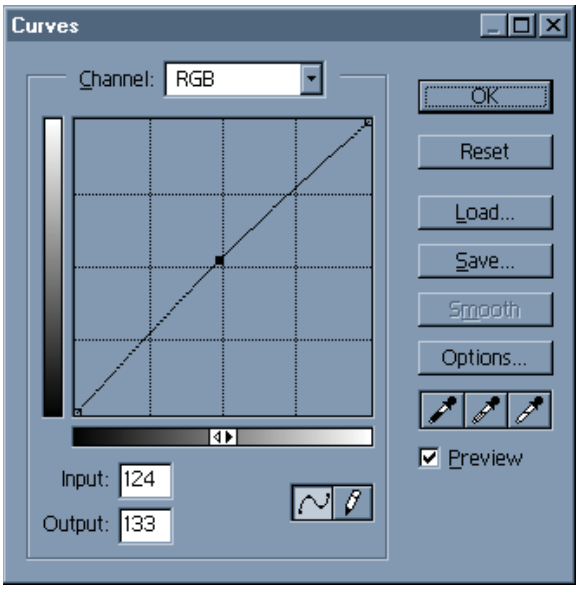
The Left arrow adjusts the shadows, the right arrow adjusts the highlights, and the middle arrow is midtones. Now you have completed the color information adjustments. Make sure to hit **OK** when you are completed.



Step three is the curves step. This step is really dependent on the gamma of your monitor. So if you did not adjust it you will need to for this step. This is a very arbitrary step and not an exact science, but based on the photographer's vision of the subject at the time he/she shot it.

Now go to **Image>Adjust>Curves**. All you want to do here is slightly increase the lightness of the photo.

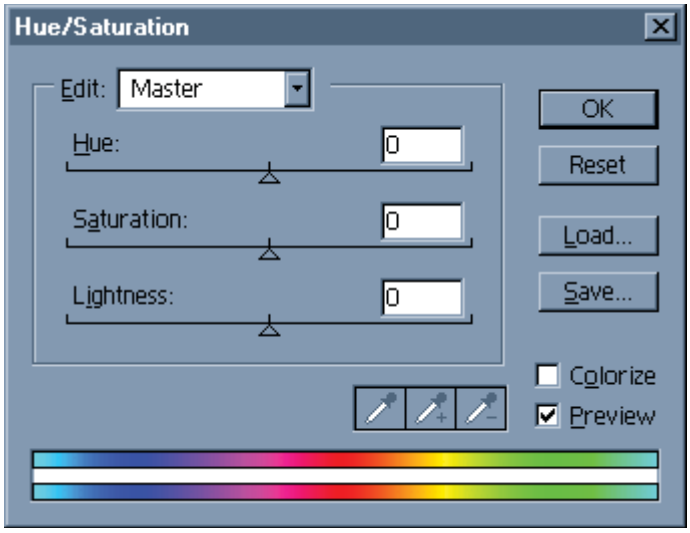
Add a point in the middle of the curve and slowly pull it out. Make sure you do not move the end points of the curve in any instance.



As the picture gets lighter keep in mind the lighting that was present at the photo in the original setting. You want to pull the lightness out just enough without over doing it. Once you get the light quality right you are done with curves.

Curves will always be a slight adjustment to fine tune the overall light quality. Make sure to hit **OK** when you are completed.

You now need to do fine color adjustments and get rid of the colors you may not even see in the photo. The last step is the most tedious, but the most important. You are now ready to adjust the hue and saturation of the photo. If you ever think your photos have color shifts in them this is were you fix that problem.



So lets go to **Image>Adjust>Hue/Saturation**. The first thing we are going to do is over saturate the image in the master layer. So slide the saturation arrow to the right and watch the image.

You will notice there are very hot color spots in the image. We need to identify these colors and go in and fix them. So look at the example of the saturated photo. You can see there is a great deal of red, yellow, blue, green, and cyan in the photo that sticks out.

Now lets put the saturation level back to 0 and fix the colors that need adjusting. You will notice if you click where it says master in the hue/saturation toolbar you will see the following colors listed: Reds, Yellows, Greens, Cyans, Blues, and Magentas. These as you know are all the colors of the spectrum and the colors that can be in any photo. So even though you are in RGB mode you can adjust the CMYK color fields.

So lets select the red layer. We now need to identify and reduce the red. So in the hue/

saturation toolbar slide the red saturation level up slightly so you can recognize the reds. Say to about 20 or so. *(The amount is arbitrary, you want it enough to see the color shifts, but not too much to blow the color out of proportion.)* This will show the strong red areas in the subjects face of the photo.

Now you want to slide the hue arrow either direction to balance the color shift of the red. What you are doing is swapping the red color for another red that is a lighter or darker hue depending on the direction you slide the arrow. In the case of this photo I will slide the hue to about 8. This removes the red from the subjects face and gives him a more natural skin tone.

This process you need to repeat for each color you find to be over saturated in the photo. It wont hurt if you adjust colors that aren't over saturated, but you don't need to. Once you complete this step for the colors you want to adjust hit **OK**.

If you completed each of these steps you have successfully adjusted your color image to perfection. This technique guarantees proper color adjustment even if you do not have a calibrated monitor. Also if you wish to do any dodging or burning make sure to once again change the mode to LAB and do the dodging and burning in the A and B channels. All of these steps above help you to retain all the information of the original scan or digital image. Once you are finished you can change to CMYK mode if the image is for print. Hopefully your photo looks like the one on the right (below).

With experience you can work a photo up in about a minute or two at the most depending on the adjustments. This technique can help anyone interested in getting their pictures to look great every time.

BEFORE **AFTER**