

Color to Black & White Conversions in Photoshop CS

G. W. Buchanan, FPSA

Everyone knows that there are at least several ways to accomplish tasks in Photoshop. However, converting an RGB image in Photoshop to Black and White is a task that has surprising and varied results.

Here are seven basic ways to convert your RGB images to Black and White images. Each process offers amazing results and each succeeding method will go beyond the simple method of converting to “Grayscale”, the least preferred method.

My method of selecting images to work on is my preferred method of protecting the original image. I open the desired image, go to Image > Duplicate. By doing this, we create a duplicate of the original image. I close the original image and rename the copy to suit. If in the unfortunate event I should loose the image I’ll have my original file to rely on.

To perform the first four methods in this sequence, select and open an image in your file and make four copies and close the original file. This is accomplished by selecting Image > Duplicate. Complete this sequence four more times to have four images to view. Once you have the images open select Window and click on Tile. All four images will be tiled on your workspace at one time.

METHOD 1 (Least Preferred)

1. Open any RGB image
2. Click on Image > Mode > Grayscale
3. Message will appear on screen, “Discard color information? > click ok
4. Process completed

You now have a grayscale print without any adjustments. This method is not suitable for all images.

METHOD 2

1. Open any RGB image
2. Click on image > Mode > Lab Color
3. Go to Layers/Channels/Paths pallet and click on Channels
4. Note four Channels – Lab, Lightness, a & b channel
5. Click on the Lightness channel to highlight Lightness channel only
6. Left click on Channel a and drag to Trash can located in the lower right of the Layers/Channels/Paths pallet.
 - i. Note: Once this step is completed the Lightness Channel is renamed “Alpha 1” and channel b is renamed “Alpha 2.”
7. Left click on Alpha 2 and drag into the Trash can.
8. Process is completed.

METHOD 3 – (Not advisable for all images)

1. Open any RGB image
2. Click on Layer > New Adjustment Layer > Hue / Saturation
3. New Layer window will appear named: Hue / Saturation 1, click OK

4. The Hue / Saturation window will appear indicating: Hue, Saturation & Lightness. Click on Saturation slider and drag the slider to the left. This removes all color saturation from the image. Click ok

**METHOD 4 – Preferred for most control over color to grayscale conversion.
This method uses the Channel Adjustment Layer**

1. Open any RGB image
2. View the image in the Layers / Channels Pallet. You will notice that the image is presented as an RGB image and you'll also see the Red, Green and Blue Channels
3. View the image in each of the Channels to see the effect of the individual colors and their relation to a grayscale images. Make a note of what channel held the most detail.
4. Go to the Layer menu > choose Adjustment Layer > Channel Mixer
5. A window will open indicating New Layer Named: Channel Mixer 1. Click OK
6. What the Channel Mixer allows you to do is select a source channel or Output Channel where you can select either Red, Green or Blue. Depending what Channel held the most detail, select that channel.
7. At the bottom of the Channel Mixer window click on Monochrome. If you selected the Green Channel you will see 100% Green and 0% Red and 0% Blue.
8. With the Channel Mixer window open you are now able to MIX channels Red and Blue in varying percentages in relation to the Green Channel. As a rule of thumb all three channels should amount to approximately 100%. This may take some fine tuning to get the results you're trying to accomplish.

The main feature of this method is the ability to go to the Layers pallet and change the mix. This is accomplished by viewing the Layers Pallet and clicking on the Layers thumbnail and bringing up the Channel Mixer dialog box and making changes to the Red, Green and Blue mix at any time.

Another benefit of this method is the fact that because it's an adjustment Layer you have not affected the original information which is indicated in the Background Layer below it.

Once you have completed this exercise you can close all images. Select File > Close All. You will be asked "Save changes to the Adobe Photoshop document RGB to BW copy 1, 2 or 3. Click No and close all files. Or if you prefer to use a keyboard shortcut press the "D" key.

METHOD 5 - This method goes beyond Method 4 by increasing the amount of possible adjustment by targeting specific colors (Red, Green or Blue) similar to using filters in front of your lens when shooting black and white images on film.

To get a feeling how this method works it's best to experiment the technique with a test image that has a Macbeth or similar color chart. This will allow you to visually see the changes to individual colors.

1. Open sample test image.
2. Make a copy of the image and place beside the existing image on the workspace. The copy image is used for comparison purposes only.
3. Working on the original test image click on Layer > New Adjustment Layer > Channel Mixer.
4. Set the colors to the following percentages: 20% Red, 70% green, and 10% Blue and click on the Monochrome option at the bottom left corner of the Channel Mixer Pallet and click OK. These percentages are close to the values Photoshop uses when it converts from RGB to Grayscale.
5. Look at the Layers Pallet and you will see that the Channel Mixer Layer is on top of the Background.

6. Click on the Background Layer and add a Hue /Saturation Adjustment Layer. This is accomplished by clicking on the diagonal half moon icon at the bottom of the Layers Pallet. This will open a Hue / Saturation dialog box. In the Edit window, click on the Reds and now you can adjust the Hue, Saturation and Lightness of the Reds only. Follow the same procedure for the Greens and Blues. If necessary, you may also want to target Yellow, Cyan and Magenta too.

This method, as in Method 4 above, is also subject to future changes and is not a permanent change to the image. What you have been able to accomplish is a fine tuned image conversion tool that goes far beyond a simple RGB color conversion to a Monochrome image.

Method 6 –

This method was demonstrated by Russell Preston Brown of Adobe Systems, Inc. and is found on his website www.russellbrown.com. The method is also known as, “The Russell Preston Brown Tonal Conversion Technique.” The primary feature of this technique is that it is a non-destructive technique because we’re using Adjustment Layers. This means that the original color image is not affected by these corrections.

1. Open selected image
2. View Layers Palette and go to base of palette and click on “Create new fill or adjustment layer” icon. Click and hold and go up to “Hue/Saturation. This creates a Hue and Saturation adjustment layer. No adjustments will be made. Select OK. Change the mode of the adjustment layer by going to the top of the Layers palette, Click and hold down Normal and going down to Color.
3. Create a second Adjustment Layer by clicking on “Create new fill or adjustment layer” icon as outlined in the above step. Click and hold and select Hue/Saturation. This opens Hue/Saturation dialog box showing Hue, Saturation & Lightness. Go to Saturation and move slider to the left to -100. Click OK.
4. With top adjustment layer highlighted, go to Layer > Layer Properties. This opens up dialog box and name “Hue/Saturation appears. Change name of Layer to FILM and click OK.
5. Highlight the middle layer above Background Layer, and change Layer Properties as in the previous step. Change name of Layer to FILTER and click OK.
6. Now the fun begins. We have created two adjustment layers. One layer is the Film Layer and the other is the Filter layer. Click on the middle layer, the Filter layer. This opens up the Hue/Saturation dialog box. By sliding the Hue adjustment slider, watch how the monochrome tones in the image change in value. But wait, there’s more! Not only do we have control over the Hue for a variety of gray shades, we can also adjust the Saturation too. With the Hue/Saturation dialog box open you can also click on the Edit: Master and control the Reds, Yellows, Greens, Cyans, Blues and Magentas in the image. You have total control of all colors in the image.
7. To finish the process, click on the triangle in the upper right of the Layers palette, go down to and click on Flatten Image. You are now able to print the final image.

Method 7 – Creating toned Monochromatic Images.

This method was learned from Russell Brown off of his website www.russellbrown.com. It is one of the best tools for creating stunning toned images. I have created a Photoshop Action which offers a repeatable tool for creating specific tones in a print. I equate this to having the ability of “Toning” my images to simulate Sepia Tones and the classic “Gold Tone Monochrome” prints.

A note of caution, one should become familiar with the various Palettes and tabs relating to Actions, Layers, Masks and other icons before proceeding with this process. It will save time as you proceed. If you’re in doubt, please consult the Photoshop Help Menu.

We begin by creating an Action which can be used for future conversions of color RGB images. I have created two sets of actions to create a sepia and a cold blue toned image. It is important that the action be followed through to completion for repeated use.

1. Open RGB image.
2. Begin by creating a new Action. This is done by clicking on the Action tab on the History / Action Pallet. Click on the Create New Action at the bottom of the pallet. A New Action window will appear and ask for name of New Action. Type in selected name for action and click ok. This starts the recording process. Every step taken from this point will be recorded.
3. Click on Image > Mode > Lab Color. Go to the Channels tab and note Lab channel, Lightness channel, a channel and b channel. Channel a & b have the color information. The lightness Channel is the luminosity channel. Click on the lightness channel to highlight the lightness channel.
4. Click on Image > Mode > Grayscale. A window will open asking "Flatten Image?" Click ok. The program may also ask to discard other channels. Click okay.
5. Load Grayscale channel as selection. This is accomplished by moving your cursor over the icon, while holding down Command/Control key and click on image in box. You'll have loaded values as grayscale mask.
6. Click on Select > Inverse and click ok. This inverts the Grayscale mask.
7. Click on Image > Mode > RGB Color.
8. Go to the base of the Layers pallet and click on "Create a New Layer." This creates a new layer above the Background layer.
9. Now we will add a Layer Mask. Go to the base of the Layers palette and click on Create Layer Mask. The layer mask will appear as a thumbnail next to the Note, if you click on the Layers mask you will see the layer mask for full screen preview. Holding down the Alt /Option key and clicking on the image you will return to a normal image view.
10. Now, we need to set the mode for this layer. To set the Layer mode, Click on the word Normal in the blend mode dialog box and revealing the various layer modes. Scroll down and click on Multiply. This changes the layer mode to Multiply.
11. Click on the Layer image (Layer thumbnail) and click on Edit > Fill. The default will show Foreground Color. Click and hold and scroll down to Color. The Color Picker window will open. Choose your desired tone. (A good starting point for a sepia tone would be as follows: R – 148, G – 119 & B – 57). Click ok. If you wanted a blue tone, you might try the following:
R – 42, G – 67 & B – 160.
12. The Fill window will reappear and click ok. You have now completed the Action and have created a Black & White image with a toned color overlay of your choice.
13. Stop the recording process by clicking on the "Stop playing/recording" icon at the base of the Actions pallet.

What makes this entire process unique is the ability to adjust to opacity of the Layer Fill. With the Layer Fill targeted you can adjust the opacity of the layer.

By saving this Action you can select any color RGB image and play the recorded Action simply by selecting the named action by clicking Play in the Actions Pallet.

If you wish to modify the color tone in a future action, you will click on the Layer Thumbnail > go to Edit > scroll down to Fill > click on Color and the color dialog box will reappear. You may modify the color fill to suit and click okay.

Method 8 – Converting the RAW Format

If you shoot RAW format on your digital camera, you can easily convert your image to black-and-white directly from the RAW import dialog.

1. Open RAW image.
2. Go to the Adjustment palette and click and drag Saturation slider located at the bottom of the palette to zero. This removes all color and creates a monochrome image.
3. You now can adjust Exposure, Shadows, Brightness and Shadows to suit.

Method 9

1. Open a color image in Photoshop in either 8 bit or preferably (in Photoshop CS) 16 bit.
2. Under the Image menu, choose Mode > Lab.
3. Click (Highlight) the Lightness Channel.
4. Under the Image menu, choose Mode > Grayscale (discard color information).
5. Command/Control Click on the Gray Channel (to load the selection).
6. Under the Select Menu, choose Image > Inverse.
7. Under the Image menu, choose Mode > RGB Color.
8. In the Adjustment Layers Palette choose Solid Color.
9. Select a color from the Color Picker or from the Swatches Palette (which I prefer).
10. Your choice of color should be based on the tonal range you wish to see in your final B&W.
11. Go to your Layers Palette and change your Blending Mode to Multiply.
12. Because your Color Fill is on a Layer you may adjust the opacity to dial back the color to your desire.
13. In addition (IMPORTANT), you may add a Curves or Levels Adjustment to achieve the desired result.
14. Should you wish to change the color of your B&W "Duotone" simply double click the color fill and reselect.