

# MONOCHROME CONVERSION

## Colour Blend Mode Method



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# A colour blend approach to monochrome conversion in Photoshop

There are numerous ways of turning a colour image into a monochrome image in Photoshop. They range from simply desaturating the image to using specialised plug-ins such as NIK Silver Efex Pro. Each approach has its benefits and limitations. (See “Basic Monochrome Conversions” tutorial on this site.) The technique described here is relatively simple but it can give very good results. The process starts with a basic conversion that preserves the luminosity of each region of the image regardless of its original colour and then gives you very precise control over contrast in the monochrome image.

## Step 1 - preparing the colour image

If the original image file is in RAW format, open it in a suitable RAW converter (such as Adobe Camera Raw or Lightroom) and make whatever adjustments are necessary to produce an acceptable colour image - exposure, cropping, etc. Then open the image in Photoshop.



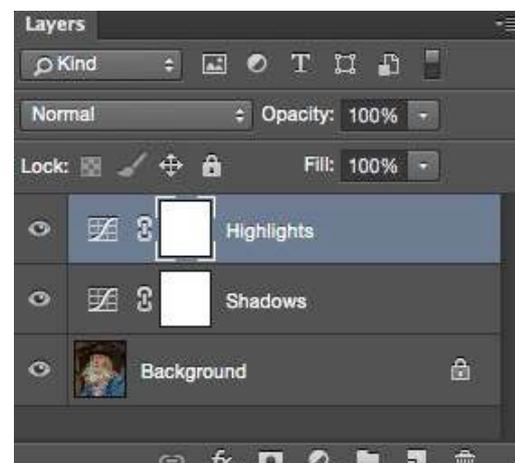
If the original file is in JPEG format, open it in Photoshop and make whatever adjustment you require to produce an acceptable colour image.

## Step 2 - creating curves layers

Go to the Layers palette in Photoshop and above the background (colour image) layer add *two* Curves adjustment layers.

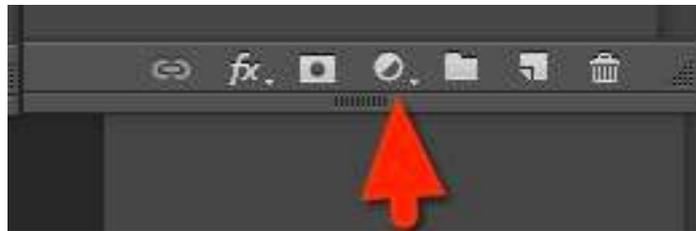
Rename one of these layers “Highlights” and the other “Shadows”.

At this stage your Layers palette should look like this and the colour image will not have changed.

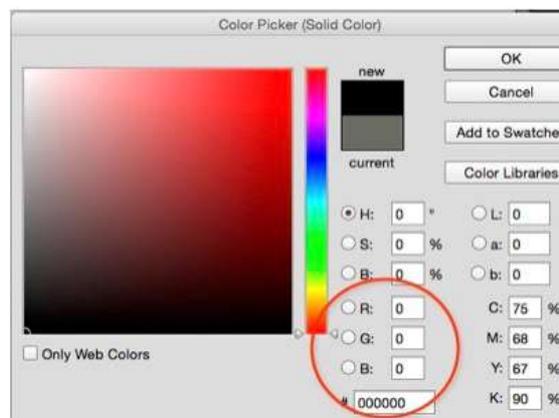


### Step 3 - creating a colour fill layer

Above the 'highlights' layer add a new solid Colour Fill layer by clicking on the "add layer" icon at the bottom of the Layers palette and selecting "solid colour" which will be at the top of the drop down menu.



This will add the Colour Fill layer and open the Colour Picker. In this window, set the R, G and B values to "0" to give a solid black fill.

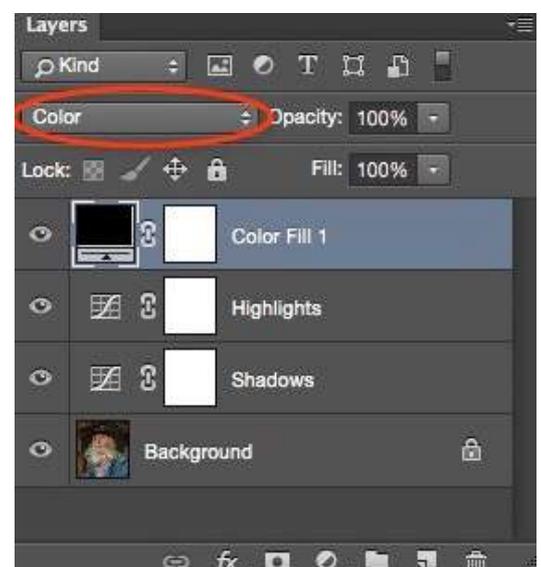


Click OK to close the Colour Picker. The image will now be black because the black fill layer is the top layer.

### Step 4 - blending the colour fill layer

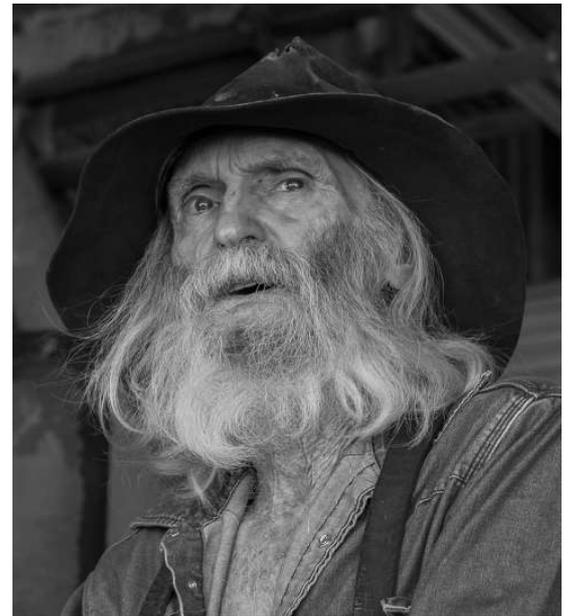
Change the Blend Mode of the Colour Fill layer to "Color" by clicking on the blend mode button and selecting "Color" from the drop down menu.

The image will now change to monochrome because the effect of the colour blend mode is to create an image with the luminance of the base image and the hue and saturation of the blend layer.



At this stage your monochrome image may look a little flat but it will be an accurate representation of the luminance levels in each pixel of the original image.

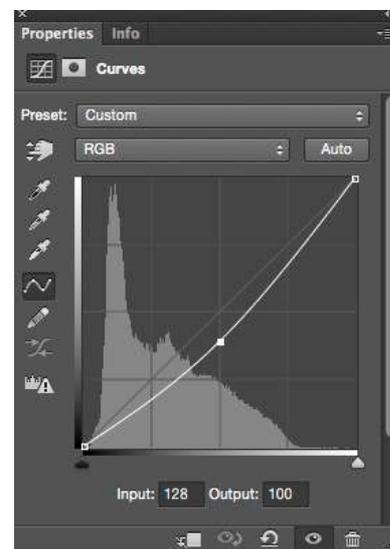
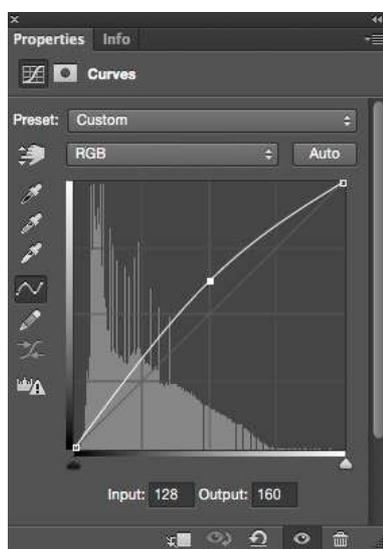
To give the image more “life” we now need to adjust the contrast. The adjustments you make will depend on the content of the image and on your personal preferences - there is no fixed recipe that will work for all images.



### Step 5 - basic curves adjustments

Click on the curves adjustment symbol in the “highlights” curve layer so that you open the curves adjustment window. Click on a point near the centre of the adjustment line and pull it upwards to lighten the highlights in the image. The adjustment is not critical as you will return and fine tune it later, but taking the centre value from 128 to 160 is a useful starting point.

Now click on the curves adjustment symbol in the “shadows” curve layer so that you open the curves adjustment window. Click on a point near the centre of the adjustment line and pull it downwards to darken the shadows in the image. Again, the adjustment is not critical as you will return and fine tune it later, but taking the centre value from 128 to 100 is a useful starting point. The two adjustment curves might look something like these:



At this point, the difference you see between your monochrome images before and after the curves adjustments may not be very significant because to some extent the ‘highlights’ and ‘shadows’ curves adjustments will cancel one another because they are both being applied uniformly across the whole image.



Without curves adjustments



With curves adjustments

To create greater contrast in the final image we need to selectively adjust the highlights and shadows by applying different masks to the two curves layers. The mask on the ‘highlights’ curves layer will restrict that adjustment to the highlights and mask on the ‘shadows’ curves layer will restrict that adjustment to the shadows. There are many options for creating suitable masks. Here I will describe just one simple technique.

**Note:**

If you want to be able to quickly switch between your starting monochrome image and your adjusted image you can create a group from the two curves layers. Simply select both the curves adjustment layers by holding down the Control key [Windows] or the Command key [Mac] and clicking on them. Then right click and from the pop-up menu select “Group from layers”. Call this group “Curves”. You can now turn the two curves layers on and off together by clicking on the “eye” symbol to the left of the Curves group title.



## Step 6 - Creating masks from the RGB channels.

### Step A

Delete the existing (blank) masks on each of the curves adjustment layers. Just right click on the mask symbol (the white rectangle in the appropriate layer) and select “Delete layer mask”.

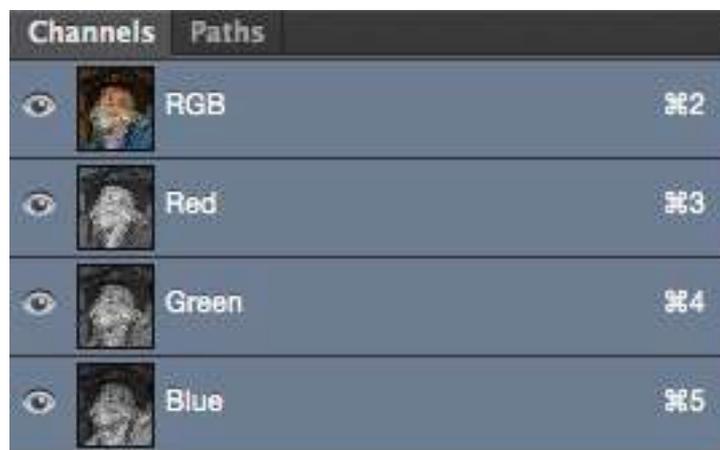
### Step B

Temporarily turn off the colour fill layer (by clicking on the appropriate eye symbol in the layers palette). You should now see the colour image.

### Step C

If it is not already displayed, open the Channels palette by selecting Windows > Channels from the menu.

In the Channels palette you should see the composite RGB channel (with a coloured icon) and separate red, green and blue channels (with greyscale icons).



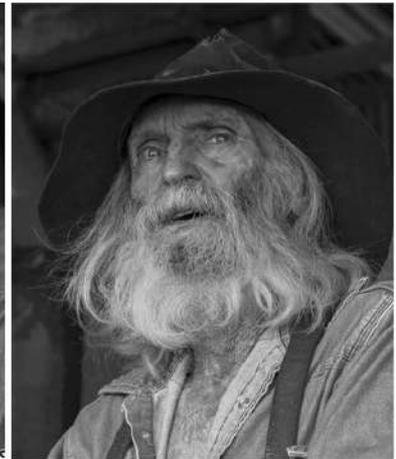
If you click on the individual red, green and blue channels you will see that the greyscale images are different. Depending on the content of the original image, they may have quite different levels of contrast between the highlights and shadows. We want to use one (or more) of these channels as masks on our curves adjustment layers. Typically, the green channel is a good starting point, but for the image I am using as this example the red channel seems to have the best contrast between highlights and shadows so I will use that channel.



RED channel



GREEN channel



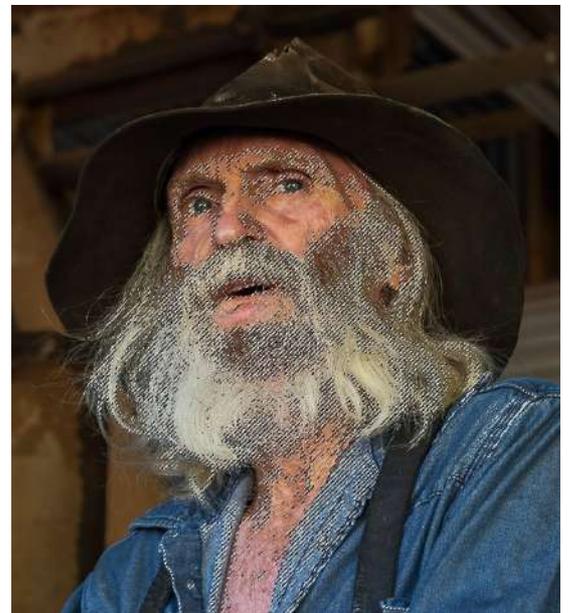
BLUE channel

### Step D

Make sure the colour image is displayed. If it is not, click on the RGB channel.

Create a selection from your chosen channel (the red channel in my case) by holding down the Control key [Windows] or Command key [Mac] and clicking on the that channel. The “marching ants” should appear on you colour image.

Do not be concerned about the shape of this selection.



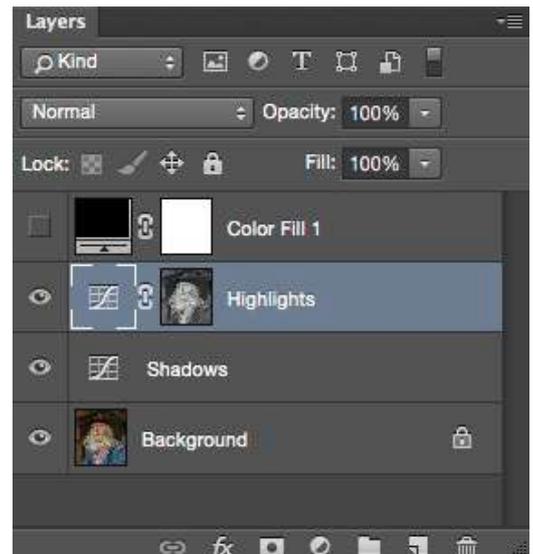
### Step E

Select the “highlights” curves adjustment layer and turn on its visibility (so that the ‘eye’ symbol is showing).

Now click on the mask icon at the bottom of the Layers palette to convert the selection to a layer mask. This will add a mask to the “highlights” curve layer and this mask will be exactly the same as the (greyscale) red channel.



Any curves adjustments that we now make on this layer will affect the areas that are light on the mask (the highlights in the image) more than the areas that are dark on the mask (the shadows in the image).



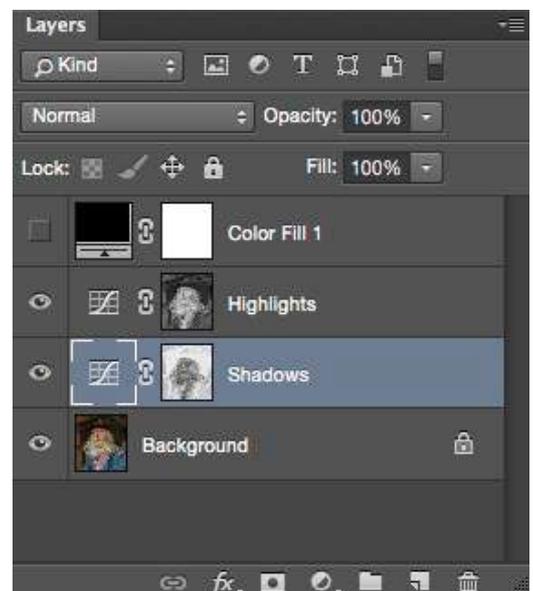
### Step F

Repeat Step D to again create a selection based on the red channel.

Repeat the process in Step E but this time apply the mask to the “shadows” curves layer.

### Step G

Click on the mask icon on the “shadows” layer to select this mask. Now invert the mask (change black to white) by holding down the Control key [Windows] or Command key [Mac] and pressing the letter I.



We now have a mask on this layer that will ensure that any curves adjustments we make to this layer will affect the shadows in the image more than the highlights.

### Step H

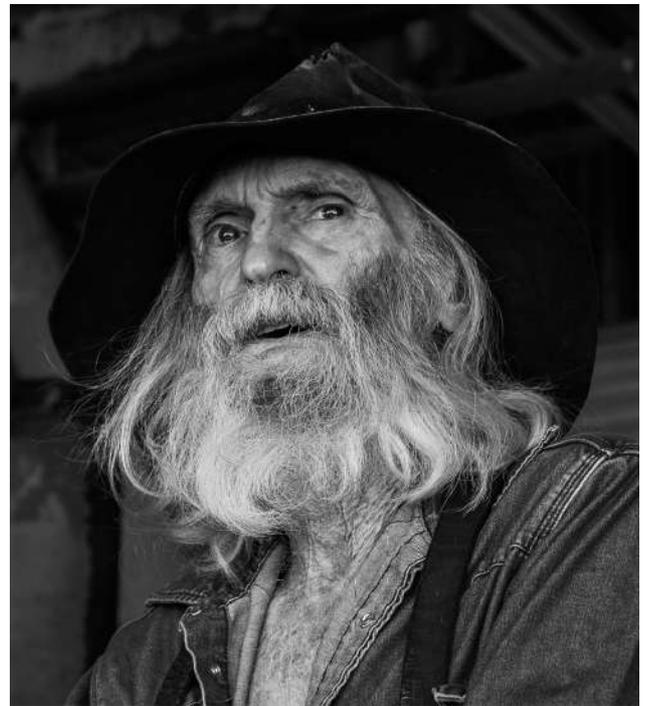
Turn on the black fill layer.

Your monochrome image will now have greater contrast than it had before you applied the masks. You can fine tune the contrast and tonal values in this image

by making further adjustments to the curves in the “highlights” and “shadows” layers and/or by adjusting the transparency of the two curves layers.



Without masking



With red channel masking

## **OTHER MASKING TECHNIQUES**

The main reason for using the red channel as a mask in the above example was that its greyscale image had more contrast than the green and blue channels; and this provided a simple way of selectively adjusting the highlights and shadows in the monochrome image.

For some images, the best results can be obtained by using two different channels to generate the masks - perhaps the red channel to generate the highlights mask and the blue channel to generate the shadows mask.

The principle behind this approach can be used with masks generated in other ways. For example, you could create luminosity masks using any of the luminosity mask panels that can be installed as ‘extensions’ in Photoshop. A good starting point for exploring luminosity masks is to download the free “TK Actions Basic Panel” from <http://goodlight.us/panels-and-videos.html>.

## YET MORE REFINEMENTS

This is not the end of the story for this method of monochrome conversion. For greater control over the tonality of the final image you can add a Hue/Saturation layer beneath the colour fill layer to make selective colour adjustments. For example,

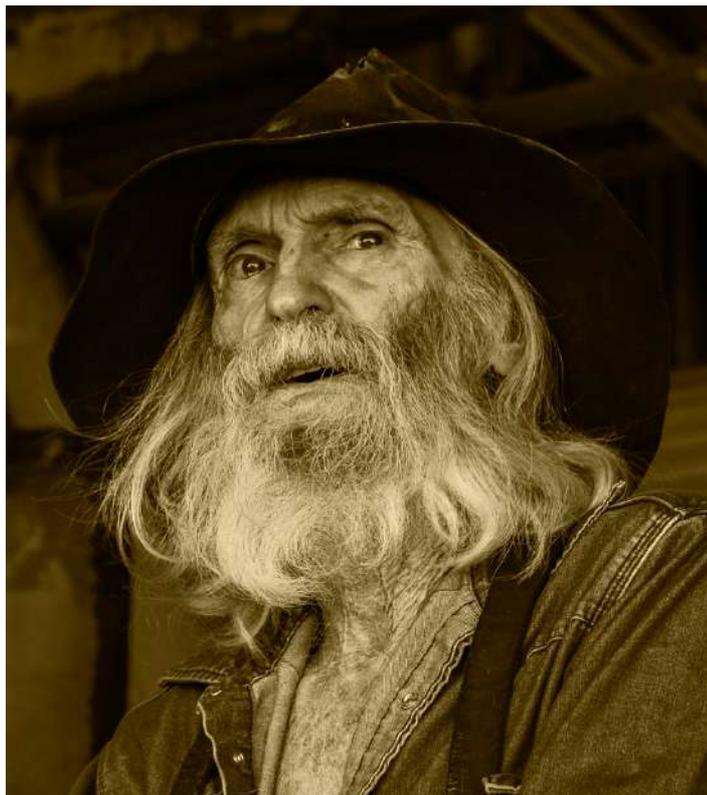


The choices you make about the method of masking, the extent of the curves adjustments, the addition of a hue/saturation layer, and so on will all depend on your personal preferences and on the style of image you wish to produce. There is no fixed recipe, and you will find that the choices you make will depend very much on the subject matter of the original image.

## NOTE

In Step 3 I suggested that you should add a black colour fill layer (with  $R=G=B=0$ ). You can get exactly the same results if the colour fill layer is white (with  $R=G=B=255$ ) or any neutral grey (such as  $R=G=B=128$ ). The reason is that the colour blend mode applied in Step 4 uses the hue and saturation values of the fill layer and these are the same for all neutral shades of grey (including the extremes of black and white). If you want to check this, replace the colour fill layer with a black-to-white gradient fill (with the blend mode set to colour) and you will see that the monochrome conversion is uniform across the image.

If the RGB values of the “fill” colour are not equal, you will produce a toned image. For example, by creating a fill layer in which  $R=200$ ,  $G=185$  and  $B=140$  you will create an image with this tone:



If you have any comments or suggestions about this tutorial please email me at [roykillen@mac.com](mailto:roykillen@mac.com)