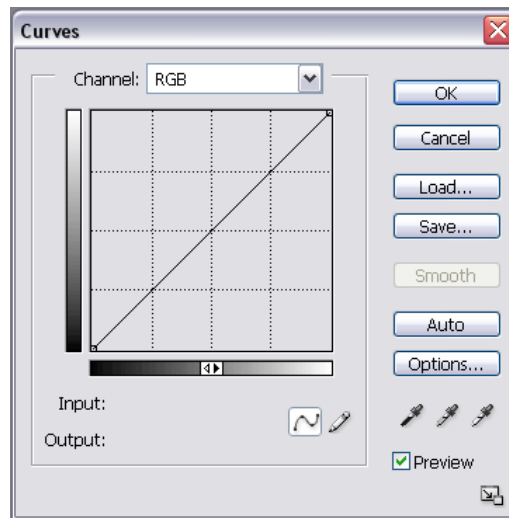


Introduction to using Curves adjustment in Photoshop

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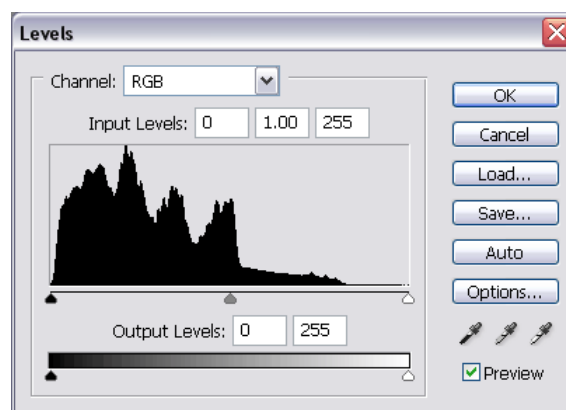
What is Curves?

Curves is a very versatile tool for adjusting the tonal contrast of an image. It is also possible to adjust the colour or colour cast. This can be done with other tools in PS e.g. Levels and Colour Balance but, with experience, you can decide which is best for a given situation. What curves can provide is an almost one stop point of control over these factors.

Curves is quite a sophisticated tool and takes a while to master but the rewards are great. It is also one that is found in other professional photo editing programmes, particularly when processing RAW digital files.

The difference between Curves and Levels

They both do the same thing and each has its advantages. One advantage of Levels is that it has a visual display of the distribution of tones throughout an image. This is useful in respect of adjusting contrast.



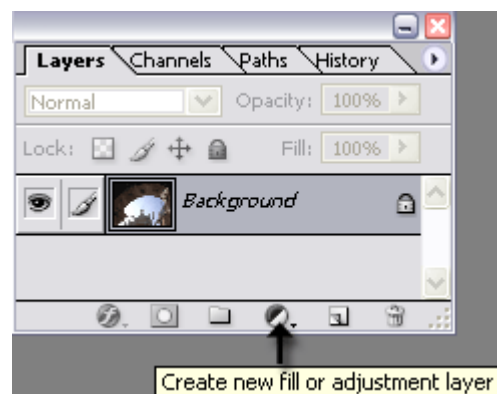
The advantage of Curves is that it allows greater control over setting the contrast by allowing one to select adjustments for specific tonal areas in an image. In this respect Levels is limited to three tonal area adjustments; shadows, midtones and highlights only.

Why the name Curves?

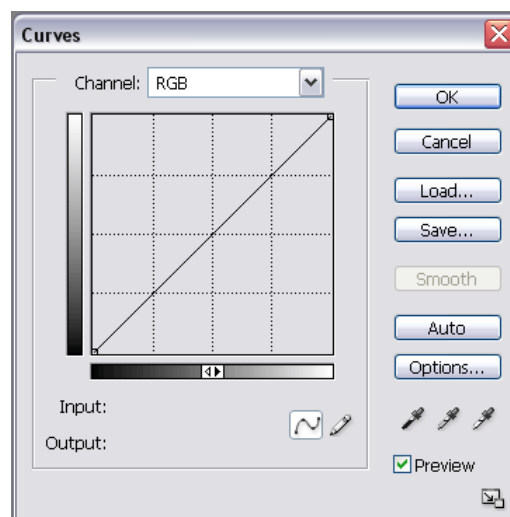
The Curves dialogue opens with a straight diagonal line but when one moves a point on this line it forms a curve. This is because the surrounding tonal areas need to adjust themselves either darker or lighter to meet the point that has been adjusted. This is so because if it were possible to adjust specific tones completely independently of others then the image would become unmanageable and would result in an unnatural appearance.

Using the Curves

It is best to use the Curves as an adjustment Layer. Get it from the adjustment layer icon at the base of the Layers palette.



Use Curves to adjust the tonal range in an image in order to give it more impact. The Curves dialogue opens with a grid showing a line from top right to bottom left.



This is essentially how it works; top right represents highlights and bottom left shadows. Clicking on this line will create an anchor point. Move the anchor point up and the image will become lighter. Move it down and the image will become darker.

Clicking on the line again will create another anchor point which can also be moved. Anchor points that are created previously will remain fixed and the curve line will adjust accordingly. Up to 14 anchor points can be created. Anchor points can be reselected and repositioned as required.

The Curves grid

The grid works like a graph. Along the left and bottom sides can be seen a black to white gradient. Left to right along the bottom edge represents current areas of shadows to highlights that can be selected in the image. Top to bottom along the left represents highlights to shadows where the selection points can be adjusted to. For instance, by moving a point that corresponds to a current shadow area upwards you are giving that area a new tonal balance, in this case lighter.

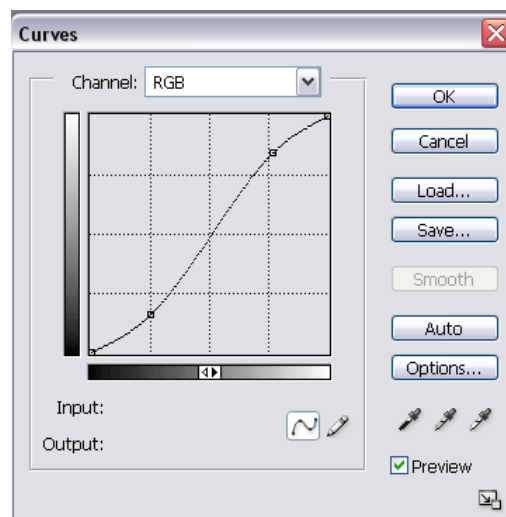
The Curves panel can be enlarged by clicking on the enlarge panel button at the bottom right.

Alt clicking on the grid will give a finer grid pattern.

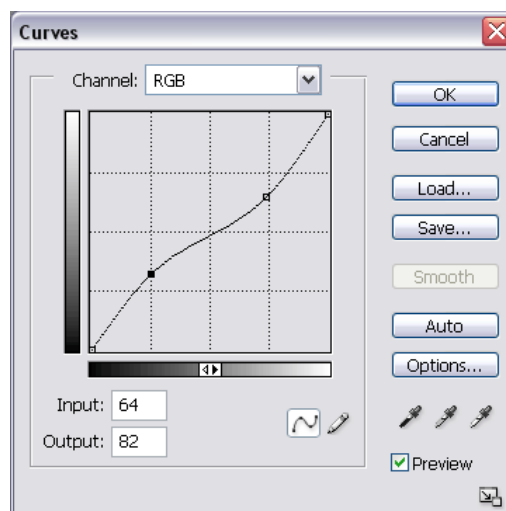
If you wish, the tonal grid can be reversed by clicking on the double pointers on the lower edge.

Basic curves

Knowing these curves will help to get you started. There are two basic curves that look like an S shape. This S shape will increase contrast:



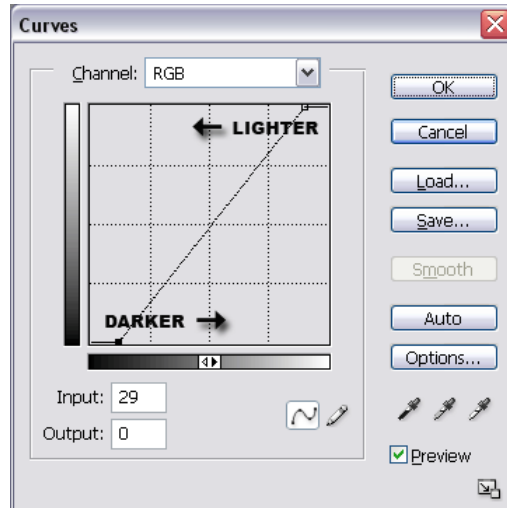
This S shape (inverted S) will decrease contrast:



Black and white points

The anchor points in the corners (end points) at the top right and bottom left of the curve can be moved to adjust absolute white or black. They can only be moved along the edges of the grid. They cannot be removed.

Moving the black point along the lower edge will increase black in the image. Moving this point up the side will make the black point lighter. Moving the white point along the top edge will increase white and moving it down the side will make the white point darker.



Knowing which tones to adjust

It is possible to select tones in an image for adjustment. Clicking and dragging over an image will display the corresponding tonal point on the curve line. Ctrl clicking whilst doing this will set an anchor point on the line.

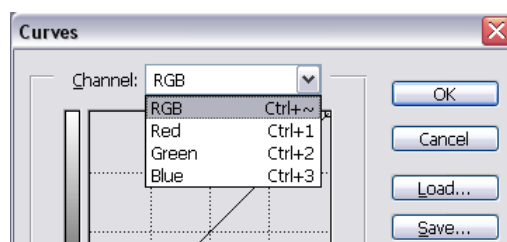
Deleting anchor points and resetting curves

Any selected anchor points can be removed by the delete key. They can also be removed by dragging them out of the grid. Currently selected anchor points are filled with black. Select an anchor point by clicking on it.

All changes to the Curves dialogue can be completely reset by holding the Alt key. This changes the Cancel button to Reset.

Adjusting colour

Upon opening, the Curves colour Channel is set to RGB. This is the channel where most manual tonal changes are achieved. But, it is also possible to adjust the colour balance of an image, such as changing colour cast. This will also impact on the tonal balance of an image.

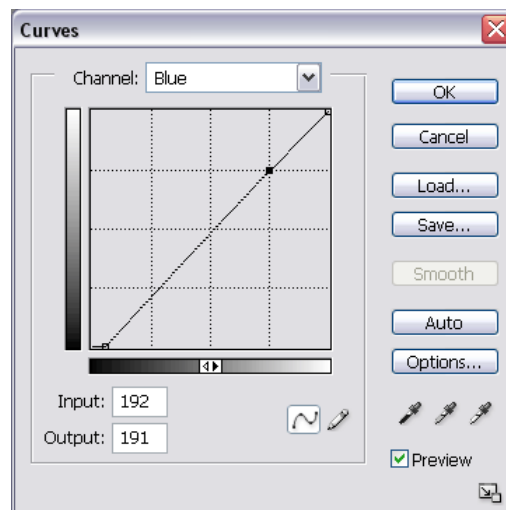


Clicking on the Channel drop-down list will reveal the available colour channels. When in a colour channel, changes are made in the same way as in RGB mode. The difference is that changes are made to the influence of colour in the image. By this method it is possible to adjust the colour cast. In effect more or less of a colour can be made by moving the curve up or down.

You will probably find it not necessary to do many adjustments in colour channel mode. It does take a little time to master and you may find it all too easy to create unwanted colour casts. Remember that that adjusting one colour channel impacts on the others. For instance, decreasing one colour channel can increase the predominance of other the other channels. It is similar to how the Colour Balance adjustment works.

A simple colour adjustment

Let us suppose that an image has an obvious blue colour cast. A quick way to correct this would be to choose the blue channel and reduce blue at or near the black point.



The effect of reducing blue at or near the black point makes shadows slightly warmer by increasing the effect of red in these areas. If this adjustment has a bad effect on a lighter blue element, such as the sky, then blue can be lightened slightly by increasing it further up the curve. *This has been done in the illustration above.*

Setting white, grey or black points

Quick curve adjustments can be made by defining white, grey and black areas in an image. This is similar to in-camera and lighting adjustments that can be made when taking photographs. This feature can restore colour balance and set contrast.



The Curves tool includes three buttons with symbols of eye droppers. They are for clicking on black, grey (mid-point between black and white) and white areas in an image.

How does it work?

Presume you have an image that has a yellow cast. The image was taken indoors, under electric light and without a flash. In the image is a table cloth which should be white but now looks yellow. Select the eye dropper tool for defining white. Click on an area of tablecloth which you would expect to be white i.e. in full light and not in shadow. This will adjust the balance of the image. It may take a few attempts to get it right. If no suitable white area exists then try grey, perhaps in a shadow.

Black point adjustment would be used if the blacks in an image were looking lighter than they should.

What happens in Curves?

When making an adjustment with eye droppers the changes are made in the separate colour channels. The RGB curve will be set to a straight line. If required, after using an eye dropper the contrast can be fine tuned in the RGB channel. If you make adjustments in the RGB channel first and then choose a white/grey/black point the RGB curve will be reset.

This tool is not always suitable but can be useful for quick changes. It can sometimes have a tendency to be unsubtle and create an overexposed effect. But remember it can always be modified manually.

More on Curves

<http://www.cambridgeincolour.com/tutorials/photoshop-curves.htm>

http://www.adobe.com/designcenter/photoshop/articles/phscs2at_learncurve_s_02.html

<http://www.thegoldenmean.com/technique/curves1.html>