

**Movie 1 (Chapter 4 extract)**

# Basic Image Adjustments

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### Setting the highlights

As you aim to expand the tonal range, you want to make the lightest point go to white so the whites do not look too dull. But at the same time you don't want the highlights to look burnt out either. Setting the highlight point is very often a subjective decision and where you set the white point is really dependent on the nature of the image. In most cases you can use the basic Levels adjustment threshold mode technique to locate the highlight point and set the endpoint accordingly and not worry about losing any highlight detail. But if the picture you are editing contains a lot of delicate highlight information then you will want to be careful to set the highlight point to somewhere slightly less than pure white on the levels scale. This is because a pixel value that is close to maximum white, when converted to a printing process, may blow out to white as well. But what if the image contains bright specular highlights, such as highlight reflections off of metal? Specular highlights do not contain any detail, so you therefore want these to print to paper white. If you don't, then the image will print a lot duller than is necessary.

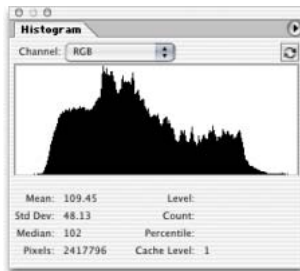
### Resetting Image adjustments

If you want to reset the settings in any of the Image adjustment dialog boxes, hold down the  **alt** key – the Cancel button changes to Reset. The Auto button will set the clipping points automatically (the Auto settings are covered in Chapter 5).

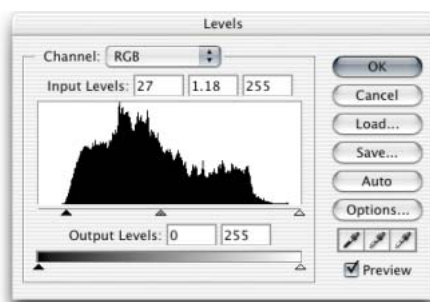
### Levels adjustments

When you open an image in Photoshop your main objective is probably going to be to make an inkjet print, or convert the image to CMYK to be printed on a page, or add the picture to a website. And the first thing you will want to do is adjust the tonal range so that the photograph has a nice, full contrast. If it is destined for the web, your only concern will be how light or dark you want to make it, so that it appears OK on an average computer display (whatever that is). If it is going to print then you may be aware of the fact that the shadow point should be adjusted to compensate for the printing process. But you shouldn't let any of this concern you too much, because the shadow point is always adjusted automatically in Photoshop when you choose a print profile in the print driver (as described in Chapter 14) or whenever you convert from RGB to CMYK. If you are optimizing an RGB image for output, all you need to worry about is making sure that the blacks go to black and the whites go to white. This is true for most types of output, but you should be aware that some repro companies operate what is known as a closed-loop system where they edit files in CMYK and do not use a profiled workflow. This is something that will affect high-end repro users of Photoshop and if this is the case, then you will need to target the shadows manually according to the conditions of the printing press. The same is also true if you are editing a grayscale file in Photoshop that is going to press. These specific prepress examples are covered later in this chapter.

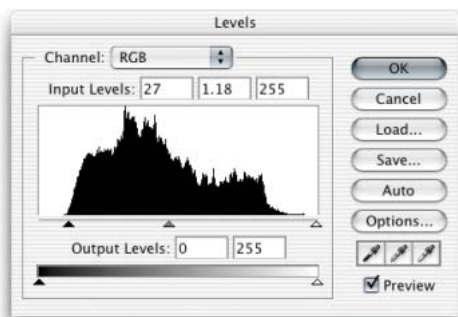
**1** The monochromatic photograph shown here was in fact in RGB mode (because this allowed me to demonstrate the full range of Levels adjustment options). And the histogram palette displays a histogram of the composite RGB channel. The contrast could be improved by expanding the levels so that the histogram displays a fuller range of tones going from black to white.



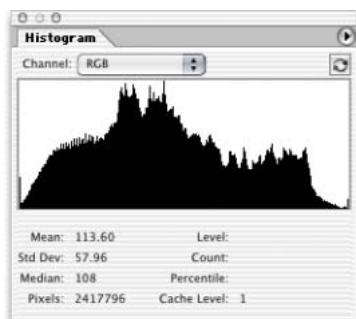
**2** To improve the tonal range, I chose Image ⇒ Adjustments ⇒ Levels. As I dragged the highlight and shadow Input sliders in the Levels dialog, I could decide where the new shadow and highlight endpoints should be. One way of doing this is to simply look at the histogram in the Levels dialog and drag the Input sliders inwards until they meet either end of the histogram. But you can get a better idea of where to set the endpoints by switching to threshold display mode. I held down the **alt** key as I dragged the shadow slider inwards and the image in the document window then appeared posterized. This threshold view enables you to discern more easily where the darkest shadows are in the picture, so that you have a better idea of how much you need to drag the slider inwards. Drag in too much and you will clip all the shadow detail. The view shown opposite was too extreme, so I would want to back off from here, otherwise the shadow detail would become clipped.



3 I now wanted to adjust the highlights. The same technique can be applied here as well. I held down the **alt** key as I dragged the highlight slider to the left. The threshold mode display started off completely black and the lightest highlights appeared first as I dragged inwards. As before, the view shown here was too extreme so I would want to back off a bit and search for the lightest highlight point without the risk of clipping too much of the highlight detail.



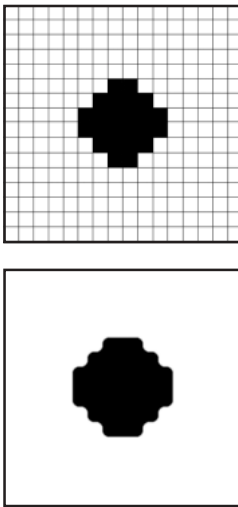
4 All that remained now was to compensate the lightness of the picture, which was achieved by dragging the gamma slider (which is the middle Input slider). Dragging to the right made the image relatively darker, and dragging to the left made it relatively lighter. The final image shown here has a full contrast range and the correct brightness.



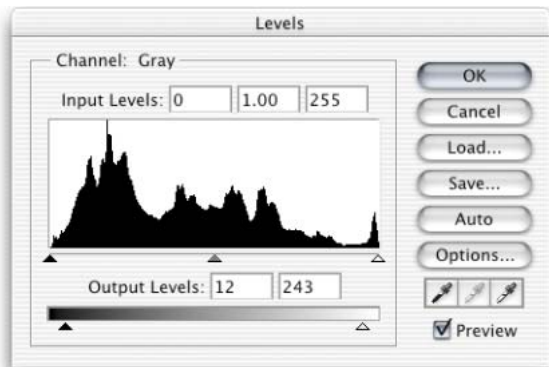


## Curves adjustments

Any adjustment that can be done in Levels can also be done using Curves. At first, the Curves interface may appear less easy to use, but it is much more powerful because you can not only set the shadows and highlights, but also have accurate control of the overall contrast as well as in the individual color channels. And you can use it in conjunction with the new Histogram palette.

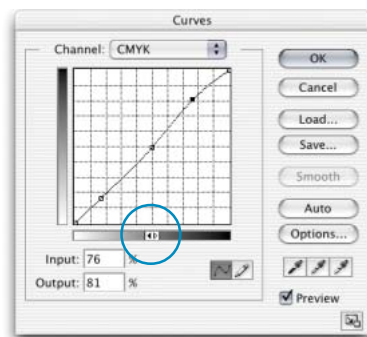
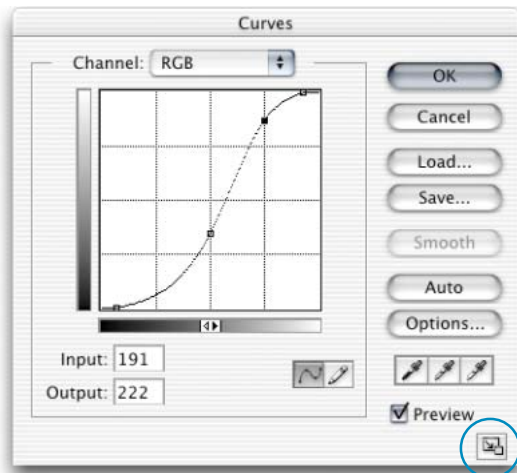


**Figure 4.8** Dot gain is a phenomenon that occurs at the printing stage after the halftone plates have been made. A Photoshop level of 24 is equivalent to a 9% ink dot. An imagesetter would plot this on the film that goes to make the plate as shown top. When the printing press reproduces a halftone ink dot on the page from the plate, the dot will swell in size and hence appears slightly darker (as shown bottom). Dot gain will therefore make the 95% shadow halftone dot plotted in Figure 4.9 appear as solid black.



**Figure 4.9** The Levels dialog. This shows the histogram for a grayscale image, with the shadows on the left and the highlights on the right. The shadow point Output level is set to 12. This is equivalent to a 95% dot on the press and typically any higher value percentage will clog up to solid black (see Figure 4.8). Setting the shadow point below 12 may cause the shadows to be clipped. The highlight point is set to level 243. This is equivalent to a 5% dot at which point the halftone dot produced by the imagesetter will on the press just be capable of applying ink to the page. Any higher level value will produce a smaller dot but the smaller dot will not register any ink on the page – it will appear as pure white.

**Figure 4.10** The Curves dialog can be looked upon as an alternative represents the input and output levels plotting them as a graph. In this example, the two ends of the curve have been dragged in as you would in Levels, in order to set the optimum shadow and highlight points. You can control both the lightness and the contrast of the image by adjusting the shape of the curve. To enlarge the curves dialog, click on the bottom right box.

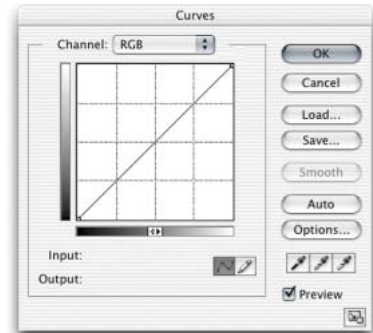


**Figure 4.11** If you click on the horizontal output ramp (circled in blue), the input/output ranges will become reversed with the shadow point in the top right corner and the highlight point in the bottom left, and the units will be displayed using percentage values. If you **alt** click anywhere inside the grid area the grid units will switch from 25% to 10% increments.

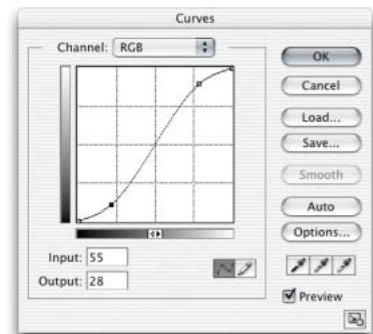
Figure 4.10 shows the Curves dialog. You can toggle enlarging the dialog view by clicking the zoom button in the bottom right corner. You can also toggle the grid by **alt** clicking in the graph area; the finer grid allows for more accurate tweaking. The linear curve line represents the tonal range from 0 in the bottom left corner to 255 levels top right. The vertical axis represents the output values and the horizontal axis, the input values. So, if you move the shadow or highlight points only, this is equivalent to adjusting the input and output sliders in Levels. In Figure 4.10, the highlight input point has been moved inwards several levels. With Curves, you can target a specific range of tones and remap the pixel values to make them lighter or darker or increase the contrast in that tonal area only. Various examples of how to use curves are featured throughout this book. For example, in Chapter 8 you will discover how coloring effects can be achieved through individual channel curves adjustments. The default RGB units are measured in brightness levels from 0 to 255. CMYK curves are by default displayed differently (click on the horizontal output ramp to toggle between displaying with levels or ink percentage readouts). This alternate mode (see Figure 4.11) is designed for repro users who primarily prefer to see the output values expressed as ink percentages.



**Figure 4.12** This is a normal landscape view with no Curves adjustment.



**Figure 4.13** You can increase the contrast in this image by adding two or more curves points and creating an 'S' shaped curve as shown in the accompanying Curves dialog.



**Figure 4.14** You can also decrease the contrast in the same image by adding two or more curve points and creating an 'S' shaped curve in the opposite direction as shown in the accompanying Curves dialog.

