



40 Digital Photo
Retouching Techniques

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Correcting Contrast

If you are a photography enthusiast, you know that light is the defining factor in photography. You probably also know that getting the perfect lighting conditions for the right exposure is sometimes out of your control. Backlit photos, for instance, are sometimes unavoidable.

In this chapter, you will learn to evaluate the contrast of an image in Photoshop Elements and correct the problem like a pro. In addition, you will make an out-of-focus picture appear more focused by increasing the contrast of the image.

Overexposed Image



Underexposed Image



Diagnosing the Problem

One of the most common problems in taking pictures is getting the right exposure. Although you can tell just by looking whether an image is under or overexposed, you can make more accurate corrections if you use the Histogram function in Photoshop Elements.

About the histogram

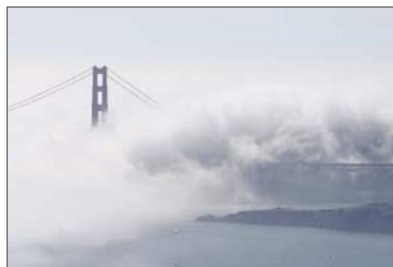
The histogram works by mapping the number of pixels at each tonal value. If the pixels are concentrated in the shadows, this means that the image has more dark areas. An image with pixels more or less evenly spread across the histogram would have a full tonal range. By understanding the information provided in the Histogram dialog box, you will know exactly which part of the histogram needs adjustment when correcting the image tone.

Analyzing an overexposed image

- 1 Select [File]-[Open] from the menu bar.

The Open dialog box appears.

- 2 Open the **Sample\Chapter 1\Tech0101.tif** file from the supplementary CD.



- 3 Select [Image]-[Histogram] from the menu bar. When the Histogram dialog box appears, check that **Luminosity** is selected under the Channel option.

Notice that the right side of histogram is extremely high. This is an indication that the image is too bright. Such an image is known as a high-key image.

- 4 Click OK to close the Histogram dialog box.

 You can also choose to plot the intensity of the reds, greens, and blues in the image if you are working with an RGB image.

A analyzing an underexposed image


- 1 Select [File]-[Open] from the menu bar.

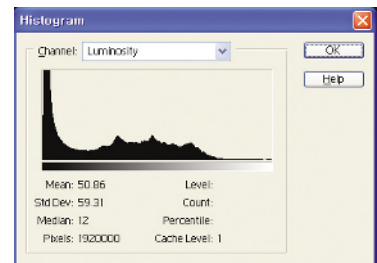
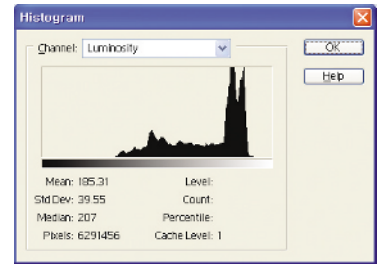
The Open dialog box appears.

- 2 Open the **Sample\Chapter 1\Tech0102.tif** file from the supplementary CD.

- 3 Select [Image]-[Histogram] from the menu bar.

The Histogram dialog box appears. In contrast to the previous histogram, the left side of this histogram is very high. This is an indication that the image is too dark. Such an image is called a low-key image.

 Other than high-key and low-key images, average-key images also need to be fixed. Average-key images are those with a concentration of pixels in the middle portion of the histogram. These images tend to look dull because they are dominated by grays or midtones.



2

Before



After



1 2 3 4 5 6 7 8 9 10

Correcting Blurred Images

If your image is slightly out of focus, you can increase the brightness and contrast of your image to make it appear sharper. If you have a very blurred image, however, there is no way that you can make it look focused. The best thing to do is to shoot the photo again. Always remember the GIGO (pronounced gee-go) principle. GIGO is short for Garbage-In Garbage-Out. It is a computer term to describe that the output will only be as good as the input.

- 1 Select [File]-[Open] from the menu bar.

The Open dialog box appears.

- 2 Open the **Sample\Chapter 1\Tech02.tif** file from the supplementary CD.

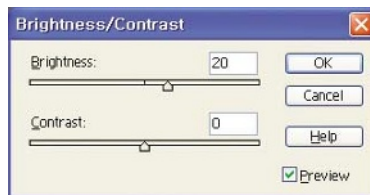
- 3 Select [Enhance]-[Adjust Brightness/Contrast]-[Brightness/Contrast] from the menu bar.

The Brightness/Contrast dialog box appears.

- 4 Set Brightness to **20**. Click the Preview checkbox to view the effect without closing the dialog box.

Note that the image is now brighter.

tip Always preview the image when making changes to the contrast. This is to make sure that the colors are not compromised for the sake of sharpness.



5 Set Contrast to 40.

This makes the image look sharper.

Tip In most cases, setting the Contrast to twice the Brightness value you just entered will produce the best results.

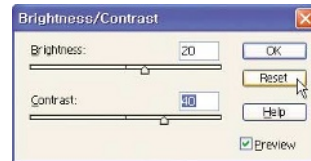
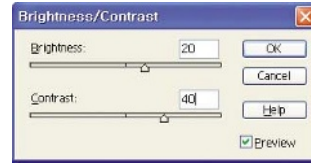
6 Click OK.

Tip You can also change the brightness or contrast by using the slider bars, but typing in a value is quicker and more accurate—especially if you want to apply the same setting to a few images.

Tip Press the **Alt** key to change the Cancel button to the Reset button. You can then reset the Brightness and Contrast values to 0 by clicking the Reset button.

Tip Generally speaking, you must adjust the contrast whenever you change an image's brightness. If you brighten up an image without adjusting the contrast, its shadows will look too bright, making the image look like a faded photo.

In the following example, the Contrast has been increased to 80. At this high level of contrast, the image is turned into a black-and-white picture.



Before



After



How the Pros Do It

Commercial photography usually requires sophisticated equipment that is beyond the budget of most hobbyists and amateur photographers. Using the Levels command in Photoshop Elements, you can correct and enhance product images taken using digital cameras to achieve professional-looking results.

Brightness/Contrast versus Levels command

While the Brightness/Contrast command can be used to change the brightness and contrast of an image, the Levels function is more sophisticated because you can make specific changes to the shadows, highlights, and midtones of an image.

- 1 Select [File]-[Open] from the menu bar.

The Open dialog box appears.

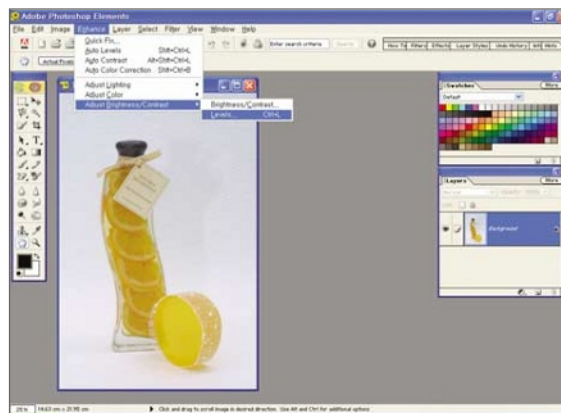
- 2 Open the **Sample\Chapter 1\Tech03.tif** file from the supplementary CD.

This image is a little dull so let's brighten it to give the objects a fresh appeal.

- 3 Select [Enhance]-[Adjust Brightness/Contrast]-[Levels] from the menu bar.

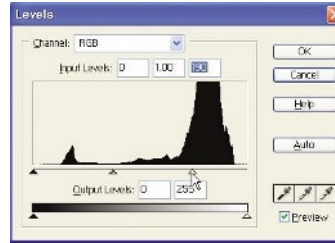


Some users magnify an image to view a particularly problematic or important section when making changes to contrast. Although this is a fast way of correcting glaring weaknesses, it makes it difficult to obtain an optimal overall image setting. Therefore, it is recommended that a contrast that is appropriate for the overall image be applied before the image is magnified.



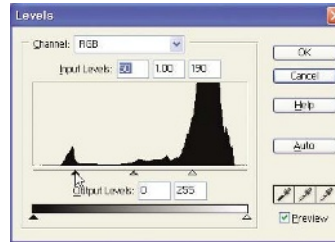
- 4 The right side of the histogram in the Levels dialog box is quite high, indicating that the image is quite bright. Drag the white triangular slider directly below the Input Levels histogram from the right to the left, as shown in the figure.

This brightens the already bright regions of the image and removes the light background tone.



- 5 Drag the black triangular slider directly below the Input Levels histogram toward the right, as shown in the figure.

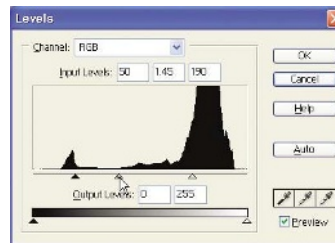
This darkens the darker pixels in the image and increases the overall contrast of the picture as a result.



- As you move a slider, the value in the corresponding Input Levels text field changes to reflect the new input. You can also adjust the histogram by entering the values in the text fields directly instead of moving the sliders. This is especially useful if exact values are needed.

- 6 Drag the gray triangular slider toward the left to brighten the midtones of the image.

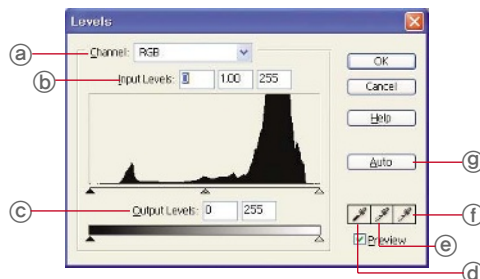
In this example, entering an intensity value of 50 in the first input Levels field (for the black slider) means that all pixels to the left of 50 will become black. A value of 190 in the third field (for the white slider) means all pixels to the right of 190 will become white. A value of 1.45 in the middle field brightens the midtone regions slightly.



A Closer Look at the Levels Dialog Box

The Levels dialog box consists of a channel menu, a histogram, an input slider bar, and an output slider bar.

The input slider bar is used to correct the brightness and contrast of images, while the output slider bar is used to set the tonal range of the image.



- Ⓐ **Channel:** You can adjust the intensity of an image's tonal values or its red, green, or blue values by selecting the channel from the drop-down menu.
- Ⓑ **Input Levels:** You can adjust the shadows, the midtones, and highlights of an image by entering the values in the Input Levels text fields or by adjusting the three input sliders below the histogram.
- Ⓒ **Output Levels:** You can change the overall image's tonal range by moving the two output sliders below the Output Levels text boxes. Dragging the white arrow toward the left darkens the overall image while dragging the black arrow to the right brightens the overall image.
- Ⓓ **Set Black Point:** If you click the Set Black Point eyedropper and then click on a pixel on the image, all pixels darker than the selected pixel in the image window will become black. Clicking this eyedropper on areas that are 100% black will have no effect.
- Ⓔ **Set Gray Point:** This is used to configure the midtones of the image. Clicking the Set Gray Point eyedropper on the image will apply the color contrast of the selected pixels as the midtone for the entire image.
- Ⓕ **Set White Point:** If you click the Set White Point eyedropper and then click on a pixel on the image, all pixels brighter than the selected pixel in the image window will become white. Clicking this eyedropper on areas that are 100% white will have no effect.
- Ⓖ **Auto:** You can automatically enhance the contrast of an image by clicking [Auto]. This option is the same as the [Enhance]-[Auto Levels] command in the menu bar.

4

Correcting Backlighting

Before



After



Backlighting often causes exposure problems in pictures. In the *Before* image on the left, the mountain is backlit by the bright, sunny sky. As you can see, the sky has ended up looking overly bright while the mountain and other parts of the image appear slightly dark. As a result of backlighting, the shot has suffered a loss in details since the camera cannot register the wide tonal range in the scene. The Adjust Backlighting feature in Photoshop Elements, however, will help you to correct such problems.

- 1 Select [File]-[Open] from the menu bar.

The Open dialog box appears.

- 2 Open the **Sample\Chapter 1\Tech04.tif** file from the supplementary CD.

This is an example of a backlit image. Another common example is a front shot of a person standing with his back to the light source.

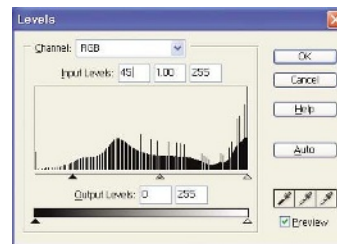



- 3 Select [Enhance]-[Adjust Brightness/Contrast]-[Levels] from the menu bar.

The Levels dialog box appears.

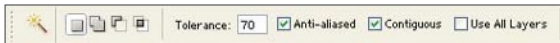
- 4 Set the values for the Input Levels to **45**, **1.00**, and **255** to darken the overall image.

As the sky is too bright, the changes made in the Levels dialog box may not be very noticeable.




5 Select the Magic Wand Tool () from the toolbox.

6 Enter the settings in the options bar as shown.



7 Click on any point in the sky to select the entire sky.

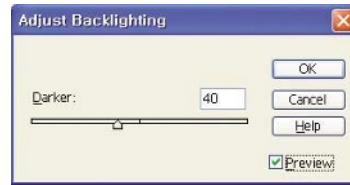
 The Magic Wand Tool enables you to select an area of similar colors without having to trace the outline manually. You can specify the color range, or tolerance, of the tool to modify the range of its selection. The higher the tolerance value, the greater the number of colors included in the selection. Thus, a tolerance of 0 will not have any colors selected, while a value of 255 will have the entire image selected.



8 Select [Enhance]-[Adjust Lighting]-[Adjust Back lighting] from the menu bar.

The Adjust Backlighting dialog box appears.

9 Set the Darker value to 40.




10 Click OK.

The sky becomes darker.



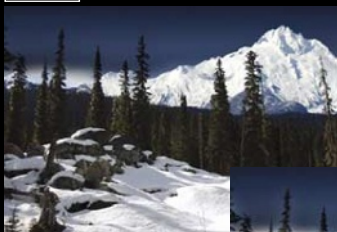
11 Select [Select]-[Deselect] from the menu bar.

This deselects the selection.

 You can also use the keyboard shortcut **Ctrl** + **D** to deselect a selection.



Before



After



Brightening a Specific Spot

Occasionally, you may need to brighten or darken only specific areas of an image without affecting the other parts. To make such precise adjustments, you need to first select the area which you intend to work on. You would also have to make sure that the corrected area blends in with the image. All this can be done easily in Photoshop Elements.

- 1 Select [File]-[Open] from the menu bar.

The Open dialog box appears.

- 2 Open the **Sample\Chapter 1\Tech05.tif** file from the supplementary CD.

This snow-covered winter picture is too dark except for the areas covered by snow.



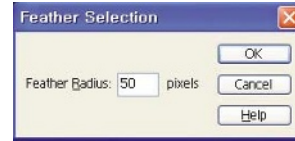
- 3 Select the Lasso Tool () from the toolbox.

- 4 Use the Lasso Tool to outline the dark areas.



- 5 Select [Select]-[Feather] from the menu bar.

The Feather Selection dialog box appears.



- 6 Set Feather Radius to **50**.

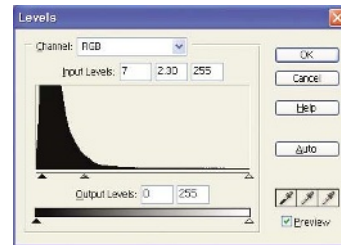
- 7 Click OK.

This softens the edges of the selection and blends it in with the rest of the image.




- 8 Select [Enhance]-[Adjust Brightness /Contrast]-[Levels] from the menu bar.

The Levels dialog box appears.



- 9 Set the Input values to **7, 2.3, and 255**.

 Check the Preview option in the Levels dialog box to preview the changes made in the dialog box on the actual image.

- 10 Click OK.

The selected areas become brighter.



- 11 Choose [Select]-[Deselect] from the menu bar or press **Ctrl + D**.

This deselects the selection.