

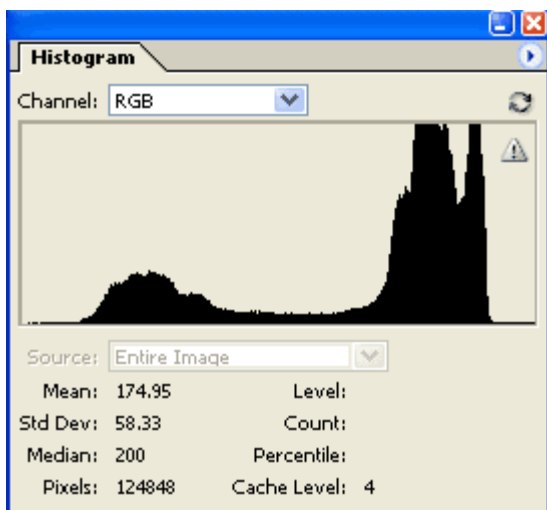
Converting from 16bit to 8bit – are you doing it correctly?

If you don't already know why you should capture and edit your images in 16bit, here's an explanation in a nutshell. Each time you make an adjustment to an image, you are losing information. In **8bit** mode, you have **256** tonal values per channel to work with so if you have to make some drastic adjustments, your image quality can suffer. In **16bit**, you have **32,000** levels per channel! That means your image can handle **much** more editing. This is why most professionals will only shoot in RAW.

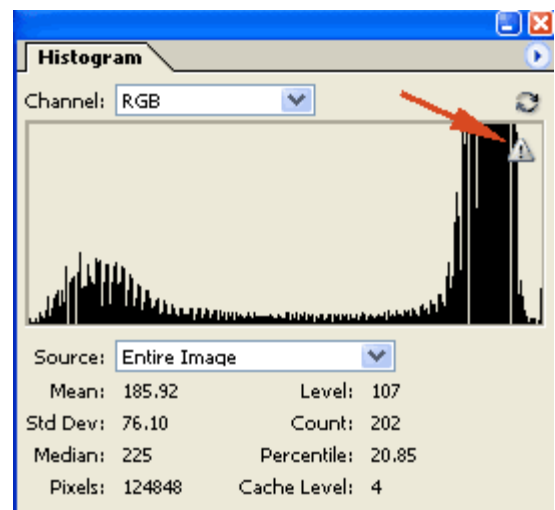
So, why would you want to convert to 8 bit? One reason is that some filters and plugins will only work on 8bit files. Many art filters, for example. Another reason is to reduce your file size.

However, most people don't know that if you edit your images in 16 bit, leave all the layers intact and then convert it to 8 bit, they lose all the benefit of editing in 16 bit. Below is visual proof of what happens if you convert to 8 bit incorrectly. Try it for yourself!

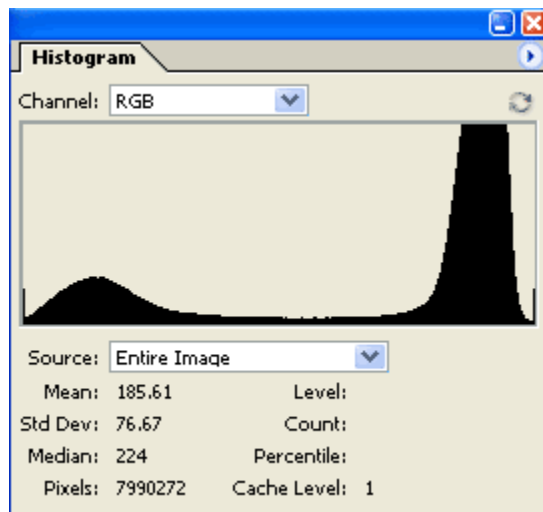
1. Open a 16 bit image. Then open the Histogram*. The Histogram shows how pixels are affected.
2. Create an adjustment layer and make a drastic adjustment. Refresh the Histogram by clicking the little exclamation point in the upper right corner. Below are screenshots of the Histogram before and after the adjustment in 16bit and then after being refreshed.



Before Adjustment



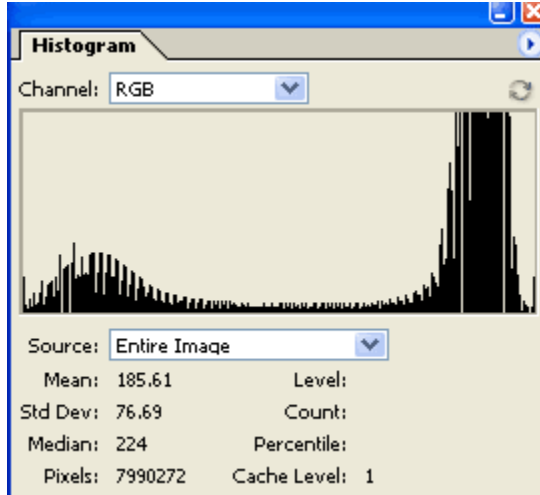
After adding Levels Adjustment Layer



Refreshing Histogram after adjustment in 16bit

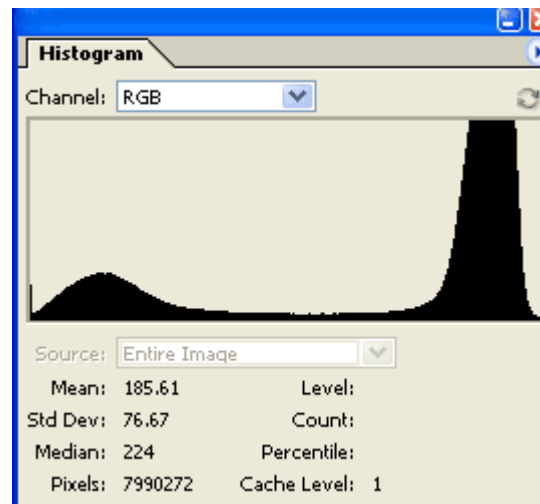
Converting from 16bit to 8bit....continued

3. Now convert the image to 8 bit without flattening the 16 bit file and then refresh the Histogram. As you can see below, there is a lot of "combing" which means that information has been lost.



After converting to 8bit with layers intact and refreshing the Histogram

4. The correct way to convert to 8 bit is to FLATTEN the 16 bit file FIRST. Using the same image, go back in History to just before the conversion to 8bit. Flatten the 16bit file and convert it to 8bit. Now refresh the Histogram. As you can see by the Screenshot below, all the information is intact and the histogram looks the same as it did in 16bit.



Flatten 16bit layers first, then converted to 8bit and refreshed

I will save some of my "challenging" 16bit layered files as a "Master" file for future editing. If I plan to use filters that require an image to be 8bit, I flatten it; convert it to 8bit and save it with a new name indicating that it is an 8bit file.

*The Histogram is a new feature to Photoshop CS.