



Movie 1

Process versions and new demosaicing

Process Versions

For the first time since the introduction of Camera Raw, Adobe have been obliged to add the concept of Process Versions to the Camera Raw processing. This has happened now because Camera Raw 6.0 has seen a complete revision of the capture sharpening and noise reduction which affects the total appearance of the image rather than just one particular aspect of the raw processing. Because of this there are now two Process Versions you can choose from when editing your photos and this applies not just to raw files but also to DNG, TIFF and JPEG images too. When you edit a photo that's previously been edited in an earlier version of Camera Raw, Camera Raw use Process Version 2003 and an exclamation mark button appears in the bottom right corner of the preview to indicate this is an older Process Version image (Figure 1). Clicking on the button updates the file to Process Version 2010, which then allows you to take advantage of the latest sharpening and noise reduction features. Or, you can go to the Camera Calibration panel and select the desired Process Version from the Process menu shown in Figure 2. Here you can update to Process Version 2010 by choosing '2010 (Current)'. Should you wish to do so you can use this menu to revert to the previous Process Version 2003. There is one trade-off to bear in mind here. The fact that the Process Version 2010 rendering is more sophisticated has also increased the amount of processing time required to render individual images.

Recovery and Fill Light

Be careful when setting the Fill Light. Figure 3 shows an extreme example of a solarization type effect that can occur if you apply too much Fill Light. If you upgrade to Process version 2010, you will notice how Recovery and Fill Light have been much improved to prevent this kind of thing happening. As a result of this you may need to revisit the Recovery and Fill Light settings after upgrading.

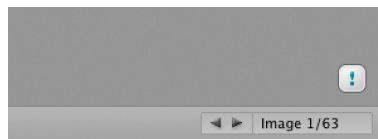


Figure 1 The Process Version update warning triangle.

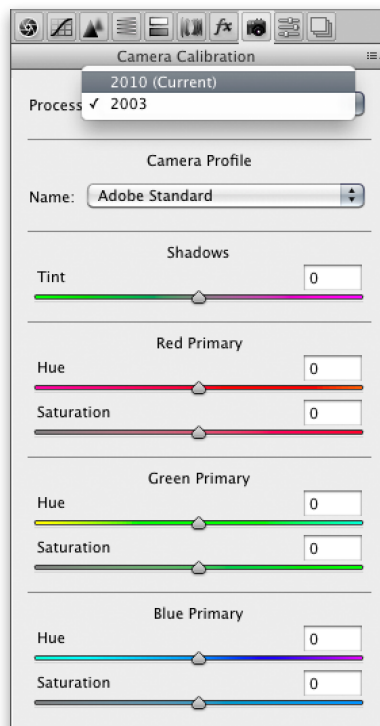


Figure 2 The Process Version setting can be accessed via the Camera Calibration panel.

Improvements to demosaicing

Legacy photos that have been edited via Camera Raw or Lightroom are classified as using Process Version 2003 and all photos edited subsequently in Camera Raw 6 can be edited using the new Process Version 2010 rendering.

Camera Raw 6.0 now offers better sharpening and noise reduction (if using Process Version 2010), as well as improved demosaic processing. The combination of these three factors has led to better image processing from this latest version of Camera Raw. Having said that, it should be noted that only those cameras that use the three-color Bayer demosaic method are affected by this change. The demosaic processing for other types of sensor patterns, such as the four-color shot cameras and the Fuji Super CCD, have not been modified. However, improvements have been made in the demosaic processing for specific camera models. For example, an improved green balance algorithm addresses the problem of maze pattern artifacts which were seen with the Panasonic G1 and this may also improve the image resolution for some other camera models too.

Let me try and explain what exactly has changed and how Camera Raw is now different. We can start by looking at the two image examples shown on the following page in Figure 4, where the top image shows a photograph processed via Camera Raw 5.0 and the bottom one shows the same image processed via Camera Raw 6.0 in Photoshop CS5 using Process Version 2010. These examples include a section that's been enlarged to 400% so that you can see the difference more clearly. The first thing to point out is that the new demosaic process is now more 'noise resistant', which means it does a better job of removing the types of noise that we find unpleasant such as color artifacts and structured (or pattern) noise. At the same time, the aim has been to preserve some of the residual, non-pattern noise which we do find appealing. The underlying principle at work here is that colored blotches or regular patterns tend to be more noticeable and obtrusive, whereas irregular patterns such as fine, random noise are more pleasing to the eye. The new demosaic process does a better job of handling color artifacts and filters the luminance noise to remove any pattern noise, yet retains some of the fine, grain-like structure. The net result is that Camera Raw is able to do a better job of preserving fine detail and texture and this is particularly noticeable when analyzing higher ISO raw captures.



Figure 3 An example of the solarization that can be caused when applying too much Fill Light using Process Version 2003.



Figure 4 This shows a comparison between a raw image processed in Camera Raw 5.0 (top) and Camera Raw 6.0 (bottom) and the inset images show 400% close-up views. This is also available as a layered image on the DVD.

Adobe™ Photoshop™ CS5 for Photographers

This PDF on keyboard shortcuts is supplied on the DVD that comes with Martin Evening's book: Adobe Photoshop CS5 for Photographers. This latest update in the Adobe Photoshop for Photographers series contains 768 pages in full color, plus a DVD containing video tutorials. The book layout has been further improved to make navigation easier and contains updated advice on everything you need to know about using Photoshop, from digital capture to print output, as well as all that is new in Adobe Photoshop CS5.

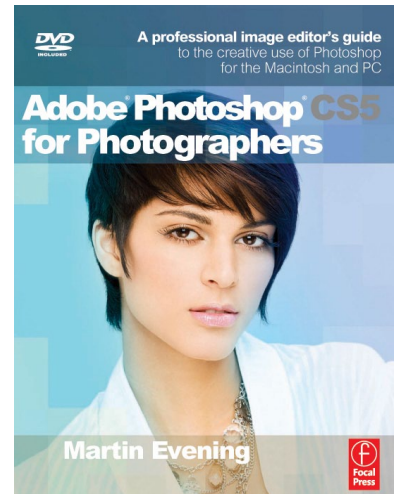
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