



Adobe Photoshop CC update: Camera Raw 9.0

Welcome to the latest Adobe Photoshop CC bulletin update. This is provided free to ensure everyone can be kept up-to-date with the latest changes that have taken place in Photoshop.

This bulletin describes the latest changes to Camera Raw. For a complete description of how to use these new Photoshop tools, with diagrams and step-by-step tools, I recommend you buy the *Adobe Photoshop CC for Photographers* book.

Camera Raw 9.0

Camera Raw 9.0 has been released to coincide with the release of Lightroom CC / Lightroom 6. This version of Camera Raw is designed to do a number of things. Photoshop CS6 remains as a current shipping product sold as a perpetual license alternative for those Photoshop customers who don't wish to subscribe to the Creative Cloud and access the latest Photoshop CC program. Camera Raw support is to be continued for Photoshop CS6 users and this Camera Raw 9.0 release therefore offers support for the latest raw camera formats and lens profiles. As with recent versions of Camera Raw, it continues to provide a bridge between that and the Photoshop CS6 program, allowing CS6 customers to open Lightroom 5 images that have been edited using the new adjustment options (such as Upright or Radial filters) via Camera Raw. If you are using Photoshop CS6 this means you can read files that have been edited using the latest adjustments, but you won't be able to edit settings that would otherwise be new to Photoshop CS6.

Meanwhile, Photoshop CC users will be able to access the features described over the following pages that are new to Camera Raw. Minimum system requirements are: 64-bit only Mac OS 10.9 and higher or Windows 7 and higher.

Highlight features in Camera Raw 9.0

The two main features in Camera Raw 9.0 are: HDR Photo Merge and Panorama Photo Merge. These allow you to process images directly in Camera Raw to produce a single DNG master file – either an HDR DNG or a panorama DNG.

Also featured is a new preference item to utilize the graphics processor and speed up Camera Raw performance (this will be particularly beneficial to those using 4K and 5K displays) as well as a scrubby zoom option. You will also notice in the following tutorials how there is a new Filmstrip menu for selecting Sync Settings and Select All, along with the new Merge options. All the new Camera Raw features, including the new Merge options will be discussed in more detail in the next revision of my Photoshop CC book.

HDR photos using Photo Merge in Camera Raw

The Photo Merge feature in Camera Raw can be used to produce a master HDR DNG file from raw or non-raw images. As when using Merge to HDR Pro, you need to start by selecting two or more photos of a subject that has been photographed at different exposure settings, where the aperture remains fixed and only the exposure time value varies.

The processing technique used in Camera Raw is slightly different. Consequently, you may find some results you get using the Camera Raw Photo Merge method will be better, But not always. For example, when using the Camera Raw Photo Merge HDR method there is some latitude to allow for small amounts of cloud movement between exposures providing the clouds have not moved too much. If there is more than a slight amount of movement you can select a Deghost option, but this can produce inferior results if there is no, or very little movement. Also, the deghosting method used in Camera Raw may utilize more than one image to deghost the resulting HDR. When it works it is great, but it can sometimes lead to unwanted artifacts in the final image, so it is best not to leave set to the default 'None' setting if you don't need it. As shown in Figure 1, with scenes that have moving content, such as water, you may want to increase the deghosting amount.

Creating Photo Merge DNGs

The image you see in the HDR Merge preview dialog will have an Auto Tone correction applied to it. So this should give you a reasonable idea of what the final Photo Merge DNG image will look like. Note that the full-size result will have default settings applied to it and will most likely look rather different. It is also important to be aware that the resulting DNGs from an HDR Photo Merge are saved as 16-bit floating point files, where the merged image consists of raw linear RGB data. The DNG files may therefore be quite large in size. You could argue that these are not truly raw files, but a DNG produced this way is still mostly unprocessed and will allow you to make creative color and tone decisions when it is opened via Camera Raw.

What this means is that you still retain the flexibility to reprocess the resulting HDR Photo Merge DNG any way you like, just as you can with any raw image. For example, if new process versions become available, you will have the ability to make use of newer processing methods and always be able to fine-tune the raw settings, which arguably gives you more control over the final appearance of the image.

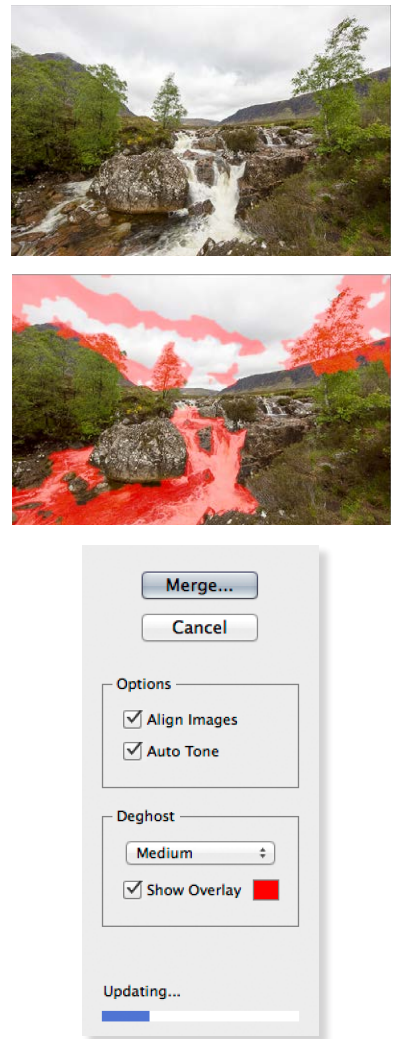
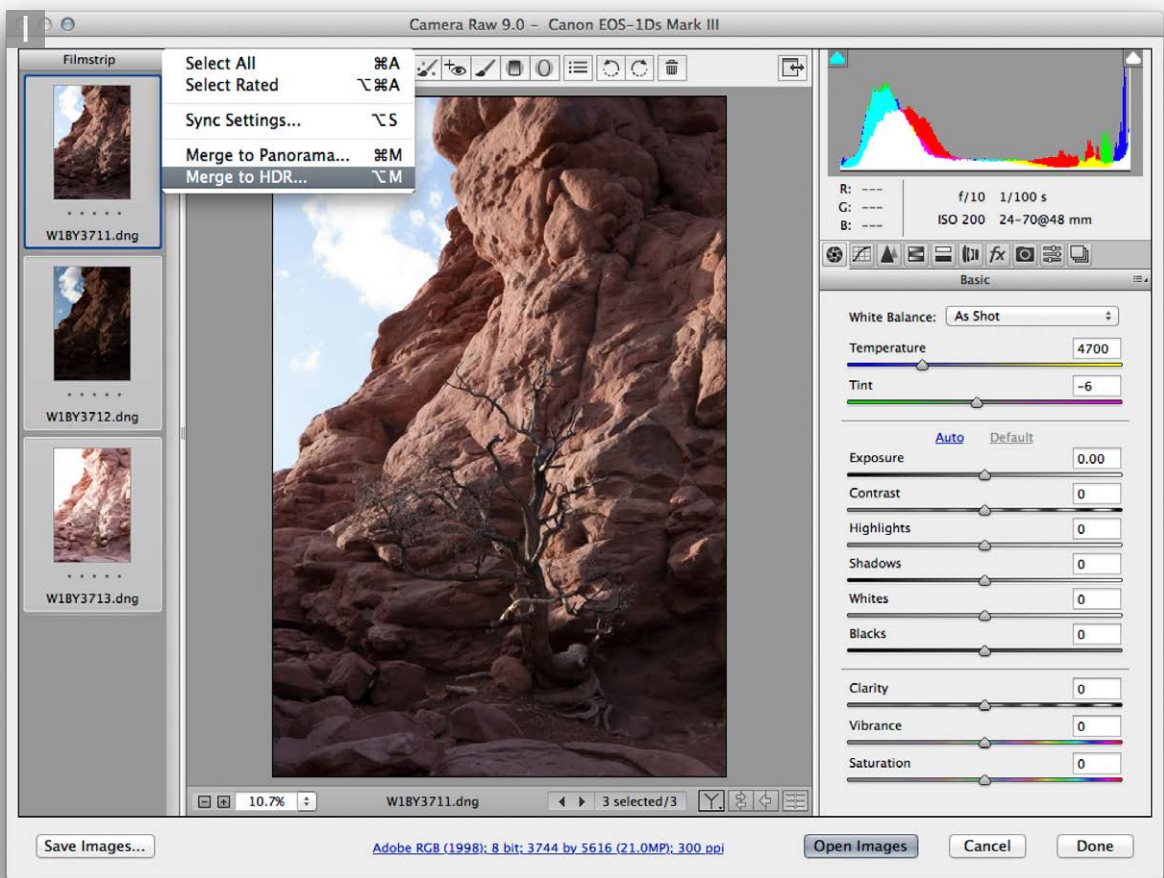


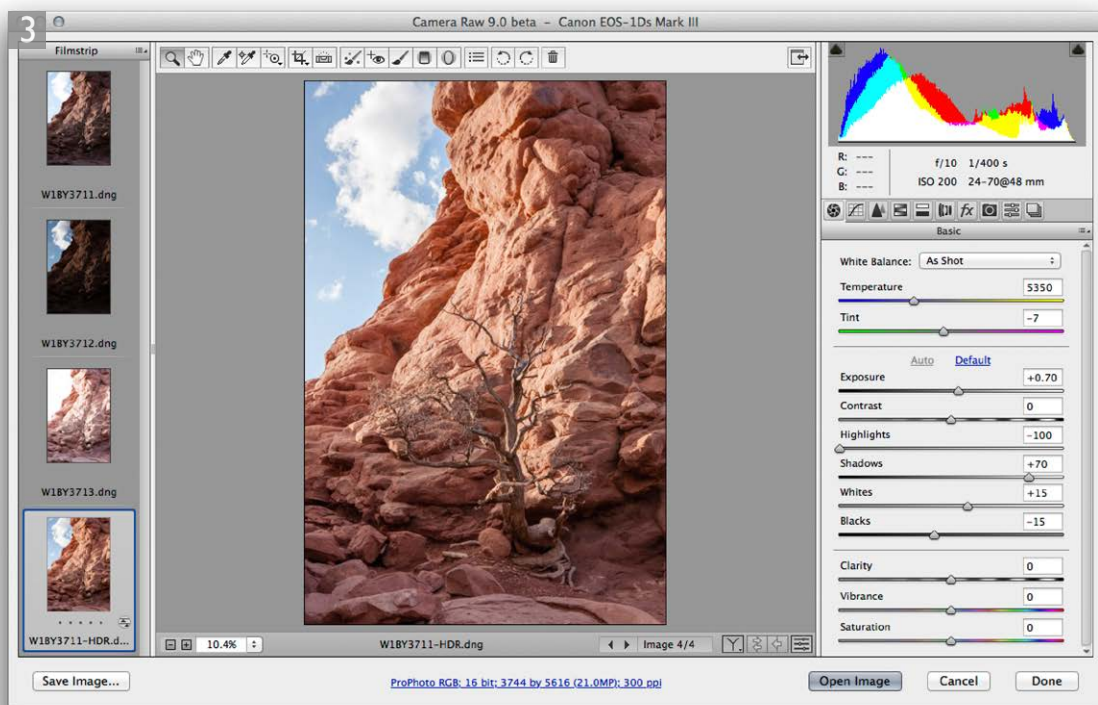
Figure 1 In this example I merged three bracketed exposures where there was movement in the clouds, the trees and water between each exposure. Selecting in this instance the 'Medium' Deghost option and with the Show Overlay option checked, highlighted the areas where the deghosting would be applied.



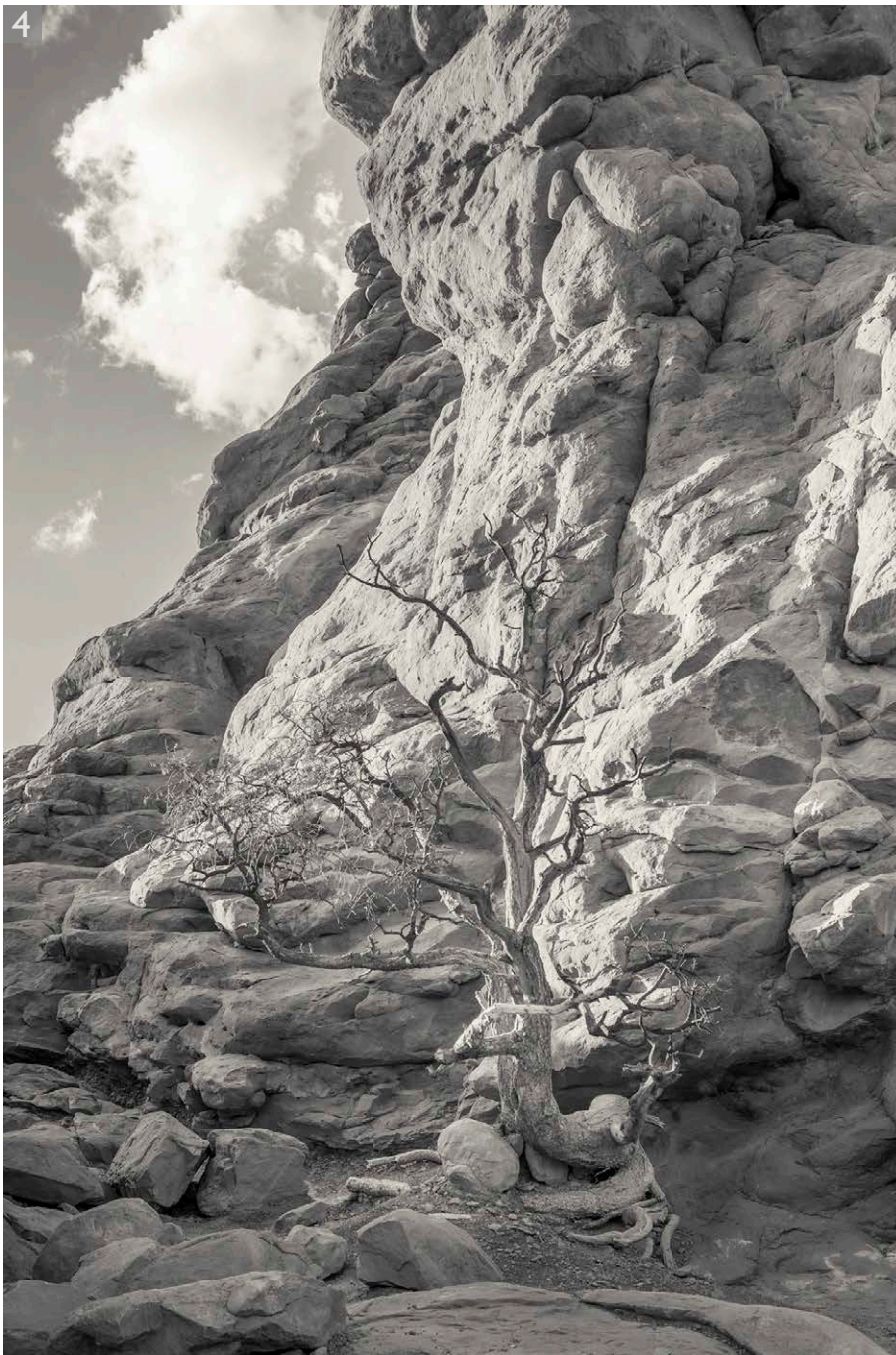
1 I selected three photographs that had been shot with the camera mounted on a tripod and bracket exposed, with 2 EV exposure difference between each shot. I opened these in Camera Raw, which opened in multiple image mode. I clicked on the Filmstrip menu and chose the Select All option. After that I selected Merge to HDR... (**alt M**). Holding down the **Shift** key as well (**alt Shift M**) opens in headless mode.



2 This opened the HDR Merge Preview dialog, where Deghost was set to 'Off', I checked the Auto Tone checkbox and unchecked Align Images. I then clicked the Merge button.



3 This created a merged HDR DNG image that was named using the filename of the most selected image in Step 1 with an -HDR suffix. It added the merged image to the Filmstrip and because Auto Tone was selected in Step 2, applied auto tone settings.



4 I was then able to further edit the HDR DNG image in Camera Raw as a raw image. In this instance I applied some further localized image adjustments and also converted the photo to black and white to produce the finished version shown here.

Panorama Photo Merges in Camera Raw

The Photo Merge feature in Camera Raw is also new and allows you to process multiple selections of images to create either a panorama stitch or an HDR image. Photo Merge saves these as demosaiced DNGs and as raw linear RGB data. Although the resulting images are partially processed you still retain the ability to apply Camera Raw edits and update to later process versions as they become available.

Essentially, you can merge raw files to create an unprocessed master where you can then fine-tune the settings at the post-Photo Merge stage, adjusting things like the white balance and endpoint clipping. This is particularly helpful when using the Photo Merge feature in the Panorama mode. You see, conventional Photoshop photomerge processing has a tendency to cause the highlight values to clip. You might carefully set the highlight end points at the pre-photomerge stage only to find them clipped in the resulting photomerge composite. The Photo Merge method in Camera Raw allows you to avoid this problem and maintain full control over the tones and avoid undesired clipping.

Creating Photo Merge panoramas

To create a Photo Merge panorama you need to open in Camera Raw a series of images that can be stitched together to form a panoramic view and then choose Select All, followed by Merge to Panorama... You will then be taken to a Panorama Merge Preview dialog, where you can select the desired projection method (Figure 2) and then click Merge. When carrying out a Photo Merge panorama the existing develop settings are applied as the initial develop settings to the resultant panorama DNG. However, you can quite easily apply any custom settings you like. The full-size merge is performed in the background so you can continue to edit other photos or start other merges while you wait. Photo merge panoramas created this way can also be processed using the Adaptive Wide Angle filter.

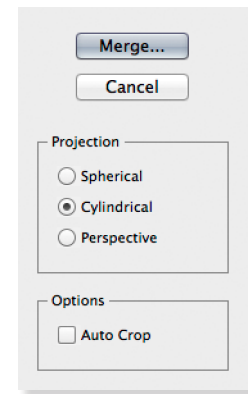


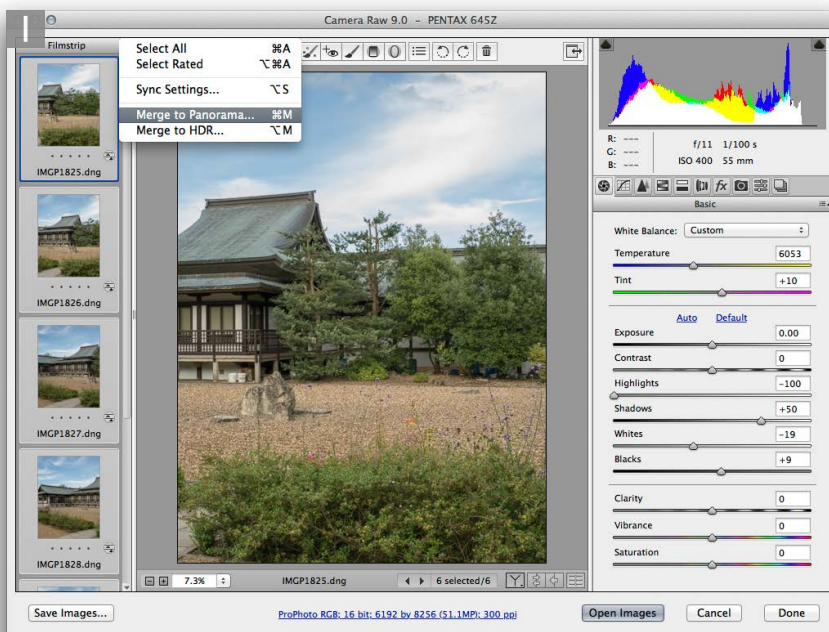
Figure 2 The Camera Raw Photo Merge Panorama projection options.

The panorama projection options

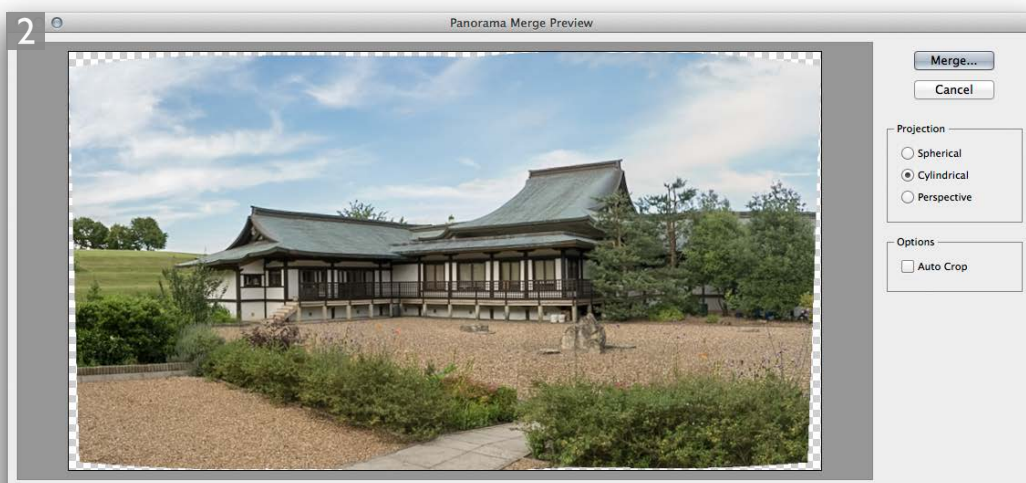
The Projection options are available in the Panorama Merge dialog (see Figure 2). The Cylindrical mode ensures the photos are correctly aligned to the horizontal axis. This mode is particularly appropriate when merging photographs that make up a super-wide panorama. It will ensure the horizon line is kept as straight as possible. The Perspective mode can produce good results when processing images that have been shot using a moderate wide angle lens or longer. With wider angle lens captures it can produce distorted-looking results. The Spherical mode transforms the photos both horizontally and vertically. This mode is more adaptable when it comes to aligning tricky panoramic sequences.

Batch processing

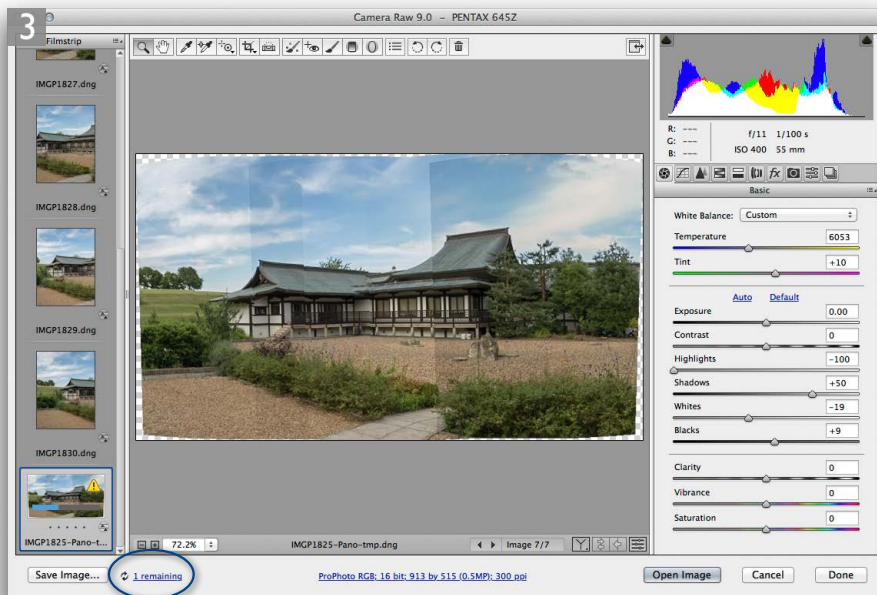
Whether you are working with Photo Merge in HDR or Panorama mode you can initiate as many Photo Merge processes as you like and set up a queue of operations.



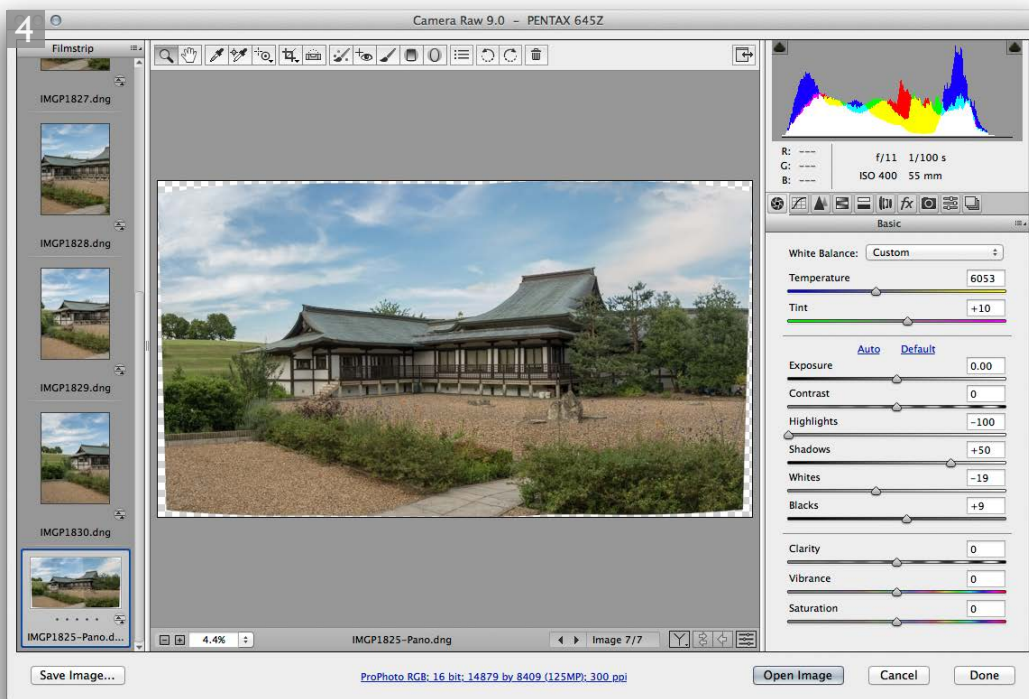
1 To begin with, I selected 6 photographs that had been shot in raw mode and photographed in a sweep to enable creating a photo merge panorama composite. I opened these in Camera Raw, chose Select All images and then selected Merge to Panorama... (**⌘ M** [Mac], **ctrl M** [PC]) from the Filmstrip menu. You can also hold down the **Shift** key as you do this, or use the **⌘ Shift M** (Mac), **ctrl Shift M** (PC) shortcut to bypass the Panorama Merge Preview dialog shown in Step 2, and open in Headless mode.



2 This prompted Camera Raw to analyze the raw image data of the selected files and generate a preview in the interim Panorama Merge Preview dialog shown here. This gave me the option to select the most appropriate projection method. In this instance I reckoned the Cylindrical option would produce the best result.



3 Having configured the settings in the Panorama Merge dialog, I clicked the Merge button. This initiated the Photo Merge process (to view status or cancel a merge, click on the link in the lower left area of the Camera Raw dialog [circled]).



4 Shown here is the fully processed panorama merge. This composite retains the Camera Raw settings that were applied to the original, most selected image.



5 I was then able to crop the composite and further edit the Camera Raw settings to produce the modified version shown here.