



## **Camera Raw Converter** -- (Also applies to Nikon and other camera brands)

A camera raw image file contains minimally processed data from the image sensor of either a digital camera, image scanner, or motion picture film scanner. Raw files are so named because they are not yet processed and therefore are not ready to be printed or edited. Normally, the image is processed by a raw converter in a wide-gamut internal colorspace where precise adjustments can be made before conversion to a "positive" file format such as TIFF or JPEG for storage, printing, or further manipulation, which often encodes the image in a device-dependent colorspace. These images are often described as "RAW image files", although there is not actually one single raw file format. In fact there are dozens if not hundreds of such formats in use by different models of digital equipment (like cameras or film scanners).

Raw image files are sometimes called digital negatives, as they fulfill the same role as negatives in film photography: that is, the negative is not directly usable as an image, but has all of the information needed to create an image. Likewise, the process of converting a raw image file into a viewable format is sometimes called developing a raw image, by analogy with the film development process used to convert photographic film into viewable prints. The selection of the final choice of image rendering is part of the process of white balancing and color grading.

Like a photographic negative, a raw digital image may have a wider dynamic range or color gamut than the eventual final image format, and it preserves most of the information of the captured image. The purpose of raw image formats is to save, with minimum loss of information, data obtained from the sensor, and the conditions surrounding the capturing of the image (the metadata).

Camera RAW converter software is commonly provided with the purchase of DSLR cameras. "Raw" images taken with the associated camera can be converted to other file formats such as JPEG and TIFF. The converter software is also capable of processing a RAW color image into a black & white -- monochrome image, then saving it into another file format.

For example: The EOS Raw converter software "ZoomBrowser EX" provided with a Canon 30D DSLR camera will convert a RAW color image into a black & white monochrome image using the following steps. Open converter software> select a RAW image> select the "Monochrome" Picture Style in the Raw Image Task "Image Quality" Adjustment window> select "Save Image" from the File menu at the upper left of the RAW Image Task window. The Save Image file format choices are TIFF and JPEG for this converter. Workflow processes will vary with other proprietary RAW image converters.

Adobe Camera Raw Converter: The camera RAW converter functionality in Adobe® Photoshop® software provides fast and easy access to the raw image formats produced by many leading professional and midrange digital cameras. By working with these "digital negatives," you can achieve the results you want with greater artistic control and flexibility while still maintaining the original raw files.

The Adobe Camera Raw plug-in became the latest must-have tool for professional photographers when it was released in February 2003. This powerful plug-in has been frequently updated to support more cameras and include more features and is available as part of Adobe Photoshop CS6. Adobe Photoshop Lightroom® software is built upon the same powerful raw processing technology that is available in the Camera Raw plug-in.

## **Step by Step Procedure for Conversion to Black & White (B & W) for the Sample Image Using a Camera Raw Converter**

The following procedure is written specifically for .....

the sample "Raw" image titled "Walkway to GVCC". The image was converted from color to monochrome using the Canon EOS Camera Raw Converter utility software that was included with the purchase of a Canon 30D DSLR camera. The software is titled "ZoomBrowser EX", ver. 6.6.

1. With the ZoomBrowser EX software started up, select the color image file you wish to convert to B & W. (But, do **NOT** click on the image).
2. In the "Tasks" panel at the left, click the "Edit" button. Four submenus are then displayed.
3. Click the "Process Raw Images" button. The image will appear in the main editing screen.
4. And, the "Raw Image Task" window appears. Select the "Adjust" icon.
5. The "Image Quality" adjustment window appears.
6. Click the "Picture Style" box and select down to "Monochrome".
7. If you are satisfied with the monochrome image (without further adjustments), click the "Save" icon.

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Other adjustments to the image can be made using the Camera Raw Converter software. The adjustments include: exposure, white balance, picture style, sharpness, contrast, color saturation, color tone, and color space.

When selecting "color tone", there are several monochrome color choices, including "sepia".