

Using Adobe Camera Raw in CS3

by Ron Carran (Jan 5, 2008)

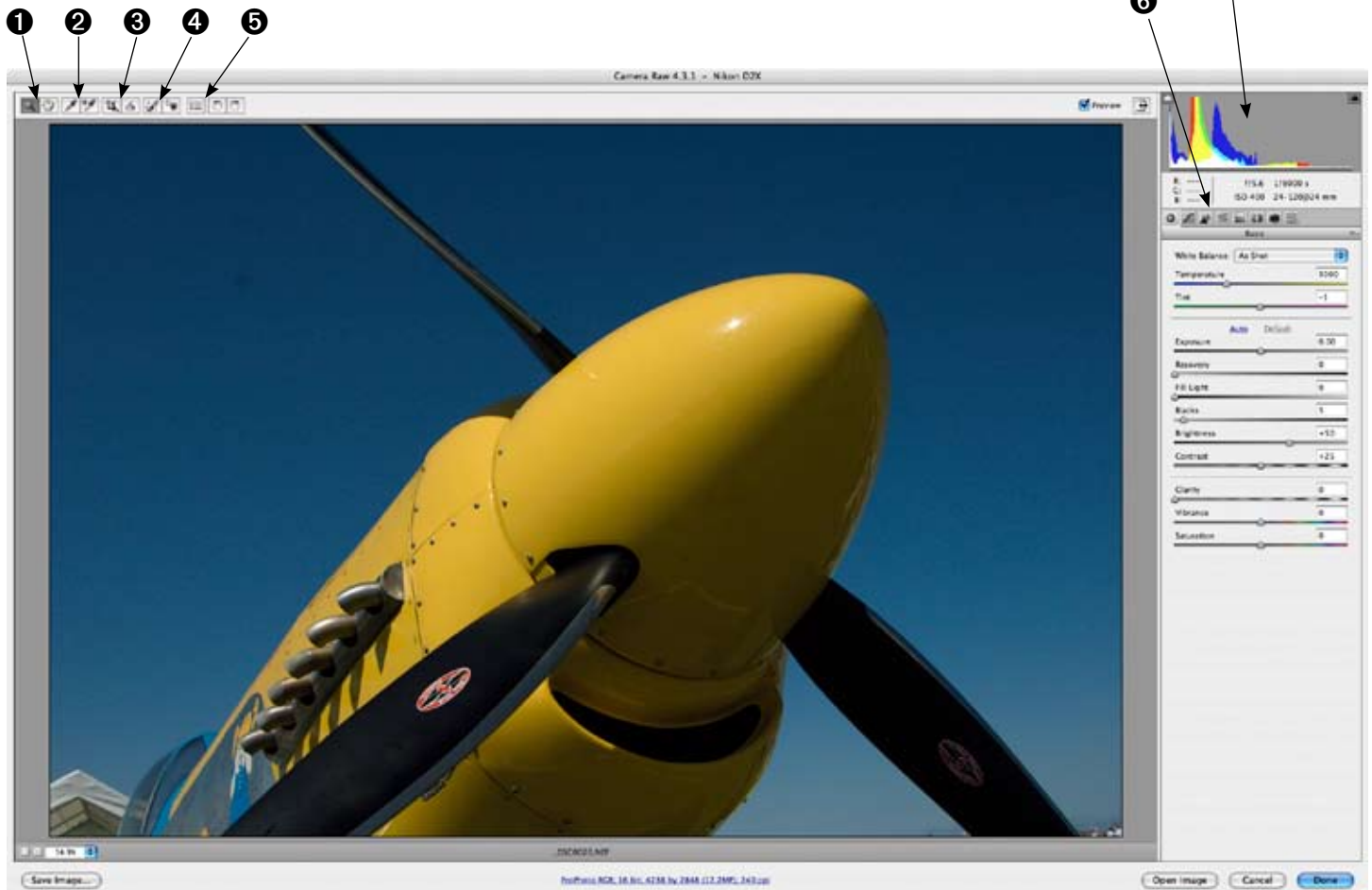
Adobe Camera Raw (ACR) is a Photoshop (Bridge) plug-in that allows you to process raw (and JPEG) files and save them as Photoshop (PSD), TIFF, JPEG or Adobe Digital Negative (DNG) format files for continued processing in Photoshop. The current version, 4.3.1, has many more features than the original ACR that shipped with Photoshop CS2. The following is a look at what you can do with this very capable program.

When you take a photo in raw format, your camera does not apply any processing to the image except to show you it on the LCD screen on the camera. That can be misleading, because your camera processes that small picture as a JPG, with whatever white balance, sharpening and other characteristics that you have set on your dials. When you open the raw file in ACR, it will probably look a little dull and flat to you. ACR gives you the ability to process that picture to your liking, not with some automatic in-camera algorithms. You can select whatever white balance and other adjustments that you like. You can even adjust the exposure a significant amount. The only significant characteristic is that these settings will affect the entire picture globally. All of these settings are non-destructive to the original picture. They are just a list of instructions as to how to process the picture, and no pixels are actually changed until you save the file in one of the output formats.

The authors of ACR have designed the interface to be used in the order of the way the functions are set up. Looking at the main screen, you should generally start with the items at the top of the window, then on to the Basic tab, ending with the last tab that you feel your image needs. Here is a look at the main ACR interface.

ACR Main Screen Controls

- 1 Zoom/Move
- 2 W. Bal/Color Sampler
- 3 Crop/Straighten
- 4 Retouch/Red Eye
- 5 Prefs/Rotate
- 6 Processing Tabs
 - Basic
 - Tone Curve
 - Detail
 - Lens Corrections
 - Camera Calibration
- 6 Histogram/Clipping Indicators

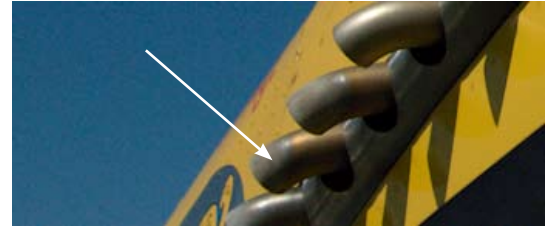


Editing Tools

White Balance/Color Sampler

Starting from the first editing control that we will use, the White Balance eyedropper lets us click on a neutral color in a picture (or one that we want to be neutral), and it will instantly reset the picture's color temperature.

The Color Sampler allows us to save the RGB values of an area we click on for reference later when the picture is being adjusted.



Retouch/Red Eye

The retouch tool lets us remove any small dust spots or blemishes we don't want in the picture. Here's how to use it:

1. Select the tool
2. Set it to Heal or Clone
3. Place the mouse where the spot is and enlarge the area to cover the spot
4. Drag the second circle to cover a source area

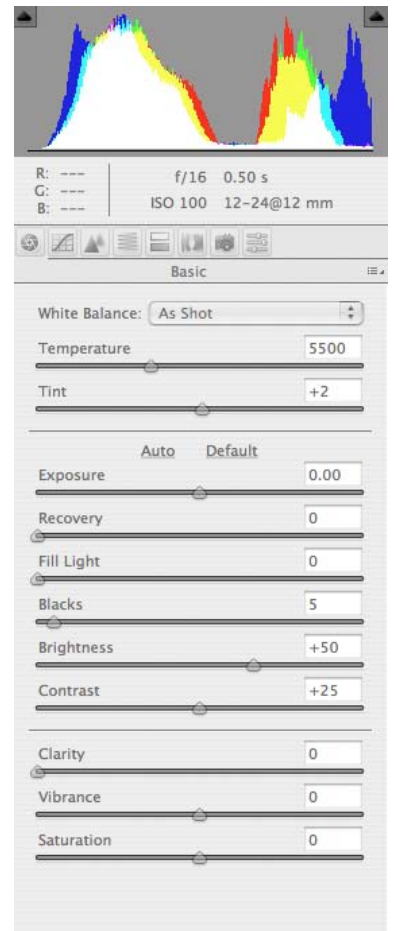
Processing Tabs

The following tabs allow you to adjust the color, noise, sharpening and look of the image. Keep in mind that these controls are *global*. That is, they affect the entire image. No masking or layer blending is available as it is in Photoshop, which allows you to adjust selected parts of the image. The entire image will most often be affected. This is sometimes an advantage, as we'll see.

Basic Tab

The Basic tab has most of the important color adjusting controls on it. Using them in order works well.

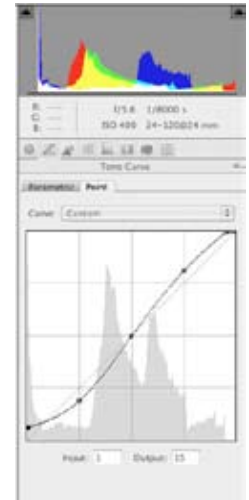
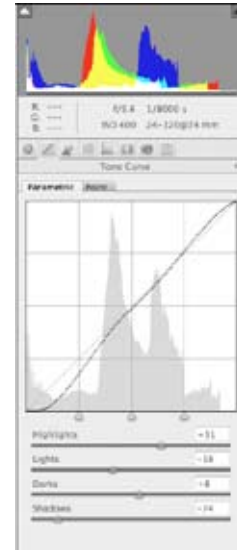
| | |
|--------------------|--|
| Temperature | Changes the temperature of the white point (yellow/blue bias). |
| Tint | Changes the green/magenta bias. |
| Exposure | Sets the whitest highlight in photo. Used in conjunction with clipping indicators. |
| Recovery | Darkens the brightest areas of the photo. Usually used in conjunction with the Exposure slider. |
| Fill Light | Brightens the shadow areas of photo (areas just brighter than black). Excessive use can cause halos. |
| Blacks | Determines how dark the black areas of the image will be. Use in conjunction with the Fill Light slider. |
| Brightness | Changes the middle range of the image, thereby controlling its brightness. |
| Contrast | Changes the difference between dark and light boundaries. Has the effect of adding a traditional 'S' curve in Photoshop. |
| Clarity | Raises the midtones of the image, making it 'pop' more. |
| Vibrance | Increases the saturation of the least-saturated colors. It tends to leave skin tones alone, keeping them more natural looking. |
| Saturation | Adjusts the saturation of all colors equally. |



Tone Curve Tab

The Tone Curve control looks very much like the curves pallet you use in Photoshop, except that there is a histogram laid under the curve. This helps you see the “makeup” of the image as you make decisions on where to change tonal relationships.

You can use a Parametric or a Point Editor. They both alter the tonal curve, but the Point approach allows a much finer approach. For general adjustments, the Parametric Editor may be just fine.

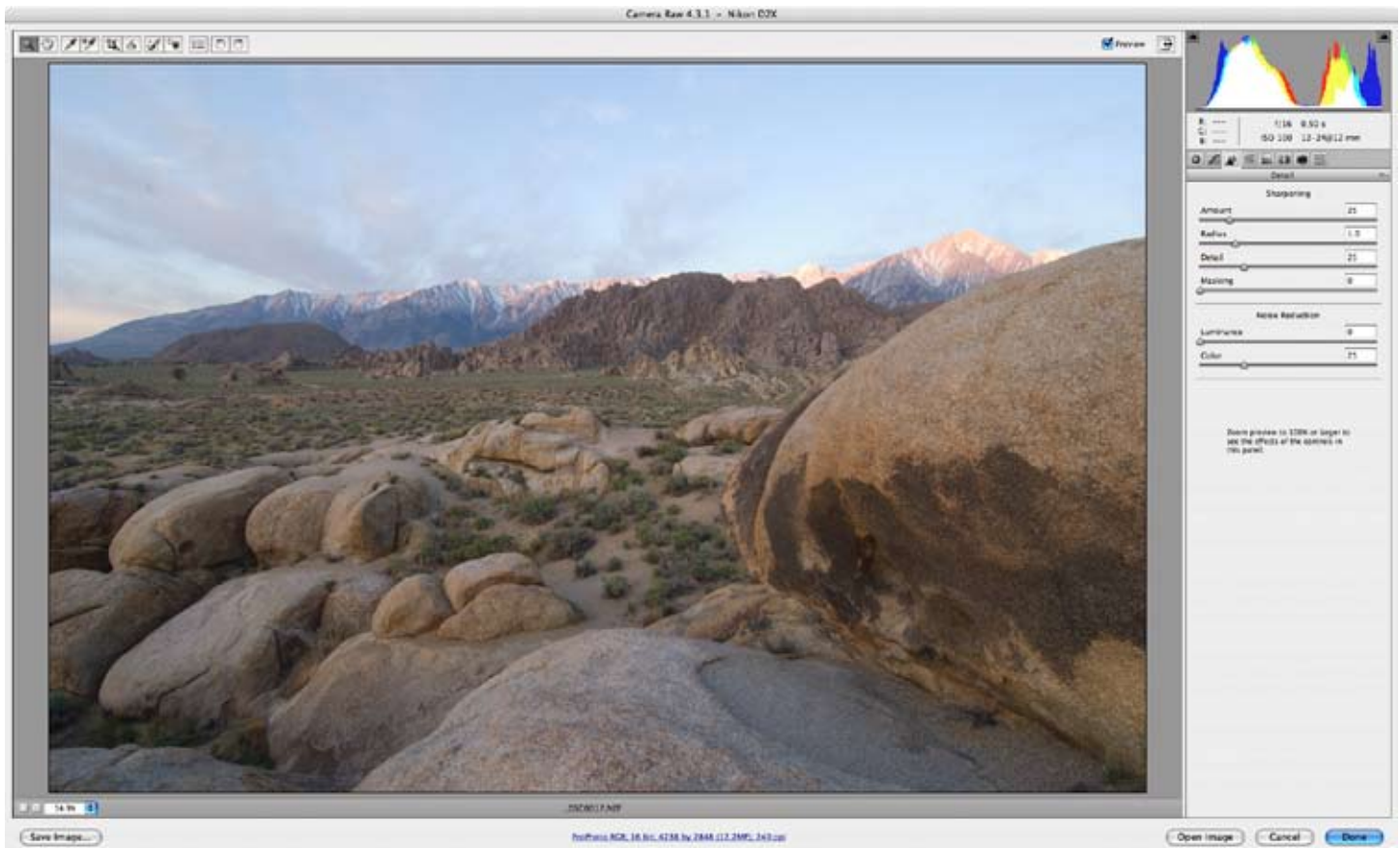


Detail Tab

The Detail Tab’s sharpening controls act like a cross between Photoshop’s Unsharp Mask and Lightroom’s sharpening method. There are mixed opinions on whether or not to even use ACR’s sharpening controls, or wait till all the rest of the adjustments are made, the image is converted to a PSD or TIFF, and the output size is determined. I have found it helpful to apply a little sharpening to the raw file (sometimes called pre-sharpening) to compensate for the inherent softness of a digital capture. Then apply final sharpening just before printing. IMPORTANT: Make sure to adjust sharpening at 100% or greater magnification to see the result of the settings.

- Amount** Adjusts the degree of sharpening.
- Radius** Determines how many pixels on either side of an edge are affected.
- Detail** Goes from halo suppression to Photoshop’s USM-style sharpening.
- Masking** Creates a mask to block sharpening on non-edge areas of image.

The Noise Reduction sliders determine how much noise is suppressed in both the luminance (brightness) and color values of the image. These controls are subtle, and do not produce obvious effects like third party noise reduction programs (like Noise Ninja or Dfine).



HSL/Grayscale Tab

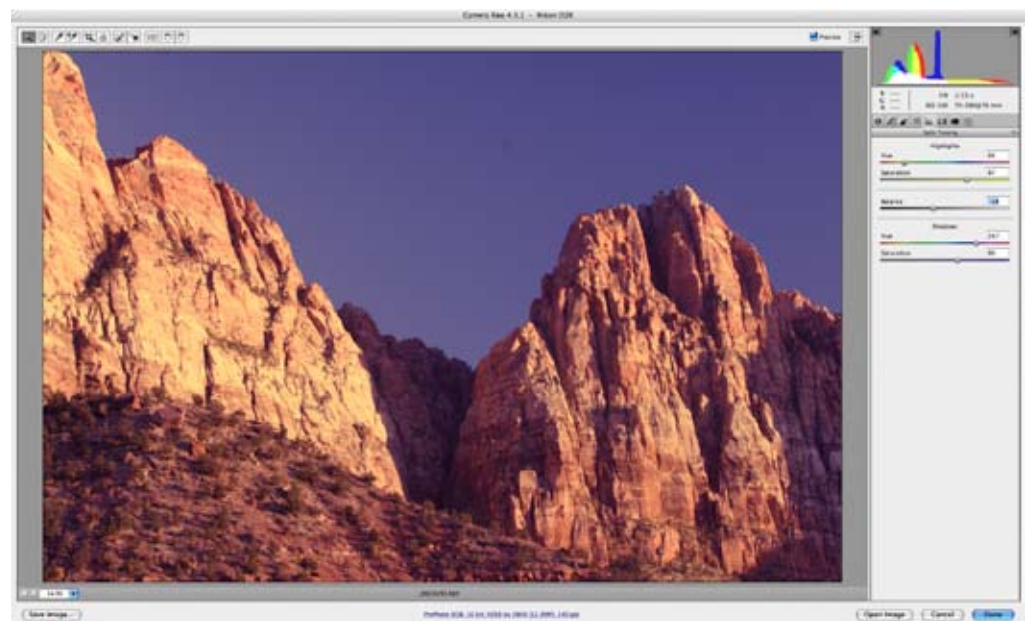
This tab has controls that allow you to change the Hue, Saturation and Luminance of eight different color “groups.” The groups are supposed to cover all the different tones present in the image with easy to use descriptions. They operate similarly to Photoshop’s Hue and Saturation controls.

By clicking the Convert to Grayscale checkbox, you can adjust these color combinations and observe the way they affect the grayscale image.



Split Toning Tab

Split toning allows you to tone highlights one way and shadows another. The Balance slider determines the percentage of each that is visible.



Lens Correction Tab

ACR can correct a lens' difficulty in focussing all colors to the same size.
Zoom to about 200% at a corner. Hold the Option/Alt key and...
Adjust the Red/Cyan slider to change red channel size.
Adjust the Blue/Yellow slider to change the blue channel size.

If "sensor flooding" occurs along the edges of specular highlights, set the drop-down to Highlight Edges. Set it to All Edges to reduce color fringing all throughout the image.

Lens Correction Tab

These sliders can correct for lens vignetting that can happen with some side angle lenses. The Amount control either brightens the corners to correct, or darkens the corners for creative effect. The Midpoint control determines where the falloff or brightening starts.



Camera Calibration Tab

These controls allow you to calibrate ACR to account for your camera's idiosyncrasies in the way colors are captured. These calibrations are difficult to make by eye, but with a Gretag-Macbeth Color Checker card, a well-exposed image, and a script from Chromoholics (<http://chromoholics.com>), you can automate this process.