The Histogram palette

Now in CS there is a Histogram palette what is always available to the use while editing. Gone is the Histogram that was accessed in Photoshop 7 (Image->Histogram...). The same functionality and more is now available in the Histogram Palette. What's so useful about this palette is that any corrections made on an image are seen on-the-fly even while correction dialogs (like Curves) is open.

A popup menu at the top of the Palette allows users to view a composite of all the color channels (for example RGB if the file is in that colorspace), individual color channels, Luminosity, or all color channels individually overlaid on top of each other (as seen in figure 1).

Clicking on the option menu (triangle button in the upper right of the palette) provides the following options:

Uncache Refresh. Because all edits in Photoshop could affect the histogram, a cache is in effect whereby the screen resolution of the current document is used to calculate the histogram. Calculating a full resolution histogram from the entire image after every edit and operation would slow CS down tremendously. So, just like the camera raw Plug-in histogram, the histogram palette is normally based on a downsampled version of the image. When any operation takes place, the cache kicks in indicated by a small triangle seen in the upper right of the composite histogram. Clicking on that triangle or using the Uncache Refresh menu item allows Photoshop to produce a fully calculated histogram. For very precise editing, this is usually a good idea.
 Note that the "Use Cache for Histogram" preferences (command/control K) are for the Levels Histogram and not this Histogram palette.

Compact/Expanded View. The Histogram has two sizes and the expanded size is really the way to go assuming you have the screen real estate as it's much easier to see.

All Channel View. This allows all the color channels to be seen below the composite channel, a handy and new way to view histogram data. Again, assuming screen real estate isn't an issue, it's very handy to have all the color channels seen.

Show Statistics. This produces statistical data as the user moves the cursor over the histogram much as the older and now removed Histogram dialog provided.
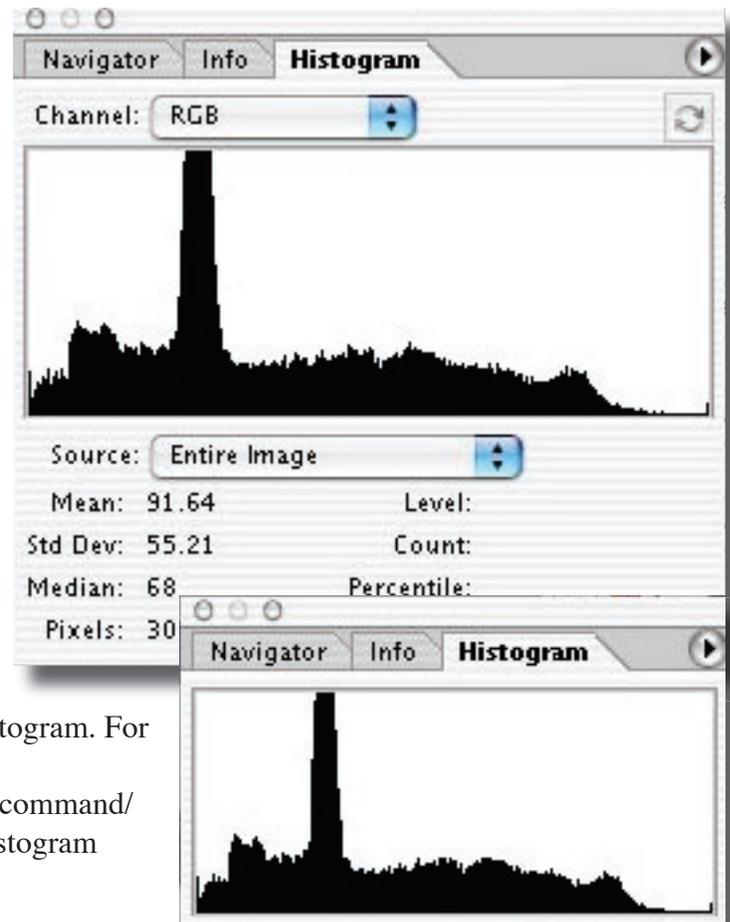
The small and expanded Histograms from Photoshop CS.

Clicking and dragging an area in either the composite or individual color channels will produce statistics on all selected (highlighted) pixels.

Show Channels in Color. Like the preference that allows the channels palette to show individual channels in their respective color, this option shows the histogram channels their actual colors, as seen in figure 1.

Source popup menu. This popup allows the user to view the Histogram of a selected layer (target the layer you wish to view if more than one is in a file). Adjustment composite (anyone know what this does)?

16 bit. The Histogram can't show a true 16 bit Histogram. Each level in the file is drawn in the Histogram so what is always seen is 256 levels. Had a true 16 bit Histogram been possible, you'd need a display the size of a small wall to show 65,000 odd levels! The "Level" read out in statistics always provides a zero to 256 scale.

The new Histogram palette is a great way to keep an eye on what's happening to your file as you edit. Keep in mind that precise clipping of pixels will only be visible when the cache is off so clicking on the double circle icon or triangle icon in the upper right of the palette is something you might want to do from time to time. For precise clipping control, Levels using the Alt/Option drag on the black and white input level sliders is still the way to work.