Digital …

A monthly column by Harry

We are following on from last month where we discussed the sharpening available in Lightroom or Adobe Camera Raw (ACR), which is appropriate for initial sharpening of the image. Now we will discuss one method suitable for final sharpening. I've started a discussion on this topic with an example on [the Club Web site](#).

I'm ready to print. What about final sharpening?

The built-in sharpening options in Photoshop (Smart Sharpen filter) or Elements (Enhance/Adjust Sharpness...) work quite well. However, in some cases High Pass sharpening may be more effective. The High Pass method selects edges and applies sharpening only to them so that areas with smooth tonal variations are protected from potentially damaging sharpening. Here's how it works in Photoshop Elements 7 (other versions are similar).

If necessary, re-size your image so that it is ready for printing (also Elements requires you to convert to 8-bit mode if you are working in 16-bit up to now). Open the image in the Elements editor at full size (View/Actual Pixels) or 50% of full size. Move the image around so that a critical part is showing. Look for the Layers palette. (If it doesn't show, click on Windows in the menu bar and put a check mark beside Layers.) The Layers palette shows one layer, called Background, with your image in it. Right-click on this Background layer in the Layers palette and choose Duplicate Layer ... from the right-click menu. Type in a name for the new layer, such as High Pass and press the Enter key on your keyboard.

Find the layer blending modes at the top of the Layers palette, beside the Opacity slider. The blending mode is probably set to Normal. Open the list of blending modes with the little triangle near the word Normal and from the list choose Overlay. (Your image probably looks horrible now but don't worry.) On the menu bar, click on Filter, then Other, then High Pass … . A dialogue box will open with one slider, for Radius. The High Pass filter finds and selects edges. With a small radius setting only very sharp edges are found; the filter will find more edges as the radius value is set higher. The window in the dialog box shows the edges that have been selected.

Try changing the value of the high pass filter's radius by clicking on the slider bar in the dialog box; notice how only the strongest edges are selected when a low radius is used but almost everything becomes an edge at high radius. There is a happy medium, if you are lucky, where true edges are selected but noise is not. For pure sharpening, we generally use a low radius value, depending on the image. You can use a large radius to give a local contrast enhancement effect. When you have chosen your best radius value, click OK in the dialog box.

This is basically it, but there are is some fine tuning we can do. If the effect is too strong, it can be reduced with the opacity slider (at the top of the Layers palette) when the High Pass layer is selected in the Layers palette. More interesting changes can be made by using different blending modes for the High Pass layer. Instead of Overlay,

try Soft Light or Hard Light or Vivid Light. Choose the one that gives the look you want for this image.

Different images will respond differently to different sharpening strategies. There are two major pitfalls, halos and noise. Look for these carefully in your sharpened image. If they are a problem, you can try a different sharpening technique, such as the one described here. Another alternative is to use a layer mask or a local adjustment brush to reduce the amount of sharpening in just the areas where it is a problem.