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My Multi-Pass Sharpening Technique
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INTRODUCTION

I used to do my sharpening in one go at the end of image adjustment but using the 3-stage Multi-pass Sharpening technique (which I think was pioneered by the late Bruce Fraser) I believe allows more fine control and creative adjustment over sharpening for both the subject and to produce the best final image depending upon the chosen output.

Essentially I use a 3-stage Sharpening Process:

1. **Capture Sharpening**
   Used to correct to correct for the inherent softness caused by digital capture by a digital camera or scanner.
2. **Creative Sharpening**
   Sharpening to taste on the final adjusted image
3. **Output Sharpening**
   Sharpening to match the final output, e.g. inkjet printer, digitally projected jpeg, etc.

You can either apply the sharpening stages manually in Photoshop or use commercial scripts and software (details at the end of this handout). Personally I use a mixture of both.

Warning it's very easy to over sharpen, like healthy eating, the maxim is "little and often".

CAPTURE SHARPENING

The anti-aliasing filters in digital camera and scanners make raw digital images soft and they need a basic amount of sharpening to correct this. If you're shooting in JPEG and have sharpening on then this corrects the capture softness and so you probably don't need to perform a separate capture sharpening stage. If you're shooting in RAW then you probably will need to perform some additional sharpening. Essentially Capture Sharpening applies a light sharpening to the whole image and should be done before any other image adjustments. I used to do as the very first stage in Photoshop

using the free "The Lights Right Professional Sharpening Toolkit" Capture Sharpening scripts but now with much improved sharpening in the latest version of Adobe Camera RAW 4.1 (ACR 4.1) I do it during RAW conversion.

I find that sharpening is nearly always best viewed at 100% (Actual Pixels). The sharpening controls in ACR 4.1 are on the "Detail" tab and I've summarised their use below:

- **Amount** and **Radius** function in a similar way to Unsharp Mask or Smart Sharpen in Photoshop. With Radius controlling the amount of edge sharpening (a setting of 1.0 works for many images) and Amount acting like a volume control for the amount of overall sharpening.
- **Detail** applies sharpening to just the edge details
- **Masking** applies a mask to prevent sharpening in flat areas and is good for preventing sharpening artefacts in skins areas.
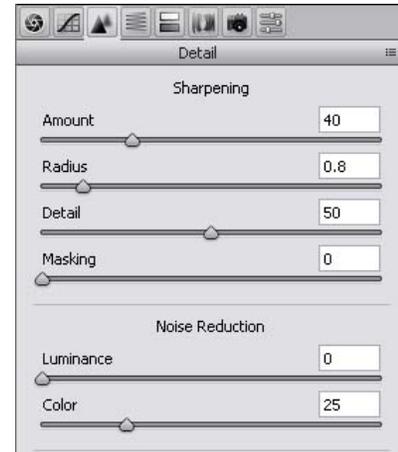
WARNING You need to use the controls sparingly, they can produce unnatural effects if over used.

To be honest I don't play with these setting much but instead use a couple of presets from the Lightroom 1.1 sharpening suite with the following settings:

	Highly detailed images, e.g. **Landscapes**	Less detailed images, e.g. **Portraits**
Amount	40	35
Radius	0.8	1.2
Detail	50	20
Masking	0	70

CREATIVE SHARPENING

Creative Sharpening is only applying sharpening to those parts of the image that you want to be sharp and is effectively adjusted "To Taste" to what looks right to you. Normally a Layer Mask is used to control what elements of the image are to be sharpened and what will be left unsharpened, masking out low contrast areas e.g. sky or areas of skin to prevent sharpening "grain"

becoming apparent. I would recommend doing this after you've completed all of your other image adjustments.

The method I use in Photoshop CS2 and CS3 is:

1. Use the "Create a new layer" tool to create a blank layer on the top of the layer set. Then holding down the Alt key, click on the downward pointing Layers Palette Drop Down Menu triangle in the top right corner of the Layers palette and click on "Merge Visible" to create a copy of the final image on the top of the layers stack.
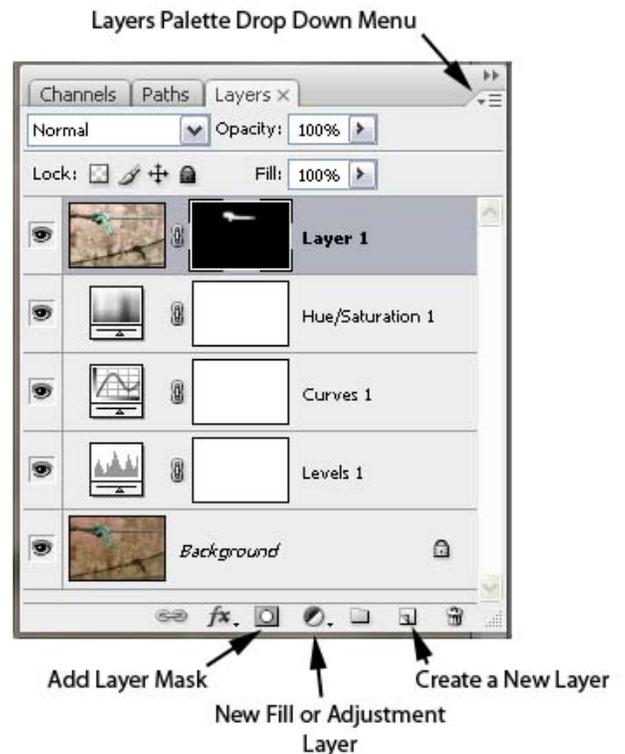
2. Ensure the new merged layer is visible and select the Smart Sharpen filter from the Sharpen filters in the Filter menu. Select Remove Lens Blur from the drop down menu (unless you have Motion Blur to remove) and then adjust Radius and Amount. Of course you can also use the Unsharp Mask filter instead. Remember you can use the Opacity slider on the merged layer to adjust the overall amount of sharpening.

3. Click on the "Add layer mask" icon at the bottom of the Layers palette then use a combination of the Selection tools, Paint Bucket and Paint Brush with Black and White paint colours to mask out areas that aren't to be sharpened.

OUTPUT SHARPENING

Output Sharpening is required to restore sharpness in images that have been reduced in size for digital projection or viewing on the internet or to compensate for the loss of sharpness that occurs with inkjet printing. Paper acts like blotting paper and smears the ink droplets (Dot Gain) making the image fuzzier. I perform this on the final FLATTENED image AFTER re-sizing before output.

When sharpening by eye for inkjet printing, the phrase used is to make the image "crunchy" whatever that means! I prefer to take the guesswork out by using the free "The Lights Right Professional Sharpening Toolkit" Output Sharpening scripts.

LINKS

Books

- "**Real World Camera Raw with Adobe Photoshop CS2**" by Bruce Fraser, Pub: Peachpit Press
- "**Adobe Photoshop CS3 for Photographers**" by Martin Evening, Pub. Focal Press

Commercial Packages

- **Focal Blade** $49.95 http://www.thepluginsite.com/products/photowiz/focalblade/index.htm
- **nik Sharpener Pro 2.0** €392.64 (Inkjet Edition €202.24) http://www.niksoftware.com/sharpenerpro/en/entry.php?
- **Photokit Sharpener** $99.95 http://www.pixelgenius.com/sharpener/

Free Packages

- **The Lights Right Studio Professional Sharpening Toolkit** Currently Photoshop Actions and Script for CS and CS2 but new improved versions plus a detailed book are due out soon. http://www.thelightsrightstudio.com/photoshop-tools.htm