

Imaging Techniques – Alternative Technique for Sharpening an Image

Using High Pass Filter to Sharpen an Image:

The following technique is an alternative method that you can use to sharpen an image. It is a particularly useful method because it's totally non-destructive and gives extremely fine control over the amount of sharpening that is taking place. In addition it does not have the potential halo effect that you often get when using the USM (Unsharp Mask). The process makes use of the High Pass filter and layer Blend modes, with added benefit of being able to fine-tune the effect and the amount of sharpening using the layer Opacity slider

It is important to realise that the technique cannot be applied to a single layer, e.g. the *Background* layer. This is because layer Blend modes are used and they require a minimum of one other layer for them to work. They need something to blend with.

I have included a process that allows you to combine or flatten all active layers into one layer but at the same time leave the original layers intact for reuse later if found necessary. Normally when you flatten an image this is not possible and you lose the opportunity to go back to rework the separate layers in the event of an accident.

Sharpening an Image Using the High Pass filter:

1. First open the image you wish to apply this technique too.
2. It's assumed that you have made all necessary tonal/contrast and manipulation adjustments to the image and that you have saved the image with all the layers intact. In keeping with best practice you have saved the master file without using the USM Unsharp mask.
3. With your image on screen you can now apply this alternative method of sharpening an image. For the purpose of this procedure it is assumed you have several layers that make up the final image.
4. You need to reduce the layer stack so you have a single combine Layer. This will normally involve flattening the image. BUT to do this and be able to keep all your separate layers intact, use the following process.
5. First make sure that the **eye** visibility icons are switched on next to all layers you want included in the combined layer.
6. Then select the current top most layer in the layer stack by clicking the layer to make it active (*highlighted*)
7. Click the '**Create a new layer**' icon found at the bottom of the Layer palette next to the Trashcan icon.
8. A blank layer is now placed at the top of the layer stack and above the layer you clicked in Step 6.
9. Hold down the **Alt** key on the keyboard and click the right facing triangle at the top of the layer palette.
10. From the drop-down menu choose '**Merge Visible**'.
11. Because you held down the **Alt** key, any layer with an eye icon next to it will be copied to the new blank layer, but each separate layer will be left intact and available for reuse later if found necessary. You can now switch off the eye icons next to all the original layers so only the combined layer is selected.
12. The new combined layer should now be active (*highlighted*). If on the other hand you started this tutorial exercise with an image of just a **Background** layer, it will be the active layer.

*You have completed the prep stage and at a point where you can apply the **High Pass** sharpening technique. Don't be put off by the earlier stages it seems complicated but is actually very easy to do and will be worth the effort. Combining worked layers into a single layer is a great workflow technique in its own right. Mainly because it gives greater flexibility and offers reuse of the original layers should things go wrong. You are able to back track and start again and is a technique that can be generally used.*

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Applying the High Pass Filter:

13. It's important to appreciate that the following technique makes use of **Layer Blend Modes** therefore it will be necessary to duplicate the **Background** layer or depending on your starting point your new combined new layer.
14. The technique will not work on a single Layer and needs a duplicate of that layer so the High Pass Filter is applied to areas of contrast within the image. What is perceived as areas of contrast is based on the Radius setting made in the High Pass Filter dialogue box. The effect is then blended with the layer underneath and then fine-tuned using the layer opacity control slider.
15. Click either the new **Combined** layer to select it OR your **Background** layer, then duplicate the layer.
16. Holding down the **Ctrl** key and pressing the **J** key [**Ctrl+J**] is a simple way to duplicate a layer, including a **Background** layer. Or use the more common method for duplicating a layer by dragging the layer to the 'Create a new layer' icon.
17. Make sure the new duplicate layer is active (highlighted).
18. From the **Filter** menu select **Filter>Other>High Pass**.
19. The High Pass dialogue box will now appear on screen.
20. Leave the default **Radius** setting at **10** pixels. However this is an area you might wish to experiment with later, but for the most part, a setting of 10 pixels seems to work just fine and you may find it unnecessary to change this setting. (*I not found it necessary to use a setting above 15*)
21. The image on screen will take on a grey embossed effect, click the High Pass dialogue box **OK** button.
22. Basically what is going on is that the High Pass Filter looks for areas of contrast in the image based on the Radius setting and produces an embossed or raised edge effect around these areas of contrast. Note that the duplicate layer thumbnail in the layer palette will also appear 'grey' in colour.
23. Move to the '**Set the blending mode for the layer**' option found at the top of the Layers palette and click the small downward facing arrow next to the default setting '**Normal**' mode.
24. From the drop-down menu choose. **Overlay** or **Soft light** or **Hard Light**. My personal choice is Soft Light.
25. Make sure your image is at 100% view so that you can more easily see the effect.
26. Depending on which blend mode is used your image may look slightly to sharp. You can apply infinite control to fine-tune the exact amount of image sharpening being applied using the Layer Opacity slider.
27. Now move to the current active layer **Opacity** option, found at the top of the Layer palette, and click the small triangle to show the **Opacity** slider bar. Drag the slider until you dial in the correct amount of sharpening. Keep an eye on the main image and watch the effect. Zoom to 100%.
28. Click the High Pass layer eye icon off and on to see the full benefit of the sharpening taking place. A slider setting between 40% and 70% will often give great results. For finer control use the keyboard arrow keys.
29. This is a real tipping technique. **IF** you find that using the High Pass filter does not give sufficient sharpening at 100% Opacity leave the Opacity setting at 100% and click and drag the High Pass layer thumbnail to the 'Create a new layer' icon to duplicate the layer.
30. You will now have two layers both with identical Blend mode and Opacity settings. The first High Pass layer settings will have been duplicated when you copied the layer. The additional sharpening the second duplicate layer now provides will be more evident.
31. However, if this should now produce too much sharpening, drag and adjust the Opacity slider for the new duplicate High Pass layer **only** until you achieve a degree of sharpening required for the image.