JR Macros: Sharpening (V2 only)

Introduction

This macro pack contains implementations of several different sharpening methods, all of which can provide extra flexibility over the standard methods of sharpening available in Affinity Photo (Unsharp Mask, High Pass, Clarity).

All implementations are designed to be as non-destructive as possible, taking advantage of Affinity Photo's live filter functionality. I would recommend using these macros as a final step before exporting your images.

Experimentation is encouraged—there is no one solution for sharpening that fits all imagery, which is why I am keen to provide several different options.

The Multi-Bandpass sharpening, for example, works well for noisier imagery since it is very effective at enhancing detail without over-sharpening the noise. Enhance Local Contrast works well for architecture or imagery where structural detail needs to 'pop'. Other methods, such as Bilateral Sharpening, work well for wildlife or nature imagery where you want to specifically enhance edge detail that may be slightly soft (perhaps because of budget telephoto lenses).

These are, however, just general suggestions—feel free to experiment and see which methods you favour for your own imagery.
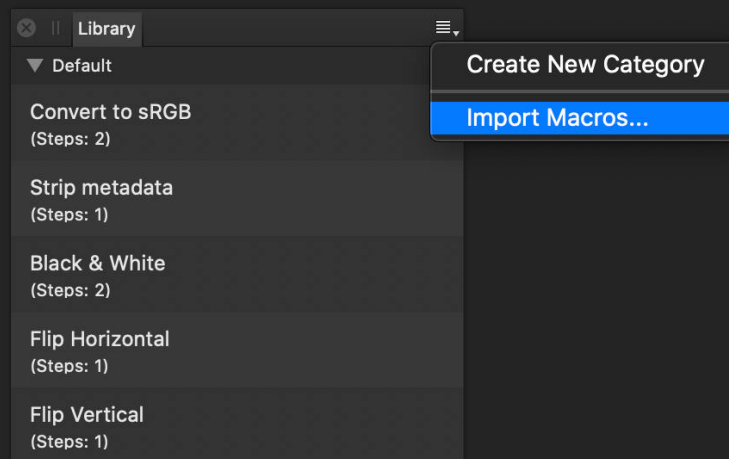
Installation

1. Extract the *.afmacros* file to a directory of your choice.

2. In Affinity Photo, you will need to expose the **Library** panel. To do this, go to **Window>Library**.

3. Click the small icon at the top right of the **Library** panel and choose **Import Macros**.

4. Navigate to the directory containing the *.afmacros* file and select it, then click **Open** (or double click the file).

5. The **Library** panel will then be populated with the macros from that category. If you are installing any other macro packs, repeat the process for those categories.

Tip: you can also drag-drop the .afmacros file onto a blank area of the app and it will immediately import and be shown on the Library panel. You can bulk import multiple .afmacros files this way.

Top: No Sharpening. Bottom: Bandpass Sharpening (Regular)

Macros

Macro	Functionality

UPDATED: Bandpass Sharpening
(Micro)
(Fine)
(Regular)
(Wide)

Performs overall detail enhancement based on wavelet decomposition. The image data is decomposed with multiple high pass filters, and these results are then blended.

The result is a pleasant sharpening that enhances meaningful detail without exacerbating noise in the image.

The regular version is best used for more subtle, fine detail enhancement.

There are five variants (Repetitive is covered below) which each use different progressions for the bandpass values. Micro offers very fine detail enhancement, Fine offers slightly more enhancement, Regular is suitable for most imagery and Wide will produce a stronger or 'wider' contrast enhancement around edge detail.

The layer stack is non-destructive, so do expand the group and experiment with each *Pass* layer or modify the group opacity value to tailor the sharpening to your taste.

UPDATED: Bandpass Sharpening (Repetitive)

Uses multiple bandpass filters all set to the same value.

Each pass gradually enhances detail and sharpness in a very subtle and refined way.

If the sharpening is too strong, click any of the Bandpass layer thumbnails and change the Radius value to taste—this value is linked between all the filters.

NEW: Structural Contrast

Creates a filter that enhances local contrast but is masked to a calculation of structural/textural elements in the image.

This will typically enhance luminosity of textural detail, and can be useful if you are struggling to 'tease out' brightness of certain areas without making flatter detail brighter.

You can expand the *Structural Contrast* layer, then click on the *Mask Strength* layer thumbnail to gain access to a slider you can use to control the overall mask strength. Alternatively, you can change the opacity of the *Structural Contrast* layer.

Top: No Sharpening. Bottom: Bandpass Sharpening (Fine)

Macros

Macro	Functionality
Enhance Local Contrast Enhance Local Contrast (+)	*Creates a layer structure at the top of the layer stack.* Enhances local contrast between neighbouring pixels without boosting noise in the image. The (+) version is more aggressive and can be used for a more stylistic approach to detail enhancement. It has additional blending to prevent significant halo artefacting around edge detail.
Enhance Depth & Contrast	Enhances perceptual depth of the image and boosts contrast. Double-click the Enhance Depth & Colour layer and type in a larger Radius value for stronger enhancement, or reduce the layer opacity to lessen the effect.
Gaussian Kernel Sharpening	Uses a gaussian kernel to generate an edge mask, which is then used with a live Unsharp Mask filter. The result is a more refined detail enhancement that avoids flat tonal regions (including noise). Expanding the *Gaussian Kernel Sharpening* layer allows you to double click on the *Mask Strength* layer and use the slider to fine tune the sharpening strength.
Laplacian of Gaussian Kernel Sharpening	Uses a laplacian of gaussian kernel to generate an edge mask, which is then used with a live Unsharp Mask filter. The difference compared to Gaussian Kernel Sharpening is incredibly subtle, but Laplacian of Gaussian will offer slightly smoother sharpening around high contrast edges. Expanding the *Laplacian of Gaussian Kernel Sharpening* layer allows you to double click on the *Mask Strength* layer and use the slider to fine tune the sharpening strength.
NEW: Edge Contrast	Enhances contrast and decreases brightness of very fine edge detail. This can provide a subtle increase in perceptual sharpness without exacerbating noise in the image. This approach is not necessarily suitable for all types of imagery, but do experiment and see if you like the effect. Expanding the *Edge Contrast* layer allows you to click on the *Band-pass Mask* thumbnail and modify the masking parameters.

Top: No Sharpening. Bottom: Enhance Local Contrast

Macro	Functionality
Edge Detect Sharpening	Uses Affinity Photo's native edge detection filtering to generate an edge mask, which is then applied to a live Unsharp Mask filter. The result tends to brighten edge detail, so this could be an interesting method for slightly stylised sharpening. Expanding the *Edge Detect Sharpening* layer allows you to double click on the *Mask Strength* layer and use the slider to fine tune the sharpening strength.
Sobel Kernel Sharpening	Uses a sobel kernel to generate an edge mask, which is then used with a live Unsharp Mask filter. Compared to the gaussian and laplacian of gaussian implementations, the sobel mask sharpening is more defined with high contrast edge detail (e.g. where a building meets the background sky), but renders less local contrast enhancement between neighbouring detail such as brickwork/stonework. Expanding the *Sobel Kernel Sharpening* layer allows you to double click on the *Mask Strength* layer and use the slider to fine tune the sharpening strength.
Bilateral Sharpening Bilateral Smooth Sharpening	Harnesses bilteral filtering to create a smooth edge mask, then applies it to a live Unsharp Mask filter. This method is very good for avoiding over-sharpening of high contrast edge detail, and also produces minimal local contrast enhancement. Bilateral Smooth Sharpening uses a larger kernel value for the bilateral filtering, and is even more effective at sharpening neighbouring detail whilst avoiding over-sharpening edge detail. Expanding the *Bilateral Sharpening / Bilateral Smooth Sharpening* layer allows you to double click on the *Mask Strength* layer and use the slider to fine tune the sharpening strength.
Gaussian Subtractive Sharpening Bilateral Subtractive Sharpening	These methods use a subtractive gaussian/bilateral filtering model to enhance detail rather than generating masks. Gaussian subtractive sharpening is quite aggressive, and enhances pixel luminosity. Bilateral subtractive sharpening produces a 'flatter' sharpening result, but is more effective at enhancing detail over homogenous areas of an image.

Top: No Sharpening. Bottom: Bilateral Sharpening

Credits

All photography and editing by James Ritson.