Serum - User Reference

Version 1.3

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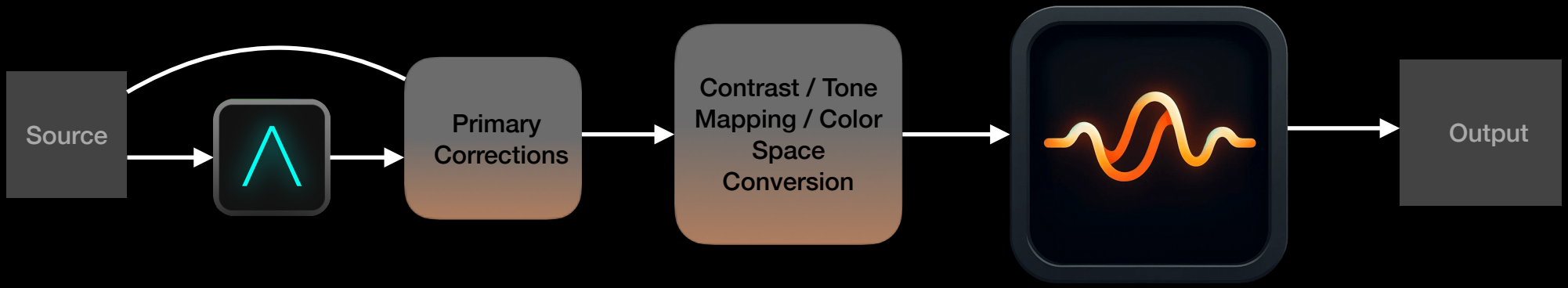
greyscalelabs.com

Overview

Serum takes the skin-retouching technique ‘Frequency Separation’ used by photography professionals and brings it to use in your video editing workflow. Simply put, it’s a process of separating high frequencies (texture and pores) from low frequencies (color and tone) allowing them to be edited separately.

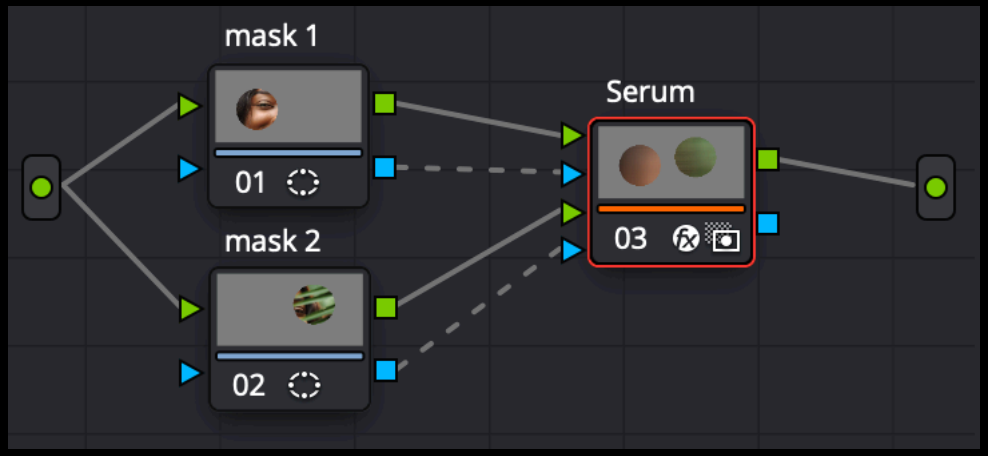
In DaVinci Resolve, we generally want to mask the desired areas *one at a time,* in example the subjects forehead should have it’s own mask. With Serum, the Initial Filter Radius creates the low frequency (color) layer, and the high frequency (texture) layer is instantly and automatically generated from it. The Low Frequency Filter Radius blur only effects the color layer, and effectively improves color and tone consistency.

Node Structure

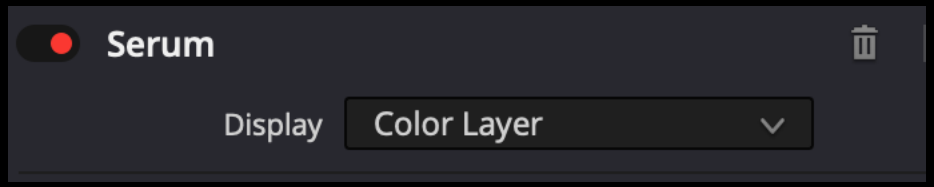


Serum delivers the best results when applied in your final color-space. A color space override feature will be added in a future release for use earlier in your node structure.

Interface

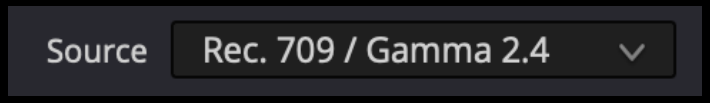


Unlike most OpenFX Plugins, Serum accepts up to two inputs, allowing for an easier time processing different features independently with one node. Any more than two inputs will need to be processed parallel to this tree.



Display:

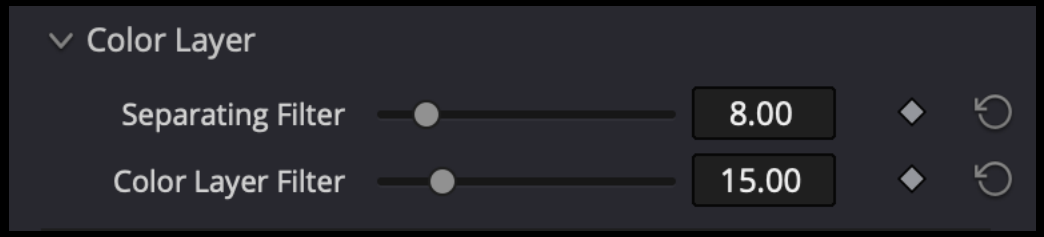
Determines the output of the node.
Final Output: The processed image, consisting of the texture layer superimposed over the color layer.
Color Layer: Shows the low frequency layer of the image. This is useful when monitoring the strength of your base filter.
Texture Layer: Shows the high frequency layer of the image. This is useful to determine the effectiveness of your base filter in separating the layers.



Source:

Designates the working color space of the node. Set this to the color space of the prior node. Color management ensures that Serum gives consistent results regardless of the input color space.

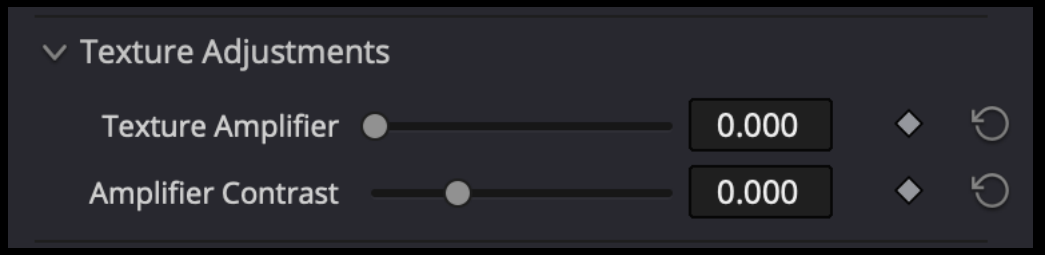
Color Layer:



SEPARATING FILTER
Determines the strength of the base filter that separates the color from texture layer. A larger value will lead to more populous texture layer, but make no difference on the final output without an active Color Layer Filter.
Any increase to this parameter will demand more processing power from the GPU.

COLOR LAYER FILTER
Determines the strength (radius) of the color-layer blur. This determines the smoothing effect on the low-frequencies and does affect the final output regardless of the Initial Filter Radius.
Any increase to this parameter will demand more processing power from the GPU.

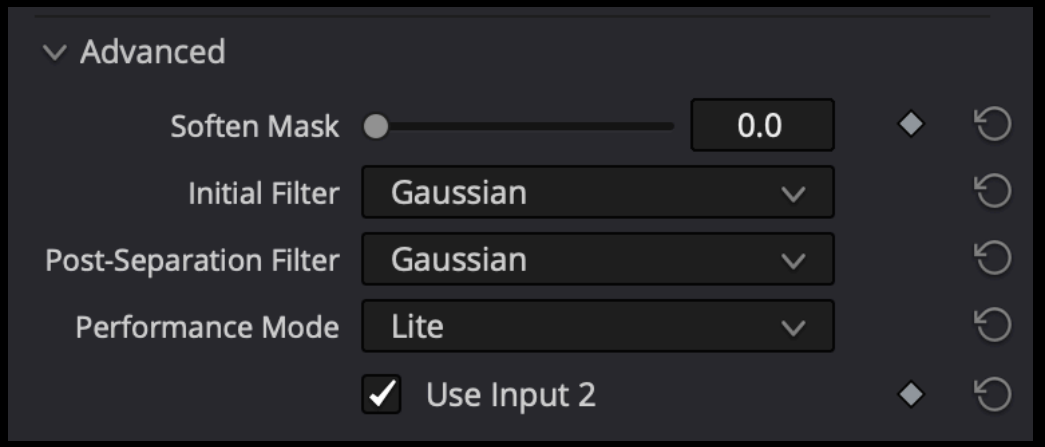
The common technique is the begin with both values at 0, use the initial filter to define texture, then increase low frequency filter to achieve the desired effect.



TEXTURE ADJUSTMENTS

TEXTURE AMPLIFIER:
Emphasized the detail of the texture layer, PRIOR to the processing of the color layer. Effectively defines detail when it might've been lost in the color layer adjustments.

AMPLIFIER CONTRAST:
Further exaggerates or de-exaggerates the detail of the emphasized texture. This only has an effect if the 'Texture Amplifier' is greater than 0.



ADVANCED

SOFTEN MASK:
Softens the edges of the node's alpha channel. This replaces mask softness that would typically be introduced in Resolve's power windows.

SEPARATING / COLOR LAYER FILTER TYPE:
Determines the interpolation pattern used to perform the filter at each respective stage.

Gaussian *(default):*
The accurate but efficient choice, with no specific strengths or weaknesses.
Surface:
The best filter for targeting blemishes. Identical to Gaussian but denies blurring of pixels beyond a color delta defined by 'Threshold', which appears once the 'Surface' filter type is invoked.
Box:
The fastest performing filter type, but less quality of a blur. This quality loss will barely be detectable in most cases.
Bilateral *(coming soon)*: Allows the user to prioritize color vs spatial similarity in the filter.

PERFORMANCE MODE:
Lite:
Typically Identical to the output of Standard Mode on timelines 1920x1080 and greater, with 1/4 the processing power. An M1 MacBook Air can reach 24fps performance in this mode.
Standard:
Significantly more computationally intensive than Lite Mode, but still trades a small amount of accuracy for performance. Systems with 16GB of VRAM can reach 24fps performance in this mode.

USE INPUT 2:
Determines whether the second input will be processed. The settings for the second input will appear once it is checked as true.

Recommended Workflow

1. Mask and track the feature you desire to correct in it's own node. Do not soften the mask (yet)
2. Create a serial node, apply **Serum** to it and connect the alpha (blue) input
3. Set both Separating and Color Layer filters within 'Color Layer Controls' to 0
4. Set Display to 'Color Layer' and increase Separating Filter to barely obscure the fine details (pores) to keep.
5. Set Display to 'Final Output' and increase the Color Layer Filter until desired effect is reached.
    - In virtually all cases, Color Layer will be larger than Separating Filter
6. Adjust Texture Amplifier and Amplifier Contrast as needed
7. Adjust parameters and filter types under 'Advanced'
8. (optional) Create a node parallel to the first, connect to the second input, check 'Use Input 2', and repeat all steps using the new enabled controls.