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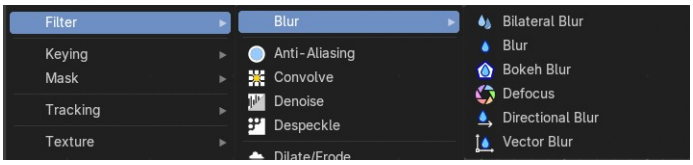
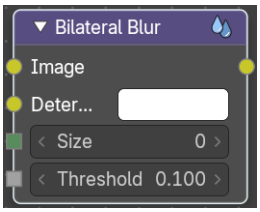
Add menu - Filter - Blur

The Filter add menu contains multiple filters you can use on image data, including blurs and other lens effects.



Bilateral Blur



The Bilateral Blur node performs a high-quality adaptive blur on the source image, allowing to blur images while retaining their sharp edges.

It can be used for various purposes like: smoothing noisy render passes to avoid longer computation times in example ray-traced ambient occlusion, blurry refraction's/reflections, soft shadows, or to make non-photo realistic compositing effects.

Inputs

Image

Standard image input. If only the image input is connected, the node blurs the image depending on the edges present in the source image.

Determinator

Which is non-obligatory and if the Determinator is connected, it serves as the source for defining edges/borders for the blur in the image. This has great advantage in case the source image is too noisy, but normals in combination with Z-buffer can still define exact borders/edges of objects.

Size

The size of the blur in pixels.

Threshold

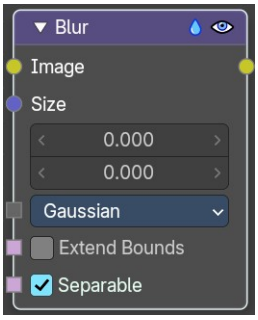
The threshold of the blur area. Pixels are considered to be in the blur area if the average difference between their determinator of the center pixels is less than this threshold.

Outputs

Image

Standard image output.

Blur



The Blur node provides several blur modes to blur an image. The icon top right allows you to collapse and show the image part of the node.

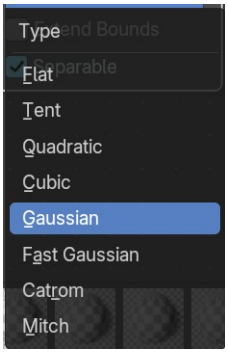
Inputs

Image

Standard image input.

Size

The optional Size input will be multiplied with the X and Y blur radius values. It accepts also a value image, to control the blur radius with a mask. The values should be mapped between (0 to 1) for an optimal effect.



Type

The different blur types.

Flat

Simply blurs everything uniformly.

Tent

Preserves the high and the lows better by making a linear falloff.

Quadratic

Looks similar to Gaussian but can be a little faster but slightly worse looking.

Cubic

Preserve the highs, but give an almost out-of-focus blur while smoothing sharp edges.

Gaussian

Gives the best looking results but tends to be the slowest.

Fast Gaussian

An approximation of the Gaussian.

Catmull-Rom

Catmull-Rom keeps sharp contrast edges crisp.

Mitch

Preserve the highs, but give an almost out-of-focus blur while smoothing sharp edges.

Extend Bounds

Allows the image, that is being blurred, to extend past its original dimension.

Separable

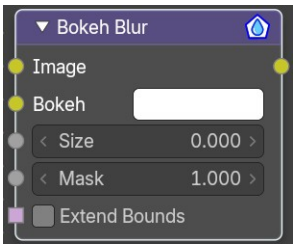
Blur along the horizontal and vertical directions independently. This method is faster.

Outputs

Image

Standard image output.

Bokeh Blur



The Bokeh Blur node generates a bokeh type blur similar to Defocus. Unlike defocus an in-focus region is defined in the Compositor.

Several performance optimizations are also available such as OpenCL support, calculation area restriction and masking.

Inputs

Image

Standard image input.

Bokeh

This is an input for the Bokeh Image node.

Size

Size controls the amount of blur. Size can either be a single value across the entire image or a variable value controlled by an input image. In order to use the latter, the Variable Size option must be selected. See the examples section below for more on how to use this.

Mask

Here you can input a Box Mask matte node or a Mask input node to restrict the area of the image the blur is applied to. This could be helpful, for example, when developing a node system by allowing only a small area of the image to be filtered thus saving composite time each time adjustments are made.

Extend Bounds

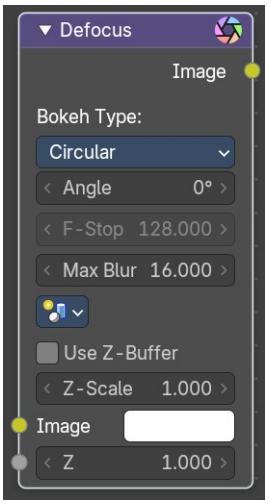
Extend the bounds of the input image to fully fit the blurred image.

Outputs

Image

Image output.

Defocus



It is typically used to emulate depth of field (DOF) using a post-processing method with a Z-buffer input. But also allows to blur images that are not based on Z depth too.

Inputs

Image

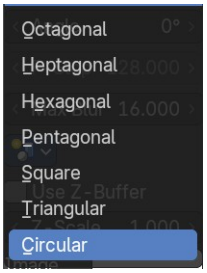
Standard image input.

Z

Z-buffer input, but could also be a (greyscale) image used as a mask, or a single value input.

Properties

Bokeh Type



The number of iris blades of the virtual camera's diaphragm.

Disk (to emulate a perfect circle) or Triangle (3 blades), Square (4 blades), Pentagon (5 blades), Hexagon (6 blades), Heptagon (7 blades) or Octagon (8 blades).

Angle

This button is deactivated, if the Bokeh Type is set to Disk. It can be used to add a rotation offset to the Bokeh shape. The value is the angle in degrees.

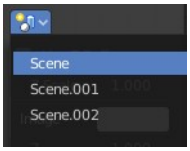
F-Stop

This option controls the amount of focal blur in the same way as a real camera. It simulates the aperture f of a real lens' iris, without modifying the luminosity of the picture. The default value 128 is assumed to be infinity: everything is in perfect focus. Half the value will double the amount of blur. This button is deactivated, if No Z-buffer is enabled.

Max Blur

This value limits the amount of blur by setting a maximum blur radius. Could be used to optimize the performance. The default value of 0 means no limit.

Scene



Select the linked scene. Scenes can be created in the properties editor in the Scene properties tab in the Scene panel.

Use Z-buffer

Should be activated for a non Z-buffer in the Z input. No Z-buffer will be enabled automatically whenever a node that is not image based is connected to the Z input.

Z Scale

Only active when No Z-buffer is enabled. When No Z-buffer is used, the input is used directly to control the blur radius (similar to F-Stop when using the Z-buffer). This parameter can be used to scale the range of the Z input.

Image

Input Image

Z

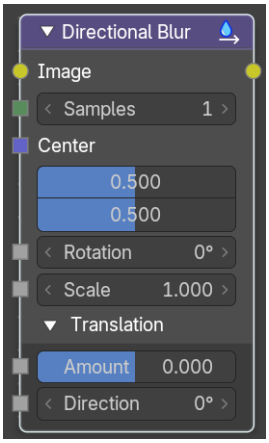
The Z value of the image.

Outputs

Image

Image output.

Directional Blur



Blurs an image in a specified direction and magnitude. Can be used to fake motion blur.

Inputs

Image

Standard image input.

Samples

The number of samples to compute the blur.

Center X, Y

Sets the position where the blur center is. This makes a difference if the angle, spin, and/or zoom are used.

Distance

How large the blur effect is.

Rotation

Rotates the image each iteration to create a spin effect, from the center point.

Scale

Scales the image each iteration, creating the effect of a zoom.

Translation subtab

Amount

The translation amount relative to the image.

Direction

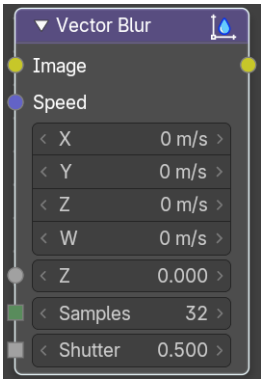
The translation direction.

Outputs

Image

Image output.

Vector Blur



The Vector Blur node is a fast method for simulating Motion blur in compositing. It uses the vector speed render pass to blur the image pixels in 2D.

Inputs

Image

Image input, to be linked to the “Combined” render pass.

Speed

Input for the “Vector” render pass. See Cycles render passes.

Z

Z depth, to be linked to the “Depth” render pass.

Samples

Quality factor.

Shutter

Time between open and close the shutter.

Outputs

Image

Motion blurred image output.