



10.1.18 Editors - Compositor Editor - Header - Add Menu - Utilities - Math

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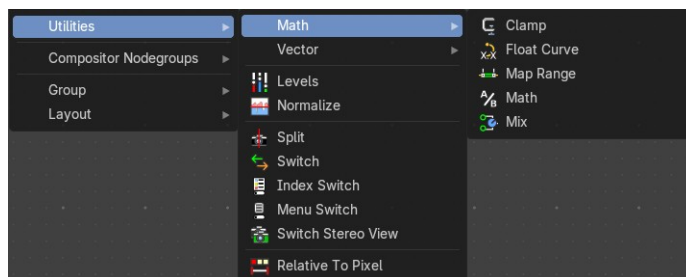
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Add menu - Utilities - Math



Clamp

The **Clamp** node restricts a value to lie within a specified range. It's commonly used in compositing to prevent values from exceeding a desired minimum or maximum, which helps avoid unwanted brightness spikes or clipping in image processing.

Inputs

Value

Standard Value input. (Value refers to each vector in the set.)

Properties

Clamp Type

A dropdown that determines how the clamping is applied: Min / Max or Range.

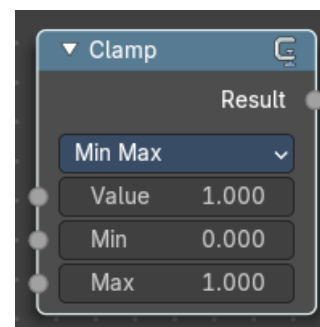
Min / Max

The minimum and maximum allowed value. Any input lower or higher than this will be lowered or raised to this value.

Outputs

Value

Standard value output.



Float Curve

The Float Curves node maps an input value to a curve.

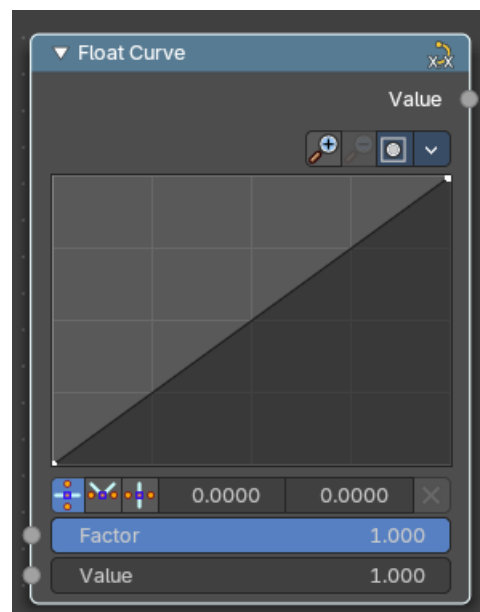
Inputs

Factor

Input factor.

Value

Standard float value input.



Properties

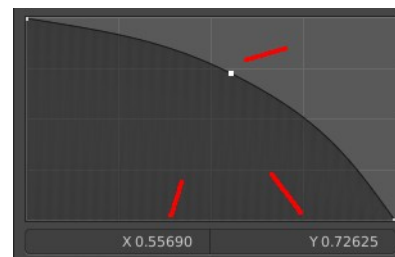
Curve edit field

Create and tweak a Bezier curve that varies the input levels (X axis) to produce an output level (Y axis).

Selecting Points

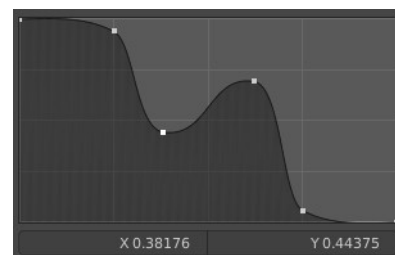
You can select curve points. This reveals two edit boxes for the x and y coordinate of this point.

Selected points can be moved around. Left click at them, hold the mouse button down and move them to a new location.



Adding Points

You can add new curve points by simply left clicking at the curve. Move the mouse to position them where you need it.



Zoom in and out

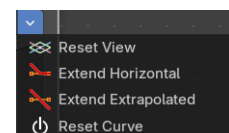
The two buttons with the magnifying glass at it zooms in and out in the curve window.

Tools

Tools is a menu where you can find some curve related tools.

Reset View

Resets the curve windows zoom.



Extend horizontal

Extends the curve before the first curve point and behind the last curve point horizontally.

Extend extrapolated

Extends the curve before the first curve point and behind the last curve point extrapolated.

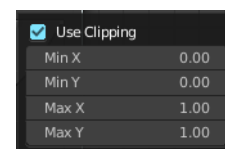
Reset Curve

Resets the curve to the initial shape.

Clipping Options

Use Clipping

Clipping options. Set up clipping for the stroke.

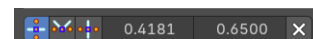


Delete Points

Deletes selected curve points.

Vector Handle

Set handle type to Vector.



Auto Handle

Set handle type to Auto.

Auto Clamped Handle

Set handle type to Auto Clamped.

X / Y value

The position of the selected curve point.

Delete

Deletes the selected curve point.

Outputs

Value

Standard float value output.

Map Range

This node allows to convert (map) an input value range into a destination range. By default, values outside the specified input range will be proportionally mapped as well. This node is similar to Map Value node but provides a more intuitive way to specify the desired output range.

Usage

One important use case is to easily map the original range of the Z-depth channel to a more usable range (i.e: 0.0 - 1.0) for use as a matte for colorization or filtering operations.

Inputs

This chapter deals with the input type Float. The same node exists in the Vector menu too. With preselected type Vector.

Value

Standard value input.

From Min/Max

Start/End of the input value range.

To Min/Max

Start/End of the destination range.

Steps

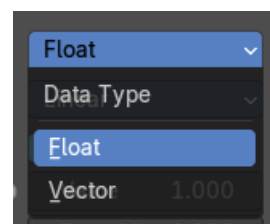
The amount of steps.

Note: Only shows when using the Stepped Linear interpolation type.

Properties

Data Type

Selects between float or vector values to map the range.

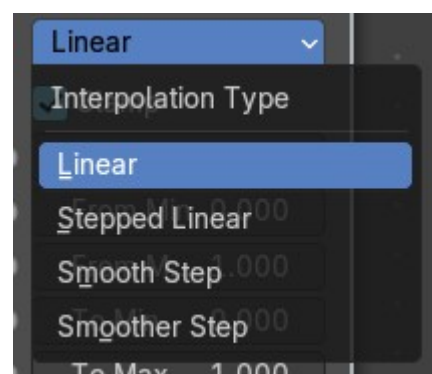
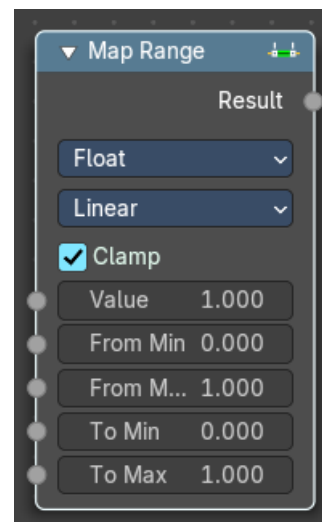


Interpolation Type

Selects between a linear, stepped linear, smooth step or smoother step interpolation types.

Clamp

Clamps values to Min/Max of the destination range.



Outputs

Value

Standard value output.

Math

The Math Node performs math operations.

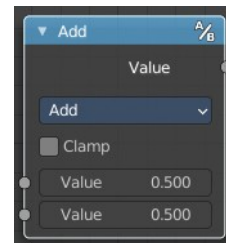
Inputs

Value

First numerical value. The trigonometric functions accept values in radians.

Value

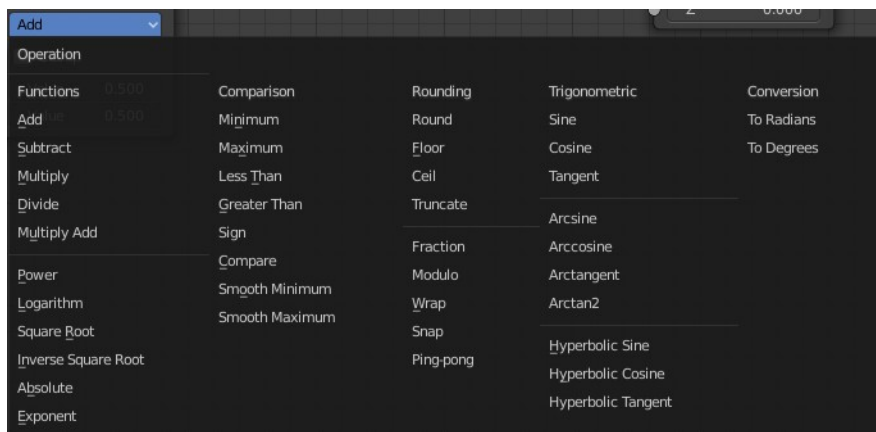
Second numerical value. This value is not used in functions that accept only one parameter like the trigonometric functions, Round and Absolute.



Properties

Operation

Here you can choose what mathematical operation to perform.



Clamp

Limits the output to the range (0 to 1). See clamp.

Outputs

Value

Numerical value output.

Mix

The Mix Node mixes float values by working on the individual and corresponding pixels of the two input values. Called “Mix” in the shader, Geometry Nodes and texture context.

Inputs

Factor

Controls the amount of influence the node exerts on the output Value.

Value A

The back value.

Value B

The top value.

Properties

Clamp Factor

Limit the highest color value to not exceed 1.

Outputs

Result

Value output.

