

12.1.46 Editors - Geometry Nodes Editor - Header - Add Menu - Utilities - Vector

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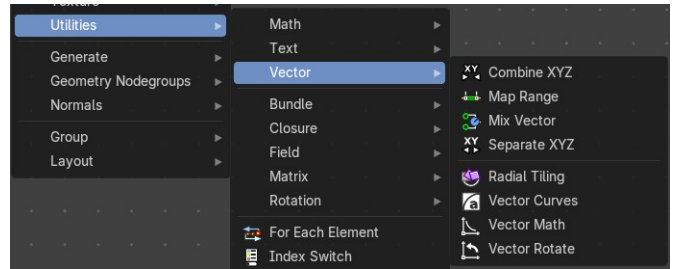
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Add menu - Vector

Vector nodes are for calculating vector operations.



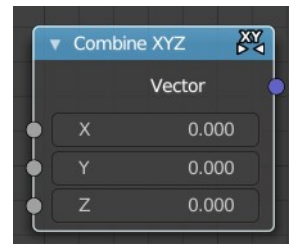
Combine XYZ

The Combine XYZ Node combines a vector from its individual components.

Input

X Y and Z

X, Y and Z values.



Output

Color

Color output.

Map Range

Remap a value from a range to a target range.

Input

From Min

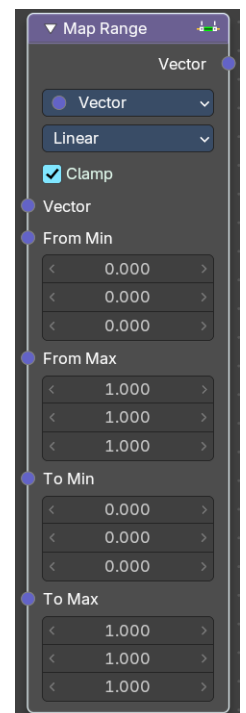
Vector 3 from the minimum input.

From Max

Vector 3 from the maximum input.

To Min

Vector 3 to the minimum input.



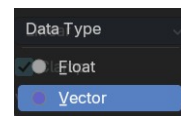
To Min

Vector 3 to the maximum input.

Properties

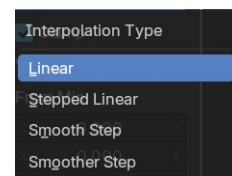
Data Type

What data to calculate.



Interpolation Type

The interpolation method for the operation.



Clamp

Clamp the result to the target range of To Min - To Max.

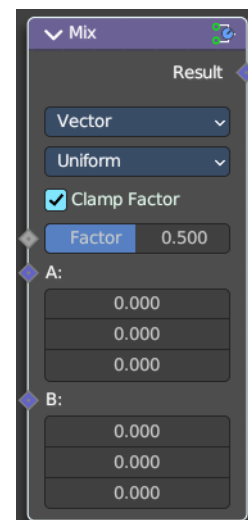
Outputs

Vector

The output vector.

Mix Vector

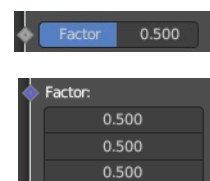
Allows to mix values and vectors in various ways. The node has three different modes. Float, Vector and Color. This here is the node in Vector mode.



Input

Factor

The mix factor. With mode Uniform it is a single value. With mode Non Uniform it is a vector.

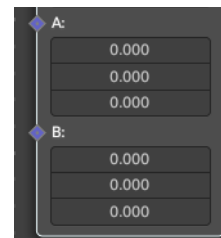


A

Vector A input.

B

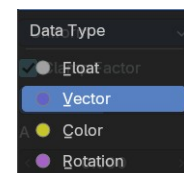
Vector B input.



Properties

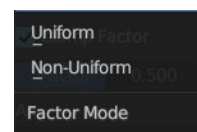
Data Type

Which mode to use. We cover here the Vector mode.



Factor Mode

Use a single value or a vector for the factor.



Output

Result

The output value or vector.

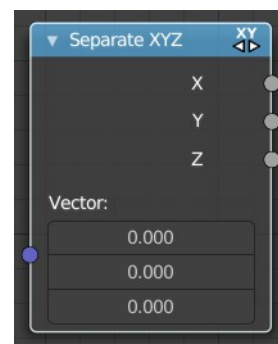
Separate XYZ

The Separate XYZ Node splits a vector into its individual components.

Input

Vector

The Input vector.



Output

X, Y and Z

The output vectors for X, Y and Z.

Radial Tiling

The Separate XYZ Node splits a vector into its individual components.

Input

Vector

The Input vector.

Sides

Number of angular segments for tiling.

Roundness

Roundness of the segments coordinate systems.

Properties

Normalize

Stretch the textures to fit into each angular segment.

Output

Segment Coordinates

The segment coordinates for texture mapping.

Segment ID

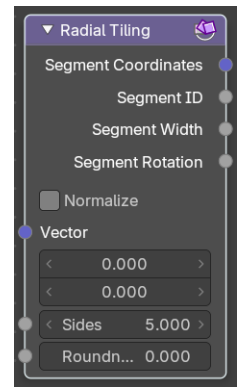
Unique ID for every segment.

Segment Width

The width of every segment.

Segment Rotation

The rotation of every segment.



Vector Curves

The Vector Curves node maps an input vector components to a curve.

Inputs

Factor

Standard vector input.

Vector

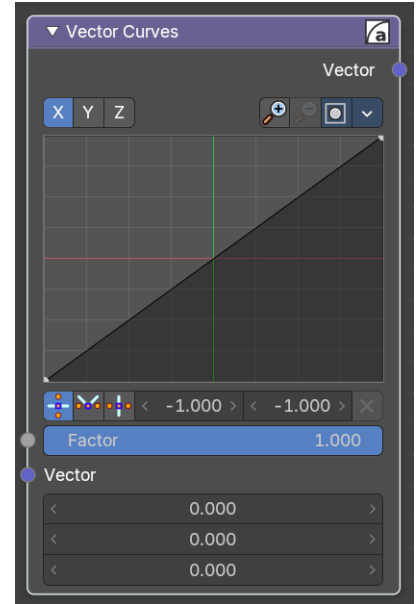
Standard vector input.

Properties

Channel

X Y Z

X, Y, Z Channel buttons. Clicking on one of the channels displays the curve for each.



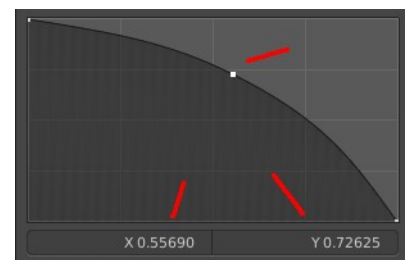
Curve edit field

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

Selecting Points

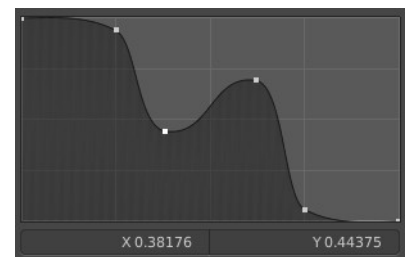
You can select curve points. This reveals two edit boxes for the x and y coordinate of this point.

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.



Navigation elements

The navigation elements at the top are described from left to right.



Zoom in and out

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

Clipping

Clipping options. Set up clipping for the stroke.

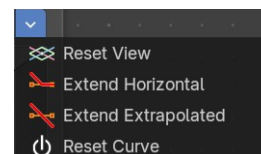


Tools

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

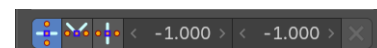
Extends the curve before the first curve point and behind the last curve point extrapolated.

Reset Curve

Resets the curve to the initial shape.

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 values

The x and y values of the selected curve point.

Delete Points

Deletes selected curve points.

Outputs

Vector

Standard vector output.

Vector Math

The Vector Math node performs the selected math operation on the input vectors.

Inputs

The inputs of the node are dynamic. Some inputs are only available in certain operations. For instance, the Scale input is only available in the Scale operator.

Vector

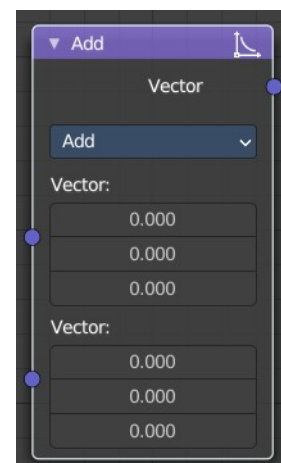
Input vector A.

Vector

Input vector B.

Scale

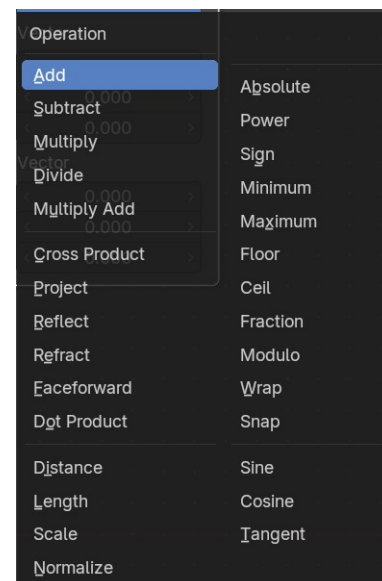
Input Scale.



Properties

Operation

The vector math operator to be applied on the input vectors.



Outputs

The output of the node is dynamic. It is either a vector or a scalar depending on the operator. For instance, the Length operator have a scalar output while the Add operator have a vector output.

Vector

Output vector.

Value

Output value.

Vector Rotate

The Vector Rotate node allows rotations by a vector.

Inputs

The inputs of the node are dynamic. Some inputs are only available in certain operations. For instance, the Angle input is just available with the Axis Angle type.

Vector

Input vector.

Center

Input Center

Axis

Input Axis.

Angle

Input Angle

Properties

Type

The rotation type.

Outputs

Vector

The Output vector.

