



## 10.1.19 Editors - Compositor Editor - Header - Add Menu - Utilities - Vector

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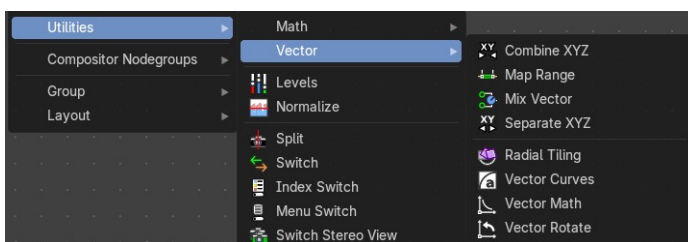
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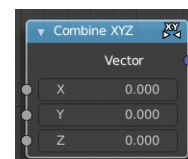
## Add menu - Utilities - Vector

Here you find mainly nodes for vector data manipulation.



### Combine XYZ

Same as with Combine RGB node. It combines color values. But instead combining rgb values, which are in the range of 0 to 255, it uses values in the range from 0 to 1.



### Input

#### *X Y and Z*

X, Y and Z values.

### Output

#### *Color*

Color 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

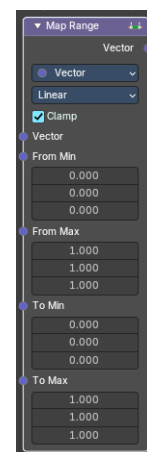
One important use case is to easily map the original range of the Z-depth channel to a more usable range (i.e: 0.0 - 1.0) for use as a matte for colorization or filtering operations.

### Inputs

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

#### *Vector*

Standard vector input.



### **From Min/Max**

Vector 3 of the Start/End of the input value range.

### **To Min/Max**

Vector 3 of the Start/End of the destination range.

### **Steps**

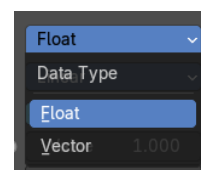
The amount of steps.

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

## **Properties**

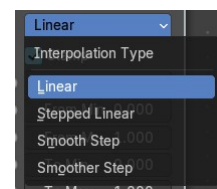
### **Data Type**

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**

### **vector**

Standard value output.

---

## **Mix Vector**

The **Mix Vector** node blends two vector inputs using a specified factor. It's useful for compositing tasks that involve **motion vectors, directional effects, or spatial blending**, offering precise control over how two sets of vector data are combined

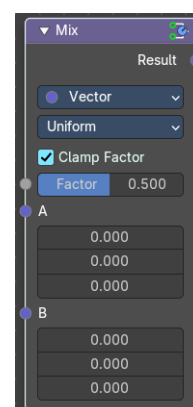
### **Inputs**

#### **Factor**

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

#### **Value A**

The back value.



## **Value B**

The top value.

## **Properties**

### **Data Type**

Set to **Vector**, indicating the node mixes vector values.

### **Factor Mode**

The method of mixing.

- **Uniform:** A single float controls the mix across all vector components.
- **Non-Uniform:** A vector input controls the mix per component (X, Y, Z).

### **Clamp Factor**

Limit the highest color value to not exceed 1.

## **Outputs**

### **Result**

Vector output.

---

## **Separate XYZ**

Same as with Separate RGB node. It separates color values. But instead separating rgb values, which are in the range of 0 to 255, it uses a vector with the values in the range from 0 to 1.

## **Input**

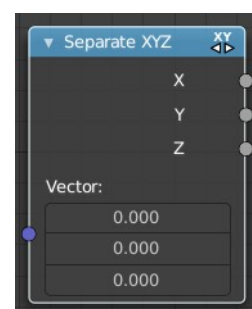
### **Vector**

The Input vector.

## **Output**

### **X, Y and Z**

The output vectors for X, Y and Z



## Radial Tiling

Transform coordinate system for radial tiling.

### Input

#### **Vector**

Vector 2 input

#### **Sides**

Number of angular segments for tiling. A non integer value results in an irregular segment.

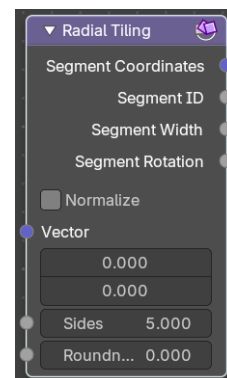
#### **Roundness**

Roundness of the segment coordinates system.

### Properties

#### **Normalize**

Normalize the X coordinate of the segment coordinates output to a [ 0 / 1 ] interval and offset the Y coordinate into a [0, infinity] interval. This stretches the textures to fit into each angular segment. Else they are cropped.



## Vector Curves

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

### Inputs

In the shader context the node also has an additional Factor property.

#### **Vector**

Standard vector 3 input.

### Properties

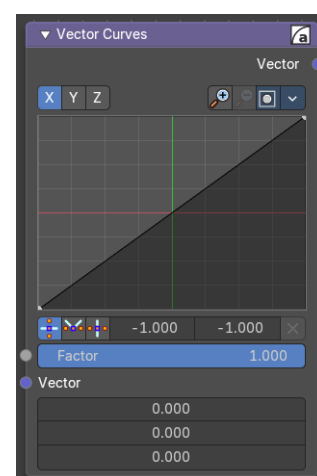
#### **Channel**

#### **Channel buttons**

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

#### **Curve edit field**

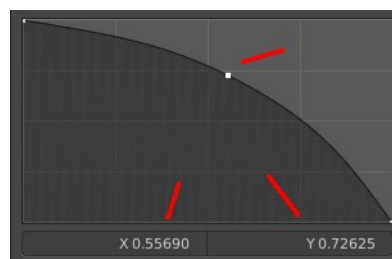
Create and tweak a Bezier curve that varies the input levels (X axis) to produce an output level (Y axis).



## Selecting Points

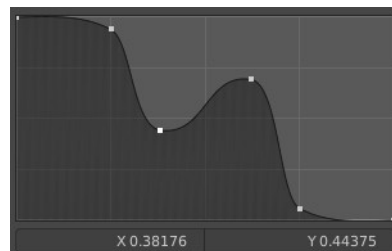
You can select curve points. This reveals two edit boxes for the x and y coordinate of this point.

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.

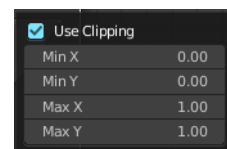


## Zoom in and out

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

## Clipping options

Clipping options. Set up clipping for the stroke.

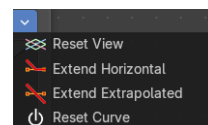


## Tools

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

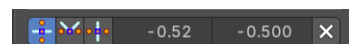
Extends the curve before the first curve point and behind the last curve point extrapolated.

### 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 position

The x y coordinate of the selected curve point. The range goes from -1 to +1

## Delete Points

Deletes selected curve points.

## Outputs

### Vector

Standard vector 3 output.

## Vector Math

The Vector Math Node performs math operations.

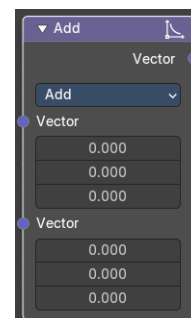
## Inputs

### Vector

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

### Vector

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



## Properties

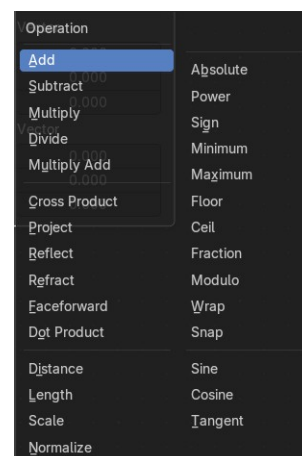
### Operation

Here you can choose what mathematical operation to perform.

## Outputs

### Value

Numerical value output.



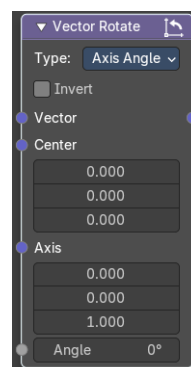
## Vector Rotate

The **Vector Rotate** node rotates a vector around a specified axis and center point. It's useful for compositing tasks involving **directional transformations**, such as rotating motion vectors, normals, or custom vector fields

## Inputs

### Vector

The input vector to be rotated.



## **Center**

The pivot point around which the vector is rotated.

## **Axis**

The axis of rotation, defined as an XYZ based 3D vector

## **Angle**

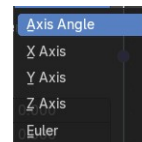
The amount of rotation in **degrees**.

## **Properties**

### **Type**

Determines the rotation method.

- **Axis Angle:** Rotates around a custom axis by a specified angle.
- **X/Y/Z Axis:** Rotates the vector around the X/Y/Z-axis.
- **Euler:** Applies rotation using Euler angles in XYZ order.



### **Invert**

When enabled, reverses the direction of the rotation.

## **Outputs**

### **Vector**

The rotated vector result.