

## 11.1.8 Editors - Compositor Editor - Header - Add Menu - Color

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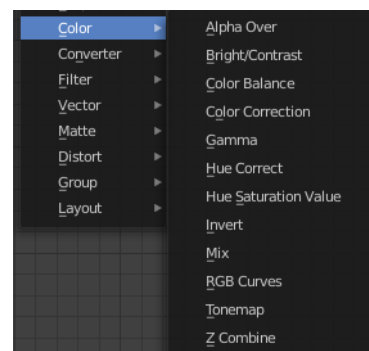
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## Add menu - Color

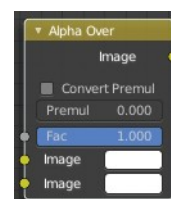
Here you find color related nodes.



### Alpha Over

The Alpha Over node is used to layer images with an alpha channel on top of one another.

Where the foreground image pixels have an alpha greater than 0, the background image will be overlaid.



### Inputs

#### **Factor**

Controls the amount of foreground image. A factor less than 1 will make the foreground more transparent.

#### **Image**

Input for the background image.

#### **Image**

Input for the foreground image.

### Properties

#### **Convert Premultiplied**

Converts foreground image to premultiplied alpha format.

The Alpha Over node is designed to work with premultiplied alpha color format. Use Convert Premul when you know that your image has straight alpha color values, to perform the correct over operation. Result will be still premultiplied alpha.

#### **Premultiply**

The Premul slider allows to mix between the using premultiplied or non premultiplied alpha.

When set to 1, the foreground color values will be multiplied by alpha, i.e. premultiplied. This is equivalent to enabling the Convert Premul option. When set to 0, color values does not change.

If Premultiply is not zero, Convert Premul will be ignored.

Note that this is a legacy option.

## Outputs

### *Image*

The image output.

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## Bright/Contrast

### Inputs

#### *Color*

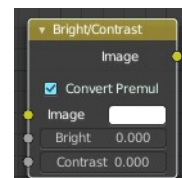
Standard input.

#### *Brightness*

An additive-type factor by which to increase the overall brightness of the image. Use a negative number to darken an image.

#### *Contrast*

A scaling type factor by which to make brighter pixels brighter, but keeping the darker pixels dark. Higher values make details stand out. Use a negative number to decrease the overall contrast in the image.



### Properties

#### *Convert Premultiplied*

Converts foreground image to premultiplied alpha format.

The Alpha Over node is designed to work with premultiplied alpha color format. Use Convert Premul when you know that your image has straight alpha color values, to perform the correct over operation. Result will be still premultiplied alpha.

### Outputs

#### *Color*

Standard output.

Note. It is possible that this node will put out a value set that has values beyond the normal range, i.e. values greater than one and less than zero. If you will be using the output to mix with other images in the normal range, you should clamp the values using the Map Value node (with the Min and Max enabled), or put through a Color Ramp node (with all normal defaults).

---

## Color Balance

The Color Balance node can adjust the color and values of an image.

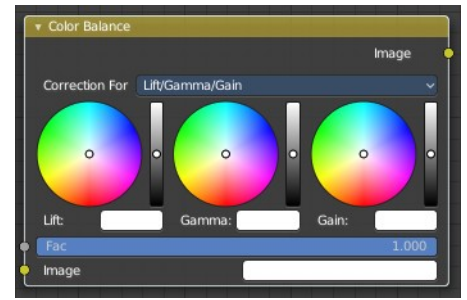
### Inputs

#### **Factor**

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

#### **Image**

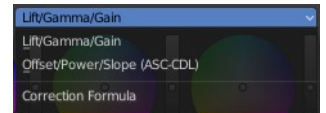
Standard image input.



### Properties

#### **Correction Formula**

Two different correction formulas could be selected.



#### **Lift/Gamma/Gain**

##### **Lift**

Increases the value of dark colors.

##### **Gamma**

Will adjust mid tones.

##### **Gain**

Adjusts highlights.

#### **Offset/Power/Slope (ASC-CDL)**

##### **Offset**

Summand. (Adjusts the overall brightness.)

##### **Basis**

Additional offset, allows to specify a negative Offset value.

##### **Power**

Over-all exponent. (Adjusts the mid tones.)

##### **Slope**

Multiplier. (Adjusts the highlights.)

### Outputs

#### **Color**

The output image.

## Advanced

### *The Offset/Power/Slope Formula*

$$\text{out} = (i \times s + o)^p$$

where:

out: The color graded pixel code value.

i: The input pixel code value (0 to 1) (black to white).

s: Slope (any number 0 or greater, nominal value is 1.0).

o: Offset (any number, the nominal value is 0).

p: Power (any number greater than 0, nominal value is 1.0).

## Color Correction

With the Color Correction node you can adjust the color of an image. Separated in several tonal ranges (highlights, mid tones and shadows) and only affect the necessary RGB channels.

### Input

#### *Image*

Image Input.

#### *Mask*

Input a mask to cover parts of the image so that they are affected.

## Properties

### *Red, Green, Blue*

Specifies which RGB channels will be affected by correction.

### *Correction Tools (Columns)*

#### **Saturation**

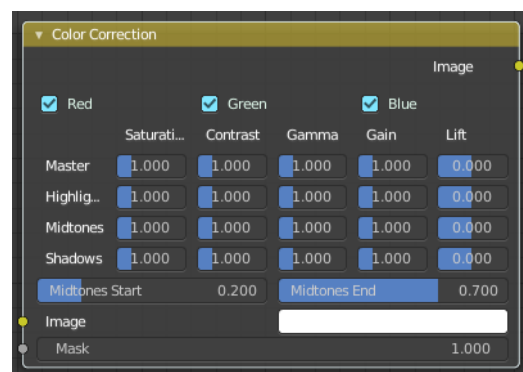
Adjusts the image's saturation.

#### **Contrast**

Adjust image contrast.

#### **Gamma**

Exponential gamma correction, affecting the mid tones of the image. (Works like Power in the Color Balance node.)





## Gain

Multiplier, stronger influence on the highlights. (Works like Slope in the Color Balance node.)

## Lift

This value (can be negative) will be added (+), linear lightens or darkens the image. (Works like Offset in the Color Balance node.)

## Tonal Ranges (Rows)

### Master

These sliders affect the entire tonal range.

### Highlights

These sliders only affect the highlights.

### Mid tones

These sliders only affect the mid tones.

### Shadows

Affects the dark tones of an image often affecting the shadows.

### Mid tones Start, Mid tones End

Defines the start and the end of mid tones range, i.e. values where the whole tonal range is divided into the highlights, mid tones and shadows (there is also a smooth transition between the ranges of width 0.2 units).

## Outputs

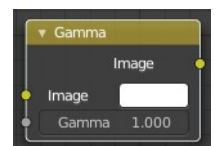
### Color

The image output.

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## Gamma

Use this node to apply a gamma correction.



## Inputs

### Image

Image input.

### Gamma

An exponential brightness factor.

## Outputs

### *Image*

Image output.

---

## Hue Correct

With the Hue Correct Node you can adjust the Hue, Saturation, and Value of an image with an input curve.

## Inputs

### *Factor*

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

### *Image*

Standard image input.

## Properties

Level

H (Hue), S (Saturation), V (Value). Choose which curve you want to modify.

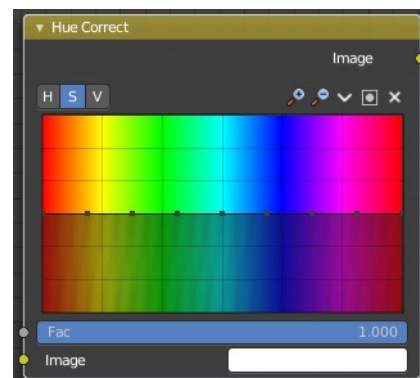
## Navigation elements

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.

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## Tools

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

### *Reset View*

Resets the curve windows zoom.

### *Vector Handle*

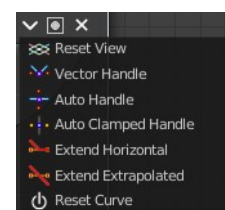
Set handle type to Vector.

### *Auto Handle*

Set handle type to Auto.

### *Auto Clamped Handle*

Set handle type to Auto Clamped.



### ***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.

### **Use Clipping**

Clipping options. Set up clipping for the stroke.

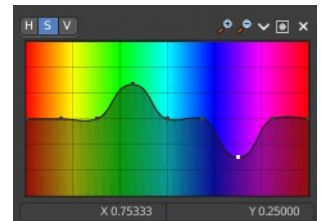


### **Delete Points**

Deletes selected curve points.

### **Curve**

By default, the curve is a straight line, meaning there is no change. The spectrum allows you to raise or lower HSV levels for each range of pixel colors. To change an H, S, or V level, move the curve points up or down. Pixels with hue values each point in the horizontal position of the graph will be changed depending on the shape of the curve.



### **X / Y**

The x y position of the currently selected curve point.

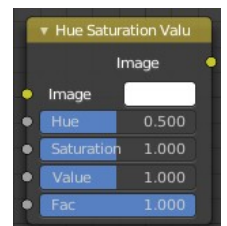
### **Outputs**

#### ***Image***

Image output.

### **Hue Saturation**

The Hue Saturation Node applies a color transformation in the HSV color space. Called "Hue Saturation Value" in shader and texture context.



### **Inputs / Properties**

The inputs also works as properties when nothing is connected.

#### ***Image***

Plug in an image.

#### ***Hue***

Specifies the hue rotation of the image. 360° are mapped to (0 to 1). The hue shifts of 0 (-180°) and 1 (+180°) have the same result.

## **Saturation**

A saturation of 0 removes hues from the image, resulting in a gray scale image. A shift greater than 1.0 increases saturation.

## **Value**

Value is the overall brightness of the image. De/Increasing values shift an image darker/lighter.

## **Factor**

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

## **Color**

Standard input.

## **Outputs**

### **Image**

Standard output.

## **Hue/Saturation Tips**

Some things to keep in mind that might help you use this node better:

Hues are vice versa

A blue image, with a Hue setting at either end of the spectrum (0 or 1), is output as yellow (recall that white, minus blue, equals yellow). A yellow image, with a Hue setting at 0 or 1, is blue.

Hue and Saturation work together.

So, a Hue of 0.5 keeps the blues the same shade of blue, but Saturation can deepen or lighten the intensity of that color.

Gray & White are neutral hues

A gray image, where the RGB values are equal, has no hue. Therefore, this node can only affect it with Value. This applies to all shades of gray, from black to white; wherever the values are equal.

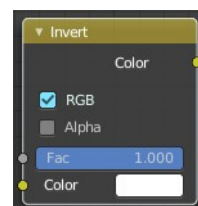
Changing the effect over time

The Hue and Saturation values can be animated with a Time Node or by animating the property.

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## **Invert Node**

The Invert Node inverts the colors in the input image, producing a negative.



## Inputs

### **Factor**

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

### **Color**

Standard input.

## Properties

### **RGB**

Invert the RGB values.

### **Alpha**

Invert the Alpha values.

## Outputs

### **Color**

Standard image output.

## Mix

The Mix Node mixes images by working on the individual and corresponding pixels of the two input images. Called “MixRGB” in the shader and texture context.

## Inputs

### **Factor**

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

### **Image 1**

Usually the background image. The image size and resolution sets the dimensions of the output image.

### **Image 2**

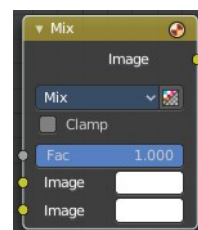
Usually the foreground image.

## Properties

### **Mix**

Choose the different blending modes.

Add, Subtract, Multiply, Screen, Divide, Difference, Darken, Lighten, Overlay, Color Dodge, Color Burn, Hue, Saturation, Value, Color, Soft Light, Linear Light.



## Clamp

Limit the highest color value to not exceed 1.

## Outputs

### Image

Image output.

## RGB Curves

The RGB Curves Node allows color corrections for each color channel and levels adjustments in the compositing context.

## Inputs

### Factor

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

### Image

Standard image input.

### Black Level

Defines the input color that is (linear) mapped to black.

### White level

Defines the input color that is (linear) mapped to white.

## Properties

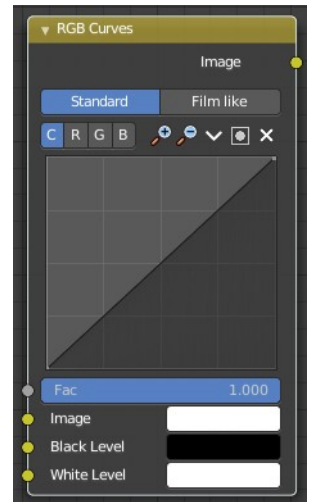
### Tone

What tone mapping to use. Standard or Film like.

### Channel buttons

Clicking on one of the channels displays the curve for each.

C (Combined RGB), R (Red), G (Green), B (Blue).

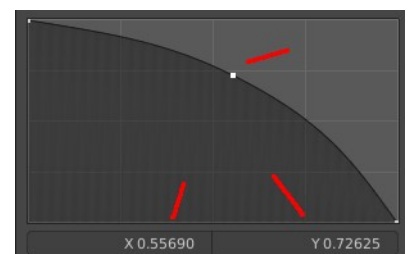


## Curve edit field

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

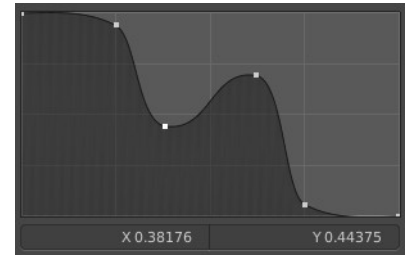


coordinate of this point.

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.

## Tools

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

### Reset View

Resets the curve windows zoom.

### Vector Handle

Set handle type to Vector.

### Auto Handle

Set handle type to Auto.

### Auto Clamped Handle

Set handle type to Auto Clamped.

### 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.

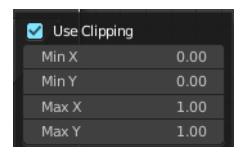
### Reset Curve

Resets the curve to the initial shape.



## Use Clipping

Clipping options. Set up clipping for the stroke.



## Delete Points

Deletes selected curve points.

## Outputs

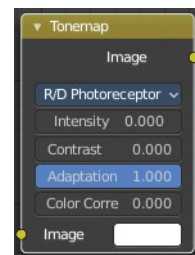
### *Color*

Standard output.

## Tone Map

Tone mapping is a technique used in image processing and computer graphics to map one set of colors to another in order to approximate the appearance of high dynamic range images in a medium that has a more limited dynamic range.

Tone mapping addresses the problem of strong contrast reduction from the scene values (radiance) to the displayable range, while preserving the image details and color appearance. This is important to appreciate the original scene content.



## Inputs

### *Image*

Plug in the HDR image.

## Properties

### *Type*

There are two methods of tone mapping. Rh Simple and R/D Photo receptor.

### **Rh Simple**

#### *Key*

The value the average luminance is mapped to.

#### *Offset*

Normally always 1, but can be used as an extra control to alter the brightness curve.

#### *Gamma*

If not used, set to 1.



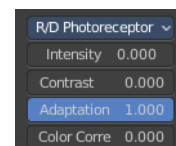
### **R/D Photo receptor**

#### *Intensity*

A value smaller than zero darkens image. A value greater than zero makes it brighter.

#### *Contrast*

Set to 0 to use estimate from input image.





### **Adaptation**

If 0, global; if 1, based on pixel intensity.

### **Color Correction**

If 0, same for all channels; if 1, each independent.

## **Outputs**

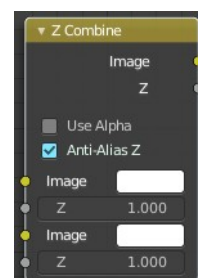
### **Image**

The Image output.

---

## **Z Combine**

The Z Combine node combines two images based on their Z-depth maps. It overlays the images using the provided Z values to detect which parts of one image are in front of the other.



## **Inputs**

### **Image**

The background image.

### **Z**

Z depth of the background image.

### **Image**

The foreground image.

### **Z**

Z depth of the foreground image.

## **Properties**

### **Use Alpha**

The chosen Image pixel alpha channel is also carried over. If a pixel is partially or totally transparent, the result of the Z Combine will also be partially transparent; in which case the background image will show through the foreground (chosen) pixel.

### **Anti-Alias Z**

Applies Anti-Aliasing to avoid artifacts at sharp edges or areas with a high contrast.

## **Outputs**

### ***Image***

If both Z values are equal, it will use the foreground image. Whichever Z value is less decides which image pixel is used. See Z-buffer.

### **Z**

The combined Z depth, which allows to thread multiple Z-combines together.