

## 11.1.13 Editors - Compositor Editor - Header - Add Menu - Distort

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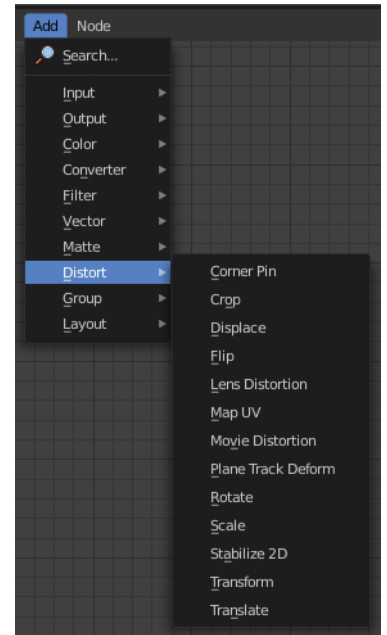
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## Add menu - Distort

These nodes distort the image in some fashion. They work either on the whole image, or by using a mask to vary the effect over the image.



### Corner Pin

The Corner Pin node uses explicit corner values for a plane warp transformation. It works like the Plane Track Deform node, but without using “plane track” data from the Movie Clip Editor.

#### Inputs

##### *Image*

Standard image input.

##### *Corners*

Four vector inputs to define the plane warping. (Z component of vector inputs is ignored.)

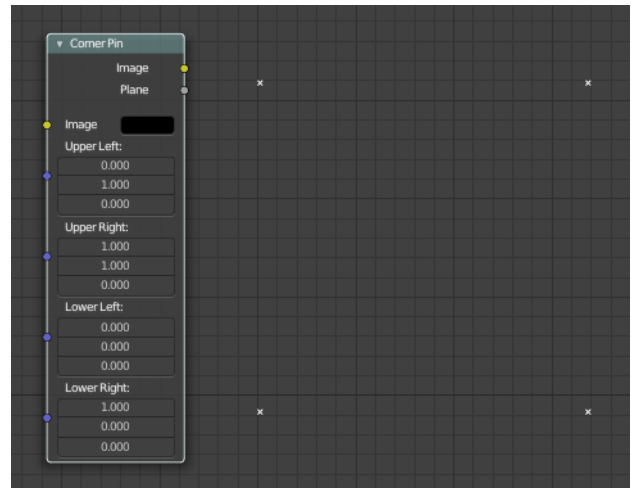
#### Outputs

##### *Image*

Standard image output. (The image after distorting.)

##### *Plane*

A black-and-white alpha mask of the plane.



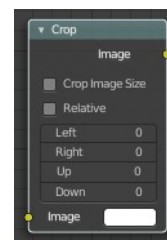
## Crop Node

The Crop Node takes an input image and crops it to a selected region.

### Inputs

#### *Image*

Standard image input.



### Properties

#### *Crop Image Size*

When enabled, the image size is cropped to the specified region. When disabled, the image remains the same size, and uncropped areas become transparent pixels.

#### *Relative*

When enabled, crop dimensions are a percentage of the image's width and height. When disabled, the range of the Crop Region Values are the width and height of the image in pixels.

#### *Crop Region Values*

Define borders of the crop region. Lower, upper, left, right.

### Outputs

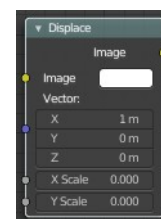
#### *Image*

Standard image output.

## Displace Node

The Displace Node displaces the pixel position based on an input vector.

This node could be used to model phenomena, like hot air distortion, refraction's of uneven glass or for surreal video effects.



### Inputs

#### *Image*

Standard image input.

#### *Vector*

Input of the displacement map. If the a color output is implicitly converted in the vector input, the first channel (red) value determines displacement along X axis. The second channel (green) the displacement along Y axis. If the input is a greyscale image, where both the channel values are equal, the input image will be displaced equally in both X and Y directions.

## Scale X, Y

Separate scaling of the vector input in X and Y direction. Acting as multipliers by increasing or decreasing the strength of the displacement along their respective axes.

## Outputs

### Image

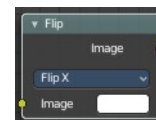
Standard image output.

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## Flip Node

This node flips an image at defined axis.

You can use this node to just flip or use it as a part of mirror setting. Mix half of the image to be mirrored with its flipped version to produce mirrored image.



## Inputs

### Image

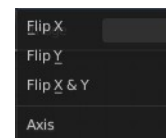
Standard image input.

## Properties

### Axis

This can be either X or Y. Also, flipping can be done on both X and Y axis simultaneously.

Flip X, Flip Y, Flip X & Y



## Outputs

### Image

Standard image output.

---

## Lens Distortion

Use this node to simulate distortions that real camera lenses produce.

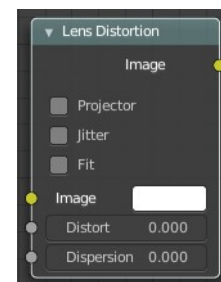
## Inputs

### Image

Standard image input.

### Distort

This creates a bulging or pinching effect from the center of the image.



## ***Dispersion***

This simulates chromatic aberrations, where different wavelengths of light refract slightly differently, creating a rainbow colored fringe.

## **Properties**

### ***Projector***

Enable or disable slider projection mode. When on, distortion is only applied horizontally. Disables Jitter and Fit.

### ***Jitter***

Adds jitter to the distortion. Faster, but noisier.

### ***Fit***

Scales image so black areas are not visible. Only works for positive distortion.

## **Outputs**

### ***Image***

Standard image output.

---

## **Map UV**

With the Map UV node objects can be “re-textured” after they have been rendered.

To apply a texture to individual enumerated objects the ID Mask Node could be used.

## **Inputs**

### ***Image***

The new 2D texture.

### ***UV***

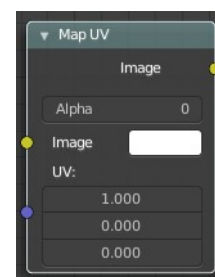
The input for UV render pass. See Cycles render passes.

Hint. To store the UV pass a multi-layer OpenEXR format could be used.

## **Properties**

### ***Alpha***

Alpha threshold is used to fade out pixels on boundaries.



## Outputs

### *Image*

The resulting image is the input image texture distorted to match the UV coordinates. That image can then be overlay mixed with the original image to paint the texture on top of the original. Adjust alpha and the mix factor to control how much the new texture overlays the old.

Hint. When painting the new texture, it helps to have the UV maps for the original objects in the scene, it is recommended to keep those UV texture outlines around even, when shooting is done.

## Movie Distortion

In the real world, all camera lenses produce some or the other sort of lens distortion. But, whatever we render has got no distortion. So, this node helps in removing distortion from movies or adding distortion to render to make our render blend in with the movie clip.

Usually, it is used while motion tracking.



## Distortion vs Undistortion

Although, both, distortion of render and undistortion of movie clip are possible, and produce similar results, there is a difference between these two methods.

There are two kinds of lens distortion possible and, in simple terms, they can be said as:

When the movie clip is bulging out.

When the movie clip is bulging in.

For the first case, it is recommended to distort the render and leave the movie clip as it is, because, undistorting the movie clip will require extra pixel information, which is not available to Blender. Similarly, in the second case, it is recommended to undistort the movie clip and leave the render as it is, because, distorting the render will require those extra unavailable pixels. Doing the wrong method in the wrong case can create weird results around the edges, such as in the image shown.

## Calculating Distortion

Before using this node, one has to calculate the lens distortion of the clip. This can be done by adjusting K1, K2 and K3 values in Movie Clip Editor > Properties ? Lens. For more information on how to edit those values, check this out.

## Inputs

### *Image*

Standard image input.



## Properties

### **Movie Clip**

Used to select the movie clip whose distortion is to be used. This can be useful if more than one movie clips are present, each having a different distortion setting. For controls see Data-Block Menu.

### **Distortion Method**

#### **Undistort**

Used to undistort the image received, and is usually used for the raw distorted movie clip.



#### **Distort**

Used to distort the image received, and is usually used for rendered images.

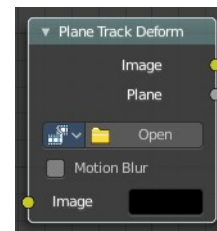
## Outputs

### **Image**

Standard image output.

## Plane Track Deform

The Plane Track Deform Node is used to incorporate the special “plane track” in your composite by checking areas which are planes, and replacing their footage with some other image.



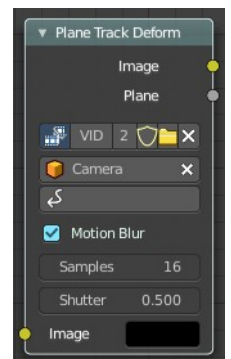
### Plane Track

Before using this node, plane track for the footage should be made in the Movie Clip Editor.

### Inputs

#### Image

Image to put in place of the plane track, and thus, override that area in the movie clip.



## Properties

### **Movie Clip**

Used to select the movie clip whose plane track to use. For controls see Data-Block Menu.

### **Object**

Used to select the object to which the plane track is linked.

### **Track**

Used to select the plane track to use.

## **Motion Blur**

Specify whether to use blur caused by motion of the plane track or not.

### **Samples**

Motion Blur setting. Set the number of samples to take for each frame. The higher this number, the smoother the blur effect, but the longer the render, as each virtual intermediate frame has to be rendered.

Note. Samples are taken only from the next frame, not the previous one. Therefore the blurred object will appear to be slightly ahead of how it would look without motion blur.

### **Shutter**

Motion Blur setting. Time (in frames) the shutter is open. If you are rendering at 24 fps, and the Shutter is set to 0.5, the time in between frames is 41.67 ms, so the shutter is open for half that, 20.83 ms.

## **Outputs**

### **Image**

The output by perspective wrapping the image to that plane track.

### **Plane**

Produces a black-and-white mask of the plane track.

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## **Rotate Node**

This node rotates an image.

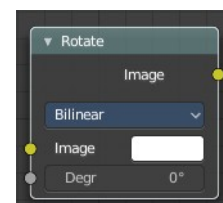
### **Inputs**

#### **Image**

Standard image input.

#### **Degr**

Rotation angle in degree. Positive values rotate clockwise and negative ones counterclockwise.



### **Properties**

#### **Filter**

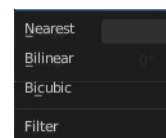
Interpolation Methods.

##### **Nearest**

No interpolation. This method uses the nearest neighboring pixel.

##### **Bilinear**

Simple interpolation between adjacent pixels.



## Bicubic

Highest quality interpolation.

## Outputs

### *Image*

Standard image output.

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## Scale

The Scale node scales the size of an image.

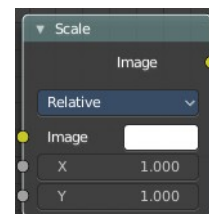
## Inputs

### *Image*

Standard image input.

### *X, Y*

Scale in the axis directions, only available if Space is set to Relative or Absolute.



## Properties

### *Space*

Coordinate Space to scale relative to.

### *Relative*

Percentage values relative to the dimensions of the image input.

### *Absolute*

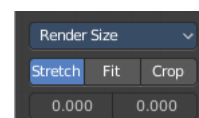
Size of an image by using absolute pixel values.

### *Scene Size*

Sizes an image to the size of the final render resolution for the scene. For example, rendering a scene at the standard 1080p resolution but setting the render percentage at 50%, will produce a 1080p image with the scene scaled down 50% and leaving the rest of the image as alpha.

### *Render Size*

Image dimensions set in the Render panel.



### *Stretch, Fit, Crop*

Render Size setting. Stretch distorts the image so that it fits into the render size. Fit scales the image until the bigger axis “fits” into the render size. Crop cuts the image so that it is the same aspect ratio as the render size.

### *X, Y*

Render Size setting. Offset factor for the final scaled image.

## Outputs

### *Image*

Standard image output.

## Stabilize 2D

The Stabilize 2D node stabilizes the footage according to the settings set in Movie Clip Editor in the Sidebar in the Stabilization tab in the 2D Stabilization panel. For more information, see the chapter there.

## Inputs

### *Image*

Standard image input.

## Properties

### *Movie Clip*

The movie clip whose stabilization to use.

### *Filter*

Filter methods for the stabilization.

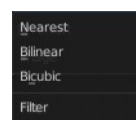
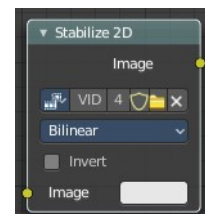
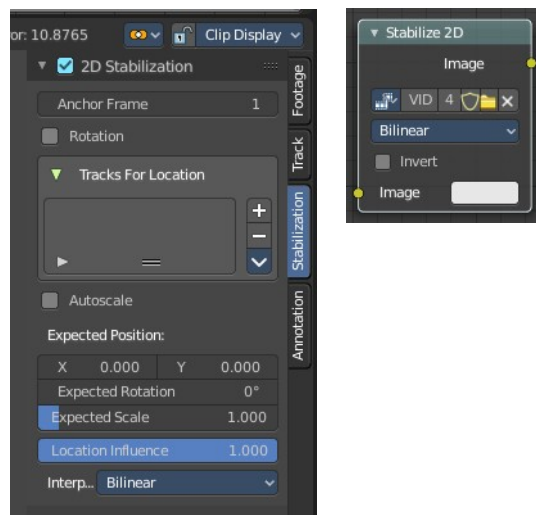
### *Invert*

Invert the stabilization. If the stabilization calculated is to move the movie clip up by 5 units, this will move the movie clip down by 5 units.

## Outputs

### *Image*

Standard image input.



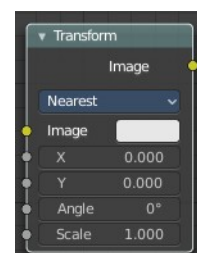
## Transform

The Transform node combines the functionality of three other nodes: Scale, translate, and rotate nodes.

## Inputs

### *Image*

Standard image input.



## ***X, Y***

Used to move the input image horizontally and vertically.

## ***Angle***

Used to rotate an image around its center. Positive values rotate counter-clockwise and negative ones clockwise.

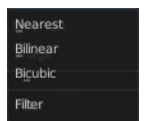
## ***Scale***

Used to resize the image. The scaling is relative, meaning a value of 0.5 gives half the size and a value of 2.0 gives twice the size of the original image.

## **Properties**

### ***Filter***

Interpolation Methods.



#### **Nearest**

No interpolation, uses nearest neighboring pixel.

#### **Bilinear**

Simple interpolation between adjacent pixels.

#### **Bicubic**

Highest quality interpolation.

## **Outputs**

### ***Image***

Standard image output.

## **Translate**

The Translate node moves an image.

Could also be used to add a 2D camera shake.

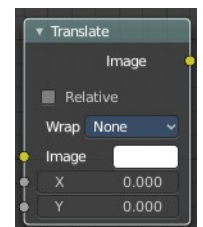
## **Inputs**

### ***Image***

Standard image input.

### ***X, Y***

Used to move the input image horizontally and vertically.



## Properties

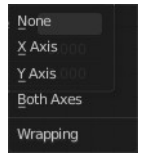
### *Relative*

Percentage translation values relative to the input image size.

### *Wrapping*

Repeat pixels on the other side when they extend over the image dimensions.

None, X Axis, Y Axis, Both Axis



## Outputs

### *Image*

Standard image output.