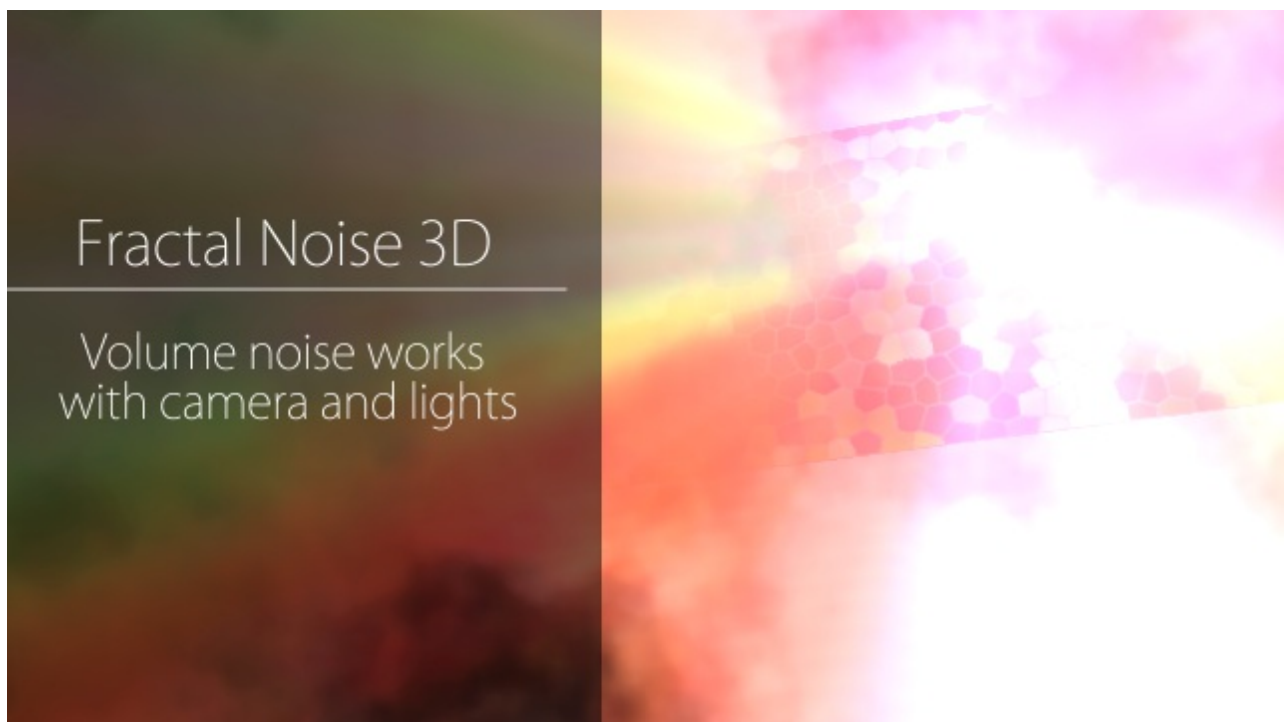


Fractal Noise 3D

Adobe After Effects®



User Manual

version 1.50

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Overview

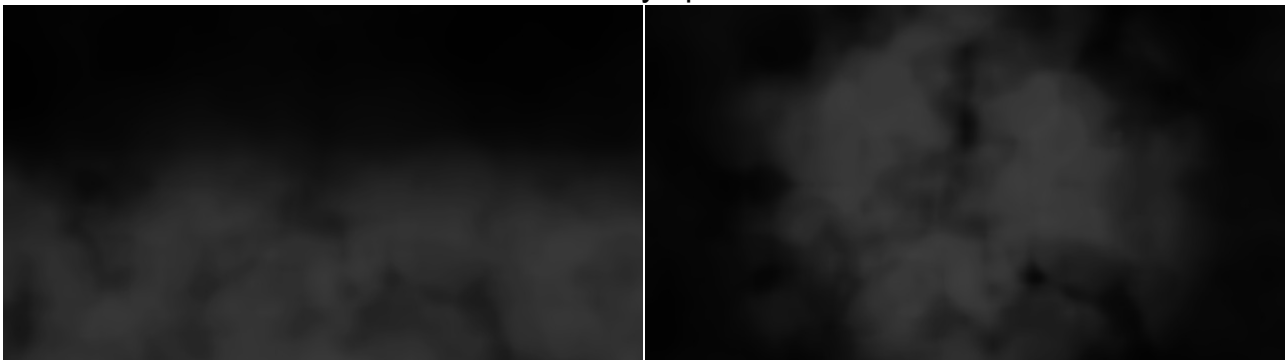
Fractal Noise 3D is a plugin for Adobe After Effects®.

This plugin **generates clouds** works with **composition camera and lights**.

Geometry

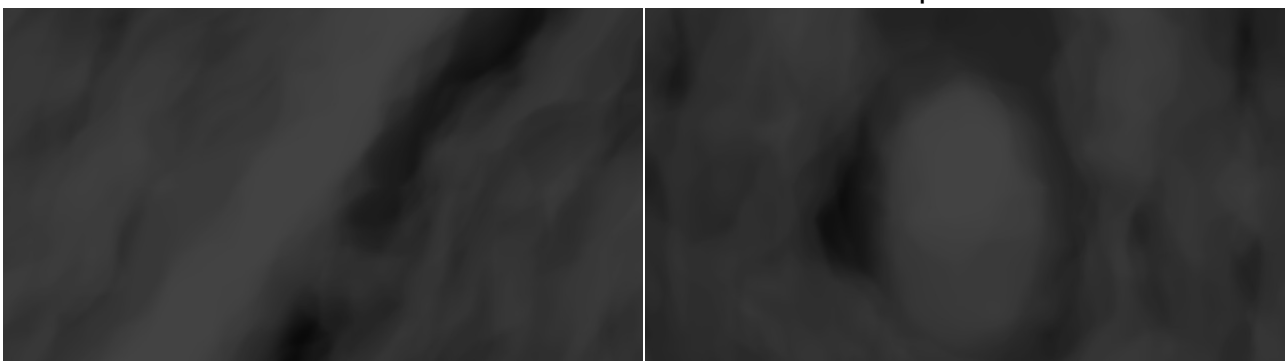
There are geometry options. In version 1.5, new geometry options: **Marble** and **Wood** are available.

Geometry options



Horizontal

Spherical

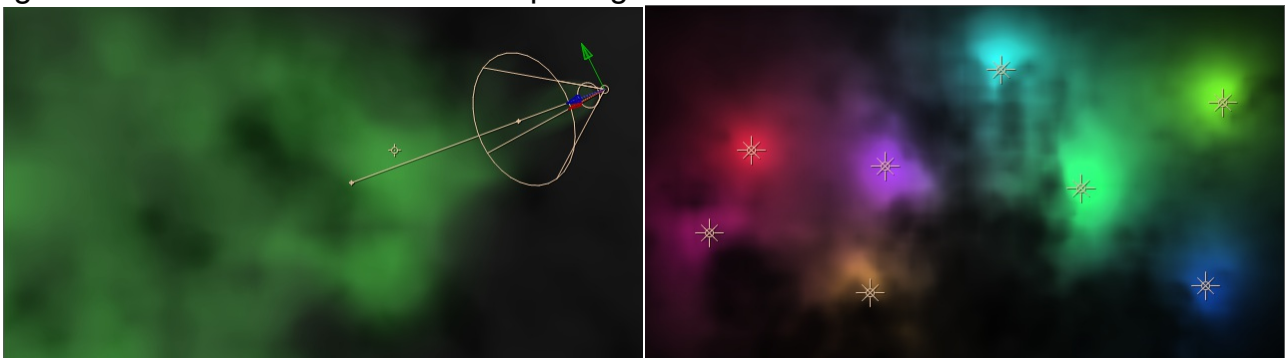


Marble (v1.5)

Wood (v1.5)

Accept Lights

The generated cloud is available to accept Lights.



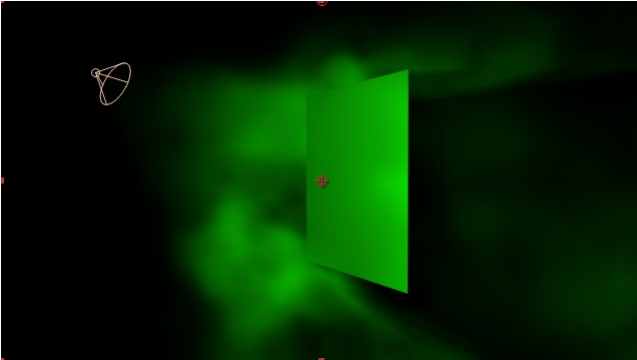
Spot Light

The cloud accepts at most 8 Lights

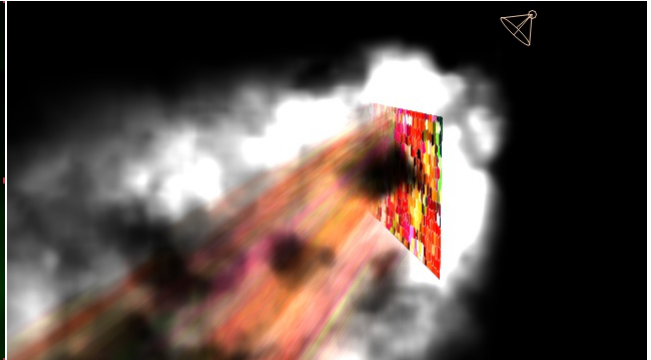
Obstacle/Back Ground

User can set Obstacle Layer or Back Ground for 3D CG composite.

Obstacle Layer

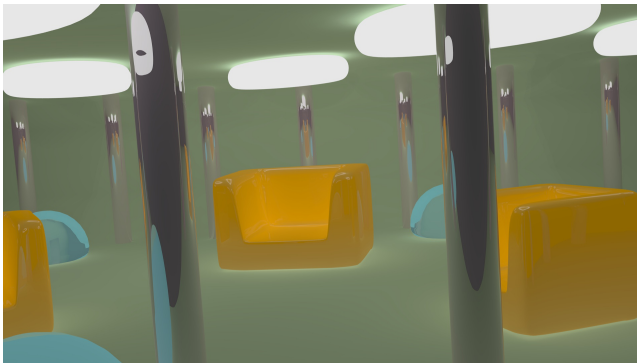


Spot Light and Obstacle Layer

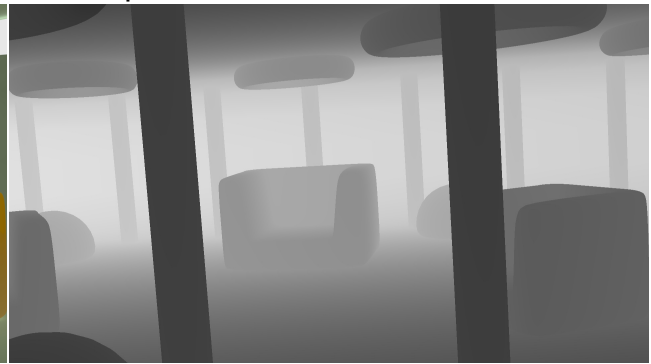


Light Transmission (v1.5)

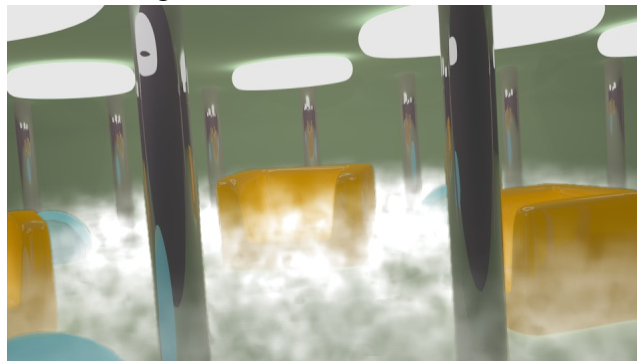
Back Ground and Composite



Back Ground Color Image



Back Ground Depth map



Composite with Fractal Noise 3D

Setup

Platform

- Adobe After Effects (for Windows and Mac OS X) CS3 or later.
 - **OpenGL version 2.0 or later** is required
(To check OpenGL version, see Edit(Windows)/After Effects(Mac OS) > Preference > Previews, click "GPU Information..." button).
-

Install

Place the plugin in the '**Plug-ins**' folder inside the After Effects folder.
Default directory is:

(win CS6)
C:\Program Files\Adobe\Adobe After Effects CS6\Support Files\Plug-ins

(mac CS6)
/Applications/Adobe After Effects CS6/Plug-ins

Uninstall

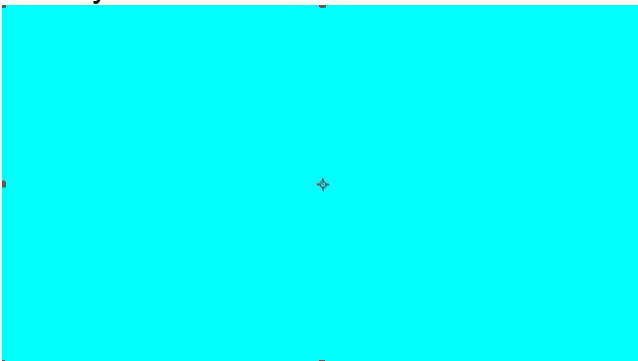
Remove the plugin from the '**Plug-ins**' folder.

Setup

Prepare a layer the same size and pixel aspect ratio as the Composition, and apply the effect to the layer. This effect is a 3D effect. Do not apply this effect to the layer with the 3D switch on.

Error

This effect is using GPU with OpenGL. So the machine is required to have OpenGL 2.0 or later. Or a cyan screen will be rendered as an error message.



What the plugin renders

1. Generates 3D noise field
Geometry of the field is decided by parameters of Geometry topic.
2. Set rendering camera in the field
If there is an active camera in the composition, the camera is set as rendering camera. If there is no active camera, then default view is set.
3. Decide rendering rays for each pixels of effect layer
4. Do volume rendering
This volume rendering is done from the radius (Raytrace Depth + Transparent Radius) to the radius (Transparent Radius). See also the section Parameter Details.

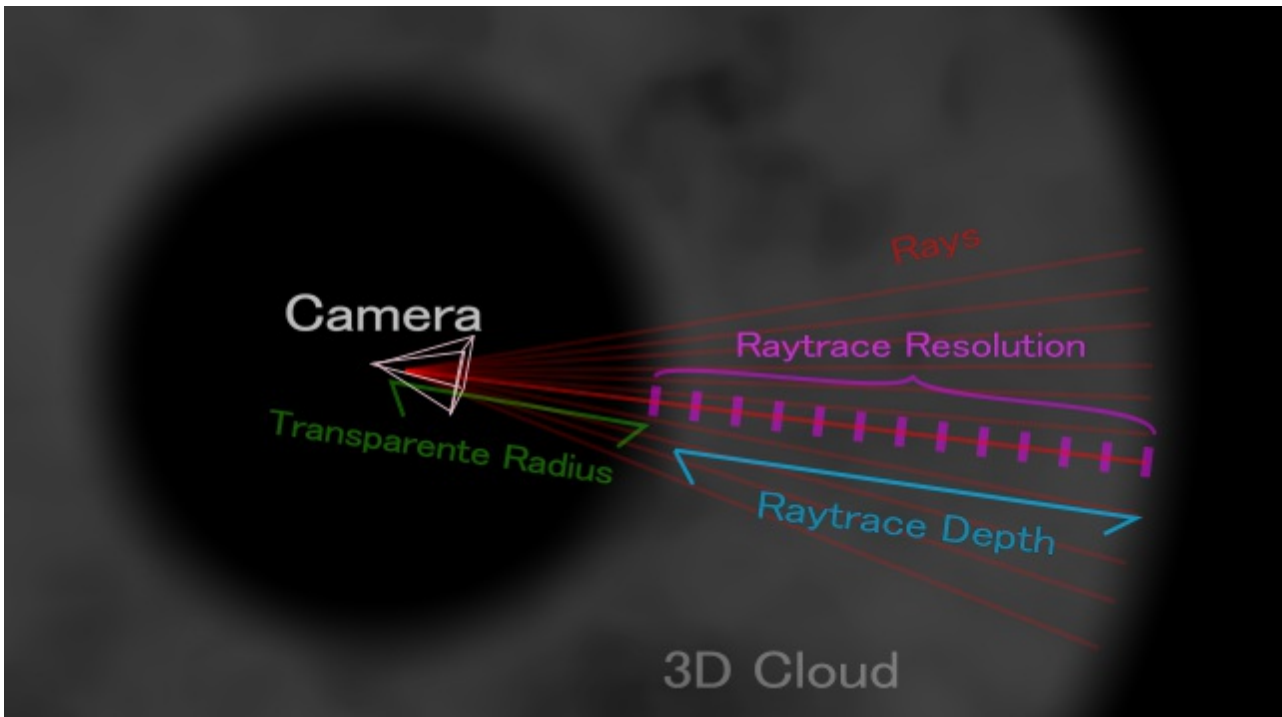


Fig. Rendering camera and parameters.

Parameter Details

Noise Settings

Settings of the noise field itself. Those parameters are similar to the parameters of the Fractal Noise. The noise field comprises a base level component and high level components. For more details of the fractal noise (Perlin noise), visit the below web site:

http://freespace.virgin.net/hugo.elias/models/m_perlin.htm

Brightness

Boost the brightness of the noise field.

Scale

Adjust the scale of the noise field.

Sub Influence

The influence of high level detail noise components.

Sub Scale

The scale of high level detail noise components.

Complexity

Decide max level of the detail component.

Contrast

The contrast of the noise field.

Evolution

The evolution of the noise field.

Offset XY

Offset Z

Offset of the noise field.

Sub Offset XY

Sub Offset Z

Offset of the sub noise components.

Geometry

In this topic, you can choose the geometry of the noise field.

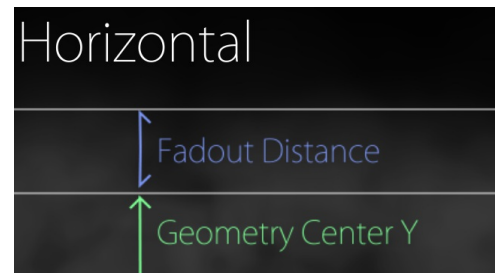
Geometry

Uniform / Horizontal / Spherical / Marble / Wood

Marble and Wood types are added in version 1.5.

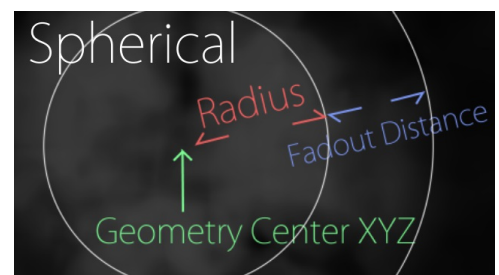
- Uniform
: generates “uniform noise” field. Any other parameters in this topic are not available (gray out).
- Horizontal

: under the y of the Geometry Center XY parameter is uniform, over the point, noise decrease up to Fadeout Distance parameter.



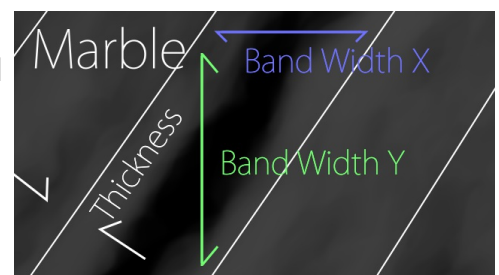
- Spherical

: makes uniform noise cloud sphere. Position and radius are decided by the parameters below.



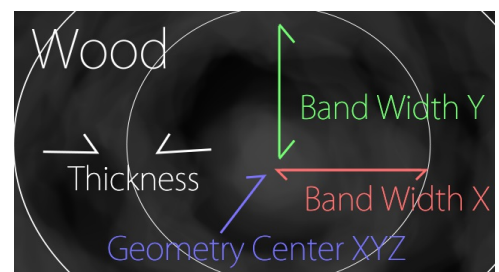
- Marble (v1.5)

: layered geometry. The width between layers are decided by the parameters Band Width X/Y/Z. The thickness of layers are decided by the parameter Thickness. User can adjust turbulence of geometry by the parameter Turbulence.



- Wood (v1.5)

: spherical layered geometry. The width between layers are decided by the parameters Band Width X/Y/Z. The thickness of layers are decided by the parameter Thickness. User can adjust turbulence of geometry by the parameter Turbulence.



Geometry Center XY

Geometry Center Z

Valid for Horizontal, Spherical, Wood. Decides position of geometry center.

Radius

Valid for Spherical. Decides radius of spherical geometry.

Fadeout Distance

Valid for Horizontal, Spherical. The distance fadeout the noise field.

Fadeout Factor

Valid for Horizontal, Spherical. Decides how much fade out the noise. If this parameter is 1, the noise field completely clear up outside of the geometry. If this parameter is 0, geometry becomes Uniform.

Band width X

Band width Y

Band width Z

Valid for Marble, Wood. Decide the distance between the layers.

Turbulence

Valid for Marble, Wood. Decides the turbulence of the layers.

Thickness

Valid for Marble, Wood. Decides the thickness of the layers. Larger value makes layers thicker.

Phase

Valid for Marble, Wood. Shifts layers.

Shading

With the parameters in this topic, the noise material and shading are adjusted.

Absorption

This parameter is absorption factor: if this parameter is high, the lights behind the cloud do not reach the camera by the absorption. The amount of the emission of the light from the cloud is proportional to this parameter. So if this parameter is 0, then no absorption and no emission from/by the cloud.

Scattering

Scattering factor: if this parameter is 0, no reaction from composition lights. But if this factor is too high, no composition lights reach the camera because of too many scatterings of the lights (too many diffusions).

Emission

Adjust emission of the light from the cloud. The actual amount of the emission is also proportional the Absorption parameter.

Emission Color

The color of the cloud.

Choose 8 Lights from

Upper Layers / Name Begins "FN"/ Name Begins "Light"/ Name Begins "L_"

The cloud accept at most 8 composition lights. This parameter decides the regulation of the composition lights the effect uses. Name Begins "..." is the option choose lights name begin with the word.

Boost Diffusion Light

Boost diffusion of lights: point, spot, parallel lights.

Boost Ambient Light

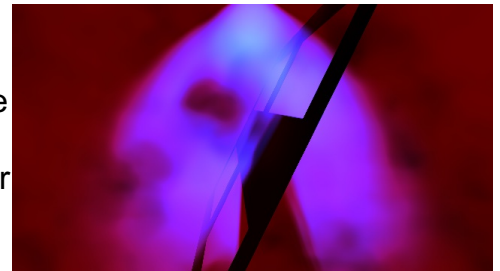
Boost the brightness of ambient lights.

Attenuation Factor

Attenuation factor of the point and spot light.

Obstacle

User can use a 3D layer as an obstacle of the lights in the noise field. User can use a 3D back ground as an opaque obstacle. When use obstacle layer option, put the obstacle 3D layer under the effect layer.



Obstacle layer and spot light

Obstacle Layer

Choose a 3D Layer used by obstacle. Vector layer (shape layer and text layer) is incompatible. Use precompose for vector layer.

Softening Light

Softening light and shadow edge of the obstacle layer.

Transmission

Added in version 1.5. Decides light transmission of the obstacle layer.

Depth Map

For composite of 3D scene. Choose a layer used as a depth map. Deeper cloud than the depth map is cut out.

Depth Channel

Choose a channel used as a depth value.

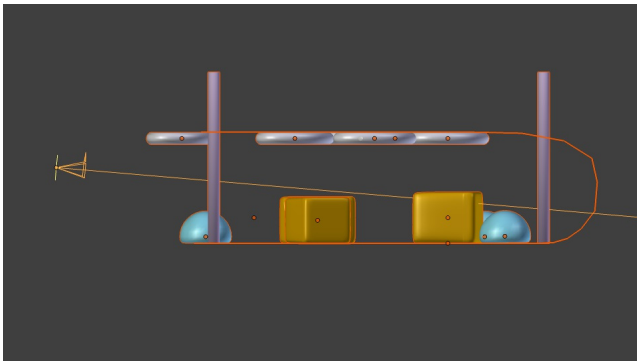
Depth of Black

Designate the depth value of the point channel value is 0 .

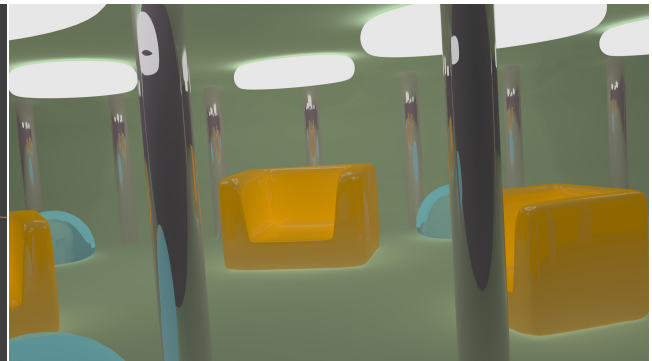
Depth of White

Designate the depth value of the point channel value is 1 (255 (8bpc), 32767(16bpc), 1.0(32bpc)).

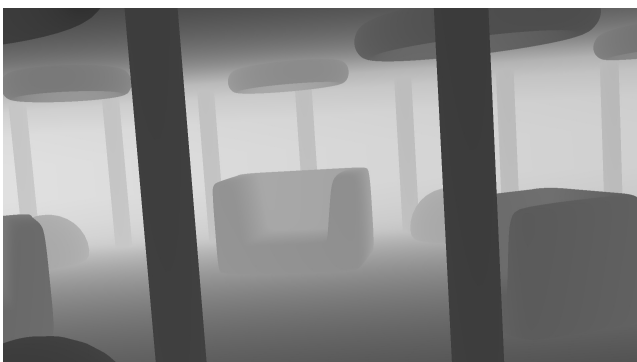
Example of the Depth map: Below is a sample scene I made by 3D CG tool. I exported a color image (right top), depth map (left bottom). The white out point of the depth map is 4,000 pixel length in AE unit, and black is 0. So I set the Depth of White parameter to 4,000 and Depth of Black to 0, Transparent Radius + Raytrace Depth are greater than 4,000. I also exported the camera in the 3D tool to AE.



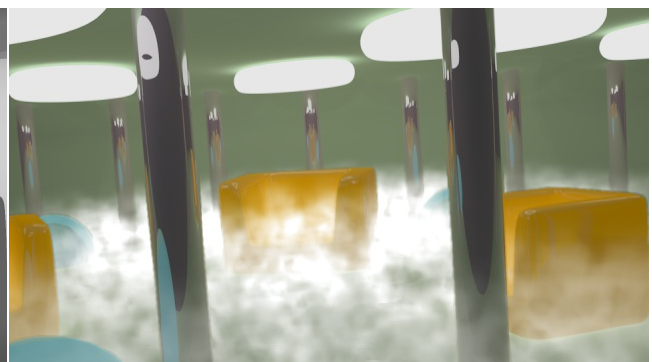
3D CG scene



Color image



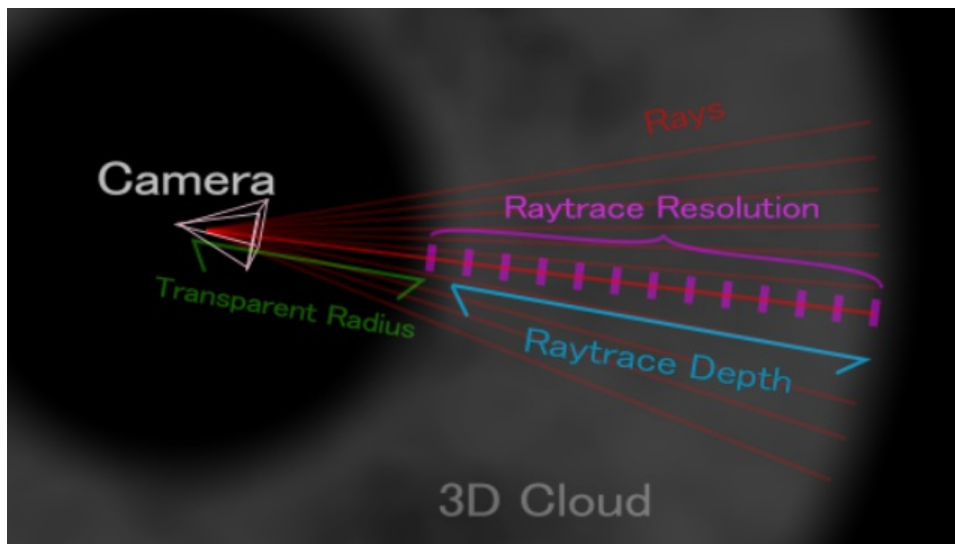
Depth map



Composite Result

Rendering

You can adjust the rendering result with this topic.



Transparent Radius

In the region with the radius from the camera, noise field does not exist.

Raytrace Depth

The depth noise field exists.

Raytrace Resolution

The resolution of the depth for raytrace. This is very important parameter for the quality and load of the machine.

Random Seed

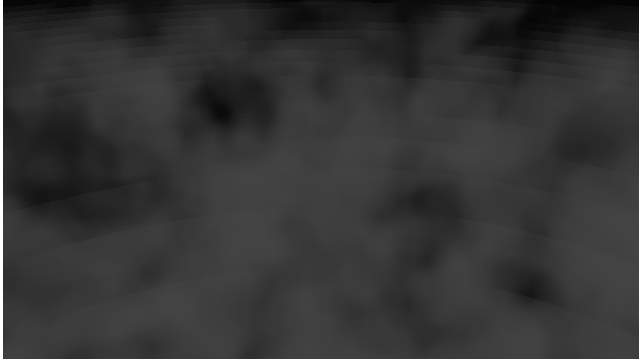
Random seed value.

Tips

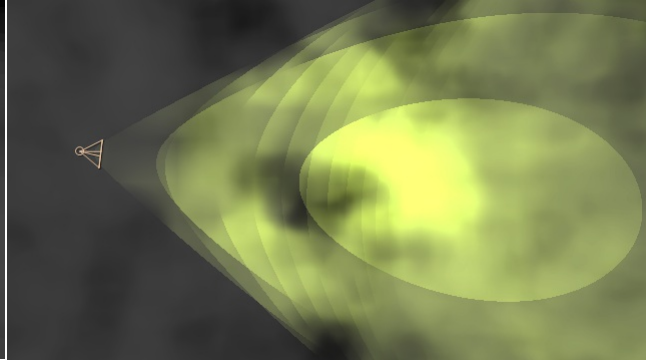
How to Erase the Band

The next situations cause the bands are rendered: Noise with Hight Contrast, geometry with Low Fadeout Distance, the spot light with sharp feather, obstacle layer with sharp edge. For prevent that, increase next parameters: Raytrace Resolution,Fadeout Distance,Softening Light.

Raytrace Resolution = 20



Geometry band

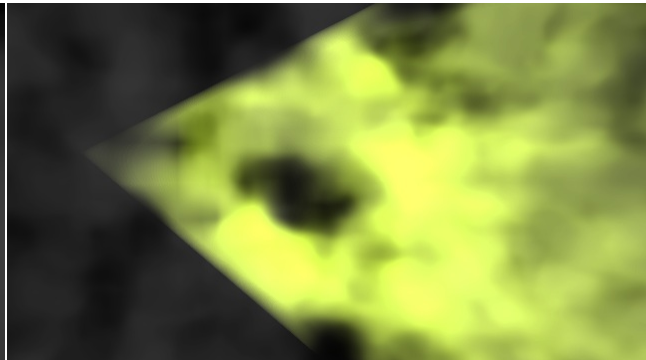


Sharp spot light band

Those bands disappear with high raytrace resolution.



Raytrace resolution = 200



Raytrace resolution = 400

Postscript

Author

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<http://aescrpts.com/authors/crossphere/>