



26.2 Editors - Properties Editor - Render Properties Tab

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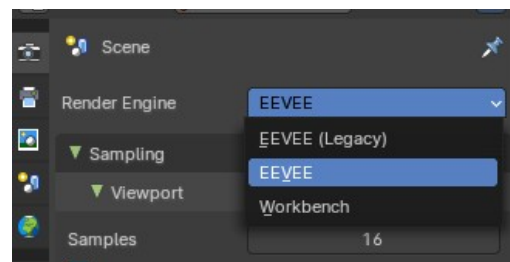
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Render Tab

There are four different render engines available. Workbench, EEVEE, Eevee (Legacy), and Cycles. This chapter has a focus on the EEVEE render engine.

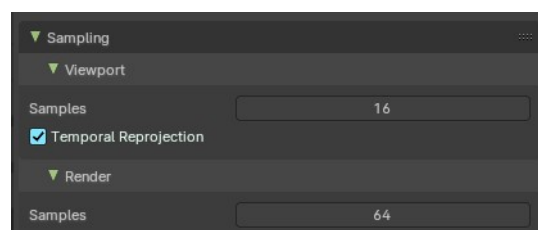


Sampling panel

Viewport subtab

Samples

The number of samples when rendering in the viewport.



Temporal Projection

Denoise image using a method called temporal reprojection. This method can leave some ghosting.

Render subtab

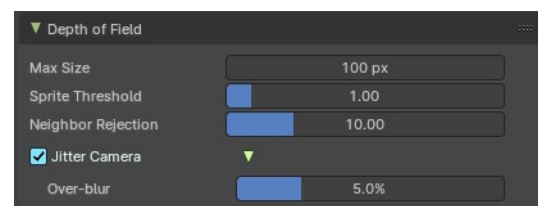
Samples

The number of samples when rendering to file.

Depth of Field panel

Max Size

The maximum size of the bokeh shape for Depth of Field. Lower is faster.



Sprite Threshold

Brightness threshold for using sprite base depth of field.

Neighbor Rejection

The maximum brightness to consider when rejecting bokeh sprites based on neighborhood. Lower is faster.

Jitter Camera

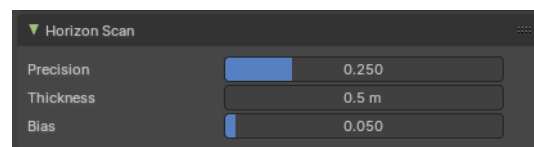
Jitter the camera to create accurate blurring by using render samples.

Overblur

Apply blur to each jittered sample to reduce undersampling artifacts.

Horizon Scan

Horizon scan is a new way of computing occlusion using visibility bitmask.



Precision

The precision of the horizon scan.

Thickness

Constant thickness of the surfaces considered when doing horizon scan and by extension ambient occlusion.

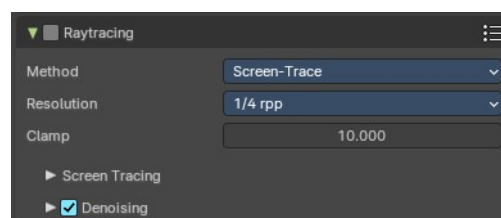
Bias

The bias horizon angles to reduce self intersection artefacts.

Raytracing panel

Use Ray-Tracing

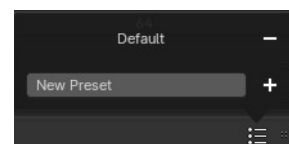
Use ray-tracing.



Presets

Allows you to store raytracing presets. To add a new preset type in a new preset name into the edit box at the end of the list, and click at the + sign.

To remove a preset click at the - sign behind the name.



Method

Select the tracing method to find scene-ray intersections.



None

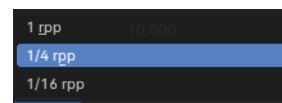
Do nothing.

Screen-Trace

Raytracing against the depth buffer.

Resolution

The ray-tracing resolution. 1 Ray per pixel, 1 ray per 4 pixel, 1 ray per 16 pixel.



Clamp

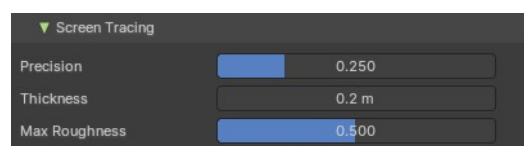
Clamp ray intensity to reduce noise. Coose 0 to disable clamping.

Screen tracing subpanel

Just visible with the method Screen-Trace

Precision

Precision of screen space ray-tracing.



Thickness

Surface Thickness used to detect intersection when using screen-tracing.

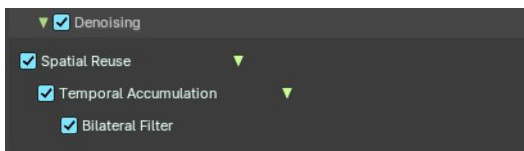
Max Roughness

Maximum roughness to use the tracing pipeline for. Higher values will use horizontal scan. A value of 1 will disable max roughness.

Denoising Subpanel

Denoising

Enable Denoising for raytraced effects.



Spatial Reuse

Reuse the rays of neighbour pixe.

Temporal Accumulation

Accumulate samples by reprojecting last tracing results

Bilateral Filter

Blur the resolved radiance by reprojecting last tracing result of the temporal accumulation.

Volumes panel

Contains volumetrics settings.

Start

The start distance for volumetrics.

End

The end distance for volumetrics.

Tile Size

The quality of the volumetrics effect. The lower the size the higher the quality and ram usage.

Samples

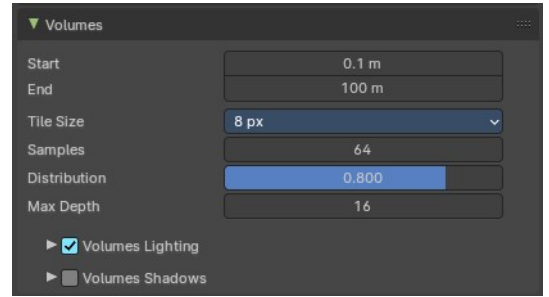
Number of samples to compute for the volumetrics effect.

Distribution

Distribute more samples closer to the camera.

Max Depth

Maximum surface intersection count used by the accurate volume intersection method. This feature will create artifacts if it is exceeded.



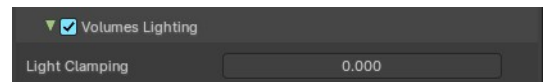
Volumes Lighting subpanel

Enable

In the header you will find a checkbox to enable Volumetric Lighting.

Light Clamping

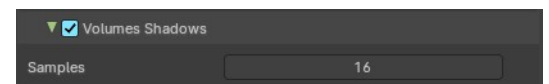
The maximum light contribution.



Volumetric Shadows subpanel

Enable

In the header you will find a checkbox to enable Volumetric Shadows.



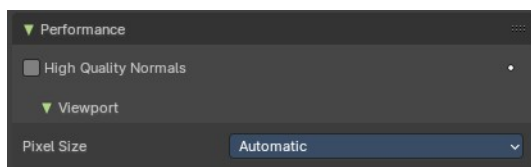
Samples

Number of samples to compute volumetric shadowing.

Performance panel

High Quality Normals

Use high quality tangent space. Slower but more accurate.

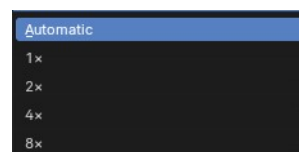


Viewport Subpanel

Pixel Size

The pixel size for viewport rendering.

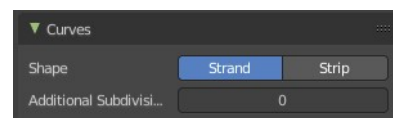
Automatic depends of the user interface scale. 1 renders at full resolution. 8 renders just in 12.5% of the size.



Curves panel

Shape

Choose if the hair is displayed as strand or as strip.



Additional Subdiv

Additional subdivision along the hair.

Lights panel

Light Threshold

Minimum Light intensity for a light to contribute to the lighting.

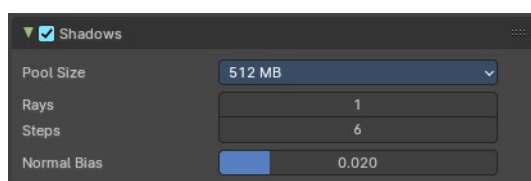


Shadows panel

Contains settings regarding shadows.

Enable

The checkbox in the header enables shadows and its settings.



Pool Size

Size of the shadow pool. A bigger pool size allows for more shadows in the scene. But might not fit into the GPU memory of your graphics card.

Rays

Amount of shadow ray for each light.

Steps

Amount of shadow map sample per shadow ray.

Normal Bias

Move along their normal.

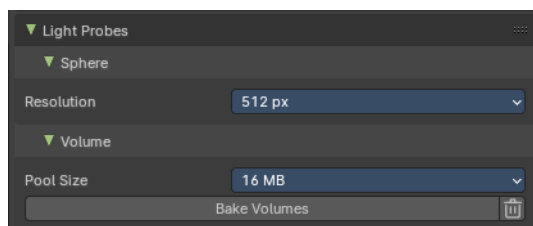
Light Probes

Light probes are precalculated lights to speed up rendering.

Sphere subtab

Resolution

The size of the cubemaps in pixels. Precalculated light gets stored in cubemaps.



Volume subtab

Pool Size

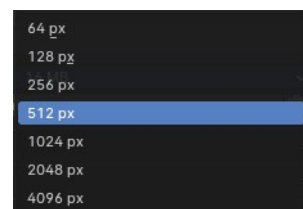
The size of the irradiance pool. A bigger pool allows for more irradiance grid in the scene. But might not fit into the GPU memory, and decrease performance.

Bake Volumes

Bake all light probe volumes.

Delete Light Cache

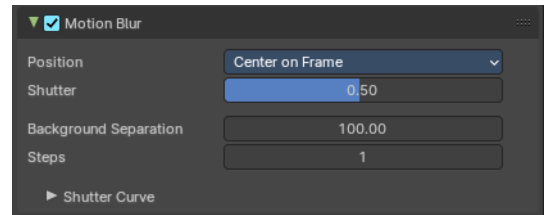
Deletes the baked light cache.



Motion Blur panel

Enable Motion Blur and adjust the settings.

Each object has also its own settings to control motion blur. These options can be found in the corresponding Object tab of the Properties editor.

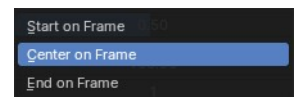


Enable

In the header is a checkbox to enable Simplify.

Position

Controls at what point the shutter opens in relation to the frame.



Background Separation

Lower values will reduce background bleeding onto foreground elements.

Steps

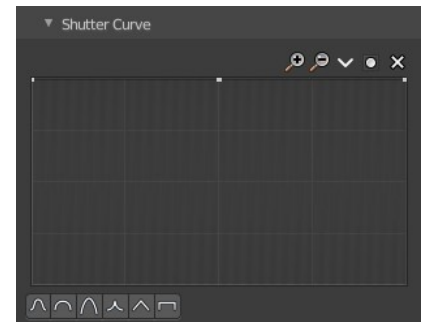
Controls the accuracy of motion blur. More steps means longer render time.

Shutter Curve

Sutter curve is a sub menu wAdjust a curve for the shutter effect.

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 that contains 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

Causes the curve to stay horizontal before the first point and after the last point.

Extend Extrapolated

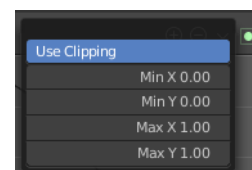
Causes the curve to extrapolate before the first point and after the last point, based on the shape of the curve.

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.

X and Y values

The coordinates of the currently selected curve point.

Presets

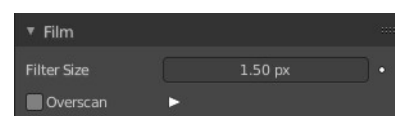
At the bottom you can find some curve presets.



Film panel

Filter Size

The width over which the reconstruction filter combines samples.



Animate Property

This property can be animated. Activating this button sets a keyframe.

Overscan

Internally render past the image borders to avoid screen space effects disappearing.



Overscan Size

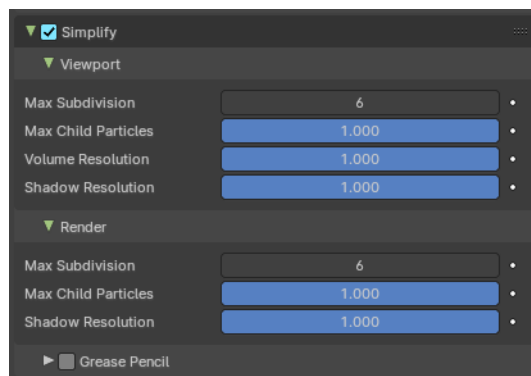
How much bigger the image should be internally rendered.

Simplify panel

Sometimes you want to simplify the rendering without to loose the already tweaked settings and adjustments. For test renderings for example. Simplify allows you to simplify the rendering.

Enable

In the header is a checkbox to enable Simplify.



Viewport

This section affects the rendering with Eevee in the Viewport.



Max Subdivisions

Limit the number of maximum subdivisions.

Child Particles

Limit the number of child particles.

Volume Resolution

Simplify volumes by setting the resolution percentage of volume objects in viewport.

Shadow Resolution

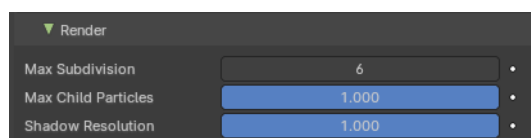
The shadow resolution in percentage.

Animate Property

This properties can be animated. Activating this button sets a keyframe.

Render

This section affects the rendering with Eevee to file.



Max Subdivisions

Limit the number of maximum subdivisions.

Child Particles

Limit the number of child particles.

Shadow Resolution

The shadow resolution in percentage.

Animate Property

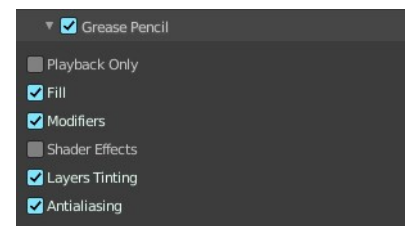
This properties can be animated. Activating this button sets a keyframe.

Grease Pencil

This section affects Grease Pencil drawings.

Enable

Enables the Grease Pencil features.



Playback Only

Simplify Grease Pencil only during animation playback.

Fill

Display Fill strokes in the Viewport.

Modifiers

Apply modifiers in the viewport.

Shader Effects

display shader effects.

Layers Tinting

Display layers tint.

Antialiasing

Use antialiasing to smooth stroke edges.