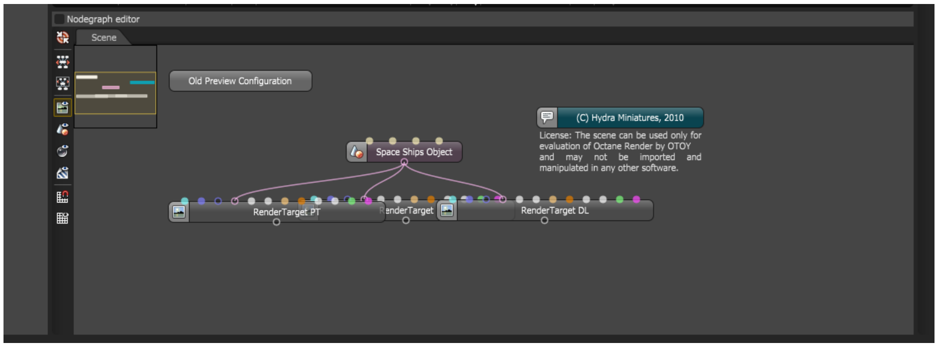
Octane- standalone – osl- camera

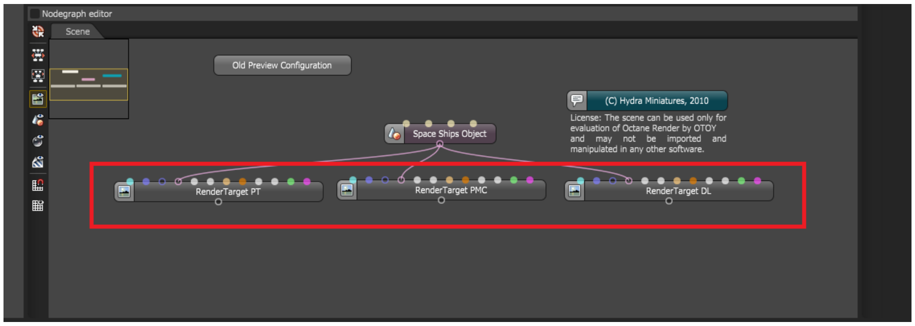
To begin, open the scene in which you intend to render.

Once the scene is open, we begin by looking into the Nodegraph editor.



License: The scene can be used only for evaluation of Octane Render by OTOY and may not be imported and manipulated in any other software.

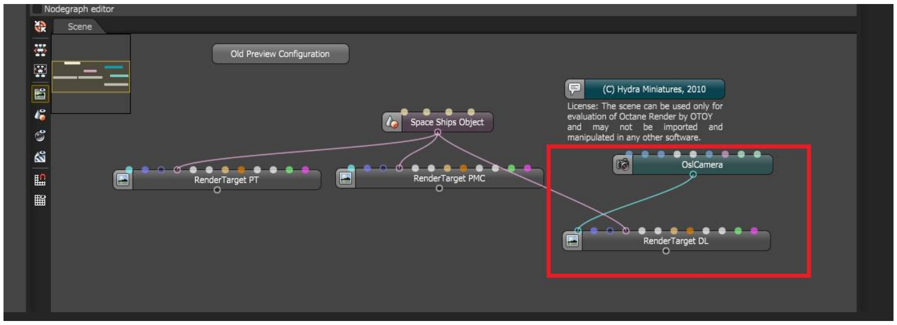
Depending on the scene this editor may be very complicated or simple, we are looking for a render target to accomplish the install of the light field camera.



License: The scene can be used only for evaluation of Octane Render by OTOY and may not be imported and manipulated in any other software.

In this example there are 3 Render targets it does not matter which render target we select

If the Render Target Has a camera node as an input, we still follow the same instructions

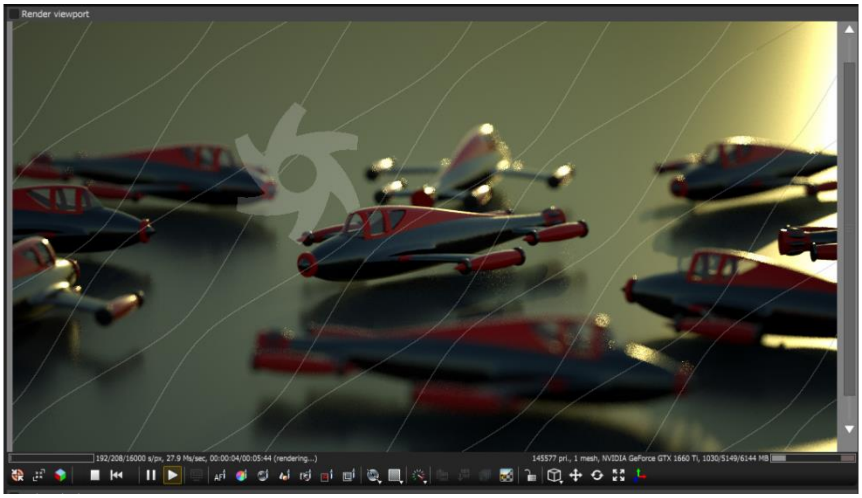


(C) Hydra Miniatures, 2010

License: The scene can be used only for evaluation of Octane Render by OTOY and may not be imported and manipulated in any other software.

In the example above there is an oslCamera node, this can be any type of camera and will not effect the process.

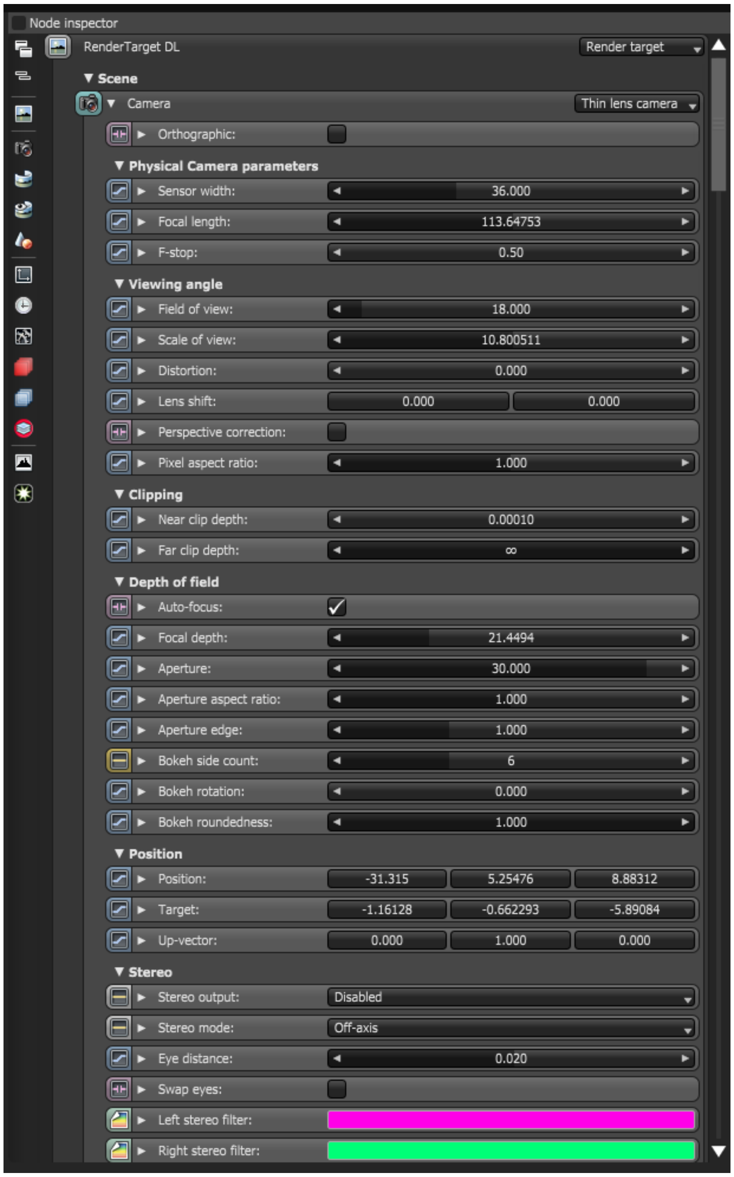
Now that we have selected our render target the Render viewport should contain the view of the camera. Within the example scene this by default is a thin lens camera view



192/208/16000 s/px, 27.9 Ms/sec, 00:00:04/00:05:44 (rendering...)

145577 pri., 1 mesh, NVIDIA GeForce GTX 1660 Ti, 1030/5149/6144 MB

The node inspector (found on write side of screen by default) should now also contain many attributes to adjust the rendering Target



RenderTarget DL — Render target

Scene

Camera — Thin lens camera

Orthographic: □

Physical Camera parameters

Sensor width: 36.000

Focal length: 113.64753

F-stop: 0.50

Viewing angle

Field of view: 18.000

Scale of view: 10.800511

Distortion: 0.000

Lens shift: 0.000 0.000

Perspective correction: □

Pixel aspect ratio: 1.000

Clipping

Near clip depth: 0.00010

Far clip depth: ∞

Depth of field

Auto-focus: ✓

Focal depth: 21.4494

Aperture: 30.000

Aperture aspect ratio: 1.000

Aperture edge: 1.000

Bokeh side count: 6

Bokeh rotation: 0.000

Bokeh roundedness: 1.000

Position

Position: -31.315 5.25476 8.88312

Target: -1.16128 -0.662293 -5.89084

Up-vector: 0.000 1.000 0.000

Stereo

Stereo output: Disabled

Stereo mode: Off-axis

Eye distance: 0.020

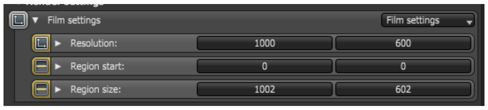
Swap eyes: □

Left stereo filter: 🟪

Right stereo filter: 🟩

Within this list we are concerned with 2 sections.

Film settings:



Film settings — Film settings

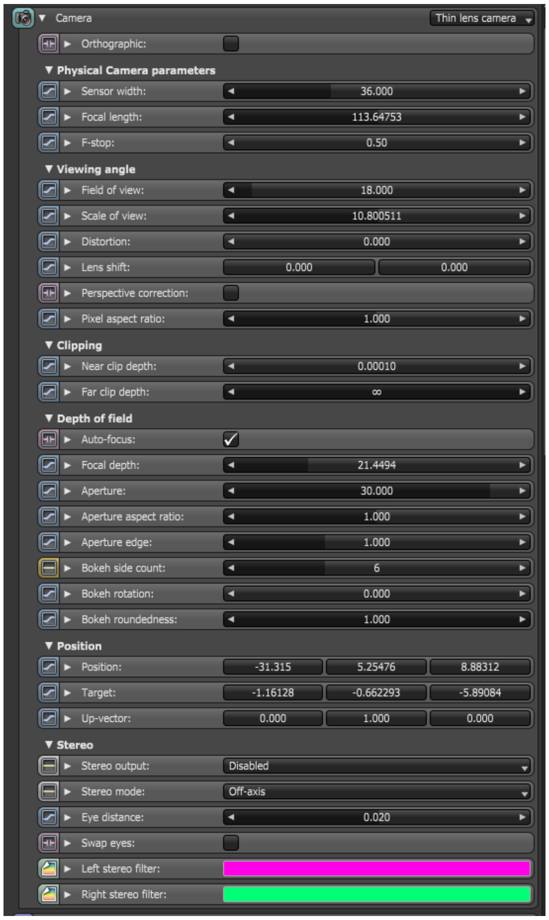
Resolution: 1000 600

Region start: 0 0

Region size: 1002 602

Which controls the outputted Light Fields entire Resolution

The Camera:



Camera — Thin lens camera

Orthographic: □

Physical Camera parameters

Sensor width: 36.000

Focal length: 113.64753

F-stop: 0.50

Viewing angle

Field of view: 18.000

Scale of view: 10.800511

Distortion: 0.000

Lens shift: 0.000 0.000

Perspective correction: □

Pixel aspect ratio: 1.000

Clipping

Near clip depth: 0.00010

Far clip depth: ∞

Depth of field

Auto-focus: ☑

Focal depth: 21.4494

Aperture: 30.000

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Stereo

Stereo output: Disabled

Stereo mode: Off-axis

Eye distance: 0.020

Swap eyes: □

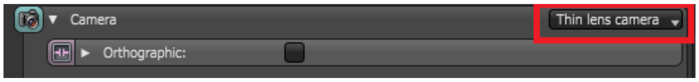
Left stereo filter: 🟪

Right stereo filter: 🟩

This section will describe the actual construction of our light field.

We now look at the camera section to create our light field camera:

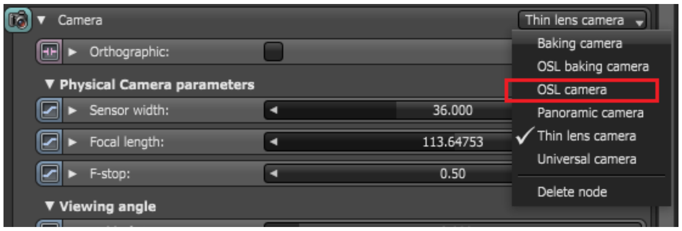
In the top-left of the section there exists a drop-down menu with the type of camera currently in use being shown.



Camera — Thin lens camera

Orthographic: □

We select this box and, in the drop-down menu select osl camera.



Camera — Thin lens camera

Orthographic: □

Physical Camera parameters

Sensor width: 36.000

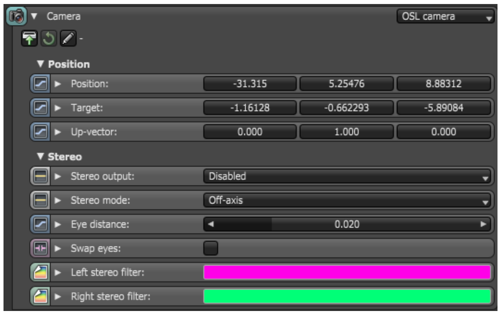
Focal length: 113.64753

F-stop: 0.50

Viewing angle

Note: When we select the OSL camera the render viewport may change to represent the new camera settings. This is not a problem.

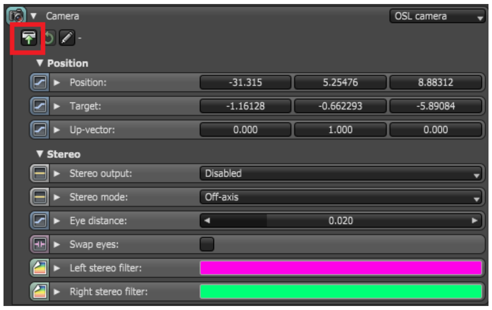
If the above has been correctly done our camera section should now contain the below options


Camera — OSL camera

▼ Position
- Position: -31.315 | 5.25476 | 8.88312
- Target: -1.16128 | -0.662293 | -5.89084
- Up-vector: 0.000 | 1.000 | 0.000

▼ Stereo
- Stereo output: Disabled
- Stereo mode: Off-axis
- Eye distance: 0.020
- Swap eyes: □
- Left stereo filter: 🟪
- Right stereo filter: 🟩

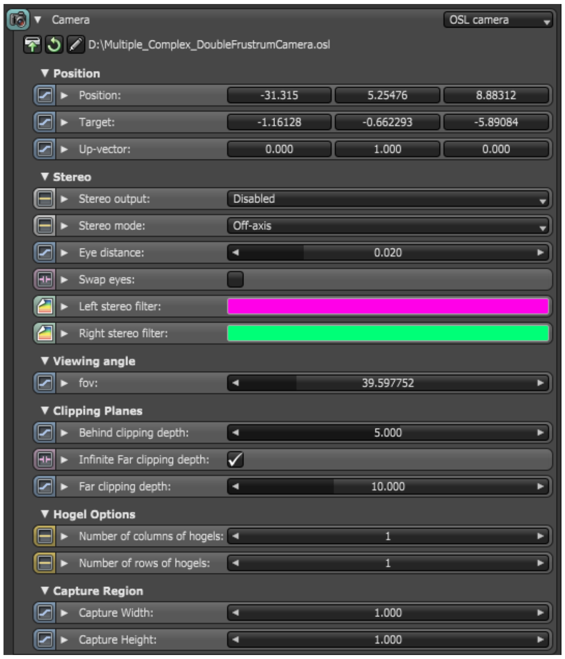
We now click the load osl code button found on the top left of the osl camera settings.


Camera — OSL camera

▼ Position
- Position: -31.315 | 5.25476 | 8.88312
- Target: -1.16128 | -0.662293 | -5.89084
- Up-vector: 0.000 | 1.000 | 0.000

▼ Stereo
- Stereo output: Disabled
- Stereo mode: Off-axis
- Eye distance: 0.020
- Swap eyes: □
- Left stereo filter: 🟪
- Right stereo filter: 🟩

We now select the light field camera OSL file. When loaded the viewport may again adjust to the new camera and the camera section should now contain the light field specific settings


Camera — OSL camera

D:\Multiple_Complex_DoubleFrustrumCamera.osl

▼ Position
- Position: -31.315 | 5.25476 | 8.88312
- Target: -1.16128 | -0.662293 | -5.89084
- Up-vector: 0.000 | 1.000 | 0.000

▼ Stereo
- Stereo output: Disabled
- Stereo mode: Off-axis
- Eye distance: 0.020
- Swap eyes: □
- Left stereo filter: 🟪
- Right stereo filter: 🟩

▼ Viewing angle
- fov: 39.597752

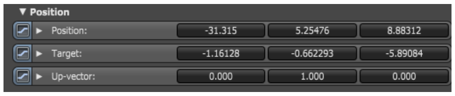
▼ Clipping Planes
- Behind clipping depth: 5.000
- Infinite Far clipping depth: ☑
- Far clipping depth: 10.000

▼ Hogel Options
- Number of columns of hogels: 1
- Number of rows of hogels: 1

▼ Capture Region
- Capture Width: 1.000
- Capture Height: 1.000

The light field camera has now successfully been installed and can be used by adjusting the settings to return an appropriate light field by specification.

We can move the camera by moving it within the viewport or adjusting the parameters within the position tab of the camera section within the node editor.



▼ Position

Position:	-31.315	5.25476	8.88312
Target:	-1.16128	-0.662293	-5.89084
Up-vector:	0.000	1.000	0.000

The Following parameters directly adjust the generated light fields results

Camera -> Viewing Angle->**fov**:

sets the field of view of each individual Hogel

-Can be any positive float that is less then 180

Camera -> Clipping Planes -> **Behind Clipping depth**:

sets how far behind the camera the rays from the camera will travel from

-Can be any positive float

Camera -> Clipping Planes -> **Infinite Clipping depth**:

Check box to allow an infinite clipping depth

-Can be any positive float

Camera -> Clipping Planes -> **Far clipping depth**:

If there is not an infinite clipping plane this value is used to describe how far in front of the camera Each ray from the camera should travel

-Can be any positive float

Note: within the code far clipping is added to near clipping for, so user only needs to worry about far clipping distance from the position of the camera.

Camera -> Hogel Options -> **Number of columns of hogels**:

Sets the number of hogels in the x direction to render

-Can be any positive integer

Camera -> Hogel Options -> **Number of rows of hogels**:

Sets the number of hogels in the y direction to render

-Can be any positive integer

Camera -> Capture Region -> **Capture width**:

Sets how far the 2 hogels on the opposite side of the width (left and right) should be from each other within the renderer's units.

-Can be any positive float

Camera -> Capture Region -> **Capture height**:

Sets how far the 2 hogels on the opposite side of the height (top and bottom) should be from each other within the renderer's units.

-Can be any positive float

Render settings -> Film settings -> **Resolution**:

This sets the light fields overall resolution

-Can be any combination of 2 positive integers