

# Camera Settings in Katana



PrmanCameraSettings needs an upstream camera or /root in the locationPath to populate the camera parameters.

## PrmanCameraSettings

This node is used to set camera options and parameters like depth of field controls, shutter timing, render clipping planes, and other projection parameters. PrmanCameraSettings can be assigned per camera or to /root.

The locationPath should be either /root or a camera location. If you wish to apply the same settings to multiple cameras, you can add all the camera paths to the CEL parameter.

If camera settings are set at /root, they will be inherited by the cameras in the scene - projection parameters as well as prmanCameraStatements. These attributes can be overridden locally per camera.

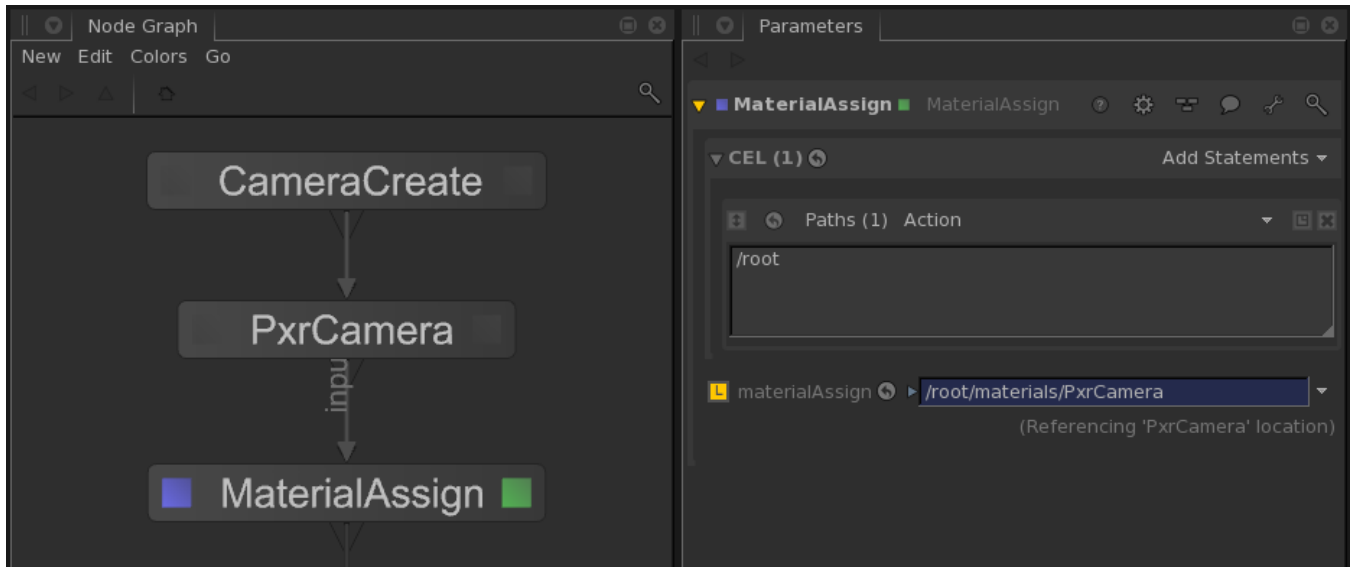
## Projection Plugins

All of RenderMan's projection plugins are available in the `prmanProjectionShader` drop down menu of `PrmanCameraSettings`. If you create custom projection plugins using C++, these will also show up in the drop down menu as long as they have [Args files](#) and are accessible via the `RMAN_RIXPLUGIN_PATH` environment variable.

If the `prmanProjectionShader` parameter is left empty, RfK will use the projection specified via the `geometry.projection` attribute on either in the `CameraCreate` node or `Alembic_In` camera.



Alternatively, projection plugins can be created with as a material and assigned to `/root` or a camera location with a `MaterialAssign` node.



## Field of View (FOV)

In RenderMan, the FOV is set as a part of the projection plugin. Since Katana supplies the field of view on camera as the `geometry.fov` attribute rather than material, we have two ways to set FOV. By default, RfK will use the FOV from the camera's `geometry.fov` attribute, pushing this value onto the projection plugin's material attribute. If you wish to set the FOV with the material attribute, you can set the `IntAttribute`, `prmanCameraStatements.useGeometryFov`, to 1. This is available in `PrmanCameraSettings` as "Use Camera FOV".

## FOV Motion Blur

FOV motion blur is only supported with the [PxrCamera](#) projection shader. The `fov` and `fovEnd` parameters set the value of the fov at the beginning and end of the shutter.

If you are using the camera's `goemetry.fov` attribute to specify the fov, you can enable motion blur by setting the `IntAttribute`, `prmanCameraStatements.fovMotionBlur`, to 1. This is available in `PrmanCameraSettings` as "FOV Motion Blur". RfK will set the projection plugin's `fov` parameter to the value at the first time sample of `geometry.fov` and set the projection's `fovEnd` parameter to the value at the last time sample of `geometry.fov`. If you don't set up a projection shader but enable FOV Motion Blur, RfK will automatically set the projection to `PxrCamera`.