

# Render Settings in Katana

The settings for controlling renders in RenderMan for Katana can be loosely divided into two categories: render output and render input. Render "output" refers to things like camera, resolution and crop window; these attributes are primarily in the RenderSettings node. Render "input" refers to RenderMan options and attributes as well as RfK plugin configuration. Access to these are primarily in the PrmanGlobalStatements and PrmanObjectStatements nodes.

## RenderSettings

The RenderSettings node is a native Katana node described in detail in the Katana online documentation. The most common attributes to be aware of are:

Attribute	Default	Description
cameraName	/root/world/cam/camera	Camera through which to render.
renderer	prman	Which renderer to use.
resolution	512x512	Size of the output image.

*Commonly-used Attributes in RenderSettings Node*

## PrmanGlobalStatements and PrmanObjectStatements

RenderMan's power and flexibility means that a large amount of control is given to the user through its wide variety of settings. All of these settings are exposed in RfK through the PrmanGlobalStatements and PrmanObjectStatements. The attributes in PrmanGlobalStatements are used to control RenderMan's global Options. PrmanObjectSettings is used for per-location Attributes. Since there are only a small number of settings used regularly in both of these nodes, they are each set up to hide the less common attributes by default. The **Parameter Layout** setting is used to expand or collapse collections of attributes based on common usage: *Simple*, *Advanced*, or *all*. That said, even the *Simple* layout exposes numerous settings. Below are most useful settings in PrmanGlobalStatements:

Attribute	Default	Description
pixelVariance	0.005	Upper bound on the acceptable estimated variance of the pixel values from the true pixel values.
maxSamples	0 (64)	Explicit limit for the number of samples. Increase for higher quality, slower render.
renderDisplay	Monitor	The destination framebuffer for Preview and Live Rendering. Set to 'it' to use RenderMan Image Tool.

*Commonly-used Options in PrmanGlobalStatements*

PrmanObjectStatements are connected to a specific location in the scene graph (e.g. an object, a hierarchy or CEL grouping). Common things to control with this node are visibility attributes and trace depth. Below is a description of a few common settings in PrmanObjectStatements:

Attribute	Default	Description
visibility.camera	Yes	Controls the visibility of subsequent primitives to the camera.
visibility.transmission	Yes	Controls the visibility of primitives to transmission (shadow) rays.
trace.maxdiffusedepth	1	Limit the number of diffuse bounces for indirect illuminance relative to the associated primitive.
trace.maxspeculardepth	2	Limit the number of specular bounces for indirect illuminance relative to the associated primitive.

*Commonly-used Options in PrmanObjectStatements*

As an additional aid these nodes each have settings presets which will adjust RenderMan controls according to type of render: *Default*, *Draft*, *Intermediate*, or *High Quality*. The differences between these presets are minimal but significant. They are best used for quick switching and for reference values. Note that changes you make to the settings do not "stick" the preset; they will be lost if you change to a different preset.

## Logging

Currently the log level defaults to "INFO", determined by the log configuration file in KATANA\_HOME. In order to change the log level we copy the configuration file, change the level and set an environment variable (using Linux):

```
mkdir $KATANA_RESOURCES/Logging
```

```
cp $KATANA_HOME/bin/log.conf $KATANA_RESOURCES/Logging/log.conf
```

edit log.conf and change the "rootLogger" to the desired level: "ERROR", "WARN", "INFO", "DEBUG"

Similar workflow in Windows, create the \$KATANA\_RESOURCES/Logging Folder, copy the log.conf file and change the "rootLogger" value to the listed options.

- [PrmanGlobalStatements](#)
- [PrmanObjectStatements](#)
- [Checkpoints and Recovery](#)
- [Thread Control in Katana](#)
- [Time to First Pixel Performance](#)