

# Cameras in Maya

Cameras provide a number of interesting effects in RenderMan for Maya.

- [Motion Blur](#)
- [Bokeh](#)
- [Tilt-Shift](#)
- [Projections](#) (we support the Maya native projection workflow)
- [Pixel and Sample Filtering](#)



You can learn more about our camera projection plugin (required for advanced features like tilt-shift and vignetting) on the [PxrCamera](#) page.

## Image Planes

RenderMan currently implements image planes as a [PxrImageDisplayFilter](#) *SampleFilter* plug-in. In this case, it's important that [txmake](#) generates an undistorted texture (.tex) from the non-square input image (.png example) so that the sample filter can project it properly. The txmake command looks something like this:

```
$ txmake -resize up imageplane.png imageplane.ip.tex
```

This behavior creates an incompatibility of image plane textures generated by older versions of RenderMan. If you're having distortion problems, it's likely because you're using the same image plane textures (.tex) between different versions of RenderMan. It could also be because you've manually generated the image plane textures (.tex) using the wrong txmake arguments (note "up-" vs "up").

Legacy behavior can be achieved by disabling the **Image Plane As Sample Filter** option under Advanced render settings.



You must disable the **Image Plane As Sample Filter** option in order to use a pattern plug-in as your image plane color.