

# Sample and Display Filters

## ? Unknown Attachment

Sample and display filter plug-ins are used to adjust shaded sample and pixel values, respectively, after an [integrator](#) has produced them and before they are sent to the [display driver](#).

### Sample Filters

*Sample Filter* plug-ins describe color transformations made to sample values before they are pixel filtered. They operate on the raw camera ray samples before pixel filtering is applied to them. Once a sample filter changes a sample and it goes into the framebuffer it becomes a permanent part of any rendered images (including deep images). Note that if a single [arbitrary output variable \(AOV\)](#) is output as part of multiple image files, a single change to a sample may affect all of them. Changes made by a sample filter can also influence the adaptive sampler.

- [PxrSampleFilterCombiner](#)
- [PxrCryptomatte](#)

### Display Filters

*Display Filter* plug-ins describe color transformations made to final pixel values after pixel filtering and before they are output. AOVs shared by multiple images are considered distinct at this point and can be modified separately. Display filters are not currently supported for deep images at this time and have no effect on the adaptive sampler.

- [PxrLightSaturation](#)
- [PxrDisplayFilterCombiner](#)
- [PxrImageDisplayFilter](#)
- [PxrShadowDisplayFilter](#)
- [PxrStylizedToon](#)
- [PxrStylizedHatching](#)
- [PxrStylizedLines](#)