



Sparrowhawk 3D

The Instance Randomizer Shader

for CARRARA

Version 1.0

The Instance Randomizer shader plugin returns a randomly generated value for each duplicate instance of a master object in the scene. Use the Instance Randomizer to easily assign random colours and other shader properties to many duplicated objects. The plugin does not work with objects generated using the surface replicator, only with 'real instances'.

To install the plugin extract the contents of the compressed zip package into the Carrara\Extensions sub-folder. The plugin must also be installed into the ..\Extensions folder of all render nodes. To remove the InstanceRandomizer users must delete the InstanceRandomizer.mcx, InstanceRandomizer.dat and InstanceRandomizer.txt files.

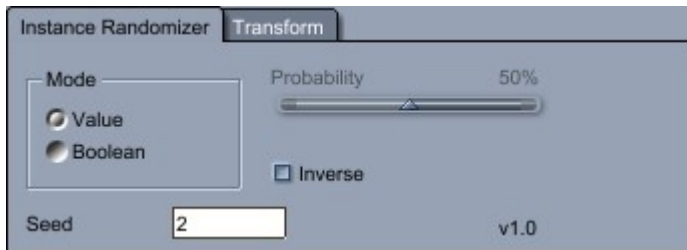
Macintosh users should open the Carrara installation folder (typically /Applications/Carrara). Right-click on the Carrara or Carrara Pro application and then choose "Show Package Contents". Navigate to "Contents/MacOS/Extensions" then copy the InstanceRandomizer.mcx, InstanceRandomizer.dat and InstanceRandomizer.txt files into that folder.



Thanks to Phil Wilkes (PhilW) for the plugin concept and beta testing.

The Instance Randomizer User Interface

Once installed the Instance Randomizer shader can be found in the main shader list or under the Sparrowhawk3D sub-menu.



Value Mode

When set to Value Mode the shader produces a different random result *between* 0 and 100% for each scene instance/duplicate. This can be used with any operator channel - for example to drive a colour gradient.

Boolean Mode & Probability

In Boolean Mode the shader produces a 0 *or* 100% value. When adjusting the Probability slider the higher the value the more likely the shader will result in 100% (or true), the lower the value the more likely it will result in a 0% (or false). A probability value of 50% will give even odds.

Seed

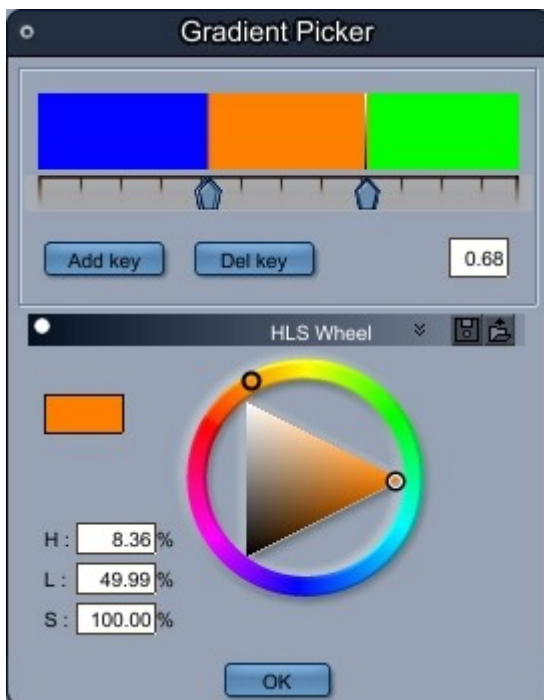
Adjust the seed number to change the random pattern across the instances. Set a different seed across different master shaders that use the Instance Randomizer to change the pattern for fully random results. If two channels of the same shader are using an Instance Randomizer then set one with a different seed to keep the patterns out of phase.

Inverse

Check the Inverse option to make the Instance Randomizer return the opposite value. A mixer operator uses a value of 0% to select from its Source 1 channel and 100% to select from Source 2 so the Inverse option can be checked to switch between sources.

Tips and Tricks

- Every object instance (duplicate) that shares the same master shader will produce a different value.
- The shader value is the same across the entire surface of an object and any shading domains. Use a different master shader and unique seed in different shading domains to get a different value.
- When using the surface replicator make a number of duplicates of the object and add those instances to the list of replicated objects for more variety.
- Use Boolean mode to drive the alpha channel in different shading domains to show or hide features of duplicates.
- Use a Curve Filter shader on the Instance Randomizer to effect the distribution in Value mode.
- To use the Instance Randomizer to select from a specific set of colours, create a Color Gradient and set pairs of key values with the same colour then move them right up against each other to create a band of colours.



Support

Sparrowhawke3D is an amateur project so I can't make any promises regarding support, however I'm keen to improve my simple practical plug-ins and share them with the Carrara community.

Please do not redistribute the Instance Randomizer.

For comments, feedback and suggestions email me, Jeremy@Sparrowhawke3D.com.