



## **Rattle 1.0 Parametric Noise Generator Autodesk® 3ds Max®**

Rattle 1.0 is a script for Autodesk 3ds Max to manage noise in different ways in your scene and animations.

With Rattle you can use the noise on animation controllers in very easy way and in single and multi selection. You can use also the noise deformers to give noise to your meshes and create variation in your scene and animation.

### **Features:**

- Relative Noise Controllers (so you can have it as additive controller to your animation )
- Noise Position Controller
- Noise Rotation Controller
- Noise Scale Controller
- Noise Deformer
- Noise Bend Deformer
- Noise Twist Deformer
- Compatible with 3dsmax bones
- Compatible with 3dsmax CAT
- Compatible with camera
- All lights
- Compatible with all standard objects
- Noise Layer manager

### **Not compatible class types:**

Rotation controller on camera target  
Rotation controller on light target

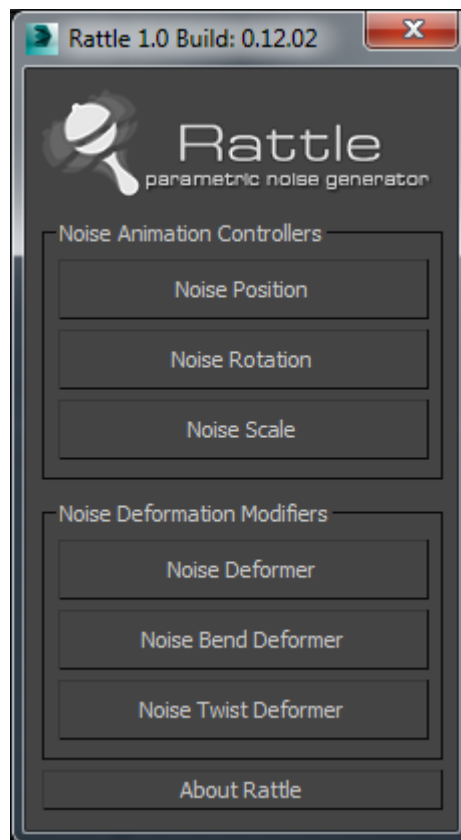


## User Interface

### Rattle Main menu:

**The Rattle Main menu is splitted in two groups:**

The first group is called Noise Animation Controllers, the second one Noise Deformation Modifiers.



Noise Animation Controllers include noise position, noise rotation a noise scale.

#### **Noise Position**

Adds a noise position controller to all of your selection so you can manipulate noise values to give position variations

#### **Noise Rotation**

Adds a noise rotation controller to all of your selection so you can manipulate noise values to give rotation variations

#### **Noise Scale**

Adds a noise scale controller to all of your selection so you can manipulate noise values to give scale variations



Controllers work in a relative way so you can have them as additive layer to your animations.

Noise Deformation Modifiers include noise deformer, noise bend deformer, noise twist deformer

### **Noise Deformer**

Adds an enhanced Noise modifier to what is available in 3dsmax.

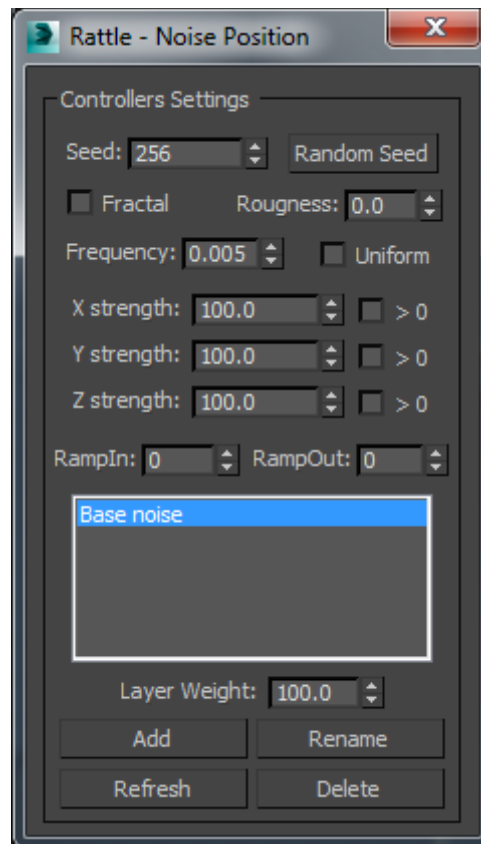
### **Noise Bend Deformer**

Adds an enhanced Bend modifier to what is available in 3dsmax.

### **Noise Twist Deformer**

Adds an enhanced Bend modifier to what is available in 3dsmax.

## **Noise Position, Rotation, Scale Controller UI**



**Seed**

Starts the noise calculations. Changing the seed creates a new curve

**Random Seed button**

Randomizes seed values

**Fractal**

Generates noise using a fractal Brownian motion. The main value of using Fractal Noise is that it activates the Roughness field.

**Roughness**

Changes the roughness of the Noise curve (when Fractal Noise is turned on). Where Frequency sets the smoothness of the overall Noise effect, Roughness changes the smoothness of the Noise curve itself.

**Frequency**

Controls the peaks and valleys of the noise curve. The useful range is from 0.01 to 1.0. High values create jagged, heavily oscillating noise curves. Low values create soft, gentle noise curves.

**Strength X,Y,Z**

Sets the value range for noise output. These values can be animated.

**Uniform**

When on, Y strength and Z strength values are uniformed to X strength value

**>0 Value constraint**

Forces Noise values to stay positive. Each Strength field has its own >0 constraint.

When on, the application of the Strength field is changed. Noise values will range from 0 to the value of Strength; most values will hover around Strength/2.

**Ramp In**

Sets the amount of time Noise takes to build to full strength. A value of 0 causes Noise to start immediately at full strength at the start of its range. Any other value causes Noise to start at 0 strength and then build to full strength by the elapsed time set in the Ramp In field.

**Ramp Out**

Sets the amount of time Noise takes to fall to 0 strength. A value of 0 causes Noise to stop immediately at the end of its range. Any other value causes Noise to fall off to 0 strength by the end of its range. The value in the Ramp Out field sets the amount of time before the end of the range that Noise begins to fall off.

**Listbox**

Includes noise layer names. You can create infinite layers



### Layer Weight

Exaggerate or minimize the effects of a controller by increasing or decreasing its weight value. Default=100.0

### Add button

Adds a new controller layer

### Rename button

Change the name to selected layer. This can be also done by doubleclick on the selected layer in the listbox.

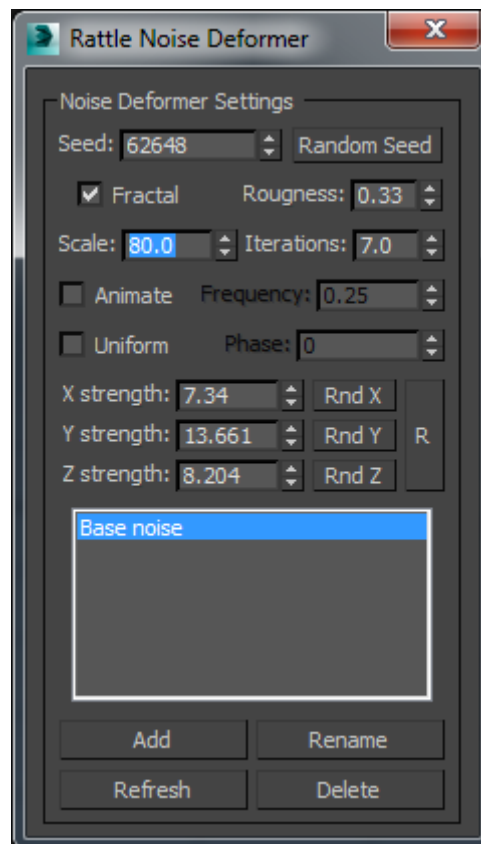
### Refresh button

Refresh all rollout values

### Delete button

Delete selected Layer

## Noise Deformer UI



**Seed**

Generates a random start point from the number you set.

**Random Seed button**

Randomizes seed values

**Fractal**

Produces a fractal effect based on current settings. Default=off.

If you turn on Fractal, the following options are available:

**Roughness**

Determines the extent of fractal variation. Lower values are less rough than higher values.

Range=0 to 1.0. Default=0.

**Iterations**

Controls the number of iterations (or octaves) used by the fractal function. Fewer iterations use less fractal energy and generate a smoother effect. An iteration of 1.0 is the same as turning Fractal off. Range=1.0 to 10.0. Default=6.0.

**Scale**

Sets the size of the noise effect (not strength). Larger values produce smoother noise, lower values more jagged noise. Default=100.

**Animate**

Regulates the combined effect of Noise and Strength parameters.

The following parameters adjust the underlying wave:

**Frequency**

Sets the periodicity of the sine wave. Regulates the speed of the noise effect. Higher frequencies make the noise quiver faster. Lower frequencies produce a smoother and more gentle noise.

**Phase**

Shifts the start and end points of the underlying wave. By default, animation keys are set at either end of the active frame range. You can see the effect of Phase more clearly by editing these positions in Track View. Select Animate Noise to enable animation playback. 3Ds max standard noise has a non linear animation curve, Rattle has a linear animation curve as default setting, because it makes more sense to us. If you want to change such setting you can go to track view.

**Uniform**

When on, Y strength and Z strength values are uniformed to X strength value

**Strength X,Y,Z**

Set the strength of the noise effect along each of three axes. Enter a value for at least one of these axes to produce a noise effect.

**Rnd X,Y,Z buttons**

each of them returns a random value for the relative axe.

**R button**

It returns a random value for all the axes X, Y, Z at once.

**Listbox**

Includes noise layer names. You can create infinite layers

**Layer Weight**

Exaggerate or minimize the effects of a controller by increasing or decreasing its weight value. Default=100.0

**Add button**

Adds a new controller layer

**Rename button**

Change the name to selected layer. This can be also done by doubleclick on the selected layer in the listbox.

**Refresh button**

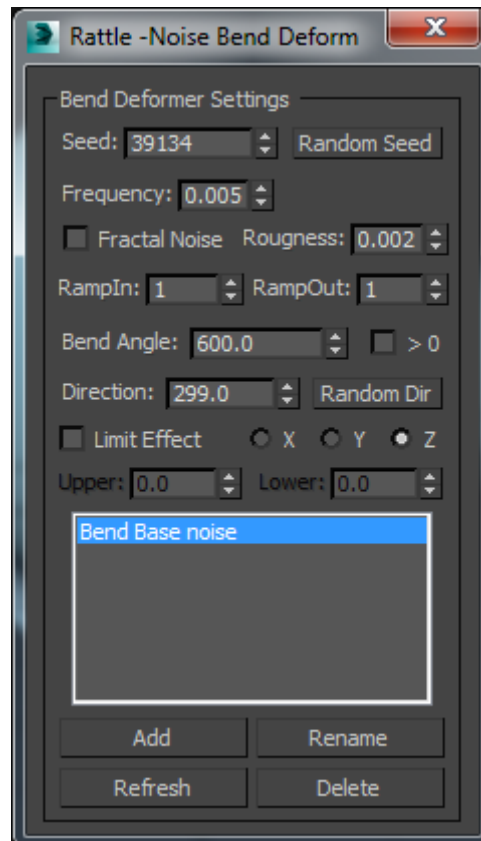
Refresh all rollout values

**Delete button**

Delete selected Layer



## Noise Bend Deformer UI



### Seed

Generates a random start point from the number you set.

### Random Seed button

Randomizes seed values

### Fractal Noise

Generates noise using a fractal Brownian motion. The main value of using Fractal Noise is that it activates the Roughness field.

### Roughness

Changes the roughness of the Noise curve (when Fractal Noise is turned on). Where Frequency sets the smoothness of the overall Noise effect, Roughness changes the smoothness of the Noise curve itself.



**Frequency**

Controls the peaks and valleys of the noise curve. The useful range is from 0.01 to 1.0. High values create jagged, heavily oscillating noise curves. Low values create soft, gentle noise curves.

**Ramp In**

Sets the amount of time Noise takes to build to full strength. A value of 0 causes Noise to start immediately at full strength at the start of its range. Any other value causes Noise to start at 0 strength and then build to full strength by the elapsed time set in the Ramp In field.

**Ramp Out**

Sets the amount of time Noise takes to fall to 0 strength. A value of 0 causes Noise to stop immediately at the end of its range. Any other value causes Noise to fall off to 0 strength by the end of its range. The value in the Ramp Out field sets the amount of time before the end of the range that Noise begins to fall off.

**Bend Angle**

Sets the angle to bend from the vertical plane.

**>0 Value constraint**

Forces Noise values to stay positive. Each Strength field has its own >0 constraint. When on, the application of the Strength field is changed. Noise values will range from 0 to the value of Strength; most values will hover around Strength/2.

**Direction**

Sets the direction of the bend relative to the horizontal plane.

**X,Y,Z radiobuttons**

Specifies the axis to be bent. Note that this axis is local to the Bend gizmo and not related to the selected entity.

**Limit Effect**

Applies limit constraints to the bend effect. Default=off.

**Upper Limit**

Sets the upper boundary in world units from the bend center point beyond which the bend no longer affects geometry.

**Lower Limit**

Sets the lower boundary in world units from the bend center point beyond which the bend no longer affects geometry.

**Listbox**

Includes noise layer names. You can create infinite layers



### Layer Weight

Exaggerate or minimize the effects of a controller by increasing or decreasing its weight value.

### Add button

Adds a new controller layer

### Rename button

Change the name to selected layer. This can be also done by doubleclick on the selected layer in the listbox.

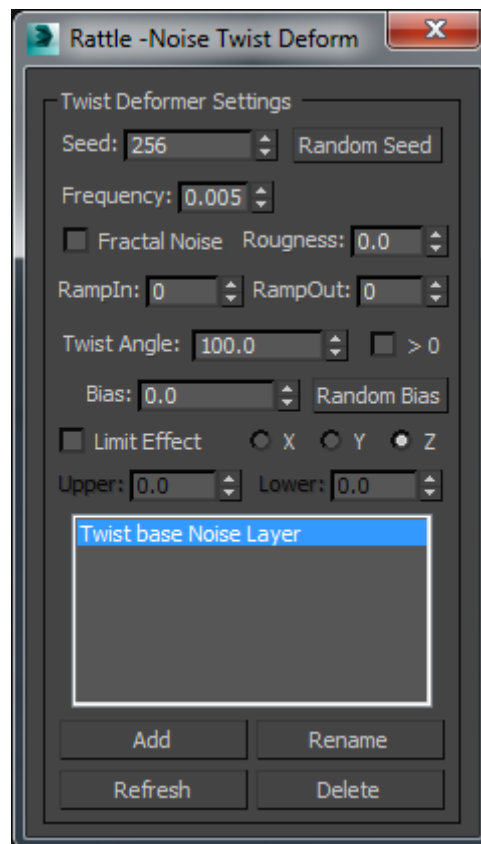
### Refresh button

Refresh all rollout values

### Delete button

Delete selected Layer

## Noise Twist Deformer UI



**Seed**

Generates a random start point from the number you set.

**Random Seed button**

Randomizes seed values

**Fractal Noise**

Generates noise using a fractal Brownian motion. The main value of using Fractal Noise is that it activates the Roughness field.

**Roughness**

Changes the roughness of the Noise curve (when Fractal Noise is turned on). Where Frequency sets the smoothness of the overall Noise effect, Roughness changes the smoothness of the Noise curve itself.

**Frequency**

Controls the peaks and valleys of the noise curve. The useful range is from 0.01 to 1.0. High values create jagged, heavily oscillating noise curves. Low values create soft, gentle noise curves.

**Ramp In**

Sets the amount of time Noise takes to build to full strength. A value of 0 causes Noise to start immediately at full strength at the start of its range. Any other value causes Noise to start at 0 strength and then build to full strength by the elapsed time set in the Ramp In field.

**Ramp Out**

Sets the amount of time Noise takes to fall to 0 strength. A value of 0 causes Noise to stop immediately at the end of its range. Any other value causes Noise to fall off to 0 strength by the end of its range. The value in the Ramp Out field sets the amount of time before the end of the range that Noise begins to fall off.

**Angle**

Determines the amount of twist around the vertical axis. .

**Bias**

Causes the twist rotation to bunch up at either end of the object. When the parameter is negative, the object twists closer to the gizmo center. When the value is positive, the object twists more away from the gizmo center. When the parameter is 0, the twisting is uniform. Range=100 to -100. Default=0.0.

**Random Bias**

Randomizes bias values

**X,Y,Z radiobuttons**

Specify the axis along which the twist will occur. This is the local axis of the Twist gizmo.

**Limit Effect**

Applies limit constraints to the Twist modifier.

**Upper Limit**

Sets the upper limit for the twist effect.

**Lower Limit**

Sets the lower limit for the twist effect.

**Listbox**

Includes noise layer names. You can create infinite layers

**Layer Weight**

Exaggerate or minimize the effects of a controller by increasing or decreasing its weight value.

**Add button**

Adds a new controller layer

**Rename button**

Change the name to selected layer. This can be also done by doubleclick on the selected layer in the listbox.

**Refresh button**

Refresh all rollout values

**Delete button**

Delete selected Layer



The following Autodesk® 3ds Max® versions are supported:

- 3dsMax 2009 x86
- 3dsMax 2009 x64
- 3dsMax 2010 x86
- 3dsMax 2010 x64
- 3dsMax 2011 x86
- 3dsMax 2011 x64
- 3dsMax 2012 x86
- 3dsMax 2012 x64
- 3dsMax 2013 x86
- 3dsMax 2013 x64
- 3dsMax 2014 x64
- 3dsMax 2015 x64

### **Rattle 1.0**

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