Noise Table

Default general parameters for all noise types:

- Low Color = (0.0, 0.0, 0.0, 1.0)
- High Color = (1.0, 1.0, 1.0, 1.0)
- Texturing = -1
- Low Texture = {}
- High Texture = {}
- Displace = -1
- Anim Speed = o
- Octaves = 10
- Noise Offset = (0.0, 0.0, 0.0)

Noise Type	Default parameters	Interpolation methods	2D surface	3D surface
Cellular F1	Frequency = 1.0 Amplitude = 1.0 Contribution = 0.45 Cell Type = 0	Cellular Simplex		
Cellular F2	Frequency = 1.0 Amplitude = 1.0 Contribution = 0.45 Cell Type = 1	Cellular		
Cellular F2-F1	Frequency = 1.0 Amplitude = 1.0 Contribution = 0.45 Cell Type = 2	Cellular		

Cellular F1+F2/2	Frequency = 1.0 Amplitude = 1.0 Contribution = 0.45 Cell Type = 3	Cellular	
Cellular F1*F2	Frequency = 1.0 Amplitude = 1.0 Contribution = 0.45 Cell Type = 4	Cellular	
Cubist	Frequency = 1.0 Amplitude = 1.0 Contribution = 0.45 Range Clamp = (-1.5, 0.5, 0.0)	Perlin-Cubis t	
Polka Dot	Frequency = 1.0 Amplitude = 1.0 Contribution = 0.45 Radius Low = 0.0 Radius High = 1.0 Radius (simplex) = 1.0 Max Dimness (simplex) = 0.5	Smooth Falloff Simplex	
Sparse Convolution	Frequency = 1.0 Amplitude = 1.0 Contribution = 0.45	Cellular	
Value	Frequency = 1.0 Amplitude = 0.25 Lacunarity = 1.92 Persistence = 0.75 Contribution = 1.0	Simple	

Standard	Frequency = 0.5 Amplitude = 0.25 Lacunarity = 1.92 Persistence = 0.6 Contribution = 1.0 Normalize = 1.0	Perlin Hermite Simplex	
Billowed	Frequency = 0.5 Amplitude = 0.5 Lacunarity = 1.92 Persistence = 0.5 Contribution = 1.0 Normalize = -1.0 Powered = -1.0 Billow Power = 2.0	Perlin Hermite Simplex	
Ridged	Frequency = 0.5 Amplitude = 1.0 Lacunarity = 1.92 Persistence = 0.5 Contribution = 1.0 Normalize = -1.0 Powered = -1.0 Ridge Power = 1.0 Ridge Offset = 1.0	Perlin Hermite Simplex	
IQ	Frequency = 1.0 Amplitude = 1.0 Lacunarity = 1.92 Persistence = 0.75 Contribution = 1.0 Normalize = -1.0	Perlin Hermite Simplex	
Swiss	Frequency = 0.25 Amplitude = 1.0 Lacunarity = 1.92 Persistence = 0.65 Contribution = 1.0 Normalize = -1.0 Powered = -1.0 Ridge Power = 1.0 Ridge Offset = 1.0 Warp = 0.15	Pelrin Hermite Simplex	
Badlands	Frequency = 0.25 Amplitude = 0.6 Lacunarity = 1.92 Persistence = 0.75 Contribution = 1.0 Normalize = -1.0 Powered = 1.0 Ridge Power = 1.0	Perlin Hermite Simplex	

	Ridge Offset = 0.3 Warp = 0.15 Floor = 0.5		
Jordan	Frequency = 0.5 Amplitude = 1.0 Lacunarity = 1.92 Persistence = 0.65 Contribution = 1.0 Normalize = -1.0 Warp 0 = 0.5 Warp = 0.5 Damp 0 = 2.0 Damp Scale = 1.0	Perlin Hermite Simplex	

Glossary

General noise parameters:

- Octaves: number of noise iterations. Higher values increase the "resolution" of the noise.
- Frequency: interval between noise features. Higher values decrease the distance between features. Can be used to "zoom" in or out.
- Amplitude: height value multiplier. Higher values accentuate highs and lows.
- Lacunarity: frequency multiplier. Higher values increase level of repetition.
- Persistence: amount of noise detail. Lower values will smooth the noise.
- Noise offset: noise input alteration. "x" and "y" components can be used to modify position along "xy" axis. "z" component can be used to smoothly "morph" the noise.
- Contribution: brightness multiplier of the output color. Higher values increase the overall brightness.
- Normalize: if set to >0, maps the output height range to <0, 1>, smoothing the overall color to gray instead of clear black and whites.
- Displace: if set to >0, displaces vertices to generate a 3D surface.
- Low Color: color of the lowest height range.
- High Color: color of the highest height range.
- Texturing: if set to >0, enables texturing.
- Low Texture: texture used in the lowest height range.
- High Texture: texture used in the highest height range.

• Anim Speed: animation speed of the "z" component of the noise offset.

Cellular noise parameters:

• Cell Type: type of Voronoi output. 0 = F1, 1 = F2, 2 = F2-F1, 3 = F1+F2/2, 4 = F1*F2.

Cubist noise parameters:

• Range Clamp: range of the cubist output.

Polka Dot noise parameters:

- Radius Low: radius of the lowest dots.
- Radius High: radius of the highest dots.
- Radius (simplex): mean radius of the dots.
- Max Dimness (simplex): maximum amount of penumbra.

Billowed noise parameters:

- Powered: if set to >0, outputs a powered height value.
- Billow Power: power coefficient.

Ridged noise parameters:

- Powered: if set to >0, outputs a powered height value.
- Ridge Power : power coefficient.
- Ridge Offset: initial height value of the reversed billowed noise.

Swiss noise parameters:

- Powered: if set to >0, outputs a powered height value.
- Ridge Power : power coefficient.
- Ridge Offset: initial height value of the reversed billowed noise.
- Warp: input displacement. Higher values shapes the ridges.

Badlands noise parameters:

- Powered: if set to >0, outputs a powered height value.
- Ridge Power : power coefficient.
- Ridge Offset: initial height value of the reversed billowed noise.

- Warp: input displacement. Higher values shapes the ridges.
- Floor: initial height value. Higher values raises the floor (flat) area.

Jordan noise parameters:

- Warp o: input displacement of the first octave. Higher values shapes the ridges.
- Warp: input displacement of the remaining octaves. Higher values shapes the ridges.
- Damp o : density of the first octave. Higher values increase the "hills" density.
- Damp: density of the remaining octaves. Higher values increase the "hills" density.
- Damp Scale: global elevation of the features. Higher values elevates the hills/ridges.

References

Scape (http://www.decarpentier.nl/):

Some of the noise algorithms are based on the works of Ken Perlin, Brian Sharpe and Giliam De Carpentier :

```
GPU-Noise-Lib (http://briansharpe.wordpress.com):
//
//
        Code repository for GPU noise development blog
//
        http://briansharpe.wordpress.com
//
        https://github.com/BrianSharpe
//
//
        I'm not one for copywrites. Use the code however you wish.
        All I ask is that credit be given back to the blog or myself when appropriate.
//
        And also to let me know if you come up with any changes, improvements, thoughts or
//
interesting uses for this stuff. :)
        Thanks!
//
//
//
        Brian Sharpe
//
        brisharpe CIRCLE_A yahoo DOT com
        http://briansharpe.wordpress.com
//
        https://github.com/BrianSharpe
//
//
```

Copyright (c) 2007, Giliam de Carpentier All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- 1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.