HISSTools Granular

Quick User Guide

HISSTools Granular is granular synthesis plug-in that takes a single sample and replays small portions of it on top of each to create new arrangements of the original. This can create a sense of a sound frozen time, small disjointed snippets of the sound, or radical transformations in which the original sound becomes totally unrecognisable!

You can use HISSTools Granular to create a wide range of sounds, from pointillistic textures to epic drones!

Contents

Installation

To install all you need to do is to unzip and copy the relevant version of the plug-in to the folder which your host uses for plug-ins.

On Mac OSX

AudioUnit v2
/Library/Audio/Plug-ins/Components/
[or ~/Library/Audio/Plug-ins/Components/]

VST 2
/Library/Audio/Plug-ins/VST/
[or ~/Library/Audio/Plug-ins/VST/]

VST 3
/Library/Audio/Plug-ins/VST3/
[or ~/Library/Audio/Plug-ins/VST3/]

On Windows

VST folder locations vary, so you may need to check for your host, but likely locations are

VST 2
C:\Program Files\Steinberg\VstPlugins

VST 3
\Program Files\Common Files\VST3\
[Native plug-ins bit depth]

\Program Files (x86)\Common Files\VST3\$APPFOLDER\VST3/
[32bit plug-ins on 64bit Windows]

To uninstall simply delete the plug-in.

Usage Overview

To use HISSTools Granular you must first load a sound from disk. This is done by clicking the **Select** button to open a file dialog in which you can select the audio file you wish to use. You will then see this file visible in the waveform display. Once a file is loaded the plug-in will begin processing, unless the **Active** button is switched off.

There are two main modes of operation - *Streams* and *Clouds* - selectable using the **Mode** control. In *Streams* mode the voices (as set with the **Max Voices** control) run continuously when the **Density** is set at 100%. Grains will randomly fall silent as the density is decreased. In *Clouds* mode new grains are triggered according to the **Rate** (and **Rand Rate**) controls. The density still controls how likely it is that each grain will be silent.

The most important controls after these are the **Offset** (and **Rand Offset**) controls, as well as the **Duration** (and **Rand Dur**) controls. These set the part of the sample used, and the duration of grains respectively. As well as these core elements of the granular synthesis process you can control the pitch, panning, volume, window shape, and add distortion and filtering per grain.

Granular synthesis involves playing back lots of tiny portions of a sound. In order to create variation, randomisation of sound engine parameters is used, so that each grain of sound is different. Thus, the *grain parameters* (the values for each portion of sound) are not directly set by the plug-in parameters.

You will notice that the dials are always in pairs. Larger dials set either the minimum value or the central value each of the sound engine parameters, and the smaller dials sets the amount of random variation. For most values this is the maximum amount of randomness that might be applied either side of a central value, although for some engine parameters (such as offset and duration) it is the amount of randomness that might be added to a given minimum value. In all cases when the randomness is set to zero, the sound engine parameter will be set to the value of the larger dial for every grain. When using the plug-in this hopefully will be much more intuitive than it sounds!

The parameters are covered in a detail in the *Parameter List.*

Controls

- Mouse over a dial to show its value
- Adjust dial values by dragging with the mouse, or by double-clicking to type in a new value
- Adjust numeric panels by dragging with the mouse, or by single-clicking to type in a new value
- Adjust menus (which are indicated by a downward triangle) by clicking on the value to cycle through the values, or clicking on the triangle to display a drop-down menu.
- All controls can be reset to default value by single-clicking on them with the shift key held down
- To make fine adjustments to dials and numeric panels control whilst mousing depress shift ***after you have started dragging***
- Rate, Drive and Filter controls are greyed out when they are not in use (the lug-in is in *Streams* mode, or the distortion or filtering are switched off)

Parameter Listing

Parameter	Value	Sets
Active	Off / On	Processing on or off
Mode	‣ Streams ‣ Clouds	Mode of operation
Max Voices	1 to 100	Maximum number of voices sounding
Density	0 to 100%	Percentage of voices that make sound
Rate	10 to 2000 milliseconds	Minimum grain interval in *Clouds* mode
Rand Rate	0.1 to 2000 milliseconds	Random interval in *Clouds* mode
Offset	0 to 4000 milliseconds	Minimum offset into the sample
Rand Offset	0 to 10000 milliseconds	Amount of random offset into the sample
Duration	0.1 to 5000 milliseconds	Minimum duration of each grain
Rand Dur	0 to 4000 ms	Amount of duration randomness
Pitch	-36 to 36 semitones	Transposition of the sample
Rand Pitch	0 to 48 semitones	Amount of transposition randomness
Gliss Speed	-36 to 36 semitones/second	Pitch gliss speed for each grain
Rand Gliss	0 to 36 semitones/second	Amount of gliss speed randomness
Volume	-60 to 10 dB	Volume of each grain
Rand Vol	0 to 20 dB	Amount of volume randomness
Pan	-100 to 100	Pan position of each grain
Rand Pan	0 to 100	Amount of pan position randomness
Window Type	‣ Hann ‣ Triangle ‣ Cosine ‣ Kaiser ‣ Tukey	Shape of the window
Window Bias	-100 to 100%	Timing of the window (earlier or later)
Rand Bias	0% to 100%	Amount of random window bias
Distortion Type	‣ Off ‣ Tanh ‣ Simple ‣ Cubic ‣ Soft ‣ Poly	Type of distortion used
Drive	-20 to 50 dB	Drive into the distortion per grain
Rand Drive	0 to 20 dB	Amount of drive randomness

Filter Type	‣ LPF (low pass) ‣ HPF (high pass) ‣ BPF (band pass)	Type of filtering per grain
Filter Freq	20 to 16000 Hz	Filter frequency for each grain
Rand Freq	0 to 48 semitones	Amount of filter frequency randomness
Filter Reson	0 to 100%	Filter resonance for each grain
Rand Reson	0 to 100%	Amount of filter resonance randomness

Minimum System Requirements

Mac
OS 10.13 or higher
32 bit or 64 bit VST 2.4, VST 3 or AudioUnit host
Minimum Intel i5 CPU recommended

Windows
Windows 7 or later
32 bit or 64 bit VST 2.4 or VST 3 host
Minimum Intel i5 CPU recommended

Version

v1.0.1
For the latest see https://github.com/AlexHarker/HISSTools_Freeze/releases

Issues

If you find a bug either:

- email A.Harker@hud.ac.uk
- report at https://github.com/AlexHarker/HISSTools_Freeze/issues

Enjoy using HISSTools Granular!