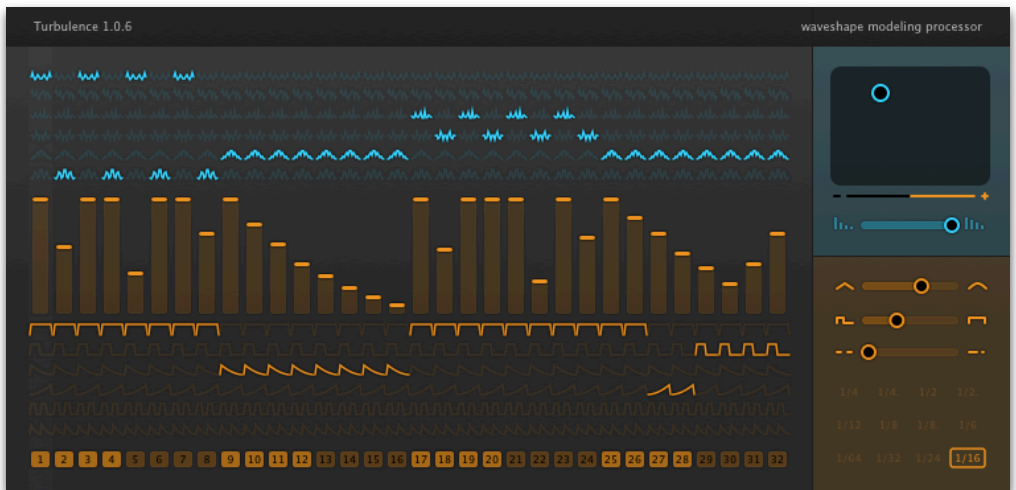




Sinevibes
audio innovations

Turbulence waveshape modeling processor



Overview

What is it?

Turbulence is an AudioUnit effect plugin for transforming simple sounds into rich motion textures. Using a perfectly-synchronized sequencer with up to 32 steps, it runs the input signal through a waveshape modeling matrix which directly bends it and enriches the spectrum with new harmonics. Thanks to multiple timing and modulation options, plus a fun, game-like interface, Turbulence offers an exciting new way to create unique and powerful animated sounds.

What can it do?

- Turn simple waveforms like sine, saw and square into complex motion synth and bass lines with incredible density.
- Create growling, wobbling and FM-like sounds with very little effort.
- Warp and re-synthesize electronic drum loops.

Compatibility

Turbulence works with Logic, GarageBand, Live, Maschine, Studio One, ReNoise, Reaper, Bidule and other Mac software that supports AudioUnit instrument plugins. It requires OS X Leopard, Snow Leopard or Lion.

Installation

Installing Turbulence

To install Turbulence, simply open the disk image, double-click the installer package and follow the next few steps in the installer dialog. Once the installation is complete, you will find Turbulence in the AudioUnit effects list in all compatible host applications.

Removing Turbulence from your Mac

- Open Finder.
- Navigate to the folder */Library/Audio/Plug-Ins/Components*.
- Move the file *Turbulence.component* to the trash.

Getting support

Should you need any help with Turbulence, please do not hesitate to contact [Sinevibes support](#) via our site.

Turbulence basics

Waveshaper is an effect that directly transforms the input signal's waveform. It introduces a lot of new harmonic partials, making the sound more spectrally rich and dense. Depending on the waveshape model and kind of input signal, the results you get from Turbulence can be anything from smooth and clean, to rough and dirty.

The best way to start experimenting with Turbulence is to process simple synthesizer sounds based on sine, triangle, saw and square waveforms. Try taking two or more of such waveforms, mixing and detuning them in different ways. As the next step, apply a low pass filter onto your synthesizer sound to make it more smooth, or add resonance to make it more metallic or even screaming. If you play such sounds polyphonically, the waveshaper will drastically emphasize the frequency beatings between the notes, and you can find many note combinations that create strong roaring or pulsating effects. These examples will show you some of the amazing possibilities waveshaping offers while being really easy to use.

Of course, the key to working with Turbulence is its modular sequencer, which allows you to set the waveshaper model, envelope form and modulation depth individually per each of the 32 steps. Altogether these tools will let you quickly create incredible, lively sound transformation patterns that were not previously possible with other techniques.

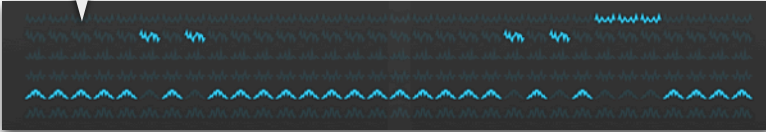
The user interface of Turbulence is color-coded, with the waveshaper elements represented in **blue** and sequencer elements in **orange**. *Command*-click on an individual control will reset it to its default position. More shortcuts for resetting and randomizing various control groups are available, they are described in the next section.

To save a screenshot of Turbulence, hold down *Control*, *Option* and *Command*, and then click anywhere on the interface.

Turbulence user interface

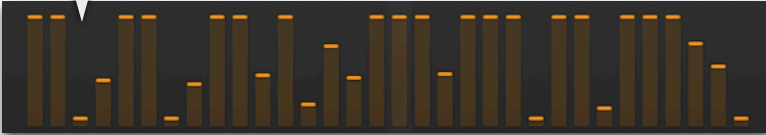
Waveshape model matrix

Sets the waveshape transformation model per each sequencer step. *Command-click* sets all steps to the same model. *Option-click* randomizes all steps.



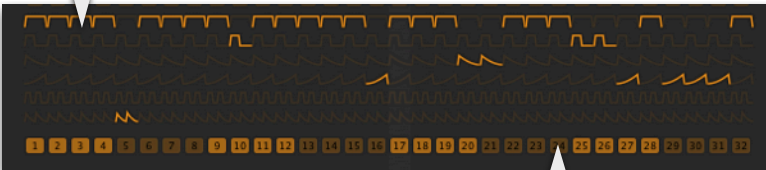
Modulation depth sliders

Adjust the waveshape modulation depth per each sequencer step. *Command-click* adjusts sliders for all steps simultaneously. *Option-click* randomizes all steps.



Envelope matrix

Sets envelope type per each sequencer step: flat, square, falling, rising, double square and double falling. *Command-click* sets all steps to the same model. *Option-click* randomizes all steps.



Step numbers

Indicate the numbers of sequencer steps. Click any step to change the sequence length.

Turbulence user interface

Waveshape modulation

Adjusts global modulation depth of the waveshape model by the modulation sequencer.



Waveshape XY pad

Adjusts the parameters of the waveshaper curve.

Harmonics

Adjusts the amount of harmonics in oscillator output before it enters the waveshaper model.

Envelope smoothness

Adjusts the smoothness of each step's envelope.

Envelope time

Adjusts the length of each step's envelope.

Sequencer rate

Adjusts the speed of the sequencer according to the length of each step (from 1/64 to dotted 1/2 note).



Sequencer swing

Adjusts the amount of swing between odd and even steps. As it's moved from left to right, odd steps get longer and even steps get shorter.

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Version history

- 1.0.7 – Fixed host synchronization issue
- 1.0.6 – Top bar indicating plugin title and version
 - New design for “time” slider labels and sequence rate selector
 - Increased height of the sequence position mark
 - Fixed sequence position mark interfering between multiple instances of the plugin
- 1.0.5 – New, full-height running sequence position mark
 - Improved design of sliders, pattern rate selector and step markers
 - New two-stage input filter for smoother sound
 - New “harmonics” control slider
 - Fixes for automation begin gestures
 - New preset patches
- 1.0.4 – Running sequence position mark
 - Reworked graphics engine for much faster user interface response
 - Support for parameter automation begin/end gestures
 - User interface screenshot can now be saved in PNG format
- 1.0.3 – Enhanced user interface with cleaner look
 - New design for horizontal sliders
 - New envelope filtering algorithm for snappier yet smoother waveshape modulation; re-calibrated envelope lag slider
- 1.0.2 – Minor user interface enhancements
- 1.0.1 – Fixed presets being installed in wrong location
- 1.0.0 – Initial release