



# Stator

Tape wobble simulator

**AAX + AU + VST** effect plugin for Mac/Windows/Linux

Designed and developed by **Sinevibes** ©2021-2024



# INTRODUCTION

**Stator** is a tape wobble simulator. It uses a creative approach to replicate the effects of speed fluctuations in tape machines: wow and flutter coming from uneven electric motor rotation and tape feed, as well as scrape flutter caused by the friction of the tape against the tape head. The result is a complex speed modulation signal that produces a wide variety of pitch drift and lo-fi jitter effects – similar to the sound of worn-out, unstable audio and video cassette players. **Stator** also employs individual stereo widening formulas in each of its three modulation components, plus it has variable channel crosstalk for adding chorusing and phasing artifacts – and creating sounds with a truly beautiful vintage vibe.

# SPECIFICATIONS

## SOUND ENGINE

- Combination of 13 fine-tuned DSP algorithms for simulating tape machine speed wobble
- Separate modulation depth adjustment for pitch wow, flutter, and scrape flutter
- Variable stereo phase offset with individual calibration for each modulation source
- Variable stereo crosstalk for chorusing and phasing artifacts
- Built-in adjustable feedback loop for additional sound coloration
- Lag filters on all continuous parameters for smooth, click-free adjustment
- Supports mono > mono, mono > stereo, and stereo > stereo channel configurations

## GRAPHIC INTERFACE

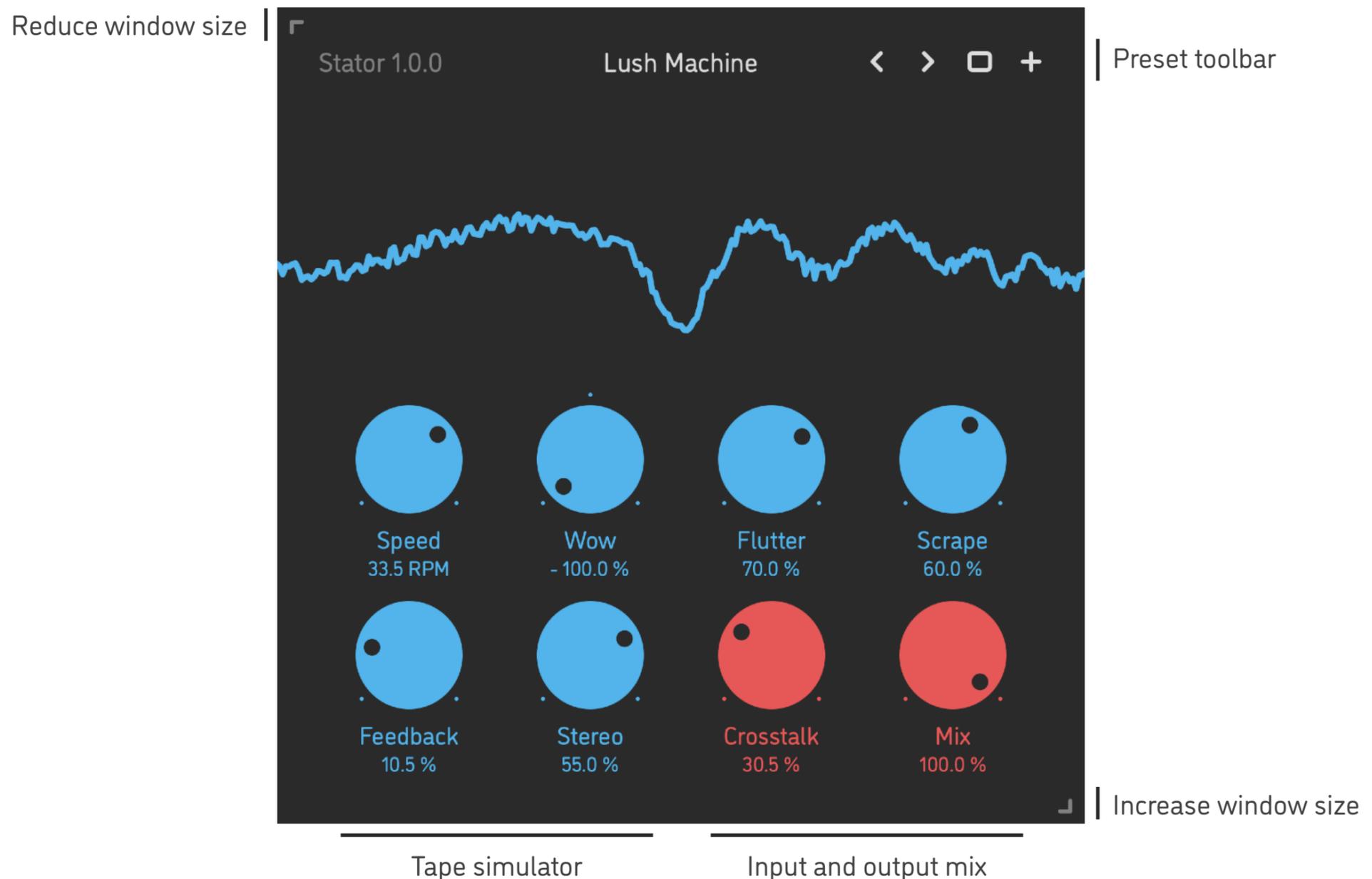
- Color-coded graphic elements
- Consistent name, mapping, value, and unit implemented for all parameters in both graphic user interface and host control/automation
- Built-in preset management functions
- Supports window size scaling up to 200%

## SUPPORTED FORMATS

- **Mac:** 64-bit **AAX, AU, VST3** plugins for Intel and Apple Silicon processors, requires Metal graphics support and macOS 10.9 or later
- **PC:** 64-bit **AAX, VST3** plugins for x86 processors, requires Windows 8.1 or later
- **Linux:** 64-bit **VST3** plugin for x86 processors, requires a fairly recent Linux distribution

# INTERFACE

**Stator** features a fully vector-based interface, with color-coded elements for effective visual grouping. The interface allows you to change its window size from 0.8x to 2x in 20% increments. The last size you set is stored in a preference file and is recalled the next time **Stator** is loaded.



- Hold *shift* and drag a knob to adjust the parameter with increased resolution.
- Use *option-click* (Mac) or *alt-click* (Windows, Linux), or *double-click* any knob to recall its default setting.
- To fully initialize all plugin's parameters, load the preset named *Default* from the *Factory* or the *User* bank.

# PARAMETERS

<b>Speed</b>	<b>10 .. 60 RPM</b>	Average speed of the simulated tape motor in revolutions per minute: this parameter affects the base frequencies of wow, flutter, and scrape flutter
<b>Wow</b>	<b>-100 .. +100 %</b>	Amount of pitch wow: simulates uneven friction when the tape motor periodically slows down (-) or speeds up (+) and then goes back to normal speed
<b>Flutter</b>	<b>0 .. 100 %</b>	Amount of pitch flutter: simulates continuous low-frequency speed fluctuations
<b>Scrape</b>	<b>0 .. 100 %</b>	Amount of pitch scrape flutter: simulates continuous high-frequency speed jitter due to friction and vibration of the tape against the tape head
<b>Feedback</b>	<b>0 .. 50 %</b>	Amount of output signal being fed back into the effect
<b>Stereo</b>	<b>0 .. 100 %</b>	Amount of phase shift applied separately within wow, flutter, and scrape flutter
<b>Crosstalk</b>	<b>0 .. 100 %</b>	Amount of output signal from the left channel being mixed into the right channel and vice versa; at maximum value the signals in the left and the right channels become the same, and thus the output becomes mono
<b>Mix</b>	<b>0 .. 100 %</b>	Balance between dry input and wet output

# PRESETS

**Stator** features simple built-in functions for saving and loading presets, as well as for quickly switching between presets within the same bank. All these functions are accessed via the top toolbar.

Preset Name

Click the preset name at the top to show the list of presets in the current bank. Use *command-click* (Mac) or *control-click* (Windows, Linux) to reveal the actual preset file in the system file browser.



Switch to the previous preset in the current bank. The current bank is automatically set to wherever the last preset was loaded from.



Switch to the next preset in the current bank.



Show open file dialog with the list of preset banks. By default, the plugin includes two banks: *Factory* and *User*. However, you can freely create additional banks – simply by creating new subfolders.



Save current preset. Please note: due to the limitations of the typeface, you can only use latin letters when naming your presets



**SINEVIBES**

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SUPERPOWERS***