Droplet v2
Raindrop delay

AAX + AU + VST effect plugin for Mac and Windows
Designed and developed by Sinevibes ©2018-2021
INTRODUCTION

Droplet is a delay modeling engine for creating “raindrop delay” effects. It is based on 32 stereo delay lines connected in series via a proportional feedback system, with each delay's time and stereo pan being randomized in order to recreate a naturally chaotic sound – similar to water drops falling onto a surface. The wide parameter range, as well as low- or high-frequency feedback damping, allow Droplet to produce a huge variety of effects – not just its trademark raindrop delay but also lush reverb and resonator simulations. Due to its unique alternating-polarity routing, the built-in modulation oscillator adds a beautiful dimension and unison detune to the sound. And thanks to the fact that the randomization seed is generated each time the plugin is loaded, just like the natural process it’s modeling, every instance of Droplet will always sound different.

SOUND ENGINE

- Multi-tap delay engine with 32 stereo delay lines and proportional feedback scaling
- Adjustable delay time randomization
- Adjustable delay output pan randomization
- Individual low-pass and high-pass damping filters per each delay line
- Sine-wave oscillator for delay time modulation, with unique alternating-polarity routing
- 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%

SYSTEM REQUIREMENTS

- 64-bit Mac computer with Intel or Apple processor, running macOS 10.9 or later, plus a host application with support for AU, AAX, or VST3 plugins
- 64-bit PC computer with x86 processor, running Windows 8.1 or later, plus a host application with support for AAX or VST3 plugins
**INTERFACE**

*Droplet* 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 *Droplet* is loaded.

- Reduce window size
- Preset toolbar
- Raindrop delay engine
- Input and output mix
- Increase window size
- Modulation

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

#### Delay

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>Base value for each tap's delay time</td>
<td>5 .. 200 ms</td>
</tr>
<tr>
<td>Deviation</td>
<td>Amount of deviation from base time value during randomization: e.g. with range set to 100 ms, deviation to 300%, the resulting time range = 100 .. 400 ms</td>
<td>0 .. 300 %</td>
</tr>
<tr>
<td>Feedback</td>
<td>Amount of delay engine's output routed back into the input</td>
<td>0 .. 100 %</td>
</tr>
<tr>
<td>Damping</td>
<td>Cutoff frequency for damping filters applied separately on each delay tap: -100 .. 0: 6 dB/octave low-pass with cutoff frequency from 20 Hz to 20 kHz 0 .. +100: 6 dB/octave high pass with cutoff frequency from 20 Hz to 2 kHz</td>
<td>-100 .. +100 %</td>
</tr>
<tr>
<td>Stereo</td>
<td>Amount of randomization applied onto each delay tap's output pan</td>
<td>0 .. 100 %</td>
</tr>
</tbody>
</table>

#### Modulation

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>Sine wave modulation generator frequency</td>
<td>0.05 .. 5 Hz</td>
</tr>
<tr>
<td>Depth</td>
<td>Amount of time modulation applied onto all delay taps</td>
<td>0 .. 100 %</td>
</tr>
</tbody>
</table>

#### Mix

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>Dry input signal level</td>
<td>0 .. 100 %</td>
</tr>
<tr>
<td>Send</td>
<td>Amount of dry input signal being sent into the delay engine</td>
<td>0 .. 100 %</td>
</tr>
<tr>
<td>Return</td>
<td>Wet output level of the delay engine</td>
<td>0 .. 100 %</td>
</tr>
</tbody>
</table>
Droplet 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.

Click the preset name in the top center to show open file dialog with the list of presets in the current bank. Use `command-click` (Mac) or `control-click` (Windows) on the preset name to reveal the actual file.

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.
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