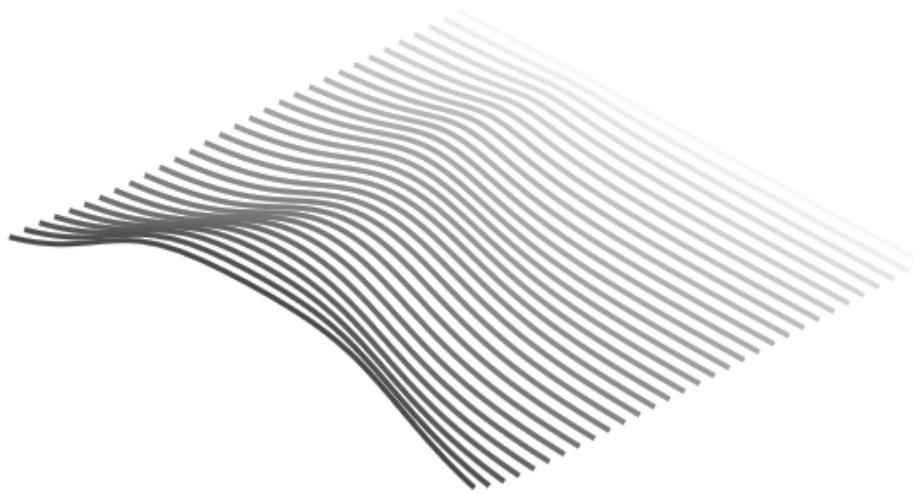


Ripple Delay Pro

Davisynth Audio



Product Manual
Version **1.1 Beta**
November 2025

Plugin Overview

Introduction

Ripple Delay is a curve-based multi-tap delay plugin that adds variation to echos with waves of parameter modulation called “ripples”.

The plugin has powerful sound sculpting capabilities while wielding an intuitive and creative workflow.

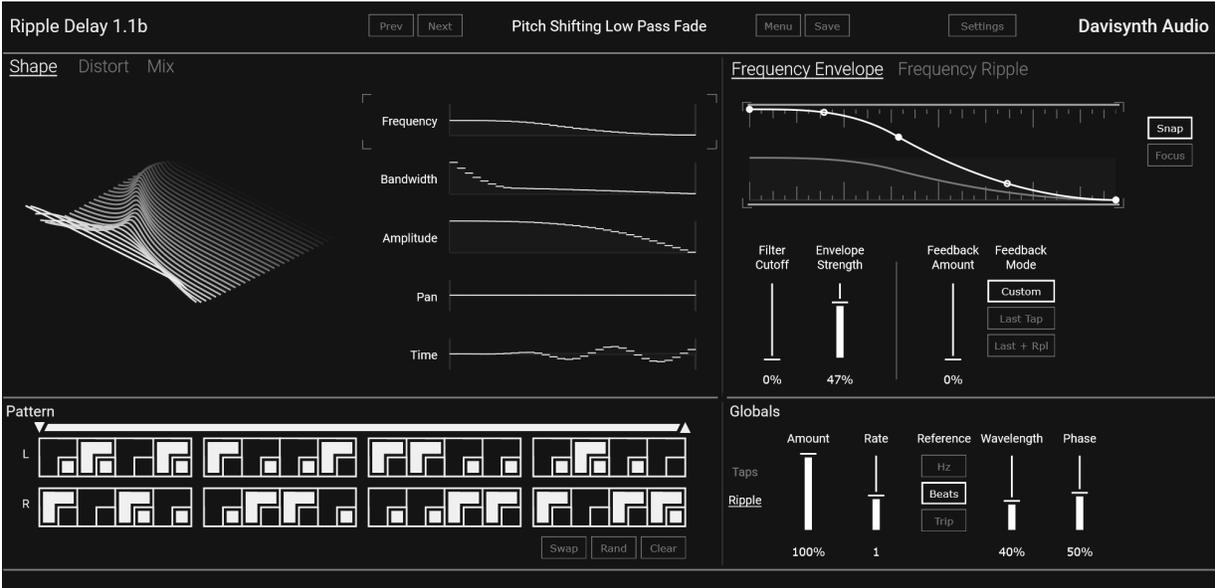


Figure: Ripple Delay Pro’s user interface.

Plugin Organization

Ripple Delay's functionality is divided into three sections which are described in detail later. These sections are:

- **Shaping**
- **Distortion**
- **Mixing**

Switching between sections is done in the top left of the plugin.

The plugin's interface consists of four main panels. The two top panels are used for displaying and adjusting parameters in the Shaping, Distortion, and Mixing sections. The bottom two panels consist of the Pattern editor and Global parameters editor. The top row of the plugin has menus for adjusting plugin settings and navigating presets.

Algorithm

Ripple Delay follows a multi-tap delay architecture where input audio is sampled at different delays for each tap, processed, and mixed together.

The algorithm also features a loop tap to create infinitely decaying echoes with uniquely customizable patterns.

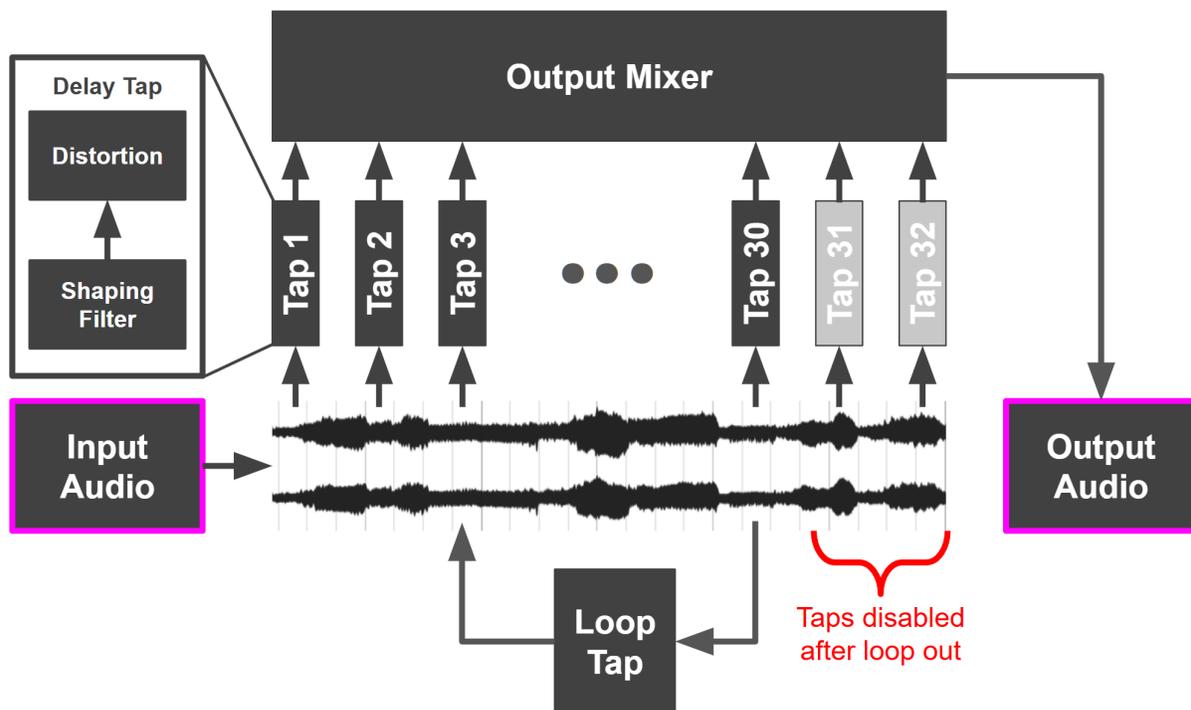


Figure: Ripple Delay signal path and algorithm at a high level.

New Features in Version 1.1

Configurable Feedback Delay

Feedback enables delays that fade off forever. In version 1.0, this was limited to loops that went from the very last tap back to the very first tap in the pattern editor only. This was a significant limitation that has now been remedied by the powerful configurable global feedback. This new feature allows Ripple Delay to take on many more types of patterns, behaving like a hybrid between a multi-tap delay and a feedback delay.

Distortion Engine

Version 1.1 adds a completely new distortion engine, adding a new dimension of harmonic richness to the sound! This is implemented on a per-tap basis similarly to the shaping filter.

Ducking

For many use cases e.g., vocals, guitar, etc..., the wet echo sound can be overly distracting when it overlaps with the dry sound. To remedy this, version 1.1 adds ducking in the Mix section. When the dry signal reaches a specified threshold, the wet level is decreased smoothly according to a user-specified envelope so that it sits behind the dry signal. Once the dry signal is below the threshold, the wet signal comes back to full strength.

Improved Ripples

Ripples in version 1.0 all had the same frequency. This made the ripples sound repetitive especially for strong modulation. Version 1.1 removes this limitation, making it possible to have both very unique and very cyclical sounding echos based on user preference.

Installation

Purchase and Download

After purchasing the software, you will receive some important emails. If you do not have an account at www.davisynth.com, one of the emails will contain information to activate your account for the purchase.

Once logged in, click “My Plugins” to download and activate your software.

My Plugins

Order ID: [REDACTED] (October 17, 2025)

You may return this order until November 16, 2025: [Request Return](#)

Ripple Delay Pro Multi-Tap Delay Plugin

Product Serial : [REDACTED] (Click to copy)

Downloads:

- [Ripple Delay 1.0.3 \(Latest\) – OSX](#)
- [Ripple Delay 1.0.3 \(Latest\) – Win64 – Manual Install](#)

Activations:

There is no activation for this license

Figure: Davisynth store page for downloading and activating software.

Installation

The software consists of a single VST3 or AudioUnit file that must be copied to your DAW's relevant folder. Each person's configuration will be slightly different, but the following folders will work for most users:

Windows: C:\Program Files\Common Files\VST3

macOS: /Library/Audio/Plug-ins/VST3
/Library/Audio/Plug-ins/Components

Activation

Ripple Delay uses online activation. Please ensure you have an internet connection when activating the plugin for the first time.

Upon successfully loading in your DAW, you will be prompted for a serial number. This is most easily found in the "My Plugins" page on the website, but you will have received an email with your serial as well.

Automation

Introduction

As opposed to controlling each echo tap's parameters individually, parameters are determined based on a set of user controllable envelope functions.

This method avoids the tedious practice of setting each echo tap with the added advantage of having smooth, natural transitions between echos.

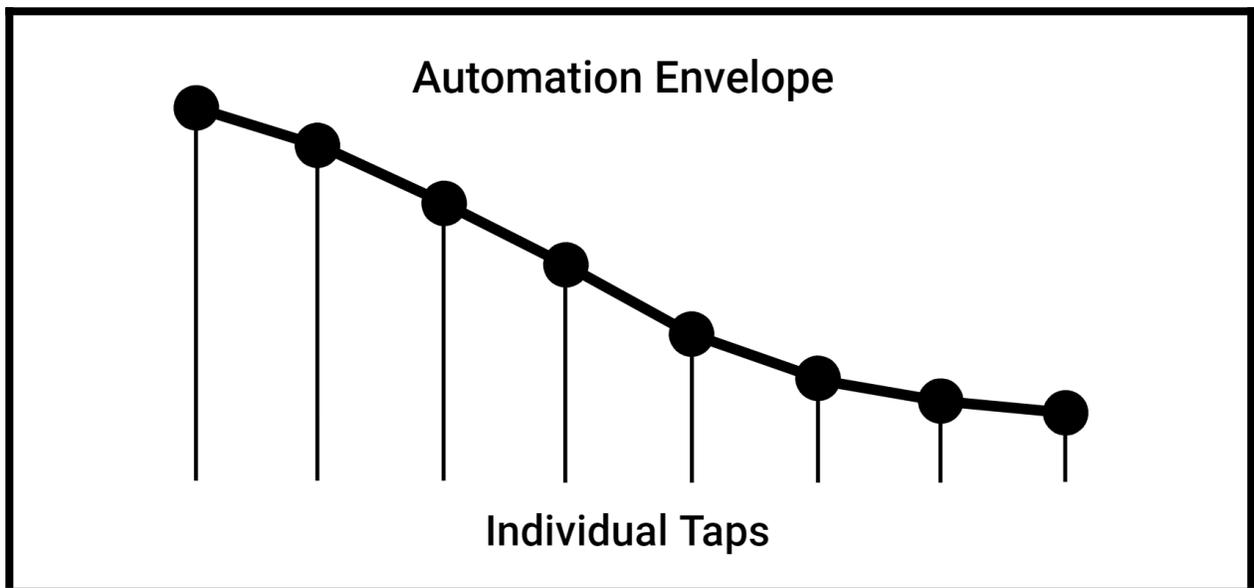
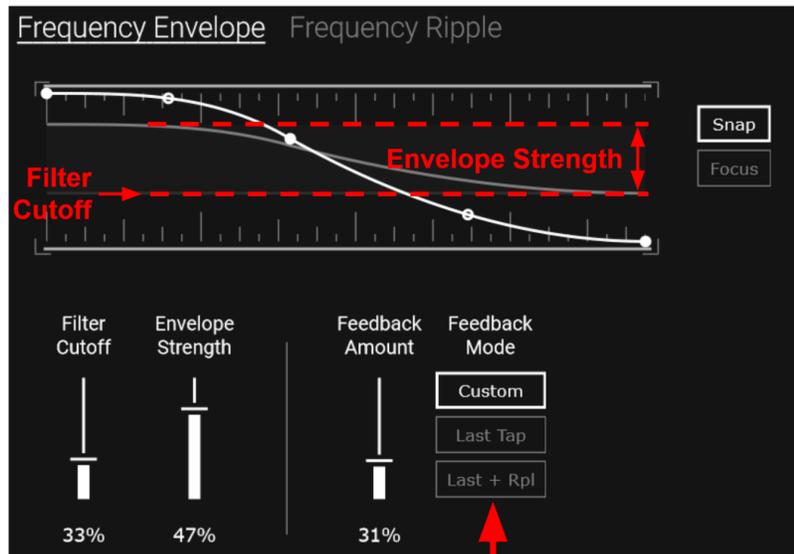


Figure: Tap parameters following an envelope function.

Interface

The automation interface lets users create custom envelope functions with a curve editor. Envelope vertical offset and strength can then be changed using sliders. In the example below for the filter frequency, these are the “Filter Cutoff” and “Envelope Strength” sliders.



Loop Feedback Mode

- Custom: Set by Feedback Amount Slider
- Last Tap: Last tap value
- Last + Ripple: Last tap value + ripple

Figure: Ripple Delay’s automation settings interface.

Curve Editor

Ripple Delay's curve editors behave similarly to automation in many DAWs. A set of control points and stretch handles determines the envelope function. Points can be added/removed as needed.

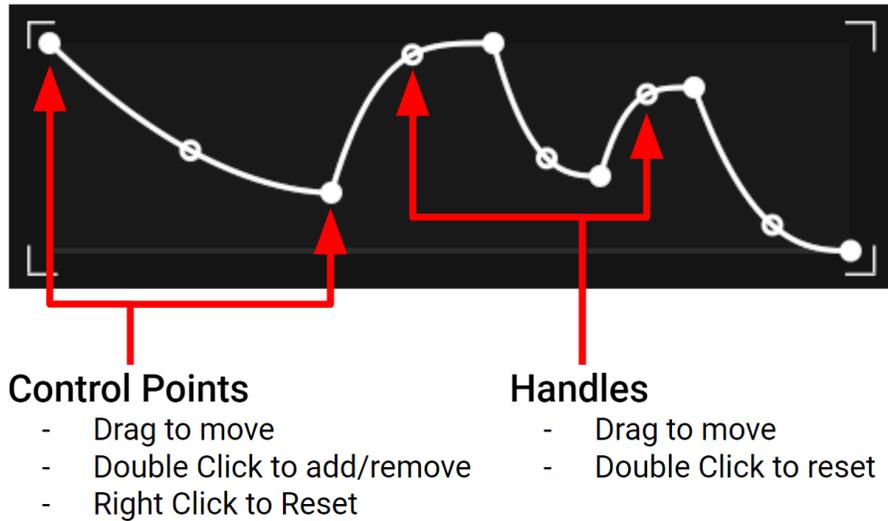


Figure: Ripple Delay's curve editor and its controls.

Ripple

Introduction

Without significant variation, delay effects quickly feel stagnant.

Ripple Delay overcomes this with local modulation of each tap's parameters. Modulation strength is controllable for each tap in the same way as any other parameter - with an automation envelope function.

Ripple modulation moves spatially, with a user controllable wavelength and velocity. This spatial motion is what ultimately gives Ripple Delay its powerful ability to make each echo feel and sound unique.

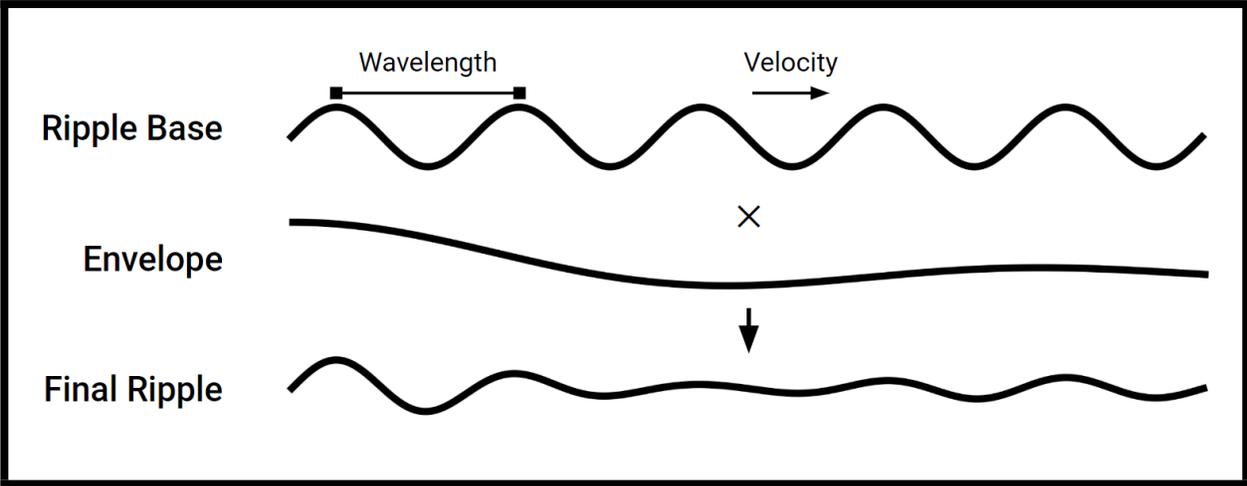
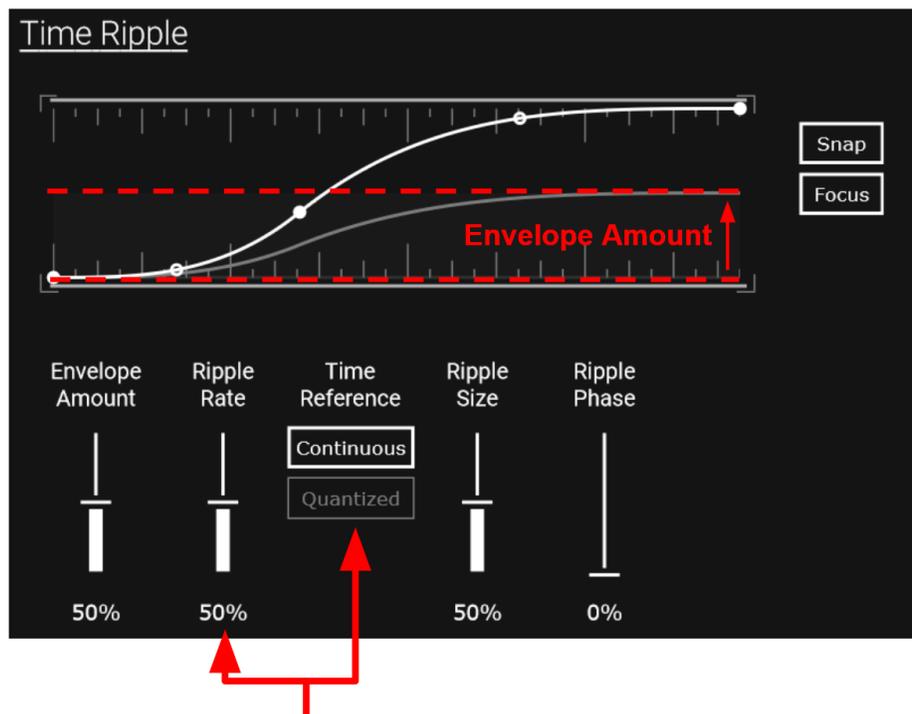


Figure: A moving ripple modulated by its envelope function.

Interface

The ripple settings interface controls the phase and amount with which the ripple affects each parameter. The curve editor controls the envelope function, with the ripple amount slider behaving as a 0-100% scaling function for the curve. The phase slider applies a constant phase shift to the time varying ripple function.



Time Reference

- Continuous: Rate can take on any value
- Quantized: Rate is quantized to song tempo

Figure: Ripple Delay's ripple settings interface.

Special Case: Time Ripple

Ripple Delay allows ripples to modulate tap delay times.

In doing so, the pitch of the echo taps moves up and down with the time derivative of the ripple's modulation. Additionally, ripples modulate the echo taps independently of each other, so each tap is pitch shifted a different amount. This results in a rich sound similar to unison in a synthesizer and is an easy way to add perceived width to the output sound.

Shaping Engine

Overview

Each echo tap passes through the shaping engine. This consists of filtering, panning, and time/frequency modulation.

3D Visualizer

Ripple Delay's defining feature is its visualizer. The visualizer is a 3D representation of the delay's filter response and how it varies over time through each delay tap. Additionally, the display is responsive, showing the effect of ripples on the time varying tap properties in real time.

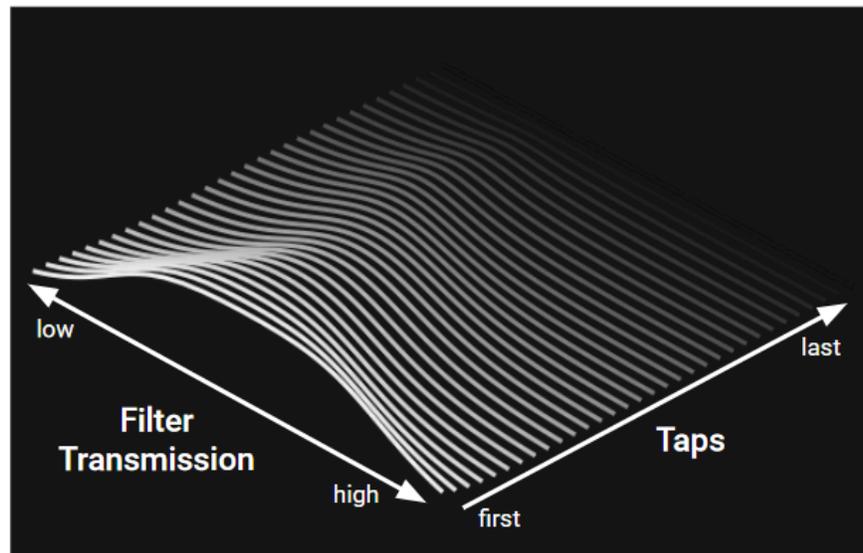


Figure: Ripple Delay's visualizer.

Responsive Curve Graphs

Ripple delay features a set of responsive graphs that displays all the tap parameters in a central accessible location. This is a complement to the 3D visualizer which displays frequency, bandwidth, and amplitude, but not panning and tap time.

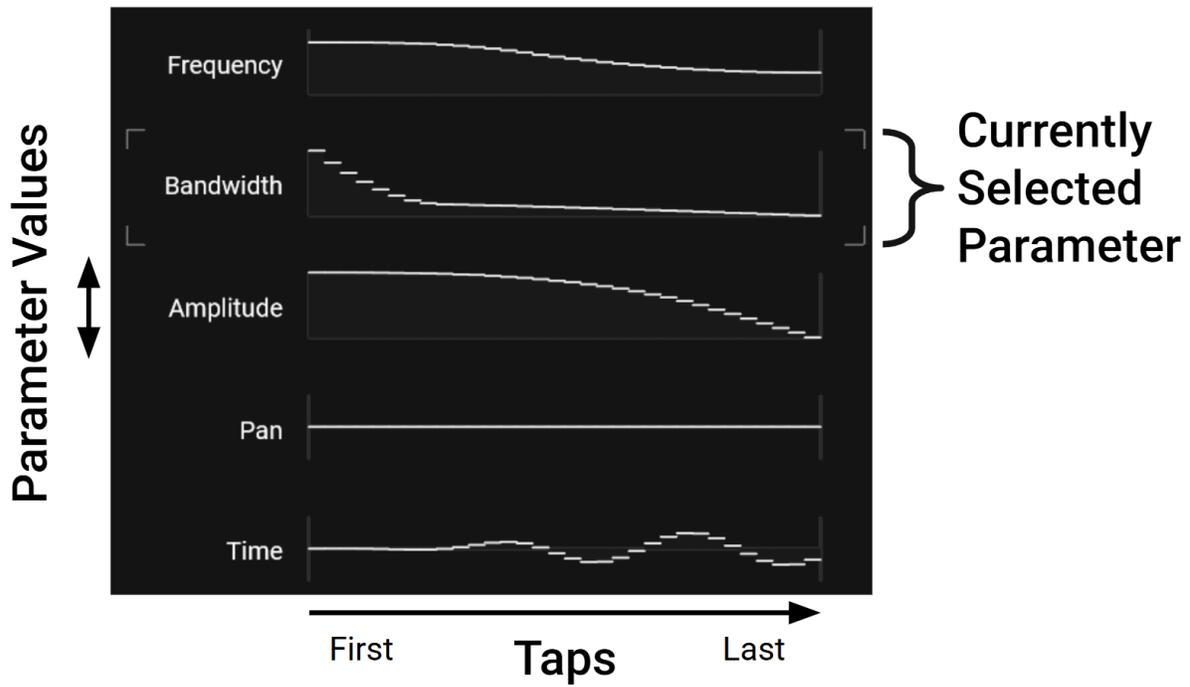


Figure: Ripple Delay's responsive curve graphs.

Distortion Engine

Overview

Distortion is used to add extra harmonic character to echos. Each tap has its own independently applied distortion with envelopes and ripples for distortion drive and dry/wet mix. Distortion can be applied either before or after the filter.

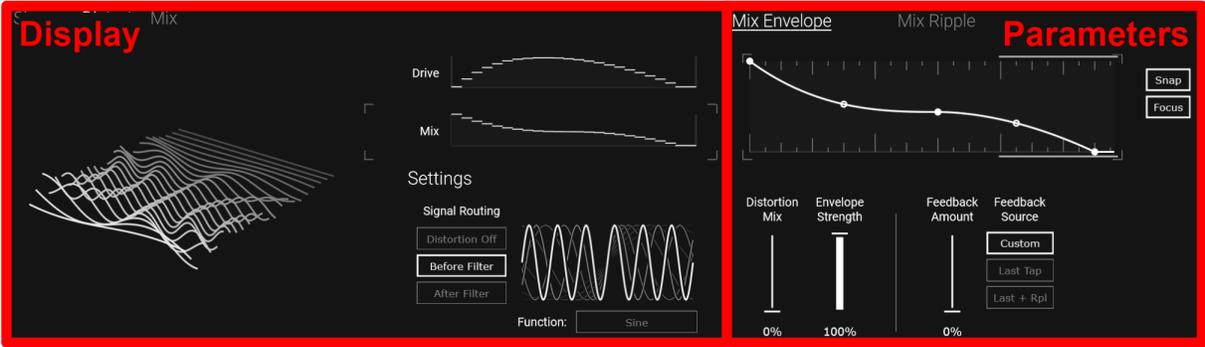


Figure: Distortion UI consisting of the center display and parameter editing sections.

Display

The distortion display is similar to the shaping menu and features a 3D visualizer as well as parameter graphs. It also has some settings to configure high-level behavior for the distortion effect. This consists of two settings: 'Signal Routing', and 'Function'.

Setting	Description
Signal Routing	Whether to apply distortion before vs after the filter or to turn the distortion engine off.
Function	The nonlinear distortion function to be applied

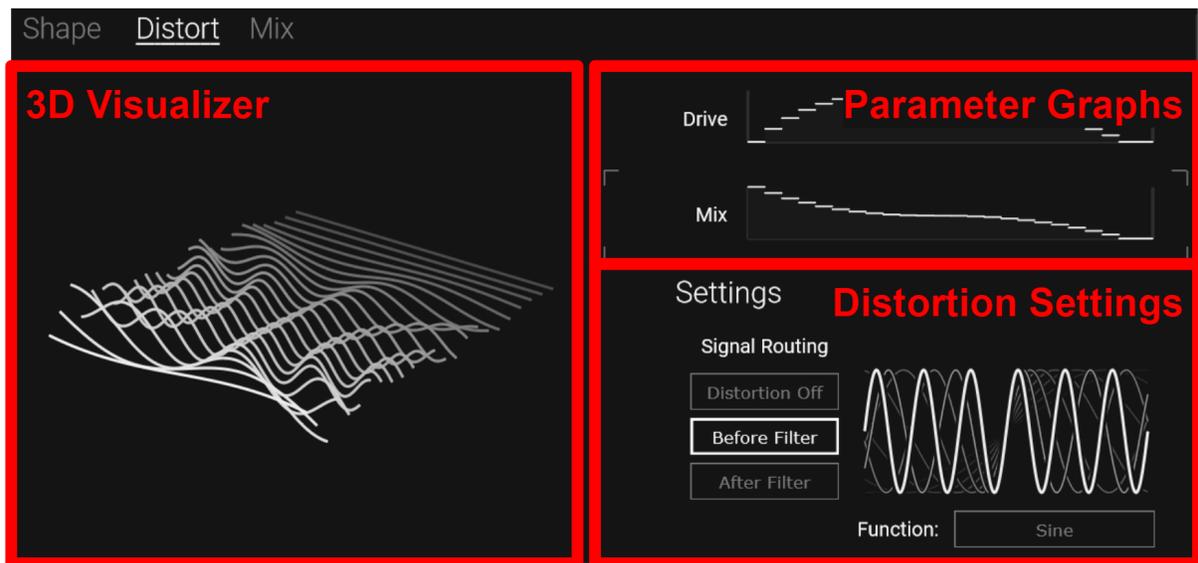


Figure: Distortion center display and its sections.

Parameters

Distortion functions are implemented as a waveshaper where the shaping function maps input to output audio data. The graph of the shaping function is in the distortion settings panel. The distortion function has two parameters: Drive, and Mix.

- **Drive:** This parameter can take on a different meaning for each distortion function shape, but in general indicates the aggressiveness of the shaping function.
- **Mix:** This parameter is effectively the dry/wet mix for the distortion parameter on a per-tap basis. Mix automation allows some taps to have full distortion applied while others have none.

The envelope and ripple settings menus for distortion Drive and Mix are identical to the shaping engine. See the Automation and Ripple documentation for more information about configuring their behavior.

Mixing Engine

Overview

The mixing section is where users visualize and control how the wet sound from shaping and distortion gets combined with the dry input sound to form the final output audio.

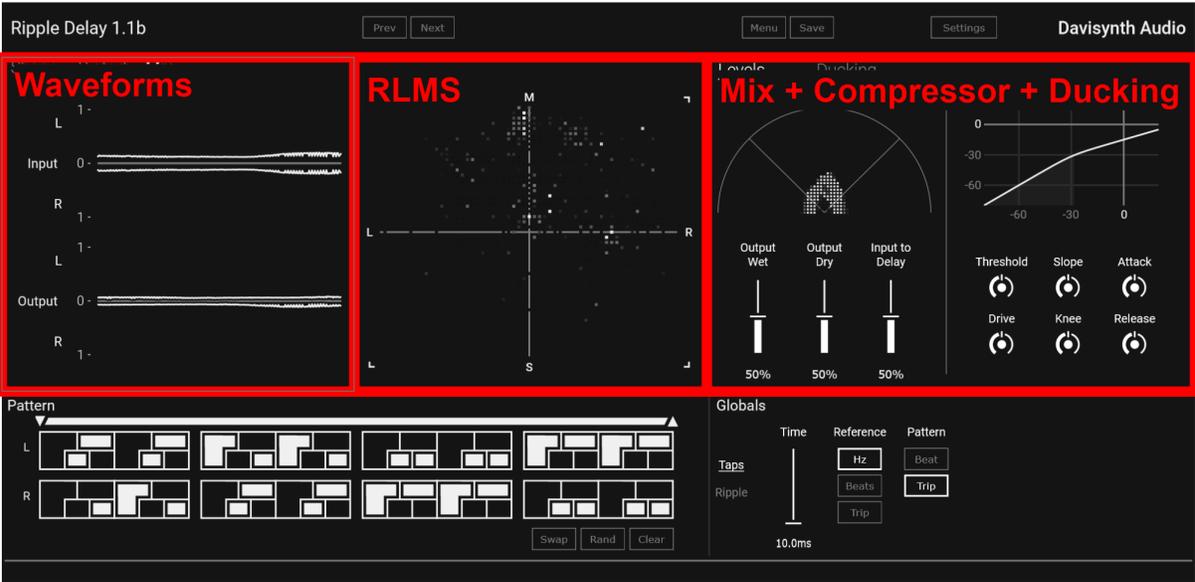


Figure: Ripple Delay’s Mix settings interface.

Features

Waveforms

The waveforms graphs track the peak signal level in the left and right channels of the plugin's input and output.

RLMS (Pronounced Realms) Visualizer

*"This is a unique spatial audio visualizer that may be a **world first**? It's a very cool audio visualization algorithm that I created independently while learning how ears work and how our brains interpret sounds." - **John from Davisynth***

The RLMS visualizer maps individual frequencies based on their Right/Left and Mid/Side components. This is similar to the functionality of an audio vectorscope but for each frequency instead of each sample.

Mix

The global mix can be adjusted with three sliders:

- **Output Wet:** Amount of wet signal to add to the output mix.
- **Output Dry:** Dry signal amount to the output mix.
- **Input to Delay:** Dry signal amount to input of the delay engine. This is useful when automated for cases where the user wants to only echo one part of the dry sound such as the last word in a vocal phrase.

Additionally, the mixer UI includes a polar sample vectorscope.

Compressor

Stacked echos can bring the signal to high levels past 0dB. Ripple delay's compressor can be configured to avoid unwanted clipping. The compressor is smoothed following an attack-release envelope.

Parameter	Description
Threshold	Compressor threshold
Drive	Input gain before compression
Slope	Compressor slope for levels past the threshold
Knee	Width of the knee
Attack	Envelope attack time
Release	Envelope release time

Ducking

Ducking dynamically lowers the wet signal level to make space for the dry signal in the mix. This is especially useful for applications like vocals to create a prominent delay that does not clash with the dry vocal clarity.

Pattern

Independent Left/Right Patterns

Ripple Delay's pattern editor is inspired by drum machine interfaces whose rhythm is controlled by togglable pads. The left and right channels each have their own programmable patterns, allowing for the painless creation of ping-pong style delays.

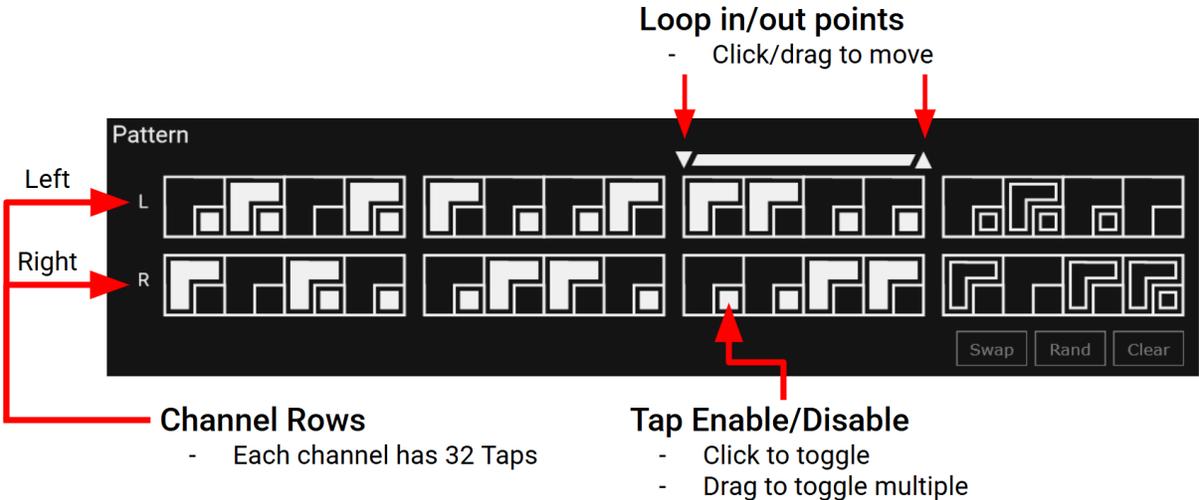


Figure: Ripple Delay's pattern editor.

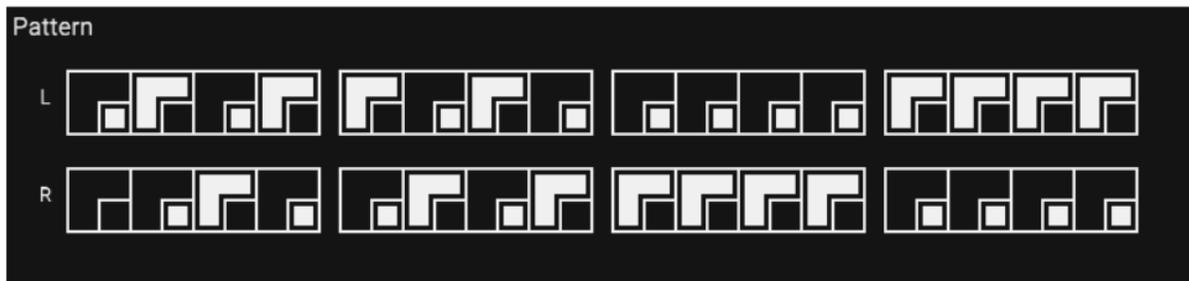
Loop In/Out

Loop-out and Loop-in points are set by dragging the arrows above the pattern. The white bar between the arrows represents the looped area. All taps after the loop-out point are disabled. All taps before the loop-in point are enabled but do not repeat.

Time Signatures

The pattern view has two grids: quarter-eighth, and quarter-triplet. These grid modes allow for complex rhythms with the triplet grid featuring the highly sought-after 2:3 polyrhythm.

Pattern Mode: Beat



Pattern Mode: Trip

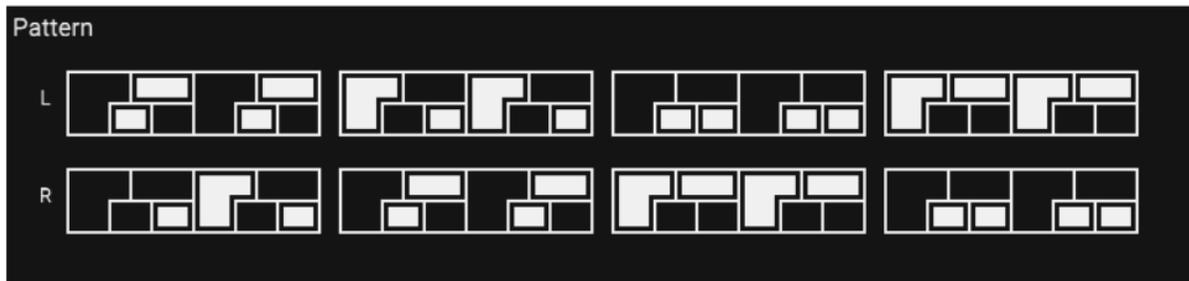


Figure: Ripple Delay's two time modes.

Feedback Loop

Overview

The global feedback loop enables echos that fade out smoothly forever, similarly to a standard delay effect. The looped portion of the pattern can be thought of similarly to a feedback tape delay. The loop-out and loop-in points are similar to read and write tape heads. Audio from the loop-out passes through all effects just like a regular tap and is written back to the delay signal at the loop-in point. The parameters for the loop effects are specified by the “Feedback Amount” and “Feedback Mode” in each effect’s envelope settings.

Parameters

Loop Points

Loop-out and Loop-in points are set in the pattern view by dragging the arrows above the pattern. The white bar between the arrows represents the looped area. All taps after the loop-out point are disabled. All taps before the loop-in point are enabled but do not repeat.

Feedback Mode (Envelope Editors)

The Feedback mode determines how the feedback value for each effect is calculated. The three modes are as follows:

- **Custom:** The feedback parameter for the specific effect takes the value of the “Feedback Amount” slider.
- **Last Tap:** The feedback parameter takes the value of the last selected tap’s parameter value.
- **Last Tap + Ripple:** The feedback parameter takes the value of the last selected tap’s parameter value + added ripple modulation.

Feedback Amount (Envelope Editors)

When the feedback mode is set to “Custom”, the selected parameter’s feedback amount is the value of this slider. In other feedback modes this does nothing.

Globals

Introduction

The globals section controls parameters that affect overall delay behavior. It is subdivided into two sub-sections described below:

1. Taps
2. Ripple

Taps

The taps tab contains settings for the delay's taps as well as global feedback from the last tap time back to the first tap. This global feedback gives the delay an infinite impulse response and is useful for long decays.

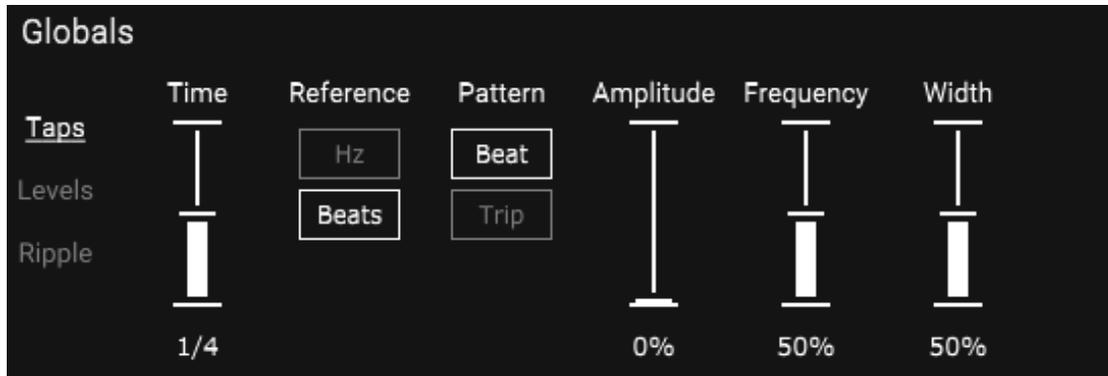


Figure: Global taps settings.

Parameter	Description
Time	Reference time for tap delays
Reference	Switches between DAW tempo and Hz for the time mode
Pattern	Switches between quarter-eighth and quarter-triplet grid

Ripple

The ripple tab controls ripple parameters affecting all parameters.

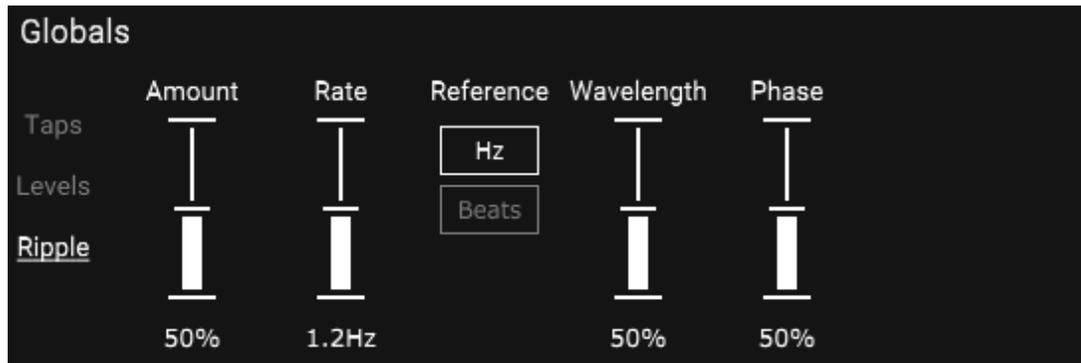


Figure: Global ripple settings.

Parameter	Description
Amount	Global ripple attenuation
Rate	Angular velocity of the sinusoidal ripple
Reference	Switches between DAW tempo and Hz for ripple rate mode
Wavelength	Controls spacing between ripple peaks and troughs
Phase	Global phase control for the ripple function

Presets

Presets allow the current plugin parameters to be saved to disk so they can be loaded easily in new projects. Ripple Delay has its own preset folder but presets can be saved/loaded from any valid location on the computer.



Figure: Ripple Delay Pro's preset settings.

A bank of factory presets can be downloaded by clicking the "Update Factory Presets" menu button. This will add the "Factory Presets" bank.

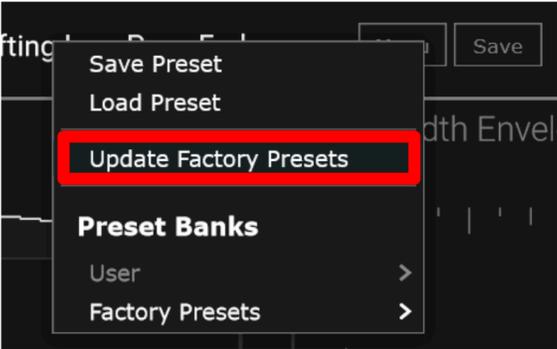


Figure: Ripple Delay Pro's settings option for updating factory presets.