



Dedalus Delay

Audio Delay/Granulation/Distortion

User's Manual

Version 1.0: for macOS and Windows

ΛϠusmatiq Audio

CONTENTS

Intro	p. 3
Delay Section Panel	p. 4
Delay Modulation Panel	p. 6
Feedback Panel	p. 7
Filter Panel	p. 7
Overdrive and Bandwidth Panels	p. 8
I/O Panels	p. 8
Duck/Gate Panel	p. 9
Modulators	p.10
Presets	p.13
Aqusmatiq Shortcuts	p.14

Dedalus Delay User's Manual



Dedalus Delay is a real-time audio "delay mangler." A network of delay lines is granulated and modulated, producing a labyrinth of echoes, which are further processed by filters, dynamic processors, and saturation modules. Dedalus can create a wide variety of effects, from reverb-like ambiances to evolving resonations, from rhythmic pulsation to chaotic layering, from subtle chorusing to pure noise.

Delay Section Panel

The plugin contains a complex network of variable delay lines. The actual delay time for each line continually varies between a minimum and a maximum value. The delay time can be specified in milliseconds, note values (1/4, 1/8, and so on), and pitch. In pitch mode, the delay time is set to very small values, "tuned" to the duration of one cycle of the tempered notes.



The upper left panel displays the Delay parameters. The three buttons in the middle are used to select the delay mode; you can specify the delay time in three different ways:

Free = milliseconds

Sync = Note values, i.e. 1/4, 1/8, 1/16 and so on.

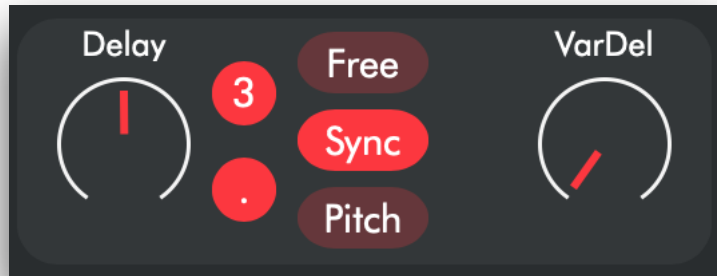
Pitch = As a frequency. For example, the A3 pitch (440 Hz) sets a delay of 1/440 second.

The two delay knobs change their name according to the selected delay mode:



Delay1 and Delay2 (Free mode)

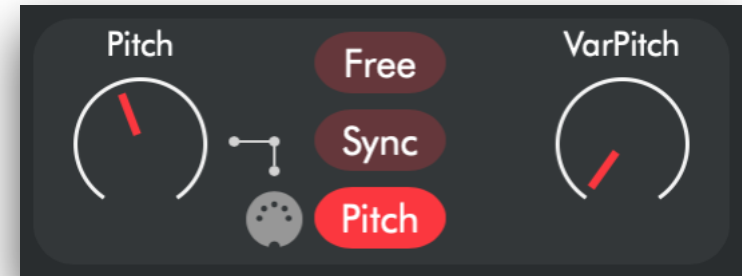
These two parameters set the minimum and maximum delay in Free mode (see also the Grain Freq and the Scrub Freq parameters on the Delay Modulation Panel below).



Delay and VarDel (Sync mode)

In Sync mode, the Delay parameter sets the Note Value base delay, and the VarDel parameter sets the percentage of variation of the delay (see also the Grain Freq and the Scrub Freq parameters on the Delay Modulation Panel below).

The two toggles containing "3" and "." respectively that appear when this mode is selected are used to activate/deactivate triplets and dotted values.



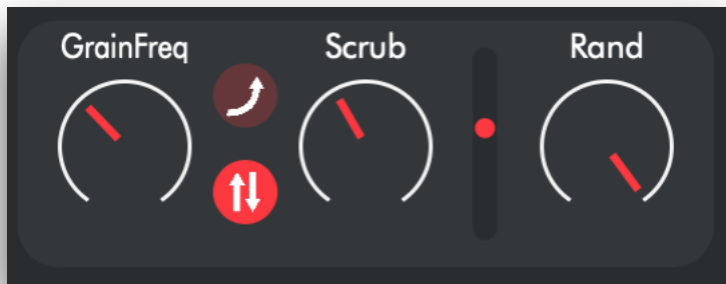
Pitch and VarPitch (Pitch mode)

In Pitch mode, the Pitch parameter sets the delay time as a pitch period, and the VarPitch parameter sets the percentage of variation of the delay (see also the Grain Freq and the Scrub Freq parameters on the Delay Modulation Panel below).

If you click the MIDI interface icon (it appears when you select the Pitch mode), you can set the Delay time for sending MIDI note values to the plugin.

Delay Modulation Panel

Just below the delay panel, there's the **Delay Modulation Panel**.



The delay time variation is granulated, i.e., the "play head" of the delay lines changes its position at discrete times, and this prevents pitch variation when the delay time changes (if you want pitch variation use the Glide button described below). There are two play heads for each delay line, which are crossfaded according to the granulation frequency specified by the **GrainFreq** parameter. For instance, a grain frequency of 10 Hz produces 10 grains per second. Each grain has a different delay time set by the Scrub parameter.

The **Scrub** is an LFO that oscillates between the minimum and the maximum delay values and sets the delay time for each grain. The parameter regulates the Scrub LFO rate (in hertz).

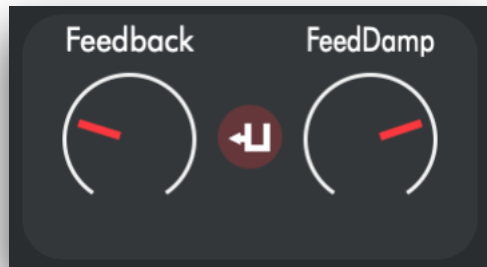
The **Rand** parameter sets the Scrub LFO waveform shape. When its value is 0, the LFO is a sine wave; when it is 1, the LFO is a random waveform. The red dot moving vertically, which is located between the Scrub and Rand parameters, is an indicator that signals the change in delay time.

The upper button on the left (**Glide**) bypasses the granulation. It activates the continuous variation of the delay time, resulting in the constant variation of the pitch of the delayed sound.

The lower button (**Delay Mod**) determines whether the modulation for the left and right channels should be the same for both channels or different.

Feedback Panel

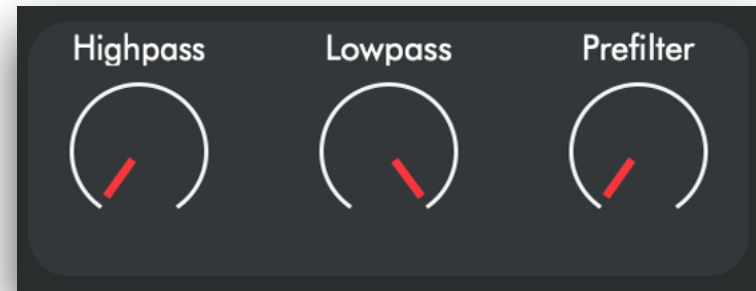
The panel below the Delay Modulation panel contains the Feedback and Feedback Damp parameters.



Feedback sets the amount of feedback in the delay circuit. Values greater than 1 can produce endless feedback; in this case, you can use the **FeedDamp** parameter to gradually attenuate the feedback when there is no input sound. When the delay is in pitch mode, high feedback values generate audible frequencies (related to the tempered scale). The middle button activates the Gate/Duck processor for the feedback (see below).

Filter Panel

The Filter panel is on the top right.

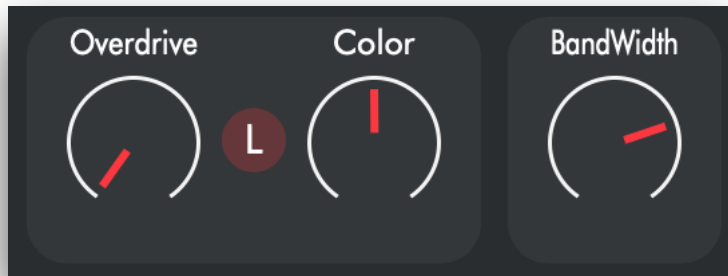


The **HighPass** and **LowPass** parameters set the filters' low and high cut frequencies inside the delay circuit.

When the **PreFilter** parameter equals 0, the signal is filtered inside the feedback cycle. When it is 1, the signal is also filtered before entering the feedback cycle (i.e., it is pre-filtered). Values between 0 and 1 set the amount of the pre-filtered signal.

Overdrive and Bandwidth Panels

Next, there are the Overdrive and the Bandwidth panels.



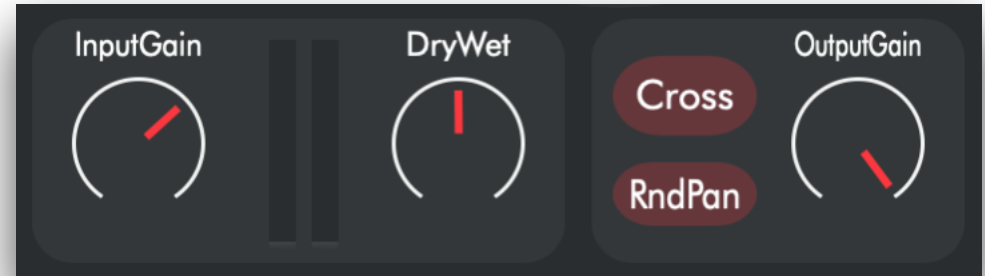
Use the **Overdrive** parameter to add distortion to the sound. The **Overdrive Limit** switch (the small "L" button in the middle) limits the high distortion values. When it is off, loud sounds will be heavily modulated.

The **Color** parameter sets the distortion bandwidth: median values affect the whole spectrum, low values the lower frequencies (saturation), and high values the higher frequencies (excitation).

The **Bandwidth** parameter limits the amplitude of the high frequencies: when its value is 1, no frequencies are attenuated. When its value is 0, only the lowest frequencies are let through.

I/O Panels

Below the central oscilloscope, we have two panels with the I/O parameters.



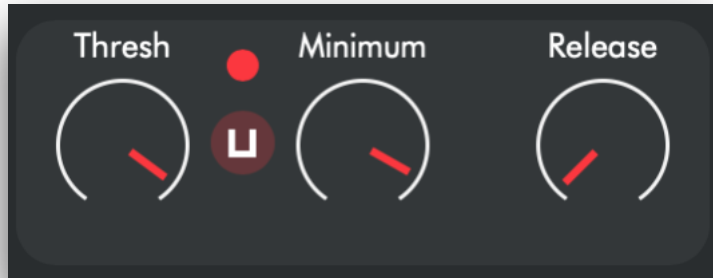
Use the **InputGain** parameter to set the gain of the signal sent to the delay circuit. The meters report the input audio amplitude. Use the **DryWet** parameter to mix the unprocessed and processed signal.

The **Cross** button swaps the left and right channel delay circuits and creates a kind of ping-pong delay effect; **RndPan** activates a random panning effect: the spatial position of the audio grains is scattered in the stereo field. The scattering rate depends on the Scrub parameter (see above).

Then there is the **OutputGain** which sets the global volume of the effect.

Duck/Gate Panel

The Duck/Gate panel is to the right of the I/O panel.



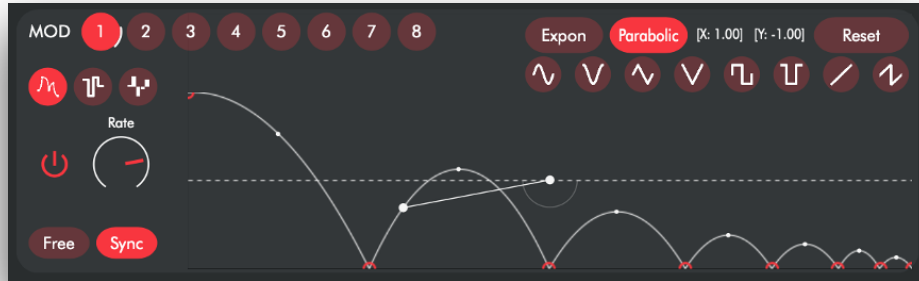
The **Thresh** parameter sets the threshold (in dB) above which the ducking or gating effect is activated.

The button between the Thresh and the Minimum parameters allows you to set the ducking or gating mode. When it shows a squared U (as in the figure above), the ducking effect is active. In this mode, when the input signal is above the threshold, the signal produced by the delay is attenuated by the value in dB set with the **Minimum** parameter.

If gate mode is activated, the delay signal is attenuated when the input signal is below the threshold. In gate mode the button shows an inverted squared U.

The **Release** parameter determines the on and off time of the effect.

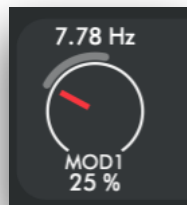
Modulators



The large panel at the bottom is the modulator panel. There are 8 modulators that you can use to modulate all parameters. A modulator can also modulate another modulator and even modulate itself!

You can select a modulator by clicking on each of the 8 numbered buttons.

Drag a numbered button over a parameter knob to assign the modulation to the parameter.



Shift-click on the knob to delete the modulation.

Hover over the bottom of the modulated knob to reveal the modulation percentage.

You can drag the mouse up and down to change the percentage: a positive percentage sets the modulation above the knob value, and a negative percentage sets the modulation below the knob value. You can see the parameter values corresponding to the percentage set on the top center of the plugin window.

Below the 8 modulator buttons are the modulator mode selectors: **Draw**, **Chaos**, and **Step**.



Draw Mode (visible in the figure on the top left) allows you to edit the waveform of the modulator by dragging and creating segments. In the middle of each segment is a curve point which you can use to warp it.

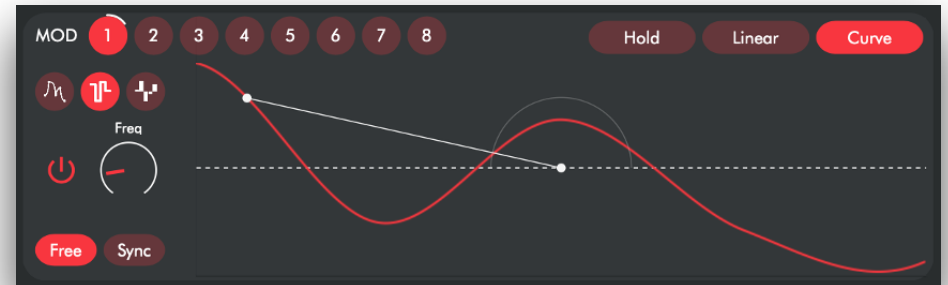
The curve type can be set with the two buttons "**Expon**" and "**Parabolic**" in the upper right.

Below these two buttons, eight buttons allow you to set primitive waveforms (sine, cosine, triangle, etc.)

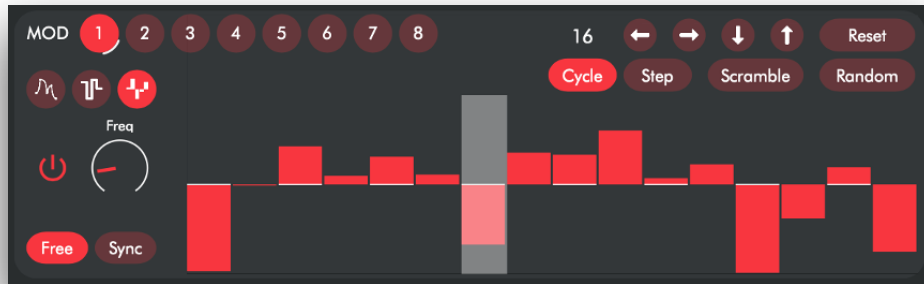


You can create a new breakpoint with a double click and delete a breakpoint with a shift-click. To set the segment curve, drag the curve point vertically. Shift-click on the curve point to reset a curve (turn it into a line).

The knob on the left is used to set the frequency of the modulator and can be managed in milliseconds ("Free" button) or note values ("Sync" button). To the left of the knob, there is the power button that activates the modulator.



The figure above shows the **Chaos Mode** (the second modulator mode) that turns the modulator into a random value generator. There are three generation modes, which can be activated with the three buttons on the upper right: "**Hold**," "**Linear**," and "**Curve**." The first generates random values held until the next value is generated, the second does a linear interpolation between the yielded values, and the third does a polynomial interpolation that connects the values with curves.



values of the step sequencer: **Scramble** randomly swaps the position of the steps without altering their value, while **Random** generates a new set of random values.

The third modulator mode is the **Step Sequencer Mode**. On the right side, we see a number box to set the number of steps, followed by two left-right arrows that are used to shift the steps to the left and right, respectively. The two down-up arrows after that are used to decrease or increase the value of the steps. Close to the arrow buttons is a reset button that resets the value of all steps to zero.

The two buttons, "**Cycle**" and "**Step**," determine how the step sequencer advances. In Cycle mode, the value of Freq/Rate represents the time it takes the step sequencer to go through all the steps. In Step mode, the value of Freq/Rate represents the time it takes the step sequencer to advance one step. Finally, the two buttons "**Scramble**" and "**Random**" change the

PRESETS



Click on the preset name (upper button in the middle) to show the Preset Manager Menu. From here, you can select any factory preset or save your own preset (Add New) into the User folder.

AQUSMATIQ SHORTCUTS

Ctrl-drag a parameter value for fine-tuning.

Double-click or Alt-click a knob to reset it to the default value.

The DAW Undo/Redo commands work on the plugin parameters, too.

MORE INFO:

<https://www.aqusmatiq.com>