

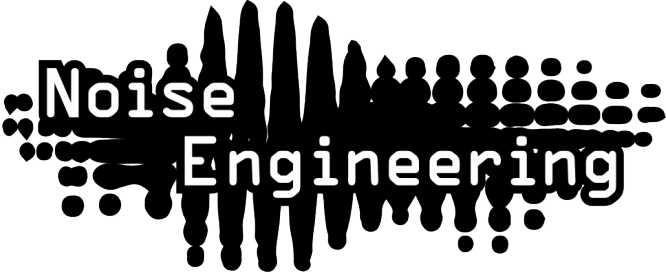
# Noise Engineering

## Melotus Versio

Stereo texturizer using granular processing designed for grain delays, accompaniment, and transformation of any and all audio.

### Overview

Type	Granular texturizer and delay
Size	10 HP
Depth	1.5 inches
Power	2x5 Eurorack
+12 mA	70
-12 mA	70
+5 mA	0



Melotus Versio is a stereo texturizer that uses granular processing to transform and reshape sound. It's granular for Doombient. Designed to be played by hand or manipulated within a patch, Melotus can act as everything from a grain delay to a completely transformative texturizer with extensive grain control and manipulation of triggering, direction, and randomness. Audio can be filtered with a lowpass/highpass combo filter that adds haunting shimmers and subharmonics. Plus, grains can be frozen by hand or with triggers and gates, or clocked to create rhythmic effects. Plus, Melotus Versio is a DSP platform and can be transformed into a completely different effect by loading a growing number of alternate firmwares, completely free—or program your own firmware with our open-source documentation.

### Etymology

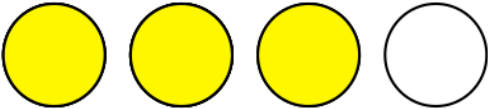
Melotus: from Latin Meles for “badger” Also, a contraction of Melocactus, a genus of prickly cactus.

Versio: from Latin for “versatile”

“Versatile spiky badger”

### Color code

On boot, the MV's LEDs will shine with this color pattern to indicate that it is running the current MV firmware.



# Power

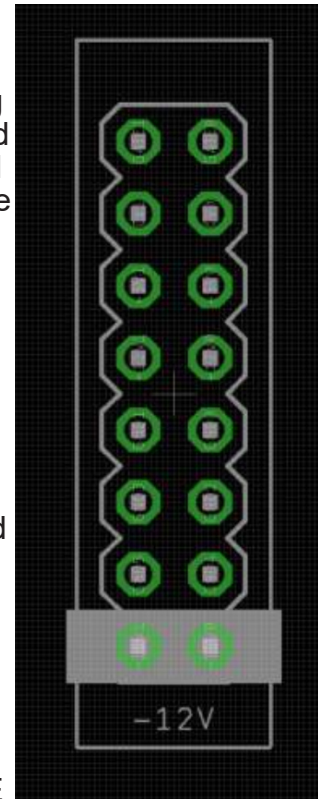
To power your Noise Engineering module, turn off your case. Plug one end of your ribbon cable into your power board so that the red stripe on the ribbon cable is aligned to the side that says -12v and each pin on the power header is plugged into the connector on the ribbon. Make sure no pins are overhanging the connector! If they are, unplug it and realign.

Line up the red stripe on the ribbon cable so that it matches the white stripe and/or -12v indication on the board and plug in the connector.

Screw your module into your case BEFORE powering on the module. You risk bumping the module's PCB against something metallic and damaging it if it's not properly secured when powered on.

You should be good to go if you followed these instructions. Now go make some noise!

A final note. Some modules have other headers -- they may have a different number of pins or may say NOT POWER. In general, unless a manual tells you otherwise, DO NOT CONNECT THOSE TO POWER.



# Warranty

Noise Engineering backs all our products with a product warranty: we guarantee our products to be free from manufacturing defects (materials or workmanship) for one year from the date a new module is purchased from Noise Engineering or an authorized retailer (receipt or invoice required). The cost of shipping to Noise Engineering is paid by the user. Modules requiring warranty repair will either be repaired or replaced at Noise Engineering's discretion. If you believe you have a product that has a defect that is out of warranty, please contact us and we will work with you.

This warranty does not cover damage due to improper handling, storage, use, or abuse, modifications, or improper power or other voltage application.

All returns must be coordinated through Noise Engineering; returns without a Return Authorization will be refused and returned to sender.

Please contact us for the current rate and more information for repairs for modules that are not covered by our warranty.

# Interface

**Blend:** Dry/wet balance control. When turned fully left, the unmodified input signal is passed through. Fully right, only the processed signal is heard. Points in the middle give you a mix of both.

**Sparse:** Changes the number of grains from 24 at minimum to 1 at maximum. Grains become more obvious as the knob is turned up.

**Tone (bipolar):** Filter and effects. To the left of 12:00, Tone acts as a lowpass filter and adds in detuned subharmonics. To the right of 12:00, Tone acts as a highpass filter and adds in a slightly detuned octave-up shimmer.

**Length:** Changes the length of the grain from .2s to 2s.

**Regen:** Feedback control. All the way to the left, feedback is minimized. As the knob is turned, the amount of feedback increases, creating longer textures and complex effects. Past 3:00 the grain feedback ducks based on new sounds at the input.

**Delay:** Sets the delay time of the grains from .1s to 8s. When in clocked mode, Delay acts as a clock divider/multiplier with the following settings: 1/8, 1/4, 1/2, 3/4, 1/1, 5/4, 3/2, 7/4, 2/1

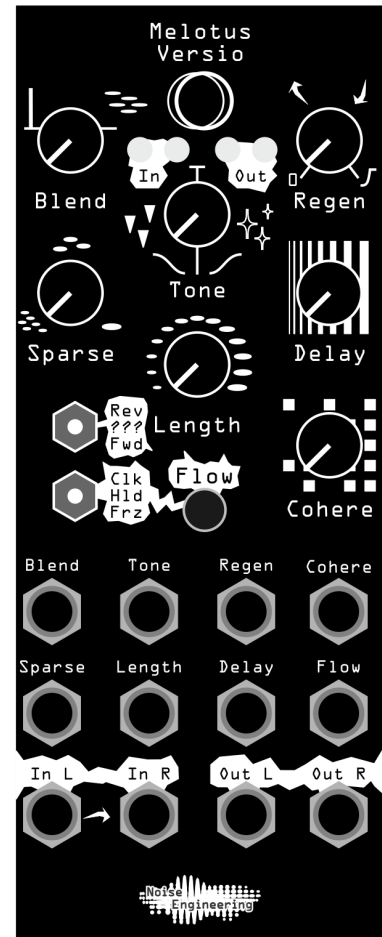
**Cohere:** Reduces the randomness of grain triggering as the knob is turned up.

**Flow:** Gate/trigger input and respective button; behavior is based on the Clk/Hld/Frz switch setting.

**Rev/???/ Fwd:** Grain playback direction. Selects between backward, chaos, and forward.

**Clk/Hld/Frz:** Mode selector that sets the button behavior.

- **Clk:** In Clk mode, the Flow button acts as a tap tempo, and the Flow input acts as a clock in. Holding the button down for a few seconds clears a tapped clock. Note that clocks set in this mode are remembered when switching modes.
- **Hld:** In Hld mode, Flow acts as a grain-freeze toggle. Pressing the Flow button or sending trigger inputs freeze the current grain until the next button press or trigger in.
- **Frz:** In Frz mode, the Flow button freezes the current grain while the Flow button is pressed or a gate at the Flow input is high, and unfreezes when the button is released or the gate goes low.



# Patch Tutorial

## Patch 1: Texturizer

This patch will take an incoming sound and granularize it, creating stereo effects and backgrounds, or completely new sounds.

1. Set Blend, Tone, Length and Delay to 12:00.
2. Set Regen to minimum, and Sparse and Cohere to maximum.
3. Set the switches to “Fwd” and “Hld”.
4. Patch a melodic sequence into In L (and In R if stereo), and patch Out L and R to your mixer.

Try tapping the Flow button to freeze the grains, holding part of the incoming audio; tap again to unfreeze.

Play with the Sparse and Cohere settings to change how the grains sound and how often they trigger.

Try using the Tone knob to add filtering and tonal effects.

## Patch 2: Grain Delay

This patch acts as a clocked (or unclocked) delay, with some unique textures that come from granularization.

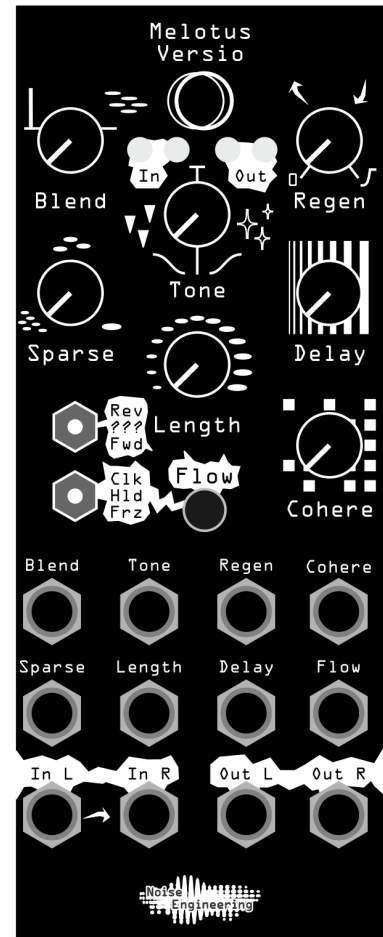
1. Set Blend, Tone, Length and Delay to 12:00.
2. Set Regen to minimum, and Sparse and Cohere to maximum.
3. Set the switches to “Fwd” and “Clk”.
4. Patch a percussive sequence into In L (and In R if stereo), and patch Out L and R to your mixer.
5. Patch a clock signal into Flow, or tap a tempo into the Flow button.

Use the Delay knob to divide/multiply the incoming clock and change the delay rate.

Try different Rev/???/Fwd settings to change the playback direction of the grains in the echos.

Change the Sparse setting to activate more grains and give your echos more varied texture.

Find more patches in the upcoming Melotus Versio patchbook.



# Input and output voltages

All CV inputs expect 0-5 V. All pots act as offsets and sum with the input CV. The FSU gate input responds to signals above +2 V. The audio inputs clip around 16 V peak to peak.

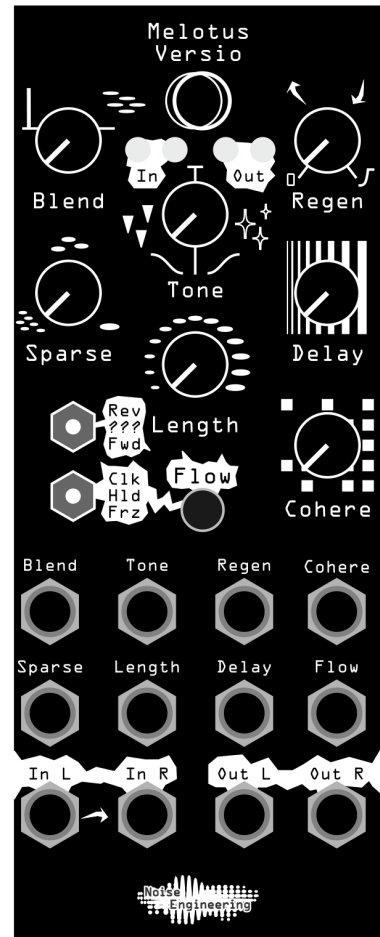
# Updating Firmware

Melotus Versio's firmware can be changed to a growing number of alternate firmwares via our firmware webapp. In the unlikely event that the need arises, firmware patches for Melotus will also be available on that site.

Webapp link: <https://portal.noiseengineering.us/>

To update the firmware on your Melotus Versio:

1. Turn off the power to your case and unscrew MV.
2. Remove the power connector on the back of MV.
3. Plug a micro USB connector suitable for data transfer into the port on the pack of the module, and the other end into your computer.
4. Follow the instructions in the webapp.



# Design Notes

We've long wanted to create something in the realm of granular processing, and the Versio platform seemed like the perfect place to create something grainy. In fact, it was only one of quite a few granular concepts we've been exploring—we decided to go with Melotus because it instantly gave us some wild and beautiful results, but this probably won't be the last time you hear something granular from us.

Initially, Melotus started out as a pure grain delay. We patched the first revision and liked what we heard, but we're almost never happy with the first version of anything. Adding the freeze modes brought out a whole new side to Melotus: along with delay duties, you could now grab a sound and manipulate it, or extend notes from a sequence. Of course, adding that created some unintended effects which needed taming. Finally, all the stray grains and unintentional screams were contained, and we had a beautiful texturizer we all loved.

Melotus is not the granular for everyone, but we've made no secret that we're huge fans of Blakmoth and his Doombient genre. To a large extent, that inspired a chunk of the direction this module took in the end. If you like darker drones, this is probably for you. Melotus likes to take control: it plays you as much as you play it.

# Special Thanks

Blakmoth

