

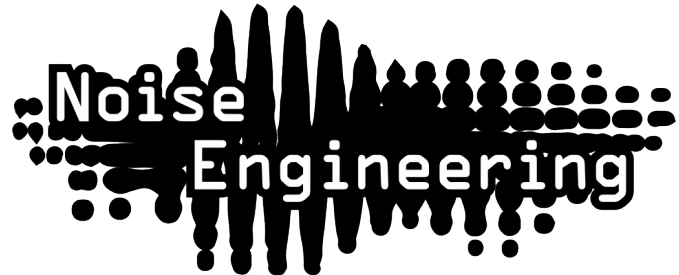
# Noise Engineering

## Electus Versio

Not quite a reverb, not quite a delay: the clocked atmosphere generator you never knew you needed.

### Overview

Type	Stereo delay/ reverb/both?
Size	10 HP
Depth	1.5 inches
Power	2x5 Eurorack
+12 mA	70
-12 mA	70
+5 mA	0



Not quite a reverb, not quite a delay, Electus is Desmodus's more aggressive clocked counterpart: more distortion, more in-your-face atmospheres, and synced delays for creating your tails in a whole new way. Use it as a spacey clocked delay, as a reverb that starts with some synced echoes, or as a completely new way to create evolving spaces.

Not only is EV a unique atmosphere generator, it's a stereo DSP platform. A simple USB connection allows you to update EV to a variety of firmwares. Open-source support is available, too, which allows you to write your own firmware! All info can be found on the [World of Versio page here](#).

### Etymology

Electus -- from Latin: "to pass on"

Versio -- from Latin: "versatile"

"Passed Versatility"

# Power

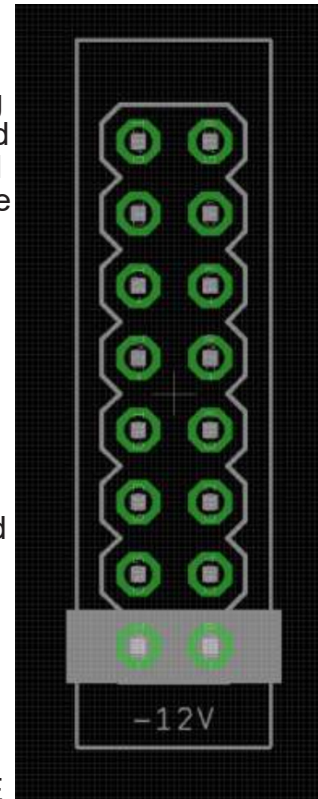
To power your Noise Engineering module, turn off your case. Plug one end of your ribbon cable into your power board so that the red stripe on the ribbon cable is aligned to the side that says -12v and each pin on the power header is plugged into the connector on the ribbon. Make sure no pins are overhanging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



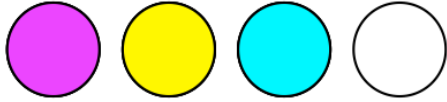
# Warranty

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 of the original retail purchase (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.

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

## Color code

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



## 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.

## A note about EV's parameters

EV's parameters are very similar to the original Desmodus. In fact, the only parameters that perform a different function are Tap (formerly FSU) and L/C/R (formerly BND/LRP/JMP). Additionally, in clocked mode, Size acts as a clock multiplier/divider.

## 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.

**Tone:** A filter in the feedback loop. This is a bipolar control: turning the knob to the left controls a lowpass filter, and to the right controls a highpass filter. In the center, the filter is disabled.

**Regen:** Amount of feedback. Regen controls a wide range of tones and behaviors.

All the way to the left, feedback is minimized. As you turn up to about 12:00, EV generates shorter, tamer tails and delays. Past this point, the atmosphere reaches 100% feedback, creating infinite and evolving tails. Past 3:00, the tails are ducked by new sounds at the input, creating sidechain-type effects.

**Speed:** The speed of the internal LFO.



# Interface (cont.)

**Index:** The amount of LFO sent to the delay lines that make up the effect. This is a bipolar control: in the center the LFO is disabled; to the left, the LFO modulates the delay lines randomly. To the right, the LFO modulates the delay lines with a sine wave.

**Size:** The delay time. When unclocked, it sets times from comb-like bursts at the left to long, lush delays at the right. When clocked, it selects from the following clock divisions/multiplications: 1/2, 5/8, 3/4, 7/8, 1/1, 15/4, 3/2, 7/4, 2/1

**Dense:** The spacing of the delay lines. To the left, the effect sounds like a delay, to the right the delays are smeared into reverb.

**Tap:** Tap tempo. Tap in your desired clock rate, or use an external clock. Holding down this button for about two seconds exits clocked mode and returns to free-running mode.

**LIM/DST/SHM:** Atmosphere style.

- **LIM** (Limit): A clean atmosphere, using limiting to contain feedback.
- **DST** (Distort): Instead of using limiting, clipping is used to limit feedback creating a more distorted tail.
- **SHM** (Shimmer): A demonic pitch-shifting algorithm. Adds a one-octave pitch shift that feeds back into the input.

**L/C/R:** Reflection structure: Changes how the delay lines connect with each other.

**In L/In R:** Audio input. If R is not patched, the signal from L is normaled to both inputs.

**Out L/Out R:** Stereo output pair.



# Patch Tutorial

## First patch:

For your first patch, use a simple, short sound, like a pulse, snare, or click. Patch to In L, and patch Out L and R to your mixer. Set the Blend, Index, Size, and Tone controls to 12:00 to start, and start in LIM mode.

To start, explore how Dense transforms your atmosphere between delay and reverb. Play with Regen to change the size of your reverb, or the number of echoes in your delay.

Next, tap in a tempo by hitting the Tap button, or patch a clock to Tap.

Use the Tone control to shape the atmosphere to your liking, and use the Index and Speed controls to add some movement to your reverb.

## Slow build

Set the atmosphere to DST. Set Size and Regen slightly above 12:00, and Dense fully counterclockwise. Set Index, Blend, and Tone to 12:00. Patch Out L and R to your mixer, and patch a short, plucky sound to the input. Slowly, the delay will build and become more and more distorted. Play with Tone to shape the echoes as they distort.

## Many forms

Set Index, Tone, Blend, and Size to 12:00. Set Regen to 11:00. Set Dense fully counterclockwise. Patch in a short, percussive sound and patch Out L and R to your mixer. Tap in a tempo, or patch a clock to Tap. Patch a slow LFO to the Dense CV input and listen to how EV morphs from a delay to a reverb over time.

## Delay sequence

Set Dense fully counterclockwise, and all other parameters to 12:00. Patch in a percussive sound to the L In jack and patch Out L and R to your mixer. Patch a trigger sequence to the Tap input and listen to the delay pattern that's created.

## Dark echos

Start with the "Delay sequence" patch, but with no triggers patched in, and Tone set to 11:00. This will filter the delays slightly, making them sound darker over time. Experiment with different filter settings to create dark, ominous echos, or bright, cheery delays past 12:00.

# Updating Firmware

Any Versio module can accept any Versio firmware. All Versio module firmwares can be updated by the user via our [Customer Portal](#). Go to the Customer Portal to check out alternate firmwares including Desmodus, Imitator, Ampla, and many more coming soon. Transform your module into a reverb, delay, and so much more with the click of a button. Change it back whenever you like.

Go to [portal.noiseengineering.us](http://portal.noiseengineering.us)

To update the firmware on your Versio:

1. Turn off the power to your case and unscrew Versio.
2. Remove the power connector on the back of Versio.
3. Plug a micro USB connector into the port on the pack of the module, and the other end into your computer.
4. Follow the instructions in the flash app.

# Design Notes

When we released Desmodus Versio, quite a few people asked for it to be clocked. To be honest, a clocked reverb was not something we'd considered: it wasn't how we ever used Desmodus! But we batted the idea around (hah!) and eventually it grew legs (I need to stop).

The problem that prevented Desmodus from tempo syncing was simply that the length of the delay lines was too short to match most reasonable tempos. Why not make them longer? The answer is a bit tricky. The platform we use, the Daisy Seed, has plenty of memory to make them longer but the majority of the memory is too slow for the number of delay lines in Desmodus (32 delays, up to 128 reads per output sample). Desmodus splits the delay lines so some are in faster memory and some are in slower memory and achieves a delicate balance for RAM performance. To increase the delay length the number of delays had to be reduced. The main change with Electus was to reduce the number of delays which required changing the structure of the delays. Electus uses only 16 or 20 delays (depending on the mode). That allows for the base delay time to be 8 times longer than in Desmodus, allowing the delays to be timed to a particular tempo.

Electus is the product of a lot of customers like you asking for a feature that we hadn't considered but turned out to be cool. Although it isn't intended to be dramatically different from Desmodus, we've been surprised at just how different it can sound. It's a bit more distorted, a little more like a delay, synced when you want it to be...some sounds will be similar to what you get out of Desmodus, but definitely not the same. Which effect is right for you? You be the judge -- check them both out for free with the purchase of any Versio module by logging into the NE Customer Portal.

# Special Thanks

All the customers who asked for this!