

LINNAEUS

Thru-Zero State Variable Filter

Thanks for purchasing (or otherwise acquiring) Linnaeus. This guide will get you up and running with a minimum of fuss. For lots more details (and some incredibly cool alternate functionality), be sure to check out the full owners manual at:

www.rossum-electro.com/support/documentation

What is this thing?

Linnaeus is a stereo state variable filter that provides the unique ability to linearly modulate its resonant frequency through zero into negative frequency. With extensive voltage control of nearly every parameter, Linnaeus lets you manipulate its response curve in new ways, to create both subtle and dramatic timbral effects.

Linnaeus's channel output response characteristics are independently and continuously variable from lowpass, through bandpass, highpass and notch, to low and high shelving. Voltage control of the response characteristics is independently selectable for each of the two channels.

The linear thru-zero modulation index can be set to values from 0 to 8x by an internal VCA controlled by the integrated modulation oscillator and/or an external linear FM modulation input. The modulation oscillator has a continually variable output waveform and can track the filter's exponential frequency or operate independently.

And with a "one-knob-per-parameter" interface, Linnaeus inspires sonic creativity that invites (and rewards) real-time interaction.

Installation

While all Rossum Electro-Music modules are protected against damage to the module or your system from reverse polarity, care should still be taken to connect the power cable correctly.

Plug the 16-pin connector into the header on the rear of the module such that the red stripe on the cable (the -12V side) is on the same end of the header as the "Red Stripe (-12V)" text on the PCB.

Linnaeus requires a maximum of 155mA of +12V and 36mA of -12V.

We have included both M3 and M2.5 (for vector rails) mounting screws. Use what fits your system. If rack rash is of concern to you, use the included nylon washers when mounting Linnaeus in your case.

What's with the egg?

The Functional Overview on the other side of this card describes Linnaeus as originally conceived and designed by Dave. However, late in the beta testing process, our good friend and tester, Chris Meyer, raised the possibility of alternative behavior that would let Linnaeus function as a self-contained (i.e., no input required) stereo oscillator with some really powerful timbral capabilities.

While we were initially hesitant to try to shoehorn the new functions into the existing interface, once Dave had prototyped them, it was clear to us all that they were just too cool not to include. So we've provided them in the form of alternative firmware accessed by pressing and holding the  button.

Check the manual for the details.



Functional Overview



FILTER FREQUENCY Exponentially voltage-controllable from sub-audio to ultrasonic via precise 1V/OCT and attenuverted CV inputs.

FILTER Q (RESONANCE) Exponentially voltage-controllable to greater than 60dB via 6dB/V and attenuverted CV inputs.

RESPONSE/Q COMP Response continuously variable between Lowpass (12db/oct and 6db/oct), Bandpass, Highpass (12db/oct and 6db/oct), Notch, and Low and High Shelving. Independently selectable for each of the two channels via individual Enable controls. When both Enable controls are off, controls the amount of level compensation for the current Q.

RESPONSE CV Voltage control of response via an attenuverted CV input. Individual Enable controls let you independently enable or disable CV control for each channel as well as select the polarity of the control (green for positive and red for negative).

INDEX CV (LINEAR MODULATION INDEX) Sets the degree to which the Modulation Oscillator plus the Linear FM input affects the filter frequency. Voltage-controllable via the attenuverted CV input.

LINEAR MOD OSCILLATOR An integrated oscillator with waveform continuously variable from Off through Sine, Triangle, Sawtooth and Square. Its frequency can be exponentially voltage controlled via the attenuverted CV input.

TRACK/ When engaged (LED lit), the Mod Oscillator precisely tracks the filter's exponential frequency. Press and hold, or double click, to engage the alternate "Ping Mode" functionality (see the manual for details). The LED will flash. Double click toggles Ping Mode on and off.

INPUTS AND OUTPUTS

Stereo DC coupled audio inputs and outputs. 20V p/p max level. The Left input is normalled to the Right input.

 **rossum**
electro-music

www.rossum-electro.com