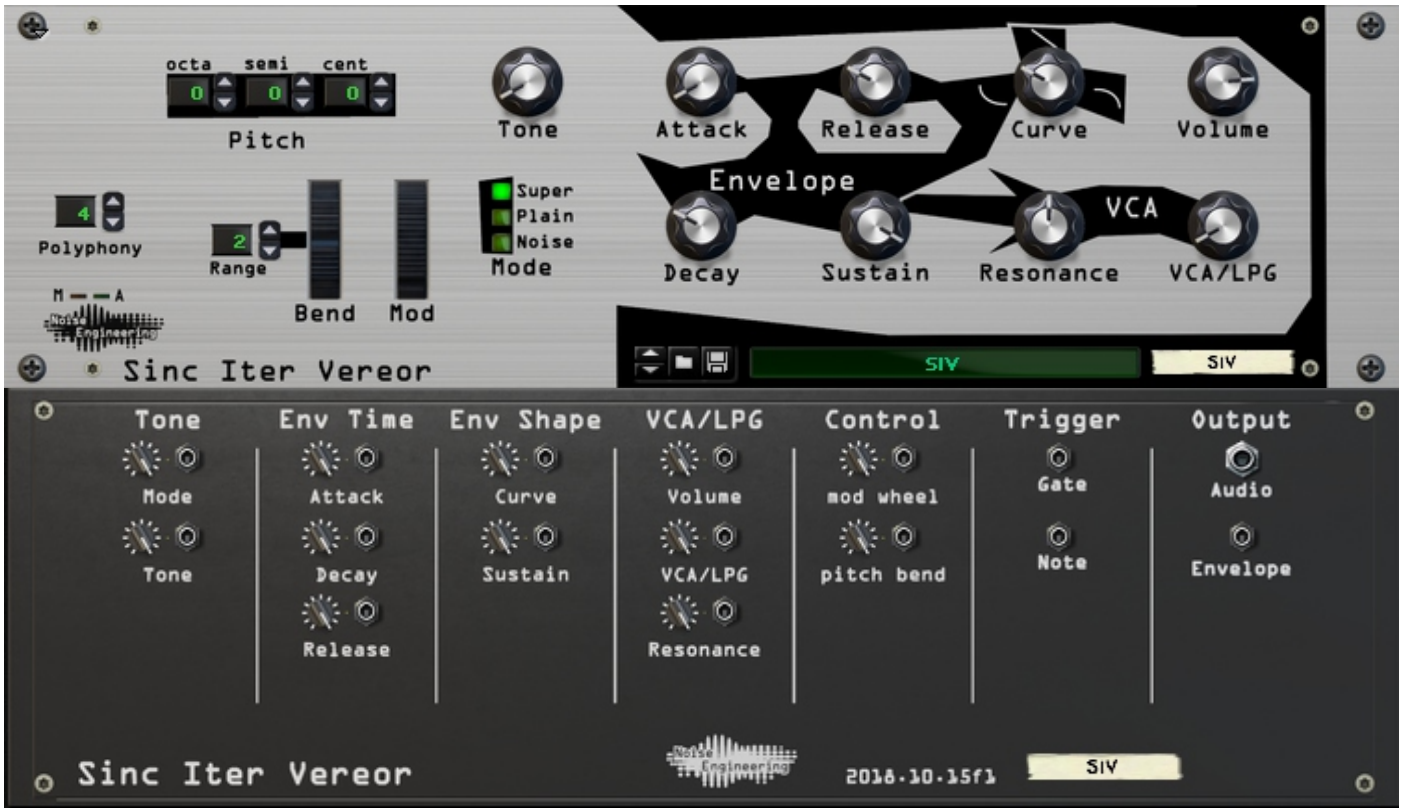
Noise Engineering
Sinc Iter Vereor

Wavemorphing subtractive synth
Rack Extension

Sinc Iter Vereor Rack Extension is is voltage-controlled oscillator with three waveform modes: noise, plain, and super, each of which allow continual morphing between waveforms.



Front and Back Panel Controls

Pitch - adjusts the pitch of the fundamental oscillator. Define octave, semitone, and cent.

Mode - selects the algorithm used to produce the waveforms. Plain is a variable sample-rate direct-waveform synthesis. Mathematically it is equivalent to a wavetable, but the table is computed on the fly. Super mode is 6 oscillators with LFO phase modulation. Noise is a fixed sample rate Perlin noise oscillator.

Tone - controls the timbre of the waveform. In Plain and Super modes, it morphs through the basic waveforms (sine, square, saw, triangle, sine) then starts wavefolding the sine waveform. In noise mode, it broadens the spectrum and then begins wavefolding.

Front and Back Panel Controls, Continued

Bend Range - adjusts the maximum pitch-bend range in semitones.

Bend - visual indicator of MIDI pitch-bend wheel.

Mod - visual indicator MIDI mod wheel. Mapped to 100% Fold and 25% Morph.

Volume - adjusts the level of the Rack Extension.

Preset Load/Save - click the folder button to open a preset. Use the arrows to toggle through presets. Use the disk button to save a preset.

Polyphony - sets the maximum number of voices. When maximum is set to 1, portamento is enabled.

Envelope/VCA Controls (Front and Back)

Envelope/VCA

VCAs and LPGs are devices common in the hardware world but aren't presented in the same way in software. A VCA (voltage-controlled amplifier) controls the amplitude of a signal. Most often, they are used in conjunction with envelopes to control the volume of a sound. In this synth, it is controlled by the ADSR envelope; when a note is triggered, the envelope rises through the Attack stage, opening the VCA and letting the sound generated by the oscillators through. As the note is held down, the envelope then cycles through the Decay stage down to the level set by the Sustain, holding the oscillator at a specific amplitude. When the note is let go, the envelope closes at a speed set by the Release, closing the VCA and silencing the oscillators.

A LPG (Low Pass Gate) is a combination of a VCA and a low pass filter. Combined, they control both the amplitude and harmonic content of a sound. The filter behaves similarly to the VCA and follows the envelope, opening and closing as the envelope cycles.

Attack - adjusts the envelope rise time.

Decay - adjusts the envelope decay.

Sustain - sets the level decay falls to.

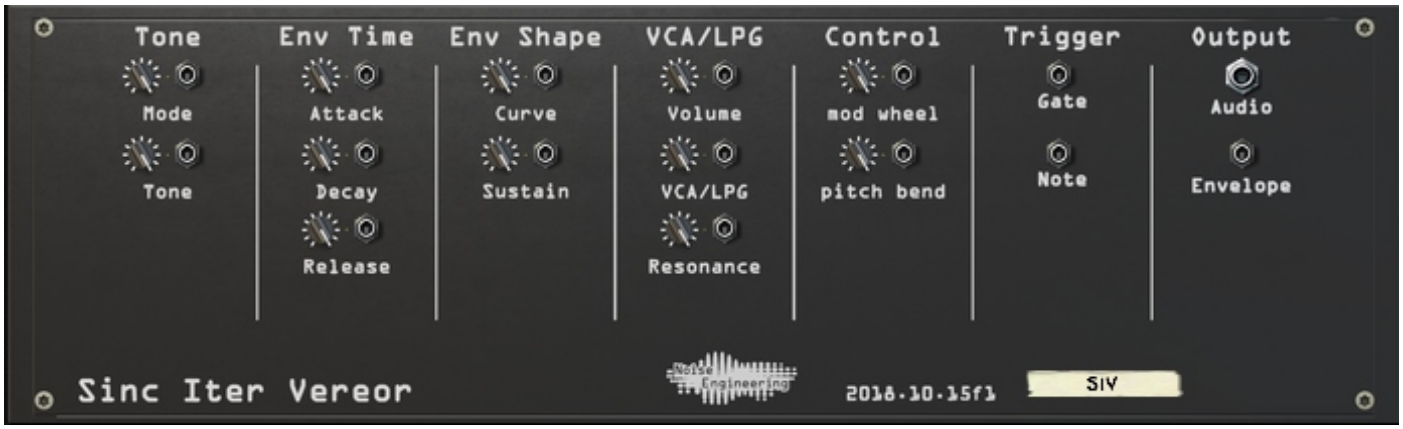
Release - sets the latency before the envelope falls when a note is released.

Curve - adjusts the curve of the envelope stages from exponential to linear to logarithmic.

VCA/LPG - mixes between a clean VCA and low pass gate. While useful at the two extremes, delicate harmonic shaping can be achieved with the right mix of VCA and LPG.

Resonance - adjusts the resonance of the LPG. This parameter will not affect the sound of the synth if the VCA/LPG mix knob is set fully to VCA.All front-panel knobs act as offsets that sum with CV inputs.

All front-panel knobs act as offsets that sum with CV inputs.
All rear-panel inputs act as attenuators.



Back Panel Only:
Trigger: Gate - input to trigger the module

Trigger: Note - CV input to specify note

Output: Envelope - a CV output that tracks the current envelope level

Output: Audio - monophonic output

Back-panel knobs act as attenuators for all inputs.

Special Thanks

Our Beta testers improved the look, feel, and function immensely and we are in their debt.

Beta testers for Synth Bundle 2 include
Markus Cancilla
Mattias Haggstrom
Alan Strahsburg
Paul Rostill
Navi Retlav
Akos Botos
Craig Stanton
Nils-Erik Johansson
Michael Gorman
Kirk Markarian
tl3ss