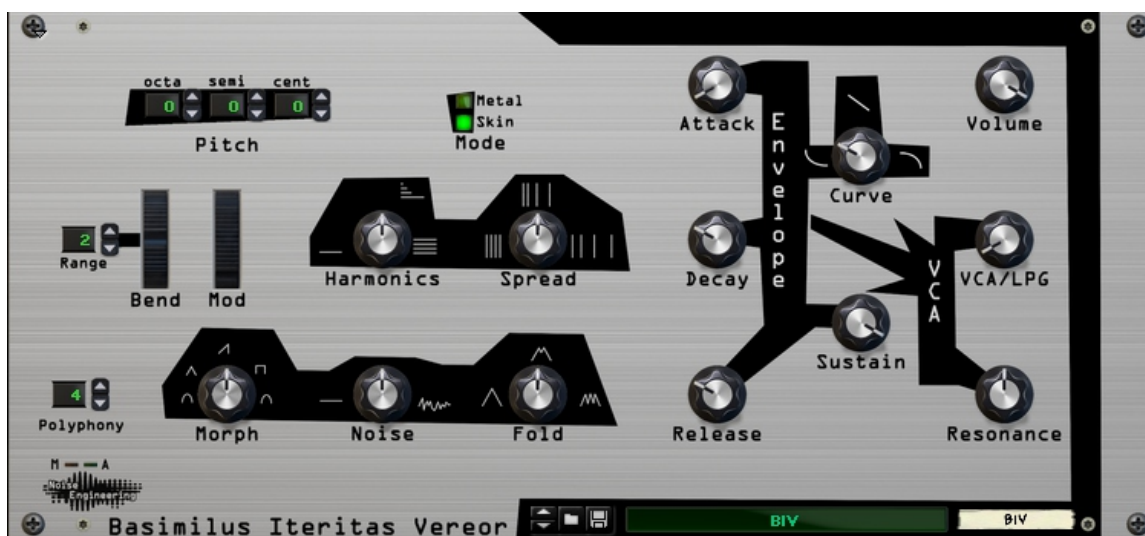


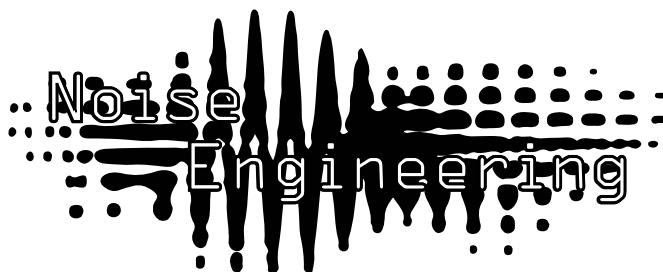
Noise Engineering Basimilus Iteritas Vereor

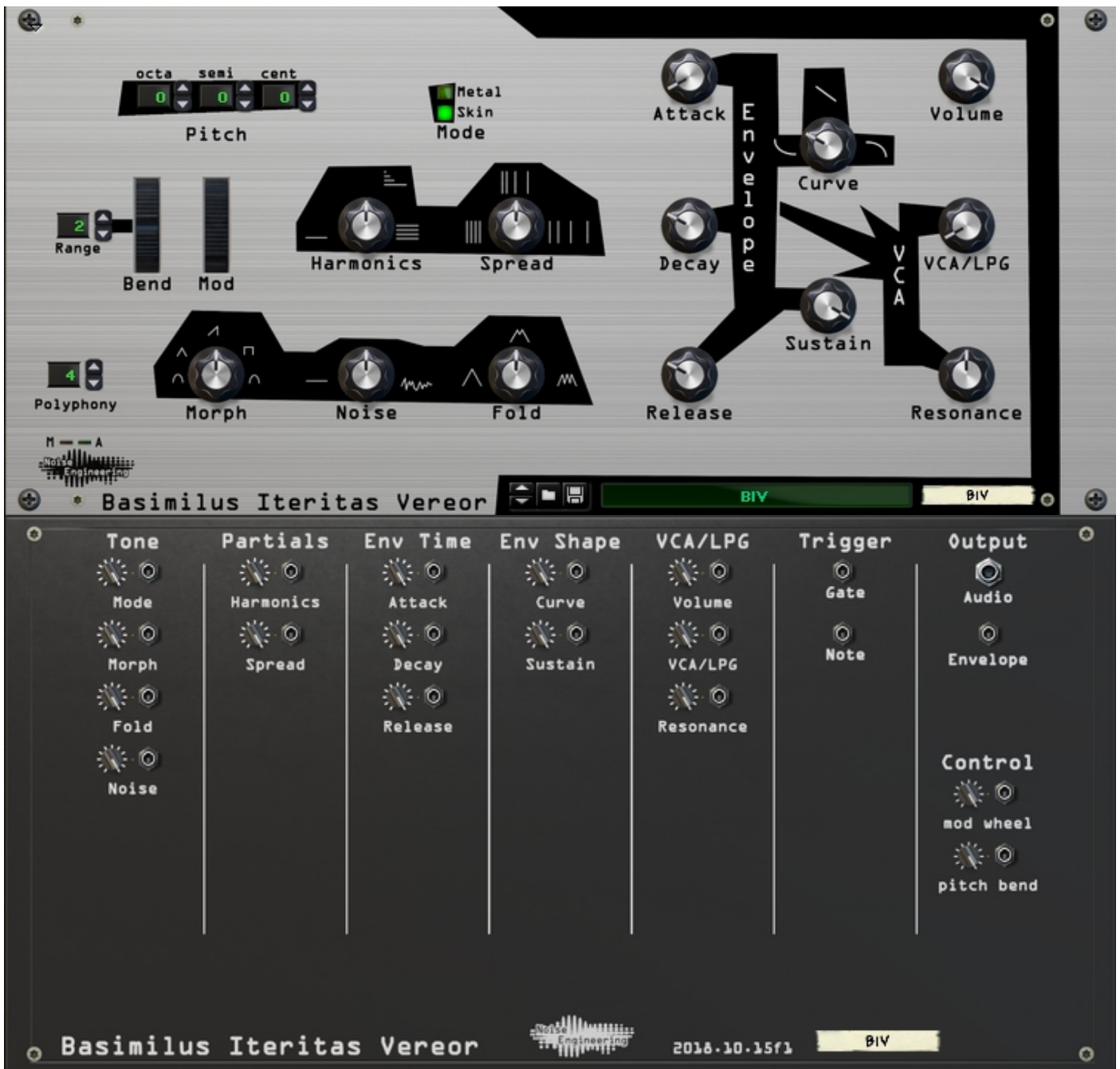
Six-voice additive synth
Rack Extension

The Basimilus Iteritas Vereor Rack Extension is a six-voice additive synthesizer inspired in part by our popular Eurorack module Basimilus Iteritas Alter, and in part by our Rack Extension Basimilus Iteritas. BIV takes the simple controls of our earlier RE and adds an envelope and VCA/LPG control.



Basimilus Iteritas Vereor uses six tonal and one noise oscillator in two configurations to generate sound. The SKIN setting is a basic additive synthesizer meant to simulate instruments that have modes that do not interact. The METAL setting modulates the oscillators by each other to simulate instruments that have a lot of modal interaction. The SPREAD control adjust the pitch (relative to the base pitch) of the other five oscillators. This feeds into a threshold-reflection folder with amplitude compensation and the ability to dynamically add more fold stages. At very high settings the fold will add in an exponentially decaying pulse at the local minima and maxima of the signal to add a gnarly buzz. The final step is another envelope, controlling a VCA/LPG. This envelope is a standard four-stage ADSR envelope, found on many synthesizers. It adds back in the dynamics lost by folding so the output remains punchy under the most extreme folding, and the LPG further shapes the harmonic content of the sound.





Front and Back Panel Controls

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

Morph - controls the waveform of all oscillators. This blends through sine, triangle, saw, and square continuously. The knob offsets the back input.

Noise - mixes pitched noise in with the other oscillators.

Fold - controls the infinifold section. For the first 3/4 of the range, this sets the threshold of the folder, dynamically adding multiple fold stages to maximize folding based on threshold and signal amplitude. In the top quarter of the range, a pulse train based on the signal is mixed in to give even more harmonic content.

Mode: Skin/Metal - selects between the modes. Skin is a six-operator additive synth for tonal sounds. Metal is a six operator FM synth for producing noisy and alien sounds.

Front and Back Panel Controls, Continued

Harmonics - controls the harmonic decay of the oscillators. When fully CCW, only one oscillator is audible, producing a single harmonic. This simulates many simple analog bass drums. As the knob is turned CW, more, longer lasting harmonics are blended in.

Spread - controls the frequency spacing of the oscillators. This allows the overtone series to vary from a purely harmonic sound to more dissonant, inharmonic sound.

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.

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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

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