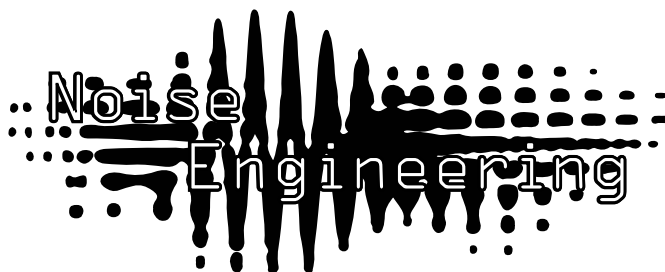
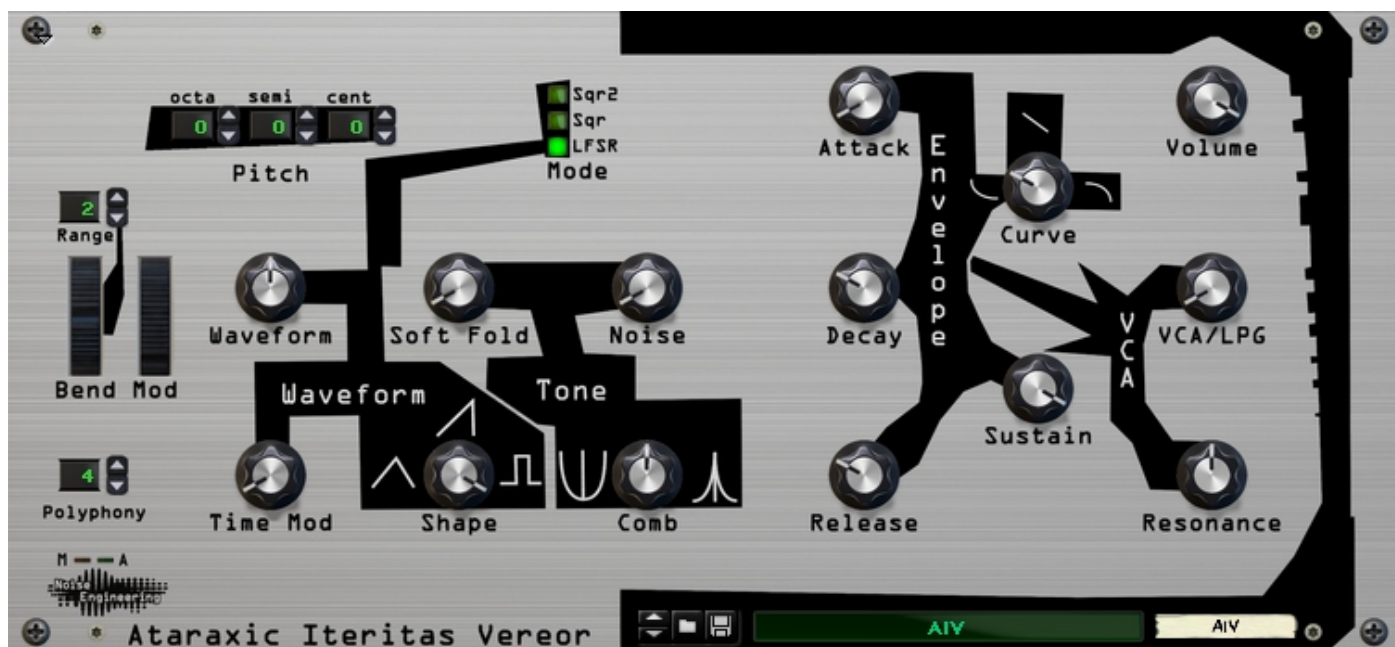
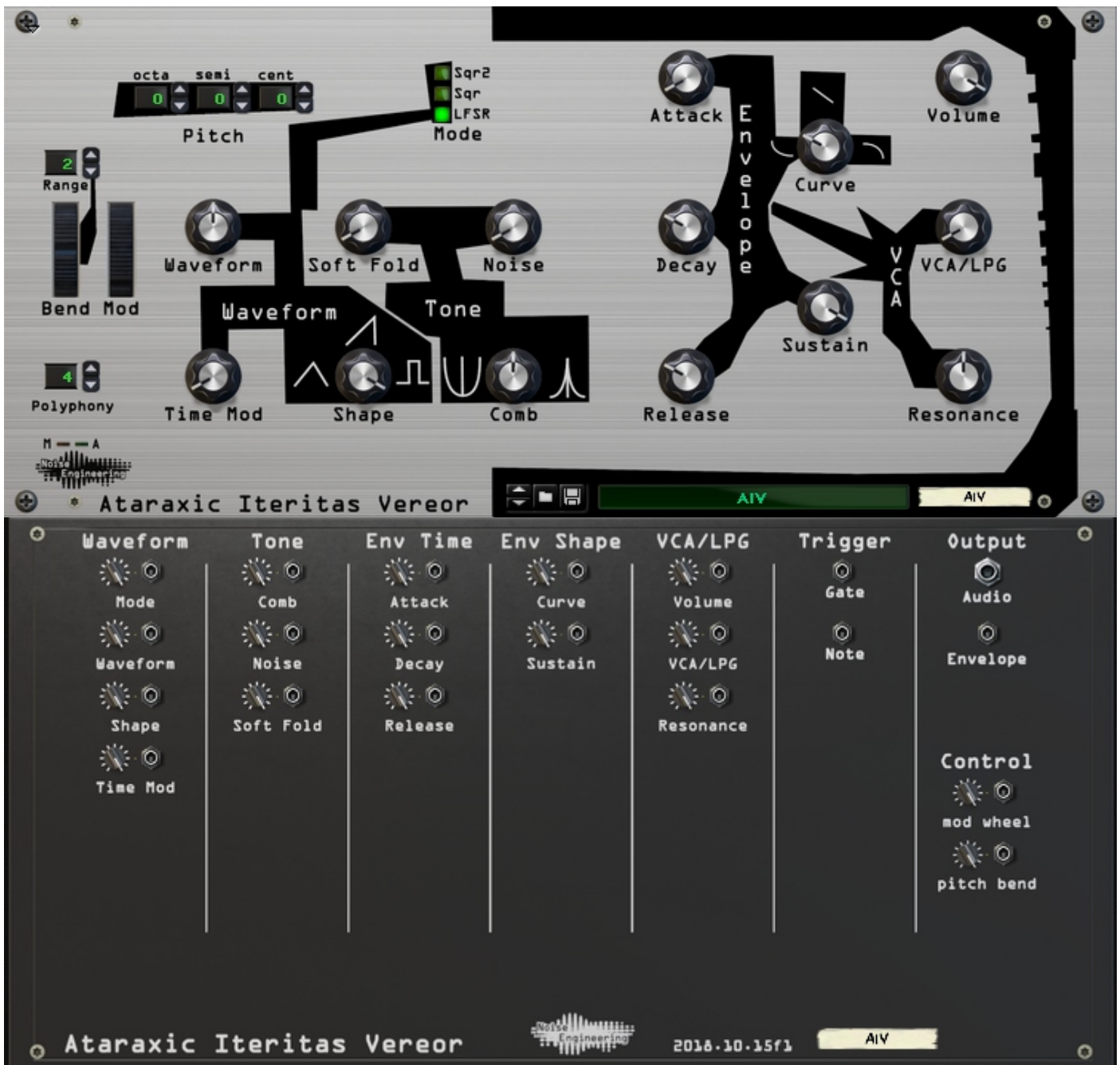


Noise Engineering Ataraxic Iteritas Vereor

Bit-table manipulation synth
Rack Extension

Ataraxic Iteritas Vereor is an extension of our first Eurorack module, the Ataraxic Translatron. AIV starts with one of three bit tables shaped via variable interpolation that is then scrolled through, amplitude modulated, folded, and distorted by the front-panel controls, and is then dynamically shaped by the VCA/LPG. Subby basses, metallic drones, unrelentingly digital timbres and more are all to be had from the AI. Guaranteed to make the fax machine jealous.





Front and Back Panel Controls

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

Waveform - blends between waveforms in the bit table selected by the Mode switch.

Time Mod - is similar in sound to PWM or hard sync. Modulate this parameter to create phaser-like sounds.

Shape - adjusts the interpolation between waveforms. Sonically, this is almost identical to morphing from triangle to saw to square.

Soft Fold - uses the polynomial

$$\frac{x}{48} (-x^4 + 8x^3 - 9x^2 - 50x + 100)$$

applied to a unipolar signal. Gain controls the amount, creating an asymmetrical fold. Soft fold is useful for adding interest to simple sounding waveforms, and works well in conjunction with the Noise parameter.

Front and Back Panel Controls, Continued

Noise - displaces samples in time, and amplitude modulates the signal by white noise. Useful for adding an aggressive, broken edge to the output.

Mode - selects between three different sets of waveforms, arranged in bit tables. The waveforms generated are all unique and unapologetically digital in nature. They are then modified by the Shape and Waveform parameters. One of the things done for performance was to encode the waveforms AI uses into a table. The LFSR tables are based on the same waveforms as in the AT (in some cases octave-shifted differently). SQR is a square wave that is amplitude modulated by the harmonic series so turning the waveform knob will blend between harmonics. SQR2 is the same except the modulating pitch goes up an octave every waveform.

Comb - changes the emphasis of the harmonic structure of the output. In the center, the comb filter is off.

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 25% Fold and 50% Comb.

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.

Envelope/VCA Controls (Front and Back), Continued

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 back-panel knobs 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.

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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