

# ElementsXplorer

## RC3

2<sup>nd</sup> Draft

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John Walton

A port of Emilie's Elements Modal Synthesis model adapted for Korg Prologue with Front Panel control of MultiEngine parameters.

ElementsXplorer

ElementsXplorer (EX from here on), features Front Panel control of the MultiEngine User Oscillators. The knobs in the VCO control section have been repurposed to provide direct manipulation of Elements Resonator and Exciter controls. Additionally, the VCO Octave switches now select among several useful LFO and Velocity Sensitive EG Envelope modulation configurations for Resonator and Exciter inputs. Further controls implemented in the MultiEngine menus control the Key Tracking for each control.

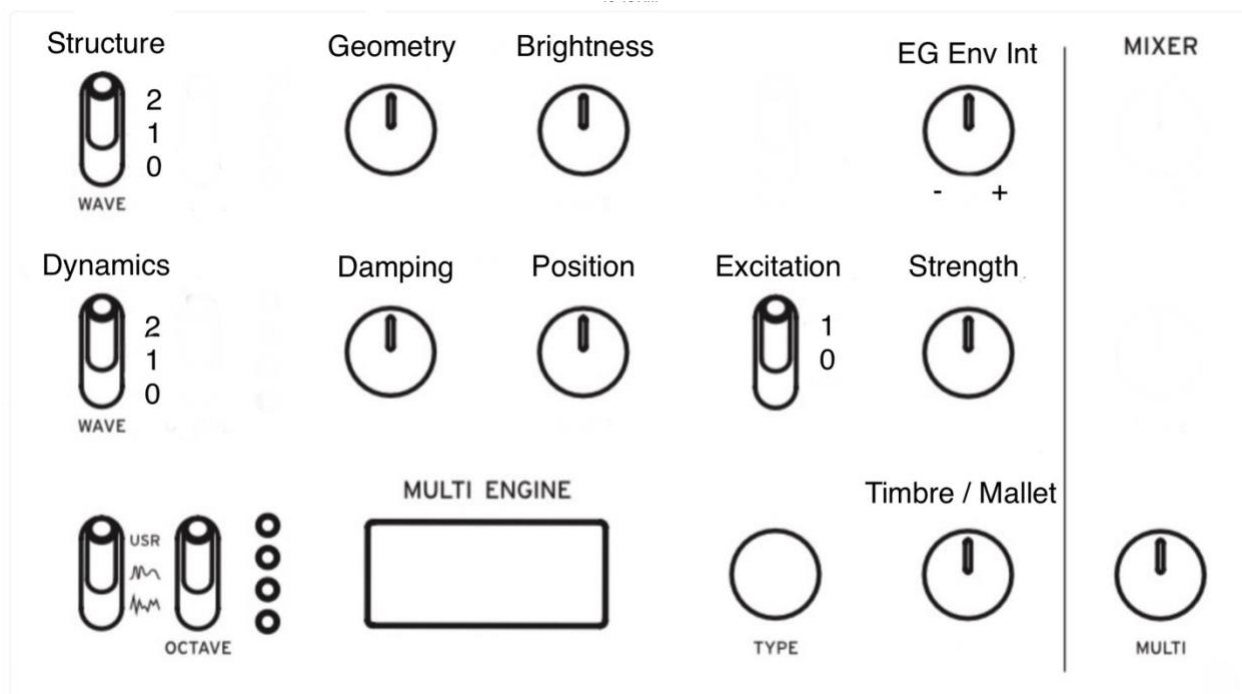
Overview of Features

EX repurposes VCO front panel controls for all Resonator and Exciter settings and uses VCO switches to select among various useful modulation options. EX implements Key Tracking for all controls, except Geometry, for exceptional control of EX voicing. EX also has access to EG Envelope through the Pitch EG control, and uses the Shape LFO for dynamic modulation.

The original Elements module includes three types of exciter; Blow, Bow, and Strike. Due to memory constraints this version only has the Strike impulse generator which features Mallets, Plectrums and Particles. Other exciters use audio samples and cannot fit into the available memory as is.

Front Panel Description

EX groups Resonator and Exciter controls together as shown below.



## **(Front Panel Description cont.)**

### **Structure (Resonator)**

- Geometry: controls inharmonic content. Various settings of modeled inharmonic content for vibrating or struck metallic, wooden, or glass materials; from plates to strings, to bars and tube, to bells and bowls.
- Brightness: controls harmonic content similar to a low pass filter response. Use this to accentuate or mute the Resonator tone. Low values simulate materials like wood or nylon, higher values yield metallic or glass materials.
- Structure Modulation Index selects Structural Resonator targets for LFO and Envelope.

### **Dynamics (Resonator)**

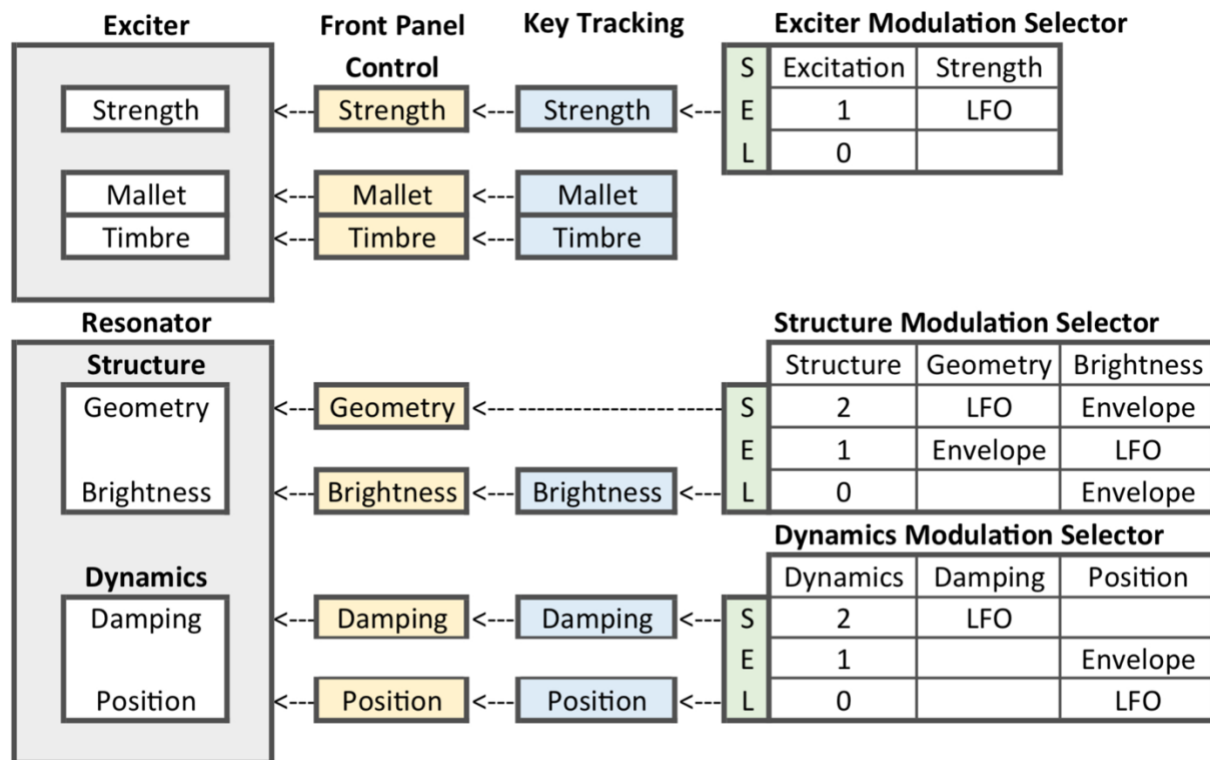
- Damping: controls the amount of Damping the Resonator implements after strike. Higher values create longer decay times.
- Position: simulates where the material is struck. Various settings create hollow or tinny sounds. Sweeping position creates phasey pulse width modulating types of sounds.
- Dynamic Modulation Index selects Dynamic Resonator targets for LFO and Envelope

### **Excitation (Exciter)**

- Strength: controls the amount of force the material is struck with. Settings above 50% mix the sound of the Exciter in with the Resonator output.
- Mallet: from 0-50% varies the exciter from damped to undamped mallet models, then single to multiple types of plectrum plucking models and finally bouncing particles at 100%.
- Timbre: adjusts filter response applied to the Mallet between the Exciter and Resonator, effects the brightness/speed of the percussive excitation.
- Exciter Modulation Index selects Strength as a target for LFO.

## Modulation

EX provides static and dynamic modulation options for each input. Modulation is divided



into three sections:

1. **Front Panel Controls.** Each input has an associated static control for quick adjustment of every control. Placement on the Front Panel allows for both preset save and restore functionality as well as full support of all expression controllers used by Prologue platform.
2. **Key Tracking.** Allocated to the six MultiEngine Menu Params (insert menu) are Key Tracking controls for all but the Geometry input. Key Tracking is valuable for detailed static voicing. Each input can be individually adjusted with respect to increasing or decreasing pitch. Negative values accentuate the low end of the keyboard, positive value accentuate the high end of the keyboard. Examples include brighten, or dampen one end of the keyboard, increase Mallet strength for high pitches, or adjusting Timbre for high or low end.
3. **Modulation Selector.** A variety of useful dynamic modulations can be applied to each input via the front panel VCO Octave and VCO Sync switches. Each section; Structure, Dynamics, and Exciter has an associated Modulation Selector.

## **Honorable Mentions**

A big THANK YOU! Goes out to Emilie, Peter, and Mark for gifting their work as open source; Plaits, First Plaits Logue port, and Tsoniq's Front Panel code respectively.