



*VERBOS ELECTRONICS*

2015



*I started making electronic music as a 13 year old. I had always loved to play with sequencers and synthesizers, but it was then that I figured out a way to get some simple pieces of my own. Within a few years I had collected some vintage synths and was starting to learn about electronics to repair and modify them myself. Soon I was building my own custom modules. Since the mid '90s I have worked professionally as a recording engineer, producer and electronic musician.*

*I started Verbos Electronics in 2014. I have a particular way of doing things. I believe that instruments should be designed starting with the interface. They should feel good to use. I use old school electronics: transistors, discrete logic, Vactrols.*

*This book shows the modules we currently have available.*

*Thank You,*

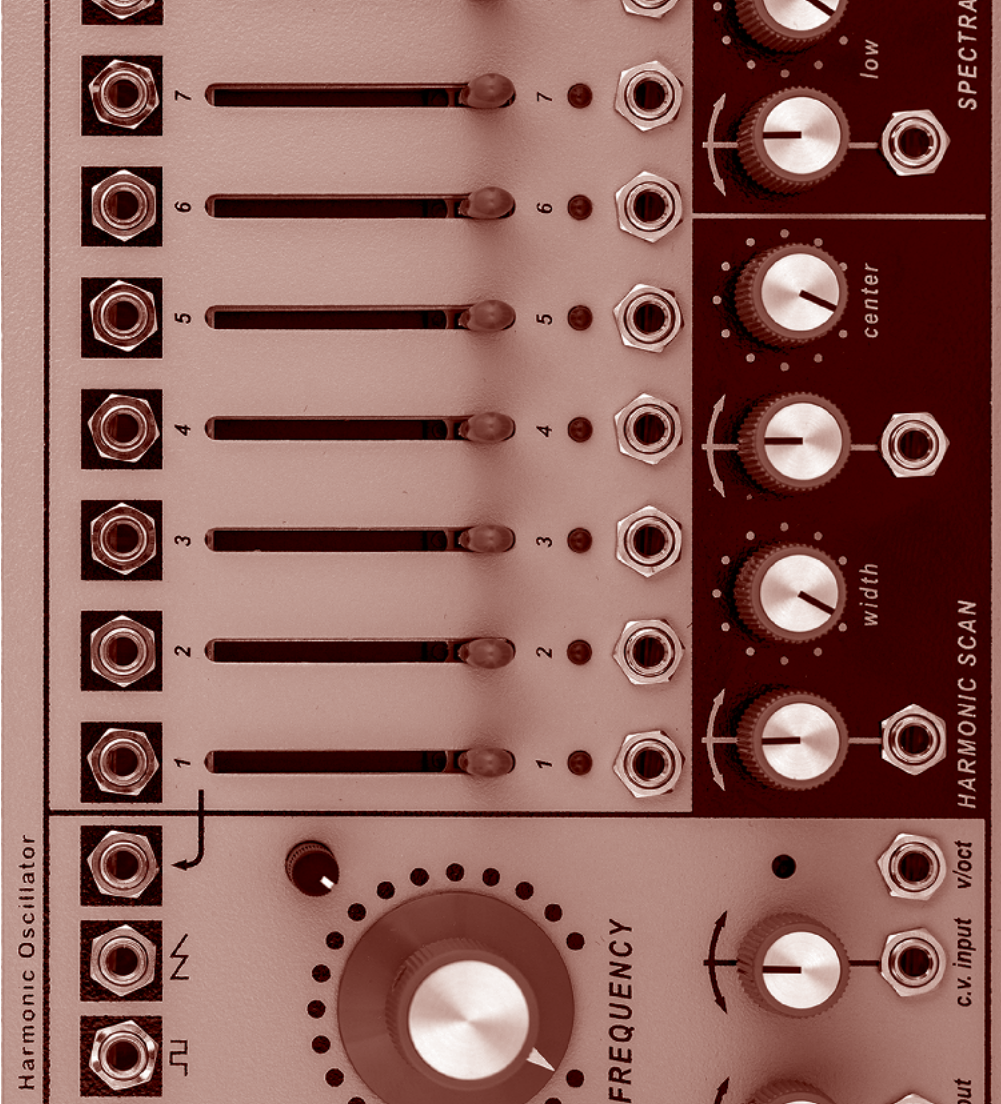
*-Mark Verbos*



# Harmonic Oscillator

*Throughout the Synth world, there has always been the elusive dream of a VCO with individual harmonic outputs. Buchla had the Harmonic Generator 148 way back in the 1960s, but it was a rare and unwieldy beast. Since the module didn't have mixing built in, only individual outputs, any patch using it would use a whole modular system.*

*The magic of the simple analog additive synthesis in the Harmonic Oscillator is in the ways that the harmonic mix changes during a note. I knew that a voltage controlled mixer would be necessary to do all of the patches, so it may as well be in the module. Its "pièce de résistance" is the ability to blend 8 channels of a voltage controlled mixer without needing 8 separate control voltage sources, via the "width", "center" and "tilt" controls.*





## Complex Oscillator

*I am always looking for new ways to make animation in electronic sounds. The Complex Oscillator is an obvious nod to the late 1970's West Coast synthesis technique. Modulation and external control of amplitude, frequency, and waveshape are great ways to create interest at the sound source, and eliminate the temptation to use a filter.*

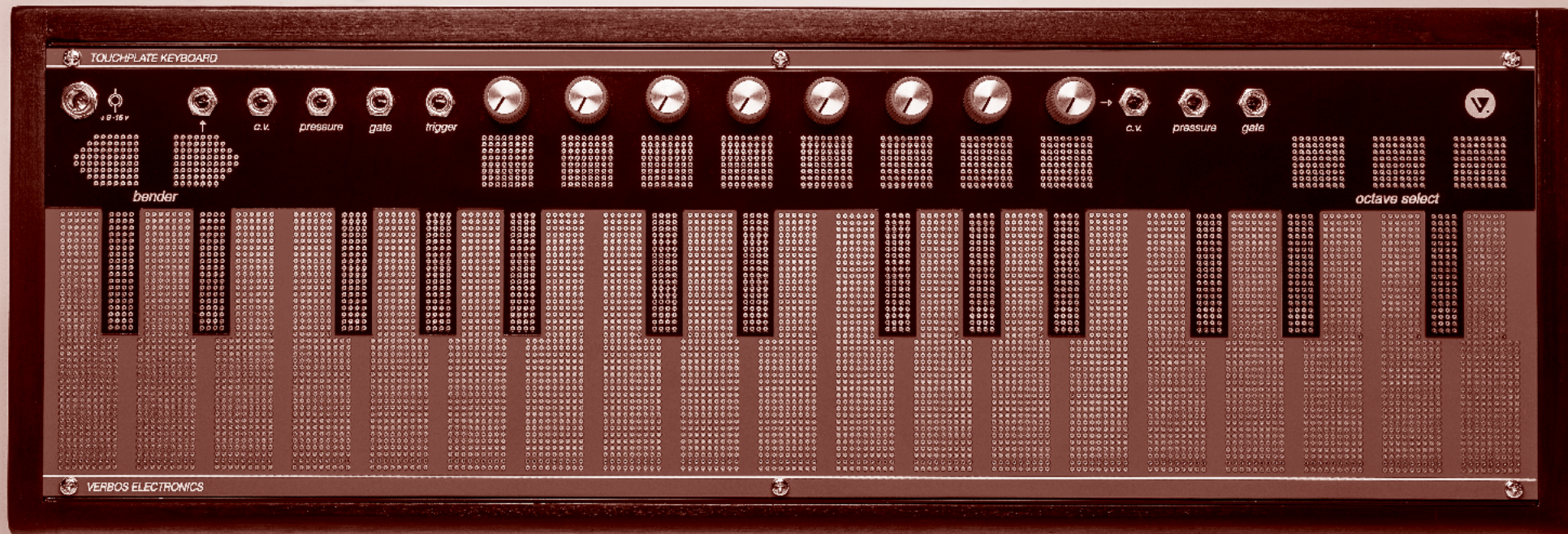
## Dual Four Pole

*In the first wave of synthesizers, back in the 1960's, filters were different than they are today. The Dual Four Pole is my attempt at the filter that you'd find in the university music labs back then. It's all discrete transistors all the way through a 4 pole hipass filter and a 4 pole lowpass. They have resonance, but the stages of this very old filter core cannot track each other closely enough to self oscillate. Instead, the resonance is more in the realm of acid squelches than Minimoog whistles. It is a noisy, distorted beast, but sometimes exactly what you need.*





# Touchplate Keyboard



*When dealing with a modular synth, sometimes it just feels right to avoid using a conventional organ type keyboard to play it. The original West Coast keyboards didn't have any connection to existing instruments. I wanted to have some of the options that allows, but the ability to improvise on the*

*controller, too. The main keyboard is arranged to look like a piano, familiar to everybody, but touchplates. The additional tunable keyboard is like the keyboards at the San Francisco Tape Music Center. Maybe the best of both worlds.*

## Voltage Multistage

*A sequencer is just a sequencer, but what if it could be used as an envelope, LFO, quantizer and more? That's the idea behind the Voltage Multistage. Switchable linear slides that track the clock speed allow envelope shapes and sustain/en-able allow logic functions.*



## Multi-Envelope

*At the launch of Verbos Electronics, there was no dedicated envelope generator in the module line-up. Instead of having modes where it could function as a few different envelope shapes, I decided to make all shapes available all the time. They can be sent to multiple parameters or the DAHR & DADsR can be used as a quadrature pair of trapazoids*



*when looping. All stages are voltage control-able and the shape fades from linear to proper RC curves without changing the overall rate.*



## Amplitude & Tone Controller

*It's possible for a module to be misunderstood. Don't be fooled into thinking this is "just a VCA". I knew I wanted to make a VCA that was discrete transistors all the way through, with simultaneous exponential and linear control inputs. The VCAs that clone the ARP 2600 can't add level on one input and subtract it from the other. This can. The others have an opamp for the output stage. This doesn't.*



*There's a FET preamp and all discrete resonant Vactrol filter on the input. Think of it as a Big Muff, followed by*

*an optical MS-20 lopass followed by an all discrete linear/expo VCA. Oh, and it can do all of the modes of a Lopass Gate.*

## Scan & Pan

*The Verbos Electronics systems need a small mixer module. One option would be to make it very simple with the focus on size. I decided it should do more.*

*The Scan & Pan is a 4 channel voltage controlled mixer with voltage controlled panning. Also, the scanning function from the Harmonic Oscillator is implemented to allow tricks that are not possible with any other mixer module. The signal path is all discrete transistors for the best sound quality.*



*Verbos Electronics modules are designed and assembled in our workshop in New York City. We make an effort to use local services and packing materials. Our modules are lead free and conflict free.*

*[www.VerbosElectronics.com](http://www.VerbosElectronics.com)*



*Seze Devres Photography*