810 Eurorack Analog Voice Module

Overview

The System80 810 is a Eurorack format synthesizer voice module. It combines a Voltage Controlled Oscillator (VCO), a Voltage Controlled Filter (VCF) and a Voltage Controlled Amplifier (VCA) with convenient normalized connections between sections. Adding modulation from a modulation source such as an LFO or Envelope Generator module allows the creation of a classic subtractive analog synthesizer voice. The 810's circuits are inspired by the golden age of 'Japanese Analog', including the classic designs used in the System 700, System 100M and Jupiter-8.

The VCO is a traditional temperature compensated saw core design with wave shaping circuitry that generates a triangle wave with a small reset glitch. The triangle wave is 'clipped' by a diode circuit to generate an approximate sine wave.

The VCF is a classic OTA circuit that works and sounds very much like vintage filters based on the IR3109 quad OTA chip. The VCF has both 24 dB and 12 dB slopes and will self-oscillate and track about 3 octaves at maximum resonance.

The VCA is another traditional OTA design similar to vintage VCAs using the BA662 or CA3080 OTAs. The VCA can be set to have a linear or exponential reponse to control voltage.

Installation and Power

The 810 is a 30 HP Eurorack module. It must be installed in a Eurorack case and supplied with Eurorack standard power. Use the supplied screws and washers to install the 810 in your Eurorack case.

It is strongly recommended that a professional, high quality Eurorack power supply be used with the 810. Do-It-Yourself (DIY) power supplies and unfiltered 'off-the-shelf' switching power modules may result in unwanted noise and performance issues. Ensure that your power supply has sufficient overhead to handle the current drawn by all the Eurorack modules connected to it.

The 810 uses a standard 10 pin non-shrouded non-keyed power connector. A standard 10 pin Eurorack power cable is supplied. The red stripe on the power cable indicates the position of the –12 V conductor. When connecting the power cable ensure that the red stripe side of the cable is aligned with the thick line next to power header on the back of the 810's circuit board. Connnect the 10 pin connector to the 810's power header and connect the 16 pin connector to your system's power bus board.