

Overview

The System80 820 Eurorack Oscillator is a utility Voltage Controlled Oscillator (VCO) based on the saw integrator and waveshapers common to many vintage Roland designs from the late 1970s. It features a temperature compensated saw (ramp) core coupled to waveshaping circuitry that produces a pulse wave with adjustable width, a triangle wave and a sine wave.

The conversion of the saw wave to a triangle wave produces a distinctive reset glitch at each peak. The triangle wave is bent by a diode shaper to produce an approximate sine wave.

Control Descriptions

A Octave Range Switch

Changes the frequency range in 1 octave steps from +0 octaves to +5 octaves.

B Frequency Mod Input

Input for exponential pitch control signal with adjustable depth control.

C Keyboard Control Input

Input for 1V/octave pitch control signal.

D Sync Output

Duplicate of Pulse Output, **F**, for slaving an external VCO.

E Sync Input

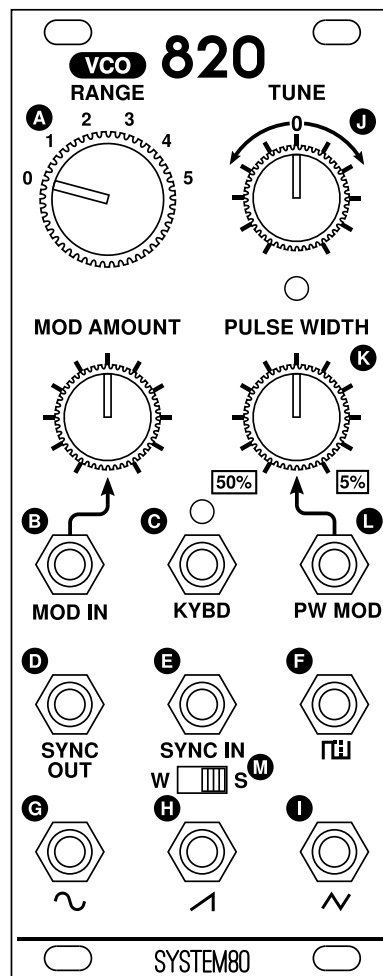
Input for master synchronization signal.

F Pulse Output

G Sine Output

H Saw Output

I Triangle Output



J Tune Control

Fine tune adjustment from -12 to +12 semitones.

K Pulse Width Control

With no signal present at the PW MOD input, **L**, the knob adjusts the pulse waveform's width from 50% (square wave) up to 5%. At higher frequencies the minimum pulse width will go to 0% (no output).

L Pulse Width Mod Input

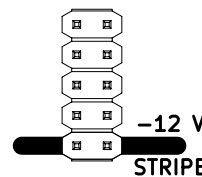
Modulation input for pulse width control. When a signal is present the Pulse Width Control knob, **K**, sets the depth of the pulse width modulation signal.

Sync Type Switch

M Sets the synchronization type to Weak (W) or Strong (S). Weak synchronization will force the VCO to lock to interger or fractional multiples of the master frequency, with the reset occurring near the waveform's maximum value. Strong synchronization forces the VCO to reset with every cycle of the master, regardless of where it is in its waveform cycle.

Power Connector

The 820 uses a standard Eurorack non-shrouded/non-keyed power connector and comes with a standard 10 pin Eurorack power cable. The Red Stripe on the power cable indicates the position of the -12V conductor. When connecting the power cable ensure that the Red Stripe end of the cable is aligned with the thick line next to the power header on the PCB. Connect the 10 pin connector to the 820's power header and connect the 16 pin connector to your system's power bus board. The 820 is designed to withstand brief conditions of reverse power, but prolonged connection to reverse polarity may damage the protection diodes and require module servicing.



Damage caused by reverse polarity cannot be covered by the warranty.

Specifications

Power consumption: 15 mA +12 V, 15 mA -12 V
 Initial Frequency: C0 (16.35 Hz)
 PWM CV response: 0 V (50%) to +10 V (min.)
 Output amplitude (approx.)
 Π 0 V to +8.5 V
 / 0 V to +8.5 V
 ^ -5 V to +5 V
 ~ -5 V to +5 V
 Width: 10 HP
 Depth: 30 mm (incl. power connector)