Oscillator 0

Build #3, 2023-06-01

This module is a simple but versatile oscillator with only basic functions.

- Hybrid analog-digital oscillator
- Unlimited pitch input voltage
- Switchable fixed pitch offset for *Voltage/Moog* mode
- Huge frequency range from almost 0 Hz up to 20 kHz.

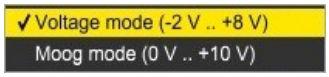
Function

In audio range 10 to 20,000 Hz an analog-style oscillator produces naturally sounding signals. Below 1 Hz a pure digital oscillator provides clean wave forms. Between 1 and 10 Hz both oscillator signals are smoothly blended from one to the other.

Controls and connectors

A voltage at the **pitch** input jack controls oscillator frequency with 1 V/octave. Basically any control voltage can be sent to this input jack. There is no limitation of value and frequency.

When mouse cursor is on pitch label, a red frame appears. It indicates a hidden function.



After a right click on the label a drop down menu lets you select a **pitch mode**. Actual pitch mode is marked with a hook sign. You can switch to the other mode by clicking on it. A click to anywhere else effects no mode change.

Within *Voltage Modular* pitch range is from -2 volts (tone "C0") up to +8 volts (tone "C10") while traditional hardware *Moog* synthesizer modules mostly work within a range from 0 volts ("C0") to +10 volts ("C10").

This means, that in Voltage mode all tones are two octaves higher than in Moog mode.

With **octave** knob oscillator pitch can be transposed from -15 to +5 octaves. Default is 0.

With these toggle buttons you can select one of five output signal wave forms:

- saw tooth
- ramp
- triangle
- sine
- pulse

When pulse wave is selected, pulse width can be adjusted with the **width** knob. It's range is from 0.005 to 0.995, default is 0.5 (square wave).

With vol knob one can attenuate output signal level. Fefault volume is 0.5 (50 %).

This output jack provides oscillator output signal. Signal is bipolar with a maximum amplitude of 5 volts.

Schematic Block Diagram