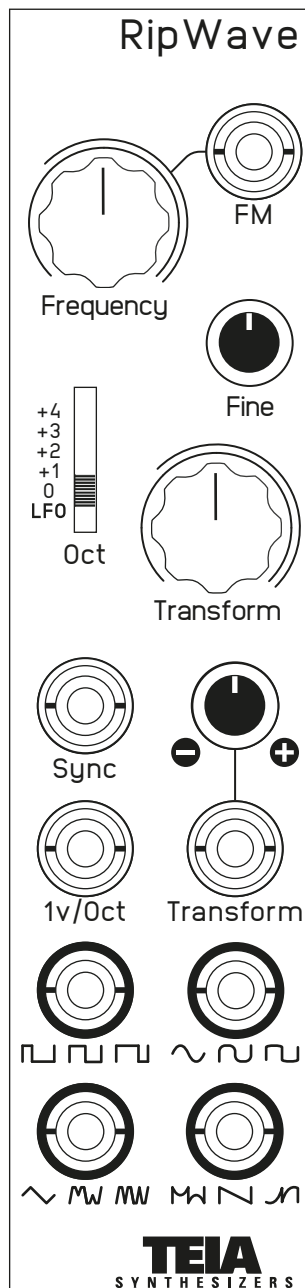


RipWave

Compact Timbre Oscillator



Overview

RipWave is a compact 6HP analog Eurorack VCO designed for rich sonic exploration in a small footprint. At the heart of its design is the Transform knob: a unique, voltage-controllable parameter that shapes the character of each waveform. It offers a wide range of timbral variation, from saturation to wavefolding, harmonic morphing, and pulse width modulation, all in a single control.

On the Sine output, the Transform knob applies a $\tanh()$ saturation circuit, gradually shaping the waveform from a pure tone into a warmer, slightly overdriven version. As you turn the knob, the wave is smoothly compressed and harmonics are introduced, adding character without harsh clipping.

For the Triangle wave, turning the Transform knob folds the waveform through a transistor wavefolder, shaping the timbre of the signal by adding harmonic complexity. An additional soft clipping diode saturation stage keeps the amplitude in check, taming peaks while introducing additional character.

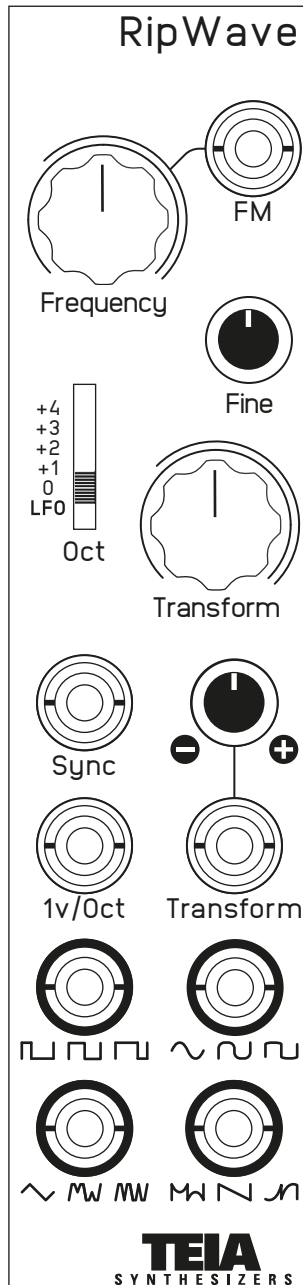
In the case of the saw output, the waveform is generated by combining two complementary signals: one waveform containing only odd harmonics, the other only even harmonics. The Transform knob controls the balance between them. At the center position, both are equally summed to produce a Sawtooth wave. Turning the knob blends between the two, letting you isolate odd or even harmonics and shape the timbre across a wide range of harmonic textures.

The Transform knob performs a more traditional role with the Pulse wave, acting as a pulse width control. At the center position, it produces a classic Square wave with a 50% duty cycle. Turning the knob shifts the duty cycle toward narrower or wider pulses, delivering the familiar pulse width modulation sound.

An octave switch provides quick transposition and includes an LFO mode for low-frequency modulation duties, allowing RipWave's uniquely shaped waveforms to be used as modulation sources. RipWave also features both sync and linear FM inputs. The sync input allows the oscillator to be reset by an external signal, creating harmonically rich or rhythmically locked results depending on the source. A rear-panel jumper lets you select between hard and soft sync modes to suit different patching contexts.

The linear FM input offers a wide modulation range, from subtle pitch modulation and vibrato to deeper, more complex timbral shifts depending on modulation depth.

Though initially designed as a companion for VastWave, RipWave has developed a strong identity of its own. It performs equally well as a standalone oscillator in a compact system or alongside its larger sibling. Whether used for lead voices, complex layering, or modulation, it delivers a wide range of shaping options. From warm tones to ripping textures, RipWave pushes all waveforms into harmonically rich territory, making every output well suited for East Coast-style subtractive synthesis as well as West Coast-style waveshaping systems.



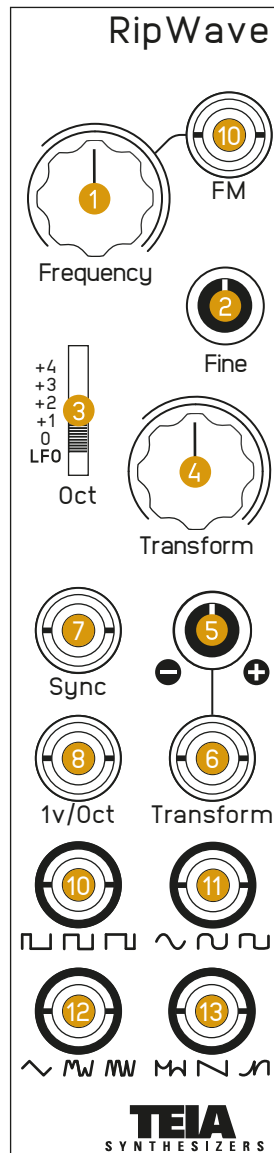
Overview

Features:

- Four classic waveforms: sine, triangle, saw, and pulse.
- Unique Transform knob shapes each waveform differently.
- Voltage-controllable Transform with dedicated CV input.
- 6 positions Octave Switch.
- LFO mode.
- Linear FM input.

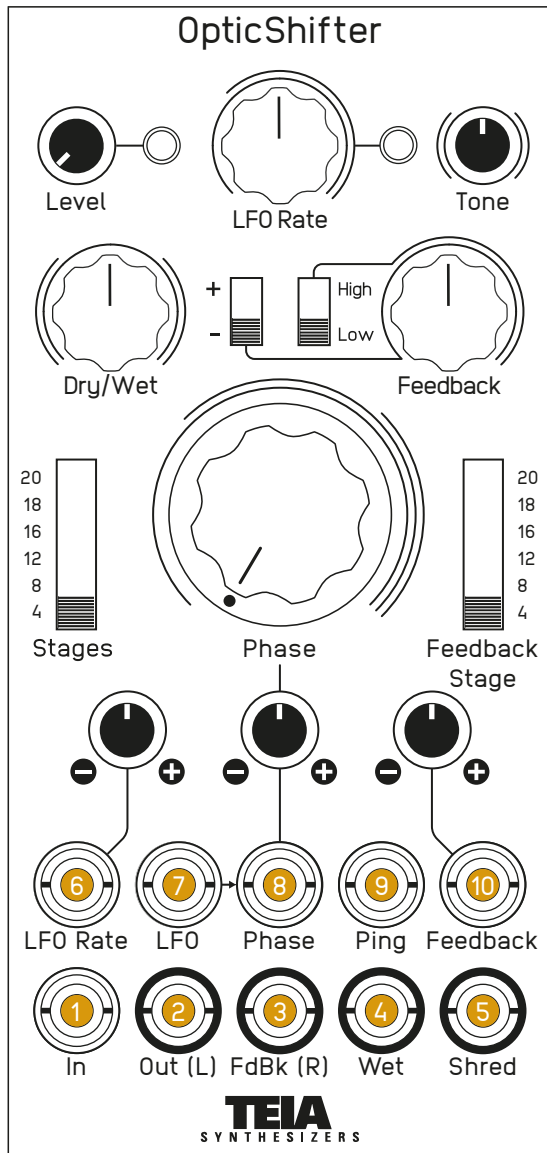
Specs:

- Width: 6HP
- Depth: 45mm, Skiff Friendly
- Power consumption: 90mA +12, 80mA -12
- Eurorack Format
- Doepfer power connection



Panel Interface

- ① Frequency knob
- ② Fine Tune knob
- ③ Octave Selector and LFO Switch
- ④ Transform knob - Global Waveshaper
- ⑤ Transform CV Attenuator-Inverter
- ⑥ Transform CV Input
- ⑦ Sync Input
- ⑧ 1 Volt per Octave Input
- ⑨ Linear Frequency Modulation Input
- ⑩ Variable Pulse Width Output
- ⑪ Sine to Saturated Sine Output
- ⑫ Triangle to Folded and Clipped Output
- ⑬ Saw to Even/Odd Harmonics Output



Inputs and outputs

- 1 Audio Input
- 2 Main output, Pseudo-Stereo Left output
- 3 Feedback path output, Pseudo-Stereo Right output
- 4 Wet signal only output
- 5 Comparator based distortion output
- 6 Internal LFO voltage controlled frequency input
- 7 LFO output (triangle)
- 8 Phase offset modulation input
- 9 Ping Input for percussive sounds
- 10 Feedback voltage controlled input

Diagram

