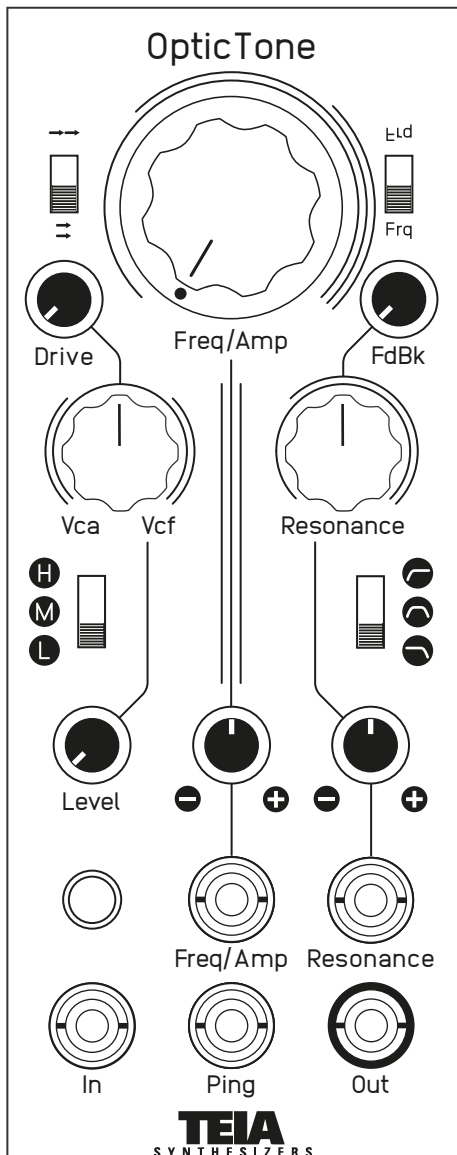


OpticTone MK2

Multimode Gate



Overview

The OpticTone MK2 is an improved revision of our original module, combining a 12dB multi-mode Vactrol VCF and a Vactrol VCA. This unique circuit is inspired by the distinct characteristics of Vactrols and Lowpass gates, celebrated for their fluid and natural character.

The Filter section offers the three essential filter types: Lowpass, Bandpass, and Highpass. A new Range Switch allows you to select between high, mid, and low filter ranges, with the High position providing the wider filter range. The Resonance knob, equipped with a voltage control input, offers improved modulation flexibility. The feedback knob interacts with the Resonance path, serving as a resonance compensation control, allowing you to adjust from smooth, creamy resonance to wild self-oscillation.

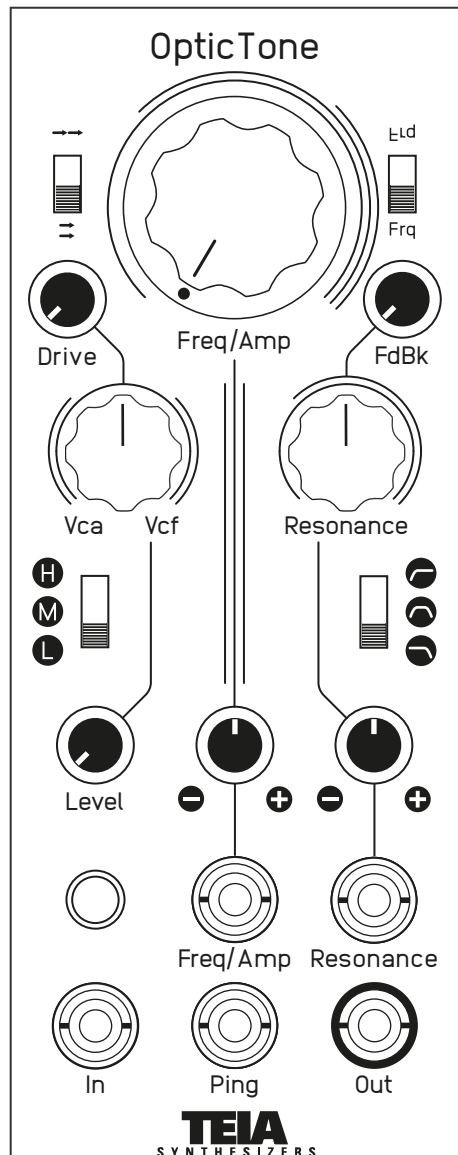
The OpticTone MK2 introduces a new switch to select between series and parallel configurations for the VCA and Filter. In parallel mode, the VCA comes first. Both the VCA and Filter are controlled by the Freq/Amp knob, its voltage-control input, and touch control via the 3 lines on the panel below the knob. The combination of signals can be crossfaded with a dedicated knob.

The new circuit is designed to allow the user to produce low pass gate pluck sounds. To achieve lowpass gate pluck sounds, send a short trigger (about 20ms) to the Freq/Amp CV input and utilize the Vactrol's slow, envelope-like decay. You can use the crossfade knob to mix the VCA and VCF signals, allowing you to balance and fine-tune the pluck effect.

The Frq switch inverts the filter frequency control, allowing the filter to “close” when the VCA is “opening,” and vice versa.

The Ping input allows you to generate the distinctive percussive sounds characteristic of vactrol filters. Pinging a filter involves sending a short trigger or gate signal to the filter, causing it to briefly resonate and produce a percussive sound. This technique is often used in modular synthesis to create drum-like or plucked sounds. The Ping frequency is controlled by the Freq/Amp knob, offering a wide range of tones from deep kick drums to high-pitched bongos.

The module also features a pre-filter Drive knob, offering a range of sonic textures from subtle warmth to intense distortion, adding rich harmonic content to your sound.



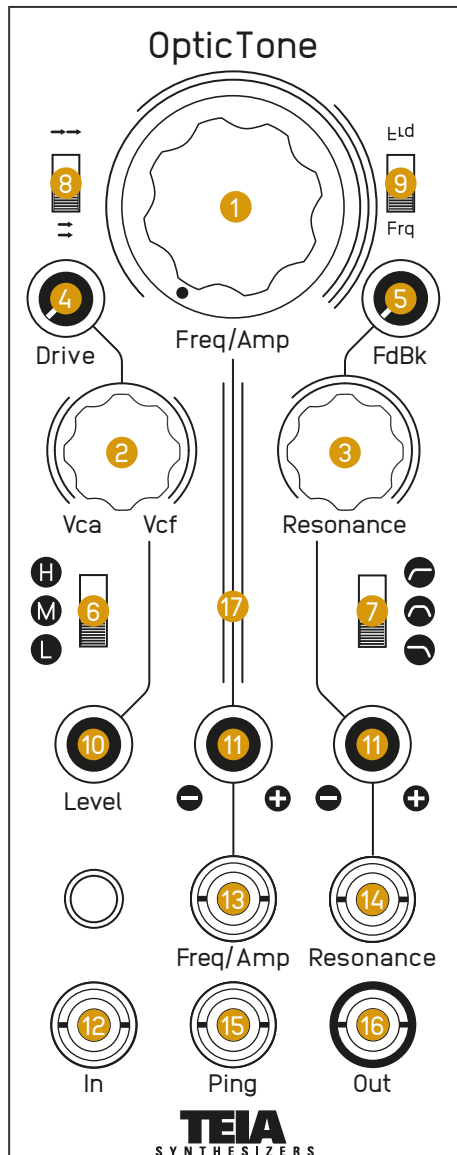
Overview

Features:

- Vactrol based 12dB multi-mode Voltage Controlled Filter: Lowpass, Bandpass and Highpass.
- Vactrol Based Voltage Controlled Amplifier.
- Crossfade knob to mix the VCA and VCF section.
- Voltage controlled Resonance.
- Improved circuit for Lowpass Gate pluck sounds.
- Ping Input for percussive sounds generation.
- Filter Range switch.
- Switch to set VCA and VCF in Parallel or Series.
- Filter Frequency polarity inversion switch. Doesn't change VCA polarity.
- Overdrive and Feedback controls.
- Attenuator/inverter knobs on all voltage controlled inputs
- Touch control over Frequency and Amplitude.

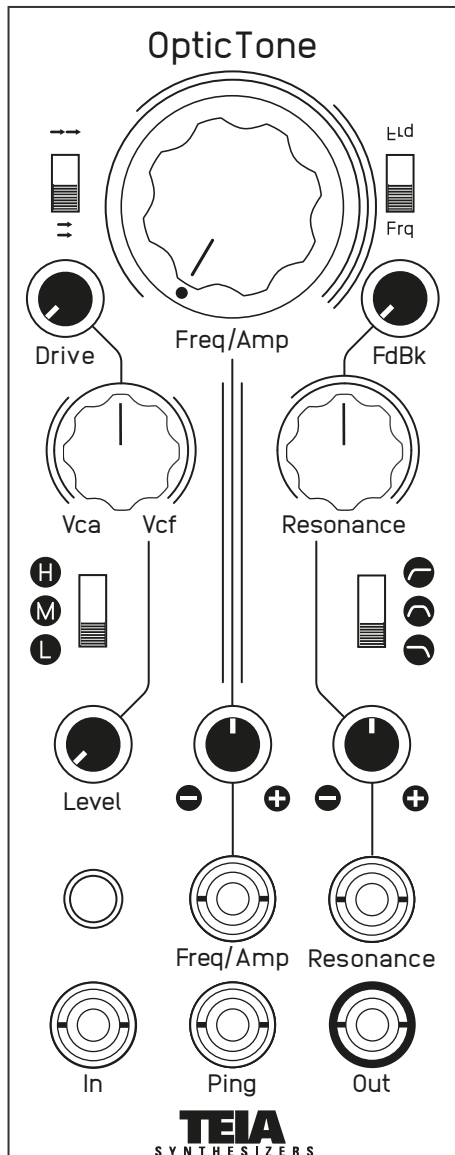
Specs:

- Width: 10 HP
- Depth: 33mm
- Power consumption: 55mA +12 50mA -12
- Eurorack Format
- Doepfer power connection



Panel Interface

- 1 VCA Amplitude and VCF Frequency offset
- 2 VCA & VCF Mix knob
- 3 Resonance
- 4 Pre-VCA/VCF Overdrive
- 5 Feedback knob (resonance tame)
- 6 Filter Range High, Mid, Low. High is the full filter Range.
- 7 Filter state (High Pass, Band Pass, Low Pass)
- 8 VCA & VCF in parallel or in series switch
- 9 Invert filter frequency course (If VCA goes up, VCF goes down)
- 10 Input Level
- 11 CV attenuator-inverter
- 12 Audio input
- 13 VCA Amplitude and VCF Frequency voltage control input
- 14 Resonance voltage control input
- 15 Ping input for percussive sounds
- 16 Output
- 17 Resistive touch element



Patch tips

1 LPG Pluck

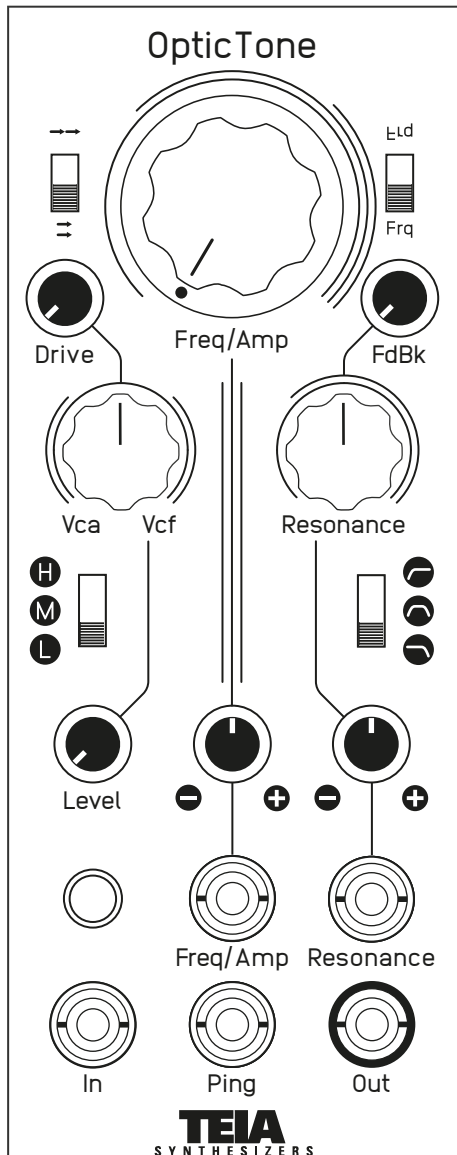
- Close Freq/Amp all the way down.
- Set Filter mode to Low Pass.
- Switch the Vca/Vcf switch to parallel mode.
- Set filter mode to Low Pass or Band Pass.
- Set filter Range switch to taste. High is the full filter Range.
- Set Frq switch to Not inverted.
- Send a melody to the Audio Input.
- Send a trigger (around 20ms) to Freq/Amp CV input.
- Adjust Pluck range with Freq/Amp attenuator-inverter knob.
- Adjust Vca/Vcf knob an resonance to taste.

2 Ping a Kick

- Set Jumper on the back "Ping to CV" to On.
- Set Vca/Vcf knob to Vcf.
- Switch the Vca/Vcf switch to parallel mode.
- Set filter mode to Low Pass or Band Pass.
- Set filter Range switch to taste.
- Set Frq switch to Not inverted.
- Send a clock signal (gate ,trigger, LFO etc) to the ping input.
- Set resonance to maximum, this will be your Decay control.
- Tune Freq/Amp knob to a lower frequency.
- Adjust Freq/Amp attenuator-inverter knob to desired "bend".
- Fine tune to taste with the FdBk knob.

3 Ping a Hi-Hat

- Set Jumper on the back "Ping to CV" to On.
- Set Vca/Vcf knob to Vcf.
- Switch the Vca/Vcf switch to parallel mode. (To ensure the VCA shuts the noise before the filter)
- Set filter mode to High passPass.
- Set filter Range switch High (H).
- Set Frq switch to Inverted.
- Send a clock signal (gate ,trigger, LFO etc) to the ping input.
- Send a Noise signal to the audio input
- Set resonance to taste.
- Tune Freq/Amp knob to a lower frequency.
- Adjust Freq/Amp attenuator-inverter knob to desired "bend".
- Fine tune to taste with the FdBk knob.



Jumpers on the Back

The OpticTone MK2 includes three jumper switches on the back of the module, allowing you to customize its performance. These jumpers enable you to fine-tune the behavior of your OpticTone to suit your specific needs.

Resonance Manners Jumper

Polite: This setting uses a diode circuit to tame the resonance, preventing it from overdriving easily.

Uncivilized: In this mode, the resonance will be louder and can overdrive more easily, creating a more aggressive sound.

Ping to CV Jumper

ON: When this jumper is set to ON, the ping input is routed to the Freq/Amp CV path, creating a fast frequency change in the Vactrol and resulting in a "pitch bend" effect. The amount of "bend" can be controlled using the Freq/Amp attenuator-inverter.

OFF: In the OFF position, the ping input will not affect the Freq/Amp CV path.

Crooked Poles Jumper

ON When set to ON, this jumper alters one of the poles in the multimode filter circuit, resulting in an unconventional/wrong filter response.

OFF In the OFF position, the filtering capacitors in the first and second opamp cells remain the same, maintaining the standard filter response.

