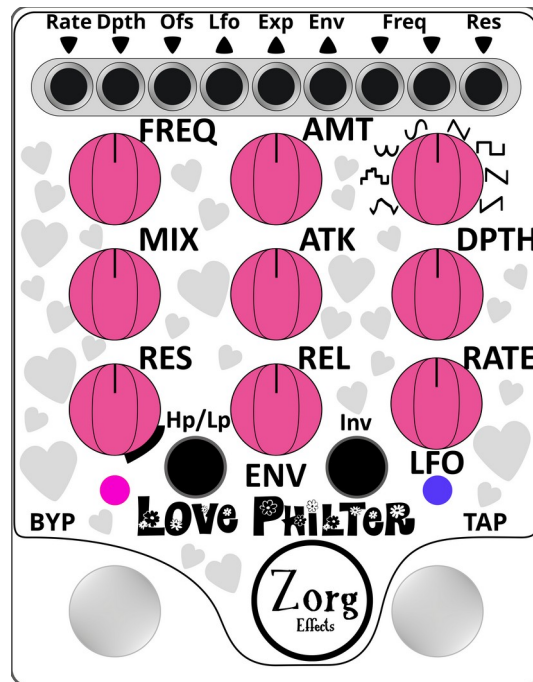# Love Philter mk2
User Manual.

Please read carefully this manual as it tells you everything you need to know about the love philter. Please feed the love philter with a 9v power supply. It'll consume 120mA maximum.

About The Love Philter:

A few years ago there was a brand named Moog that used to build a very cool line of pedals with wooden sides, a lot of CV in/out and very cool features. I found myself a bit dispointed when they were discontinued in 2018 and musicians began to be really frustrated when the 2nd hand market prices of these pedals went BOOM soon after discontinuation.

This Love Philter is my first pedal made to recreate the fun of CV in/out pedals with an amount of controls high enough to challenge your creativity.

It countains three « modules » in one box. First it is a low pass or high pass resonnant filter based on a filter chip used in the Oberheim synths in the 80's. The filter sounds very good, with no loss in the bass band and a very little resonnance raise when sweeping the filter up. Auto oscillation is possible, giving either a perfect sine at the beginning or an overdriven square when pushing the resonnance further. Then an enveloppe module is available with full controls on attack, release and polarity. And third, a LFO module allows to dial between 8 waveforms and set the frequency with a knob or a tap tempo.

And finally, nine CV in/out and an expression pedal are available, allowing you to control almost all the parameters of the pedal and making the love philter not only an auto-wha, or envelope filter, but also a wha-wha, an ahw-ahw, an auto-ahw, a fixed low pass or high pass resonant filter and maybe some kind of 2 stages phaser, a VCO, a lazer gun and more...

As such it can be used on bass, guitars, or anything else, but you should know that the CV input makes it fun with analog synths or mooger-fooger friendly.

# What are all these knobs and switches for?

Filters settings:
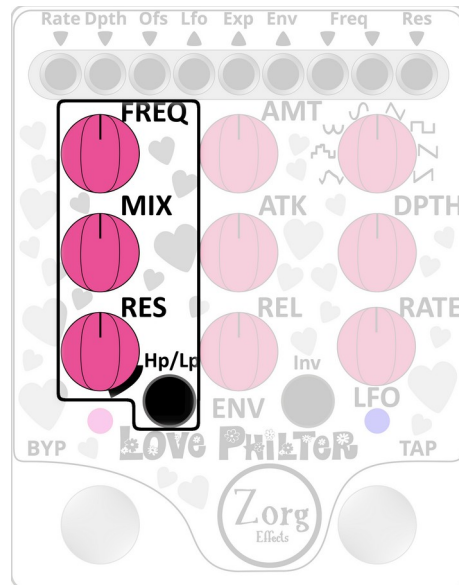
FREQ: Sets the low frequency of the filter. If the filter is supposed to sweep (such as with an expression pedal, or when LFO or enveloppe is dialed in, or when there's a CV input), this will be your starting frequency. The filter has been designed so that this frequency starts at 0Hz up to 15kHz, covering almost the whole audible range. But if set at 0, and there's little to no LFO, enveloppe, CV or EXP, you might not ear anything out of the pedal: the filter cuts everything. This is normal!

MIX: if on full left, there's only the filter's output sound, if on full right there's only the dry sound of the guitar. In between there's a mix of both, with 50% of each in the middle position. It can be fun to add a little bit of dry sound to the filter sound. For example set the resonnance at 60% , then dial in 70% dry sound, and it may sound like a very light phaser. Set the resonnance at 100% and 70% dry signal, you might get a ray gun on top of your clean sound...

RES: set the resonance of the filter. The higher the value the more it will « Wha » until it generates frequencies. You can use the pedal standalone to generate frequencies though low frequencies will have a bit less volume than high frequencies. The black marking on the side of the knob shows the knob range where the pedal will auto oscillate.

HP/LP: with this switch you can make the pedal a High Pass Filter (HPF) of a Low Pass Filter (LPF).

Enveloppe settings:
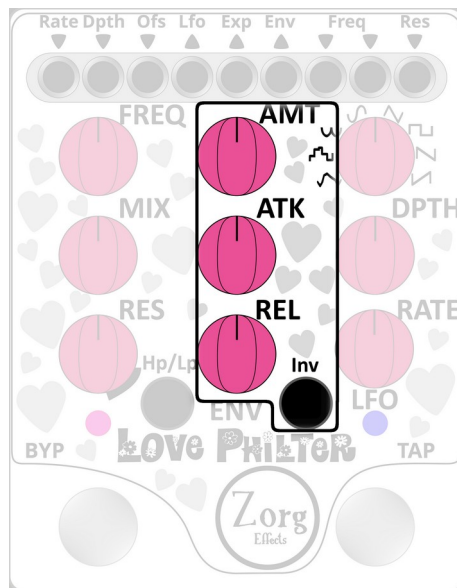
Note that the right blue led will light up according to your enveloppe settings.

REL and ATK: these knobs work together to set the attack (atk) and release (rel) time of the enveloppe created from the input of the pedal. Both settings range from 7ms to 2,36s. Be carefull as some combinations will dramatically lower the enveloppe amount : both knobs at min or max and ATK at max when REL is at min.

AMT: set the level of the enveloppe.

Inv: this switch reverse the enveloppe. When not pushed the enveloppe will start at 0v and can raise up to 5v depending on the AMT setting. When pushed, it reverses the enveloppe that will start from 5v and can drop down to 0v depending on the AMT setting.

LFO settings.
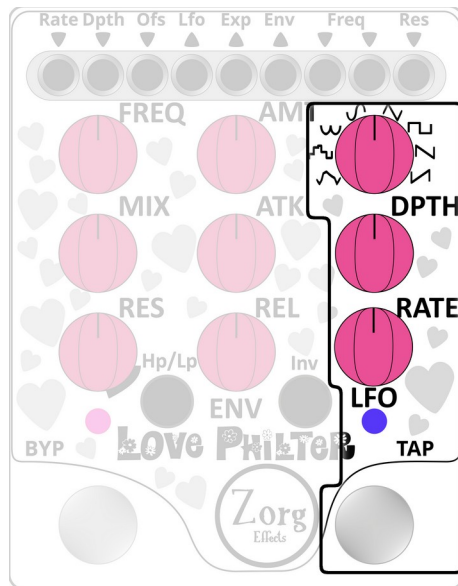
Note that the right red led will light up according to your LFO settings.

Waveforms: this knob allows to setup the LFO with one of the eigth waveforms available. These waveforms are, from left to right: Random smooth, random stepped, half sine, sine, triangle, square, saw (down), saw (up).

RATE: adjusts the frequency of the LFO. The frequency of the LFO can also be changed with the TAP footswitch. The LFO rate ranges from

DPTH: set the level of the LFO.

WHaT aRe THeSe PLUeS FoR?

Top vertical side plugs (6,35mm):

Input: plug your instrument here.
Ouput: output of the pedal.
Exp: this is an expression pedal in. Any expression pedal can be plugged in here. The range of the expression pedal can be changed with a small trimpot inside the pedal.
DC: supply power plug.

Top CV plugs (3,5mm):

These CV inputs/outputs will give or take control voltages with amplitudes from 0v to +9v. This is for interfacing with mooger-foogers, euroracks synths modules or whatever else.
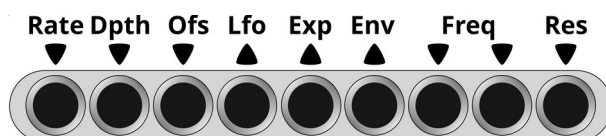
Rate: Input- controls the LFO rate.
Dpth: Input - controls the LFO amount.
Ofs: Input- controls the LFO offset.
Lfo: Output- LFO output CV. This output is internally wired to the Freq input. If a jack is plugged in, the internal wiring to Freq is turned off.

Exp: Ouput- this CV is controlled by the expression pedal. This output is internally wired to the Freq input. If a jack is plugged in, the internal wiring to Freq is turned off.

Env: Output - this the CV made with the enveloppe module. This output is internally wired to the Freq input. If a jack is plugged in, the internal wiring to Freq is turned off.

Freq: Inputs - these two inputs CV will control the cutoff frequency of the filter. You can use one or both inputs as you wish, they'll sum.

Res: Input- this input will control the cutoff resonnance of the filter.

IMPORTANT STUFF TO REMEMBER:

When there's no patch jack in the CV outputs Lfo, Exp,and Env, they're wired directly to the filter's frequency control. If a jack is plugged in, the direct link is removed.

All CVs will add up. So you dial in a bit of LFO amount and a bit of enveloppe level, they'll add up.

You should totally try to plug a patch jack to control the LFO rate or depth with the enveloppe, or map the expression pedal to the LFO rate !

Well in any case, as you can see: experiment is the key!

PRESETS: