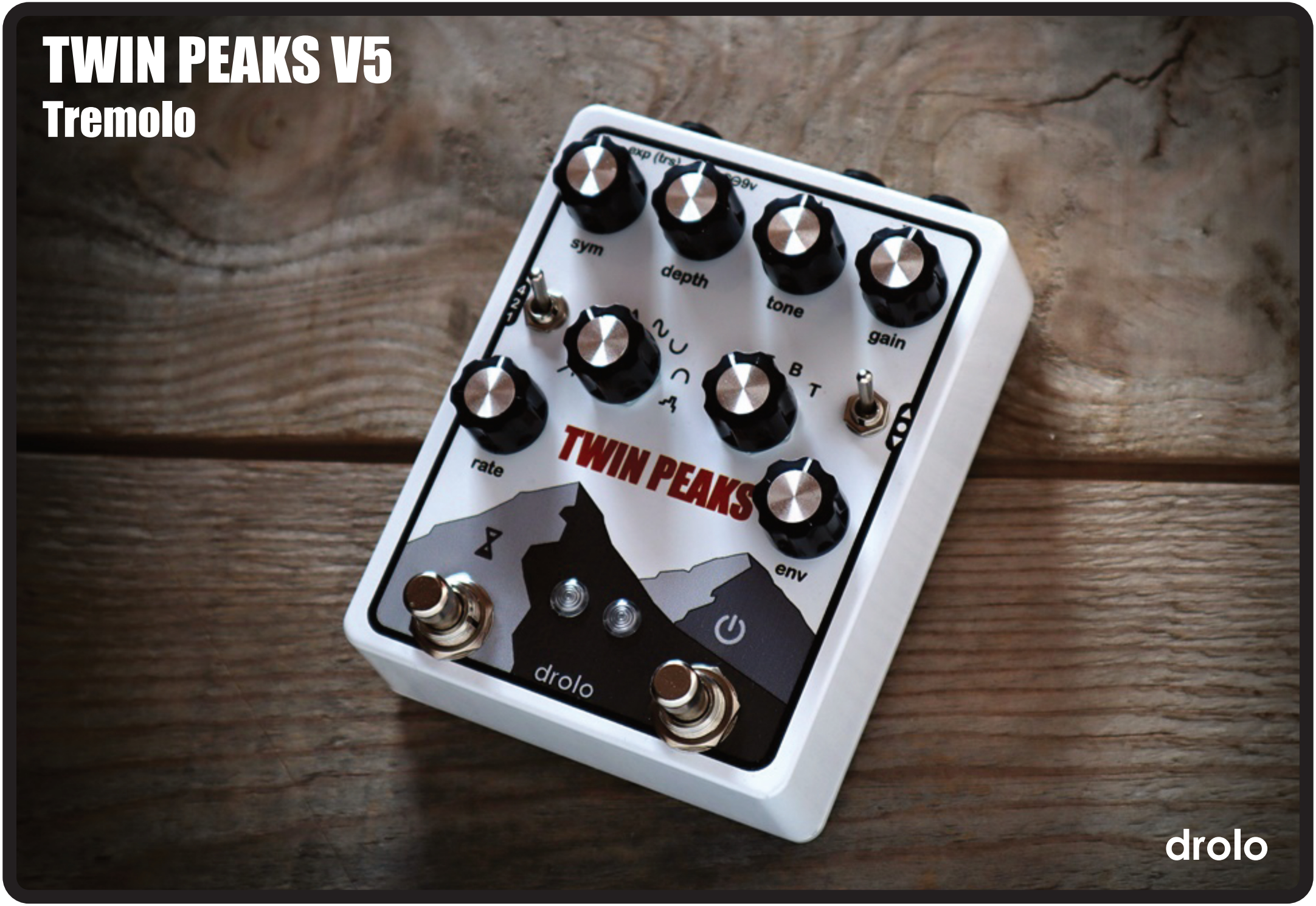
TWIN PEAKS V5

Tremolo



Twin Peaks is a tremolo that consists of two separate analog audio paths whose volume can be modulated. One is a low-pass and the other a high-pass filter. When you modulate both in sync it sounds like a regular tremolo where the whole audio spectrum is modulated at once. When you modulate them out of sync your output signal will pan from the low pass to the high pass signal and you will get interesting phasing effects where the two filter curves meet. This is what is usually referred to as a harmonic tremolo.

While the Tap tempo and LFO functions are digital, the audio path is 100% analog. The tremolo effect is achieved using optocouplers.

There are 4 tremolo modes:

V : Volume modulation, your classic tremolo

F : Frequency modulation, harmonic tremolo

B : Bass modulation only, with fixed treble

T : Treble modulation only, with fixed bass

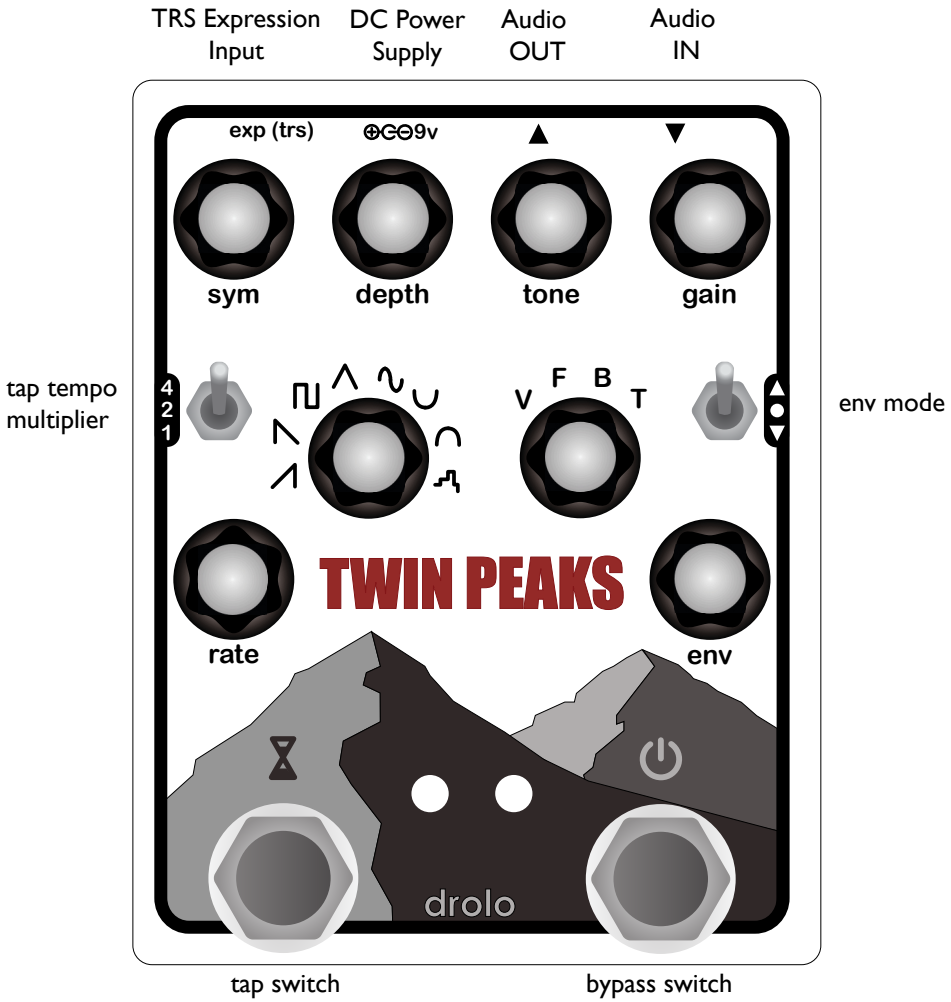
The LFO has 8 available modulation shapes:
Sawtooth, Reversed Sawtooth, Square, Triangle, Sine, Hypertriangle, Reverse Hypertriangle, Random Levels

New in V5 is the envelope control of the rate. This allows you to dynamically control the rate with your playing intensity.

Power Supply:

The power supply needs to be 9V/100mA center negative like the common BOSS power supplies:

Make sure the polarity of your power supply is correct or it will damage the pedal. Do NOT run at higher voltages.
As the pedal uses a digital processor operating at high frequencies, you may hear some high pitched noise if you use it together on the same power supply with other pedals (daisy chained) even when it is bypassed. The noise can bleed through the power supply into the other pedal's signal. This is normal for such devices. It might not be the case in your particular setup but if you notice that, I would suggest using an isolated
power supply.



bypass switch:
The pedal uses a relay (true) bypass. and soft momentary switches. If you give it a short tap (<0.3sec) it acts in latching mode.
If you press it for more than 0.3sec a you are in momentary mode.

tap tempo switch:
Tap in the desired tempo and use the multiplier switch to set its range.
Tip: If you tap the switch just once the LFO will reset to the start of the wave cycle.

rate:
Adjusts the rate of the LFO. You can set its range with the multiplier switch.

tap tempo multiplier switch:
Allows you to set the range of the manually adjusted rate or multiply the tapped tempo by 1, 2 or 4.

env:
Adjusts the sensitivity of the envelope detector that will affect the LFO rate. The higher you set it, the more your playing will vary the LFO rate.

env mode:
If set to the middle, it deactivates the envelope detector. If set to up: The rate will increase as the signal incresases. If set to down: The rate will decrease as the signal increases.

sym:
The symmetry knob allows you to skew the shape of the LFO to the left or the right. When using the square wave, you can set the length of the "off" in regards to the "on" periods.

depth:
Sets the depth of the modulation.
Tip: if you turn depth completely down, you can use the pedal as a filter using the tone knob and even have a substancial boost available, adjustable with the gain knob.

tone:
Adjusts the balance between the bass and treble signals.

gain:
Adjusts the overall volume.

exp input:

Can be used to externally control the rate. When an expression pedal is connected, the rate knob can be used to define the max setting of the expression pedal.
Most commercially available expression pedals using a TRS plug should work. The value is not really critical, although I would not go lower than 10k.
Some examples are the Moog EP-2, Roland EV-5, and M-Audio EX-P.

You need to use 1/4 inch TRS (Stereo) plugs and cables. NO MONO PLUGS OR CABLES! These will short out the voltage regulators inside the pedal and damage it.

Here is how such a TRS plug looks like.

- tip: controlling pin
- ring: 5V supply voltage
- sleeve : ground

If you really know what you are doing you can actually use a control voltage instead of a resistance based controller. But you need to consider the connections and never exceed 5V. If you do you will damage the pedal. Use a TRS plug. No Mono plug. TRS, not MONO :)

If you have any doubt when deciding what to connect to the expression input please send me an email and I will verify that everything is safe.

Notes about the pedal placement in your chain:

As with any tremolo pedal, if you are after choppy on/off action, you will get better results placing it after dirt pedals, although it does a pretty good job in front of them too.

Given the filtering nature of the harmonic mode, you might find that it sounds more natural and less dramatic before dirt. Then again, drama might just be what you're after ;-)

Enjoy your pedal and thanks ! David

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