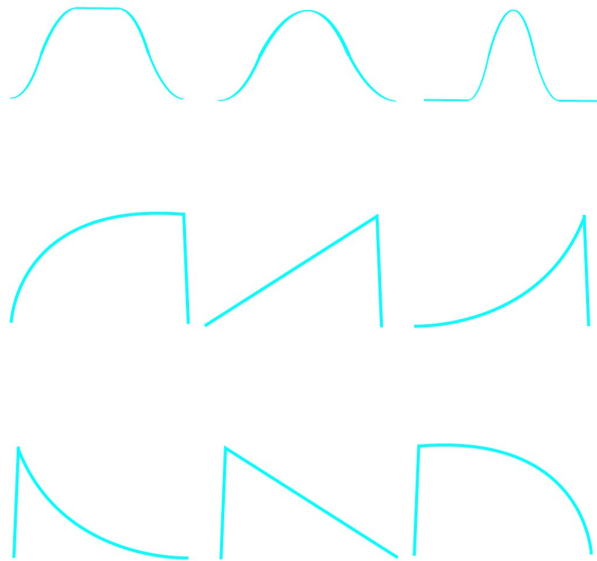


VARIABLE STATE TREMOLO

CONTROLS:

SHAPE: This stretches or squashes the waveform. When set at 12 O'clock the setting is neutral and the waveform is output exactly as selected. Shifting to the left the waveform is squashed (so more off than on) while shifting to the right stretches the waveform (so more on than off). In square wave this control adjusts the duty cycle (on vs off time).

SHAPE CONTROL



WAVE: Selects the waveshape, as indicated by the waveshape LEDs.

LEVEL: Gives close to unity at 12 O'clock, can be boosted to combat any apparent volume loss.

DEPTH: Controls the attenuation or filter cut frequency. In tremolo mode attenuates down to -50dB.

SUBDIVISION/SPEED: To change tap tempo subdivisions hold the tap switch then turn to the desired position. With the tap tempo not held this control will operate as a standard speed control. Note this functionality changes when in multi tap mode see details below.

RANDOM: Adds noise to the LFO. A second parameter the random frequency can also be adjust by holding the tap tempo then adjusting the random control, to the left sets a fast frequency while to the right a slow frequency.

MULTITAP

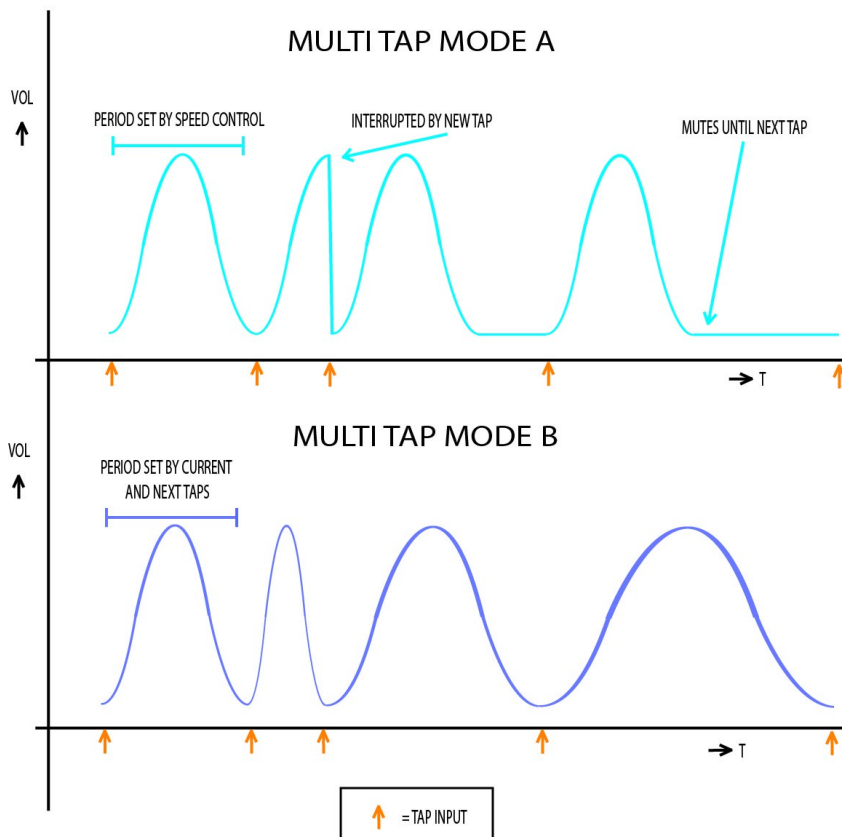
In standard tap mode only a steady beat can be tapped in. Multi tap allows rhythms to be tapped in and repeatedly looped. To switch to multi tap mode hold the tap tempo button for two seconds. After releasing the tap switch the five waveshape LEDs should invert (turn mostly ON). To switch back into normal tap tempo just hold the tap tempo switch again for two seconds and the waveshape LEDs should return to normal.

Once in multi tap mode you can tap in any rhythm, note the time between two taps must be less than four seconds. Up to 64 taps can be recorded.

There are two multi tap modes available. In multi tap mode A each tap acts like a trigger causing a waveshape to be output. The period is the same for each trigger which is set by the SPEED control.

In multi tap mode B the period is set as the time between the corresponding two taps. In this mode the SPEED control can speed up playback. Setting it fully left will loop in the time it was originally tapped, while as you turn right this will be subdivided (and so speed up).

To switch between A and B the device must be powered off, hold down the tap tempo switch and power on. Keep holding for four seconds, once powered up the multi tap mode will have switched from A to B and vice versa.



CV/Expression Input

Depth, speed, random and shape can be controlled via expression. To set change the mode hold the tap switch then rotate the shape control to the desired position. An additional mode “slave” is used if you want to control the device directly from another device. If an expression pedal is attached it will act like an active volume(or filter) control pedal.

CV/Expression Tuning

Due to the variations between different expression pedals and CV voltage outputs levels a setup procedure can be run at startup to tune the CV in for the connected device. First unplug power from the unit attach your device to the expression pedal input and power it up while holding the tap tempo switch. Now either send out a CV HIGH signal (+5V) and a CV LOW signal (GND) or on an expression pedal sweep the entire range. Release the tap switch when done and the tuning is complete. This setting will be saved and recalled and will only need to be readjusted if attaching a new device.

CV Output

This outputs a +5V to 0V representation of the LFO to the tip.