

# t-generator



## QUICK OVERVIEW

**t-generator** takes the concept of merging modulation sources and destinations into a single module.

**t-generator** is a multi-parameter Thru-Zero FM VCO.

Three independent outputs:

- Triangle oscillator.
- Morphable square oscillator.
- Pure sine oscillator with a warm sounding and harmonically rich wavefolder.

Four independent lightstrips engines controlling four sound sculpting parameters.

Bring life to your patches with free running or resettable custom drawn modulation.

Maximum automation recording length of 20s for each parameter.

V/Oct, Thru-Zero FM, PWM and FOLD modulation inputs.

The integrated touch lightstrip controllers can drive four parameters with looping or one-shot recording playback mode on each track with global RESET input.

PW and MRP are dedicated to the square oscillator, changing the PWM and the morphing of the wave. Increasing the MRP value add progressively a detuned 2nd square oscillator, a square sub oscillator and finally injects also the sine oscillator, to create a massively rich sound.

VIB is an “unconventional” Vibrato. It starts from a subtle vibrato effect and reaches into S&H frequency modulation territories.

FLD is the folding for the sine wave.

The value of modulation inputs that share the same name (slider, pot and CV in) are summed.

### INSTALLATION

Use the supplied power cable to connect the module to your system.

Be aware of the red stripe!

Simply house the module in your Eurorack case, fix it in place with the supplied screws and washers and you are ready to go.

The module is 8 HP wide.

### POWER REQUIREMENTS

150mA on +12V

20mA on -12V

### CONTACTS

Website: [www.sound-machines.it](http://www.sound-machines.it)

Email: [info@sound-machines.it](mailto:info@sound-machines.it)

### REGULATORY

Product: soundmachines t-quadstrip



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- HOLD/REC BUTTON:** Use this touch button to switch between the different behaviours for each of the touch sliders.

**A.LIVE** When the LED is not on, every time the user touches the slider, the value is read based on the finger position, but when the finger is lifted, the value returns back to zero (read as to the default bottom position).

**B.HOLD** - Press it once (the LED stays lit) to set the slider to HOLD mode.

The slider will maintain the last value once the user lifts the finger from the slider. If you press the button again while a value is being held, the HOLD mode will be disengaged, and the LEDs will show that the value read will return to zero (as to the default bottom position).

**C.REC** - To record an automation while keeping your finger touching the slider, press the button to start recording up to 20 seconds of automations. Keep pressing the button for as long as you want the automation to last.

The recording will be stopped and will start looping when the 20s limit is exceeded.

When an automation is replayed, the LED will blink once a second.

Remember that by touching the slider while a recorded automation is being played, the user can always override the value by touching the slider.

The automation will continue in the background, and once the finger is lifted, the recorded motion will return to be in control of the parameter.

**D.LOOPING/ONE SHOT** - An automation can be configured to be either free looping or one shot. By default, the automations are set to be free-running (the LED blinks once a second). When the button is pressed for at least 2 seconds, the LED will start blinking twice every second. This means that when an automation is recorded, it won't be played right away, but it will wait for a gate or trigger signal in the RESET input (see control n°4 later in this paragraph).

When in looping mode, the RESET signal will simply restart the automation playback from the beginning.

- TOUCH SLIDER:** The slider is the core of this module. Use it to dial in the parameters for the various controls, with the increasing value going from bottom to top.

- PARAMETER SWITCH:** The LEDs indicate the parameter you are currently seeing and controlling with the slider. By tapping on it repeatedly, you can cycle between the four parameters, and the LEDs will light up for the relative parameter.

This button is also used to determine if a slider has to be excluded from the RESET input by keeping it pressed for 2 seconds.

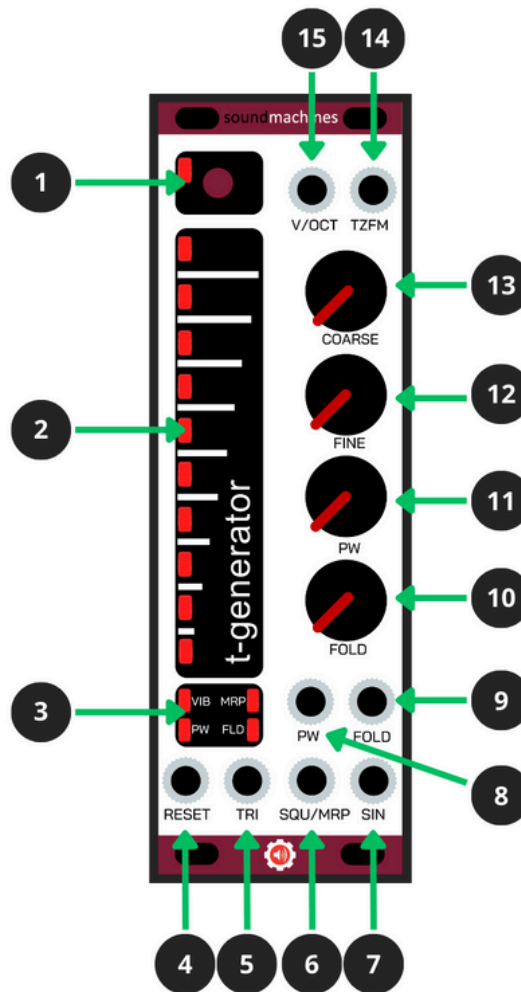
For example, if you want to exclude the MRP automation from being triggered or reset by a gate signal in the RESET input, starting from the first power up, press the button once (the LED should now be lit for the MRP parameter), and then keep the button pressed for at least 2 seconds. The four LEDs will blink three times, indicating that the reset input won't affect the automation playback.

Here are the parameters that can be controlled with the sliders:

- VIB:** Unconventional vibrato that starts from a subtle vibrato effect and reaches random S&H frequency modulation territories for organic noises.
- MRP:** The morphing parameter for the Square oscillator (see the relative explanation below).
- PW:** PWM (Pulse Width Modulation) for the Square oscillator (see the relative explanation below).
- FLD:** Wavefolding for the Sine oscillator.



# t-generator USER MANUAL



- RESET INPUT:** When a gate or a trigger is sent to this input, every automation lane that are set to be affected by the reset (see "3. PARAMETER SWITCH") will start from the beginning.

- TRI:** The triangle oscillator output.

- SQU/MRP:** The square oscillator output. The relative MRP (MORPH) parameter that can be modulated with the slider, allows you to smoothly morph a normal square wave into an increasingly harmonically rich sound. Starting from the bottom (lowest value), that is a square wave, the output will have a 2nd detuned square osc added, then a square sub and finally also the sine oscillator output will be added. The total Morphing and PWM value amounts are the sum of all the modulation inputs that share the same name (slider, potentiometer and CV in).

- SIN:** The sine oscillator output. The on-board wavefolder allows to obtain harmonically rich and warm sounds. The total folding amount is the sum of all the modulation inputs that share the same name (slider, potentiometer and CV in).

- PW CV INPUT:** Feed CV into it to change the PWM value. The final PWM value will be summed with the slider and potentiometer.

- FOLD CV INPUT:** Feed CV into it to change the FOLD value. The final folding value will be summed with the slider and potentiometer.  
Tip: when the overall FOLD value is low, no sound will come out from the SIN output. This means that you can use the FOLD CV input to act like a pseudo-VCA!

- FOLD POT:** Manual control for the sine oscillator folding parameter. The total folding value will be summed with the slider and the relative CV input.

- PW POT:** Manual control for the Square/Morphing oscillator PWM parameter. The total PWM value will be summed with the slider and the relative CV input.

- FINE TUNING POT:** Use this potentiometer to fine tuning the oscillators pitch. All three oscillators are tuned at the same time.

- COARSE TUNING POT:** Use this potentiometer to tune the oscillators pitch. All three oscillators are tuned at the same time.

- TZFM INPUT:** Thru-Zero FM Input. Feed it whatever signal you want to experiment with frequency modulation.  
TIP: try patching one of the T-generator outputs into this input for self-modulation frenzy.

- V/OCT:** The volt per octave CV input.