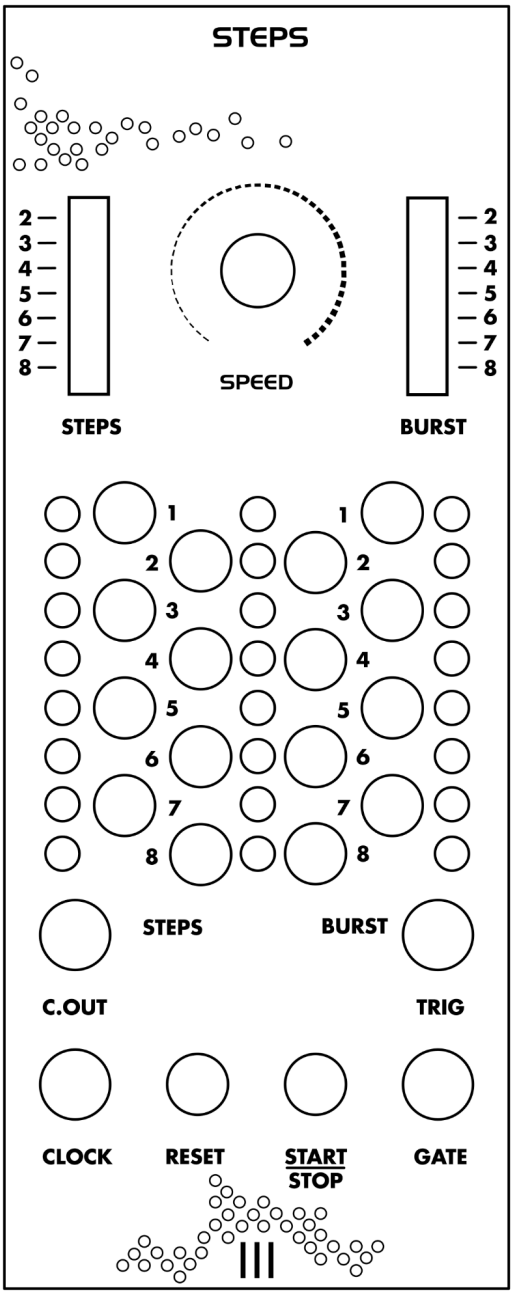
Tre Modular - Steps

User Manual



Thank you for choosing Tre Modular - Steps!

This guide will walk you through the features, and usage of this module.

Steps:

Steps is an analog 8-step clock sequencer and processor that transforms incoming clock signal into a series of unique rhythmic patterns. With features like step selection and burst mode, Steps offers flexibility for controlling modular synthesizers, creating complex rhythmic patterns, and even processing audio signals for unique sounds.

Clock sequencer:

Steps main functionality is a clock sequencer. It takes a clock signal and separates it into eight steps. Each step consists of one cycle where the clock goes high and then low. Each cycle can be selectively turned on or off, or it can be multiplied up to eight times with Burst mode.

When the sequence is stopped on an active step it will let the clock signal pass through. You can manually turn it off or on using the corresponding “Step ON/OFF” button. Same way you can activate burst mode with corresponding “Burst ON/OFF” Button. This is a great way to create dynamic and evolving rhythmic patterns and build tension within your patch.

Since Steps uses PLL(Phase locked loop) circuit for burst mode it takes some time to lock on to the clock signal. Normally it is advised to set the burst mode prior to activating it. But if you want to introduce some randomness in your patch you can feed it an irregular clock signal or actively use the “Burst multiplier” slide switch and it will introduce a degree of unpredictability to your rhythms.

Since the sequence is based on incoming clock signal, the overall sequence will still run in sync with that clock signal. Burst mode replaces a specific step with a multiplied copy of that signal.

Steps accept any signal that goes above 1.5v. It will internally convert it to a square wave that drives the module. On the “C.OUT” output it will output a converted signal. If you input for example a triangle wave that swings above 1.5v it will be converted to a square wave that swings from 0 to 5v. The 'C.OUT' output can be used to clock other modules, drive external devices, or be processed further within your Eurorack system.

Steps has a built-in clock source that is normalled to its clock input. If nothing is plugged in it will run by itself. You can control the speed of the internal clock with the “Speed” knob. The internal clock can go into audio rate, but its control is optimized for low speeds. You will get more control in the lower range than you will in higher. Its speed spans from 0.7hz to 65hz.

This module simultaneously outputs both gate and trigger signals. Both signals swing from 0 to 5v. Trigger signal is ~4ms wide

If used solely as a clock sequencer Steps can be driven as slow as you want but for burst mode to operate reliably the clock signal has to be above 0.5hz.

Sound procesor:

Since Steps works in audio range it can also be used for audio signal processing. The maximum frequency that Steps can output is ~6Khz.

At its most basic it can be used as a frequency divider. You can set the Steps to do only two steps and disable one of them. This will lower the frequency by half. In a similar way you can achieve other divisions and also just skip steps in between. The resulting waveform won't be 50% square rather 25% at 2x division and halved with additional divisions. This results in a unique sounding sub oscillator.

Thanks to the built-in Phase locked loop circuit, Steps can also do frequency multiplication. For example you can stop the sequencer from running and reset it to the first step and activate burst mode for that step. This will activate the PLL circuit. You can select the multiplication amount with the BURST slide switch. Since it uses a PLL circuit it has some inherent delay while it locks to the incoming frequency, it makes for an interesting sounding portamento effect. The greater the distance between incoming frequencies, the greater the time it takes to lock on to the frequency.

Steps lets you combine both multiplication and division. You can experiment with turning individual steps on or off and also the same with multiplication. When done at the same time it results in unique sounds.

Specifications:

Module width: 10 HP

Module depth: 27mm

Clock input: 0v to +2v - +10v

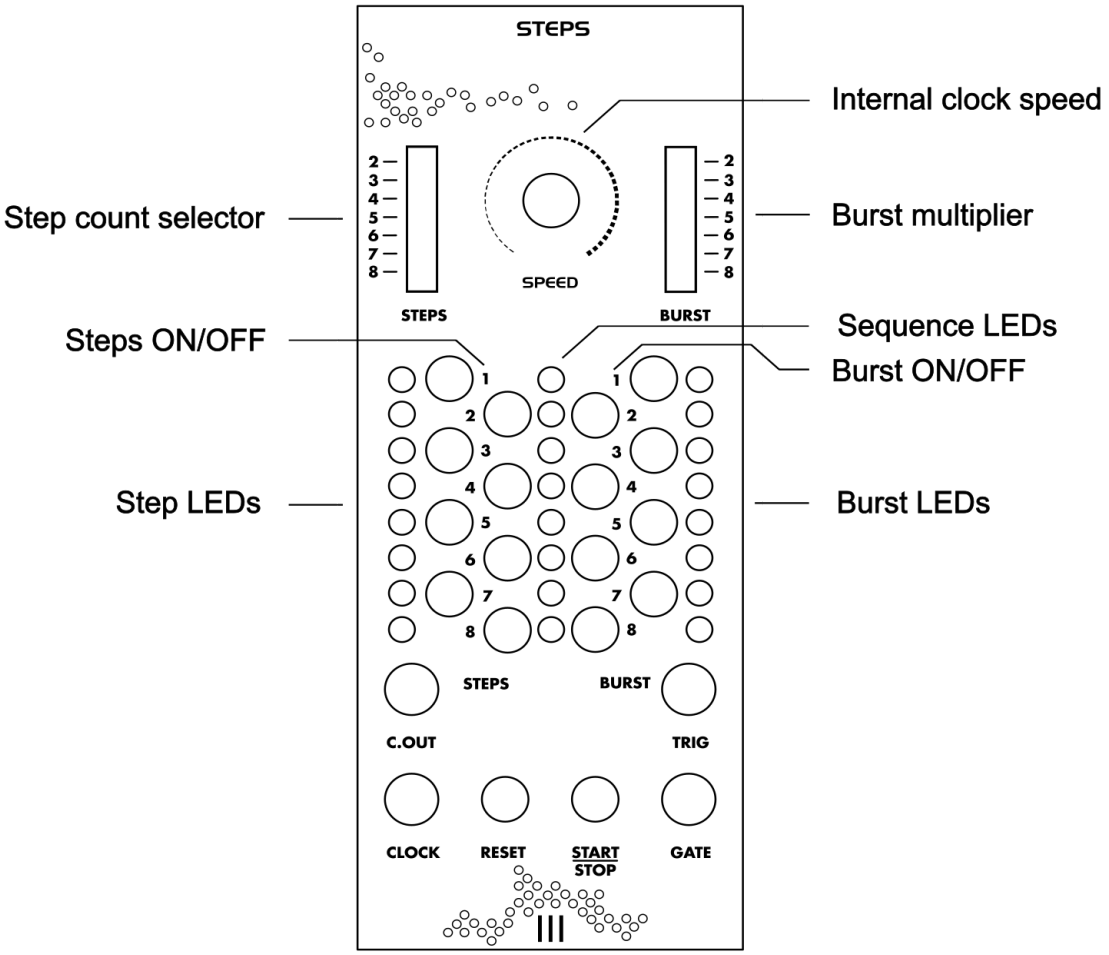
Output: 0-5v

Trigger length: ~4ms

Internal clock speed: 0.7Hz - 65Hz

Operating frequency range: 0.5Hz - 6Khz

Power Consumption: 22mA at +12V / 25mA at -12V



Controls:

Internal clock speed: Adjusts the speed of the internal clock.

Step count selector: Allows to select the amount of steps in sequence.

Burst multiplier: Allows to select multiplication amount of burst mode.

Steps ON/OFF: Allows to turn on or off specific steps.

Burst ON/OFF: Allows to turn on or off burst mode for specific steps.

Reset: Resets the sequence to the first step.

Start/Stop: Stops or starts the sequence.

LEDs:

Sequence LEDs: Displays currently active step.

Steps LEDs: Displays which steps are turned on or off.

Burst LEDs: Displays if burst mode is active on the corresponding step.

Inputs:

Clock: Clock signal input.

Outputs:

C.Out: Outputs copy of the clock signal.

Trig: Outputs trigger signal.

Gate: Outputs gate signal.

Installation:

Power off your Eurorack system.

Insert the module into an available slot.

Connect the power cable, ensuring correct polarity.

Power on your Eurorack system.

Enjoy!

Additional Information:

For any additional questions or support, please contact Tre Modular at support@tremodular.com .

Happy patching!