



## TTLFO v2

a clock synced LFO



# Introduction

Tap Tempo LFO version 2 (TTLFO v2) in its essence is an LFO in which its frequency can be **clock-sync-able** or more importantly through the **TAP** button. This is an upgraded version from its predecessor, in which a new firmware written by GINKOSYNTHESE is used to support the new hardware. It can go wild! All parameters (waveform, multiply or shape/distort) are voltage controllable, giving you the ability to mangel the LFO to all manner of shapes, all while in sync with your clock signal. It is available both assembled or DIY.

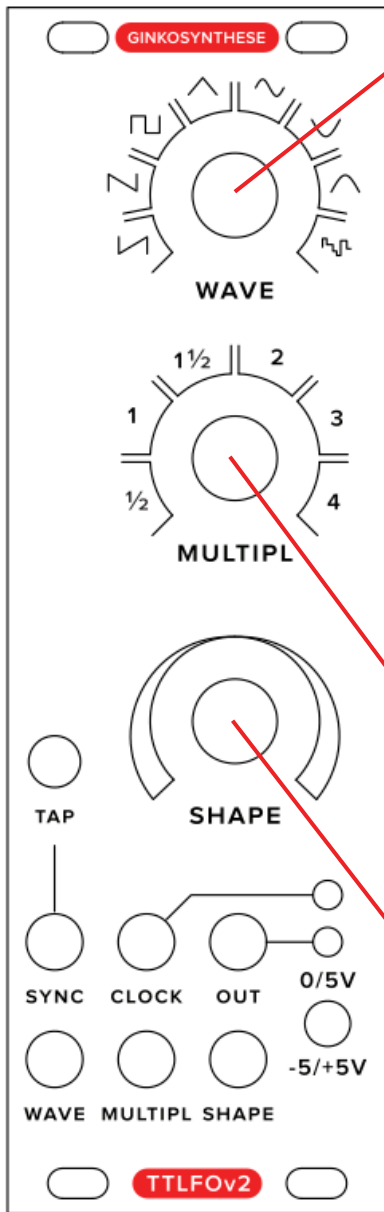
## Overview

- Eurorack size (3U)
- Width: 8HP
- 35 mA+12V, 10 mA -12V (no 5V needed)
- skiff-friendly (only 25mm in depth)

## Installation

Plug one end of your ribbon cable into your bus board (or flying bus board) with a red stripe on the ribbon cable aligned to the side that indicate -12v and the other end to the power header of the module with the red -12V side indicated. PLEASE TURN OFF YOUR CASE POWER before beginning installation or you will risk damaging either the module or your case.

# Interface and Basic Operation



## WAVE

There are 8 available waveforms that TTLFO v2 provides you with (bottom left to bottom right) :

- sawtooth
- reverse sawtooth
- square wave
- triangle
- sine
- inverted full wave rectified sine
- full wave rectified sine
- step random/internal sample & hold

## MULTIPL

This allows you to multiply or divide the internal or sync clock in either 1 (original clock), 1/2, 1<sup>1/2</sup>, 2, 3, 4.

## SHAPE (DISTORT)

This changes the centre point of the chosen waveform, pushing it one side or the other, causing it to change shape and distort. Turn knob to 12 o'clock to retain original waveform.

	CCW	CW

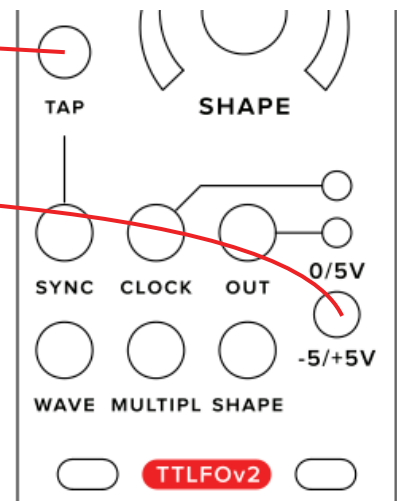
	CCW	CW
	no effect	no effect

## 0/5 V , -5/+5V

Switch LFO output between unipolar (0/5V) and inverted bipolar (-5/+5V).

## Tap

Tap button twice to determine the frequency/rate of LFO. Patch CV/Clock to the **SYNC** input to determine the frequency/rate of LFO externally. The LFO could go down to 19 sec (MULTIPL fully CCW) at its slowest and go close to audio rate (about 20Hz).



## Support

Please visit GINKOSYNTHÈSE website at <https://www.ginkosynthese.com> for the latest news, updates, additional info, firmware updates or via email [info@ginkosynthese.com](mailto:info@ginkosynthese.com).