VOLTAGE RUNNER

a non-linear sequencer

Introduction

VOLTAGE RUNNER (previously known as VCSQ V2) is a complex sequencer that is designed for non linear sequencing. The initial impetus to its creation is to serve as add-on for TTLFO (both the original and V2). What sets VOLTAGE RUNNER apart from other sequencers is that it takes the incoming CV input (preferably a LFOs or other modulation sources rather than to Clock or Trigger) to determine the speed and the step-direction in which the sequencer operates.

Overview

- Eurorack size (3U)
- Width: 12HP
- 19 mA +12V, 3 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.

Add-on to TTLFO

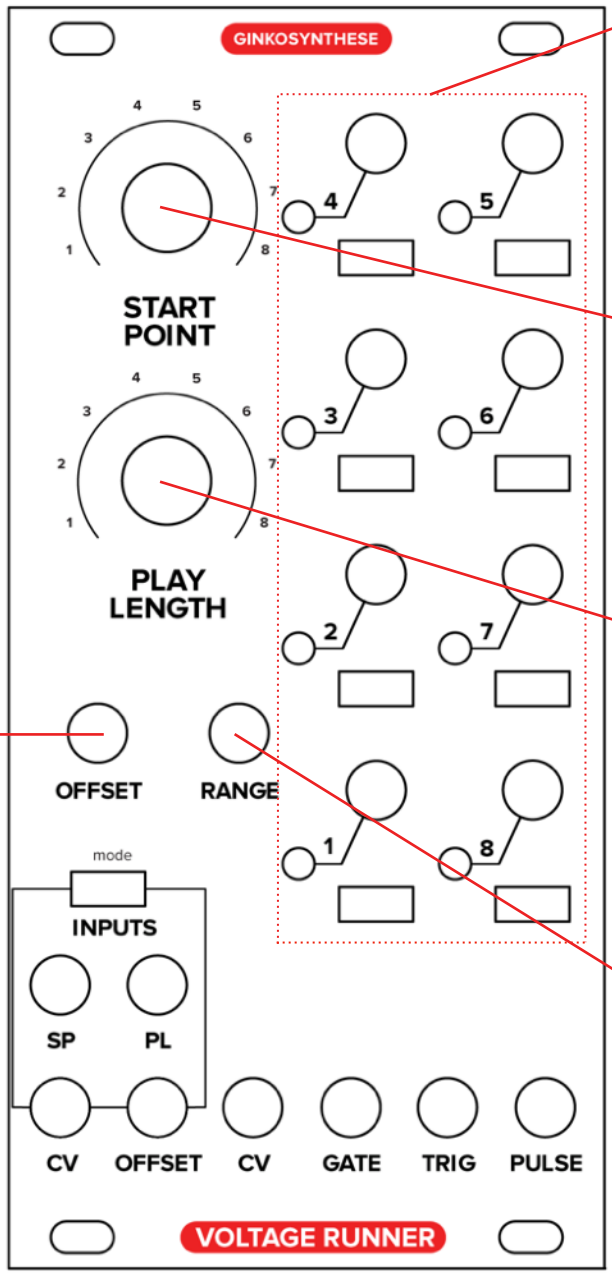
At the back of the module on the bottom right corner, you can install the jumper cable provided in the box to the back for the TTLFO. This will enable the internal routing of TTLFO CV output to CV input of VOLTAGE RUNNER. When. There is also a trimmer behind the module labelled ‘trim’. What it is doing is allowing a minor adjustment to internal max voltage level (5V) of VOLTAGE RUNNER to match the the incoming **CV input**.

Support

Please visit GINKOSYNTHESE website at https://www.ginkosynthese.com for the latest news, updates, additional info, firmware updates or via email info@ginkosynthese.com.

This manual is written by Wilson Leywantono with help of Jan Willem (GINKOSYNTHESE).

Interface and Basic Operation



At its foundation, VOLTAGE RUNNER has a total of 8 steps with individual knobs to control **CV** amount, LED lights indicating the active step, and on/off switches for **Gate** and **Trigger**.

START POINT (SP input)

This allows you to change where the sequence starts within the 8 available steps. The number corresponds with the chosen step. **SP input** takes 0V - 5V.

PLAY LENGTH (PL input)

This allows you to change the length of the sequence from only 1 step to the full 8 steps. When 1 step is selected, the sequencer will stop running and stays at the selected step. **PL input** takes 0V - 5V.

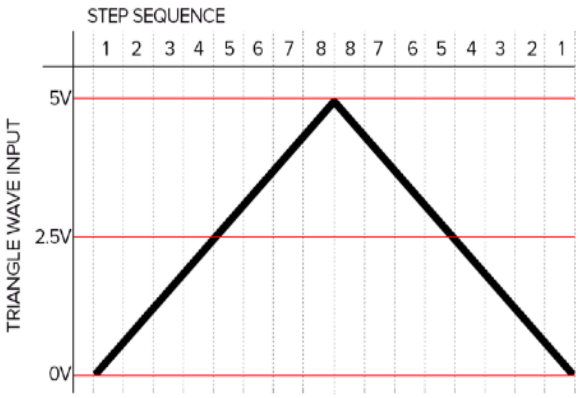
RANGE

This allows you to scale/attenuate the CV output range of all 8 steps of VOLTAGE RUNNER from 0V (no CV output) at CCW to 10V at CW.

OFFSET

This allows you to move the **RANGE** up or down within the full output from 0V at CCW to 10V at CW. E.g. if the **RANGE** is set between 0V - 5V(12 o'clock) , the with **OFFSET** you can move **RANGE** to 5V - 10V (12 o'clock). Thus, CV input to the **OFFSET** you can also make it behave like an arpeggio as the result. **OFFSET** CV input take -5V - +5V.

CV input



To get the VOLTAGE RUNNER's sequence to run, a CV source like an LFO, Envelopes, etc is needed rather than a clock or trigger. Let's use the unipolar (0V - 5V) Triangle wave as an example. In the graph, VOLTAGE RUNNER divide Triangle wave's rise and fall lines into individual 8 step segments. This is because VOLTAGE RUNNER interpret the different CV level into different steps in the sequence. Between 0V - 0.625V for step 1; 0.625V - 1.25V for step 2; all the way to 4.375V - 5V for step 8. Because of this behaviour, with Triangle wave, VOLTAGE RUNNER would behave in a pendulum mode. Sawtooth in normal forward mode, Reverse Sawtooth in backward mode, Square wave only on 2 steps set on **START POINT** and **PLAY LENGTH**, etc.

MODE

mode 1 (switch on left)

VOLTAGE RUNNER divide incoming CV's shape equally to a total of 8 steps regardless if the **PLAY LENGTH** is changed. E.g. If **START POINT** = 1; **PLAY LENGH**T = 5; **CV input** = Sawtooth, then Step Sequence = 1, 2, 3, 4, 5, 1, 2, 3 and back to 1, 2, 3, etc...

mode 2 (switch on right)

VOLTAGE RUNNER divide incoming CV's shape equally according to the chosen **PLAY LENGTH**. When **PLAY LENGTH** = 8, it behaves the same as mode 1, but as you turn **PLAY LENGTH** = 7 or lower, the sequence becomes slower as the result because only 7 (or lower) Step Sequence is playing compare to **PLAY LENGTH** = 8 within the same **CV input**.

GATE, TRIG, PULSE

The on/off switch (left-off, right-on) below each step CV determines the output of Gate and Trigger.

Gate 5V gate output is always high and will not retrigger when multiple switches (one after another) are turn on.

TRIG 5V 10ms trigger output when a switch is on and will retrigger when multiple switches (one after another) are turn on.

Pulse 5V 10ms trigger output that is always triggering on each step independent from the switches.