

# ACL

Audiophile Circuits League  
Musical Instruments Manufacture

## QLFO

### User's Manual

Eurorack Synthesizer Modules



8 HP

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# 1. INTRODUCTION

Audiophile Circuits League. -QLFO is generating an sine wave and 3 phase-shifted copies of it by  $90^\circ$  (cosine),  $180^\circ$  (inverted sine) and  $270^\circ$  (inverted cosine).

The frequency of the LFO can be voltage controlled, the CV input is attenuverted.

You can use the LFO in a wider frequency range, from very low oscillations up to above the audio range. There is another CV-input, which allows the LFO to be pitched by volt/octave, the tracking is good over 2-3 octaves. A interesting possibility is to patch an output of the module to the Rate CV input, so you can create new waveforms that way while still controlling the LFO by the 1V/Oct. Input. Using more than one module, you can create complicated and interesting output waveforms, up to pseudo-chaotic signals, especially, when 2 or more LFO's are modulating each other by pitch.

## 2. WARRANTY

In the event of a fault in use, we will repair or replace it free of charge under the warranty terms stated below. The warranty period is valid for one year from the day of purchase. If repair is necessary, please ask the dealer you purchased it from.

We can not guarantee the incidental damage caused by the breakdown or damage that occurred during use of this product. In addition, warranty will expire in the following cases:

- Failure / damage caused by use of unspecified power supply / accessories.
- Failure / damage caused by incorrect connection or use of power cable.
- Failure / damage caused by improper handling method.
- Failure / damage caused by natural disasters (fire, flooding etc.) and pollution.
- When the cause of breakdown or damage lies in equipment other than this product.
- Failure / damage caused by improper modification, adjustment, parts replacement.
- Failure / damage when used under particularly severe conditions, when loaned/rental/hired out to 3rd party.

### Is it a malfunction?

Please read the user's manual carefully and check again. If you think that there is still a problem, please consult the dealer you purchased from or contact us (English) .

[support@audiophilecircuitsleague.com](mailto:support@audiophilecircuitsleague.com)

# 3. INSTALLATION

## ⚠ WARNING

\*Always turn the Eurorack unit off and unplug the power cord before plugging the Eurorack power cable.

\*When attaching the Eurorack power cable, please be careful not to touch the terminal part.

Connect to the Eurorack's system power supply (+ 12V) using the supplied Eurorack power cable.

Connect the 16-pin connector to the Eurorack power connector. Connect the red mark on the power cable so that it matches the pin on the (- 12 V) side of the power connector.

Connect the 10 pin connector to the shrouded header on the back of the module. The header is protected against reverse-plugging.

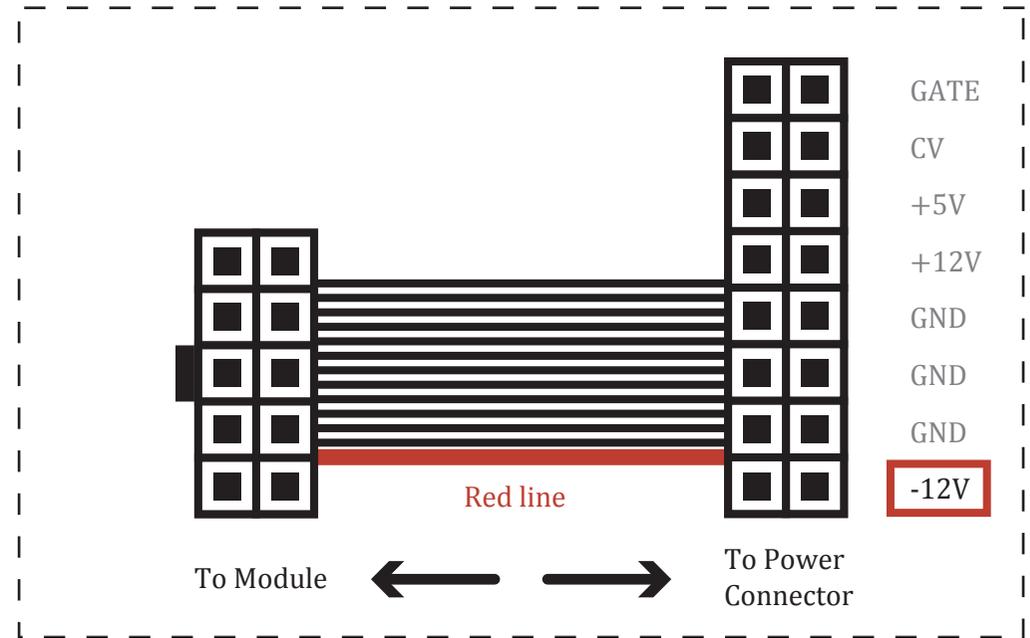


FIG.1 : Eurorack power cable

## 4. FUNCTION OF PANEL COMPONENTS

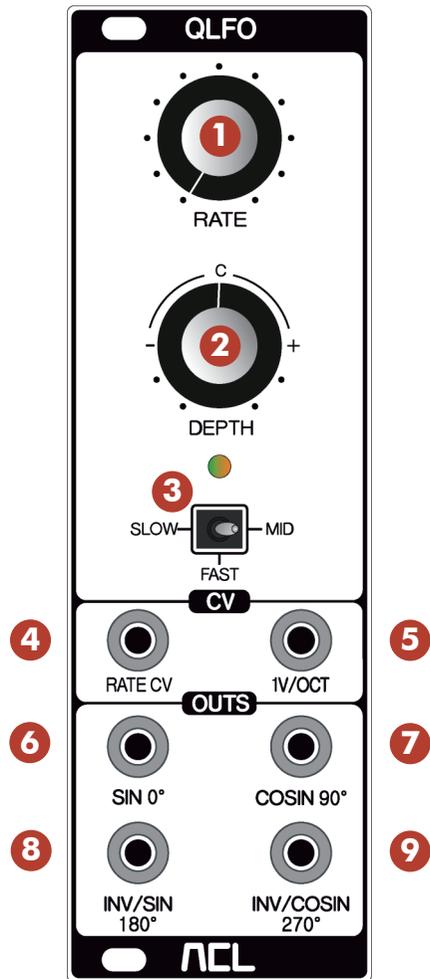


FIG.2 : Front Panel

### ① "RATE" knob

Adjust the speed of the LFO. The range covers frequencies from a fraction of 1 Hz to to more than 20kHz.

### ② "DEPTH" knob

This is the attenuverter for the input level of the CV signal from the ④ "RATE CV" jack.

### ③ "SLOW/MID/FAST" switch

Switch the speed of the LFO in three ranges.

### ④ "RATE CV" input jack

Input the CV signal for controlling the speed of the LFO.

### ⑤ "1V/OCT" input jack

It can be used as a substitute for oscillator when speed of LFO is advanced to audio signal level. Input jack for a PITCH CV signal.

### ⑥ "SIN" output jack

Sine wave output. (See FIG. 3)

### ⑦ "COSIN" output jack

Cosine wave output. (sine wave shifted by 90 degrees)

⑧ "INV/SIN" output jack (inverted sine wave)

Inverted Sine wave output. (sine wave shifted by 180 degrees)

⑨ "INV/COSIN" output jack (inverted cosine wave)

Inverted cosine wave output. (sine wave shifted by 270 degrees)

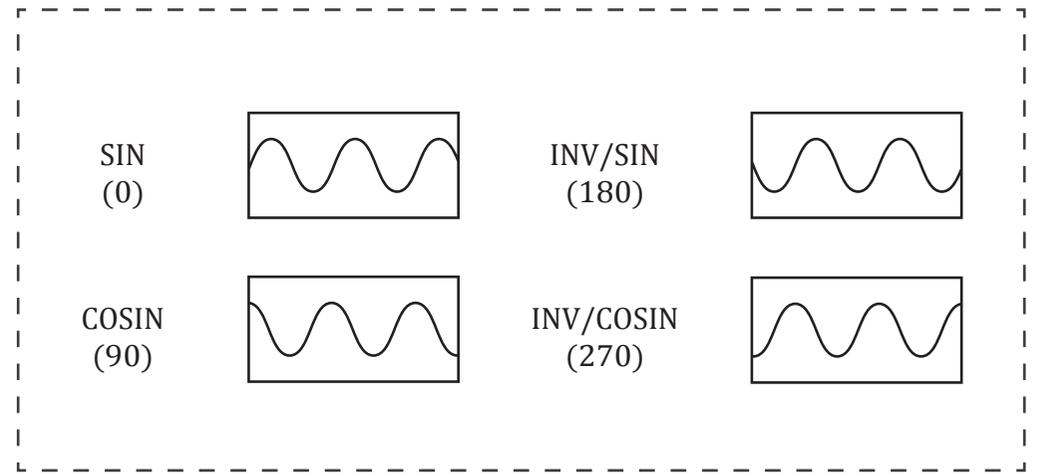


FIG.3 : Output signal type

# 5. SPECIFICATIONS

## Power

Eurorack system power supply

## Width

8 HP

## Depth

22 mm

## Power consumption

On -12V: varying dependent on frequency; ca. 12-28 mA

On +12V: varying dependent on frequency; ca. 12-28 mA

## Accessories

- Eurorack power cable x1
- Mounting screws x2