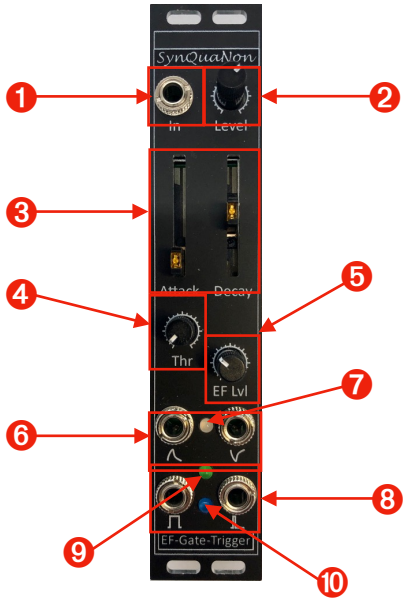
EF-Gate-Trigger

Envelope Follower with Gate and Trigger Outputs

Introduction

Congratulations on your purchase of this SynQuaNon product! It is our belief that our products will enable you to find new and interesting ways to create custom sounds with your synthesizer and other SynQuaNon modules. Check out our full line at www.synquanon.com.

Module front panel overview



❶ Input	DC-coupled input; accepts +/- 12V audio or CV signals.
❷ Input Level	Adjusts the input level fed into the Envelope Follower.
❸ Attack, Decay Sliders	Adjust rise and fall times of the Envelope outputs.
❹ Threshold	Sets the trigger point for the Gate and Trigger outputs.
❺ EF Level	Sets the final amplitude of the Envelope outputs.
❻ EF, EFINV Outputs	EF (0-10V) and inverted EF (-10-0V) outputs.
❼ EF Level/Clip LED	LED is green up to 5V, red from 5V to 10V.
❽ Gate, Trigger Outputs	Gate (0-10V) and Trigger (0-10V) outputs.
❾ Gate LED	LED is on for the duration of the Gate output.
❿ Trigger LED	LED lights during Trigger output.

Overview

The Envelope Follower module is capable of creating control voltages from an audio source, trigger pulses, gate signals and also from other control voltages. It can also generate trigger and gate pulses when the incoming signal goes above a certain threshold. You can adjust the attack and decay response times to generate swells or sustained envelopes. Extract the envelope of an audio signal or change the time characteristics of other control voltages with the SynQuaNon Envelope Follower.

Ideal for guitar or bass single-string processing.

Hand-built in the USA.

Features

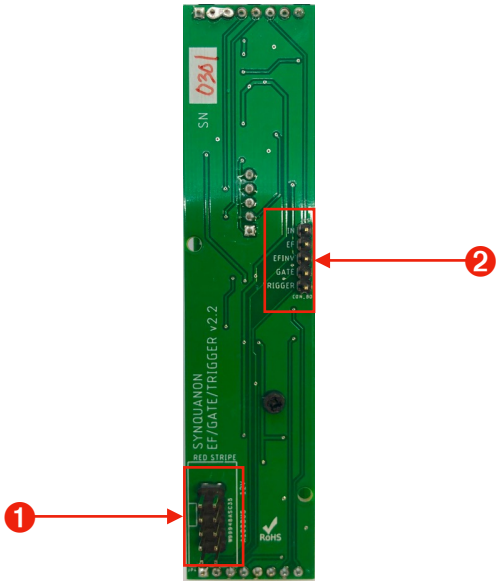
- Accepts audio or CV inputs up to +/-12V.
- Input level, gate/trigger threshold, and EF output level controls.
- Normal and inverted EF outputs.
- Expansion header on back allows this to add a 7th channel to the Hex EF-Gate-Trigger module.
- Pairs well with 13-Pin Input Breakout, Hex VU Meter, Hex VCF, Hex Fuzz Amplifier, Hex VCA, Hex EF-Gate-Trigger.

Suggested Guitar Input Setup

- Ensure that the guitar input signal is not clipping by using the Hex VU Meter or an oscilloscope to adjust the level in the previous stage with the guitar volume control at maximum.
- Set the THR level at about 8 o'clock and the EF level at about 12 o'clock.
- Set the Attack and Decay sliders at their minimum (bottom) levels.

- Play a note with medium pick strength and observe the EF level, Gate, and Trigger LEDs. You should see the blue Trigger LED flash briefly, while the Gate LED stays on for the duration of the note. The EF level LED should turn red at first, then transition to green as the envelope decays.
- Continue to play notes with the same pick strength and adjust the THR level to get consistent triggering (blue LED) as well as maximum gate duration (green LED). Too low a THR level can cause the gate to stay on; if that happens, raise the THR level until the green LED goes out. Note that the circuit will not generate a new trigger output if the gate is still high (green LED). Once a desired THR level is achieved, adjust the EF LVL for the desired envelope output level; A brief period of red at the start is OK.
- Adjusting the Attack and Decay sliders will affect the gate threshold and envelope outputs, so repeat the above procedure to get optimum results.

Module rear panel overview



❶ A100 Bus	Power connection with reverse polarity protection. Red stripe is on top.
❷ Expansion Header	Audio In (pin 1) normalled to front input jack. EF output (pin 2) parallel to front output jack. EF Inverted output (pin 3) parallel to front output jack. Gate output (pin 4) parallel to front output jack. Trigger output (pin 5) parallel to front output jack.

Technical Specifications + Downloads

Width	5 HP	EF Out	0-10V
Depth	37 mm	EFINV Out	-10-0V
Power	32 mA @ +12V	Gate Out	0-10V
	10 mA @ -12V	Trigger Out	0-10V
	0 mA @ +5V	ModularGrid	EF-Gate-Trigger

Reverse power protection, resettable fuses, extensive power supply filtering.

Support

In case of difficulty:

1. Make sure power is available to the Eurorack and that it is turned ON.
2. Check the rear module power connection (turn OFF Eurorack power first).
3. Check patch cables for continuity or shorts.