

# FUJI

## HEXA CORE SLOPE GENERATOR

User Manual

## **LIMITED WARRANTY**

Vostok Instruments warrants this product to be free of defects in material or construction for three years from the date of purchase (invoice required).

During that period, any malfunctioning unit will be repaired, serviced, and calibrated on a return-to-factory basis, with the customer paying the transit cost to Vostok Instruments.

Malfunctions resulting from wrong power supply voltages, backward or reverse power connections, abusive treatment, removing knobs, or any other obvious user-inflict faults are not covered by this warranty, and regular rates will apply.

Vostok Instruments implies and accepts no responsibility for harm to persons or apparatus caused through the operation of this product.

The device intended for repair or replacement under warranty should be shipped in the original packaging only. Vostok Instruments can not take any responsibility for damages caused during transport. So before sending us anything, contact us at [vostokinstruments@gmail.com](mailto:vostokinstruments@gmail.com).

## **INSTALLATION**

Fuji needs a power supply capable of providing 50mA on each of the +12V and -12V rails, and 10HP of free space in your case. We strongly recommend you to check the current consumption of your system on the ModularGrid website and your power supply capabilities before plugging in the module.

To install it, turn your case off and connect the supplied power cable to both the module and your Bus Board, minding the polarity so that the RED Stripe on the cable is oriented to the -12V line on both the module and the Bus Board. Please refer to your case manufacturers' specifications for the location of the negative supply.

Always turn your case off before plugging and unplugging any Eurorack module.

## INTRODUCTION

The world of Envelope generators is a vast field where cultivating a new species is a challenge that gets harder every day.

We have lots of flavors to choose from: from classical ADSR to Serge-based Slope generators, through the newest digitally controlled multi-stage modules.

The concept behind Fuji is not to create a new flavor, but to offer a big amount of the most primary envelope circuit along with some design decisions to make it a useful, immediate, and always musical tool.

The slope of the envelopes is tuned with logarithmic Attack and exponential Decay. This configuration has been used for years as it follows the non-linearity of human hearing, keeping the dynamics changes always pleasant and natural to our ears.

The range of both the Attack and Decay stages is symmetric, getting a minimum and maximum rise/fall time of either 1.5ms to 1.5s. This range has been also tuned to be musical and precise in most applications.

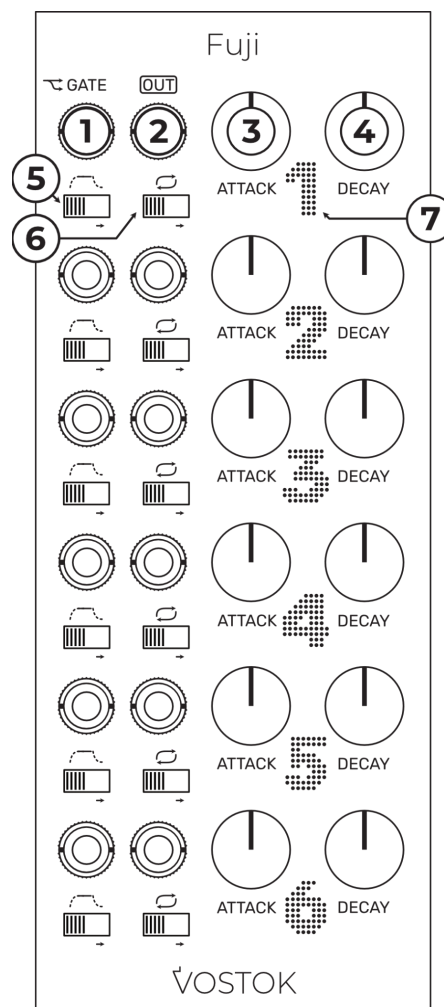
Gate input chaining adds tons of flexibility to the patch. Groups of synced envelopes can be easily made with a few cables.

## TECHNICAL SPECIFICATIONS

- **Size:** 10HP
- **Current draw:** +/-12V: 50mA, +5V: 0mA
- **Depth:** 30mm (including power cable)
- **Envelope Level:** 8V
- **Gate Input Threshold:** 1.5V

## OVERVIEW

1. **Gate Input:** the signal plugged here is daisy-chained to the next channel input.
2. **Envelope Output.**
3. **Attack Pot:** control over the rising time of the envelope.
4. **Decay Pot:** control over the falling time of the envelope
5. **Hold Mode:** activates the AHR mode. The hold time applied in this mode is equal to the Gate length.
6. **LFO Mode:** turns the envelope into a bipolar LFO. The oscillation time is controlled by the Attack and Decay controls.
7. **LED Signal Indicator**



## GETTING STARTED

Fuji is laid out in six identical channels of slope generators. Each channel can work as a two-stage AD envelope, a three-stage AHR, or a bipolar LFO.

As the inputs are connected with an internal daisy chain circuit, several channels can be fired using the same Gate signal, which drastically reduces the number of patch cables and external multipliers needed.

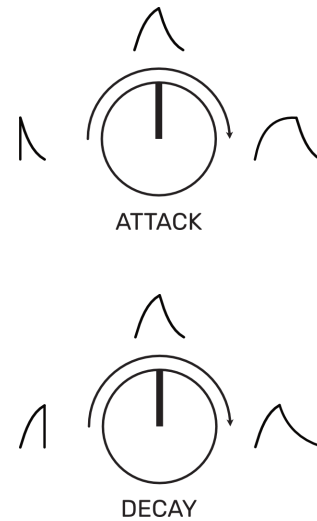
Before starting patching, let's take a deeper look at each function.

## FUNCTIONAL MAP

### AD Mode

This is Fuji's main functional mode. Each channel generates a two-stage AD envelope signal every time a Gate or Trigger signal is present at the Gate Input. The rising and falling time of the envelope is set by the Attack and Decay pots.

Each stage reaches a maximum time of 1.5s, marking the maximum time of the whole envelope at 3s when working in AD mode.



### Hold Mode

In Hold mode, the envelope is sustained at its maximum level within a time determined by the Gate length.

To activate it, move the Hold switch to the right position. Be aware that if the channel is in LFO mode, Hold mode is disabled.

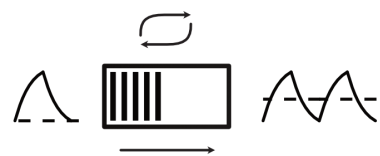


### LFO Mode

Each Fuji channel can work as a triangle-like low-frequency oscillator (LFO). To activate it, move the LFO switch to the right position.

The shape and frequency can be set by the Attack and Decay pots.

In this mode, the amplitude of the envelope turns from unipolar (0-8V) to bipolar (+8/-8V).



### Daisy-Chain Operation

By default, Fuji sends the signal present at each Gate input to the next one. To break the chain, patch a cable on the desired input.