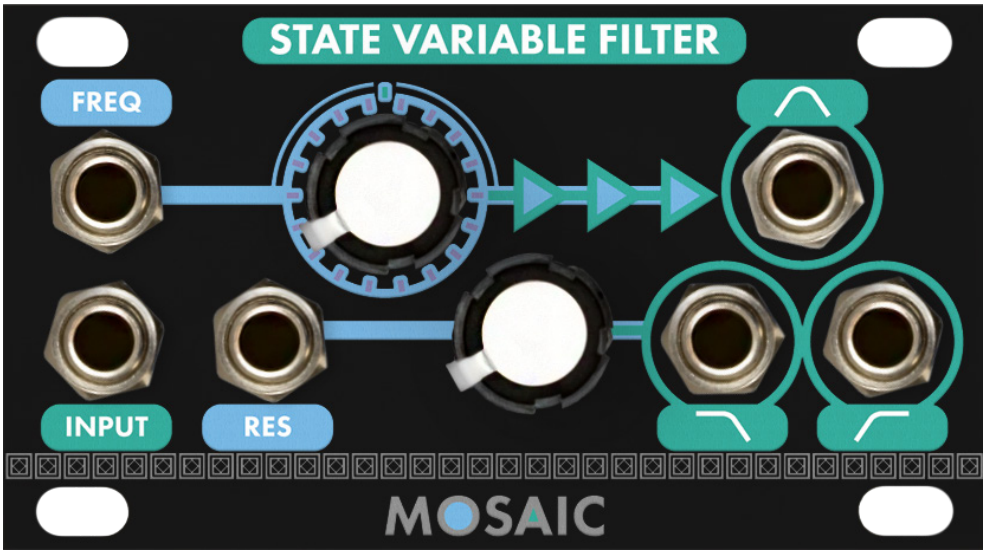
# STATE VARIABLE FILTER

Manual

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# THINGS TO KNOW

## What is 1U?

1U is a measurement of height in the 19" rackmount standard. Eurorack modules adhere to 3 rack units, or 3U. Mosaic tiles adhere to 1 rack unit in height, and require appropriate rails to mount in a rack or modular case.

## What 1U format are Mosaic modules?

We ship our modules with Intellijel 1U formatted front panels. If you use the Pulp Logic format, don't worry! You can purchase Pulp Logic replacement front panels on our Replacement Panels page.

## Mosaic Color Guide

Each color indicates a function across the Mosaic lineup.

**Green**: Audio Signals

**Purple**: Gate Signals

**Blue**: Control Voltage



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# OVERVIEW

## Description

Shape your sound subtly, or intensely with the State Variable Filter! SVF is an all analog, tri-output 12db sloped OTA filter with voltage controlled resonance. With simultaneous outputs of lowpass, high pass, and bandpass outputs, any signal can be expanded and changed from smooth and creamy to squelching at a moment's patch. Bring the iconic analog sound shaping tool to your patch today!

- all-analog state variable filter
- 12db slope
- Simultaneous Lowpass, Highpass, and Bandpass outputs
- CV over cutoff frequency and resonance

## Tech Specs

- Width: 14HP
- Depth: 38mm
- Front Panel: Ships in Intellijel format. Pulp Logic replacement panels available here.
- Current Consumption: +12V = 55mA, -12V = 55mA

## Installation

To install, locate space in your Eurorack case for your 1U module, and confirm the positive 12 volts and negative 12 volts sides of the power distribution lines. Plug the connector into the power distribution board of your case, keeping in mind that the red band corresponds to negative 12 volts. In most systems, the negative 12 volt supply line is at the bottom. The power cable should be connected to the module with the red band facing the front of the module.

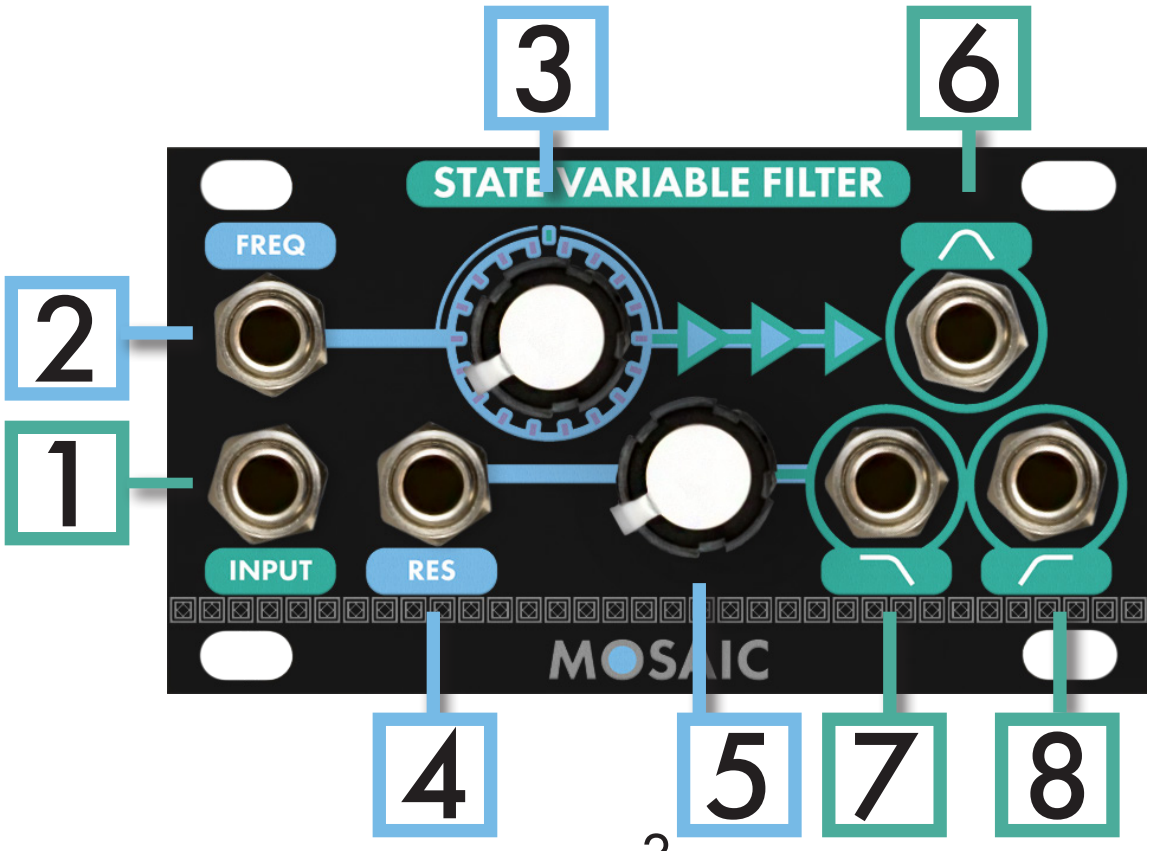
# DETAILS

## How It Works

The three types of filters available in an analog SVF are: Lowpass, Highpass, and Bandpass. In a lowpass filter, the signal's frequency is cut off starting at the higher frequencies, and sweeping to the lower frequencies. A highpass filter works in the opposite way, sweeping from low frequencies to high. When using bandpass filter, both the low and high frequencies are cut off, emphasizing the midpoint between the two slopes.

The key difference between a SVF and something like a multimode filter is that the varying filters can be outputted simultaneously from a state variable filter, lending itself to all sorts of sound design possibilities. Not only are you filtering one sound three different ways, but you can also patch those ouputs to different signal paths. Send your sound all over your system, while having a master filter control to dynamically change your patch with a single knob turn!

## Diagram



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# DETAILS

## 1. Audio Input

Audio input to be filtered.

Range: 10vpp

## 2. Freq CV In

Control Voltage input for the filter frequency. Simultaneously controls all three filters.

Range: ±8V from knob position

## 3. Freq

Adjusts the cutoff frequency of each filter. knob position is the reference for which each filter's cutoff is positioned.

## 4. Res CV In

Control Voltage input for the filter resonance. Simultaneously controls all three filters.

Range: +5V from knob position

## 5. Res

Controls the amount of filter resonance. When the knob is fully left, no resonance is present. When the knob is fully right, filter self resonates.

## 6. Bandpass Out

Output for the 2-pole bandpass filter.

## 7. Lowpass Out

Output for the 2-pole lowpass filter.

## 8. Highpass Out

Output for the 2-pole highpass filter.