

Cinnamon is a very unique sounding state variable filter. The presence of drive and character switches makes it a multi-flavoured spice for your rack !

## instruction

1

The signal that comes into the input is processed by the filter and output with different frequency spectrum modifications.

2

The highpass output cuts the frequencies below the cutoff frequency. The cutoff slope is 12 decibels per octave steep (2-pole filter).

3

The bandpass output cuts both the high and the low frequencies of the input signal around the cutoff frequency. The cutoff slope is 6 decibels per octave steep (1-pole filter).

4

The lowpass output cuts the high frequencies of the input signal above the cutoff frequency. The cutoff slope is 12 decibels per octave steep (2-pole filter).

5

The cutoff frequency is the frequency around which the spectrum is filtered away. The cutoff frequency is set by the sum of the cutoff knob value and the two control voltages, plugged into the CV inputs.

6

The Left CV input is affecting the cutoff frequency and is tuned to respond by the one volt per octave standard

(tracking only works reliably when the character switches are deactivated).

7

The Right CV input is also affecting the cutoff frequency and the intensity of the the modulation can be adjusted by the attenuator knob. When the attenuator knob is rotated fully counter-clockwise, the right CV input does not affect the cutoff frequency at all.

8

The Resonance knob emphasises the cutoff frequency in the spectrum. When the resonance is turned fully clockwise, the filter starts to self-oscillate at the cutoff frequency.

9

The character switches affect the response of the resonance. When both of them are in the lower position, the resonance oscillation has a sinewave character.

When the upper switch is on, the wave gets an edgy sharp character. When the lower switch is on, it gets a saw-tooth character. The way how those switches change the response of the filter is affected by the input level of the filter. Please note that turning these switches ON might break the volt per octave tracking.

10

The input volume and drive switches are very important controls, because the filter response is highly affected by the input level of the signal. When the drive switch is in the lower position (OFF), the input level sets the signal gain from 0 to 2 and when it is in the upper position, the gain can be set from 0 to 10, which will very likely overdrive the input with any kind of signal. Combining the input volume with the character switches affects the output drastically.

11

The volt per octave trimmer can be used to adjust the tracking of the filter.

12

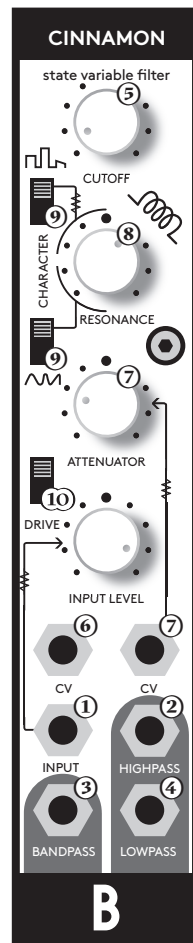
The saw character switch adjustment trimmer can be used to change the way the lower character switch affects the sound.

13

The resonance adjustment switch can limit the effect of the right-most position of the resonance knob. By default it is calibrated to create a pure sine wave when self-oscillation occurs (when character switches are off). It can be adjusted in one way to allow distorted sine wave resonance, or the other way to be on the edge of self-oscillating, so it would be easier to set pinged filter drum sounds.



UNIQUE SOUNDING STATE VARIABLE FILTER



Cinnamon

B A S T L

## features

- voltage controlled cutoff frequency
- CV input with attenuator
- volt per octave CV input
- audio input with gain control
- drive switch to overdrive the input of the filter
- low pass output (12db/oct - 2-pole)
- band pass output (6db/oct - 1-pole)
- high pass output (12db/oct - 2-pole)
- resonance control
- character switches to change the resonance response (character switches might break V/Oct tracking)
- with maxed resonance works as an oscillator (0°, 90° and 180° phased sine wave at LP, BP and HP outputs)
- character switches change the waveform when self-oscillating and might also break the V/Oct tracking

## Connecting module to your system

## technical details

- 5HP width
- PTC fuse and diode protected 16pin power connector
- 35mm deep
- current consumption: +12V: <30mA, -12V: <30 mA

Before connecting the ribbon cable to this module disconnect your system from power !

- ❗ Double check the polarity of the ribbon cable and that it is not shifted in any direction. The red cable should be attached to the -12V rail, both on the module and on the bus board side!

please make sure of the following

- you have a standard pinout eurorack bus board
- you have +12 and -12 power rails on that bus board
- the power rails are not overloaded

Although we put protection circuits in the device, we do not take any responsibility for damages caused by wrong power supply connection. After you connected everything, double checked it and closed your system so no power lines can be touched by your hand, turn on your system and test the module.

BASTL



B

PCB

