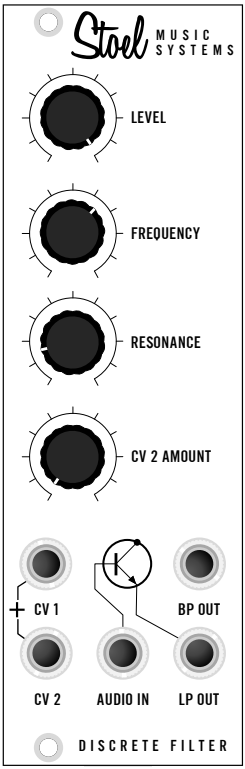
Stoel
MUSIC SYSTEMS



DISCRETE FILTER USER MANUAL

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Warranty Information

Limited Warranty

Stoel Music Systems warrants that each of its products will be free of manufacturing and assembly defects for a period of (1) one year from the purchase date by the original owner. All warranty claims require proof of purchase.

Stoel Music System does not warranty products due to improper installation, including but not limited to, insufficient or defective power supply voltages, installing the power cable backward either on the module or buss board side, or static discharge that damages 5V components.

If the product is deemed defective during the warranty period, Stoel Music Systems will:

(1) repair or replace the product at no charge to the customer except for shipping costs to Stoel Music Systems,

(2) or, refund the customer the amount of the original price.

If Stoel Music Systems determines the product is damaged by the fault of the customer, Stoel Music Systems will:

(1) repair the product (please see repair rates here),

(2) or, send the product back at the expense of the customer.

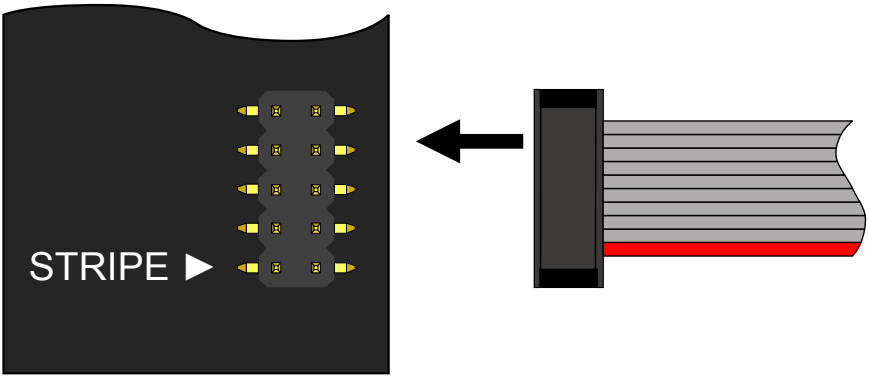
Stoel Music Systems is not liable, either explicit or implied, for any damages to persons or other equipment during the operation of the product.

For warranty or repair requests, do not hesitate to contact service@stoelmusicsystems.com to obtain a "Return to Manufacturer Authorization" request.

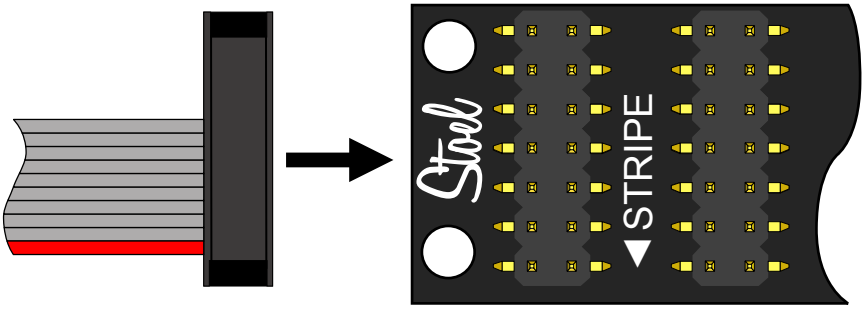
Installation

Before installation: UNPLUG EURORACK CASE!! Connect the 10-pin side of the power cable to the module with the red stripe as indicated. Connect the 16-pin side of the power cable to the bus board with the red stripe facing down, as shown. Check to verify the location of the red strip on your bus board. Mount the unit with the provided M3 screws within the rack rails.

Failure to properly plug in your module could damage the unit or other equipment.



Eurorack Module

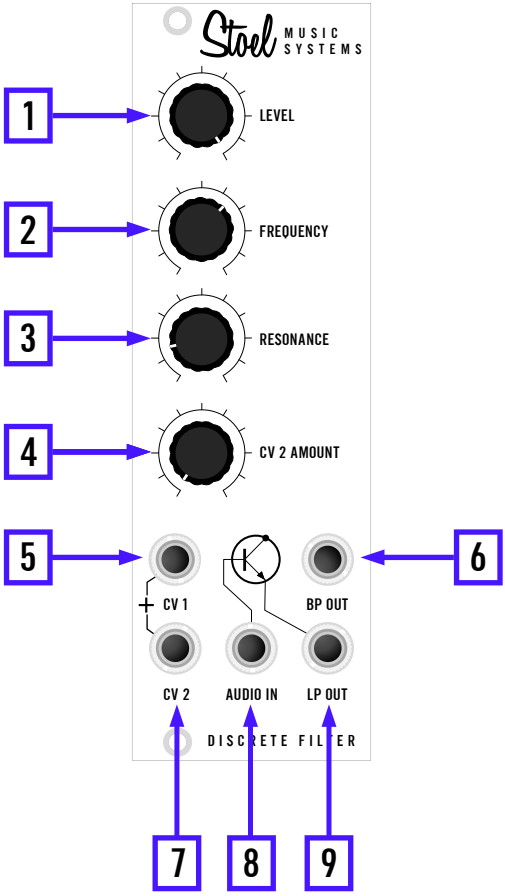


Bus Board

Requirements

HP Required	8 HP
Mounting Depth	22mm
+12 Volt Current Draw	5ma
-12 Volt Current Draw	5ma
+5 Volt Current Draw	0ma
5V Requirement	No
Mounting Screws Required	2
Power Cable	10 pin to 16 pin
Unit Weight	2 oz

Front Panel Overview



Controls and Jacks

(1) LEVEL: The control attenuates the signal output.

(2) FREQUENCY: The control adjusts the frequency of the filter. The knob turned counter-clockwise causes the filter to be close. The knob clockwise causes the filter to be fully open.

(3) RESONANCE: The control adds filter resonance or "Q" value. The audio will have a boost in harmonics depending on the amount of resonance added.

(4) CV 2 AMOUNT: The knob controls how much CV is applied to the frequency. The control only works when control voltage is applied to the CV 2 jack (7).

(5) CV 1: Frequency control voltage. The control voltage is unattenuated.

(6) BP OUT: Band pass output. The frequency knob sweeps a narrow band of frequency.

(7) CV 2: Control voltage that can be varied (4). CV 2 is mixed with CV 1 (5) if populated.

(8) AUDIO IN: Audio signal input.

(9) LP OUT: Low pass output. The frequency knob sweeps the low pass slope from 90% all frequency in the counter-clockwise position to 10% frequency in the clockwise position.

Basic Operation

Low Pass

The subtractive low pass filter reduces the high frequencies in the audio signal. The filter has a gentle slope of 12dB per octave. (fig. 1)

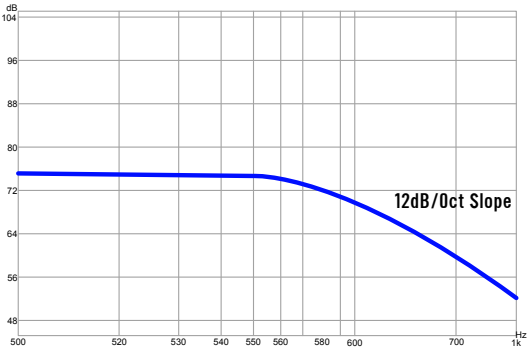


Fig. 1

Band Pass

The bandpass is similar to the lowpass but it also restricts high frequencies as well. (fig. 2)

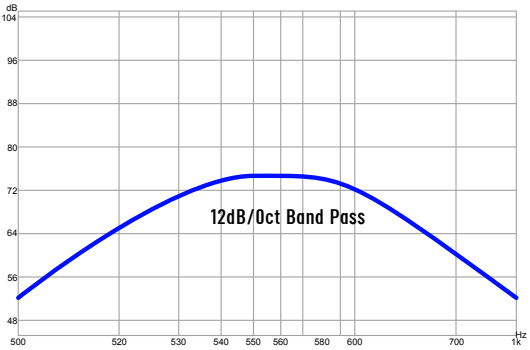


Fig. 2

Example Configurations

Changing the Timbre of an Audio Source

Patch the desired waveform from an oscillator directly into the audio in. The Frequency and Resonance will change the tone. It is best to choose a waveform with rich harmonics. (Fig. 3)

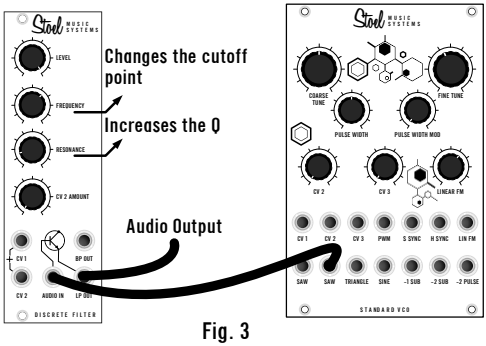


Fig. 3

Controlling Frequency with CV

A CV source can automatically open and close the filter frequency. Many CV sources are suitable but and ADSR (envelope) or LFO (low frequency oscillator) are ideal. (Fig. 4)

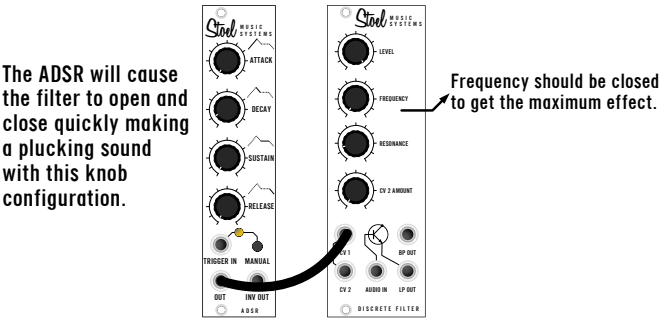


Fig. 4

Just make music