CATALYST AUDIO / ELECTROSERF

MIG VCF

VACUUM TUBE FILTER

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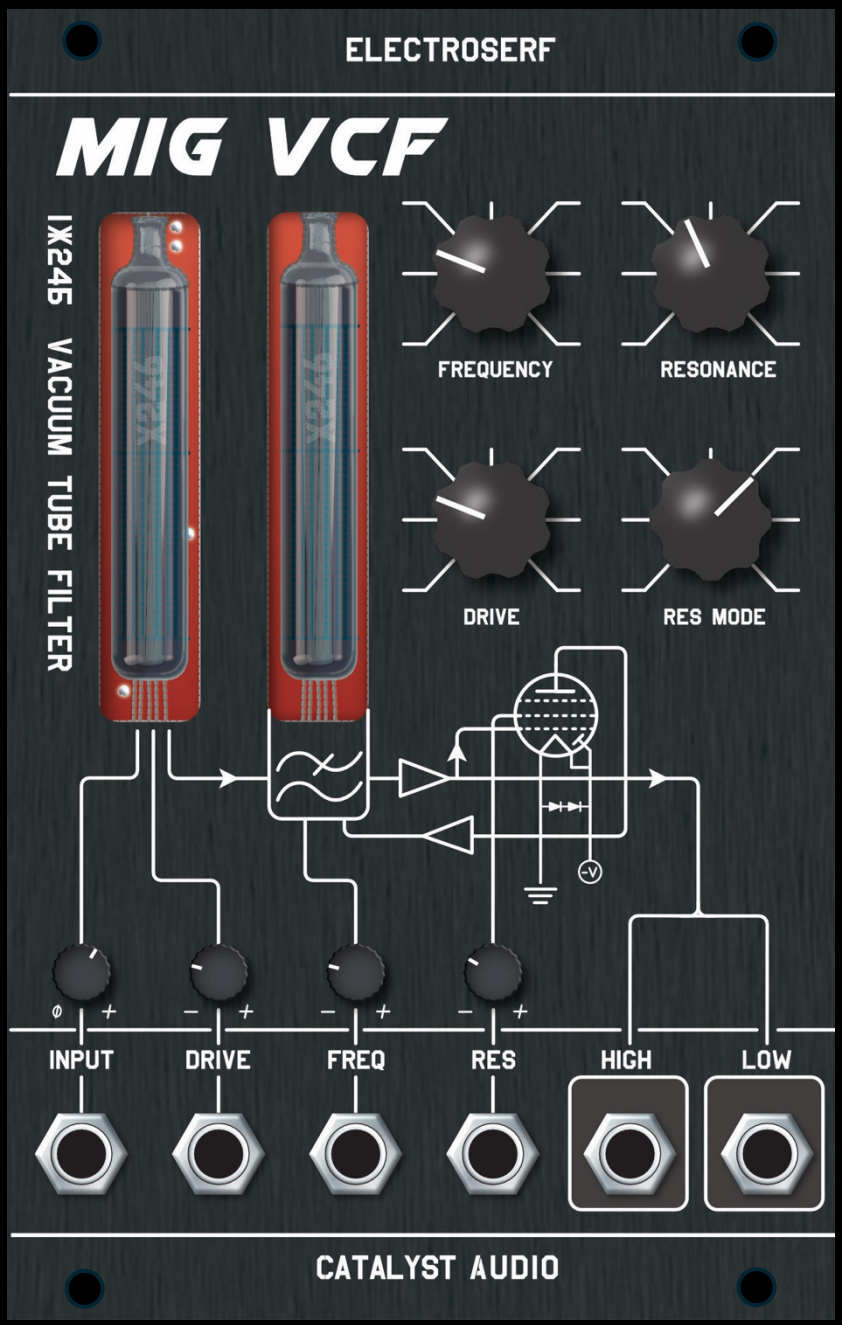

[01 DESCRIPTION]

The Catalyst Audio / Electroserf Mig VCF is an analog voltage-controlled filter designed and built around the 1J24b subminiature vacuum tubes. The filter itself is a self-oscillating sallen-key 18db per octave filter.

There are three individual tubes used in the Mig VCF (though only 2 are visible from the front panel). The signal fed into the module is amplified and level adjusted by the first tube. The signal is then fed to the second tube (running in a special high impedance setup) and fed into the filter core. The output is then split and run to the low pass output and through the third tube which amplifies and shapes the resonance signal.

The high pass output is created by inverting the lowpass signal and summing it with the main output which cancels out the low frequencies present in the signal.

[02 SPECIFICATIONS]

HP	16
POWER DRAW (+RAIL)	44 mA
POWER DRAW (-RAIL)	60 mA
MODULE DEPTH	approx. 35mm

[03 MAIN CONTROLS]

>> FREQUENCY

The Frequency pot sets the initial VCF cutoff frequency.

>> RESONANCE

Controls the overall resonance amount.

>> DRIVE

Controls the amplification of tube #2, determining the signal level sent into the filter core.

>> RES MODE

This pot crossfades the input to the resonance circuit from the lowpass output or the highpass output. It can completely change the texture and sound of the resonance.

[04 CV INPUTS]

The Mig VCF features 1 Audio signal input and 3 individual CV inputs.

>> INPUT

This is the main input for the signal to be filtered.

>> DRIVE INPUT

CV input for controlling the Drive parameter. The Drive pot sets the initial drive level and the cv attenuverter (just above the cv input jack) determines if cv is either added (clockwise) or subtracted (counterclockwise) from the initial pot setting.

>> FREQ INPUT

CV input for controlling the Frequency cutoff parameter. The Frequency pot sets the initial balance level and the cv attenuverter (just above the cv input jack) determines if cv is either added (clockwise) or subtracted (counterclockwise) from the initial pot setting.

>> RES INPUT

CV input for controlling the Resonance parameter. The Resonance pot sets the initial resonance level and the cv attenuverter (just above the cv input jack) determines if cv is either added (clockwise) or subtracted (counterclockwise) from the initial pot setting.

[05 OUTPUTS]

The Mig VCF features two individual outputs.

>> HIGH OUTPUT

The filter’s high-pass output.

>> LOW OUTPUT

The filter’s low-pass output

[06 ADDITIONAL INFORMATION]

The Mig VCF is a very unique sounding and functioning filter. The input level, input signal, Drive, and Res Mode all interact with one another and can produce incredibly dynamic results. It is worth playing around with subtle changes and different balances between the input level and the drive control.

Like many Sallen-key filters, self oscillation will only occur when the input level does not drown out the resonance pathway. If you are having a difficult time getting the filter to self oscillate, try reducing the input level or the drive control.