

Panther Series – CGS735 Synthacon Filter



The Panther CGS7xx Series are authorised re-releases of the popular Cat Girl Synth Series of modules from Ken Stone. Each module is revisited to determine if any improvements can be added to the original design which has also been adjusted, where applicable, to fit the smaller profile of the EuroRack module size.

The CGS735 Synthacon Filter

This module is a "tribute" module, based on the awesome Steiner-Parker Synthacon VCF.

How to use this module

Connect the CV input to a voltage source such as a keyboard, envelope generator or sequencer. Connect the output to a VCA or amplifier. Feed the signal to be filtered into the high-pass, band-pass or low-pass input. If the same signal is used in all inputs, the result is reminiscent of a phaser. The real fun starts when you feed different signals into each input, then you get a frequency based "interpolating scanner", where panning between different sound sources is possible, though also subject to the frequency at which they are running.

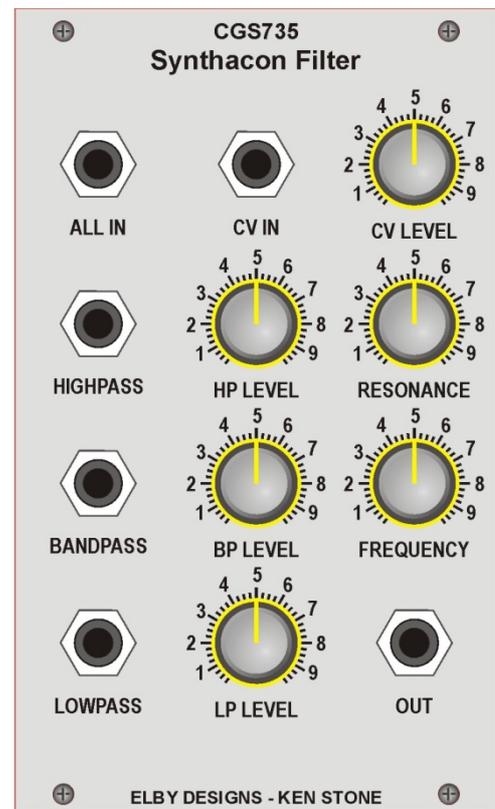
Each of the filter type inputs has its own level control. The ALL input is also affected by these level pots as it is mixed with the individual inputs prior to the level controls. If using only a single input, it may be better to feed the signal into the ALL input, and adjust the level pots to select LP, BP or HP, rather than changing the patch cord between the specific input jacks.

A little on how it works

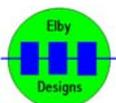
The circuit uses a standard, non-inverting amplifier configuration. The three modes (HP=High-Pass, BP=Band-Pass, LP=Low-Pass) are obtained by injecting the signal into three different points of the circuit. An increase in the gain of the amplifier increases the filter's Q. The Q remains almost constant as the filter is swept across the audio spectrum. In the circuit, diode strings are used as voltage controlled resistors.

The differential-amplifier transistors apply the bias voltage to the parallel diode string RC networks in opposing phase. The opposing phases cancel the control voltage so that none appears at the output. The final pair of transistors form a non-inverting amplifier. The RESONANCE pot adjusts the gain of this amplifier, and thus its Q.

The final stage is a simple gain stage.



Power Requirements	+12V @15mA, -12V @ 13ma
Module Width	14HP



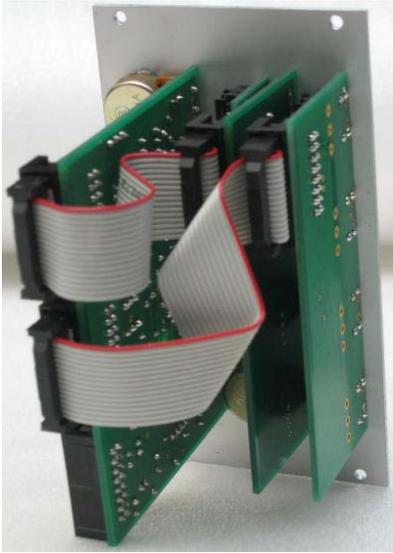
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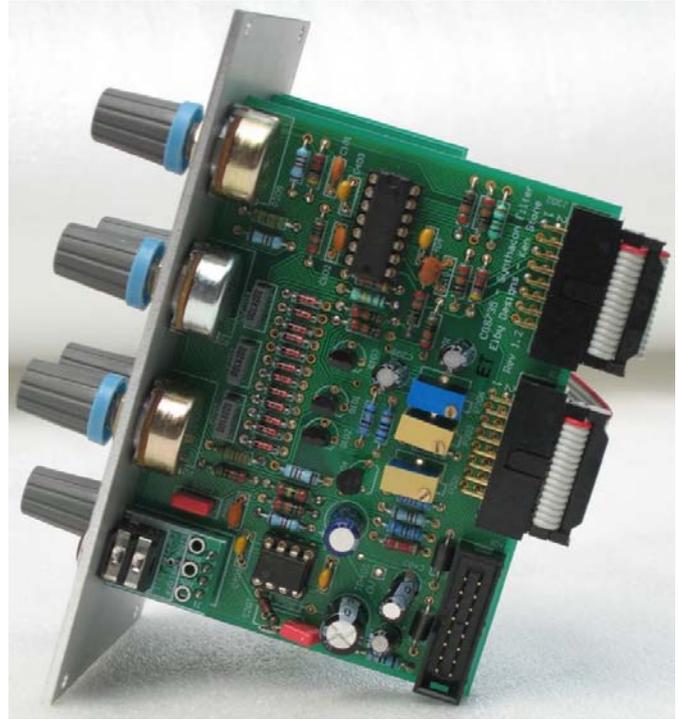
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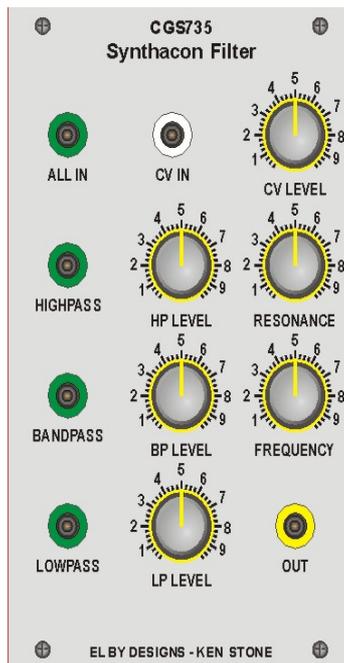
Inside the CGS735



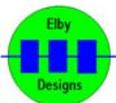
Rear view showing the Panther Support boards



The main board in the CGS735



4mm Banana Socket version



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