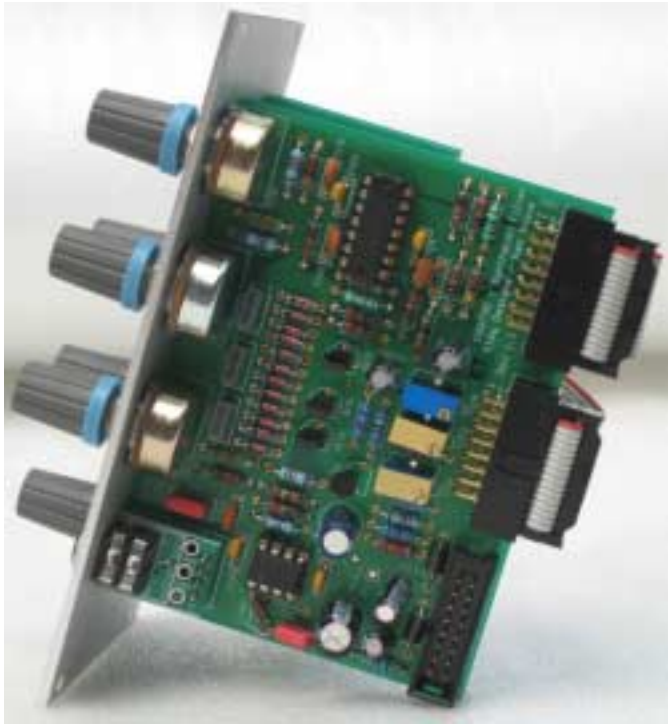
Panther Series – CGS735 Synthacon Filter

Construction is relatively straightforward and requires assembly of the main board and two Panther Support modules. Construction should follow normal assembly guidelines (see General Assembly Guide).

Assembly of the main board includes the fitting of a Panther Carrier board to support the OUT jack. The jack should first be mounted on to the carrier board. The 4-way header should be fitted on to the main board. The carrier board should then be loose fitted on to the header and the assembly offered up to the front panel. Tighten the pot nuts while checking the position of the carrier board at the same time. With the pots fully tightened you should finalise positioning of the carrier board aiming to get the carrier roughly parallel to the main board, tightening the jack fixing nut when satisfied. With the carrier board correctly positioned solder the 4 header pins from the top side of the carrier board.



A similar process should be carried out for the jack/carrier board on the Panther Pot Support board which will fit in to the middle column of the panel.

When all boards have been assembled and mounted to the front panel, add the interconnecting ribbon cable connectors.

Testing

The following describes a quick (but dirty) approach to tuning this module as described by Ken Stone.

Initially, set the controls as follows:-

- Set CV SPAN TRIM (P206) fully anti-clockwise
- Set RESONANCE to maximum
- Set HP, BP and LP LEVEL to maximum
- Set CV LEVEL to maximum

- If required, adjust RESONANCE TRIM (P202) until the module stops oscillating
- Feed a LFO square wave (~5Hz, 10Vp-p 0V-centred) in to CV IN with no signal at the inputs
- Adjust CV REJECT (P201) for minimum thump
- Adjust the RESONANCE TRIM so that the screech can be controlled. It will depend on the initial frequency pot setting somewhat, so you will need to tweak it so you have acceptable resonance at the low frequencies, while not being uncontrollable or stoppable at the top of the frequency range
- CV SPAN ADJUST - adjust it so you get more or less one octave per volt. Don't waste too much time here. There is no way it will be either accurate or thermally stable.

Be aware that unstable and "nasty" resonances are a feature of the Sallen-key filter.

POWER CONNECTION

The Panther Series of modules have been designed to be compatible with the popular Doepfer range of EuroRack modules and consequently uses a matching connector.

The red stripe on the power cable represents pin 1 on the IDC connector which is the –12V rail.

All Panther Series boards use a boxed 16-way IDC header with a polarising key. Pin 1 on the power connector is towards the edge of the board.

Please pay particular attention to the orientation of the power cable and connector to prevent possible damage to the system.

Elby Designs - Laurie Biddulph
9 Follan Close, Kariong, NSW 2250, Australia
elby_designs@ozemail.com.au http://www.elby-designs.com