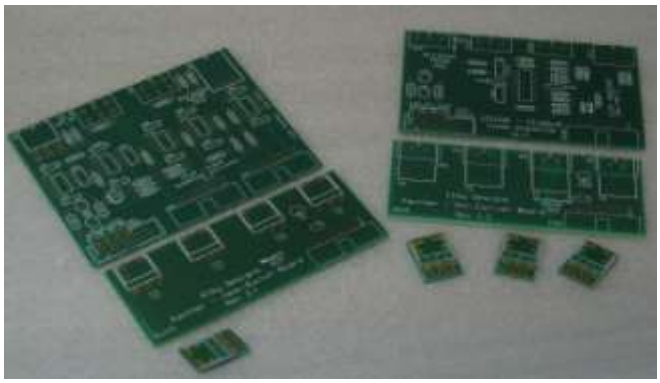
Panther Series – IF108 ChaQuO

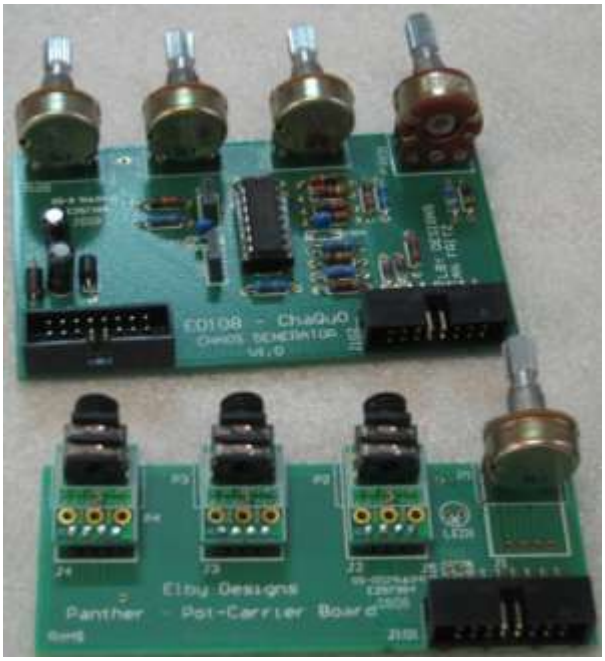


The IF108 – ChaQuO module is constructed around 2 main boards and 6 Panther Support boards as shown in the picture to the left.

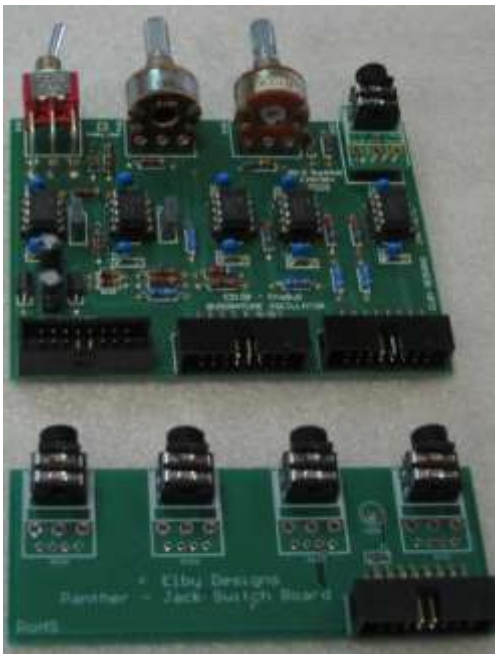
The 3 boards shown at far left form the Quadrature Oscillator section whilst those to the right form the Chaos Generator. As such, each section can be built and operated as an individual module.

The IF108 panel comprises 4 columns with printed-circuit assemblies assigned as follows:-

Column	Function	PCB's
1	Chaos Generator Control Section	IF108 Chaos Generator
2	Chaos Generator Input/Output Section	Panther-Pot plus 3 Panther-Carrier
3	Quadrature Oscillator Control Section	IF108 Quadrature Oscillator plus 1 Panther-Carrier
4	Quadrature Oscillator Output Section	Panther-Jack



Chaos Generator (Column 1 & 2)



Quadrature Oscillator (Coulmn 3 & 4)

As with most pcb construction, start with the smaller, low-profile components such as resistors and diodes and build up in the height of components. Pay particular attention to the orientation of polarised components such as diodes, electrolytics and IC sockets. Leave the panel components until last. When the remainder of the board has been assembled and checked, use the front panel as an alignment guide when installing the panel components. The anti-rotation tab on any pots needs to be broken off (use a pair of strong pliers to snap the piece off). Position the panel components on to the pcb and offer the assembly up to the panel. Check that all the components are sitting square to the panel and then tack each component in to place by applying a solder blob to a leg on each component. Carefully remove the panel and solder all remaining pins in to place and re-solder, as required, the tacked pins. Repeat for all boards as required. When installing Panther-Carrier boards, solder the 4-way header in to the main board checking that it is perpendicular to the board. Place the (loaded) Panther-Carrier board on to the header and the offer the board up to the front panel treating the Panther-Carrier board as any other panel component. Again, when satisfied with the positioning of the Panther-Carrier board, tack one of the header pins. Remove the front panel and solder the remaining

pins. Note: as we are using double-sided boards with plated-thru holes, you can solder the header pins on the topside of the pcb. There is no need to solder on the underside of the board as well.

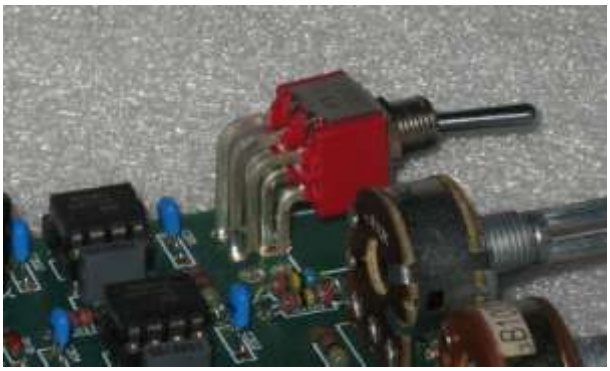
Regularly check your work for solder splashes and dry-joints and when finished, clean the board using a suitable cleaning solution to remove excess flux and other contaminants.

NOTE:

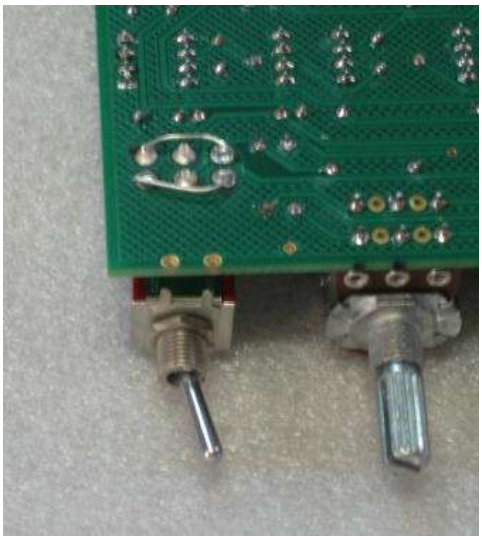
An error has been uncovered on the Quadrature Oscillator that results in the HI-LO range switch on the Panther front panel being incorrectly labelled i.e. the HI and LO positions have been reversed. If not using the Panther front panel then this errors just results in the HI frequency range being in the down position while the LO frequency range will be in the up position.

To correct this error the following modification is recommended:-

- Looking at the range switch from behind, cut off the 2 right-hand most legs as can be seen in the picture below left.
- After install the switch, install 2 wire links to connect the outside pins of the switch as shown below right.

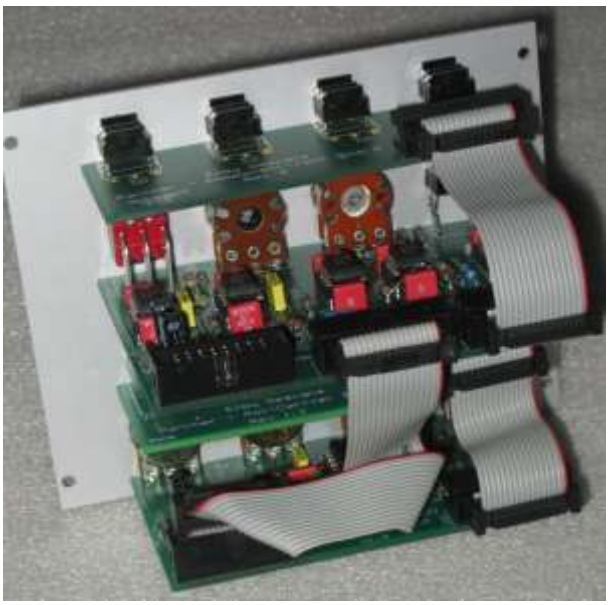


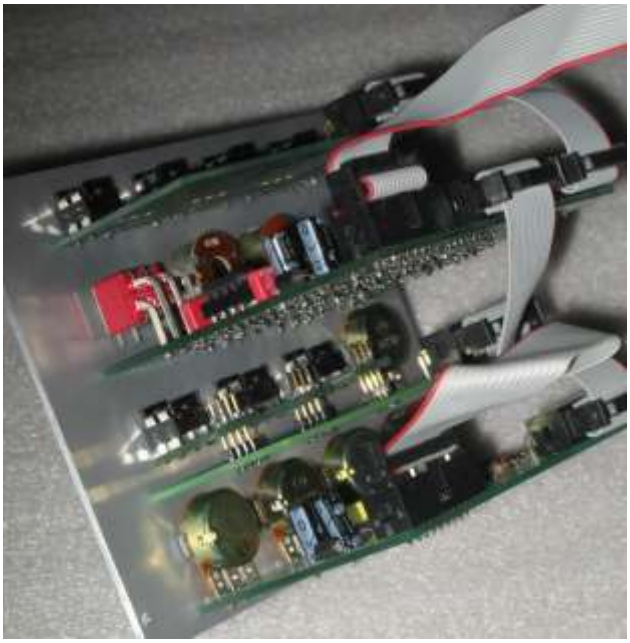
Nearest 2 legs of S101 have been removed by cutting them to about 5mm above the pcb



Fit 2 wire links as shown

With all four sub-assemblies completed and checked it is time to assemble the complete module. Mount each sub-assembly to the front panel being careful to guide the panel components through their relevant panel holes. As each module is mounted, fit a fixing nut to one of the central panel components and repeat until all sub-assemblies are in place. You should now check the positioning and alignment of each sub-assembly and then apply the remaining fixing nuts and tighten them firmly in to place taking care not to scratch the panel.





Connect the various Panther-Cables to the appropriate modules using the photographs in this document as a guide.

Your module is now ready for operation. There are no adjustments required for this module.

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