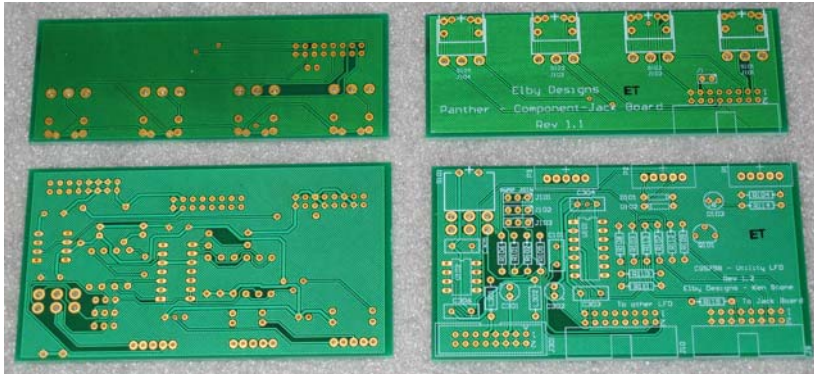


Panther Series – CGS758 Utility LFO



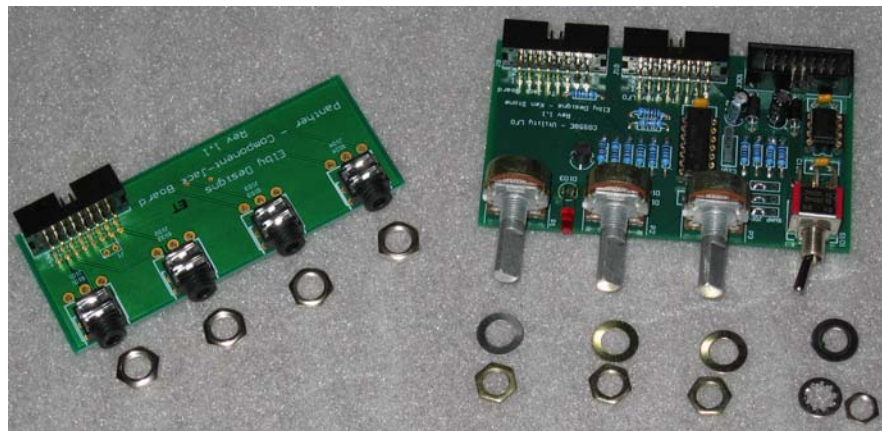
Construction of the CGS758 is straightforward. There are 2 main boards, one for each LFO, and these are built identically except for the 3 jumper/links (J101, J102 & J103) which are wired in opposite positions between the 2 boards ie one board (which will hold the SWAP switch) has wire links fitted in positions 1-2 on all 3 jumper/links while the other board (which will hold the JOIN switch) has wire links fitted in

positions 2-3 on all 3 jumper/links. In addition to the 2 main boards, there are also 2 Panther Support boards. These boards provide mountings locations for the 8 jack outputs.

Fit all components to the boards following normal assembly guidelines (see General Assembly Guide).

When fitting the pots to the pcb please ensure that there is approximately 1mm gap between the shoulder on the pot pins and the top of the pcb to prevent the possibility of the shoulders shorting to adjacent pads.

The design of the main board allows for a DPDT switch with extended (wire-wrap) legs to be used however builders may use a more standard DPDT switch but will need to hardwire the pins to the board. If using the extended wire-wrap version of DPDT builders should loose-fit the switch on to the board and then offer the assembly up to the front panel and tighten up the pot nuts to hold the assembly firmly to the panel. Ensure that the board is sitting reasonably perpendicular to the panel and then move the switch in to position and fit and tighten its nut. Solder the pins for the switch in to the board.

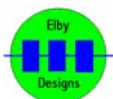


Only one power connector is required, it can be fitted to either of the main boards.

The two shorter interconnect cables are used to connect the associated Panther Support board to the main board. The third cable connects to the two main boards together and provides power to the second LFO board as well as the inter-connections for the JOIN/SWAP function.

Take special note of the orientation of the crimp housings with respect to the cable.

The CGS758 does not require any calibration and should work as soon as power is applied.

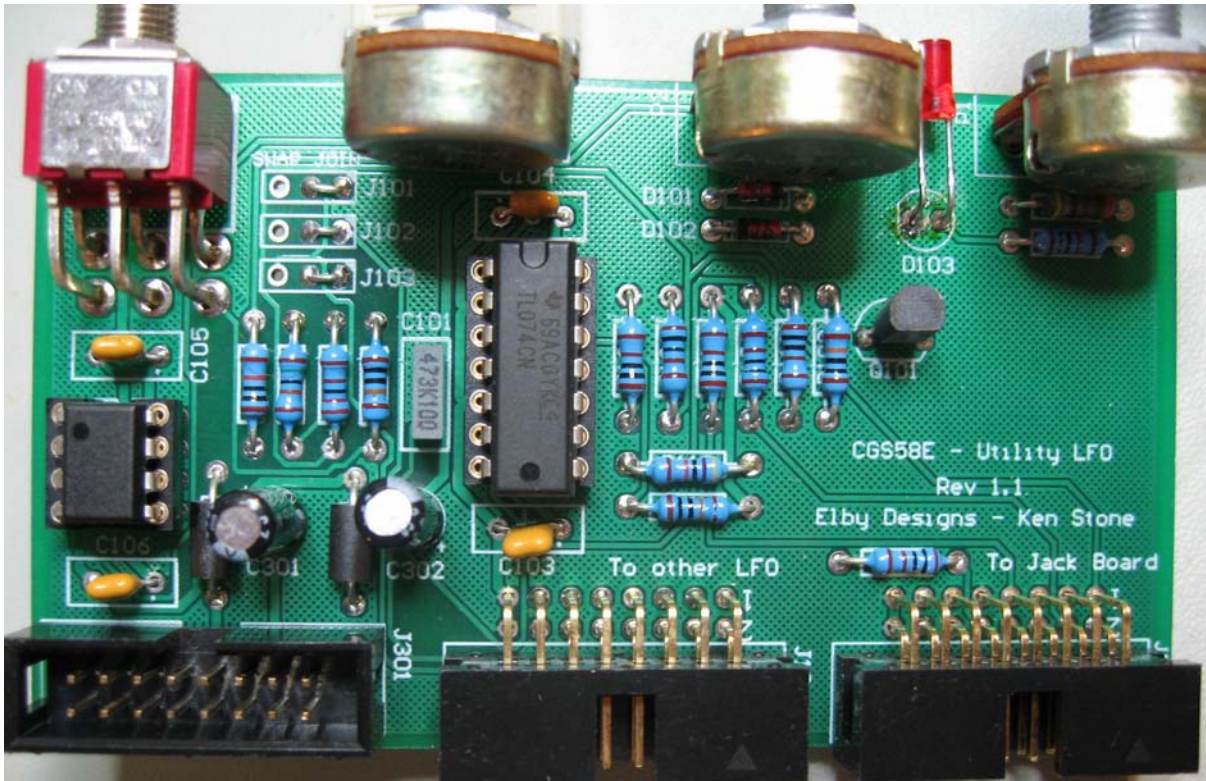


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Panther Series – CGS758 Utility LFO

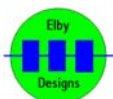


CGS758 Rev 1.1

Constructors should refer to the Component Overlay and the Bill Of Materials for the current value of all components.

Note the 3 links in the top left corner which must be correctly installed depending upon the function of the Switch top left (SWAP or JOIN). You will need 2 of these boards for each module and one board should be wired for SWAP whilst the other is then wired for JOIN.

The BEAT LED (D103) needs to be formed so that it pokes through the mating hole in the front panel. Bend the legs to a right-angle approximately 14mm from the front face of the LED.



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Testing

Operation of the unit can be performed by connecting the various outputs to a modulation input of a VCO or an oscilloscope.

- Set both the JOIN and SWAP positions to their upper setting. This disconnects the two LFO's and allows them to run, and be used, as two independent modules.
- Set all pots to minimum.
- Connecting, in turn, to each of the three waveform outputs you should be able to observe the appropriate waveform (Pulse, Saw/Tri and Square). Increase the SPEED control and observe the increase in frequency.
- The LED indicator should beat in time with the frequency and, being connected to the SAW/TRI output, will change in intensity as it follows the slope of the waveform.
- Connect to the SAW/TRI output and set the SPEED control to a position that allows you to easily observe the shape of the waveform.
- Adjust the SHAPE control. You should be able to observe the output start from a falling ramp at the minimum position of SHAPE, transform in to a symmetrical triangle waveform at the mid-position of the SHAPE control and finally transform in to a rising ramp at the maximum position.

VARI-JOIN-SWAP Testing

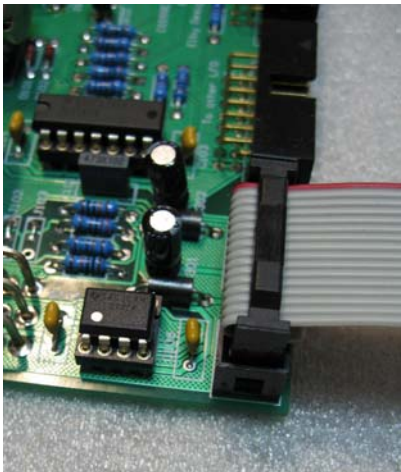
- Connect to the VARI1 output. This is best done with an oscilloscope but can be done with a VCO if the SPEED control is set to a fairly low setting.
- Set the SAW/TRI to its mid-position.
- With the VARI1 control at its minimum position you should observe a square wave output. Sweep the VARI control to maximum and you should observe the output provide an increasing mix of the SAW/TRI output with the mix being 50-50 at the midpoint and reducing to a full SAW/TRI waveform at the maximum position.

Repeat these steps for the VARI2 output.

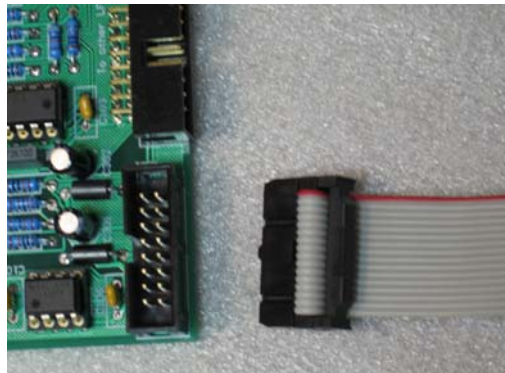
POWER CONNECTION

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.

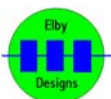
The red stripe on the power cable represents pin 1 (-12V rail) on the IDC connector.



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



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



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