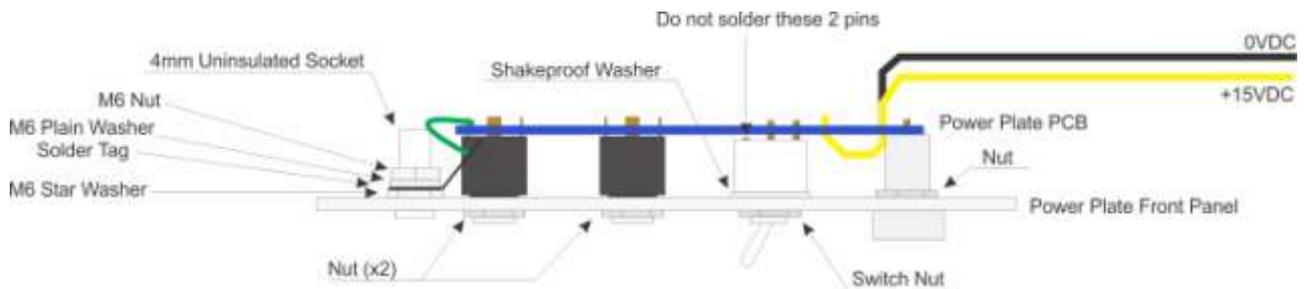


Power Panel Assembly Notes



Refer to the above diagram when reading the following assembly notes. Also refer to [Power Panel PCB](#) (3D Model)

1. Fit R1 (2K2 for a standard Red LED)
2. Cut and strip 5-7mm off one end of the black and yellow leads
3. Insert the leads in to their solder points and solder (Yellow = +15V, Black = 0V)
4. Trim off excess wire
5. Feed the other ends of the leads through their respective strain-relief points and pull the leads through until there is no excess lead
6. Mount the LED on to the front panel but leave the nut loose so that the LED body can be turned for final alignment
7. Mount the 2x DC jacks on to the pcb but do not solder
8. Mount the switch (note the orientation) on to the pcb but do not solder
9. Offer the pcb up to the panel components ensuring that the LED is correctly orientated to the pcb markings
10. Attach nuts to the DC jacks and switch and secure using a suitably sized spanner.
11. Check the alignment of the pcb. The pcb should be firmly against the switch and should be parallel to the front panel
12. Solder all the components in to place
13. If desired, shorten the 2 leads to a practical length then strip and cut 5-7mm off the ends of the leads and fit 1/4" quick-connect tabs
14. Solder the green/yellow wire to the solder tag
15. Fit the uninsulated 4mm socket as per the drawing.
16. Solder the unsoldered end of the green/yellow wire to the 0V terminals on the nearest DC jack

Click [here for the Bill Of Materials](#)



Elby Designs - Laurie Biddulph

9 Follan Close, Kariong, NSW 2250, Australia

elby_designs@ozemail.com.au <http://www.elby-designs.com>

Power Panel Assembly Notes

There are 2 configurations for the Power Panel which is predefined by the PCB (you can NOT simply use one configuration for the other):-

PCB-Single:-

This uses a single external DC power source of +15VDC¹ and is intended to feed an internally mounted DC/DC power supply that generates the requisite +12V/-12V rails for the system.

It is connected to one of the DC inlets. The 2nd DC inlet is to allow the DC supply to be daisy-chained to a 2nd Power Panel allowing multiple systems to be powered from a single external supply.



The maximum rating is approximately 5A (defined by the DC sockets) so this must be considered when connecting multiple power boards (this 5A figure is the total for both the +12V and -12V rails and should include a small allowance for peak loads).

The maximum rating is approximately 5A (defined by the DC sockets) so this must be considered when connecting multiple power boards (this 5A figure is the total for both the +12V and -12V rails and should include a small allowance for peak loads).

NB: You must NOT connect multiple external power supplies to these DC sockets

PCB-Dual:-

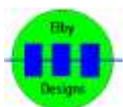
This option uses two external +12V supplies and requires only passive busboards inside the system.

The bottom DC jack provides the -12V rail input while the upper jack provides the +12V rail input.

BOTH supplies are Tip = +12V and so it doesn't matter which supply plugs in to which DC socket.

The maximum rating with this option is 5A PER rail.

The DC cables should be kept as short as possible and have a minimum DC rating of 10A. Screened or twisted-pair cabling is recommended.



Elby Designs - Laurie Biddulph

9 Follan Close, Kariong, NSW 2250, Australia

elby_designs@ozemail.com.au <http://www.elby-designs.com>

Power Panel Assembly Notes

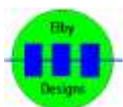
System Grounding

Grounding or earthing your system is a very important task that has become more crucial with the increasing use of SMPS as the external DC supply as most of them employ a floating ground for electrical safety reasons.

The technical details, implications and methodology for addressing this is far beyond the scope of this document and users are advised to consult a qualified electrician if they require guidance in this. Readers should also read [this document](#) from APT for a general discussion on the topic.

The ELBY Designs Power Panel provides a 4mm grounding socket which can be used to tie the systems power supply (specifically the 0V rail) to a suitable earth point. It is important to note that it is NOT possible to have a permanent earth/ground connection when using floating-ground power supplies and that any grounding technique used will only be valid while the connections remain 'connected'.

For our Australian customers (and anyone else using an Australian style mains plug) our Grounding Kit can supply a semi-permanent solution. The Grounding Kit provides an electrical connection to the EARTH point on the mains plug and so when connected to the Power Panel provides a proper earth connection for the system.



Elby Designs - Laurie Biddulph

9 Follan Close, Kariiong, NSW 2250, Australia

elby_designs@ozemail.com.au <http://www.elby-designs.com>