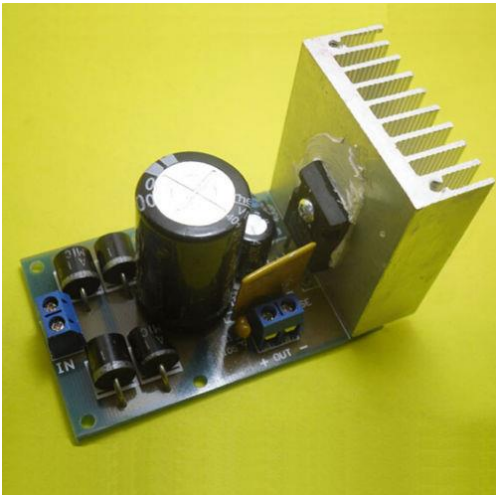
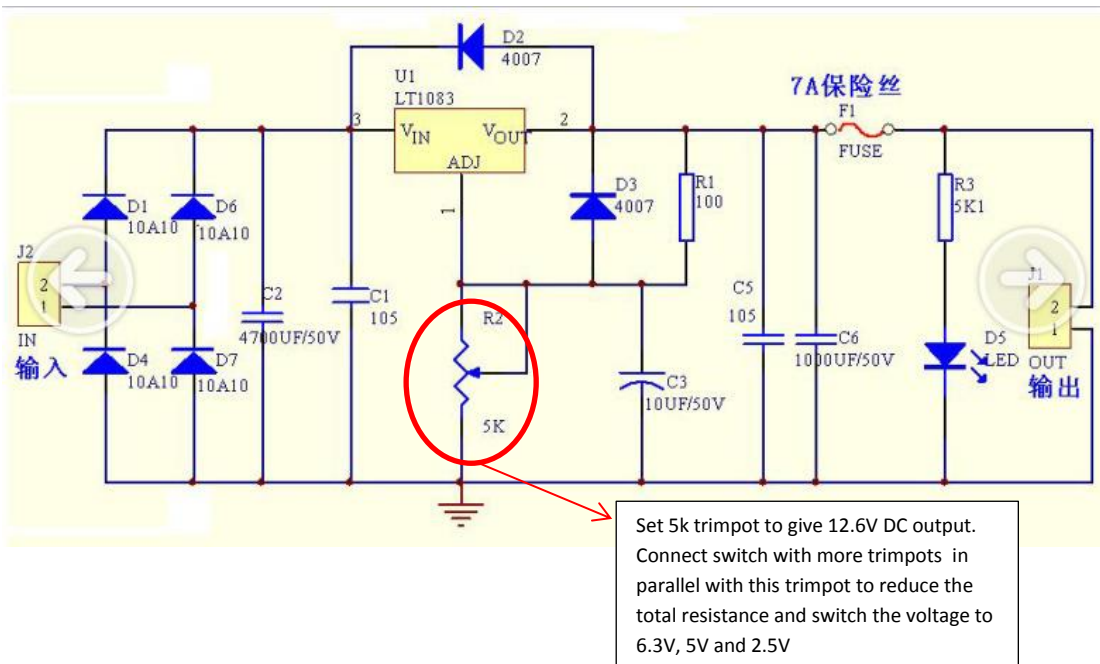


uTracer Auxiliary Power Supply

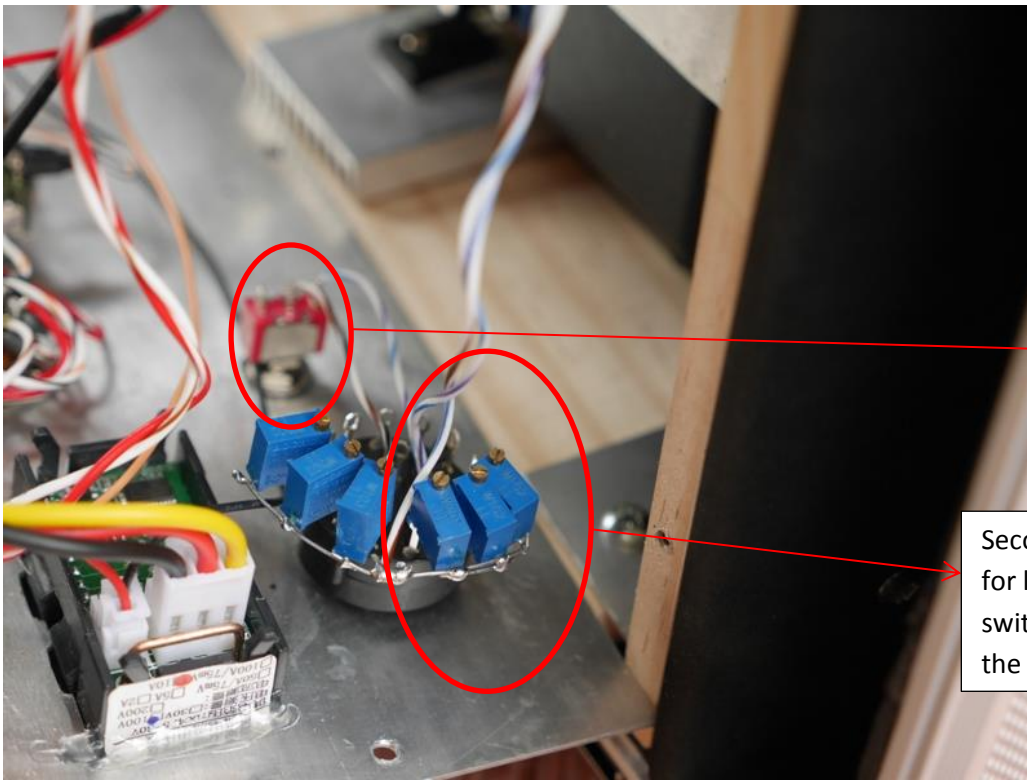


The auxiliary heater board is based on the LT1083 regulator. I purchased this on ebay similar to <http://www.ebay.com/itm/1Pcs-7A-LT1083-Adjustable-99-UK-Power-Supply-Module-DIY-Kit-for-Arduino-/171804816181?hash=item28005d7335:g:sEAAOSwDk5UFBGC>

This is the schematic:



I didn't use diodes D1, D4, D6 and D7. I connected an old Toshiba 15V laptop power supply to the board instead of the diodes. You could use a 12V AC transformer with the diodes instead of a laptop power supply. I adjusted the 5k trimpot on the board so that the board output is 12.6V DC. I connected a rotary switch across the trimpot. This switch connects more trimpots in parallel with the 5k trimpot on the board. I can adjust the trimpots on the switch to give me exactly 2.5V, 5V and 6.3V. This is much easier than trying to get the exact resistance with fixed resistors.

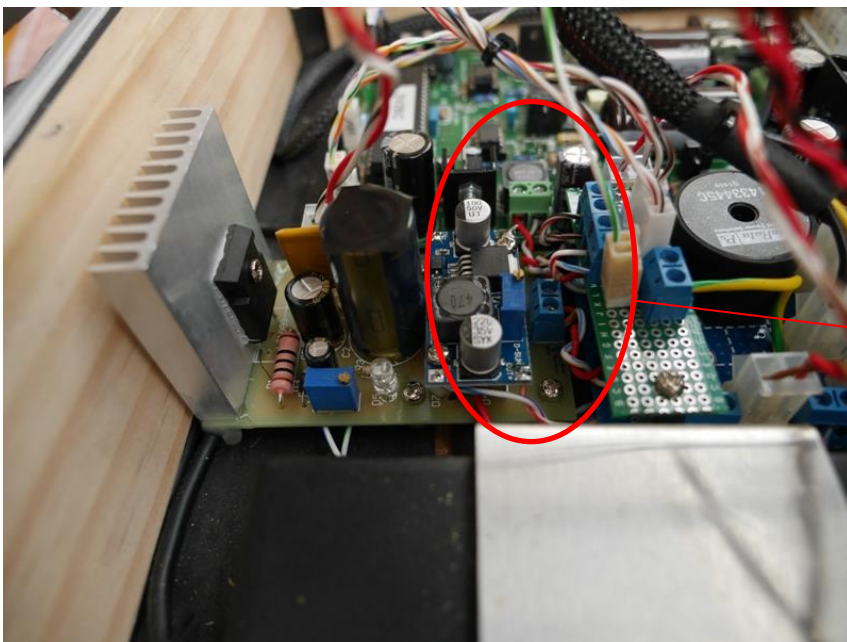


Life test switch

Second set of trim pots for life test. These are switched in parallel with the main trim pots

For the life test (reduce filament voltage by 10%) there is another set of trim pots that the rotary switch connects in parallel with the first set of trim pots on the switch. This second set of trim pots in parallel reduces the overall resistance which reduces the output voltage from the board.

Here is a photo of my LT1083 board installed. Note that I also added a DC-DC converter mounted on top of the LT1083 board. This DC-DC converter reduces the 15V input voltage from the laptop power supply to give me 12V to power the fans.



DC-DC converter board mounted on LT1083 board to give 12V DC for fans

I used the standard heatsink in the kit for the LT1083. This heatsink is quite small but is ok for up to about 1.6A heater supply for KT88 valves.

The auxiliary heater power supply display is from ebay similar to

<http://www.ebay.com/itm/DC-100V-10A-Voltmeter-Ammeter-Red-Blue-LED-Amp-Dual-Digital-Volt-Meter-Gauge-Y-/262334199009?hash=item3d145634e1:g:AWMAAOSwZQxW5hgb>

I used the 100V 10A version.

