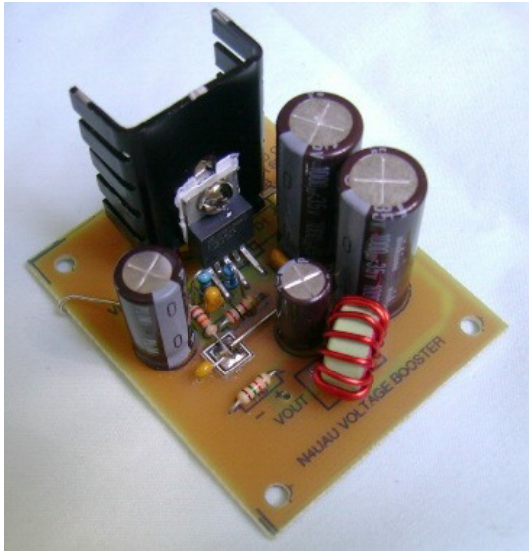
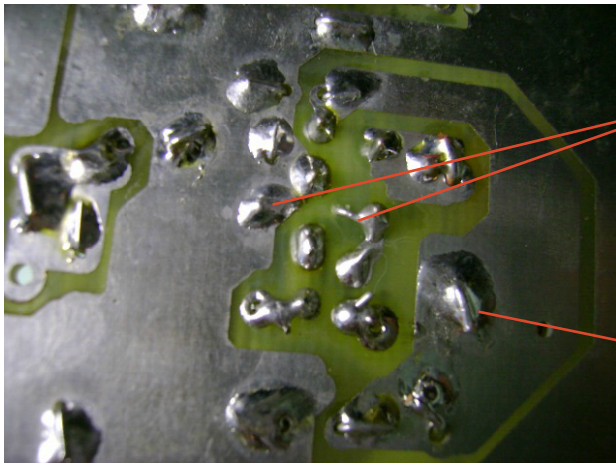


Battery Booster Assembly W5USJ Dwg. rev 11 Jul '09



Assembled battery booster using most of the original parts. The 2 output caps ESR is 0.04 Ohms. New part has an ESR of 0.017 Ohms

The original article shows the 540 diode and the 1k5 feedback resistor bridged on the bottom. The assembly here has mods to put the parts on the top of the PCB. This does not affect operation and facilitates the assembly.



Bridge 1k5 between IC1 pins 2 and 3

Bend all leads over flush and leave a tail end before clipping and soldering

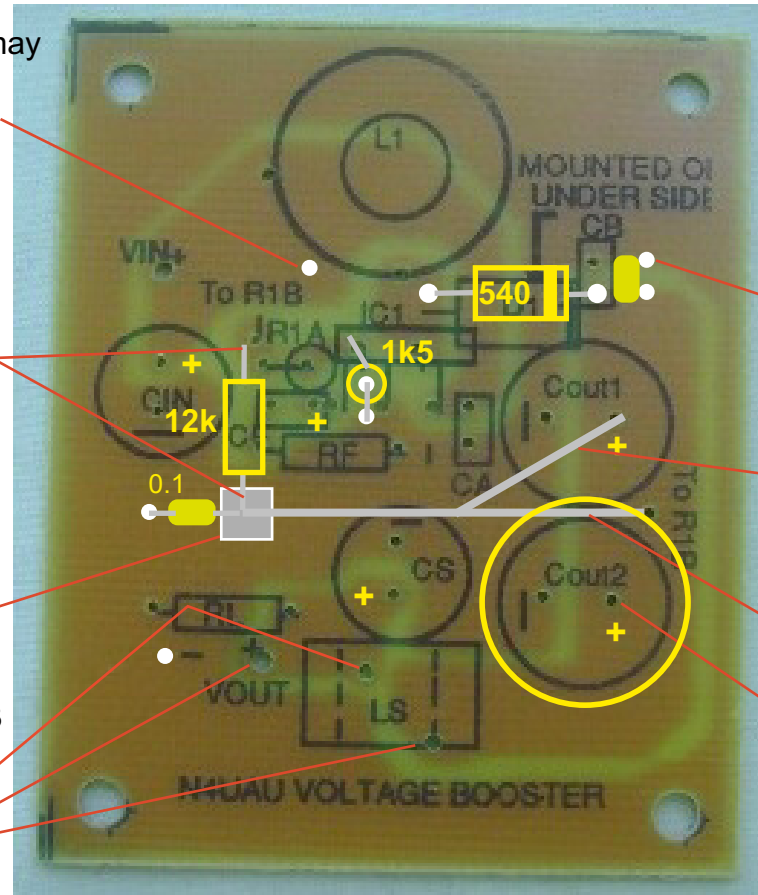
This hole location may vary depending on toroid winding ends

Bridge 12k with 50k Pot or trimmer for adjustable output

or
Fixed resistor for fixed output voltage

QRPme Pad or PCB strip

With stacked T50-3 toroids connect + output wire here, insert coil in these holes.



Drill additional holes in the board locations marked with white dots - drill .03 to .04 dia

With 1 2200uF # 20 buss wire from hole shown to QRPme pad
With 2 1000uF

With 2200uF enlarge holes for wider spaced pins - 1/16 works

Yellow outlines showing changed part locations and added parts not originally included.

Note: With 12k, output range is ~5.8 to 13.6
15k will produce slightly higher voltages.

Runaway Safety

In Sam's original 1997 article, he showed the feedback resistor R1B as a 10k pot. Various other sources noted that if the pot were to open, a runaway situation with possible serious consequences would exist. A mod made here includes a fixed resistor (12K) with a 50k pot in parallel. If the pot opens then the 12k resistor limits the maximum voltage to about 15 Volts. In my experience, a shorted pot is unlikely. At maximum, the parallel resistance value is about 9.68k Ohms nominal.