Soundtracs “Source” Power Supply Repair Notes

If you have a power supply that is singing under different loads, shutting down intermittently or generally not playing the game then try the following fixes.

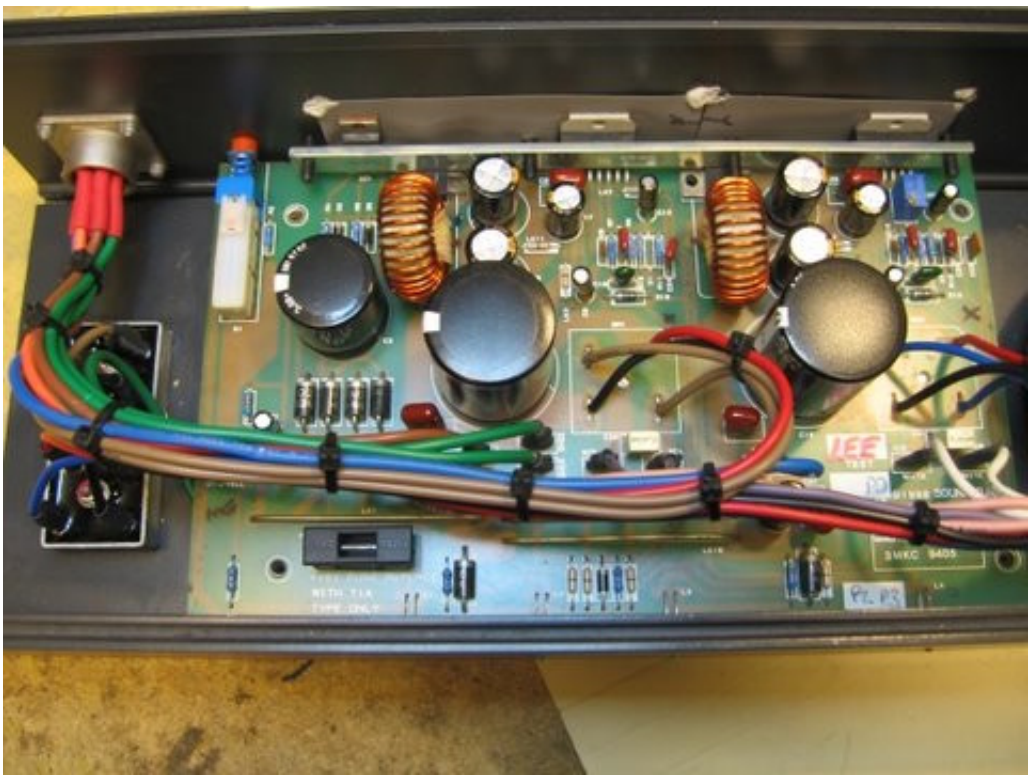
First up is to replace all of the lower value electrolytic capacitors with low impedance types that are intended for use with switchmode power supplies. The Hitano EXR series are highly recommended for this application. The capacitors in question are 4 x 1000uF 25v, 4 x 100uF 63v, 2 x 22uF 25v, 1 x 4.7uF 63v. While changing capacitors, re-solder anything suspect.

It seems that Soundtracs have fitted a wrong value capacitor in the compensation loop. Change C10 and C20 from 3.3nF to a 10nF (0.01uF) green cap. This mod seems to settle the instability with different loads.

The main bridge rectifiers run very hot and will eventually fail. The best solution is rip them out and replace them, I use 50 amp rectifier devices. I recommend that they are mounted directly to the metalwork near the output connector. Remember to put some heatsink compound or a silpad (silicon insulator pad) under them so that they can dump their heat effectively.

The power supply uses crimp connectors. I recommend that all (non mains power) crimp connectors are cut off and that all cables are soldered directly to the relevant terminals. Fit heatshrink to give a neat finish.

The L296 High Current Switching Regulator chips can become problematic, replace these if need be. Carry out the above mods first and see how stable the power supply is at 2 amp and 4 amp loads. Test with an 8 ohm resistive load per rail and then switch to a 4 ohm resistive load per rail, if the power supply is working properly it should be rock solid voltage wise and not squeal. It might glitch a little as the load changes (if you do a live swap) but should recover quickly and without effort.



By Warren Huck : Hux Electronics : 02/02/08