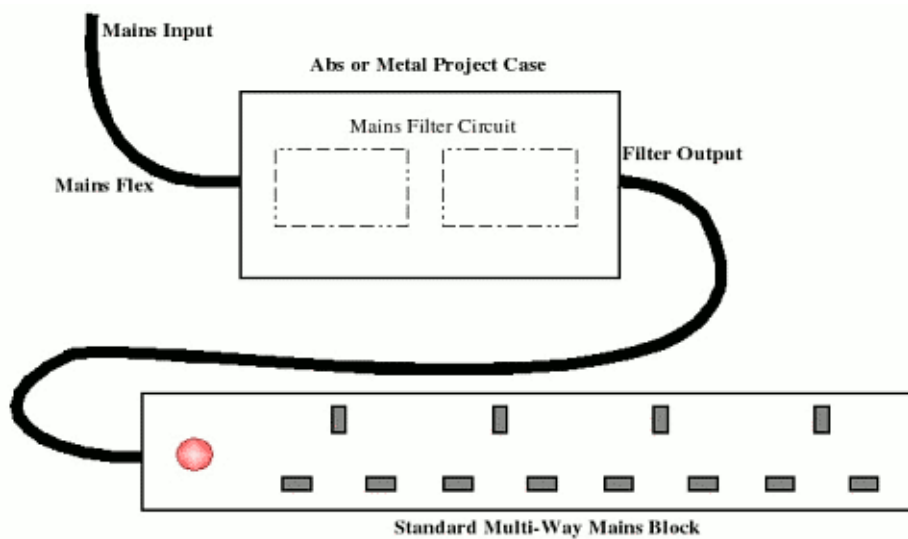
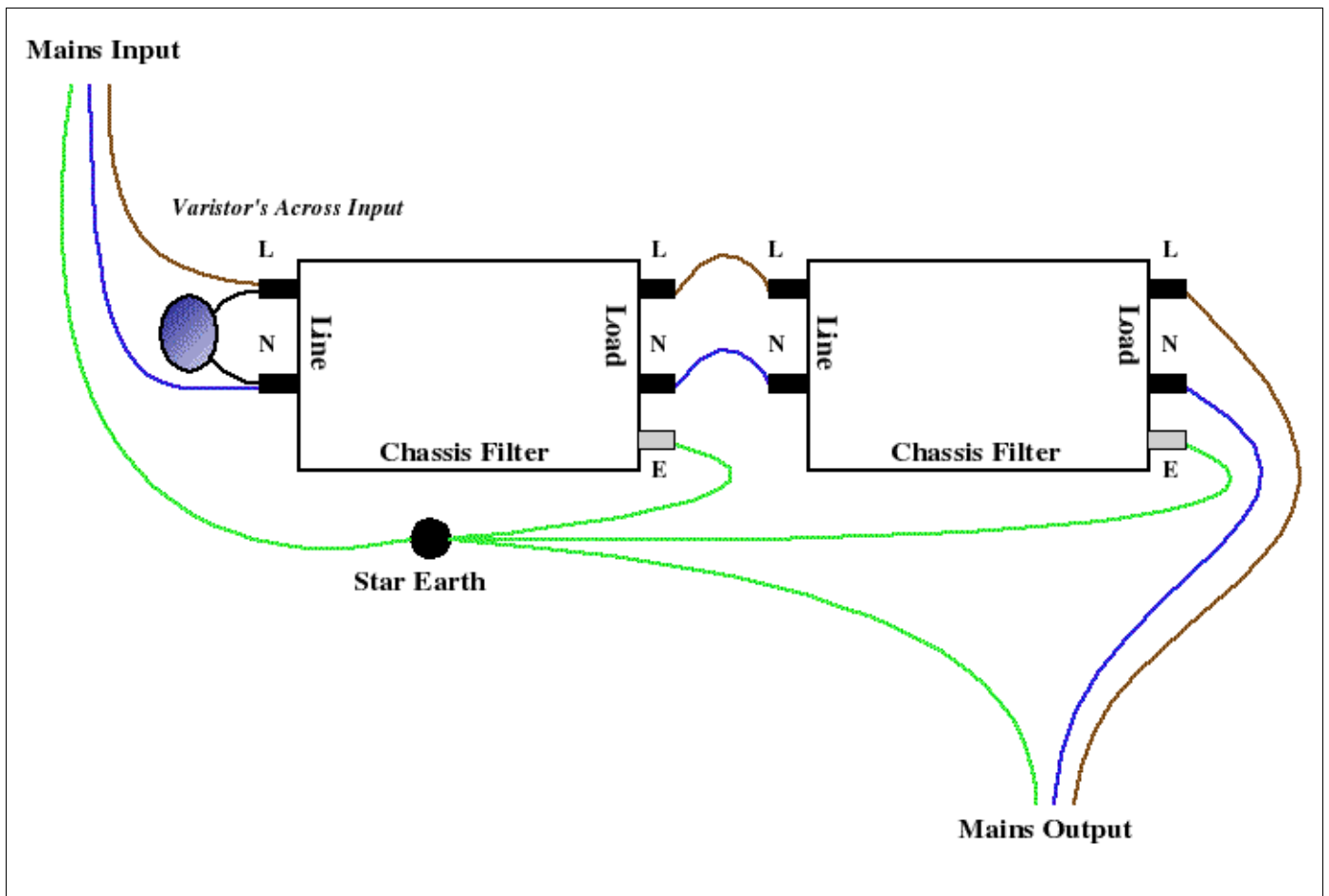


Mounting the Filter Boxes

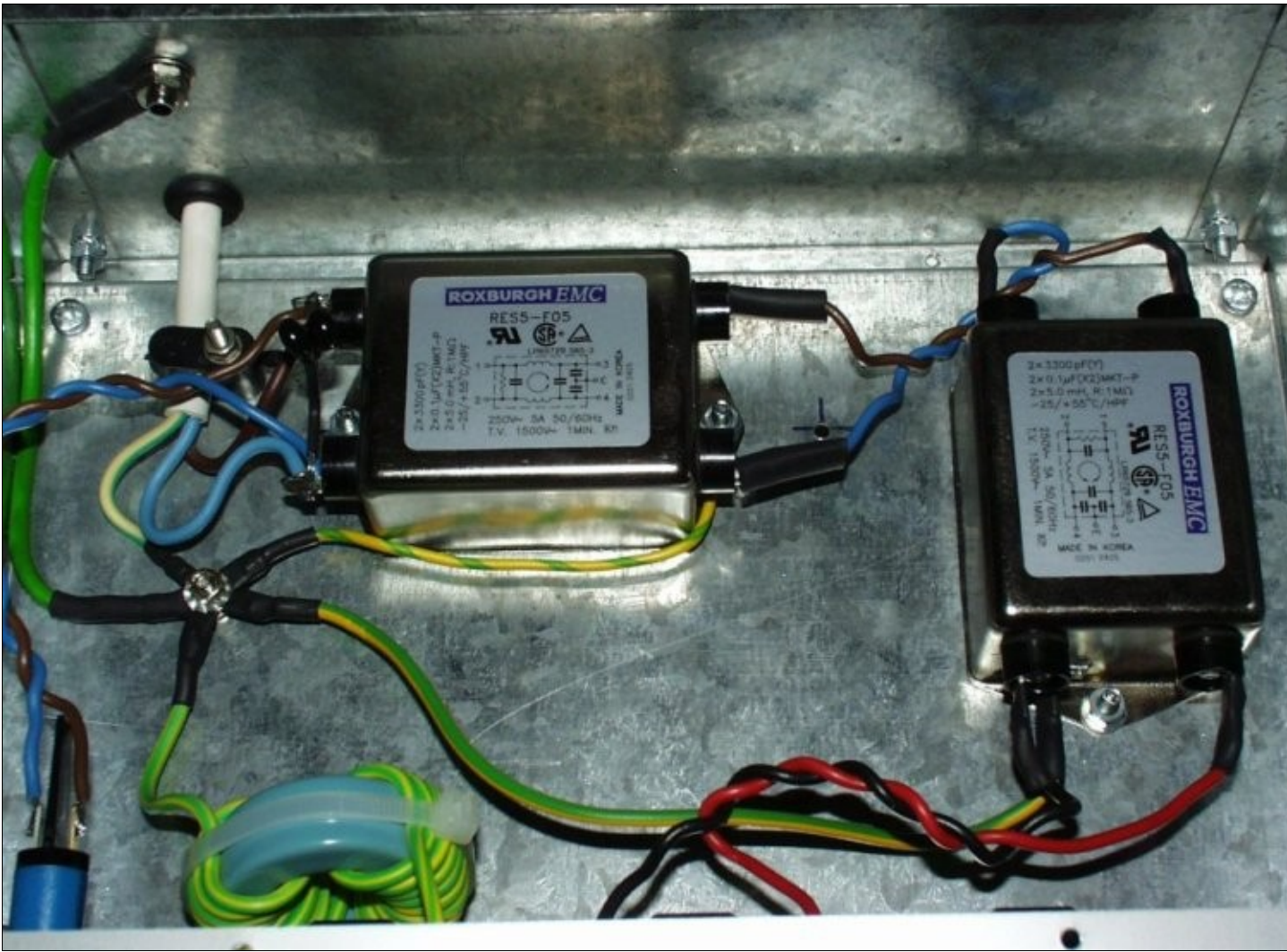
You can mount the chassis filter in a standard plastic ABS case from RS or Maplin (these are cheap) or go for a high quality steel instrument case from somewhere like RS. You may cut a hole in your case to mount a single, dual or triple mains socket which does look very professional. Alternatively just purchase a standard multi-way trailing socket and connect this as the output from your filter box. If the multi-way has a long enough mains lead at the input (buy a 2m or 3m one) you can then cut this in half so the plug end will form the input lead to your filter box and the remaining socket end the output. This saves buying extra mains flex and a mains plug.



The chassis filter in the top photograph is a dual stage unit so this would be ok on its own but the chassis filter I recommend for this project is a Roxburg single stage unit but has a slightly larger choke. Therefore purchase 2 of these and place them in series. That is connect the line of the 2nd filter to the load side of the 1st, placing them in series. All the earths should be connected together. That is, the earth of the mains lead input, the earth tags on the chassis filter boxes and the earth at the mains output. One way to do this is to use a star earth point. By using a screw and nut with solder tags create a point in your case which all the earth wires connect to. If you are using a metal case then this is most important, making sure the case itself is earthed. If you are using a plastic abs case then you may common all the earths at the earth solder tag on the first filter block since the case does not need to be screened or earthed.



I think you should get the idea by now. Above is the circuit layout. The Roxburgh filters I used in my own build were the 5A rated type but I use all tube gear.



Here is another example. This build also has a home made earth line choke you can just about see in the bottom left of the picture as the light blue torriod. The Torriod was salvaged from an old switch mode PSU.

You should select the filter current rating to suit your own setup and taste. If you are running high power transistor power amplifiers for example, a higher 8A or 10A version would be a much better choice giving you plenty of headroom. My 5A unit feeds a CD Player, tube pre-amp and mono block tube power amps with one socket spare to feed a tuner if I wish. The tube amplifiers I use seem to suit the slightly larger choke based filtering.

Some Feedback

Just some feedback from John D and Peter S who recently built this filter. I get quite a bit of good feedback on these, this is just one of many. So get building. It should cost you no more than £50 in parts unless you chose an expensive case.

- I just wanted to say thanks for all the advice you provided recently. I have built the mains filter, and now I have rectified the slight mistake I made the first time round [installed the Roxburgh's the wrong way round!] my system is sounding absolutely fantastic!

To say the filters clean up the sound is an understatement. Stereo imagery is more solid and focused, the whole sound is smoother, musical, natural sounding and easier on the ear, low level detail is improved, the list goes on. I have spent the last day re-discovering my record collection!

For a total outlay of £43.02 [including mains cable, plugs, socket etc.] this is an amazing achievement! <John D>

- Varistors arrived today and are now fitted. Music is playing at this moment, I do not think you emphasized enough the benefits of adding this simple but very effective mains filter. It compares to an expensive component upgrade for only a few pounds, amazing. When I had a Naim system, I spent £700 on a Hi Cap, it did make a difference to sound quality but not as big a difference as this has in my valve/tube set up! I was contemplating adding a TVC or tube preamp and using the Ella in power amp mode as my next upgrade but what a gain I've made with this! Great stuff, I am well pleased. Thanks again, Peter.

RS Part Numbers

238-621 Varistor 275V AC 61J (5 in pack) **** or buy from me cheaper ****

386-4239 RES Chassis Mount Filter 5A (Available from 3A to 15A)

186-7848 M4/3BA Solder Tags for Star Earth (if using a metal case)

Other Parts

Long Standard Multi-Way Trailing Power Block

ABS Plastic Project Case or Steel Instrument Case

Mains Rated Wire (Internal Wiring) - Salvage some of this from an old mains flex

Rubber Grommets for Mains Flex Entry and Exit of Case (2 off)

Rubber feet for case (Local Pound shop foam feet are ideal)

David