

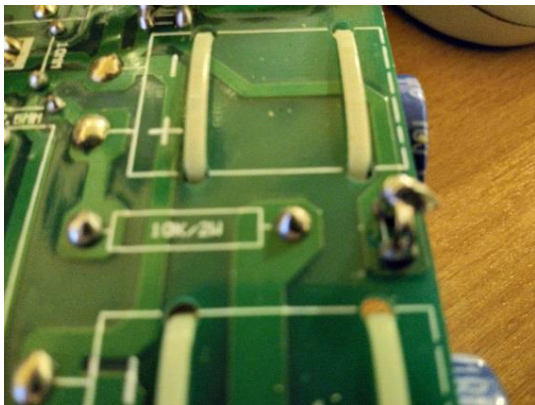
There are still many who suffer from excessive hum while using the MS22B or MS23B. Some have removed the Grounding wire from their mains power supply input by disconnecting the ground wire at the Power Plug and this has reduced the hum to a very low level.

**This is a dangerous course of action as it leaves the units vulnerable to becoming Live in the event of an internal fault.**

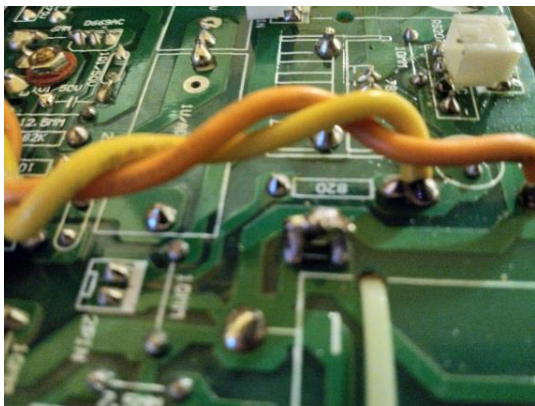
Is there another way to give Ground isolation and prevent earth loop problems between the phono amplifier and turntable?

One idea I have is to do the following which should remove all domestic supply Grounding except to where it is needed, that being all exposed metal work, the transformer but not the RCA Jacks.

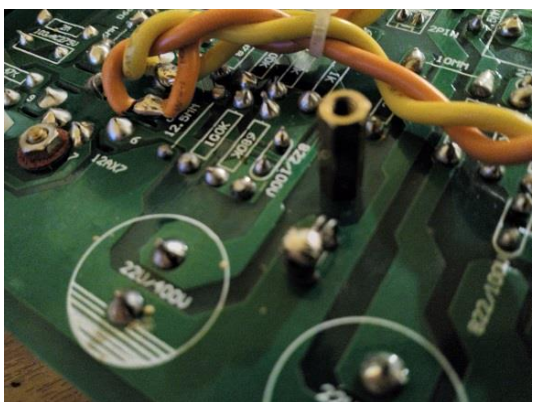
1. After getting inside, snip off the 3 Ground wires and either connect them all together in one of those insulated terminal blocks or solder them together. Do not insulate them with tape yet as another connection has to be made later. What you have done so far is to ensure that the metal case etc. is still bonded to the domestic power supply Ground.



Remove Ground point near rear edge of board (G2).



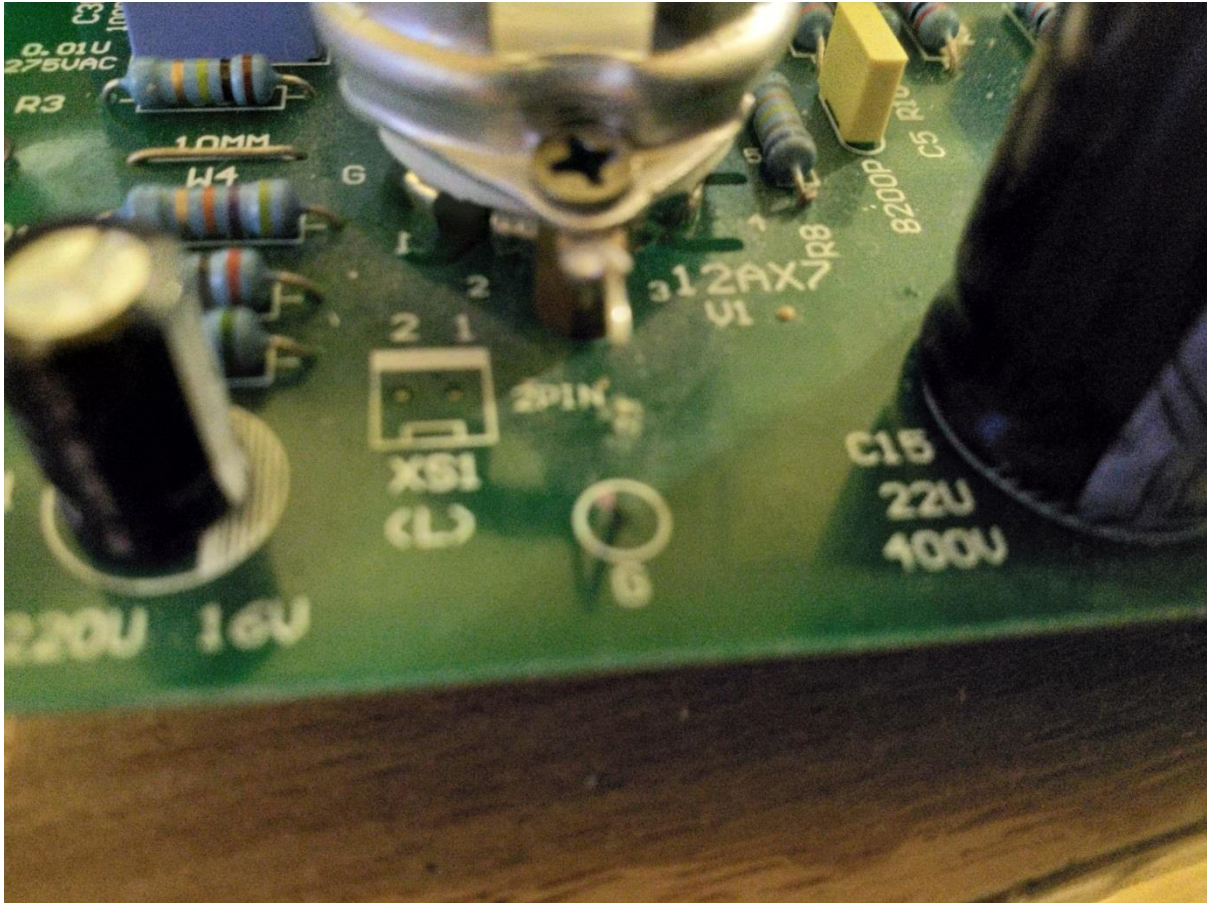
Remove Star Ground point.



Remove Ground point near front of board (G1).

All of the circuits 0V should now be isolated from the domestic supply Ground but there could still be a problem with the valve skirts. These are connected to the 0V of the circuitry and there is a good chance that the screening covers could touch the case and circumnavigate all the isolation that has been done.

The answer is to remove the front panel and you should be able to snip the uninsulated wires going to solder tags fitted to the two skirts.



Now you need to solder a wire onto each of the solder tags so they are connected together, then connect a wire from them back across the board and connect it to the three Ground wires you previously removed from the board. Insulate all four wires with suitable tape or fit them into one section of 10A terminal block. Just one section of a high current terminal strip should do, if you have to use more than one section make sure they are bonded together.

This way you have provided a supply Ground to the screening cans/skirts but the signal circuits and their DC power supplies are isolated from supply Ground and hopefully it has safely removed any hum loop from the Phono Amplifier and your turntable.

Now remember that the rear panel Ground Terminal is now connected to your domestic power Earth and NOT to the 0V rail of the internal amplifier.

This will provide a safety Earth for your turntable but what if connecting it gives hum again! Chances are that the turntable output cable screens are also connected to the turntable Ground but surely this is wrong? It should not be a requirement for the RCA cable screens to act as a safety Grounding, they should be there for signal returns only. So make sure your cartridge cables do not see any Earth or Ground. Your cartridge is not powered by 115 or 230V and their isolation, free of any domestic Ground wiring, should give you a quieter hum free life.