

Acceptable unbalanced setup 2: grounded chassis and semi-floating RCA inputs

Most hum problems are found in systems that use both mains earth and unbalanced inputs. A common workaround is lifting the secondary ground. In some cases this invites hum through capacitive coupling. And in the case of the NC400, short of insulating the whole module the secondary ground cannot be lifted from the chassis. A much better solution is to lift only the input, which you can do when you have an actual difference amplifier at your disposal. The allowable common mode range is not infinite though, so the RCA ground cannot be fully floated. Nevertheless, the added noise rejection when interfacing with other grounded unbalanced kit is substantial.

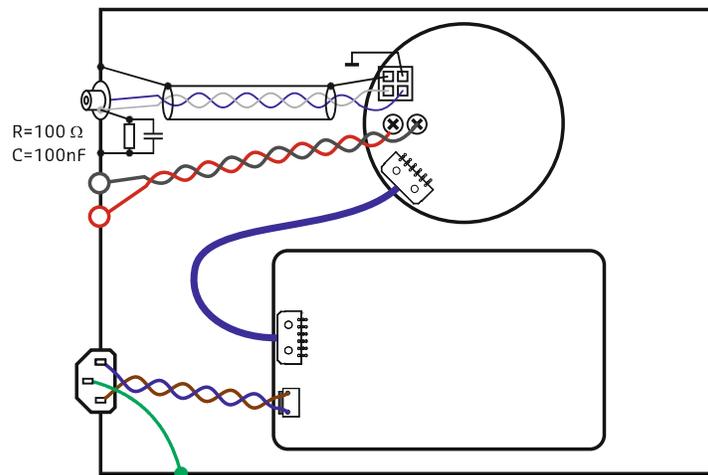


Figure 2: Solution if both mains, protective earth and RCA inputs are wanted

It should be stressed that the problems concerning unbalanced connections that were outlined here are not related to the amplifier, but are inherent to the very phenomenon of unbalanced connections. The reason why they are being highlighted is precisely because thanks to the presence of a differential input, they can be solved without having to resort to esoteric grounding arrangements.