



The ground loop current depicted in red is formed by the trapped magnetic flux within the grey loop. The error signal A is the difference between the voltage induced by the trapped flux of the primary loop, minus the flux created by the ground current of the loop. The better the ground, the higher the loop current and the better the cancellation. This means all the ground path, line cords as well as IC's. (But, it enhances the pink and blue area flux.)

The grey loop current is proportional to the rate of change of the trapped flux within the grey loop. The pink area is the loop formed within the source component, and it is intercepting the flux created by the ground loop current. Error signal B is proportional to the rate of change of that pink loop flux, and proportional to the frequency squared of the primary grey loop flux. The blue area within the amp does the same as the pink area of the source, its error is proportional to frequency squared. Note that this is the pin 1 problem area. Pin 1 problems are both the IR drop of the pin 1 wire, as well as the blue loop flux trap shown here.

Error A proportional to frequency of primary flux

Error B: proportional to frequency of primary flux due to ground IR drop within source, and frequency squared due to magnetic induction within the pink loop.

Error C: proportional to frequency of primary flux due to ground IR drop within amp, and frequency squared due to induction within the blue loop within the amp..

Note that the better the ground, the worse the "pin 1 problem" becomes, both in the amp **AND the source**.