

Phone Line Interfacing – FCC Part–68

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I'm on a data–collection project, and the terminal will download via POTS.

My question is: We're using the MultiTech Socket Modem (v.34, because it's low cost).

In the documentation, they show several ways to interface to the phone line.

We will have a choke in–line for the tip and ring for common–mode. And a resettable fuse. So far, so good.

But I have a question:

MultiTech shows a paralleled 220pf 5kV cap & a sidactor (transorb), with one set each on both the tip and ring. The other side goes to "FGND". Any idea what this means, as it's not referenced anywhere else in the document??

I am assuming Earth ground, or at least some ground other than the power supply ground driving the rest of the circuitry. (There is also an analog ground for the modem speaker – which we're not implementing...)

Our box will be just that: A plastic box with a membrane keypad, an LCD, a 9VDC 2–conductor wall–wart power supply, and of course, an RJ–11 for the phone line. There will not be an earth–grounded conductor.

Should we bother with the (Y2–rated safety) caps and sidactor (transorb) protection, or just go with the common mode choke and inline fuse? What is "safe", if anything, to connect to power supply ground? Will the choke & fuse only arrangement pass FCC –68 requirements?

Thanks. (Seems like ages since I did any work with embedded dial–up modems!)

–mpm

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