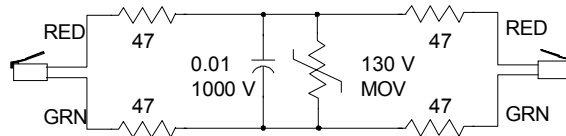


A Separate Protector for that Modem

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Recall in Number 75 that I suggested you also protect your modem by getting a surge protector with two telephone jacks built into the case. One jack takes a cable that plugs into the telephone jack in the wall and the other holds a cable that goes to your modem. Inside the case are MOVs that prevent surges from getting into your modem from the telephone lines.

Well, what if you already have a surge protector for the computer, but it doesn't have telephone line protection? Those inclined to homebrewing can build a separate modem protector with a handful of parts. The circuit appeared in Aspinwall, J. and M. Todd 1996 **Troubleshooting Your PC**, 3rd edition. IDG Books Worldwide, Inc. [ISBN 1-55828-493-1; <http://www.idgbooks.com>], and Mr. Brian Lew, their Licensing Coordinator, has kindly given me permission to show it to you. Being an avid tinkerer, I built a couple of these. One is protecting the modem in my second computer and the other is doing its duty for a friend's modem. I potted both devices after building them, using the liquid goop made for dip coating the handles of pliers. The device will not damage or degrade the performance of your computer or the telephone lines, but it will protect you.



The four 47-ohm resistors will absorb much of the energy from spikes, and the MOV prevents any voltage higher than 130 volts from getting into your modem. The capacitor works in concert with the resistors to filter out signals above the voice audio range, thus reducing clicks, pops and static on the phone line and generally cleaning up the signal.

Although I have not tried this modification myself, it is said that if the four resistors are replaced with 100 mh inductors, the circuit will supply the same voltage protection and will severely reduce RF interference. Hams with RFI problems, take note!

If you build the device into a long cord with RJ-11 plugs on both ends, you can plug one end into the wall telephone socket and the other into your modem. An alternative is to make the whole line (from RJ-11 plug to RJ-11 plug) only about 6 inches long. Then an in-line coupler (single line style; available at ACE Hardware Stores for about \$2) will let you plug this in to an existing line between the wall and modem. Put it near the wall outlet rather than near the modem. While you are at it, tie one or two fairly tight overhand knots in the wire. This will give some protection in the event of a nearby lightning strike. Put a couple of knots in the AC line going to your regular surge protector, too. Lightning hates to turn corners and will dissipate energy in the knot, burning it up. Hopefully, enough will be dissipated in the knot to save the computer. It is worth a try, since all it takes is the trouble in making a knot or two.

PS: Did you know that only the red and green lines are needed for all phone functions on a standard home phone line? Yep. Look at the circuit diagram. Happy computing!