

Ask Jon Eakes

# Surge Protection: Individual appliance, or whole house

Last Updated: Saturday, November 2nd, 2013, Created: Wednesday, September 24th, 2003

## WHY SURGE PROTECTION?

Today's homes and offices are full of electronics. Appliances, TV's, VCR's, fax machines, computers, etc. Most electronics today use some type of microprocessor device. These devices are vulnerable to fast moving high energy disturbances known as 'surges'. For instance a lightning storm near your home can create a high energy surge that may enter your home through hydro lines. Another example of a power surge is when a fallen hydro line pole (due to a car accident or high winds) shorts out across other power, telephone or cable lines.

Because cable and telephone lines usually hang on the same poles as hydro lines, there is a significant chance of power surge damage on these lines too.

For these reasons surge protection equipment is highly recommended to protect your valuable electronic investments against power surge problems. Surge protectors do not protect your house from a direct hit by lightning, follow this link for information on when lightning protection may be needed.

Surge protection devices are readily available for use right near your equipment, often providing protection for telephone lines and cable lines as well as the standard power sources. All of this is also now available at the whole house level -- right where the wires come into the house.

## ELECTRICAL PANEL MOUNTED SURGE PROTECTION

This type of unit protects you from surge damage to everything that is plugged into power outlets in your home or office. It is installed directly on your breaker or fuse panel which is the source of electricity to your entire home or office. This is a whole house surge protector and takes care of all the plugs throughout the house, right at the breaker panel, eliminating the need for all those surge protected power bars and protecting lots of electronic controls in devices which are never plugged into power bars, like the stove, frig and washing machine.

I really wondered how such a little unit with such small wires could really protect the house, so I dug into the technology of it. When a surge hits, it is a very high voltage for a very short period of time. Hence the actual power in the surge is relatively small. That is why it doesn't bother anything that is not high tech electronics. Lights, heaters, motors just keep right on going. But these micro-second voltage spikes kill transistors. What this surge protector does is simply shunt that low amperage high voltage surge off to ground before it even gets past the circuit breakers of your house. You must however have two free circuit breaker sockets in the panel.

## TELEPHONE & MODEM PROTECTOR

This type of unit protects any devices that are plugged into your telephone lines. Devices such as your computer modem, fax machine, alarm system, answering machine or telephone system. It is installed right where the telephone wires come into the house.

## COAXIAL LINE PROTECTOR (75 OHM)

This type of unit will protect all of your coaxial cable connections. Stops surges from damaging your television, VCR, cable box, cable modem and satellite dish receiver.

## COMBINED PANEL MOUNTED UNITS

Compact residential units are now on the shelves that combine all three of the above devices. Having these industrial protectors finally available for residential use is exciting to me. They are beginning to appear in renovation centres, and of course can be tracked down on the web - or talk to your electrician about them.

Remember that all electrical work requires a permit, some provinces allow homeowners to do their own electrical work and some provinces require licensed electricians to carry out all such work. Click

here for more details.

**Keywords:**

Damage, Lightning, Surge Protection, Environmental, Security, Safety, Electrical

**Article 1812**

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