

Get ahead of the Surge

Surge suppressors, also known as surge protectors, are your first line of defense when it comes to preventing a power surge from frying your big-screen TV, computer, tablet or other treasured electronics. Used properly, these devices can save you thousands of dollars in losses. Here are **six things you should know** about power surges, surge suppressors and how to safeguard your home.

1 POWER SURGES DEFINED

An electrical surge is a burst of electricity that exceeds what is needed to operate equipment. Electric utilities use transformers, circuit breakers, fuses and properly sized wire to ensure the correct voltage is delivered to your home or business, but voltage fluctuations are inevitable and can damage your home's electrical system and electronics. A surge usually only lasts a fraction of a second, but when the circuits in electronic equipment are hit by a surge or spike, they suffer damage. While most electronics now have some degree of surge protection built in, energy surges frequently surpass internal protection levels. Excessive voltage is enough to destroy circuitry inside sensitive electronics. Without proper protection, power surges can ruin electronics.

2 EXTERNAL CAUSES

A person's chances of being struck by lightning are about 300,000 to 1, according to statistician David J. Hand. The probability that a lightning strike or other freak occurrence could cause a power spike in your home's electrical system is much higher, however. External causes can include bad weather, downed trees, lightning, animals contacting lines, accidents involving power lines, neighbors using major power equipment, and normal utility operations.



3 EXTERNAL SUPPRESSORS

Some homes have external surge suppressors—also known as whole-house suppressors. Installed at the meter or on an electrical panel by a licensed electrician, these devices protect motor-driven appliances wired out of the main panel by preventing high-voltage spikes and surges from entering the home. They are designed to instantly isolate the home from external events that affect power quality and protect major appliances such as refrigerators, washing machines and heat pumps from most external surges.



Surge protectors like the one shown here can save you thousands of dollars in damage to high-value electronics, such as computers and TVs.

PHOTO BY ETHAN E. ROCKE

4 INTERNAL CAUSES

The Electrical Safety Foundation International estimates 60 to 80% of power surges occur inside the home. Causes of internal surges include faulty wiring, loose connections, poor grounding, operation of heating and air-conditioning units, and major appliances and large motors switching on and off. These common internal surges require a second line of defense—individual or point-of-use surge suppressors—to protect electrical equipment and devices from damage.

5 INDIVIDUAL SUPPRESSORS

Also called point-of-use suppressors, these devices are plugged into the wall and connected to computers, TVs, gaming consoles and other electronic devices to protect them from surges generated inside a home or business. They suppress an erratic power supply by diverting excess voltage to a ground wire. Anything plugged into an outlet is susceptible to damage, even if the equipment isn't in use. Many devices have electronic timers, clocks or remote controls that remain in operation when idle.

6 BUYING SUPPRESSORS

Remember that power strips, which often look similar to surge protectors, are not the same thing. Power strips simply provide additional outlets without any protection from surges. Look for the words “surge protector” or at least “protection” or “suppression” on the device. Don't get caught off guard with the wrong device. ■