Subject: Surge protectors
Posted by AudioAJ on Fri, 02 Apr 2010 16:52:46 GMT
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Is there much of a difference between one brand of surge protector compared to another? Just looking for something that will protect my equipment. Any recommendations?

Subject: Re: Surge protectors
Posted by Wayne Parham on Fri, 02 Apr 2010 18:18:24 GMT
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There are plenty of different technologies of surge protectors. The ones we're talking about are secondary protectors, by the way. Secondary surge protectors include things like barrier strips and other equipment that contain surge clamping devices. Primary protectors are usually outside the building, and are larger capacity but their tolerance isn't as great - they tend to take the big hit but not clamp to as specific a range.

Examples of primary arresters are lightning rods and spark gaps. Secondary protectors are smaller devices, usually things like metal oxide varisters and surge clamping diodes. These days, you can find primary arresters with some of the same technologies as are found in secondary protectors, but the real determiner is size and location. The primary takes more of the hit and is mounted at the point of entry, whereas secondary protectors are inside, often at the recepticle.

I tend to like primary devices that are very simple and can take a whallop, like gaps and rods. They're just going to arc over when the voltage is high enough, and the only real damage they take is from melting or pitting. For secondaries, I like MOV devices for high voltage lines and SCD devices for low voltage lines. Surge clamping diodes tend to clamp at more precise voltage levels, and so I like them for signal level lines. MOV's are fine for AC, and tend to fuse shorted when "cooked", so they really should be used with a breaker. That's how most barrier strips are made. Once it is damaged, throw it away and replace it.

Secondary protectors are rated in Joules and in voltage, and in general, the larger the energy (Joules) rating, the better. The voltage should be roughly equal to the signal it's intended to protect, or slightly less. So for example, a device intended to protect a 12VDC line should not clamp below 14-18V or so. If the line ever rises above that level during normal operation, you definitely don't want the protection device to kick in, so it should be sized accordingly. If AC, don't forget that power lines are usually described in RMS, so multiply by 1.414, minimum. In other words, a 120VAC line will tend to swing from +170V to -170V. The protector should not clamp until at least 180V in either direction.

Subject: Re: Surge protectors
Posted by Maxie on Fri, 09 Apr 2010 15:47:50 GMT

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I'm just looking for a quality home surge protector to plug my home entertainment equipment into. I had a Sony that was pretty well melted in a violent thunderstorm we had recently. It did protect my equipment though.

Subject: Re: Surge protectors
Posted by Wayne Parham on Fri, 09 Apr 2010 17:33:55 GMT
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It did it's job then, worked as it should. That's what you should expect from a properly designed surge protector. Sometimes they'll last a lifetime but if it has to do its job, it'll only do it once.

Subject: Re: Surge protectors
Posted by Sadie on Sun, 18 Apr 2010 17:28:16 GMT
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Wow, Wayne, that was a lot of information. Thanks for sharing

I have been meaning to get a surge protector for a while now, but I just keep putting it off (which is bad, I know). I'm glad I stumbled across this thread to remind me and now I'm going to make it a priority the next time I'm in town.

Subject: Re: Surge protectors
Posted by AudioAJ on Wed, 21 Apr 2010 19:36:41 GMT
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Maxie wrote on Fri, 09 April 2010 10:47I'm just looking for a quality home surge protector to plug my home entertainment equipment into. I had a Sony that was pretty well melted in a violent thunderstorm we had recently. It did protect my equipment though.

The surge protector did a nice job. I've always felt that a good surge protector is worth it's money in the equipment I protect.

Subject: Re: Surge protectors
Posted by SayWhat? on Wed, 05 May 2010 16:51:10 GMT
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That's wonderful! Yeah, I've had a few to "die" too. But that's what they're for. I don't mind

replacing them as long as I don't have to replace TV's, audio equipment and computers. I know insurance will replace some but I would rather not replace if I don't have to.

Subject: Re: Surge protectors
Posted by TLC123 on Sat, 08 May 2010 01:55:30 GMT
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Wayne Parham wrote on Fri, 02 April 2010 13:18
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I have a rod outside my home. It's a ground rod. Does that mean I am protected and don't need to run surge protectors? I am running both right now.

Subject: Re: Surge protectors
Posted by Wayne Parham on Sat, 08 May 2010 01:58:59 GMT
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Most of the communications companies (telephone, cable, etc.) install a ground rod at the point of entrance. Naturally, they employ surge protectors to clamp their signal lines.

Subject: Re: Surge protectors
Posted by love4music on Sun, 09 May 2010 18:50:51 GMT
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There is a lot of great information in this post! Thanks for all of that. Right now my computer is the only electronic that I have on a surge protector outlet strip. I am going to go buy another for the TV.

Subject: Re: Surge protectors
Posted by DaBase on Wed, 12 May 2010 17:09:23 GMT
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I have my computer hooked up to a battery back up surge protector. If the power goes out then the battery kicks in and is good for 20 minutes. I like it because it gives me time to shut everything down.

Subject: Re: Surge protectors
Posted by Maxie on Wed, 12 May 2010 23:16:22 GMT
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One thing I did not know when I got my fist computer is that if you are using dial up you need to have your telephone wires going through the surge protector too. I thought I was protected until lightning hit the telephone wires and I didn't know to have them protected. Result - fried modem.

Subject: Re: Surge protectors
Posted by Drummer on Wed, 26 May 2010 23:57:53 GMT
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All surge protectors are not high quality. To get the maximum protection for your electronics, I suggest you buy the top of the line, it might cost a little more, but it is worth it.