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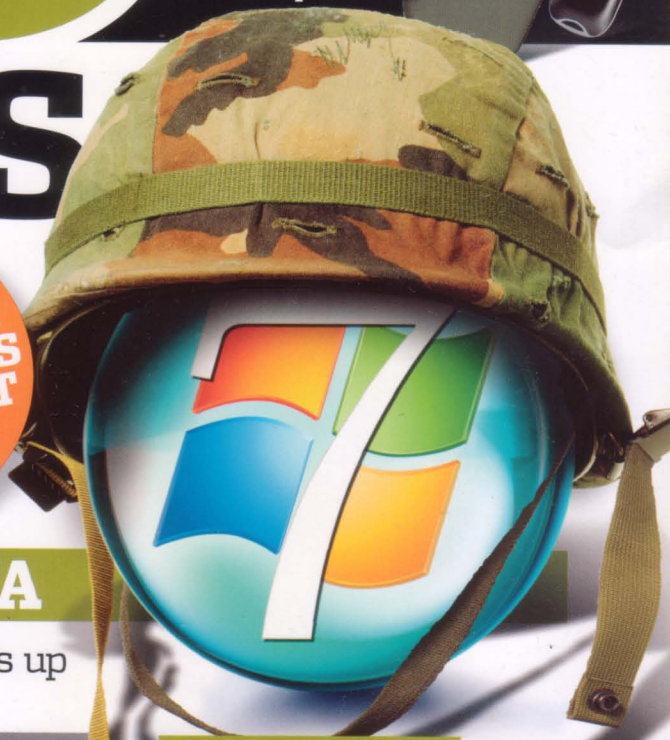
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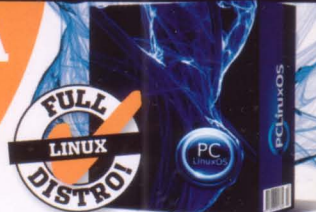
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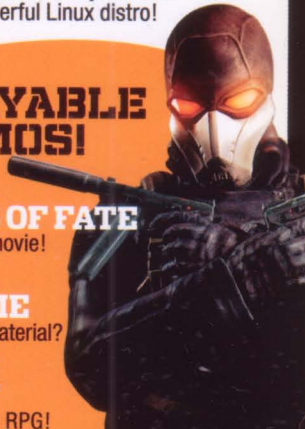


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07

BUILDING A PC

Choosing the right surge protector

How to pick the right surge protector from so many in the market.

APC
EXPERT



GOUGH LUI

Gough Lui is a university student, currently studying electrical engineering. He has worked with computers as a hobbyist since he was young, many times repairing, salvaging, building and servicing his own systems.

Most people take note of the effect of power surges only when their computers and other electronic appliances are damaged by them. A surge is a sharp spike in voltage that comes down the mains power line. A spike can be significantly larger than the mains voltage and cause stress and damage to electronic components. While major surges usually cause instant damage the majority of surges are small and can take their toll on appliances in a cumulative way. Most surge protectors are designed to protect your appliances from these surges but not against direct lightning strike due to the immense currents and voltages involved. Here are my tips on choosing a surge protector.

- Take note of the Joules (J) rating on the specification, which is indicative of how much power the surge protector is able to absorb during a surge. Most basic surge protectors offer between 120 and 370J, which is not adequate for protecting sensitive equipment. I recommend that you look for a surge protector of about 800J or more.

- Also take note of the technologies used and the response time. The most common form of surge protection element is the MOV (Metal-Oxide Varistor), which offers cheap, sacrificial protection, but has a rather long response time of about 20 nanoseconds (ns). The better surge protectors have other forms of protection — such as a Transorb diode, or a gaseous arrestor and can quote times of <1ns. The longer the response time, the more chance of damage to equipment regardless of absorption capability.

- Ensure it covers all entry paths — if you are protecting a computer, and you have a modem and a TV tuner, it would be important to make sure that the phone line and TV antenna is surge-protected as well. There is no point to protecting your power when a surge can enter through another path and damage your equipment.

- Check the terms of warranty — many of the better surge protector boards offer lifetime warranties, which allow you to receive a replacement surge protector if yours fails. Some also offer a connected equipment warranty, which will pay for replacing damaged equipment — however, many of these have terms that are impossible to satisfy, and so I don't recommend that

you purchase on warranty alone.

- Also look for a load-disconnect feature, which disconnects your load if the surge protector fails. Many of the surge protectors fail silently, and are not noticed — leaving the door open for more surges. Surge protectors with load disconnection will instead cut the power and force you to replace the protector — thus making sure surges are kept out.

- It is important when purchasing a surge protector to ensure that it comes from a reputable manufacturer. Cheap unbranded surge protectors may not be a surge protector at all.

A surge protector could really save a lot of headaches down the track. **ITC**



If you want to protect your equipment, a good surge protector is essential.