X-C 6000/X-C 6250 Computer

Surge Protection

General Information

A large number of computer and high technology equipment damage is directly related to AC power and telephone line problems. These problems can include surges, spikes, noise, interference, and weather-related problems, which in turn can cause glitches, hang-ups, crashes, performance slow downs, and down time with computer equipment. The market is flooded with hundreds of AC power line surge suppressors advertising high performance surge protection; only a few of them actually provide adequate protection.

This Technical Bulletin provides guidelines for selecting a quality surge suppressor to be used with an X-C 6000 or an X-C 6250 computer, and it helps identify a few sources for products with acceptable performance.

Selecting the Right Surge Protection

Consider the level of quality you need when selecting a surge suppressor. This depends on factors such as surge environment, the type of equipment to be protected, and the quality of the electrical wiring and service.

Surge Environment

Surge environment refers to the damage potential from electrical surges in a particular geographical area. A high quality suppresser should be used if there is frequent lightening activity in the area and the location service is fed by overhead utility poles. An example of a high surge environment would be Florida; a low surge environment might be New York.

Type of Equipment to be Protected

If the computer is equipped with a modem, the modem should also be surge protected. Protecting the power line without protecting the modem line provides only partial protection.

Quality of Electrical Wiring and Service

Wiring should be up to current NEC standards and have verified good AC grounds. It is important that your computer system be plugged into a grounded AC outlet when charging and that all peripherals connected to your system reference the same AC ground.

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Selecting the Right Equipment

There are a number of companies that sell quality surge suppressers such as Sutton Designs, APC, and Panamax. When you are looking for a surge suppresser, consider these things.

- Expect to pay at least $50 for a good quality surge suppresser.
- The surge suppresser should be a UL 1449, 497, and 1283 listed for surge suppression, modem surge protection, and RFI/EMI noise filtering respectively.
- The surge suppresser should have diagnostic LEDs that verify good AC ground, proper wiring, and proper surge operation. Lighted on/off switches are not recommended since they can produce electrical noise.
- The Joule ratings should be a minimum of 480 Joules for the AC surge circuit.
- The Joule ratings should be a minimum of 240 Joules for the modem.
- The modem surge circuit should present low capacitance to the modem line or it will slow the transmission rate. Capacitance should be specified at less than 50 picofarads.
- Quality surge suppresser manufacturers generally offer a lifetime warranty.
- Consider obtaining a protected equipment coverage policy which insures the equipment in the event of surge damage.
- The devices that will be attached to the computer also need to be surge protected.