

First an installation tip - Surge Protection



DON'T LET YOUR CUSTOMERS' AUDIO/VIDEO EXPERIENCE TURN INTO A NIGHTMARE

Surge protectors are critical to protecting your equipment investment. Surge protectors will help prevent hardware failures due to overvoltage events which are common in household and commercial settings.

Prevent that products you have installed will be destroyed

Power Surge Causes and Prevention

Common Causes

- **Switching Inductive Loads (purposefully or accidentally such as during an outage or breaker trip)**
 - Electric motors such as those in HVAC systems, vacuum cleaners, and other appliances, are a common culprit. When power is cut from these loads, large voltages are generated.
- **Electrostatic Discharge**
 - Static charge can build up, especially during equipment installation when cables and equipment have not yet been grounded. The risk increases with lower humidity.
- **Lightning**
 - Lightning flashes that occur nearby do not need to hit anything to cause damage--the electromagnetic waves produced can induce current in your wiring.

Prevention

- Use the appliance power switch to turn off appliances.
 - Pulling the cord on a running vacuum, for instance, can cause a voltage spike to arc back into the outlet before you can move the plug away. The proper switch is designed to quickly and cleanly break the connection.
- Disconnect sensitive equipment when electrical work is being done.
- Ground your equipment on both ends before connecting signal cables between them.
- Unplug sensitive equipment during storms.

When could it happen for me?

We have seen in installations with Video Matrix or Video Extenders in private homes. That because the client has stopped using normal TV antenna, to watch TV, and now stream everything. The natural Grounding of the installation, because of the TV antenna, has been removed. So many installations, has no Grounding, which is needed. When Grounding has been removed in these installations, power failures, cut in power, or electrostatic discharge has made the TV's discharge surge over the HDMI output, and into the Matrix Receiver, and accidentally destroyed the Receiver. The POE chip are destroyed. You can always power the Receiver with a USB 5 Volt power.

Atlona has been so kind, that they have covered all destroyed Receiver within their warranty. And they have changed the design of the Receiver, so all of them has a small POE chip protection built-in. But of course this can only help for some amount of power.

What can you do? Increasing Surge Protection Effectiveness

Grounding

- Most surge protectors contain components which short current to ground to dissipate voltage spikes. The better your grounding, the more effective your surge protectors will be. Check with an electrician to make sure your equipment grounds are properly bonded at the service panel per your electrical code.

Maintenance

- Replace surge protectors and UPS batteries every 3 - 5 years or per manufacturer recommendation. Buildings with frequent power issues should replace surge protectors and UPS batteries more often.

Common Types of Protection

Many products contain several types of protection, but it is important to know that all types are not guaranteed to be present (or present in equal quality) in a given power protection product.

Surge Protector

- Protects against sudden spikes of voltage which are beyond the standard wall output
- Most surge protectors (those with MOVs) wear with each power surge and are recommended to be replaced every 3 - 5 years

UPS (Uninterruptible Power Supply)

- Contains a battery to provide power in case of outages, brownouts, and voltage swells (long power surges)
- Since the UPS has to switch over to battery power, a UPS may not be sufficient to protect against fast power surges. Most UPSes contain surge protection features, however.
- UPS batteries generally last 3 - 5 years

Power/Line Conditioner

- Filters electrical noise such as that caused by switch-mode power supplies
- Good for isolating analog equipment from noise sources
- Most contain surge protection features

Lightning Protection

- Lightning is especially hard to protect against. Proper lightning protection is usually pricey and installed at the service panel with a good bond to a grounding rod. Many inexpensive surge protection products claim lightning protection, but this protection is often limited due to the energies involved.

IMAGO SONAS Recommendations

IMAGO SONAS recommends a high quality surge protector. A few suggested products are linked below:

- [SurgeX power surge products](#)
- [Supra Power Surge protection](#)

- [Energine Surge Protector](#)
- [SCHUKO Socket - Install by electrician](#)