

FAQ – Why do you recommend Surge Protection and Battery Back-Up units on telephone systems?

First Of All: Environment is Important to your System's Well Being

Computers and Telephone Equipment are susceptible to damage if not provided an adequate environment. Comdial specifies tolerances of temperatures between 32-122 degrees F. - Non-condensing relative humidity levels less than 90%.

A general rule of thumb: What makes you comfortable in your working environment makes your phone system or voicemail server happy.

POWER ISSUES

BATTERY BACK UP AND UPS (*Archive: Newsletter Article 1Q01*)

Recently our office building experienced a power outage. Having our phone and computer systems on Surge-protected Battery Backup units saved our data, our systems and enabled our service department to stay open.

More than losing the ability to function, electrical storms and poor power quality in your building or coming from the serving electric company can cause extreme damage to sensitive electrical components with brown outs and power surges.

Preparing for the unexpected and the damaging effects of power spikes to your costly telecommunications and computer equipment and lines protects your systems safely and economically.

Lightning, the most common cause of electrical surge damage, can enter your network, telephone, or power cables. Lightning Protection through In Line Surge protectors has saved many systems.

But even in low lightning areas, there is always the potential for surge damage. Electrostatic build-up and discharge, power fluctuations from your serving electric company or downed power lines can send a dangerous surge into your equipment. Induction and Power Crosses return surges and deliver destructive AC current transferred into the network.

Power Surges, Outages can cause Permanent Damage

Problems with Voicemail systems may actually be masking primary problems associated with power damaged KSUs from past electrical surges. Even if there is no visible damage Power Surges and spikes may weaken delicate computer / telephony components that may appear later as irreparable damage.

Using filters and battery backup / surge protection in front of your electronic telecommunication units can eliminate costly problems caused by brown outs and power surges.

Lightening Protection may also be an option in protection fro your company's equipment. Dependable gas tube protectors, from *Porta-Systems*, guard sensitive equipment from dangerous voltage surges.

Static Electricity is Not Your Friend

We cannot stress enough that power surges, voltage spikes and electrostatic discharges are harmful to your electronic equipment.

The electronic / computerized units commonly used today are more efficient and more reliable than in years past. However they are more sensitive to electrical fluctuations as well.

According to susceptibility data, most integrated circuits are susceptible to ESD levels of 2000V or less. Your fingers cannot feel 3,000V but your computer based systems can. Though systems are shielded, even well shielded systems can be damaged by high voltage electricity. Walking across a carpet on a dry cold winter day can build up a charge grater than 30,000V.

Nylon Clothes can produce 21,000V. Wool and Cotton clothing can produce 9,000V and 7,000V respectively.

If you discharge static electricity on a computer circuit board, the spark can severely damage the circuitry. The sudden surge of electrons can easily fry microchips in the computer.

Also remember to keep all magnets away from sensitive electronic telephone components and computer equipment.

AVOID STATIC ELECTRICITY

Keep Humidity as high as reasonable

Discharge yourself before handling sensitive components

Spray a solution of fabric softener and water on carpets in traffic areas.

Wipe a fabric softener sheet on surfaces near your telephony and computer equipment. (Avoid using on tiled floor surfaces, as they can become quite slippery)

Recommendations for Battery Backup Units

Battery Backup Units (BBU) / UPS (Universal Power Supply) with surge protection typically suggested for use with a computer station may not be sufficient to provide adequate protection or power supply timing to your PBX/KSU/DSU. The following units, which meet telephony Manufacturer's recommendations provide good surge protection and BBU time to safely shut down systems until power is restored.

CYBERPOWER – C910-1036P

MINUTEMAN UPS - MM1000PRO or the MBK520 for computer/VM Stations

APC SMART-UPS - SU700XL or SU1000XL

MGE –EVOLUTION 1100 or 1500 UPS

TRIPPLITE UPS - SmartOnLine System

Lightening Surges can enter your system through your power or your telephone lines. Using inline surge protection such as the ITW Linx PBX KSU Protection or Porta Systems Gas Tube Protectors can save your system from irreparable damage.

For further information on BBU/UPS systems see these manufacturer's websites.

<http://www.cyberpowersystems.com>

<http://www.apc.com>

<http://www.tripplite.com>

<http://www.minuteman-ups.com>

<http://www.mgeups.com>

Further Reading on Static Electricity

Measuring static electricity on your body. <http://www.amasci.com/emotor/voltmeas.html>

A Health and Safety Guide for your Workplace:

http://www.oshforeveryone.org/wsib/osh_pgm/fire_prevention/staticelectricity/staticelectricity.html

Articles on Introductions to Static Electricity:

http://encarta.msn.com/encyclopedia_761566543/Electricity.html

http://www.technick.net/public/code/cp_dpage.php?aiocp_dp=guide_esd_001

And for in depth reading on a variety of subjects under Static Electricity:

http://en.wikipedia.org/wiki/Static_electricity