



ETA SYSTEMS

Division of National Biological Corporation
1532 Enterprise Parkway • Twinsburg, Ohio 44087
330-425-3388 • 800-321-6699 • FAX 330-425-9700

POWER CONDITIONING by VICTOR C. PAVONA, ETA SYSTEMS

In developed countries we are pretty cocky about our AC Power. We believe, however mistakenly, on any given day clean power just keeps on coming, never a sag, surge, spike or power failure. The point, there are inherent problems whether we admit to them or not because electrical power is not operationally perfect, safe from humans or Mother Nature. Moreover, over time, it is reasonable to deduce that more demand on the power grids will equate to a lesser quality of electrical power.

Quality of power varies from good to/or bad dependent upon where you live or work, the time of day or season of the year. For example, US statistics indicate poor power quality results 87% of the time from sags (brown outs); 12% from surges, spikes; and the balance, caused by human foibles or Mother Nature's wrath.

Every piece of audio/video gear, because of poor power quality, is affected operationally due to daily power fluctuations and irregularities or to degradation, over time, to internal components. Accordingly, there is a need to improve the quality of electrical power provided to any electronic system. Conditioning of the power line; i.e., Power Conditioning, can do it.

Utilizing various electronic protective devices, Power Conditioning is designed to protect sensitive gear from normal and abnormal spikes, and reduce electrical line noises caused by electromagnetic (EMI) and radio (RFI) interference. In addition, with more sophisticated components, sags, surges and high in rushes of electrical power can be easily managed.

Most often these protective devices and components are contained in a rack mounted power distribution box that has the additional benefit of a neater, safer hook-up.

When you utilize, a rack-mounted Power Conditioner, you have an electrical device created to protect sensitive electronic equipment from voltage spikes and to filter out EMI/RFI noises. Power Conditioners often include voltage regulation components designed to stabilize sags and surges; sequential turn on devices that easily manage high in-rushes of electrical power; and toroidal transformers designed to balance output power. Anything short of these features is a power strip – an extension cord, if you will.

Therefore, in our business, we must think about the incoming electrical power, because it is always in question, regardless of where in the world we are. Accordingly, every audio/video rack, whether it is located in a permanent installation or on the road requires Power Conditioning to protect against AC power fluctuations, irregularities and line noise interference. And, it insures everyone's gear has a long and productive working life.