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# VIA POWER CONDITIONING

By David Rizzo

New electronic power conditioners provide "computer grade" power at a fraction of the price of isolation transformers and UPSs, enabling POS resellers to cost-effectively maintain system reliability while reducing service visits.

When the customers' cash register locks up, the money stops flowing. For any dealer who installs and supports POS systems for retail customers, the loss rapidly extends to the dealer's wallet, as an immediate service call is almost always warranted.

To combat the instances of phantom problems and untraceable error codes, POS dealers and integrators are focusing on the most likely source: unstable line power. As a result, the increasing use of power conditioning units that filter "dirty" line power into "clean" computer grade power is now enabling ECRs and other POS devices to avoid temporal damage caused by frequent spikes or over-voltages. The fact that new innovations have now brought the price of full-featured power conditioning units down to that of simple surge protectors and UPSs means that dealers and integrators can cost-effectively reduce unnecessary service calls while increasing customer satisfaction.

## Unfiltered Power Perils POS in Particular

In few other industries do electrical malfunctions immediately translate into hard-dollars-lost than in the POS market.

"Servicing POS requires more immediate action than servicing copiers, because that's how our customers get their money," said Shana Ward, President and CEO of Tri-Valley Digital Imaging, Inc., a POS and document-imaging dealer in Brenham, Texas.

Upon arrival at a customer's site, a service tech can readily spot damage caused by a large power spike, such as a lightening strike. However, the insidious effects of power surges (less than 200 volts) are more difficult to pinpoint, yet often prove almost as devastating. According to studies by well-known manufacturers and independent labs, 87 percent of power-related failures result from low-voltage surges that cause logic confusion that yields system errors and frozen screens.

Oftentimes, poor wiring in old buildings causes line-voltage problems. Yet even new buildings can suffer from the immediate effects of power surges and sags from line-voltage variations within the building, such as when an HVAC system cycles on and off.

Whatever the source, the effects of dirty power can quickly erode the bottom line of POS providers. By some accounts, as much as 60 percent of profit margin stems from selling service contracts, so the less calls the dealer has to go on, the more money he or she can keep. Since each call can cost a dealer as much as \$100 in labor and gas, the toll can quickly mount when POS machines throw error codes for untraceable reasons.

## Previous Attempts to Prevent the Problem

In the past, standard surge protectors and higher priced power filters have been used to protect against catastrophic high-voltage spikes. However, they are not "intelligent" enough to handle the relatively small spike and over-voltages that momentarily disrupt POS devices. At the other end of the spectrum, isolation transformers (ITs), a traditional choice by many old-timers in the POS business, have been available to help avoid power surges; however, they are prohibitively expensive for use on every POS device.

The other drawback of ITs stems from their unwieldy size and weight. The tight quarters encountered in POS installations have typically cramped the ability of installers to enlist them as a means to combat poor-quality line voltage.

## The New Preference for POS Protection

In response to the shortcomings of previous attempts to cost-effectively combat dirty power, recent technological advancements in the field of power conditioning have now yielded devices that provide computer grade power—clean, filtered power supply to the POS device—at the same price as limited-function surge protectors and expensive traditional filters and ITs. Known as transformer based filtering (TBF) devices, their protective feature set is such that some VARs have already recognized the benefits and started

installing these new power conditioners, known by trade names such as "Smart Cord" on their POS systems.

Located in Houston, Texas, SmartPower Systems has traditionally been an innovator of high-performance power conditioning and UPS products for the mission critical market. But in 2002, Smart Power developed a new "smart" electronic circuit and patented the third generation of its "TBF with Smart Ground" for digital technology that creates electronic power conditioners with more features.

These TBF units stop massive spikes up to 6000 volts from passing through, but they also guard against the more common small spikes and surges.

Since all of this functionality occurs without the need for a heavy isolation transformer, TBF units such as SmartPower Systems' Smart Cord manage to compress this functionality into a 17-ounce package.

## Computer-Grade Power in Practice

So compelling is the argument for adopting this new technology, that many resellers have improved up-time and reduced service calls by utilizing modern electronic power conditioning.

"We had 33 fast food restaurants that we had to tend to, and some of the buildings had horrible wiring, so the cash registers would throw error codes way too often," said Ward. "But it wasn't until we started using the Smart Power TBF product line that these problems immediately cleared up for us. Our service calls greatly diminished."

## Preserving Profit Potential for POS Providers

As TBF units prove their value in reducing service calls and increasing customer satisfaction, some dealers choose to absorb the small cost of including them in every installation.

"The fact that we incorporate the cost of the SmartPower conditioners into each job says a lot," said Ward. "We just throw it and not even mention it to the customer because it really does save us that much."

For more information on electronic power conditioning, contact Smart Power Systems, Inc., at (713) 464-8000; (713) 984-0841; or [www.smartpowersystems.com](http://www.smartpowersystems.com).

David Rizzo has published more than 100 stores in business-to-business and trade publications. He is based in Fullerton, Calif.

