**Prevent lightning damage!**
**Improve system reliability!**
**STAY ON THE AIR with**
**PowerClamp Surge Suppressors!**

***Bext now sells PowerClamp, the best Surge Suppressor on the market. Call Bext at 619 239 8462 for prices and availability.***

Sophisticated broadcast equipment demands clean power. Power line spikes, surges, and waveform distortions will produce system reliability problems, data errors, intermittent or unexplainable operation, computer lockups and failures. **PowerClamp TVSS units virtually eliminate the power line spikes and surges that cause these malfunctions and failures.**

PowerClamp TVSS units are the most advanced TVSS units in the industry. Their unique design utilizes multi-stage hybrid circuitry to yield clamping levels as low as 2 volts above the AC waveform. Where other units won't clamp a surge until it's 500-800 volts above normal voltage, PowerClamp TVSS units instantly attenuate surges within a few volts of the AC waveform. **Their highly effective surge suppression and waveform tracking results in superior AC waveform integrity, i.e., "clean power" without spikes, surges, noise, harmonics, or distortion.**

PowerClamp TVSS units are designed specifically for broadcast applications. They are ideal for installation at transmitter sites where massive power surges and lightning-induced transients are a major cause of transmitter unreliability and damage. **PowerClamp units will drastically reduce tripped breakers, transmitter shutdowns, and prevent or minimize damage to transmitting equipment caused by such power surges.**

## USER TESTIMONIALS

About a year ago I installed a Power Clamp TVSS unit at our KCKM-AM transmitter sight. We were upgrading from 5kW to 12kW and I wanted to protect the new transmitter from "dirty power". We're located in the middle of an oil field about 8 miles out of town, and I used to replace about 30 MOSFETs each year in our 5kW solid state transmitter. **Now, with 13 months since PowerClamp's installation, I have not had to replace one. .Bob Souza,** *Managing Partner, KCKM Monahans, TX*

"At KPWR (Los Angeles), our CCA transmitter would occasionally trip breakers and go off the air without any obvious cause. I had installed a PowerClamp unit at KWVE a few years earlier when they had a similar problem, so I installed one at KPWR. **The PowerClamp unit solved the KPWR problem immediately.** Since then, I have installed PowerClamp TVSS units at KSCA (Los Angeles) and will soon install one for KLVE (Los Angeles). I've made it my 'standard operating procedure' to install a PowerClamp unit at any transmitter site I'm responsible for. They're not 'snake oil'...they really work." **Tom Koza**, *Chief Engineer, HBC/UniVision Inc. KLVE/KSCA, Los Angeles*

"At KBIG (Los Angeles) we had continuing problems of our transmitters throwing breakers, unexplainable input power glitches, and a host of other power line-related problems. **Ever since we installed the PowerClamp TVSS unit, our problems pretty much just went away.** You can't beat it. You just install it and forget about it. They work great." **Terry Greiger,** *Chief Engineer KBIG, Los Angeles*

"We use a pair of Continental 816 transmitters, which use internal SCR regulators to control the screen and plate voltages. We had a continuing problem that was caused by the 3rd and 5th AC power line harmonics generated by these SCR regulators. When the voltage of one AC phase was

PowerClamp TVSS units should also be installed at studio locations to prevent power line problems from causing malfunctions and damage to audio/video equipment and computers. PowerClamp units will eliminate power line spikes from entering a facility from the main AC feed line. **Their bi-directional design will also prevent power line noise, spikes, and disturbances generated within the facility from being distributed to other equipment.**

PowerClamp TVSS units are always installed IN PARALLEL with AC feed lines. They suppress power line spikes and surges by shunting them to ground. PowerClamp units do not need to be "matched" to the equipment they are protecting, nor do they introduce any loss in the line.

PowerClamp TVSS units are available in 4 series to accommodate various environments:


**Series 10 - For transmitter sites with extreme lightning risk. 200,000 surge amps per phase.**

high, the SCR regulators would kick in, generate lots of 3rd and 5th harmonics on the AC power line, which would cause the other transmitter to go off the air. The two 816s would fight each other, knocking each other off the air. **When we installed a PowerClamp TVSS unit, it totally solved the problem.** The PowerClamp unit attenuated the power line harmonics by about 50db, which we verified on a Fluke network analyzer. We haven't had this problem since, and IÕll be ordering another PowerClamp when we install a new BE transmitter very soon." **Chuck Ide,** *Chief Engineer KYSR, Los Angeles*

"For about 18 months we had a situation in which our FM transmitter would go off the air from an unexplained tripping of the main power breaker. This would happen once or twice each month. The power company could find no reason for the problem. Last December, we installed a PowerClamp TVSS on the power lines at the breaker box. **It is now June, and we have had no reoccurrence of the problem." Art Pemberton,** *Chief Engineer KSKW Radio, Los Angeles*

-"We have two PowerClamp units installed at our Burbank studio complex, mostly as a preventative measure. You can never be too sure about what comes thru the AC lines in a very large office building, but we haven't had any problems. **PowerClamp is a good, practical, down-to-earth product." Dennis Martin,** *Chief Engineer KZLA, Los Angeles*

"When we moved our transmitter to Mt. Wilson (Los Angeles) in 1994, we installed a PowerClamp unit as a preventative measure. I've never had any power problems. **It really does the job. They work great." Mark Pallock,** *Chief Engineer KKLA, Los Angeles*

"Several months ago our Harris FM 20K transmitter began a long series of off-the-air problems. Two sets of brand new circuit breakers at the transmitter building would be tripped. With no power to the transmitter or STL, someone had to drive up to the transmitter site, reset both breakers and put the transmitter back on the air. This kept happening for nine months, sometimes 3 or 4 times a week. San Diego Gas & Electric... provided a 23-page report explaining how it was not the fault of anything the power company was or was not doing. After exhausting every other possibility we could think of, we turned to your PowerClamp line conditioner.


**Series 8 - For transmitter sites where lightning is frequent. 150,000 surge amps per phase**


**Series 6 - For transmitter sites where lightning is occasional. 100,000 surge amps per phase**


**Series 4 - For studios, sub panels, in non-lightning areas. 60,000 surge amps per phase**

**Since the new line conditioner was installed August 29th, KWVE's transmitter has remained on the air without incident.** Many thanks on behalf of KWVE radio and its listeners." **Bryon Peters,** *Manager KWVE-FM, San Clemente, CA*

"Please consider this to be a testimonial letter regarding our use of your TVSS over the last year. Based on quality and performance, **your units have done more than we expected and we would not hesitate to recommend its use to anyone."** **Fred Dumpel,** *Plant Engineer NBC, Burbank, CA*

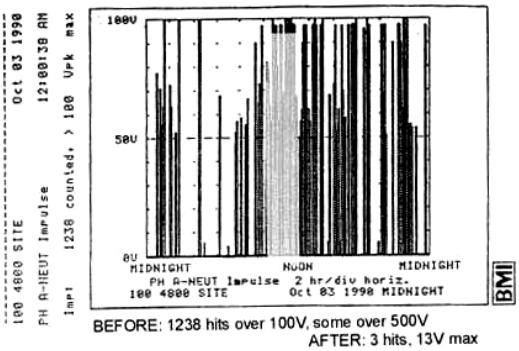
"The variable quality of the 120-volt AC power supplied to the TeleSat Centre has caused considerable degradation to the quality of video and audio recordings. Recently, we installed a PowerClamp unit for evaluation. This unit appears to work very well. **There has been noticeable reduction in audio hum and noise, and elimination of video noise.** It appears to eliminate noise created by our projector motors, dimmers, and florescent lighting, and also reduces noise generated by other hydro customers." **Darwin Veroba** *TeleSat Canada*

"Several PowerClamp TVSS units were installed on a test basis at (six airports in Southern California). Prior to the installation of the units, each of the facilities had experienced equipment problems due to power fluctuations. **There have been no power related problems since their installation date." Richard Muckle,** *Manager Los Angeles AFS, US Dept. of Transportation/Federal Aviation Administration*

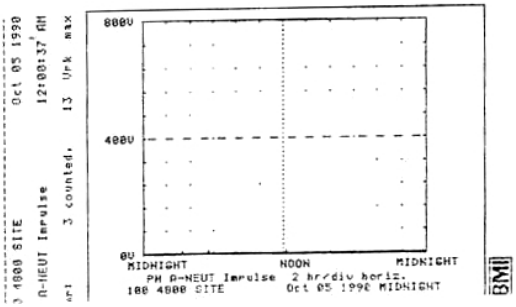
"The San Diego sector has installed three of your devices at different desert navigational facilities (VORTAC). These desert facilities were selected because they had a history of intermittent alarm which the technicians were unable to isolate. **After installing your devices, our intermittent alarms dropped drastically**." **John Svoboda,** *Asst. Manager, Tech Support Dept. of Transportation, Federal Aviation Administration*

"Lightning Diverter Systems Inc. installed a PowerClamp TVSS in April 1991 to protect the input power of a 50 KW UPS power system. The 1989 lightning caused damages estimates exceed $120,000. **Our customer reports a significant improvement in equipment reliability and availability since completion of lightning**

**Series 1 - Plug-in units for studios, computers.**
**20,000 surge amps per phase**




BEFORE: 1238 hits over 100V, some over 500V
AFTER: 3 hits, 13V max




**protection measures that included installation of the PowerClamp suppressor."** **Donald Covington,** *President Lightning Diverter Systems, Inc*

"As you are probably aware, we've been experiencing problems in our electrical systems. When the emergency generators were being tested, the computer located in the Clinical Lab would lose its memory and the Farrington Addressograph would run constantly. **Since the installation of the wire-in TVSS device six weeks ago, we have had no problems**." "We are very please with this device and highly recommend it to others who are experiencing transient problems." **Steve Brown,** *Supervisor, Biomedical Dept. Los Robles Regional Medical Center*

"As you well know, our ICU equipment was persistently being "Knocked Out" by a heavy voltage surge, generated by the weekly "Switchover" to emergency power. **With the installation of your two suppressors, one at the main entry panel and the other at the distribution panel feeding the ICU equipment, the problem has been eliminated**." "We are extremely satisfied with our investment and would not hesitate to recommend your product to others with similar voltage problems." **Connie Yap,** *Director of Nursing Long Beach Hospital* "

We recently needed to provide clean power for an X-ray room at Queen of the Valley Hospital in West Covina. Monitoring the power with a BMI 4800 monitor for 20 days showed a considerable number of voltage spikes on all three phases to ground as well as ground to neutral. We installed your TVSS unit... and monitor the power from the same site as before. All other voltage surge suppressors we are familiar with started suppressing at some factor of peak voltage, usually 1.6 to 2.0. On this 480/277 volt circuit, that would mean that any spike of up to 800 volts would pass through to the equipment. Your TVSS equipment virtually eliminated all voltage surges (spikes) and the 3 - 13 volt spikes that did get past are of absolutely no consequence. **Needless to say we are very pleased with the performance of your equipment and would recommend it to anyone**." **Harold Lunt,** *Electrical Manager E. H. Butland Development Corporation*