

# When Good Projectors Go Bad

**FURMAN**

Power conditioning saves the day at an Oregon club



PHOTOS: COURTESY OF BENJAMIN PHAM



In addition to live music and dancing, sporting events are a big part of the scene at the New Copper Penny in Portland, Oregon. For off-track betting and televised sports such as basketball, football, and boxing, the club utilizes eight digital projectors. The units are an integral part of the club's atmosphere, and it is important to keep them up and running at any cost. Those costs, however, were getting very high when the club began to experience bulb-life issues. (In addition to routine service calls, projector bulbs are very expensive.) The club needed a solution that would eliminate downtime, reduce service calls, and provide cost savings.

## Determining the problem

The New Copper Penny is serviced by Brownell Sound, a Portland-based audio, video, and lighting installer. The first order of business was to determine what was causing the unusual projector problems at the club. "In one case, I had to replace a Viewsonic projector that I had just installed after it took out a bulb in only 175 hours," says Kurt Bevers, owner of Brownell Sound. "That is very unusual. So I brought the projector in for testing and found nothing wrong with it. But I knew something had to be going on, so I went back to the club for more testing."

Bevers tested the signal line and the AC voltage, both of which were fine. He just couldn't find the problem. When he was explaining this to the owner's son, John, he asked a critical

question: "Have you installed anything new recently?" With a big smile, John answered that yes, they had recently installed neon signs that displayed the club's logo.

Bevers asked John to turn on the lights and tested the voltage again. This time, Bevers discovered that the neon fixtures were releasing voltage onto the load neutral that was oscillating between 2 to 30VAC, eliminating the digital projectors' ground reference for bulb circuits and leaving them exposed to damaging transients.

## Power conditioning

Bevers thought the solution to the problem might be power conditioning. "I couldn't be sure, but I knew I might have a chance to solve the problem with a power conditioner on each projector," he explains. "I tested a conditioner on just one projector first, and then duplicated the conditions and measured the conditioner's output. The power was clean as a whistle. I told John that we needed to install a conditioner on each of the projectors. Not only would it solve their bulb-life issues, but it would provide vital protection for the expensive projectors and bulbs from contaminated power in general."

Power coming out of electrical outlets is not 100% clean and stable. Some places are worse than others, but contamination is present in power sources everywhere. The ultra-sensitive circuits in today's professional audio/visual equipment and home-theatre

components are technologically superb, but also very fragile. This has made it increasingly important to employ an advanced power protection system, such as a power conditioner, for high-end home theaters and professional audio/visual systems.

A comprehensive power conditioner will filter out the AC noise present on the line, while at the same time protecting connected equipment from spikes and surges that are all too prevalent in today's power. According to the National Electrical Manufacturers Association (NEMA), a surge or transient is a brief overvoltage spike or disturbance on a power waveform that can vary in intensity from just a few volts to extremes of tens of thousands of volts. These disturbances are not as rare as one may think, and can damage, degrade, and even destroy electronics within a home or commercial building.

For the New Copper Penny, Bevers chose Furman's AC-215 power conditioner; it features a compact, low-profile design, which makes it suitable for mounting to the back of flat-screen televisions, projectors, or anywhere that discreetly located, remote power protection and purification are needed. The AC-215 is also outfitted with Furman's proprietary filtering and protection circuits: Linear Filtering Technology (LiFT) suppresses noise dramatically and consistently across the entire dynamic range for optimal sound and video quality; Series Multi-Stage Protection (SMP) clamps and dissipates damaging transient voltages at the highest degree available without sacrificing itself; and Extreme Voltage Shutdown (EVS) circuitry protects against prolonged overvoltages by shutting off the incoming power until the overvoltage condition is corrected.

## The results

With the proper power management in place, the service calls stopped and the bulb life was not only restored, it was significantly extended. The bulb life of all the projectors increased by a minimum of 40%. "With the AC-215, the Viewsonic projectors that are supposed to last 2,000 hours have been going for 2,900 to 3,000 hours," says Bevers. "The NEC projectors that have a projected bulb life of 4,000 hours in economy mode have been lasting about 5,400 hours." This translates to an extra six months of use for eight video projectors—each running for eight hours per day. It also translated to huge money savings for the New Copper Penny. "The extended bulb life translated to a savings of \$1,900 on an original investment of only \$1,444, and that savings would be realized every 22 months," says Bevers. "And that does not include the repairs that had taken place previous to the AC-215 installations, which represented two projectors repaired every six months at an average cost of \$600 each. Those repairs have stopped; there have been no failures at all."

Solving the projector issues at the New Copper Penny was a learning experience for Bevers. "With any A/V customer, the goal is to provide a system that offers outstanding performance without the hassles of downtime or service calls, and you want to do all this while saving them money wherever you can," he says. "Especially in a club, they rely on these systems every day as an integral part of their business, and they rely on you to make it happen. We certainly achieved these goals with the New Copper Penny and you can be sure that I've taken what I learned here and apply it to every new projector I install." ☺



# FURMAN AC-215

## COMPACT POWER CONDITIONING

Series Multi-Stage Protection AC Surge Suppression

Advanced Linear Filtering Technology for Unequaled Audio/Video Clarity

Extreme Voltage Shutdown Protects Your System From Unstable Conditions

Exclusive Zero Ground Contamination Circuitry Protects Critical Video Circuits

Compact Design Easily Mounts To Any Flat Screen Television Or Remote Location

**SMP**  
SERIES MULTI-STAGE  
PROTECTION

SURGE PROTECTION  
HIGHEST LEVEL OF  
PROTECTION AVAILABLE

**LiFT**  
LINEAR FILTERING  
TECHNOLOGY

NOISE FILTRATION  
UNEQUALED AUDIO  
AND VIDEO CLARITY

**EVS**  
EXTREME VOLTAGE  
SHUTDOWN

VOLTAGE PROTECTION  
AUTOMATIC EXTREME  
OVER-VOLTAGE PROTECTION

**OK** 

DIAGNOSTIC LIGHTS  
INDICATES PROTECTION  
AND VOLTAGE STATUS

**15 A**

15 AMP RATING  
CIRCUIT BREAKER PROTECTED  
UP TO A 15 AMP LOAD

DISCRETE MOUNTING



EASILY MOUNTS TO ANY A FLAT SCREEN DISPLAY OR PROJECTOR