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Spotlight on harmonics in the film industry



Photo courtesy of Charles Eldridge / RIPD

Production gremlins

'Production gremlins' is a funny sounding term used in the film industry to refer to what can be serious production problems. Guy Holt, Director of Lighting & Grip Rental from New England Studios, a state of the art film studio north of Boston, first started to realize there was an unexplained problem on a night-time location shoot about 15 years ago. The project: a historical documentary that required a full lighting setup. On this shoot, every time he and his team attempted to operate all of the lighting equipment, some lights would inexplicably turn off. At most, they could only get 50% of the lights to work at a time.

Frustrating? Yes. Expensive? Very. These gremlins delayed the shoot and lowered the film's production values as a result of the limitations brought on by the lighting problems. The mystery was further compounded when the same lights were taken back to his company's shop, plugged in and worked fine. So what was the cause of these production gremlins?

Changes in lighting technology

Guy and his colleagues noticed electrical problems increased as the film lighting industry moved away from incandescent bulbs and switched to more energy efficient fluorescent and special effects lighting. They noticed this on systems supplied by the electrical grid, but the problem was even more severe when on location shoots fed by generators.

Now we know that harmonics were causing these expensive and dangerous production gremlins. Producers paying the bills rightly failed to understand why they needed to rent such large generators when they were going to be run at 50% capacity; or why transformers could be loaded to only 50% capacity to avoid catching fire.

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The MIRUS solution for harmonics mitigation in the film industry

Fortunately, Guy heard about a novel approach taken by E! Entertainment. To mitigate harmonic problems encountered in their TV studios, E! Entertainment installed special harmonic mitigating transformers by MIRUS. Based on what he read about E! Entertainment's results, Guy contacted Tony Hoevenaars, President of Mirus International Inc. Working together, they were able to develop a portable transformer that mitigates lighting equipment harmonics. Being portable, these transformers are now also rented for location shoots. MIRUS eliminated these production gremlins through its harmonics expertise.



The details:

- MIRUS modified existing patented technology, upon which the business was built, to customize a solution for the film industry
- A dual output harmonic mitigating autotransformer, equipped with cam connectors and lifting frame, removes 3rd harmonic neutral current while phase shifting to cancel 5th and 7th harmonics
- Mirus's solution lowers the cost, provides low harmonic distortion and improved power quality
- The solution is flexible – since the transformer is portable, it's used only when needed
- The facility now has state of the art electrical distribution for lighting allowing it to handle high-tech special effects productions
- A potentially serious and limiting problem was converted to a positive selling feature for the studio

For more information on
New England Studios and Guy Holt checkout:

<http://nestudios.com>
www.screenlightandgrip.com



About Mirus International

Mirus designs and develops world class power quality improvement products for mission critical operations. Their uniquely specialized product line includes highly efficient harmonic filters, transformers, autotransformers and Data Center power distribution equipment. Comprised of a leading team of power quality experts, Mirus' solutions minimize disruption to the power supply, improve reliability and adhere to the strictest of regulatory requirements while also saving energy. Proven to perform, Mirus products are available globally and are real-world tested in its own Harmonics & Energy (H&E) Lab.

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