

## Distribution Amplifiers

digitalmedianet.com

Where the Creative  
Community Meets

SITE SPONSOR

## UPS Systems

By Jim Boston

With most potential crises, the end result is not as severe as the cynical would

**The latest "chicken little" scenario facing our industry is our fate under power deregulation.**

lead you to believe. Remember last New Year's Eve, when a large percentage of the broadcast industry stood waiting for pandemonium to erupt. It didn't, but it could have. What most likely saw us through that moment in history was the tremendous amount of preparation and due diligence conducted by most enterprises on the planet. One of the latest "chicken little" scenarios facing our industry, and we all know there are several, is our fate under power deregulation. Earlier this year Energy Secretary Bill Richardson acknowledged the likelihood of increased power outages over summer. Why? With many power utilities becoming distribution entities and limiting, and in some cases eliminating, their own power generation capability, newcomers are gearing up to supply power. In some areas, this new mix will produce situations in which there is plenty of power available, and others in which there is not. But won't the power grid get power from areas of surplus to areas lacking? In some instances our national power grid is not built to move enough power from where it is generated to where it is needed.



Some claim that brownouts and roving blackouts are inevitable. Your facility's ability to generate its own power could become as important as your transmitter. Even if these predictions are too dire or you are just lucky and don't suffer any power outages, it is probable that minor power "events" are more likely to occur in the near future.

HD Format  
Conversion



**Panasonic**



**SEARCH  
BROADCAST  
ENGINEERING**

or click here to  
search all Digital Media Net



A worker changes the air filter on the Cat UPS, virtually the only maintenance needed on the system. Systems with small footprints ease installation and allow more space in cramped quarters for other equipment. Photo courtesy Cat UPS.

Thus, even if you have a generator, you had better think of ways to smooth out these

outside events so they don't become events inside your facility. Review your UPS capabilities. As computers have increasingly wedged their way into our operations, we need to install UPS systems to protect them from power "glitches." Nothing is as annoying as watching the PC that is holding your event log reboot in the middle of a break. IBM claims that an average computer is subjected to more than 120 power events per month. Bell Labs has found that 87 percent of these events are voltage sags (brownouts), 7 percent are spikes, 5 percent are blackouts and 1 percent are over-voltage occurrences.

Most of us have seen operations where small UPS systems litter the available floor space. As more and more systems are installed in facilities that require UPS backup, many facilities are moving away from many little "distributed" UPS systems to large systems that backup a large portion of the facility, or even the entire power system. A disadvantage of the small UPS approach is that often it is discovered that they aren't working only when their services are called for (UPS batteries generally last three to six years). A large UPS system generally makes it known, usually by irritating beeps, when it detects a problem. These large systems also provide more backup power per buck than scattered smaller ones. Larger systems can be installed upstream where 208V or higher service exists. The higher voltage means less current is involved for a given power, and thus IR losses and even physical sizes are more manageable. Additionally, many large systems allow for enough power overhead and a system architecture like that of a solid state transmitter so that failures don't bring the whole system down, they just lower capacity. Some smaller systems have optional switches that allow two systems to be mirrored.

[Next: The two basic types of UPS](#)



© 2000, Intertec Publishing, A Primedia Company All Rights Reserved

## Distribution Amplifiers



[top](#) [home](#) [search](#) [user forum](#) [subscribe](#) [media kit](#) [contact](#) [webmaster@digitalmedianet.com](mailto:webmaster@digitalmedianet.com)

Broadcast  
**ENGINEERING**