

Success Story: WIKD FM Radio

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We are extremely happy with these UPSs. They have done a great job of protecting our site through several power outages and even a brownout. The equipment hasn't noticed the glitches at all.

Al Reynolds, station engineer

Eaton UPSs keep air waves open

Location:

Daytona Beach, Fla.

Segment:

Broadcasting

Problem:

After deploying new, state-of-the-art equipment in the studio and installing a separate transmission facility, the radio station required a high-quality power protection solution.

Solution:

Eaton® 5PX and 9130 UPS, Intelligent Power® software suite, Connectivity

Results:

A pair of Eaton 5PX units and two Eaton 9130 models not only safeguard equipment against power anomalies, but also keep the air waves operational during regular power interruptions.

Background

The concept for a campus radio station at Embry-Riddle Aeronautical University began in the spring of 1990, with an initial charter established by then-freshman Steve Graff. Although the club's first few meetings generated a high turnout, the venture lacked organization until Graff met fellow freshman Todd Gumbrecht. The two developed a strategy of "infiltration and propaganda" in order to meet their goal of launching a campus radio station.

Built by students from the ground up, both the station and its facilities have undergone a series of transformations over the years. Most recently, during the winter break of 2011/2012, the radio station received a much-needed makeover, both aesthetically and technically.

In addition to outfitting the station with state-of-the-art technology, a climate-controlled transmission shed was installed and major improvements to the programming rotation were made. And in April of 2012, the crew applied for a frequency change from 99.1 MHz to 102.5 MHz, effectively becoming a 24/7 FM station rather than a half-day timeshare station.

Today, with approximately 60 active student members running operations, WIKD brings free-format variety to the airwaves through its broad mix of shows. The station's online streaming reaches 3,000 unique listeners per month, while approximately 400 unique visitors hit the web site every week.

Challenge

The deployment of an array of advanced new equipment, coupled with the construction of a separate transmission site, brought to the surface the need for WIKD to safeguard the station with a quality power protection solution.

"We had a completely new investment and wanted something that could fully and properly protect it," explains Al Reynolds, a former student who still serves as a station engineer. "In the past, we'd used some cheap little APC units but they really weren't doing the job and were also a pain to use."

Located in eastern Florida, the station faces no shortage of power quality challenges ranging from hurricanes to thunderstorms to lightning strikes. In addition, with a significant amount of ongoing construction occurring on the Embry-Riddle Aeronautical University campus, WIKD is routinely subjected to accidental power cuts from construction workers.

"It's a pretty common occurrence for them to cut a power line," Reynolds acknowledges.

In addition to delivering backup power during an unexpected outage, the station desired a solution offering load shedding capabilities, as well as extended runtimes. And considering the cramped quarters of its facilities, a UPS with a small footprint was also a top priority.

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Powering Business Worldwide

WIKD representatives sought advice from several large local radio stations, talked to campus engineers, and surveyed their local distributor, and found that one name kept coming up over and over again. "Everybody was recommending Eaton," Reynolds reveals.

Solution

After researching various Eaton UPS models, in December 2012 WIKD opted to deploy a pair of 5PX units and a pair of 9130 units — a solution that has been music to the ears of station representatives.

"We are extremely happy with these UPSs," Reynolds reveals. "They have done a great job of protecting our site through several power outages and even a brownout. The equipment hasn't noticed the glitches at all."

WIKD relies on a 1000 VA 5PX to safeguard an extensive range of devices within its main studio, including automated computers that play unattended music, mixing equipment and routing devices.

"Everything is connected to the 5PX so if we ever have a power issue, we can shut everything down safely," Reynolds points out.

A second 1000 VA 5PX is tasked with protecting the station's transmitter, while the 9130 units (1500 and 3000 VA) are connected to processing and routing equipment at the transmission facility, as well as a number of servers.

The 5PX and 9130 units not only facilitate the uptime requirements of WIKD, but do so with industry-leading efficiency — with the 5PX achieving up to 99 percent and the 9130 greater than 95 percent in high-efficiency mode. "Our student government funded the purchase of our UPSs, and the energy efficiency made a difference to them as they are very concerned with becoming a green campus," Reynolds reports.

In addition, the units offer a high power factor, which protects a greater number of devices by delivering more wattage than traditional UPSs. Reliability in the units is enhanced by ABM® technology, which increases battery service life by 50 percent over models that use conventional trickle-charging techniques. ABM relies instead on an innovative, three-stage charging method that offers prolonged rest periods between charge phases, as well as temperature-compensated charging to optimize recharge time.

Yet another boon for the station was the units' optional extended battery modules (EBMs), which enable WIKD to maximize runtime for its critical devices and keep operations up and running during a power outage. Each 5PX was outfitted with one EBM, while the 9130s each have two. Noting that power has already been lost three times so far this semester, Reynolds says the hour-and-a-half of runtime provided by the 5PX at the studio "is usually enough time for them to fix whatever the problem is and restore power."

With all four UPSs rack mounted, WIKD also appreciates the small footprint of the units, which preserves valuable space in its facilities. "The main studio only had five spaces free in the rack, and we knew we needed a battery module as well, so the size of the unit was extremely important," Reynolds confirms.

Even more, all Eaton UPSs come bundled with Intelligent Power Software Suite, which features Intelligent Power Protector (IPP) and Intelligent Power Manager (IPM). The solution not only offers power monitoring and management, but also graceful shutdown during an extended power outage and extensive notification capabilities.

"We are incredibly happy with the software," Reynolds says. "We have IPP on every computer in the studio and transmission facility, and we are taking advantage of the load shedding features. We have the UPSs configured so the non-essential devices shut down first during an outage and we've been very pleased with the ability to do that."

WIKD also chose to incorporate the Eaton Network Card-MS, which allows the UPSs to directly connect to the Ethernet network and the Internet — supporting real-time monitoring and control of UPSs across the network via a standard Web browser, SNMP-compliant network management system or power management software.

"The connectivity options were key," Reynolds emphasizes. "We needed to be able to safely shut down all computers and have management and alerting as necessary. That was a big thing for us."

The station was also impressed by Eaton's warranty, which covers both the UPS and the batteries for three years — a backing offered by no other manufacturers in the industry. Furthermore, 24/7 support from Eaton has been a standout.

"We are a completely student-run station with no professional engineers, so quality support is a big deal for us," Reynolds shares.

With plans underway to launch a new radio facility within the student union, WIKD anticipates calling on Eaton once again. "All of our experiences with Eaton have been wonderful," Reynolds enthuses.

Results

With the 5PX and 9130 units in place, WIKD is now able to:

- Ensure the air waves remain open 24/7 with the high availability delivered by the UPSs
- Easily monitor and manage the network and stay apprised of all power conditions, thanks to Intelligent Power Software
- Keep critical equipment up and running during an outage with extended battery modules
- Preserve valuable floor space with the small footprint of the rack-mountable UPSs
- Contribute to campus green initiatives with the high efficiency of the units
- Gain peace of mind with the units' 3-year warranty and support from Eaton



Eaton 5PX

For more information about the 5PX, visit Eaton.com/5PX.

For more information about the 9130, visit Eaton.com/9130.

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