

ZETRON[®] ADVANTAGE

MISSION-CRITICAL COMMUNICATION SYSTEMS

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Zetron's MAX Dispatch Hits Home Run for Wantagh Fire



Wantagh Fire Dispatcher Roger Harwood accesses a resource through the MAX Dispatch system's innovative UI.



Wantagh Fire is using their new MAX Dispatch system to monitor and control numerous operations remotely over IP from their central dispatch office. They are calling MAX Dispatch "excellent," "easy to use," and "the best system available."

There are approximately 200 fire departments on Long Island, and most of them are volunteer. This is certainly the case in the Long Island village of Wantagh, in Nassau County, New York. Although Wantagh has five fire stations and two administrative buildings, the only building that is regularly staffed is the administrative building that houses its dispatch office. The rest of the facilities are monitored and managed remotely from that office.

This is made easier through Wantagh Fire's new Zetron MAX Dispatch system. The system, which went live in April of 2012, connects the dispatch office to the other sites over an IP network. The system is meeting the customer's needs in other important ways as well. It is providing the flexibility, reliability and functionality necessary to run one of the busiest fire districts in New York State.

The Wantagh Fire Department

The Wantagh Volunteer Fire Department provides fire protection and other public-safety services to all of Wantagh, portions of several nearby communities, and Jones Beach, one of the state's largest beaches. The department is responsible for an 11.5 square-mile area with a population of roughly 50,000. It is funded and overseen by the Wantagh Fire District, and its operations are handled by the district's paid administrative, maintenance and dispatch personnel.

Why a new system?

Wantagh Fire District superintendent, Mike Antonucci, explains why the time had come for Wantagh Fire to obtain a new dispatch system: "Our system was aging and no longer supported by the

manufacturer, so we'd begun researching new equipment," he says. "But our system was still performing well, so we weren't in a hurry to replace it. Then, one Christmas Day, the system suffered a catastrophic failure. We spent the entire day frantically trying to devise a solution, which was very difficult because there was no support for it. It was a nightmare."

The search for a new system began in earnest.

A unique set of requirements

Zetron reseller, All Service Controls, is Wantagh Fire's long-time equipment provider. They were enlisted to help Wantagh find a new system.

"Each of Wantagh's facilities has about 50 alarms that all come back through the console to alert the dispatcher if there are any issues," says All Service Controls engineer, Todd Grim. "The dispatchers also control doors and many other remote functions from the console. When fire or emergency services are needed, tones from the console trip the volunteers' pagers and summon them to the fire house. Wantagh's new system would have to be able to support all of this auxiliary functionality."

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"Excellent" is how I'd rate MAX Dispatch and our entire experience working with Zetron and All Service Controls."

Mike Antonucci, Superintendent, Wantagh Fire District



MAX Dispatch gives you the solid reliability and performance you expect from Zetron in a breakthrough, IP-based dispatch console system.

- **Intelligent UI:** Highlights information pertinent to the task at hand; reduces information overload.
- **Built-in Network Health Monitor:** Provides constant feedback about network status.
- **Advanced tools:** Streamline installation and minimize field time.
- **Dual connections:** Ensure end-to-end network redundancy.

Zetron/Kenwood NEXEDGE Solution Passes the 'Tornado Test'



Dispatcher John Mark Wilson demonstrates his Zetron Integrator RD console.

Thanks to their new Zetron/NEXEDGE® system, Jackson Energy Cooperative was able to restore power to most of its service area within a few days after being hit by one of the worst tornado outbreaks on record.

In early March of 2012, the Southeastern and Ohio River Valley regions of the U.S. suffered one of the worst tornado outbreaks on record. In a two-day period, 65 tornadoes were confirmed and 41 people lost their lives.

One of the hardest-hit areas was Laurel County, Kentucky, which suffered several deaths, many injuries, and massive property damage. In addition, during the early hours of the storm, countless downed power lines and poles made the already dangerous area even more hazardous to storm victims and rescuers. But during this trying situation, one thing went right.

While most of the area lost all phone coverage, its energy provider, Jackson Energy Cooperative, had a new Zetron/Kenwood® NEXEDGE® radio solution that stayed up and running throughout the event. It enabled Jackson Energy to dispatch their service personnel wherever they were needed—first, to move debris and take care of downed lines and poles, and then to make repairs and restore power.

This was the event that proved to the customer the true worth of the new radio solution that had gone live only a few short months before.

Jackson Energy Cooperative

Located in McKee, Kentucky, Jackson Energy Cooperative was formed as a customer-owned distribution cooperative in the late 1930s. Like many energy cooperatives that were formed at the time, it was created to provide electricity to rural areas that lacked electric service.

The co-op began with only 380 members but grew significantly over the years. By 1971, it had 21,042 members. Jackson Energy currently serves 51,000 customers, primarily in Kentucky's Estill, Jackson, Rockcastle, Laurel, Clay, Owsley and Lee counties.

Why a new system?

Jackson Energy relies heavily on radio communications to dispatch and coordinate its meter readers and other service personnel. But before the recent installation, their radio communications left much to be desired.

"They had six repeaters placed throughout their seven-county region," says Kenwood project manager, Kurt Henningsen, who helped implement the new system. "Their repeaters weren't connected to each other, and their radio communications worked only when two people trying to communicate were both within range of the same repeater. Radio communications often had to be relayed through Jackson Energy dispatchers, who were busy with other tasks. This made it hard for Jackson Energy to coordinate operations in the field."

Narrowbanding spurs change

Jackson Energy made do, despite these problems. Then the FCC's narrowbanding mandate intervened.

In an effort to free radio airwave space, the FCC is requiring private land mobile radio users to migrate to narrowband radio channels by 2013 or risk losing their communication capabilities. For Jackson Energy, this was a blessing in disguise. It became the impetus for them to not only obtain equipment that would support narrowbanding, but to also install a new radio solution that would give them the functionality and coverage they needed.

Finding a solution

Jackson Energy approached several radio dealers, including Kenwood dealer and Zetron reseller London Radio Service, in search of new equipment. London Radio Service, in turn, asked Kenwood U.S.A. to assist with a response. As a result, Jackson Energy invited Kenwood to give a presentation of an all-inclusive, turnkey solution based on Kenwood's NEXEDGE trunking system and Zetron's Series 4000 radio dispatch system. It was a winning combination. "After considering a number of options," explains Jackson Energy system operations director, Robert Youngman, "we decided that the Kenwood/Zetron solution was the best fit for us. We liked both the solution and the local support London Radio Service would provide after it's installed."

The solution Jackson Energy chose includes:

- A six-site NEXEDGE trunking system with two mid-point microwave sites.
- Zetron's Series 4000 dispatch system.
- Four positions of Zetron's Integrator RD console.
- Integrated Instant Recall Recorder.
- A GPS/automatic vehicle location (AVL) system.
- Kenwood NEXEDGE mobile and portable radios and control bases.

Kenwood U.S.A. and London Radio Service both played a major role in the system's design and implementation, with Kenwood serving as the primary contractor for the project.

The set up

The orders were placed, and all of the equipment was shipped to London Radio Service. "There were crates and crates and crates of equipment," says London Radio Service owner, Stewart Walker. "When they arrived, we unloaded them and then rolled the antennas and lines out to all of the towers and put them in place. Then we unboxed the Zetron dispatch consoles and began installing them."

Kurt Henningsen then arrived to assist with the install. He says that the remoteness of the area and its mountainous terrain posed considerable challenges.

"From our hotel in London, Kentucky," he says, "it was a two-hour drive to one site and another three hours to another site at Happy Top mountain. The microwave paths were long and difficult—some are 22 miles long. And because cell coverage there is poor, it was hard to coordinate our crews. That was all resolved, of course, as soon as we got the microwave system up."

By contrast, the Zetron dispatch system installation was relatively straightforward. And once it was in, operators required only minimal training to learn how to use it.

"We set up the new consoles to mimic the buttons on their old consoles," says Henningsen, "so the dispatchers took to it quickly. Then, we tested the system to make sure coverage was as complete as possible. When everything was confirmed, we pulled the trigger and converted the whole fleet."

The 90/90 percent solution

Jackson Energy's Zetron/NEXEDGE solution went live in November of 2012, and it is providing the functionality the customer was hoping for. It supports narrowbanding and roughly 90 percent radio coverage 90 percent of the time on mobile radios, and 75 percent coverage 75 percent of the time on handheld radios. It also allows many more users to be on the system simultaneously.

Passing the tornado test

Even though the solution was performing as promised, the customer wasn't ready to pass final judgment until they'd had a chance to see it perform during a major storm. That opportunity arrived on March 2, 2012.

"The tornadoes hit, and we had 13,000 customers without power and multiple live lines down," says Bob Youngman. "But thanks to our new equipment, we had great communication and were able to dispatch crews to help with the emergency response. By the end of the second day, we'd restored electricity to all but about 250 customers. This showed us the system's real value." ■

"By the end of the second day, we'd restored electricity to all but about 250 customers. This showed us the system's real value."

*Robert Youngman
System Operations Director
Jackson Energy Cooperative*



Series 4000

Communications Control System

The Series 4000 is designed for medium-sized communications centers. In addition to exceptional reliability, it offers easy programming and economical upgrades.

The Series 4000 includes:

- Support for multiple trunked radio formats/protocols.
- Integrated instant-recall recorder that captures radio traffic on each channel.
- P25 compatibility and interoperability.

Featuring three styles of operating positions and two common controller sizes, the Series 4000 can be scaled to accommodate from 2 to 48 channels and from 1 to 16 operator positions.

Acom Equips Queensland's New \$80 Million Emergency Center



Photo courtesy of John Mewett

Brisbane, Australia's city skyline.

Zetron's Acom system has been installed in the new, state-of-the-art Emergency Operations Centre in Queensland, Australia. The system was chosen for its advanced functionality, reliability, customizability, and ability to expand over time.

There is much for Queensland, Australia, to be proud of in the new Emergency Operations Centre (QEOC) that just opened near Brisbane. The \$80 million (AUD) facility is the premier emergency-services site in Australia and the largest in the Southern Hemisphere.

At the heart of the QEOC is Zetron's Advanced Communication (Acom) System, which serves as the command-and-control point for three communication centers within the QEOC. It not only provides the integrated functionality the QEOC requires to meet its current needs, but also the flexibility to accommodate its projected growth over time.

Built for public safety and green operations

The QEOC covers 73,200 square feet (6,800 square meters) and took four years to build. With its innovative engineering and advanced technologies, the facility is purpose-built from the ground up to be a state-of-the-art public-safety center. Its interiors are efficient, well organized and constructed to create a calm, comfortable setting for workers who must handle extremely stressful situations on a daily basis. The facility is also designed to very high environmental standards. Its five-star energy rating reflects both its green construction and the small environmental footprint of its ongoing operations.

One agency, four divisions

The QEOC functions under the auspices of the Queensland Department of Community Safety (DCS), the agency responsible for emergency and corrective services throughout Queensland. The DCS comprises four divisions: Queensland Corrective Services, Emergency Management Queensland, Queensland Fire and Rescue, and the Queensland Ambulance Service.

Of the three divisions housed in the QEOC (Corrective Services is housed at another location), Fire and Rescue and the Ambulance Service have separate, fully operational communication centers. The Aeromedical Service, which is part of the Ambulance Service, also has its own two-person communication center. Thus, Fire and Rescue, the Ambulance Service and Aeromedical are the three entities that use the new Acom system.

Separate but overlapping responsibilities

The Ambulance Service and Fire and Rescue are each responsible for their own programs and operations, but their activities overlap when events require it.

The Ambulance Service provides emergency and routine pre-hospital patient care and transport services and ambulance transportation between facilities. They also help respond to multi-casualty incidents. The Aeromedical Service is responsible for all fixed-wing and rotary-wing ambulance and medical transport.

Fire and Rescue handles structural fires and hazardous-materials emergencies. They also educate the public about fire and building safety and work with other agencies to coordinate disaster management when necessary.

Choosing Acom... again

Colin Allen, operations manager for the QEOC, explains why Acom was chosen for the new facility. "We used a previous version of Acom at our center at Spring Hill for over ten years," he explains. "So we know Acom and have been happy with its performance, customizability and flexibility. But we wanted the new version with its updated functionality because everything in the QEOC is as current as possible. We also need a system that will expand along with us and will be supported locally once the installation is complete. Acom was able to fulfill all of these requirements."

The Acom solution for the QEOC includes:

- 43 console positions.
- 10 analog PABX/PSTN interfaces.
- 156 analog radio interfaces.
- 10 utility audio interfaces.
- 46 PABX phone-to-console interfaces.
- 10 digital logging links that connect through E1 links to all consoles and radio lines.

A phased-in cutover

The Acom installation at the QEOC was conducted in two phases. "The two main communication centers are very large," says Allen, "so we moved Fire and Rescue first, and it went live February 27, 2012. Two weeks later, we moved the Ambulance Service and Aeromedical and cut them over. All of the centers have been running successfully ever since."

It's on the map

The QEOC is reaping significant benefits from the new system, some of which are the result of adaptations created specifically for the QEOC. For example, Zetron set up the system so that the QEOC's radio towers are displayed on a large map on each Acom console. "We use this feature whenever we're getting the help of an ambulance or fire unit from outside of our area," says Allen. "When the vehicle comes into Brisbane, the operator can look on the map, see which repeater the vehicle is closest to, and tell them which channel to use. Another map on the CAD system shows the vehicle's location. Previously, our operators had to search through a book to find the right channel. The map is so much easier and faster. The operators love it!"

Another important capability of the system is that it can take over communications for any of the other centers if they become inoperable for any reason. "We haven't had to use this functionality yet," says Allen, "but it is very reassuring to know that it's there when we need it."

Ready for the future

The new system has clearly passed muster at the QEOC. "It meets our complex needs extremely well," says Allen. "Because Acom is so easy to use, it helps our operators do their jobs more quickly and efficiently. We also know it will meet our needs well into the future. We already have the infrastructure in place to expand it when the time comes." ■

"Because Acom is so easy to use, it helps our operators do their jobs more quickly and efficiently. We also know it will meet our needs well into the future."

*Colin Allen
Manager of Operations
Queensland Emergency
Operations Centre*

Acom
Advanced Communications System



Features:

- Flexible architecture.
- Supports P25 CSSI and DFSI.
- Efficient, intuitive, configurable user interface.
- Access to PSTN and PABX.
- Radio dispatch for up to hundreds of operators.
- Hotlines, intercom, and public address.
- Network (LAN/WAN) interfaces and protocols.
- Voice-over-IP (VoIP).
- Trunked-radio interfaces and protocols.

Zetron's MAX Dispatch Hits Home Run for Wantagh Fire

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"The MAX Dispatch system's network and power redundancy are the highest in the industry. None of its competitors offers this."

Todd Grim
Systems Engineer
All Service Controls

Superintendent Antonucci says that before realizing the MAX Dispatch system was about to be released, they considered several other systems, but none of them could fully deliver what Wantagh needed. "They weren't able to support all of our controls," he says, "or they couldn't provide the audible alarms we need, or they wouldn't allow us to use All Service Controls to install it. We know and trust All Service, so working with them was a condition of working with us."

The highest redundancy in the industry

When Todd Grim saw the announcement that Zetron was releasing its new MAX Dispatch system, he knew that the search for a system was over.

"As soon as I saw MAX, I liked it," he says. "So I contacted my Zetron territory manager and confirmed that the system would do everything Wantagh requires. One important benefit of the MAX Dispatch system is that its network and power redundancy are the highest in the industry. None of its competitors offers this."

Another deciding factor was the willingness of All Service Controls and Zetron to work with Wantagh to ensure that the system was set up to provide the flexibility they require. "We wanted a system that would adapt to us," says Antonucci, "not a system we'd have to adapt to."

MAX Dispatch met all of Wantagh Fire's criteria and then some. It was chosen for the project.

The MAX Dispatch system for Wantagh includes:

- Three Windows-based workstations.
- Radio gateways that interface with mobile radios, base stations and auxiliary controls.
- A central platform that serves as the host for system-management software and the interface point for third-party devices.

MAX Dispatch also uses the industry standard Modbus-over-Ethernet protocol to control input/output (I/O) through devices connected to the IP network. This provides the auxiliary inputs and outputs Wantagh requires for its remote operations.

A smooth transition

The new MAX Dispatch system was shipped to All Service Controls and staged in their office. Wantagh Fire District representatives were then invited to view the system and suggest any changes they might want. After this meeting, the installation at the Wantagh Fire's dispatch office got underway.

The installation was fairly routine. The previous system was kept running as the new system was installed, one position at a time. Once the first position was installed, dispatcher training began. At this point, dispatchers also gave feedback on the screen layout.

"When it comes to screen design," says Grim, "it's all about speed, simplicity, and knowing where things are, so we listen carefully to the dispatchers. The MAX Dispatch user interface is so flexible that we were able to set up the screens just the way the dispatchers wanted them."

The installation was completed, and the system went live. "It was a very, very smooth transition," says Antonucci.

An 'excellent' rating

When asked his opinion of the project, Antonucci has nothing but praise for the system and those who helped install it.

"One of our best and longest-serving dispatchers doesn't take readily to change," he says. "But he was one of the first to say that the MAX system is great and really easy to use. I totally agree. I not only did plenty of research, but I was a dispatcher for 25 years, and in my opinion, MAX is the best dispatch system available. For us, it's a home run."

"I'm also delighted with the service we got from Zetron and All Service Controls," Antonucci continues. "We asked them to make a tone sound more like one on our old system. We expected that this would take some time to do. But Zetron and All Service implemented the fix within a matter of days. That made us very happy. And that's just one example. I rarely check the 'excellent' box when I fill out a survey, but excellent is how I'd rate MAX Dispatch and our entire experience working with Zetron and All Service Controls." ■



Zetron's Breakthrough MAX Solutions

MAX Solutions gives you a suite of systems you can use from the second the call comes in to moment help is dispatched to the scene. You can also use them separately. MAX Solutions includes:

- **MAX Call-Taking:** Intelligent, Next-Gen 9-1-1 call handling.
- **MAX CAD:** Intuitive, cutting edge.
- **MAX Mobile CAD:** Faster response times.
- **MAX Mapping:** Seamless call handling.
- **MAX Dispatch:** Streamlined operations.

Come see Zetron's NEW MAX CAD and MAX Mapping systems at **NENA Annual Booth #1301**

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