ATI Systems Installs a Mass Notification System at Camp Dodge
Custom Designed for Maximum Intelligibility and Security

August 6, 2012

The Iowa Army National Guard at Camp Dodge has a new Giant Voice Mass Notification System designed and configured by ATI Systems. It provides intelligible voice messages throughout the Camp with the security of redundant control stations and fiber optic networks. The system consists of six High Powered Outdoor Speaker Stations, two Control Stations, and one Indoor Speaker Unit controlling seven lower powered speakers. ATI worked in conjunction with Baker Electric of Des Moines, IA, to install the project.

"The system uses directional sirens for maximum intelligibility, which we specialize in," said Brian Berg, the Regional Sales Manager for ATI Systems who worked with Camp Dodge for this project. The six High Powered Outdoor Speaker Stations installed at Camp Dodge include two uni-directional, two bi-directional, and two tri-directional sirens. "At the entry ways, they wanted additional 15 watt horns to make sure there's extremely intelligible coverage where people congregate." The speakers were placed to maximize acoustic coverage and voice intelligibility. Professionally recorded digital messages with specific announcements and situational alerts were installed by ATI to provide Camp Dodge with clean, clear voice messages for expected situations. In addition, microphones were provided at the central stations for live public address announcements.

The system is monitored and controlled via two Control Stations, each of which consists of a Communication Control Unit and a computer running ATI's MassAlert™ software. The software features an advanced graphical information system customized for Camp Dodge with maps showing each speaker location and status. It includes a simple, intuitive interface, which is easy to use even in the most stressful emergency situations. The control stations continuously monitor all the components of the system and can immediately report any problem that may arise at a remote site such as a power failure or intrusion. The main system components, including the Control Stations, the Indoor Speaker Unit and the High Powered Speaker Stations all have battery backup, so they will continue to operate in the event of a power failure. This is one of several security features incorporated into the mass notification system at Camp Dodge. Others include the redundant control stations and the use of fiber optics for all communication.

The diagram above shows the system's acoustic coverage: siren placement and directionality in red, 80 dBC voice contour in orange, and 70 dBC tone contour in blue.

"ATI provided and installed an IP-based Public Address and Mass Notification System for both indoor and outdoor areas, utilizing a completely fiber-optic network backbone exclusively for use by the mass notification system," said Andy Pollock, Director of Engineering at ATI Systems. "ATI also provided all of the single-mode fiber-optic network switches, fiber converters, and rack cabinets to create a dual-fiber link to each unit in the system for network path redundancy." The system's security is enhanced because all communication is done over a dedicated fiber-optic network with two fiber connections to each ATI unit. All six High-Powered Speaker Stations and the Indoor Speaker Unit have a separate fiber link to the primary control station, and another fiber link to the secondary control station.

Fiber-optic communication is a method of transmitting information from one place to another by sending pulses of light through an optical fiber. The light forms an electromagnetic carrier wave that is modulated to carry information. The main benefits of fiber are its exceptionally low loss (allowing long distances between amplifiers/repeaters), its absence of ground currents and its inherently high data-carrying capacity. Since optical fiber is not electromagnetically radiating, it is difficult to tap without disrupting the signal which is important in high-security environments. The redundant fiber-optic network at use in Camp Dodge will insure uninterrupted, secure communications.

Acoustic measurements were conducted on location at Camp Dodge to confirm voice intelligibility of the Giant Voice Mass Notification System and the extent of acoustic coverage. Additional notification pathways will be added to the system via an interface between ATI's MassAlert™ software and Desktopalert, Inc. This connection will provide alerting via electronic pop-up messages to computers attached to the network at Camp Dodge, and is scheduled to be implemented in the near future.

Camp Dodge is a military installation in the city of Johnston, Iowa. Centrally located near the capitol of Iowa, it currently serves as the headquarters of the Iowa National Guard. Along with the numerous National Guard units located at Camp Dodge, the post is also home to the National Maintenance Training Center, Joint Forces Headquarters, Iowa's emergency operations center, and the State Police academy. The Giant Voice Mass Notification System designed and installed by ATI Systems fulfilled their priorities of reliability and clear voice transmission.

About ATI Systems

Founded in 1981, ATI Systems (Acoustic Technology, Inc.) designs, manufactures, and installs dependable emergency warning and notification systems. ATI's advanced technology is currently protecting military bases, industrial facilities, campuses, and communities worldwide, with an innovative and flexible wireless system that reliably provides audible and visual warning messages. The systems utilize a compact hardware design, user-friendly software, and the latest advances in communication methods, including radio frequency, IP Ethernet, and satellite technology. Through product design enhanced by years of experience in acoustic modeling, ATI Systems' products provide exceptional sound coverage and voice intelligibility in both outdoor and indoor settings. Their systems can be found throughout North America, Europe, the Middle East, and Asia. To learn more about ATI Systems, visit http://atisystem.com.