CASE STUDY



Cape Henlopen School District

Sussex County, DE

ABOUT In 2018, the Cape Henlopen School District in Sussex County, Delaware, officially opened its newest facility, the H.O. Brittingham Elementary School (HOB). The $32 million project featured a sprawling 93,000 sf, two-story building with multiple wings, accommodating approximately 750 students and staff.

With safety top-of-mind, this ultra-modern school installed numerous features, including access controls on all doors and bullet-resistant glass. HOB's construction management company also partnered with Advantech Incorporated, a Delaware-based fire and life safety expert and a NOTIFIER Premier level authorized Engineered Systems Distributor (ESD), to design and install a comprehensive fire system.

CHALLENGE The State of Delaware enforces strict fire code regulations. All new-build structures must perform heat map testing to identify areas of potential emergency responder radio signal failure, impacting vital communications. Once the NOTIFIER fire safety system was installed, the construction company found that the school's combination of concrete, steel and glass did indeed create signal failure in certain areas.

As certified experts in "emergency radio coverage enhancement systems" with signal boosters (Bi-Directional Amplifiers/BDA), Advantech Inc. was asked to design a signal boosting life safety system to provide reliable two-way radio coverage across campus.

SOLUTION The NOTIFIER ONYXWorks® fire system was chosen for its ability to scale across large, complex structures. An ONYX® Series NFS2-640 fire alarm control panel (FACP) with integrated Digital Voice Command (DVC) was installed to provide comprehensive fire safety coverage with easy-to-use and targeted voice alerts. To address the loss of radio signals, a NOTIFIER Class B Bi-Directional Amplifier (BDA) System was installed to ensure proper radio coverage across campus. This solution provided:

- A state-of-the-art, seamlessly integrated fire and life safety system
- A UL2524 compliant emergency radio enhancement system
- 99% signal coverage for first responder radio communications
- Fast installation of BDA to meet key milestones
- Superior service from best-in-class local distributor

> **We had a very positive experience in delivering our first NOTIFIER BDA solution. It went in smoothly, it works, and we chose it because it comes from a trusted source**
>
> Bill Hickox, COO of Advantech

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NOTIFIER BDA: The Only UL2524 and Code-Compliant Life Safety System

Using the ibwave heat map, Advantech determined that the signal loss was centralized in the 21,000 square foot "D" wing of the main school building. Advantech chose the NOTIFIER 800 MHz BDA system, which could easily integrate with the fire safety system just put in place. BDA is a signal boosting solution designed to enhance in-building radio frequency (RF) signal coverage for public safety radio. The high gain, high power band-selective signal booster integrates directly into any NOTIFIER FACP through the built-in addressable monitor module. NOTIFIER BDA meets all public safety frequency band ranges to provide reliable two-way radio signal coverage inside buildings, tunnels and other structures. This system is both UL2524 and NFPA 1221 compliant, which helps ensures that county and state code requirements are met.

Targeted, Quick Installation for Owner Cost Savings

Advantech placed the BDA module next to the FACP and DVC units, located in the IDF room in the middle of "D" wing. Since the IDF room was located on the second floor, Advantech was able to run wiring straight through the ceiling and place the donor antenna directly on the roof above. Cabling was run out to each end of the wing, securing six antennae along the way to help propagate the radio signal. The BDA was tied into the FACP communicator so that, if necessary, alert messages could be sent to both the property owner and Delaware State Division of Communications.

Advantech was able to install the full BDA life safety system in a few short days. By having clearly identified the core of signal interference, they were able to concentrate efforts solely on the D wing, which helped minimize installation and owner equipment costs. Through their expert installation and product choice, Advantech achieved 100% radio signal coverage in critical and common areas, which exceeded code requirements.

"It was important to the client that H.O. Brittingham's fire and life safety systems were provided by a reputable manufacturer and installed by a certified, reputable integrator. Product capabilities and integrator expertise are paramount when dealing with student and staff safety," states David Sweeney CEO of Advantech Inc.

"Thanks to the efforts of Advantech and the seamless installation of the BDA signal booster, we were able to achieve the required coverage and meet state standards. Advantech was extremely knowledgeable and their assistance made the process easy," added Dean Johnson, CEO of Richard Y. Johnson & Son, construction management.

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