CASE STUDY



Cube Smart

North Bergen, NJ

ABOUT In March 2019, Cube Smart completed new construction on its 89,000 ft² storage facility located in North Bergen, NJ. The 4-story structure consists of 10x10ft storage units separated by corrugated metal walls, and a management office. The electrical contractor successfully installed a fire alarm system, however, when fire department officials toured the site for inspection, they determined that their radios were not working in the building. Being aware of the code regulations requiring radio signal coverage in critical areas, fire officials asked the general contractor to have someone perform a site survey. The electrical contractor reached out to Surf Fire and Security, a NOTIFIER authorized Engineered System Distributor (ESD), to perform a radio frequency (RF) site survey and determine the extent and exact locations of inadequate signal levels.

CHALLENGE Since the initial scope for the project had failed to specify a code required Bi-Directional Amplifier (BDA) system in its original design, the radio frequency levels were not tested prior to fire marshal inspection. Solutions were initially sourced through radio shop operators, which turned out to be too expensive. Not satisfied, the general contractor requested that the electrical engineer help identify a cost-effective and code compliant BDA solution. As a certified and licensed fire and life safety system provider, Surf Fire and Security was chosen to design and install a comprehensive BDA life safety solution that could seamlessly integrate with the existing fire alarm system.

In addition, North Bergen County fire and police departments do not operate on the same radio frequency. Surf Fire and Security's survey determined that building owners would need to install two separate systems to provide full radio coverage for fire and police responders. They opted for an 800 MHz system for police frequency, and a VHF system for the fire department.

SOLUTION The NOTIFIER Bi-Directional Amplifier (BDA) System was chosen for its comprehensive code compliance and seamless integration with the existing fire alarm system. This solution provided:

- A state-of-the-art, seamlessly integrated life safety system
- A NFPA 72 and UL 2524 compliant emergency radio enhancement system
- Most comprehensive, cost effective, and fast-to-implement solution
- 100% coverage for first responder radio communications
- Superior education and service from a best-in-class distributor

> **Our experience with Surf Fire and NOTIFIER BDA was not only great, it was eye opening.**
>
> Miguel DeCastro, Project Manager
> for All State Electrical Construction

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IBWAVE Design to Ensure 100% Coverage

Cube Smart initially installed nine BDA antennas throughout the storage facility. Upon re-testing the structure's problem areas, ten more were installed to insure proper radio coverage. "We were surprised that the infrastructure of the building created so much radio signal interference on the third and fourth floors. However, with proper testing and design, we were quickly able to add antennas for 100% coverage in all areas," states Guy Fichter, founder and owner of Surf Fire & Security, and a 30+ year veteran of the fire and life safety industry.

He continues, "It is best to do an RF survey and budget for an ERCES/BDA system before new-build construction is complete. That way we can utilize a basic vertical wiring installation for quick install and minimal financial outlay beyond what was initially presented to building owners." In the case of Cube Smart, Surf Fire and Safety was able to install an add-on BDA solution within 30 days, and priced at least 30% lower than bids received from radio shops. Fire inspectors returned to the site immediately following installation, and were very impressed with the radio signal improvement.

"We were in a position to fail simply because the time frame available to us was very limited. We were fortunate enough to choose Surf Fire and Security, and at the end of the day we met our deadline and all parties involved were happy," concludes Miguel DeCastro, Project Manager for All State Electrical Construction.

BDA Education Continues

This was the second Bi-Directional Amplifier life safety system installed in North Bergen, NJ. A robust marketing program including mailers and Lunch & Learns helped position Surf Fire and Safety as the NOTIFIER certified industry expert with city officials. Surf Fire and Safety continues to work with local fire marshals and city officials to establish clear ordinances for radio frequency and ERCES requirements in new build structures.

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