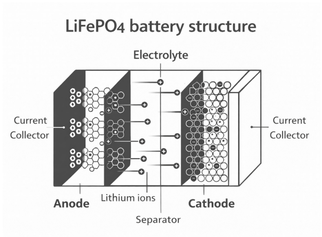
$LiFePo_4$ Technology

RATH® Public Safety DAS solutions incorporate Lithium Iron Phosphate ($LiFePO_4$) battery technology as the emergency backup power source supporting operation during power loss. $LiFePO_4$ batteries provide stable, reliable energy storage for life safety communication systems.

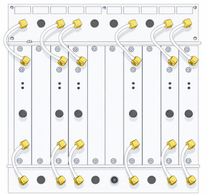
- Provides longer service life and reduces replacement frequency compared to traditional battery technologies.
- Delivers stable and consistent backup power performance during emergency operation.
- Improves thermal stability and safety performance.
- Reduces overall system weight to support easier installation and lower wall mounting requirements.
- Minimizes maintenance needs and helps reduce long-term lifecycle ownership costs.



Channel Card Architecture

RATH® Public Safety DAS solutions feature channel card architecture to support flexible frequency configuration and simplified deployment.

Channel cards support UHF, VHF, 700 MHz, 800 MHz, and 900 MHz public safety frequencies through a single head-end and service port. Built-in duplexers, triplexers, and cavity filters are integrated within the BDA enclosure, reducing external filtering equipment and minimizing wall space. This design also supports interlaced frequencies, simplex channels, and complex filtration requirements, helping simplify design and installation.



- Reduces installation complexity and equipment footprint.
- Supports easier system modifications as frequency requirements change.
- Helps simplify design for complex or multi-frequency coverage.
- Supports long-term system flexibility without significant hardware replacement.

U.S.-based Support

AVIRE proudly operates across the United States, with key offices supporting our customers, partners, and projects from coast to coast. Whether you need product guidance, technical support, or code compliance expertise, our teams are ready to help.

Contact our Life Safety Specialists to discuss system design, installation options, and project requirements.

RATH® by AVIRE

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RATH® by AVIRE

Public Safety Distributed Antenna Systems

(ERCES/ERRCS)

A code-compliant, signal-boosting system that ensures emergency responder radios stay connected throughout the entire building.

NFPA 1221/1225, FCC, and UL 2524 compliant.

Overview

What Are Public Safety Distributed Antenna Systems (DAS)?

Public Safety DAS provide reliable radio signal coverage throughout buildings to ensure emergency responders maintain communication during critical events. These systems help address signal loss caused by building materials, size, or layout complexity, supporting compliance with fire and life safety codes.

Why They Matter

Emergency responder communication failures can delay response times and increase risk to occupants and first responders. Public Safety DAS helps maintain consistent signal strength across stairwells, basements, elevators, and other challenging coverage areas.

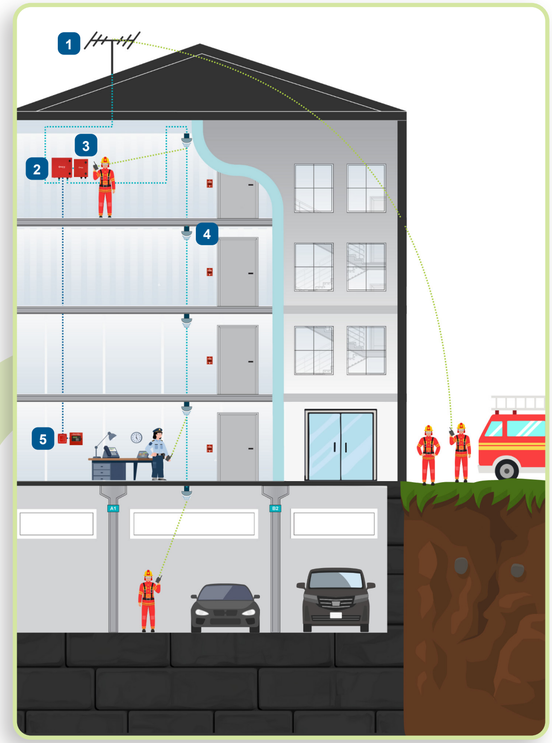
Why Choose RATH® Public Safety DAS:

- Delivers dependable emergency responder radio communication across critical building areas.
- Supports compliance with NFPA 1221, NFPA 1225, FCC, UL 2524, and local AHJ requirements.
- Backed by iBwave Public Safety Certification, validating system design and in-building radio performance expertise.
- Offers scalable system architectures designed to support buildings of varying size and infrastructure complexity.
- Includes integrated system supervision and monitoring to support reliability and performance visibility.
- Supports long-term compliance through testing readiness and lifecycle system performance.

How It Works

1 Donor Antenna
Captures the emergency responder radio signal from the external radio network and delivers it into the in-building system for distribution.

2 Bi-Directional Amplifier (Head-End)
Amplifies and manages radio signals between the external responder network and the building's antenna system to ensure reliable two-way communication.



3 Battery Backup Unit
Provides emergency power to maintain system operation during a power loss, supporting continued communication and code compliance.

4 Distributed Antenna System
Distributes amplified radio signals throughout the building using strategically placed antennas to support consistent coverage in required areas.

5 Annunciator
Provides visual and audible system status monitoring, helping building personnel quickly identify system conditions, alarms, or faults.

RATH® System Variations

FIBER

- Supports long-distance signal distribution across large buildings and campuses.
- Uses fiber infrastructure to maintain signal performance over extended coverage areas.
- Enables scalable expansion to support complex and evolving coverage requirements.

MULTI-BAND

- Distributes radio signals using traditional coaxial antenna networks.
- Designed for buildings with defined and localized coverage requirements.
- Provides a cost-effective solution for standard in-building coverage needs.

INTEGRATED

- Combines amplification, monitoring, and backup power into one enclosure.
- Reduces installation complexity and equipment footprint.
- Supports single or dual-band coverage for retrofit or space-constrained projects.

	FIBER	MULTI-BAND	INTEGRATED
Product Number	SAFE-1015 SAFE-1020	SAFE-1030	SAFE-1050
Signal Distribution	Fiber	Coaxial	Coaxial
Coverage Range	Long-Range	Localized	Localized
Scalability	High	Limited	Limited
Frequency Bands	UHF, VHF, 700MHz, 800MHz, 900MHz, Band 14	UHF, VHF, 700MHz, 800MHz, 900MHz, Band 14	700MHz, 800MHz, Band 14
Power Requirements	Exteral BBU Required	Exteral BBU Required	Integrated BBU within a Single Cabinet