FREE eBook
Staying Safe
Your Guide to BDA Solutions
Communication is vital in any facility for in-building workers and first responders. However, before you can determine if your building is safe, you need to learn more about the communication systems within it.

That is why we will review the importance of properly installed Bi-Directional Amplifier (BDA) communication solutions. We will discuss how these signal boosters help your team, visitors, and guests stay more secure, while providing an environment that is safer for first responders in an emergency situation.

Learn how to improve wireless communications to keep your building safer, and feel free to contact BearCom when you need more information.

**Importance of In-Building DAS and BDA Solutions**

DAS (Distributed Antenna Systems) and BDA solutions are in-building communications systems that bring wireless signals into a structure from the outside and boost coverage throughout the complex. Because they extend coverage range, BDAs are beneficial in areas with poor reception, such as stairwells, hallways, garages, tunnels, and underground areas.

Many buildings supplement their Distributed Antenna Systems with a BDA to amplify and distribute wireless signals. Facilities where DAS/BDA solutions are frequently deployed include hospitals, schools, office buildings, stadiums, or nearly any building where two-way radio signals do not readily penetrate throughout the structure.

Many localities require DAS/BDA solutions to maintain signal coverage on public safety two-way radio bands. This is so first responders in emergency situations can stay in contact with one another when there is a threat to life and property.
Fire Codes & Ordinances

Firefighters and police officers depend on code-compliant wireless communications on multiple frequency bands for two-way radio emergency communications in any part of a facility.

Widely adopted standards issued by the International Fire Code (IFC-510) require 95% in-building coverage with signal strength of -95 dB, while the National Fire Protection Association (NFPA 72, Chapter 24) requires 90% in-building signal coverage. Under NFPA statutes, the requirements jump to 99% for critical areas like elevator lobbies, exit stairs and passageways, and fire pump rooms.

In addition, signal booster equipment must comply with Federal Communications Commission (FCC) regulations. According to the FCC, malfunctioning, poorly designed, or improperly installed signal boosters can interfere with wireless networks. Plus, first responders will not be able to effectively communicate with each other, thereby endangering safety teams and delaying rescue efforts.

Helping Facilities Become Code Compliant

In-building public safety communication systems revolve around ever-changing codes. Nevertheless, building owners remain responsible to ensure their facility stays compliant. The FCC will “ask” you to turn off your communication systems and signal boosters if they cause interference with a wireless network. It must then be left off until the interference problem is resolved.

By understanding and meeting the codes and ordinances described above, developers, property owners, contractors, and facility managers not only save time and money, but they also avoid project and permitting delays.

When signal coverage would otherwise be inadequate to meet public safety mandates, signal boosters can be installed to pass inspections and obtain building permits.
The right BDA solutions provider can help your facility become code compliant in many ways, by...

- Researching the public safety frequencies utilized in your area.
- Understanding the coverage testing procedures used by local jurisdictions, along with relevant FCC guidelines.
- Performing initial tests to see if your facility requires a public safety BDA within the antenna system.
- Choosing the right public safety signal booster.
- Using all required installation methodologies and infrastructure.
- Installing the necessary backup battery capacity.
- Registering signal boosters as required by the FCC.

The BearCom Difference

When it comes to installing compliant communications systems, you’re in good hands turning to BearCom. The BearCom Technical Services Group includes more than 150 highly knowledgeable, highly skilled wireless industry professionals. Our technical staff stays up to date by earning the latest credentials for DMR and P25 networking, R56 site installation, and other key industry certifications.

We are fully certified with iBwave software and our team uses Anritsu Site Master analyzers to monitor wireless signal strength before, during, and after deployment. With our proven expertise and experience, you can rest assured we will design the right DAS/BDA solutions to meet coverage requirements.

Not All DAS/BDA Systems Are For the Public Safety Sector

Example 1

A hospital’s care and research departments needed to improve communications between the central dispatch center and facilities/maintenance staff. The campus had seven buildings, many of which had “clean areas”
where installing cabling or equipment was not permitted. To meet requirements, BearCom successfully solved many installation challenges during design and deployment. In the end, we were able to install BDAs in every building to boost radio signal strength.

**Example 2**
At a large manufacturer, BearCom installed MOTOTRBO two-way radio systems across production plants, improving day-to-day operations. Even after initial deployment, BearCom continues to design and install BDAs as operating environments evolve. That is because communication requirements change when a facility expands, machinery is added, or workforce is increased. The new BDAs maintain strong two-way radio coverage to help keep plants more efficient and productive. They also increase safety for maintenance teams, security personnel, and other workers.

**BDA Design, Deployment & Testing**
BearCom deploys hundreds of DAS and BDA solutions every year. Our team consults with you to choose the correct technologies and equipment to construct the right wireless solution for your environment.

- **Free consultations and evaluations:** Solve coverage challenges and check for signal coverage deficiencies using the latest signal analysis equipment and software.
- **Work with local jurisdictions:** Verify all signal requirements and work with the general contractor, build-out designers, and facilities team to ensure full compliance and smooth permitting.
Custom design services: Develop the right solution for you to achieve full communications coverage.

Code compliance: Deep expertise provides added peace of mind.

Infrastructure and installation assistance: To meet design and performance needs.

Unmatched experience: As the world’s largest two-way radio provider and integrator, we draw on past, proven deployments to ensure success.

Learn More about BDA Solutions
Installing in-building public safety BDA systems can present many challenges, and partnering with an experienced systems-integration company such as BearCom removes the uncertainty.

Working with BearCom means you will get the wireless voice and data solutions you need to have a compliant and connected facility.

For a FREE consultation on how we can solve your DAS/BDA solutions to stay safe, call our BearCompliance Hotline today at 844-883-8904. Or, request a consultation.