

CC&N INSIGHT – In-Building Cellular

What is DAS?

A Distributed Antenna System, or DAS, is a network of strategically located antennas connected to a common source that boosts wireless service signals within a designed area. A DAS amplifies RF signals can enhance the coverage, capacity, reliability and speed of your communications network.

A DAS allows a wide range of mobile devices to connect from virtually anywhere in a facility, without interfering with one another or affecting transmission speed. This keeps lines of communication continually open for users, in performing daily business or in emergency situations. It also eliminates cell signal “dead spots” in the facility, improving service with fewer dropped calls and less time spent searching for a signal. DAS improves cell-signal strength, data and voice capacity plus transmission speed.

How Does DAS Work?

Rather than using a single antenna to distribute the wireless signal, with DAS antennas are placed in strategic locations throughout a facility. In an active DAS system, these are connected by coaxial cable to a remote hub, then via fiber optics to a head end, which connects with the cellular provider owning that RF license. A passive DAS system allows signals to travel via coaxial cable and splitters to a bi-directional amplifier and then back to the cellular provider.

In-building DAS solutions integrate with existing outdoor cellular networks to provide a bridge between the interior and exterior environments. Remote antennas are strategically placed throughout the building and connected by coaxial or fiber optic cable to a central hub.

The antennas receive signals carried across the cable that connects to the DAS control unit, which then redistributes the signals to several interior locations for more wireless coverage. DAS technology is versatile and can be shaped to support any market. This flexible, scalable solution can be easily expanded to accommodate new construction and building renovations.

