

## New VITALink® Coax for ERRCS Cabling Infrastructure

### Comtran Continues to Evolve VITALink® Line with New 50 Ohm Coax Products

Since the 9/11 attacks, the need for emergency response plans has risen to the forefront of every major commercial building's plan. Implementation of responsive and dependable systems that can ensure the safety of the building's occupants is a critical step for enterprise space planning. One of the most important aspects of this is the specification for the building's ERRCS, or Emergency Responder Radio Communications System, also known as a BDA or DAS system. This system ensures that external public safety radio signals are received and transmitted within a building to provide adequate coverage in all areas, including stairwells, elevators, basements, and other heavily shielded areas.

The ERRCS relies on wireless radio communication devices used by first responders inside buildings during emergencies. Under fire conditions, emergency personnel cannot afford lack of communication due to signal degradation. Communication failures caused by signal loss could result in catastrophic consequences for both the first responders and the building's occupants.



To ensure communication levels are consistently preserved during a catastrophic event, many jurisdictions and government municipalities now mandate specific first responder radio coverage in all new and existing buildings. These systems must be installed and tested in accordance with the latest codes.

The ERRCS typically uses a donor antenna and BDAs to provide adequate coverage throughout buildings. These systems rely on the dependability of all the components under fire conditions. While every component is essential to the viability of the ERRCS, the coaxial cable that ensures signal integrity has to be a top consideration. For low voltage integrators or electrical installers, it may seem like just one more cable to be run in the overall specification for a building's comprehensive communication architecture. For VITALink®'s design team, it is an opportunity to construct a product that can ease installation headaches, reduce system costs, and provide critical performance-driven communications. In the case of providing essential coaxial cable for ERRCS, our knowledge in material science could overcome any challenge.

### The Challenge

Traditionally, ERRCS coaxial cables need to be run through alternative pathways to meet survivability requirements, which can be costly and labor intensive to install. Many of our customers challenged us to develop a more cost-effective solution. Our comprehensive VITALink® circuit integrity product line had solutions for most critical circuits and many of our customers were asking for a coaxial

version that had the same 2-hour fire rating as these existing products. Additionally, with heightened concerns for the lives and safety of building tenants, a 2-hour fire rated coaxial cable could ensure that critical emergency responder communications were secure even during catastrophic events.

The development of this product was challenging due to the sensitivity of the RF signals rebroadcasted in ERRCS systems and the change in performance under fire conditions. The VITALink® team's long history and expertise in fire resistive cabling systems helped us overcome these challenges and produce options to support our customers.

Our parent company, Marmon Electrical, worked with UL 2196 in developing the new testing parameters for fire resistive RF coax cables. These testing parameters proved that the new VITALink® Coax cable surpasses the connectivity and signal loss requirements under both normal circumstances and fire conditions. With our ability to exceed standards, installers, engineers, and building owners can be assured that signals will continue to transmit without signal loss or degradation for 2 hours and up to 1850°F.

### **The Solution**

Developed with customer input and review, the first product in the VITALink® Coax line is an armored cable, which allows installation without conduit, reducing overall installation cost. In addition to cost savings, an armored VITALink® Coax cable offers design engineers and integrators the flexibility to choose their own pathways.



With the addition of the VITALink® Coax armored cables and more designs coming in the near future, the VITALink® brand is the only solution that offers circuit integrity cables for critical power, control, communications, IP, and RF signals. VITALink® continues to provide improved productivity, greater communication specification design, and overall peace of mind that it is tested to perform under fire conditions.

For more information about VITALink® Coax cables or any of the VITALink® cables, please contact us.