

MAXIMIZING DACT RELIABILITY

Evacuation is usually the first order of action when a fire is detected in a burning building. However, it is the act of fire reporting that assures firefighters arrive on the scene at the earliest moment.

An aspect of fire reporting that most fire technicians fail to consider is the intelligence gathering element associated with a well laid-out system, which usually includes a listed digital alarm communicator transmitter (DACT). The DACT transmits the necessary data that enables central station personnel to provide firefighters with the nature of the problem and the areas of the building involved before they arrive on the scene.

Signals Must Use 2 Paths

One of the most widely used fire reporting technologies in the fire detection business is digital communication. Digital signals are transmitted bidirectionally between the fire-involved premises and the fire technician's central station facility to assure firefighter response. Digital signals are commonly generated and transmitted by a listed DACT over the common public switched telephone network (PSTN).

Twenty years ago, it was not all that uncommon to find fire alarm systems that reported fire, trouble and supervisory signals over a single telephone line. Most of the time, this arrangement worked fine. However, now and then something went wrong and critical signals failed to reach their destination.

Today, when fire technicians rely on DACTs to send signals to central stations, they are required to use two signal paths. One of these signal paths is often a telephone line, while the other usually is, but not always, a second telephone line. In some cases, the second signal path is radio.

"A DACT shall be connected to two separate means of transmission at the protected premises. The DACT shall be capable of selecting the operable means of transmission in the event of failure of the other means. The primary means of transmission shall be a telephone line (number) connected to the public switched network" (NFPA 72, Section 5-5.3.2.1.7, 1999 Edition).

Two signal paths help assure redundancy by providing two physical routes for digital alarm signals to travel. The central station is actually a physical location where fire detection signals are received, analyzed and acted upon.

The DACT itself must have a built-in telephone line monitor and automatic switching apparatus. This combination enables the DACT to select an operable telephone line when one of them is experiencing problems. Warning of such a problem, both local and remotely, is mandated by code.