

Flashpoints... DDA-compliant audio/visual alarms

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With the imminent enforcement of the 'Disability Discrimination Act - third stage' the DDA significantly changes the requirements imposed on building owners. Now all Public Buildings and Employers are required to make reasonable adjustments in relation to the physical features of their premises to overcome barriers for the disabled. Hochiki Europe explains some of the implications of the legislation in relation to Fire Alarms.

Try to imagine this scenario. You are one of the quarter-of-a-million deafblind persons in the UK and you find yourself inside a public building when a fire emergency occurs. You cannot hear the alarm sounders and, because there is no induction loop amplification of the loudspeakers, you cannot hear the public address system. In addition, because there is no internationally accepted visual system for evacuation, you cannot navigate yourself to safety. This sense of vulnerability is the kind of life-threatening experience that the third stage of the Disability Discrimination Act (DDA), which comes into force on 1st October 2004, is designed to alleviate.

The DDA lays down guidelines for the provision of accessible environments to assist disabled people with a broad range of sensory and physical impairments. The enforcement of the act will make it mandatory for service providers to make 'reasonable adjustments' to their premises to ensure they are not unreasonably difficult to be used by disabled people.

Audio/Visual Fire Safety Strategies

The difficulties faced by the hard of hearing and the partially sighted in public buildings during a fire emergency are complex. The fire safety strategy needs to assess the range of disabilities and design the fire system to minimise the potential for loss of life.

Many people with sight loss can still see some light emissions; only about 10 percent of those who are registered blind have no residual sight to perceive light (less than five thousand people are completely blind in the UK). In contrast, people with hearing impairment constitute about 1 in 10 of the UK population and the development of emergency evacuation plans should take into account the different degrees of deafness to be encountered (deafness is usually defined when the hearing loss exceeds 90 dB).

In evaluating the risk for those with sight impairment or hearing disabilities, the solution of supplementing sounders with visual flashing beacons integrated within the fire alarm system can provide 'best practice' for life safety, and maximises the independence of disabled people within public buildings. Although similar risks exist within the workplace, the threat to life is normally considered less, as co-workers can assist disabled colleagues in an emergency situation. Consideration must be given as to whether such assistance is always available, especially in situations where disabled staff may be working on their own. These situations need to be assessed and appropriate provisions put in place for alerting them in an emergency situation.

Beacons... a Signal Advantage

The visibility of a flashing beacon can give the earliest possible warning to the occupants in an emergency to both the deafblind (with partial sight) and the hard of hearing. It is imperative, when communicating the presence of a fire condition, that epileptic fits are not induced in people with acute photosensitivity, increasing the danger to other occupants of the building. Epilepsy can be triggered by flash frequencies between 5 and 30 flashes per second (hertz). While some people are sensitive at higher frequencies, it is uncommon to have photosensitivity below 5 hertz. To provide this earliest warning, Hochiki has developed an advanced addressable loop powered beacon that uses high-intensity LEDs. It incorporates an innovative lens designed to produce a highly visible flash at 1Hz. It has a low-profile housing which matches the ESP Sensor range in shape, colour and texture. Implementation has been completed by a number of leading control panel manufacturers allowing the beacon to be seamlessly integrated with Hochiki's other products.

Sounders Complementing Beacons

Specified evacuation signals by sounders vary throughout Europe. The choice of sounder volume and tone in relation to the DDA will depend on the type of application and the warning signal to be conveyed.

For instance, in some applications it may be necessary to cover a large area with a single sounder giving a high output level, whereas in others it may be better to provide a larger number of sounders with lower output levels. Compatible with Hochiki's beacon is the Hochiki Loop Powered Base Sounder which includes an integral base. This base sounder provides a wide selection of tones, an output volume of 85dB(A), which can be varied from 70dB(A) to 95dB(A) through the ESP protocol. The sounder can be driven continuously or pulsed with full synchronisation and can be automatically programmed to addresses above 127 by the attached control panel.

Audio/Visual Security Solutions

Standards recommend that where Audio/Visual devices can be heard or seen they should be synchronised. A significant advantage of the Audio/Visual devices that have been designed for Hochiki's ESP product range is the capability for total synchronisation, which is not generally achievable from conventional devices operating from a sounder circuit.

All the Audio/Visual devices on the analogue addressable loop can be operated almost simultaneously through the enhanced functionality of the ESP protocol. This functionality ensures that every flash of a beacon and operation of a sounder is synchronised, preventing any confusion for the building occupants between alert and evacuation tones.

The range of ESP Audio/Visual products are all loop powered, with low power consumption. The loop address can be set by using Hochiki's handheld programmer or automatically by the control panel, saving time and effort. The new Addressable Beacon is compatible with the complete range of ESP bases providing fast and efficient installation, and delivering a comprehensive Audio/Visual solution. This flexibility allows a number of combinations to be achieved by the systems designer.

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