VIGIL 2

VIGIL 3

British Standards BS5839-8:2013

Our voice alarm systems have been designed and built to meet relevant British Standards and also BSEN54. Here we point out some of the main disciplines for BS5839-8:2013: Fire detection and fire alarm systems for buildings - code of practice for the design, installation, commissioning and maintenance of voice alarm systems. (Please refer to the Standard for full details.)

FEATURES:

- At least two interleaved loudspeaker circuits are required in a building. If the building contains an open area greater than 4,000m^2 OR if the building is designed to accommodate more than 500 members of the public, dual circuits should be used. This achieves suitable coverage should one of the circuits become short or open circuit.
- Cabling for dual circuits must not be contained in one single sheath.
- Where a processor-controlled system is used the following points should be followed:
  - Any system configuration data should have restricted access.
  - Do not use rotary discs (ie computer hard disc) or any other media moving parts.
  - Any processor must be monitored eg 'watchdog'.
  - The network between sub-systems must be monitored in accordance with requirements (12.1).
- The monitoring of the system should include the following:
  - Normal power.
  - Standby power.
  - Battery chargers.
  - Fuses and protective devices.
  - Critical signal paths (see over).
  - Emergency messages.
  - Loudspeaker circuits.
  - Main and standby* amplifiers.
  - Select wires on a multi-zone emergency microphone.
  - All links between a decentralised system.
  - Detection of missing modules or amplifiers within the critical signal path.
  - Automatic level controllers must be monitored and should failsafe to a pre-determined level, not mute.
- The system should latch the input condition from the fire panel ensuring that if a link is broken the alarm broadcast continues. Reset is achieved by a separate signal from the fire panel.
- After reset the system should be capable of producing a general evacuate broadcast within 30 seconds.
- The fire alarm interface and VACIE must be separated by no greater than 10m, unless duplicate circuits are employed.
- Any fault should be indicated or announced within 100 seconds.
- Reserve amplifiers, if used, must be kept powered up and continuously monitored.
- Standby battery supplies to have capacity for 24 hours quiescent operation followed by 30 minutes all zones evacuate alarm message broadcast.
- 120 minute enhanced fire resisting cables to be used in unsprinklered buildings having a phased evacuation, or buildings over 30m high or where the risk assessment demands.

* If standby amplifiers are required, as dictated by the site's risk assessment.

- Recommended distances between loudspeaker centres (refer to BS5839-8 for acoustic criteria):
  - Obstructed: 6m (unidirectional), 12m (bi-directional).
  - Unobstructed: 6m (unidirectional), 7.5m (bi-directional).
- VAS cabling is recommended to be red in colour, however, cables of a different colour can be employed where a specification for fire detection and fire alarm system requires that cables are to be a different colour to that used for other systems.
- The final connection between the emergency microphone and the site wiring may use a different cable type (maximum of 3m). There should be, at least, an equivalent of 4 pairs or 8 cores.
- Cable support should be non-combustible and withstand a similar temperature, duration and water application to that of the cable used. Plastic cable clips/cable ties/ trunking may only be used for cosmetic support.
- System test intervals can be based on a building's risk assessment.
- Where routine testing of emergency messages takes place during low occupancy, a presence of staff and public is recommended to provide "exposure to messages", preferably on a monthly basis.
- A test message may be used to check intelligibility ('pre-test' and 'test complete' messages should be used.

Definition of 'critical signal paths':

- All components and interconnections between every fire alarm broadcast initiation point and the input terminals on, or within, each loudspeaker enclosure.

Maintenance:

- Daily:
  - User checks fault status of system.
- Weekly:
  - Test each emergency microphone console.
  - Test the fire alarm interface (weekly fire test)(.
  - Ensure emergency messages are audible.
  - Check ALL loudspeaker zones within a 13 week period.
- Quarterly:
  - 'Premises Management' check fault log entries and take necessary action.
  - Visual inspection for deterioration.
  - Test fault indicators and operation by creating simulated faults.
  - Confirm loudspeaker coverage in all zones.
  - Download configuration file and archive.
  - Further checks as recommended by manufacturer.
- Annually:
  - As 'quarterly', plus
  - Visual inspection confirming all cable and equipment is secure and undamaged.
  - Issue certificate of testing.

BALDWIN BOXALL

LEADING THE WAY TO SAFETY

Baldwin Boxall Communications Ltd
Wealden Industrial Estate, Farningham Road,
Crowborough, East Sussex, TN6 2JR, United Kingdom

T: +44 (0) 1892 664422 F: +44 (0) 1892 663146
E: mail@baldwinboxall.co.uk
W: www.baldwinboxall.co.uk