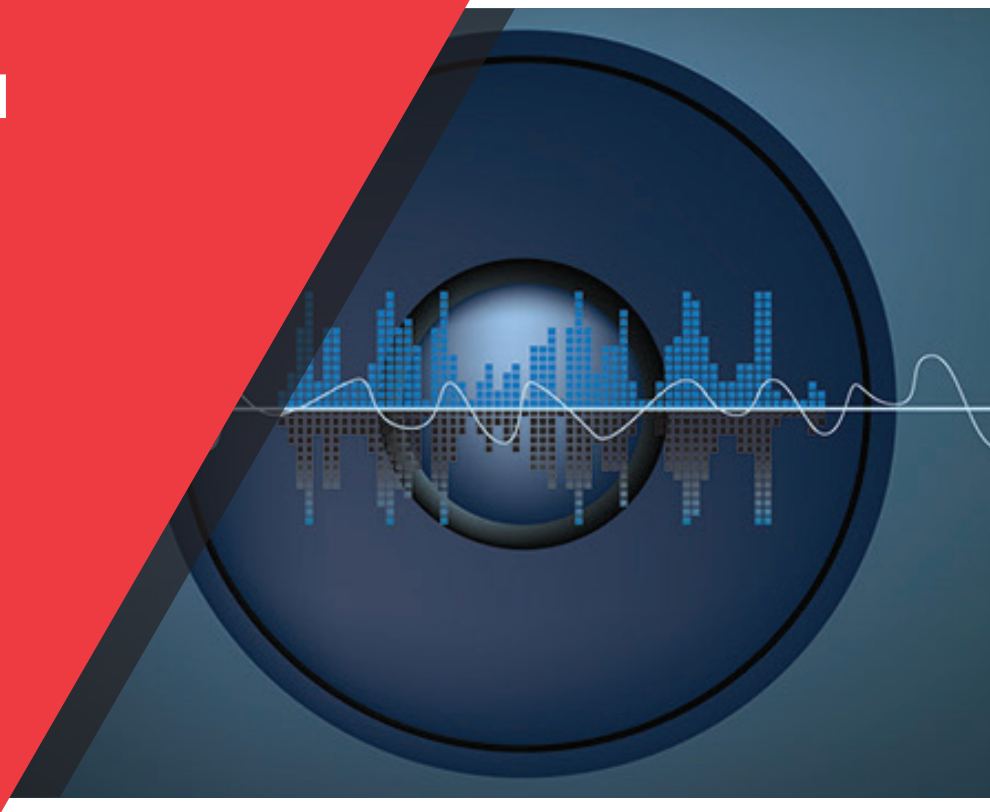
VOICE ALARM
FACT SHEET



Introduction

Voice alarm systems are an important part of any integrated security and life safety programme, working in combination with other systems and allowing you to communicate clearly and effectively should an emergency occur. This allows you to reduce panic and minimise disruption. This document provides an overview of what to look for in a voice alarm system.

Overview

Voice alarm systems are installed in many types of buildings; and operate as 'life safety' systems, offering benefits for everyday use.

A voice alarm system (sometimes referred to as a voice evacuation system) is installed with the safety of staff and the general public in mind. It is a system that assists in the effective evacuation of an area or building during a fire, bomb alert or other emergency. At all other times, a voice alarm system is used to make public address announcements, broadcast advertisements or background music. All broadcasts can be sent to all areas of a site or to selected areas (referred to as zones).

Research has proven that in an emergency people will react without confusion or panic if they receive a clear, intelligible message. These messages are stored within a voice alarm system. Traditional bells and sounders only give a warning, they do not indicate the nature of the emergency, leaving people uncertain and often such signals are ignored – with fatal consequences. A voice alarm system provides clear easily understood instruction via pre-recorded messages. This method ensures that even untrained personnel and the general public are evacuated speedily and efficiently.

A voice alarm system has to work when needed – during an emergency – and is, therefore, fully monitored at all times. It is also backed up by batteries which are fully charged and checked constantly; this will ensure that, even during a mains power failure, the system will continue to operate. A combination of clear pre-recorded messages and live announcements (to selected areas) enable a controlled and gradual or 'Phased Evacuation'. Phased evacuation methods enable selected areas to be evacuated in turn – typically those in most danger are evacuated first whilst surrounding areas (zones) are put on 'alert'. The voice alarm system works automatically, with all controls easily overridden by fire officers or building control when needed.

Each voice alarm system is designed and built specifically for each project – typically no two systems are identical.

The Benefits of Voice Alarm

- Phased evacuation
- Multi-lingual digital messaging
- Selectable pre-recorded messages
- Microphone priority handling
- Induction loop
- Public information announcements
- Gain revenue via advertisement injection
- Background music for ambience
- Broadcast of opening/closing times

Regulations for Voice Alarm

BS 5839 Part 8: 2013 is the code of practice covering the requirements for the design, installation, commissioning and maintenance of Voice Alarm Systems. It sets out in great detail the steps that should be followed to achieve a system meeting the needs of the application. Other relevant standards that need to be considered include:

BS EN 5839 Part 1
Design, Installation, Commissioning and Maintenance fire detection and alarm systems

BS EN 54 Part 16
Design of Voice Alarm Control and Indicating equipment

BS EN 54 Part 24
Requirements for the design and construction of Loudspeakers

BS 7827
Code of practice for sound systems at sports venues

BSI British Standards

BS 5839-1:2013

Types of Systems

Once the evacuation strategy of the building is understood, the designer needs to assess the type of voice alarm system that should be used. The level of manual control and the need for live messages versus automated messages will drive the decision on the type of system installed. BS 5839 Part 8 defines 5 types of systems and these are summarised below:

Type V1: Automatic Evacuation

This system offers automatic operation of the voice alarm system against a pre-defined evacuation plan. The system may also have facilities for the manual operation of non-fire emergency messages, provided that these are automatically overridden by emergency messages.

Type V2: Live Emergency Messages

In addition to the automatic facilities provided by the Type V1 system, the Type V2 system provides the facility for automatic message initiation as well as the facility to broadcast live emergency messages by means of an all-call emergency microphone situated at a strategic controlpoint. This allows supplementary live announcements to aid safe evacuation.

Type V3: Zonal Live Emergency Messages

In addition to the functions of the Type V2, V3 includes the facility to broadcast live emergency messages in pre-determined emergency zones, or groups of zones. This allows evacuation control in specific areas of the building where a pre-determined evacuation plan might not cover all eventualities.

Type V4: Manual controls

Type V4 system has the facility to select and direct stored emergency messages to individual zones as well as the ability to disable or enable emergency broadcast messages and display their status. This allows a well trained and disciplined staff to follow a pre-planned evacuation strategy when the automatic mode needs to be overridden.

Type V5: Engineered Systems

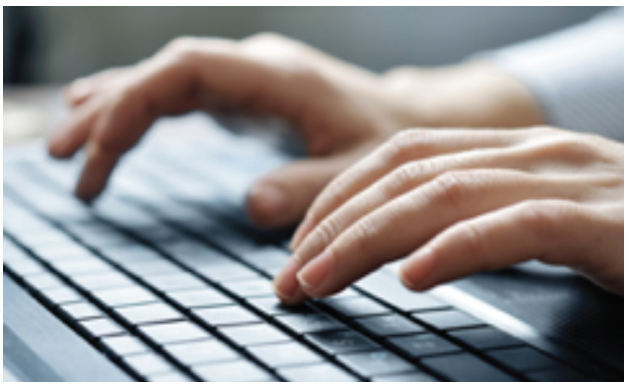
Where the application falls outside the scope of type V1-V4, a type V5 system allows the design of a tailored solution based on the assessment of special or mutable risks

System Considerations

Designing the best voice alarm system for a given application requires many decisions, covering areas such as:

- Customer requirements
- Microphone design and layout
- Message requirements
- System architecture
- Central or distributed rack system
- Loudspeaker design
- Loudspeaker layout/placement
- Loudspeaker selection
- Loudspeaker settings
- Amplifier selection

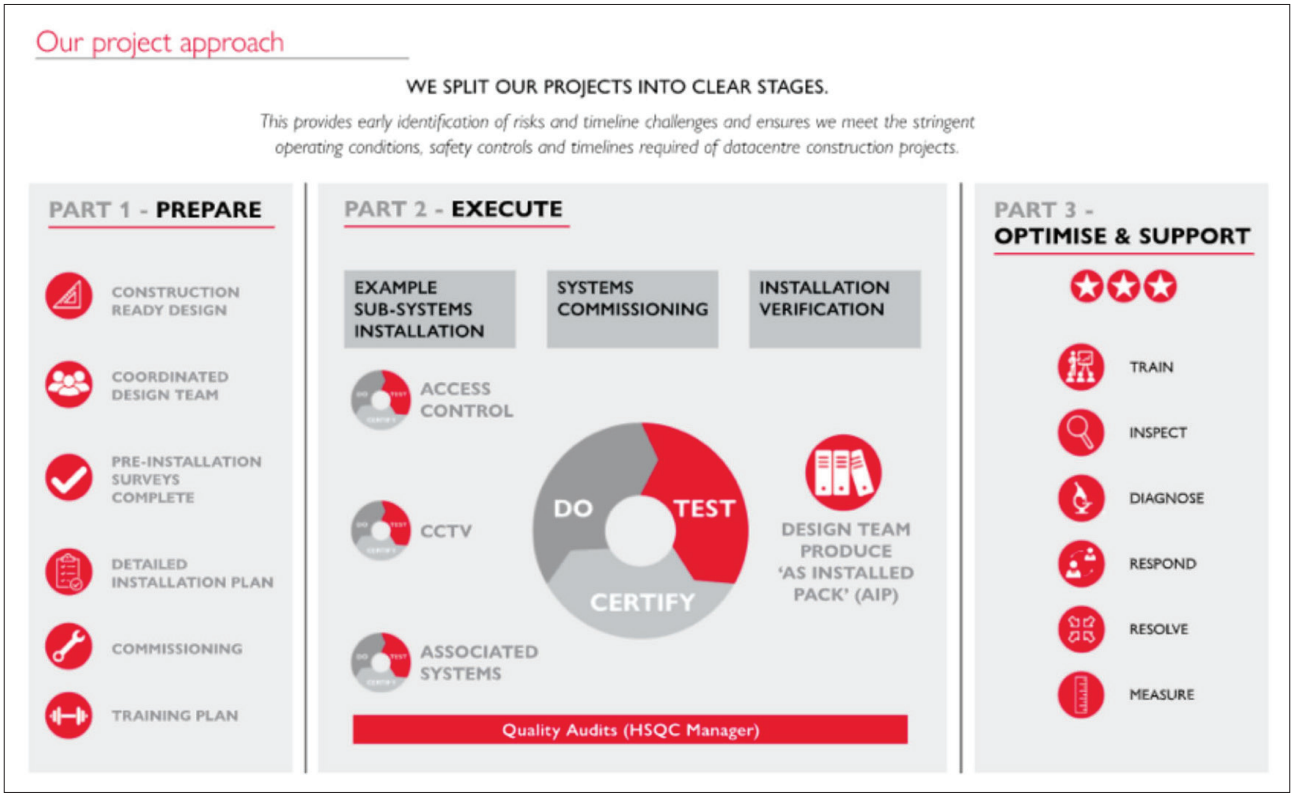
Because designing voice alarm systems can be complex and are subject to very strict regulations, companies need to use accredited and experienced installers to design and install their systems.



This is where G4S can help

At G4S, we have a 3 staged approach to designing your system:

- During the Prepare stage: we use a structured approach to understanding your needs, design and model the system and put together an installation plan, which we agree with you
- We then Execute the plan to install and commission your system, before we audit and verify the system, and then
- Finally, we work with you to Optimise and Support the system to maintain it and/or monitor it according to your wishes



We are accredited to the highest standards in the UK for system installation. Our staff also have high security clearances for working on critical infrastructure sites, and have the experience to work in the harshest of environments

Whatever your life safety system needs before, during and after installation, G4S are here to help.

Academy

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https://www.g4s.com/en-gb/what-we-do/academy

As Security experts, we provide a host of added value services to our customers

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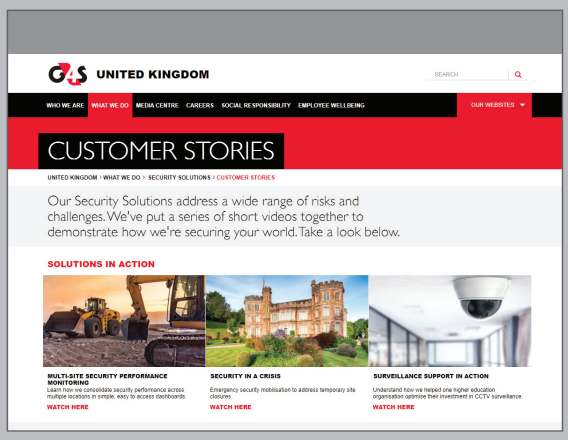

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