BS 5839-9:2021

BSI Standards Publication

Fire detection and fire alarm systems for buildings

Part 9: Code of practice for the design, installation, commissioning and maintenance of emergency voice communication systems

bsi.

Publishing and copyright information

The BSI copyright notice displayed in this document indicates when the document was last issued.

Published by BSI Standards Limited 2021

ISBN 978 0 539 13563 3

ICS 13.220.20; 13.320

The following BSI references relate to the work on this document:
Committee reference FSH/12/5
Draft for comment 20/30416719 DC

Amendments/corrigenda issued since publication

Date	Text affected

Contents

Summary of pages
This document comprises a front cover, an inside front cover, pages I to IV, pages 1 to 65, an inside back cover and a back cover.

Foreword

Publishing information

This part of BS 5839 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 August 2021. It was prepared by Subcommittee FSH/12/5, *Alarm devices, voice alarm evacuation sub-systems and emergency voice communications*, under the authority of Technical Committee FSH/12, *Fire detection and alarm systems*. A list of organizations represented on these committees can be obtained on request to the committee BS 2646-5:1993 manager.

Supersession

This part of BS 5839 supersedes BS 5839-9:2011, which is withdrawn.

Relationship with other publications

BS 5839 is published in the following parts:

- Part 1: *Code of practice for design, installation, commissioning and maintenance of systems in non-domestic premises;*
- Part 3: *Specification for automatic release mechanisms for certain fire protection equipment;*
- Part 6: *Code of practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in domestic premises;*
- Part 8: *Code of practice for the design, installation, commissioning and maintenance of voice alarm systems;* and
- Part 9: *Code of practice for the design, installation, commissioning and maintenance of emergency voice communication systems*.

Information about this document

This is a full revision of the standard, and introduces the following principal changes:

- clarification of the three primary applications for emergency voice communication (EVC) systems, namely, fire telephone, refuge intercom and stewards' telephones at sports grounds;
- several changes to definitions;
- introduction of a Type C outstation;
- clarification of recommendations regarding visual indicators on stewards' telephones;
- clarification of recommendations for locations of stewards' telephones;
- inclusion of recommendations when more than one master station is provided;
- changes in recommendations regarding background noise;
- inclusion of recommendations regarding EVC systems installed on campuses where transmission paths might not meet the recommendations of this standard;
- mains isolation recommendations brought into line with BS 5839-1;
- inclusion of recommendations regarding testing of non-EVC mode devices that might be provided; and
- inclusion of new normative annex regarding calculating standby battery capacity.

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at bsigroup.com/standards, or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

Use of this document

As a code of practice, this British Standard takes the form of recommendations and guidance. It is not to be quoted as if it were a specification. Users are expected to ensure that claims of compliance are not misleading.

Users may substitute any of the recommendations in this British Standard with practices of equivalent or better outcome. Any user claiming compliance with this British Standard is expected to be able to justify any course of action that deviates from its recommendations.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is "should".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. "organization" rather than "organisation").

The word "should" is used to express recommendations of this standard. The word "may" is used in the text to express permissibility, e.g. as an alternative to the primary recommendation of the clause. The word "can" is used to express possibility, e.g. a consequence of an action or an event.

Notes and commentaries are provided throughout the text of this standard. Notes give references and additional information that are important but do not form part of the recommendations. Commentaries give background information.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Introduction

Emergency voice communication (EVC) can be used for different applications, such as communicating with people in refuges, communicating with fire wardens, fire marshals and firefighters in firefighting lobbies and communicating with stewards at sporting events.

Emergency voice communication systems, as later defined in this part of BS 5839 , are used in connection with life safety and need, therefore, to be subject to high standards of design, manufacture, installation, commissioning and maintenance, similar to those covering fire detection and fire alarm systems and voice alarm systems.

This part of BS 5839 has been prepared to:

a) give guidance to those who specify, design, manufacture, install, commission, maintain and use such emergency voice communication systems; and

b) ensure that high standards of reliability, safety and security are achieved, together with acceptable standards of performance.

Section 1: General

1 Scope

This part of BS 5839 provides recommendations for the planning, design, installation, commissioning and maintenance of emergency voice communication (EVC) systems in and around buildings and at sports, entertainment and similar venues. It does not recommend whether or not an emergency voice communication system is installed in a given premises.

This part of BS 5839 relates to the use of EVC in communicating with people in refuges, fire wardens, fire marshals and firefighters in firefighting lobbies and communicating with stewards at sporting events. Use, other than in fire emergency situations, by disabled persons and others, although not precluded, is not addressed in detail.

Other than in exceptional circumstances, EVC systems are not intended as the means of raising a fire alarm, instead of manual call points. Refer to BS 5839-1 for guidance on fire detection and alarm systems.

This part of BS 5839 covers systems with components linked by wires, wirelessly, or a combination of both.

This part of BS 5839 covers EVC systems and is therefore not intended to cover general-purpose intercom systems, lift intercom systems, local (internal) telephone systems for general use, or any external communication systems, such as the public switched telephone network and cellular telephone networks.

Voice alarm systems are primarily intended for the automatic broadcasting of evacuation messages; they are covered by BS 5839-8 and are therefore excluded from this part of BS 5839 .

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions of this document[1] . For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Standards publications

BS 476 (all parts), *Fire tests on building materials and structures*

BS 4678-4 , *Cable trunking – Part 4: Specification for cable trunking made of insulating material* [2]

BS 5266-1 , *Emergency lighting – Code of practice for the emergency lighting of premises*

BS 5839-1:2017 , *Fire detection and alarm systems for buildings – Part 1: Code of practice for system design, installation, commissioning and maintenance of systems in non-domestic premises*[3]

BS 7629-1 , *Electric cables – Specification for 300/500 V fire resistant, screened, fixed installation cables having low emission of smoke and corrosive gases when affected by fire – Part 1: Multicore cables*

BS 7671 , *Requirements for Electrical Installations – IET Wiring Regulations*

BS 9999 , *Fire safety in the design, management and use of buildings – Code of practice* [4]

[1] Documents that are referred to solely in an informative manner are listed in the Bibliography.
[2] Withdrawn in 2019.
[3] This document also includes informative reference to BS 5839-1:2002+A2:2008.
[4] This document also includes informative reference to BS 9999:2017 .

BS EN 54-2:1997+A1:2006, *Fire detection and fire alarm systems – Part 2: Control and indicating equipment*

BS EN 54-4, *Fire detection and fire alarm systems – Part 4: Power supply equipment*

BS EN 54-16:2008, *Fire detection and fire alarm systems – Part 16: Voice alarm control and indicating equipment*

BS EN 60529, *Degrees of protection provided by enclosures (IP Code)*

BS EN 61386 (all parts), *Conduit systems for cable management*

BS EN 61672-1, *Electroacoustics – Sound level meters – Part 1: Specifications*

BS EN IEC 60118-4, *Electroacoustics – Hearing aids – Part 4: Induction loop systems for hearing aid purposes – System performance requirements*

BS ISO 3864-4, *Graphical symbols – Safety colours and safety signs – Part 4: Colorimetric and photometric properties of safety sign material*

PD IEC TR 63079, *Code of practice for hearing-loop systems (HLS)*

Other publications

[N1] DEPARTMENT FOR CULTURE, MEDIA AND SPORT (DCMS). Guide to Safety at Sports Grounds. Sixth edition. The Stationery Office, 2018. ISBN: 978-1-9164583-0-7.

3 Terms and definitions

For the purposes of this part of BS 5839, the following terms and definitions apply.

3.1 access level

one of several states of the EVC system in which selected:

a) controls can be operated;

b) manual operations can be carried out;

c) indications are visible; and/or

d) information can be obtained

NOTE *Further information on access levels is given in Annex A.*

3.2 competent person

person with the relevant current training and experience, and with access to the requisite tools, equipment and information, and capable of carrying out a defined task

3.3 duplex

operation of transmitting and receiving apparatus at one location in conjunction with associated transmitting and receiving equipment at another location, the processes of transmission and reception being concurrent

3.4 emergency voice communication system (EVC system)

system that allows voice communication in either direction between a central control point and several other points throughout a building or building complex, particularly in a fire emergency

3.5 evacuation lift

lift that may be used for the evacuation of disabled people in a fire under the direction of management or firefighters

