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**BS 8521:2009**



# **BSI British Standards**

## **Specification for dual-tone multi-frequency (DTMF) signalling protocol for social alarm systems**

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ISBN 978 0 580 55079 9

ICS 13.320

The following BSI references relate to the work on this standard:

Committee reference GW/1/12

Draft for comment 08/30129607 DC

### **Publication history**

First published as BS 7369, February 1991

First published as BS 8521 (present edition), April 2009

### **Amendments issued since publication**

| <b>Date</b> | <b>Text affected</b> |
|-------------|----------------------|
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### **Publishing information**

This British Standard is published by BSI and came into effect on 30 April 2009. It was prepared by Subcommittee GW/1/12, *Social alarms*, under the authority of Technical Committee GW/1, *Electronic security systems*. A list of organizations represented on this committee can be obtained on request to its secretary.

### **Supersession**

This British Standard supersedes BS 7369:1991, which is withdrawn.

### **Information about this document**

This is a full revision of BS 7369, and introduces the following principal changes:

- message structure has been extended to reflect the evolution of user requirements, and extended range of alarm generation sources;
- extended definitions of parameters are provided and an error detection checksum has been added to alarm messages;
- a remote parameter programming and enquiry facility has been introduced;
- tone durations and signal timing have been revised.

The aim of this British Standard is to provide a replacement to the BS 7369:1991 social alarm DTMF signalling protocol implementation employed by manufacturers within the social alarm market place to enable a solution toward meeting the requirements of the current market place. BS 8521 is intended to ensure that equipment users can benefit from improved equipment interoperability, irrespective as to the source of their equipment.

BS 8521 is not interoperable with BS 7369:1991.

Compliance with this British Standard does not infer that all the functions listed herein are available within any given item of alarm equipment.

### **Presentational conventions**

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

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

### **Contractual and legal considerations**

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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

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This British Standard has been prepared in response to requests from purchasers and users of social alarm systems for the establishment of a common signalling protocol to ensure that social alarm systems from different manufacturers exchange essential information and controls in a compatible manner. Essential information and controls include identification of an individual local unit and controller, the nature of any alarm, with the type of trigger initiating this, and the controls necessary to operate any speech link between a local unit and an alarm receiving centre (ARC).

This British Standard specifies requirements for dual tone multi-frequency signalling, for the transfer of messages and commands, this being an acknowledged method for transmitting information over the public switched telephone network once a call has been established between the local unit and controller and the ARC.

## 1 Scope

This British Standard specifies requirements for the transfer of information and controls within a social alarm system, by means of dual-tone multi-frequency (DTMF) tone signals passing between site control or local equipment and an alarm receiving centre via the public switched telephone network (PSTN) supporting voice traffic conforming to ITU-T Recommendation G.711 [1].

The standard specifies an in-call protocol which supports the 300 ms maximum round trip delay specified in the UK National Transmission Plan [2] for connections over the fixed network.

## 2 Normative references

BS EN 50134-1, *Alarm systems – Social alarm systems – Part 1: System requirements*

BS EN 50134-3, *Alarm systems – Social alarm systems – Part 3: Local unit and controller*

ES 201 235-1, *Specification of dual tone multi-frequency (DTMF) transmitters and receivers – Part 1: General*

ES 201 235-2, *Access and terminals (AT) – Specification of dual tone multi-frequency (DTMF) transmitters and receivers – Part 2: Transmitters*

ES 201 235-4, *Access and terminals (AT) – Specification of dual tone multi-frequency (DTMF) transmitters and receivers – Part 4: Transmitters and receivers for use in terminal equipment for end-to-end signalling*

## 3 Terms and definitions

For the purposes of this British Standard, the terms and definitions given in BS EN 50134-1 and the following apply.

### 3.1 clear

termination of audio communication whilst retaining connection to a controller