

Installation and configuration of intruder alarm systems designed to generate confirmed alarm conditions — Code of practice

ICS 13.310

Committees responsible for this Draft for Development

The preparation of this Draft for Development was entrusted by Technical Committee GW/1, Electronic security systems, to Subcommittee GW/1/2, Installed alarm systems, upon which the following bodies were represented:

- ABI — Association of British Insurers
- ACPO — Association of Chief Police Officers
- Association of Burglary Insurance Surveyors
- Association of Security Consultants
- BRE/LPC Laboratories
- British Fire Protection Systems Association
- British Security Industry Association
- BT Plc — British Telecommunications Plc
- Co-opted members
- Electrical Contractors Association
- Metropolitan Police
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- Security Facilities Executive
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- Security Systems and Alarms Inspection

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Foreword

The preparation of this Draft for Development was entrusted by Technical Committee GW/1, Electronic security systems, to Subcommittee GW/1/2, Installed alarm systems. It supersedes DD 243:2002, which is withdrawn.

This Draft for Development is not to be regarded as a British Standard.

DD 243 is to be applied on a provisional basis so that information and experience of its practical application may be obtained. A review of DD 243 is to be carried out no later than 2 years after publication. The start of the review period, with a request for submission of comments from users of DD 243, is to be announced in *Update Standards*¹⁾. In view of the replies received Subcommittee GW/1/2 will decide:

- whether DD 243 can be converted into a British Standard; or
- what other action to take.

Observations, which are felt should receive attention before the official call for comments, are welcomed.

Comments should be sent to the Secretary of Subcommittee GW/1/2 at BSI, British Standards House, 389 Chiswick High Road, London, W4 4AL, giving the document reference and clause number and proposing, where possible, an appropriate revision of the text.

It has been assumed in the drafting of this Draft for Development that the execution of its provisions is entrusted to appropriately qualified and competent people.

As a code of practice, this Draft for Development takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

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

Compliance with a Draft for Development does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 29 and a back cover.

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¹⁾ *Update Standards* is available from BSI, British Standards House, 389 Chiswick High Road, London W4 4AL.

1 Scope

DD 243 gives recommendations for the design, installation and configuration of intruder alarm systems (IASs) that incorporate alarm confirmation technology, where such IASs have signalling systems that signal to an alarm receiving centre (ARC) and require a police response.

DD 243 includes recommendations intended to minimize the likelihood of false alarms.

DD 243 is intended to be read in conjunction with and supplements the standards given in the document and in particular EN 50131 (as implemented by PD 6662).

Hold-up alarms (whether they are stand-alone hold-up alarm systems (HAS) or the hold-up part of an IAS) are beyond the scope of DD 243.

NOTE 1 This does not mean that hold-up devices can not be included as part of an IAS incorporating alarm confirmation technology.

NOTE 2 This Draft for Development is intended to apply to IASs installed in England, Wales and Northern Ireland. Attention is drawn to the fact that with regard to this Draft for Development, the Association of Chief Police Officers of Scotland has announced an intention to adopt a similar policy to the Security System Policy [1] adopted in 2004 by the Association of Chief Police Officers of England, Wales and Northern Ireland.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the publication (including any amendments) applies.

BS 4737 (all parts), *Intruder alarm systems*.

BS 5979:2000, *Code of practice for remote centres receiving signals from security systems*.

BS EN 50131-6, *Alarm systems — Intrusion systems — Part 6: Power supplies*.

BS EN 50136 (all parts), *Alarm systems — Alarm transmission systems and equipment*.

prEN 50131-1:2004, *Alarm systems — Intrusion and hold-up systems — Part 1: System requirements*.

DD 245, *Code of practice for management of false alarms*.

PD 6662:2004, *Scheme for the application of European Standards for intruder and hold-up alarm systems*.

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this Draft for Development, the terms and definitions given in the EN 50131 series, the BS EN 50136 series and the following apply.

3.1.1

alarm filtering

procedure whereby signalled alarm conditions are intentionally delayed at an ARC and their status reviewed for the purpose of cancelling certain alarm conditions, where such cancellation is authorized by the customer

3.1.2

alarm call

communication from an ARC to the appropriate party (or parties), which indicates that an alarm condition has occurred at a supervised premises, or which provides supplementary information concerning a previously reported alarm condition

3.1.3

alarm receiving centre

ARC

continuously manned centre to which information concerning the status of one or more I&HAS is reported [prEN 50131-1:2004, definition 3.1.6]

3.1.4

alarm signal

signal which, upon being received at an ARC, or upon being received and processed at an ARC, identifies a signalled alarm condition

3.1.5

ancillary control equipment

ACE

equipment used for supplementary control purposes
[prEN 50131-1:2004, definition **3.1.14**]

3.1.6

as-fitted document

document in which details of the IAS actually installed are recorded
[DD CLC/TS 50131-7:2003, definition **3.1.9**]

NOTE This was previously known as “system record”.

3.1.7

audibly confirmed

designation at an ARC by interpreting audio information transmitted from the supervised premises and determination of a high probability that a genuine intrusion or a genuine attempted intrusion has occurred

3.1.8

audio listening device

ALD

instrument for converting sound waves into electrical energy variations for subsequent re-conversion into sound waves

NOTE A microphone is an example of an ALD.

3.1.9

audio monitoring device

AMD

instrument which is activated by sounds above a specific threshold

NOTE Typically, an AMD would incorporate a microphone.

3.1.10

confirmation time

time allowed for a sequentially confirmed alarm to occur after an unconfirmed alarm has occurred

3.1.11

control and indicating equipment

CIE

equipment for receiving, processing, controlling, indicating and initiating the onward transmission of information

3.1.12

customer

person or organization purchasing the IAS and/or other alarm services from an alarm company and/or ARC

3.1.13

dual technology detector

detection device that employs two different sensing technologies monitored by a common processor with a common alarm output

3.1.14

extended format reporting

notification to an alarm transmission system of which specific parts of an IAS have activated, generally in circuit, zone or area format

3.1.15**false alarm**

alarm condition which has not resulted from:

- a) a criminal attack, or attempt at such, upon/to the supervised premises, the alarm equipment or the line carrying the alarm signal; or
- b) damage, or attempt at such, to the supervised premises, the alarm equipment or the line carrying the alarm signal; or
- c) actions by emergency services in the execution of their duties; or
- d) a call emanating from a hold-up alarm system made with good intent

NOTE Activation of detectors without apparent damage or entry to the premises is considered a false alarm unless proven otherwise.

3.1.16**false alert**

signalled alarm condition, which is regarded by the ARC as cancelled, such cancellation having been authorized by the customer

3.1.17**final exit door**

door designated for exit from the supervised premises

3.1.18**imaging device**

device that converts an optical image into an electrical signal
[BS EN 50132-7:1996, definition 3.1.11]

NOTE A camera is an example of an imaging device.

3.1.19**initial entry door**

door designated for entry to the supervised premises

3.1.20**listen-in**

action, by an ARC, of listening to stored audio and/or to live audio received from the supervised premises

3.1.21**live audio**

information of an audible nature that is occurring in real time

3.1.22**mis-operation signal**

signal that is identifiable at the ARC as indicating that the IAS has mis-operated and therefore that the signalled alarm condition is to be cancelled and regarded as a false alert

NOTE The designation of a particular type of signal as a mis-operation signal is therefore a matter for agreement between the alarm company and ARC, with the concurrence of the customer.

3.1.23**notification**

passing of an alarm, tamper or fault condition to warning devices and/or alarm transmission systems

3.1.24**portable ACE****PACE**

device used for setting and/or unsetting an IAS which can be removed from the supervised premises

3.1.25**PACE reader**

fixed equipment which enables IAS to be unset using PACE and which may be incorporated within CIE, or ACE, or may be a separate item or subsystem to provide the required functionality

3.1.26

remote centre

location remote from the supervised premises, in which the information concerned with the state of one or more alarm systems is collected either for reporting (e.g. an ARC) or for onward transmission
[BS 5979:2000, definition **3.1.23**]

3.1.27

restore

procedure of cancelling an alarm, tamper, fault or other condition and returning the I&HAS to a previous condition

NOTE This was previously known as “reset”.

3.1.28

sequentially confirmed

condition emanating from two or more independent detectors, which are so configured that there is a high probability that a genuine intrusion or a genuine attempted intrusion has occurred

3.1.29

shunt lock

door lock incorporating a switching device within the lock case

3.1.30

signalled alarm condition

state of monitoring equipment at an ARC, which indicates an alarm condition

NOTE This does not preclude other signals (e.g. unset, set, mis-operation, fault) being received at an ARC.

3.1.31

stored audio

recording(s) in an audible format made at a supervised premises during, before and after the time of an alarm condition

3.1.32

supervised premises

part of a building and/or area in which an intrusion, attempted intrusion, or the triggering of a hold-up device can be detected by an I&HAS

NOTE This was previously known as “protected premises”.

3.1.33

system design proposal

specification document for a proposed IAS, listing the equipment and components to be supplied, detailing their proposed locations and containing a general indication of their coverage or purpose

3.1.34

tamper detection

detection of deliberate interference with an I&HAS or part thereof
[prEN 50131-1:2004, definition **3.1.74**]

3.1.35

transmission fault signal

indication of a fault in the alarm transmission path

3.1.36

unconfirmed alarm

signal that has not been designated as audibly confirmed, visually confirmed or sequentially confirmed

3.1.37

user

person authorized to operate an I&HAS

NOTE The customer (subscriber) may also be a user.

3.1.38**video monitoring device****VMD**

instrument that is activated by disturbances above a specific threshold

NOTE Typically a VMD would be incorporated into an imaging device.

3.1.39**visually confirmed**

designation at an ARC by interpreting visual information transmitted from the supervised premises and determining that there is a high probability that a genuine intrusion or a genuine attempted intrusion has occurred

3.2 Abbreviations

For the purposes of this Draft for Development, the following abbreviations apply.

ACE Ancillary Control Equipment

ALD Audio Listening Device

AMD Audio Monitoring Device

ARC Alarm Receiving Centre

CIE Control and Indicating Equipment

HAS Hold-up Alarm System

I&HAS Intrusion and Hold-up Alarm System

IAS Intruder Alarm System

PACE Portable Ancillary Control Equipment

VMD Video Monitoring Device

WD Warning Device

4 Primary design and configuration considerations**4.1 Design objectives**

Intruder Alarm Systems (IASs) should be designed, installed and configured:

- a) to provide effective confirmation facility;
- b) to minimize the likelihood of false alarms.

IASs incorporating alarm confirmation technology should be designed, installed and configured in accordance with Clause 5 and Annex A. The provision of alarm confirmation technology helps towards minimizing false alarms.

Recommendations for other measures to minimize the likelihood of false alarms (for example, procedures for unsetting) are given in Clause 6.

Alarm companies should advise customers to consult with their insurer in relation to any new IAS, or modification of an existing IAS, conforming to DD 243.

4.2 Alarm confirmation technology

Alarm confirmation technology aims to provide high confidence that an alarm signal has been caused by genuine intrusion or genuine attempted intrusion.

There are three forms of alarm confirmation technology for use with IASs installed in buildings in accordance with DD 243:

- a) audio confirmation technology (see 5.2);
- b) visual confirmation technology (see 5.3);
- c) sequential confirmation technology (see 5.4).

All IASs should incorporate sequential confirmation technology.

IASs may incorporate the other two technologies, as appropriate to:

- the needs and expectations of the customer;
- the environment at the supervised premises.

4.3 Transmission fault signals

There are two circumstances in IASs installed in accordance with DD 243 where there might be high confidence that there is genuine intrusion or genuine attempted intrusion.

- a) If an ARC receives a transmission fault signal followed by an alarm signal, or vice versa, from the same supervised premises during a single set period of up to a maximum of 96 hours.
- b) If two transmission fault signals exist at the same time from the same supervised premises, one from each of two transmission paths of different technologies (e.g. cable and radio) during a single set period of up to a maximum of 96 hours.

Connection to two transmission paths is optional and by agreement with the customer. Where single path signalling is proposed, the following warning should be reproduced in the system design proposal and as-fitted document in bold type following the description of the signalling method:

“IMPORTANT

Your attention is drawn to the fact that failure or compromise of single path signalling cannot be passed to the police. While the failure persists, subsequent alarms cannot be signalled to the alarm receiving centre and passed to the police.”

NOTE The connection to two transmission paths does not equate to, or constitute, equipping the alarm system with alarm confirmation technology.

Where transmission faults are to be notified, the alarm company should inform the customer in writing, at the time of arranging the alarm monitoring agreement between the alarm company and the customer, of the actions that will be taken by the ARC upon receipt of a transmission fault signal or transmission fault signals.

An example of ARC alarm handling procedures for alarm signals associated with transmission fault signals is given in Annex B.

An example of ARC procedures for handling two transmission fault signals is given in Annex C.

4.4 Informing the ARC of changes in police response

As soon as the alarm company becomes aware of any IAS having been taken off or put back on police response, the alarm company should inform the ARC.

5 Design, installation and configuration of IASs incorporating alarm confirmation technology

5.1 General

5.1.1 Design process

The design and configuration of IASs incorporating alarm confirmation technology should take into account the needs and expectations of the customer and the desired response to alarms. The design process should consider the whole of the supervised premises.

NOTE 1 It is a matter of system design, in meeting the needs and expectations of the customer, as to whether alarm confirmation technology is applied to every room or area within the supervised premises, or only to certain rooms or areas.

Consideration should be given to the use of extended format reporting.

NOTE 2 Extended format reporting can be helpful in providing additional information about intrusion including:

- a) the locations of detectors that have activated;
- b) multiple activations of detectors;
- c) identification of perimeter detectors that have activated.

Detectors installed outside the supervised premises should not contribute to the generation of audibly, visually or sequentially confirmed alarms.

NOTE 3 Remote monitored, detector activated CCTV systems conforming to BS 8418 may incorporate detectors installed outside the supervised premises and activations of such detectors are eligible for police response if activations occur and there is positive evidence in images of conditions requiring an emergency response and/or of actual criminal activity.

5.1.2 *Provision of effective confirmation facility*

Depending upon the needs and expectations of the customer, one of the following options should be employed.

a) *An effective confirmation facility throughout the entire supervised premises.*

The IAS should be designed and configured such that when an intruder enters any part of the supervised premises, other than by the designated means of entry:

- 1) the IAS is capable of providing confirmation of activity throughout the entire supervised premises;
- 2) there is a reasonable expectation that the IAS provides such confirmation (provided that the intruder has gained access by a means/route intended to be supervised by the alarm system).

b) *An effective confirmation facility throughout specified parts of the supervised premises.*

The IAS should be designed and configured such that when an intruder enters specified parts of the supervised premises:

- 1) the IAS is capable of providing confirmation of activity throughout the specified parts of the supervised premises;
- 2) there is a reasonable expectation that the IAS provides such confirmation (provided that the intruder has gained access by a means/route intended to be supervised by the alarm system).

The system design proposal and the as-fitted document should identify the specified parts of the supervised premises that do, and do not, have effective confirmation facility.

It is emphasized that designation as confirmed should be made on a case-by-case basis for each alarm condition, as it might not be possible to say that all alarm conditions originating from a given IAS result in a confirmed alarm.

NOTE Generally, it is advisable to use the phrase “IAS incorporating alarm confirmation technology” or “IAS capable of generating confirmed alarms”, and not “confirmed systems” because such IAS might sometimes only generate unconfirmed alarms.

5.1.3 *Notification of alarm conditions and other information*

The notification of alarm conditions should be in accordance with the appropriate standard (for example, prEN 50131-1). To enable the effective functioning of IASs incorporating alarm confirmation technology however, it is necessary for additional or further information to be transmitted to the ARC.

Agreement should be reached between the alarm company and customer (who should be advised to consult with their insurers, where applicable) on:

- a) the amount of additional or further information transmitted from the supervised premises to an ARC;
- b) the circumstances in which the information is transmitted;
- c) any intentional time delay at the premises before transmission of additional or further information.

5.1.4 *Location of CIE and notification equipment*

The control and indicating equipment (CIE) and notification equipment should be located and supervised so as to minimize the risk of vandalism or sabotage.

5.1.5 *Further recommendations*

Further recommendations for:

- a) audio confirmation technology are given in 5.2;
- b) visual confirmation technology are given in 5.3;
- c) sequential confirmation technology are given in 5.4.