

Australian Standard[®]

**GUIDE TO THE SELECTION AND
APPLICATION OF INTRUDER
ALARM SYSTEMS FOR
DOMESTIC AND BUSINESS
PREMISES**

This Australian standard was prepared by Committee EL/31, Intruder Alarm Equipment and Installations. It was approved on behalf of the Council of the Standards Association of Australia on 13 April 1983, and published on 4 July 1983.

The following interests are represented on Committee EL/31:

Association of Burglary Insurance Surveyors Australasia
Australian Electrical Manufacturers Association
Australian Federal Police
Australian Security Industry Association Limited
Building Owners and Managers Association of Australia Limited
Confederation of Australian Industry
Department of Defence
Department of Transport and Construction
Department of Public Works
Institute of Commercial and Industrial Security Executives
Insurance Council of Australia
Metal Trades Industry Association of Australia
New South Wales Police Department
Non-tariff Insurance Association of Australia
Tasmania Police
Telecom Australia
Victoria Police

Review of Australian Standards. To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This standard was issued in draft form for comment as DR 82022.

Australian Standard®

**GUIDE TO THE SELECTION AND
APPLICATION OF INTRUDER
ALARM SYSTEMS FOR
DOMESTIC AND BUSINESS
PREMISES**

First published 1983

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 3005 7

PREFACE

This standard was prepared by the Association's Committee on Intruder Alarm Equipment and Installations. Because of the wide range of equipment and systems that are available, this standard was prepared to assist non-technical persons to obtain some idea of which type of detector equipment and alarm system is best suited for their application.

Other related physical protection, such as guards, doors, windows and types of locks, is not covered in this standard.

The standard is based on the National Bureau of Standards Special Publication Number 480-14, Selection and Application Guide to Commercial Intrusion Alarm Systems, prepared by the U.S. Department of Commerce, National Bureau of Standards' Law Enforcement Standards Laboratory as part of the Technology Assessment Program of the U.S. Department of Justice, National Institute of Justice.

This standard attempts to provide information on the major types of intruder alarm systems currently in use. However, it does not purport to be a definitive exposition of all such systems, nor is it intended to convey the impression that every system described will be suitable for use in all locations. While it attempts to discuss the main issues to be taken into account in deciding upon the installation of a particular system, it may not cover all relevant functions peculiar to a particular location. Consequently, reliance solely upon this guide to the exclusion of expert advice is not recommended.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

	<i>Page</i>
FOREWORD	4
SECTION 1. SCOPE AND GENERAL	
1.1 Scope	5
1.2 Referenced Documents	5
1.3 Basic Considerations	5
SECTION 2. TYPES OF PROTECTION	
2.1 General	8
2.2 Object Protection	8
2.3 Perimeter Protection	8
2.4 Area Protection	8
2.5 Hold-up Duress Protection	9
SECTION 3. DETECTORS	
3.1 General	10
3.2 Switch Detectors	10
3.3 Pressure Mats	12
3.4 Metallic Foil	12
3.5 Wire Screens	12
3.6 Microwave Motion Detectors	12
3.7 Ultrasonic Motion Detectors	13
3.8 UHF Radio Motion Detectors	14
3.9 Passive Infrared Motion Detectors	14
3.10 Infrared Photoelectric Beam Detectors	15
3.11 Sound Detectors	16
3.12 Vibration Detectors	16
3.13 Capacitance Detectors	16
SECTION 4. SYSTEM DESIGN CONSIDERATIONS	
4.1 General	20
4.2 The Floor Plan	20
4.3 Control Units	20
4.4 Tamper Protection	22
SECTION 5. INSTALLATION AND OPERATIONAL CONSIDERATIONS	
5.1 General	24
5.2 Environmental Factors	24
5.3 Detector Installation Factors	24
5.4 After the Installation	25
SECTION 6. SOUNDING THE ALARM	
6.1 General	27
6.2 Local Alarm System	27
6.3 Central Station System	27
6.4 Automatic Telephone Dialler	27
SECTION 7. GETTING YOUR MONEY'S WORTH	
7.1 General	29
7.2 Evaluation of Security Needs	29
7.3 Costs	29

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard**for****GUIDE TO THE SELECTION AND APPLICATION OF
INTRUDER ALARM SYSTEMS
FOR DOMESTIC AND BUSINESS PREMISES**

FOREWORD

Crimes against domestic premises and businesses, small and large, are a commonplace occurrence and security has therefore become an essential in the operation of any business. With the increase in burglary, more and more people are turning to alarm systems for increased protection. The selection of a suitable alarm system is not a simple matter. You are faced with a wide and possibly confusing array of equipment and services which may not give you enough information for your specific needs. This standard, therefore, is intended to provide a means for you to gain a general understanding of intruder alarm systems and their potential use in your premises.

The factors which determine the requirements of an individual alarm system and the questions which must be answered when a system is being selected include the following:

- (a) The threat—what is to be protected against?
- (b) The type of protection—what methods are available?
- (c) The types of detectors—what should be detected?
- (d) The method of alarm transmission—how is the signal sent and who will respond?

The purpose of this standard is to familiarize you with—

- (i) the types of protection that intruder alarm systems can provide;
- (ii) the manner in which they operate; and
- (iii) the characteristics of the various system components as they relate to different applications.

The basic considerations that determine your individual needs are discussed in general terms, thus enabling you more effectively to deal with and understand the services of the many reputable alarm system companies that are ready to serve your needs.

The Standards Association of Australia is continuing to develop performance standards for intruder alarm systems and components (see AS 2201, Part 1 and Part 2). Equipment that complies with the requirements of these individual standards should provide reliable performance.

An intruder alarm may sometimes serve to deter a would-be intruder. However, the primary function of the system is to signal the presence of the intruder. An intruder alarm system is only part of the overall protection needed, and it is important to recognise that the successful operation of a system depends upon not only the system equipment but also upon its proper installation, maintenance, and use.