

AS 1104—1978

Australian Standard[®]

**Informative symbols for use on
electrical and electronic equipment**

The following scientific, industrial and governmental organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Australian Electrical and Electronics Manufacturers Association
Australian Institute of Refrigeration Air Conditioning and Heating (Inc.)
Confederation of Australian Industry
Department of Construction
Department of Defence
Department of Productivity
Department of Transport
Electricity Supply Association of Australia
Institute of Draftsmen Australia
Institution of Radio and Electronics Engineers Australia
Melbourne and Metropolitan Board of Works
Queensland Chamber of Mines
Railways of Australia Committee
Technical Press
Telecom Australia

This standard, prepared by the Joint Telecommunications and Electronics and Electrical Committee TE/13, Symbols, Units and Quantities for Electrotechnology, was approved on behalf of the Council of the Standards Association of Australia on 16 August 1978 and was published on 1 December 1978.

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PREFACE

This standard was prepared by the Association's Committee on Symbols, Units and Quantities for Electrotechnology under the authority of both the Telecommunications and Electronics Standards Board and the Electrical Standards Board.

The purpose of the standard is to establish uniform principles for the standardization of graphical symbols used on electrical and electronic appliances and equipment for informative purposes. Information is given on the function and use of informative symbols, the design process to be followed and the uses for which the symbols are intended. A pictorial survey of those symbols standardized internationally that have been endorsed as part of this standard is included, together with both an alphabetical and a numerical index to the symbols. Examples of the individual symbols available in single sheet form are included in an appendix. The symbols are prepared in this single sheet form so as to be suitable for photographic reproduction or industrial applications and will be made available to order by the Association.* It should be noted that these symbols are not intended to be used to represent electrical components in circuit diagrams or the like; symbols for this purpose are the subject of AS 1102, Graphical Symbols for Electrotechnology.

The Association's Committee on Public Information Symbols is at present preparing an Australian standard that will specify guidelines for the presentation of public information symbols. When published that standard will take precedence over AS 1104 with regard to the use of symbols in signs providing information for the public.

In terminology, format and general treatment of the subject, this standard is technically identical with both IEC 416:1972 of the International Electrotechnical Commission, and ISO 3461:1976 of the International Organization for Standardization. The individual symbols are identical with those of IEC 417:1973 which is endorsed as part of the standard. Acknowledgement is made of the assistance received from these sources.

Reference will be required to the following Australian standard for information on colours to be used in reproducing individual symbols. The colour used may vary depending upon the application of the symbol.

AS 1319 Safety Signs for the Occupational Environment

* The individual symbols sheets should be ordered by reference to the number of this standard with the letter 'S', i.e. AS 1104S, and the number of the sheet. e.g. 5001.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

**INFORMATIVE SYMBOLS FOR USE ON ELECTRICAL AND
ELECTRONIC EQUIPMENT**

SECTION 1. SCOPE AND GENERAL PRINCIPLES FOR THE
STANDARDIZATION OF INFORMATIVE SYMBOLS FOR USE
ON ELECTRICAL AND ELECTRONIC EQUIPMENT

1.1 SCOPE. This standard establishes uniform principles for the standardization of informative symbols, their graphic form, meaning and application.

1.2 APPLICATION. This standard applies to graphical symbols which are—

- (a) placed on electrical or electronic equipment or parts of equipment of any kind in order to instruct the persons handling the equipment on its use or operation;
- (b) used in instruction manuals and similar documents, diagrams or maps.

NOTE: Symbols may be placed on signs providing information on services or equipment, or warnings of electrical hazards, e.g. symbols 5036, 5090, 5225.

1.3 DEFINITIONS. For the purposes of this standard, the following definitions apply:

Graphical symbol—an optically perceptible figure produced by means of drawing, designing, printing or other techniques.

Informative symbol—a symbol that is used to transmit a message and which represents, in a clearly understandable manner independent of any language, an object or concept. It may also provide information on conditions, facts and actions.

NOTE: In the context of this standard, letters, numerals and punctuation marks are not admitted as independent symbols though they may be used as elements within a graphical symbol.

1.4 FUNCTION. As a rule informative symbols are used to—

- (a) identify, e.g. to describe a piece of equipment;
- (b) qualify, e.g. to describe a variation or a subsection;
- (c) instruct, e.g. to describe an operation or use;
- (d) command, e.g. to indicate something which shall or shall not be done;
- (e) warn, e.g. to draw attention to danger; or
- (f) indicate, e.g. direction, quantity.

1.5 USE. In the context of this standard and for the general purposes described, informative symbols are, as a rule placed—

- (a) specifically on items of equipment or parts of equipment;
- (b) generally in the vicinity of the equipment;
- (c) independently of equipment or its environment as information reproduced on plans, documents, manuals, films, etc.

- (d) on a circuit diagram, such symbols being restricted to the identifying of component symbols corresponding to parts of equipment so marked, e.g. controls, terminals, etc.

1.6 CRITERIA. In the interests of effective communication, certain criteria should be applied in developing and evaluating symbols:

- (a) The meaning of the graphical symbol should be unambiguous.
- (b) The symbol itself should be unambiguous. This means that—
 - (i) the image content should not be capable of misinterpretation; and
 - (ii) the symbol, or elements in the symbol should be unique, or dissimilar to other symbols or elements having different meanings.
- (c) The symbol should be so designed as to be read accurately and quickly and, where necessary, to provoke an immediate reaction from whoever looks at it.
- (d) The symbol should be so designed as to be capable of clear reproduction whatever the process or size of reproduction.
- (e) If the meaning of a symbol is not self-evident, then it should be so designed in itself and in relation to other symbols that the meaning can be easily learnt and remembered.

1.7 DESIGN PROCESS. The design process involved in the production of a symbol shall entail—

- (a) identification of a need for a symbol;
- (b) clear and unambiguous description of the purpose of the symbol and identification of any positioning or movement (see Clause 1.12);
- (c) design of the graphic form in accordance with the prescribed standards (see Clause 1.9);
- (d) testing of the symbol for legibility, comprehension, etc;
- (e) modification if necessary.

1.8 COMBINATION OF SYMBOLS. To represent certain concepts, graphical symbols may be combined or grouped together. The meaning of any such new concept shall be unambiguously defined. A complex symbol so created is to be considered as a new graphical symbol.

For reasons of comprehension, it is recommended that not more than three symbols be combined to form a new complex symbol.

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