AS 1102, Part 14—1979
UDC 003.62:621.3

# Australian Standard 1102, Part 14—1979

Amdt 1

## GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

# TELEPHONY, TELEGRAPHY AND TRANSDUCERS



STANDARDS ASSOCIATION OF AUSTRALIA
*Incorporated by Royal Charter*

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

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This standard, prepared by the Telecommunications and Electronics Committee TE/13, Joint TE/EL Committee on Symbols, Units and Quantities for Electrotechnology, was approved on behalf of the Council of the Standards Association of Australia on 6 December 1978, and was published on 1 July 1979.

To keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvements to published standards, addressed to the head office of the Association, are welcomed.

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*This standard was issued in draft form for public review as DR 77187.*

Amendment No 1
February 1980

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

# AMENDMENT No 1
to
# AS 1102, Part 14—1979
# GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY
# Part 14—TELEPHONY, TELEGRAPHY AND TRANSDUCERS

*SUMMARY:* The following sections of the standard are covered by this amendment: Contents; Clause 1.3.4; Symbols 14.39, 14.41, 14.43, 14.103, 14.104, 14.130A (new), 14.142.

Published on 1 March 1980.

**Page 2. Table of Contents.** AMDT No 1 FEB. 1980

Section 2.4—*delete* 'and Exchange Equipments'.

**Page 3. Clause 1.3.4.**

First paragraph—*delete* last three lines and *substitute*: AMDT No 1 FEB. 1980

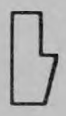
> 14.64 for a telegraph transmitter and receiver, produce Symbol 14.73, which indicates a tape-printing receiver with a keyboard transmitter.

Second paragraph—*delete* last two lines and *substitute*:

> will produce Symbol 14.139 which indicates a writing head producing modulated light, monophonic.

**Page 8. Section 2.3.**

Symbol 14.39—*invert* thus: AMDT No 1 FEB. 1980



Symbol 14.41—

*delete* '2 + 6' and *substitute* '15 + 80'

*delete* existing description and *substitute* '15 + 80 floor mounted type PMBX'

Symbol 14.43—*delete* existing description and *substitute*:

**Example:**

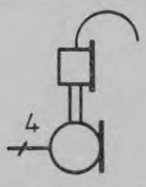
2 + 6 table type PMBX.

**Page 14. Section 2.6.1.** AMDT No 1 FEB. 1980

*Renumber* Symbol 14.104 as '14.103' and Symbol 14.103 as '14.104'.

**Page 16. Section 2.6.3.**

After Symbol 14.130 *add* new symbol: AMDT No 1 FEB. 1980

| | | |
|---|---|---|
| *14.130A |  | Headset transmitter/receiver |

*Refer to Clause 1.3.1.

**Page 17. Section 2.6.3.** AMDT No 1 FEB. 1980

Symbol 14.142—*delete* letter symbol *'r'* and *substitute 'n'*.

AUSTRALIAN STANDARD

# GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

# Part 14 TELEPHONY, TELEGRAPHY AND TRANSDUCERS

## AS 1102, Part 14—1979

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# PREFACE

This standard is one of a series being prepared by the Association's Committee on Symbols, Units and Quantities for Electrotechnology under the authority of both the Telecommunications and Electronics, and the Electrical Standards Boards.

In its terminology, format and general treatment of the subject this standard is generally consistent with the recommendations of publications 117-9, 117-9A, 117-9B and 117-9C issued by the International Electrotechnical Commission (IEC), and acknowledgement is made of the assistance received therefrom.

The symbols are identical with those established by the IEC except where the established usage in Australia has made unqualified acceptance of the IEC recommended symbol difficult. A number of examples representing Australian practice have been added. These are identified by an asterisk added to the reference number for the symbol.

The purpose of this Part of the standard is to specify symbols representing elements and devices for use in diagrams representing switched telecommunications networks. The symbols are intended for use with any type of equipment, being intended to convey concepts only and thus being independent of the actual device performing the switching.

This Part also includes symbols for transducers which are not limited to representing transducers used in telecommunications equipment. Symbols are given for transducers for both recording and reproducing equipment.

An appendix covering trunking diagrams, for some switching systems employing the devices discussed in Section 2.1, is included to facilitate uniformity in the use of these symbols.

Some qualifying symbols and letter symbols necessary to identify a particular device are included in the standard but for a full understanding of the methods adopted reference is required to the following Australian standards:

| | |
|---|---|
| AS 1000 | The International System of Units (SI) and Its Application |
| AS 1100 | Drawing Practice<br>Part 6—Letters, Numerals and Symbols |
| AS 1102 | Graphical Symbols for Electrotechnology<br>Part 1—General, Qualifying and Supplementary Symbols<br>Part 2—Conductors and Connecting Devices<br>Part 8—Location Symbols—Power Supply Systems and Electrical Services for Buildings and Sites<br>Part 10—Signal Transmission Symbols<br>Part 11—Contacts, Switchgear, Starters and Electromechanical Relays |
| AS 1103 | Diagrams, Charts and Tables for Electrotechnology<br>Part 1—Definitions and Classifications<br>Part 3—Basic Principles for the Presentation of Elements of Electrical Diagrams |
| AS 1046 | Letter Symbols for Use in Electrotechnology<br>Part 1—General<br>Part 2—Telecommunications and Electronics |

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Amdt 1.

STANDARDS ASSOCIATION OF AUSTRALIA

# Australian Standard
# for
# GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

## PART 14. TELEPHONY, TELEGRAPHY AND TRANSDUCERS

## SECTION 1. SPECIFICATION

**1.1 SCOPE.** This standard specifies graphical symbols representing elements, devices and functions for use in diagrams representing switched telecommunications networks of any type.

Symbols for transducers, associated equipment and qualifying symbols are also specified.

**1.2 DEFINITIONS.** For the purpose of this standard the following definitions apply:

**1.2.1 Connecting stage**—an arrangement of inlets and outlets such that only one switching point is used to connect one inlet to an outlet.

NOTE: A number of connections may exist at any time in one connecting stage.

**1.2.2 Marking stage**—in a common-control system, that sequence of connecting stages which is controlled by one marking process. A marking stage may consist of one or more connecting stages.

**1.2.3 Switching stage**—a sequence of connecting stages which jointly perform a specified switching function, e.g. preselection or route selection.

**1.2.4 Highway-group**—the maximum number of circuits which have access to one highway.

**1.3 GENERAL.**

**1.3.1 Relationship with IEC Symbols.** Symbols are identical with those internationally agreed within the IEC except where established usage in Australia make unqualified acceptance of the IEC symbol difficult. In such cases an alternative symbol may be shown, with the object of adopting the IEC proposal as soon as practicable. However, only one form of any symbol shall be used on a single diagram or series of drawings. A number of non-IEC symbols have been added, which represent Australian practice in the field of telecommunications; in each of these cases an asterisk has been added to the symbol number as a prefix.

**1.3.2 Size of Symbols.** Precise dimensions and proportions of graphical symbols are difficult to specify. The size of the symbols and characters used in this standard is regarded as the minimum desirable for reproduction by the various methods in use.

The relative sizes of the symbols should be preserved except where it is necessary to enlarge a symbol to give it prominence in a diagram or to provide adequate space within or around it to show symbols for associated components, or for coding.

At all times, however, the relative proportions of the symbols should be maintained such that each symbol shall be unique and immediately recognizable.

**1.3.3 Drawing Practice.** In general, the drawing of the graphical symbols for use on wiring or circuit diagrams should comply with the requirements of AS 1100 (in particular with Part 6) and AS 1103, Part 3.

**1.3.4 Qualifying and Supplementary Symbols.** Qualifying and supplementary symbols are added to component symbols where necessary in order to define more closely the item concerned as to type or function. For example, Symbols 14.66 and 14.70 representing tape printing and a keyboard, when added to Symbol 14.63 for a telegraph receiver, produce Symbol 14.73, which indicates a tape-printing receiver with a keyboard transmitter. Amdt 1

Supplementary symbols define the qualified component even more closely; for example, the light dependent Symbol 14.110, when added to the recording (writing) head, monophonic Symbol 14.135, will produce Symbol 14.138 which indicates a light-sensitive recording head, monophonic. Amdt 1

Qualifying symbols may not be employed independently, but it should be noted that component symbols may be used as qualifying symbols where appropriate.

**1.3.5 Terminology.** Apart from the specific terms defined in Clause 1.2, the terms and definitions employed in this standard are those given in AS 1103, Part 1.

**1.3.6 New Symbols.** If a symbol for a particular type of component is not shown as an example in this standard, it should be possible to produce it from the basic symbol and qualifying symbols. New symbols for specialized components should not be created.

**1.3.7 Symbol Orientation.** Orientation of a symbol, including mirro-image reversal, does not change the meaning of a symbol.