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Australian Standard 1102, Part 10—1981

GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

SIGNAL TRANSMISSION SYMBOLS

STANDARDS ASSOCIATION OF AUSTRALIA
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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 Incorporated

Confederation of Australian Industry

Department of Defence

Department of Housing and Construction

Department of Industry and Commerce

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

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GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

Part 10 SIGNAL TRANSMISSION SYMBOLS

AS 1102, Part 10—1981

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PREFACE

This edition of 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, and the Electrical Standards Boards, to supersede the 1973 edition.

This edition of the standard is technically identical with the 1973 edition as amended by Amendment No 1 of September 1978. However, in a number of cases the symbols have been re-drawn to eliminate inconsistencies and improve their presentation. In addition the symbols have been re-numbered in accordance with the current IEC method, and cross-references to other Australian standards have been updated

In its terminology, definitions and general treatments of the subject, this standard is consistent with the recommendations of Publication 117—13, 13A and 13B of the International Electrotechnical Commission (IEC). Acknowledgement is made of the assistance received from this source.

This standard is only one part of a comprehensive standard being prepared on graphical symbols for use in the field of electrotechnology generally. The purpose of this part is to specify standard graphical symbols for use in various types of diagram to illustrate various forms of signal transmission.

The method adopted involves the establishment of symbols for the various basic elements for the transmission of electrical signals. Qualifying symbols indicating a special function or property essential to the operating of the circuit are also defined.

These symbols may be combined to produce more complex or more descriptive symbols, or both. The principles governing the combining of these symbols are demonstrated in the examples given in the standard. The examples are not intended to be exhaustive but it should be possible to construct any symbol required from those given in this part of the standard and from other parts on basic symbols.

For a fuller understanding of the methods adopted in this standard, reference will also be required to the following Australian standards:

AS 1046	Letter Symbols for Use in Electrotechnology Part 1—General Part 2—Telecommunications and Electronics
AS 1100	Drawing Practice Part 6—Letters, Numerals and Symbols
AS 1102	Graphical Symbols for Electrotechnology Part 1—General, Qualifying and Supplementary Symbols Part 2—Conductors and Connecting Devices
AS 1103	Diagrams, Charts and Tables for Electrotechnology Part 1—Definitions and Classifications Part 2—Item Designation Part 3—Basic Principles for the Presentation of Elements of Electrical Diagrams Part 4—Guiding Principles for the Preparation of Circuit Diagrams Part 5—Preparation of Interconnection Diagrams and Tables.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

PART 10—SIGNAL TRANSMISSION SYMBOLS

SECTION 1. SPECIFICATION

1.1 SCOPE. This standard defines graphical symbols used in electrotechnology for representation of transmission of electrical signals and similar functions.

1.2 GENERAL.

1.2.1 Relationship with IEC Symbols. Symbols are identical with those internationally agreed within the International Electrotechnical Commission (IEC) except where established usage in Australia makes unqualified acceptance of the IEC symbol difficult. An alternative symbol is sometimes shown, with the object of adopting the IEC proposal as soon as practicable.

1.2.2 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.

1.2.3 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.

1.2.4 Qualifying and Supplementary Symbols. These symbols are added to component symbols where necessary in order to define more closely the item concerned; for example, the symbol from AS 1102, Part 1 which indicates 'ionizing radiation' when added to Symbol 10-07-07 (the symbol for a heat source) will produce Symbol 10-07-08 which indicates a radio-isotope heat source.

Supplementary symbols define the qualified component even more closely, for example, Symbol 10-07-10 (the symbol for a thermoelectric generator), when added to Symbol 10-07-08, will produce Symbol 10-07-13 which indicates a thermoelectric generator with radio-isotope heat source.

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

1.2.5 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 and qualifying symbols. New basic symbols for specialized components should be derived and not created.

1.2.6 Symbol Orientation. Orientation of a symbol, including mirror image reversals does not change the meaning of a symbol.

1.2.7 Terminology. The terms and definitions employed in this standard are given in AS 1103, Part 1.