

AS 1046, Part 1—1978

Australian Standard[®]

**LETTER SYMBOLS
FOR USE IN
ELECTROTECHNOLOGY**

Part 1—GENERAL

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 4 August 1977, and was published on 1 December 1978.

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which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.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.

AS 1046, Part 1—1978

Australian Standard[®]

**LETTER SYMBOLS
FOR USE IN
ELECTROTECHNOLOGY**

Part 1—GENERAL

First published	1972
Revised	1978

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

ISBN 0 7262 4633 6

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. It is a revision of the 1972 edition.

In its terminology, format and general treatment of the subject, this standard is consistent with IEC 27-1 published by the International Electrotechnical Commission. Acknowledgement is made of the assistance received from this source.

This standard was originally based on IEC 27(1966) with account being taken of changes made in international symbology following the publication of ISO 1000, SI Units and Recommendations for the Use of Their Multiples and of Certain Other Units. Subsequently IEC 27 was superseded by IEC 27-1 and 27-1A and this revision was undertaken to bring the standard into line with the revised requirements therein.

The purpose of the standard is thus to collate symbols for the quantities and units fundamental to the various disciplines involved in electrotechnology.

While it remains very largely in line with IEC 27-1, it incorporates some changes in the advice given on the use of symbols to bring it into line with AS 1000, The International system of Units (SI) and Its Application.

A further reason for revision was given by the publication of IEC 27-2 on symbols for telecommunications and electronics which forms Part 2 of this standard. The revision of Part 1 was necessary to provide guidance for the use of Part 2 particularly with regard to the use of indices and the structure of complex symbols. The symbols given in Table 4-G, Acoustics, of the first edition of Part 1 are now in Part 2.

In some degree, this standard is complementary to AS 1000 insofar as it covers letter symbols for many quantities and includes some information, for example on mathematical symbols, not within the scope of AS 1000. Some non-SI units are mentioned because of their extensive use in textbooks and papers originating overseas but it is emphasized that for future Australian practice preference should be given to those units within the International System. This standard should therefore be read in conjunction with AS 1000.

CONTENTS

SPECIFICATION	Page		Page
1 Scope	3	C. Thermodynamics	12
2 Application	3	D. Electricity and Magnetism . . .	12
3 Letter Symbols for Physical Quantities	3	E. Radiation	17
4 Abbreviations and Symbols for Units	4	F. Light	17
5 Numerical Values (Numbers)	6	5 Symbols for Constants	18
6 Rules for Subscripts	6	6 Some Mathematical Signs and Symbols	
7 Tables for Letter Symbols for Quantities and Abbreviations or Symbols for Units	8	A. General	19
8 Introduction to Table 7	20	B. Signs Used in Mathematical Operations, etc	20
		7 Recommended Subscripts	
		A. Fields of Science or technology	20
		B. Kind of Value of a Quantity . .	21
		C. Waveform, Components and Signals	21
		D. Relationship	21
		E. Geometric Condition	22
		F. The Situation to which the Value Refers	22
		G. Circuits	23
		H. Semiconductors and Tubes . . .	23
		I. Time-dependent Quantities . . .	24

TABLES	
1 Quantities Which Vary With Time . .	5
2 Complex Representation of Quantities	5
3 Prefixes for Multiples and Sub-multiples	5
4 Symbols for Quantities and Units	
A. Geometry and Kinematics	9
B. Dynamics	11

	<i>Page</i>		<i>Page</i>
8A Illustrative Examples	26	13 Alphabetical List of Subscripts in Table 7	33
8B Subscripts in Summation of Quantities	26		
9 Singularity Functions, Distributions	27	APPENDICES	
10 Alphabetical List of Symbols for Quantities and for Constants Mentioned in Tables 4 and 5	28	A The Greek Alphabet—Recommended Type Font	35
11 Alphabetical List of Symbols for Units Mentioned in Table 4	30	B Glossary of Terms Concerning Letter Symbols	36
12 Alphabetical List of Names of Quantities and of Constants Mentioned in Tables 4 and 5	31	C Examples of Time-dependent Quantities	38

© 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.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-