

WITHDRAWN:

19980701

AS 3732.3—1990

ISO/IEC 9592-3:1989

(Identical with and reproduced from ISO/IEC 9592.3-1989)

Australian Standard®

---

**Computer graphics—Programmer's  
hierarchical interactive graphics  
system (PHIGS)**

**Part 3: Clear-text encoding of  
archive file**

---

[ISO/IEC title: Information Processing Systems—Programmer's Hierarchical Interactive Graphics System (PHIGS)—Part 3: Clear-text Encoding of Archive File]



**STANDARDS AUSTRALIA**



This Australian Standard was prepared by Committee IT/3, Computer Related Graphics. It was approved on behalf of the Council of Standards Australia on 25 July 1989 and published on 9 February 1990.

---

The following interests are represented on Committee IT/3:

ACADS

Association of Consulting Engineers, Australia

Australian Vice Chancellors Committee

Department of Defence

Royal Australian Institute of Architects

Telecom Australia

---

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which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.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

Australian Standard®

---

**Computer graphics—Programmer's  
hierarchical interactive graphics  
system (PHIGS)**

**Part 3: Clear-text encoding of  
archive file**

---

✓ First published as AS 3732.3—1990.

## PREFACE

This Standard was prepared by the Standards Australia Committee on Computer Related Graphics. It is identical with, and has been reproduced from International Standard ISO/IEC 9592-3: 1989, *Information processing systems—Computer graphics—Programmer's Hierarchical Interactive Graphics System (PHIGS)—Part 3: Clear-text encoding of archive file*.

For the purpose of this Australian Standard, the text of the ISO/IEC Standard should be modified as follows:

- (a) *Terminology*—The words 'Australian Standard' should replace the words 'International Standard' wherever they apply.
- (b) *References*—The references to International Standards should be replaced by references to Australian Standards as follows:

<i>Reference to International Standard</i>	<i>Australian Standard</i>
ISO	AS
646 Information processing—ISO 7-bit coded character set for information interchange	1776 Information processing—7-bit coded character set for information interchange
2022 Information processing—ISO 7-bit and 8-bit coded sets—Code extension techniques	1953 Information processing—ISO 7-bit and 8-bit coded character sets—Code extension techniques
8632 Information processing systems—Computer graphics—Metafiles for transfer and storage of picture description information Part 1: Functional specifications Part 2: Character encoding Part 3: Binary encoding Part 4: Clear-text encoding	3603 Computer graphics—Metafiles for transfer and storage of picture description information  Part 1: Functional specifications Part 2: Character encoding Part 3: Binary encoding Part 4: Clear-text encoding

© 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>
<b>0</b> Introduction .....	4
<b>0.1</b> Purpose of PHIGS archive file clear-text encoding .....	4
<b>0.2</b> Primary objectives .....	4
<b>0.3</b> Relationship to other standards .....	5
<b>1</b> Scope and field of application .....	6
<b>2</b> References .....	7
<b>3</b> Definitions .....	8
<b>4</b> Clear-text encoding format .....	9
<b>4.1</b> Notational conventions .....	9
<b>4.2</b> Archive file format .....	9
<b>4.2.1</b> Introduction .....	9
<b>4.2.2</b> Character repertoire .....	10
<b>4.2.3</b> Separators .....	11
<b>4.2.3.1</b> Element separators .....	11
<b>4.2.3.2</b> Parameter separators .....	11
<b>4.2.3.3</b> Comments in the archive file .....	12
<b>4.2.4</b> Encoding of parameter types .....	12
<b>4.2.4.1</b> Integer-bound types .....	12
<b>4.2.4.2</b> Real-bound types .....	13
<b>4.2.4.3</b> String-bound types .....	14
<b>4.2.4.4</b> Enumerated types .....	15
<b>4.2.4.5</b> Derived types .....	15
<b>4.2.5</b> Forming names .....	17
<b>4.2.5.1</b> Terms deleted .....	17
<b>4.2.5.2</b> Words added .....	17
<b>4.2.5.3</b> Words used unabbreviated .....	17
<b>4.2.5.4</b> Abbreviations .....	18
<b>4.2.5.5</b> Abbreviating compound terms .....	19
<b>4.2.5.6</b> Sentinel character sequence .....	19
<b>4.2.5.7</b> The derived archive file element names .....	19
<b>4.3</b> Encoding the PHIGS archive file elements .....	21
<b>4.3.1</b> Encoding delimiter elements .....	21
<b>4.3.2</b> Encoding archive file descriptor elements .....	21
<b>4.3.3</b> The structure element production .....	21
<b>4.3.4</b> Encoding output primitive elements .....	23
<b>4.3.5</b> Encoding attribute elements .....	25
<b>4.3.6</b> Encoding modelling transformation elements .....	31
<b>4.3.7</b> Encoding miscellaneous elements .....	33
<b>4.3.8</b> Encoding external elements .....	33
<b>4.4</b> Clear-text encoding conformance .....	34
 <b>Annex</b>	
<b>A</b> Clear-Text Encoding-dependent Formal Grammar .....	35

# Computer graphics—Programmer's hierarchical interactive graphics system (PHIGS)—Part 3: Clear-text encoding or archive file

## 0 Introduction

### 0.1 Purpose of PHIGS archive file clear-text encoding

The Clear-Text Encoding of the PHIGS archive file provides a representation of the archive file syntax that is easy to type, edit, and read. It allows an archive file to be edited with any standard text editor, using the internal character code of the host computer system.

### 0.2 Primary objectives

- a) **HUMAN EDITABLE:** The clear-text encoding should be able to be hand-edited or, if desired, hand-constructed.
- b) **HUMAN-FRIENDLY:** The clear-text encoding should be easy and natural for people to read and edit. Although what is easiest and most natural is a subjective judgement that varies among users, contributing factors such as ease of recognition, ease of remembering, avoidance of ambiguity, and prevention of mistyping have all been considered.
- c) **MACHINE-READABLE:** The clear-text encoding should be able to be parsed by software.
- d) **USABLE IN A WIDE VARIETY OF EDITORS:** The clear-text encoding should not have any features that make it difficult to edit in normal text editors.
- e) **INTERCHANGEABLE BETWEEN DIVERSE SYSTEMS:** The clear-text encoding should be encoded in such a way as to maximize the set of systems which can utilize it. No assumptions should be made as to word size or arithmetic modes used to interpret the archive file.
- f) **USES STANDARDIZED ABBREVIATIONS:** Where language encoding of other graphics standards have established standard abbreviations, or where common practice in the data processing and graphics industries has established well-known abbreviations, these abbreviations are used. In accordance with the principle of "least astonishment", this approach should minimize the time needed to learn to use this encoding.