

Australian Standard®

**Computer graphics—Graphical
Kernel System for Three
Dimensions (GKS-3D) functional
description**

(ISO title: Information processing systems—Computer graphics—
Graphical Kernel System for Three Dimensions (GKS-3D) functional
description)

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PREFACE

This Standard was prepared by Standards Australia's Committee on Computer Related Graphics.

It is identical with and has been reproduced from ISO 8805:1988, *Information processing systems—Computer graphics—Graphical Kernel System for Three Dimensions (GKS-3D) functional description*.

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

- (a) *Terminology*: The words 'Australian Standard' should replace the words 'International Standard' wherever they appear.
- (b) *Cross-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
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2022 Information processing systems— ISO 7-bit and 8-bit coded character sets—Code extension techniques	1953 Information processing systems—ISO 7-bit and 8-bit coded character sets—Code extension techniques
7942 Information processing systems— Computer graphics—Graphical Kernel Systems (GKS) functional description	2880 Information processing systems— Computer graphics— Graphical Kernel Systems (GKS) functional description
8632 Information processing systems— Computer graphics—Metafile for transfer and storage of picture de- scription information Part 1: Functional description Part 2: Character encoding Part 3: Binary encoding Part 4: Clear text encoding	3603 Computer graphics— Metafile for transfer and storage of picture description information Part 1: Functional description Part 2: Character encoding Part 3: Binary encoding Part 4: Clear text encoding

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Computer graphics—Graphical Kernel System for Three Dimensions (GKS-3D) functional description.

0 Introduction

The Graphical Kernel System for Three Dimensions (GKS-3D) provides a set of functions for:

- a) definition and display of 2D and 3D graphical data;
- b) storage and manipulation of graphical data;
- c) input of graphically related data.

The main reasons for introducing this International Standard for computer graphics is:

- d) to allow application programs involving graphics to be easily portable between different installations;
- e) to aid the understanding and use of graphics methods by application programmers;
- f) to serve manufacturers of graphics equipment as a guideline in providing useful combinations of graphics capabilities in a device.

In order to reach these main objectives, the GKS-3D design was based on the following requirements:

- g) GKS-3D should include all the capabilities that are essential for the whole spectrum of graphics, from simple passive output to highly interactive applications.
- h) The whole range of graphics devices, including vector and raster devices, microfilm recorders, storage tube displays, refresh displays and colour displays should be controllable by GKS-3D in a uniform way.
- i) GKS-3D should provide all the capabilities required by a majority of applications.

These requirements were used to formulate a number of principles that were used to judge specific design alternatives. Thus it was possible to contribute to the overall design goals while focussing on certain aspects. Five design aspects were identified, each having a group of principles