

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>
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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 description information Part 1: Functional description Part 2: Character encoding Part 3: Binary encoding Part 4: Clear text encoding	2505 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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Contents

0	Introduction.....	8
1	Scope and field of application.....	11
2	References.....	12
3	Definitions.....	13
4	The Graphical Kernel System for Three Dimensions.....	21
4.1	About this International Standard.....	21
4.1.1	Specification.....	21
4.1.2	Registration.....	21
4.2	Introduction to GKS-3D.....	22
4.3	Concepts.....	24
4.4	Graphical output.....	27
4.4.1	Output primitives.....	27
4.4.2	Output primitive attributes.....	28
4.4.3	Polyline attributes.....	33
4.4.4	Polymarker attributes.....	34
4.4.5	Text attributes.....	34
4.4.6	Text extent and concatenation.....	46
4.4.7	Fill area attributes.....	46
4.4.8	Fill area set attributes.....	48
4.4.9	Cell array attributes.....	49
4.4.10	Generalized Drawing Primitive attributes.....	49
4.4.11	Color.....	49
4.4.12	View index.....	50
4.4.13	Hidden line/hidden surface removal (HLHSR) identifier.....	50
4.5	Workstations.....	51
4.5.1	Workstation characteristics.....	51
4.5.2	Selecting a workstation.....	52
4.5.3	Deferring picture changes.....	53
4.5.4	Clearing the display space.....	57
4.5.5	Elimination of primitives outside segments.....	57
4.5.6	Sending messages to a workstation.....	58
4.5.7	Hidden line/hidden surface removal.....	58
4.6	Coordinate systems and transformations.....	59
4.6.1	Normalization transformations.....	59
4.6.2	Clipping.....	60
4.6.3	Workstation transformations.....	60
4.6.4	Transformation of locator input.....	63
4.6.5	Transformation of stroke input.....	66
4.6.6	Viewing.....	66
4.6.7	Viewing utility functions.....	68
4.7	Segments.....	77
4.7.1	Introduction to segments.....	77
4.7.2	Segment attributes.....	78
4.7.3	Segment transformations.....	79
4.7.4	Clipping and WDSS.....	79

4.7.5	Workstation Independent Segment Storage.....	79
4.7.6	WISS functions and clipping.....	80
4.8	Graphical input.....	81
4.8.1	Introduction to logical input devices.....	81
4.8.2	Logical input device model.....	82
4.8.3	Operating modes of logical input devices.....	83
4.8.4	Measures of each input class.....	86
4.8.5	Input queue and current event report.....	87
4.8.6	Initialization of input devices.....	88
4.8.7	Locator and stroke input using 2D input devices.....	89
4.9	GKS-3D Metafile interface.....	90
4.10	GKS-3D levels.....	92
4.10.1	Introduction to levels.....	92
4.10.2	The level structure.....	92
4.10.3	Level functionality.....	93
4.11	States of GKS-3D and inquiry functions.....	98
4.11.1	Description of states.....	98
4.11.2	Inquiry functions.....	99
4.12	Error handling.....	101
4.13	Special interfaces between GKS-3D and the application program.....	103
4.14	2D functions.....	104
5	GKS-3D functions.....	108
5.1	Notational conventions.....	108
5.2	Control functions.....	109
5.3	Output functions.....	118
5.4	Output attributes.....	132
5.4.1	Workstation independent primitive attributes.....	132
5.4.2	Workstation attributes (representations).....	147
5.5	Transformation functions.....	156
5.5.1	Normalization transformation.....	156
5.5.2	View transformation.....	159
5.5.3	Workstation transformation.....	161
5.6	Segment functions.....	165
5.6.1	Segment manipulator functions.....	165
5.6.2	Segment attributes.....	170
5.7	Input functions.....	174
5.7.1	Initialization of input devices.....	174
5.7.2	Setting the mode of input devices.....	189
5.7.3	Request input functions.....	192
5.7.4	Simple input functions.....	197
5.7.5	Event input functions.....	202
5.8	Metafile functions.....	207
5.9	Inquiry functions.....	209
5.9.1	Introduction to inquiry functions.....	209
5.9.2	Inquiry function for operating state value.....	209
5.9.3	Inquiry functions for GKS-3D description table.....	209
5.9.4	Inquiry functions for GKS-3D state list.....	211
5.9.5	Inquiry functions for workstation state list.....	221
5.9.6	Inquiry functions for workstation description table.....	252
5.9.7	Inquiry functions for segment state list.....	282
5.9.8	Pixel inquiries.....	283
5.9.9	Inquiry function for GKS-3D error state list.....	286
5.10	Utility functions.....	287
5.11	Error handling.....	291
6	GKS-3D data structures.....	293
6.1	Notation and data types.....	293
6.2	Operating state.....	296

6.3	GKS-3D description table	297
6.4	GKS-3D state list.....	298
6.5	Workstation state list.....	301
6.6	Workstation description table.....	305
6.7	Segment state list	310
6.8	GKS-3D error state list	311
A	Function lists	312
A.1	Alphabetic.....	312
A.2	Order of appearance	317
A.2.1	Control functions 5.2.....	317
A.2.2	Output functions 5.3.....	317
A.2.3	Output attributes 5.4.....	318
A.2.3.1	Workstation independent primitive attributes 5.4.1.....	318
A.2.3.2	Workstation attributes (representations) 5.4.2.....	318
A.2.4	Transformation functions 5.5.....	318
A.2.4.1	Normalization transformation 5.5.1.....	319
A.2.4.2	View transformation 5.5.2.....	319
A.2.4.3	Workstation transformation 5.5.3.....	319
A.2.5	Segment functions 5.6.....	319
A.2.5.1	Segment manipulation functions 5.6.1.....	319
A.2.5.2	Segment attributes 5.6.2.....	319
A.2.6	Input functions 5.7.....	319
A.2.6.1	Initialization of input devices 5.7.1.....	319
A.2.6.2	Setting the mode of input devices 5.7.2.....	320
A.2.6.3	Request input functions 5.7.3.....	320
A.2.6.4	Sample input functions 5.7.4.....	320
A.2.6.5	Event input functions 5.7.5.....	320
A.2.7	Metafile functions 5.8.....	320
A.2.8	Inquiry functions 5.9.....	321
A.2.8.1	Inquiry function for operating state value 5.9.2.....	321
A.2.8.2	Inquiry functions for GKS-3D description table 5.9.3.....	321
A.2.8.3	Inquiry functions for GKS-3D state list 5.9.4.....	321
A.2.8.4	Inquiry functions for workstation state list 5.9.5.....	321
A.2.8.5	Inquiry functions for workstation description table 5.9.6.....	322
A.2.8.6	Inquiry functions for segment state list 5.9.7.....	323
A.2.8.7	Postal inquiries 5.9.8.....	323
A.2.8.8	Inquiry function for GKS-3D error state list 5.9.9.....	323
A.2.9	Utility functions 5.10.....	323
A.2.10	Error handling 5.11.....	323
A.3	Graded by level.....	323
A.3.1	Level 0a.....	323
A.3.2	Level 0b.....	326
A.3.3	Level 0c.....	327
A.3.4	Level 1a.....	327
A.3.5	Level 1b.....	328
A.3.6	Level 1c.....	329
A.3.7	Level 2a.....	329
A.4	Applicability to workstation groups	330
B	Error list.....	336
B.1	Implementation dependent	336
B.2	States	336
B.3	Workstations.....	336
B.4	Transformations	336
B.5	Output attributes.....	337
B.6	Output primitives.....	337
B.7	Segments.....	338
B.8	Input.....	338

B.9	Metafiles.....	338
B.10	Escape.....	338
B.11	Miscellaneous.....	338
B.12	System.....	338
B.13	3D transformations.....	339
B.14	3D output attributes.....	339
B.15	3D output primitives.....	339
B.16	Reserved errors.....	339
C	Interfaces.....	340
C.1	General.....	340
C.2	Language binding.....	340
C.3	Implementation.....	341
D	Allowable differences in GKS-3D implementations.....	343
D.1	General.....	343
D.2	Global differences.....	343
D.3	Workstation dependent differences.....	344
E	Metafile structure.....	347
E.1	Metafiles.....	347
E.1.1	General.....	347
E.1.2	ISO 8632 Metafile.....	347
E.1.3	Metafile designed for GKS-3D.....	348
E.2	File format and data format.....	348
E.3	Generation of metafiles.....	349
E.4	Interpretation of metafiles.....	353
E.4.1	General.....	353
E.4.2	Control items.....	353
E.4.3	Output primitives.....	353
E.4.4	Output primitive attributes.....	353
E.4.5	Workstation attributes.....	353
E.4.6	Transformations.....	353
E.4.7	Segment manipulation.....	354
E.4.8	Segment attributes.....	354
E.4.9	Items from a GKS metafile written by a GKS system.....	354
E.5	Control items.....	354
E.6	Items for output primitives.....	357
E.7	Items for output primitive attributes.....	358
E.8	Items for workstation attributes.....	362
E.9	Items for transformations.....	364
E.9.1	Items for clipping.....	364
E.9.2	Items for viewing.....	364
E.9.3	Items for HLHSR.....	364
E.9.4	Items for workstation transformation.....	365
E.10	Items for segment manipulation.....	365
E.11	Items for segment attributes.....	365
E.12	User items.....	366
F	Sample programs.....	367
G	GKS-3D functions summary.....	376
G.1	Control functions.....	376
G.2	Output functions.....	376
G.3	Output attributes.....	377
G.3.1	Workstation independent primitive attributes.....	377
G.3.2	Workstation attributes (representations).....	379
G.4	Transformation functions.....	379
G.4.1	Normalization transformation.....	379
G.4.2	Viewing transformation.....	380
G.4.3	Workstation transformation.....	380

G.5	Segment functions.....	380
G.5.1	Segment manipulation functions.....	380
G.5.2	Segment attributes	381
G.6	Input functions.....	381
G.6.1	Initialization of input devices.....	381
G.6.2	Setting mode of input devices	382
G.6.3	Request input functions	382
G.6.4	Sample input functions.....	382
G.6.5	Event input functions	383
G.7	Metafile functions.....	384
G.8	Inquiry functions.....	384
G.9	Utility functions	384
G.10	Error handling.....	385
H	Colour models	386

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