SLOVENSKI STANDARD
SIST EN 28651-2:1997

01-december-1997

Information processing systems - Computer graphics - Graphical Kernel System (GKS) language bindings - Part 2: Pascal (ISO 8651-2:1988)

Information processing systems - Computer graphics - Graphical Kernel System (GKS) language bindings - Part 2: Pascal (ISO 8651-2:1988)

Graphische Systeme der Informationsverarbeitung - Sprachbindungen für das Graphische Kernsystem (GKS) - Teil 2: Pascal (ISO 8651-2:1988)

Systemes de traitement de l'information - Infographie - Interfaces langage avec GKS - Partie 2: Pascal (ISO 8651-2:1988)

Ta slovenski standard je istoveten z: **EN 28651-2:1992**

ICS:

35.060	Jeziki, ki se uporabljajo v informacijski tehniki in tehnologiji	Languages used in information technology
35.140	Raļ unalniģka grafika	Computer graphics

SIST EN 28651-2:1997 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 28651-2:1992

August 1992

UDC 681.3.04:800.92

Descriptors: Data processing, graphic data processing, computer interfaces, graphical kernel system, programming languages, Pascal

English version

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart,36 B-1050 Brussels

FOREWORD

The Technical Board has decided to submit the

International Standard 8651-2:1988 "Information processing systems - Computer graphics - Graphical Kernel System (GKS) language bindings - Part 2: Pascal"

for Formal Vote. The standard was accepted.

At present the Standard exists in the English and French versions only.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 1993 and conflicting national standards shall be withdrawn at the latest by February 1993.

According to the CEN/CENELEC Common Rules, the following countries are bound to implement this standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

ENDORSEMENT NOTICE

The text of the ISO 8651-2:1988 was approved by CEN as a European Standard without any modification.

INTERNATIONAL STANDARD

ISO 8651-2

First edition
1988-02-01

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ORGANISATION INTERNATIONALE DE NORMALISATION
МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Information processing systems — Computer graphics — Graphical Kernel System (GKS) language bindings —

Part 2 : Pascal

Systèmes de traitement de l'information — Infographie — Système graphique de base (GKS) — Interface langage

Partie 2 : Pascal

Reference number
ISO 8651-2 : 1988 (E

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8651-2 was prepared by Technical Committee ISO/TC 97, *Information processing systems*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Printed in Switzerland

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0 Introduction

The Graphical Kernel System (GKS), the functional description of which is given in ISO 7942, is specified in a language-independent manner and needs to be embedded in language-dependent layers (language bindings) for use with particular programming languages.

The purpose of this part of ISO 8651 is to define a standard binding for the Pascal computer programming language.

1 Scope and field of application

ISO 7942 specifies a language-independent nucleus of a graphics system. For integration into a programming language, GKS is embedded in a language-dependent layer obeying the particular conventions of that language. This part of ISO 8651 specifies such a language-dependent layer for the Pascal language.

2 References

ISO 7942, *Information processing systems - Computer graphics - Graphical Kernel System (GKS) functional description.*

ISO 7185, *Programming languages - Pascal.*

ISO 2382-13, *Data processing - Vocabulary - Part 13: Computer Graphics.*

3 The Pascal language binding of GKS

3.1 Specification

The GKS language binding interface for ISO Pascal (ISO 7185) shall be as described in clauses 3, 4, 5, and 6.

3.2 Mapping of GKS function names to Pascal procedure names

The function names of GKS are all mapped to Pascal procedures which begin with the letter "G". Words and phrases used in the GKS function names are often abbreviated in the Pascal representation. There is a set of such abbreviations given in table 1 and the resulting Pascal procedure names are listed in tables 2, 3, and 4. For example, the abbreviation for the GKS function DELETE SEGMENT FROM WORKSTATION is GDelSegWs. "Del", "Seg", "Ws" are the abbreviations for DELETE, SEGMENT and WORKSTATION. Conjunctives such as "from", "and", "of" and "to" are mapped to null strings, as are a number of other words used in the GKS abstract names. For example, INQUIRE MAXIMUM LENGTH OF WORKSTATION STATE TABLES is mapped to GInqMaxWsSt. Here LENGTH and TABLES are represented by null strings.

3.3 The many-one nature of the Pascal interface

There is not a strict one-to-one correspondence between GKS abstract functions and Pascal procedures. A method employing variant records is used to represent several logically related GKS abstract functions by one Pascal procedure. The first parameter of such a procedure is always an enumerated type which is the tag field of a variant record which is itself a parameter of the Pascal procedure. This technique is used across two classes of abstract functions - those relating to the setting and inquiring of output primitive representations, and those relating to the setting and inquiring of the input classes. Where this method is used, the rules for deriving the Pascal name of the GKS abstract function are

a) Output Primitive Representations

   1) The GKS words Polyline, Polymarker, Text, and Fill Area are replaced by "Prim" (which is the abbreviation for PRIMITIVE).

   2) The first parameter of the function is an enumerated type (GEPrim) which has one of the values GVPolyline, GVPolymarker, GVText, GVFillArea.

b) Input Classes

   1) The GKS words Locator, Stroke, Valuator, Choice, Pick, and String are replaced by "Input".

   2) The first parameter of the function is an enumerated type (GEInputClass) which has one of the values GVLocator, GVStroke, GVValuator, GVChoice, GVPick, GVString.

3.4 The one-one nature of the Pascal interface

The Pascal interface to GKS described in 3.3 reflects the GKS major dimensions of Output Primitive Representations and Input Classes. However, the possibility exists that on small systems such an interface might cause difficulties, especially with respect to implementation of the Input Classes. Therefore, the Pascal Binding also adopts a mandatory representation which uses a one-one mapping for the setting of primitive representations and input classes.

3.5 The one-many nature of the Pascal interface

The GKS abstract functions INQUIRE CURRENT PRIMITIVE ATTRIBUTE VALUES and INQUIRE CURRENT INDIVIDUAL ATTRIBUTE VALUES are represented by the method described in 3.4. In addition, to allow for the possible frequent use of only some of the information, these

functions have also been split into a number of Pascal procedures. Both representations are mandatory.

3.6 Implementation of the interfaces

Since any of the methods referred to in 3.3, 3.4 and 3.5 can be implemented easily in terms of another, the additional interfaces do not present a great burden for the implementor, nor does it cause an additional burden for application programs. Implementors are encouraged to use one method in the core of their implementation. In any event all sets of procedures shall be provided.

Table 1 - Abbreviations ordered alphabetically

GKS word	Abbreviation
ACCUMULATE	Accum
ALIGNMENT	Align
ALL	NULL
AND	NULL
ASPECT SOURCE FLAGS	ASF
ASSOCIATE	Assoc
ATTRIBUTE	Attr
ATTRIBUTES	Attr
AVAILABLE	NULL
CHARACTER	Char
CLASSIFICATION	Class
CLIPPING	Clip
COLOUR	Colr
CONNECTION	Conn
CURRENT	Cur
DEFAULT	Def
DEFERRAL	Defer
DELETE	Del
DETECTABILITY	Det
DIMENSIONS	Dim
DYNAMIC	Dyn
EVALUATE	Eval
EXPANSION	Expan
FACILITIES	Facil
FACTOR	NULL
FILL AREA	Fill
FROM	NULL
GENERALIZED DRAWING PRIMITIVE	GDP
GRAPHICAL KERNEL SYSTEM	GKS
GKSM	NULL
HIGHLIGHTING	Highlight
IDENTIFIER	Id
IN	NULL
INDEX	Ind
INDICATOR	NULL
INDICES	Ind
INDIVIDUAL	Indiv
INITIALISE	Init
INPUT	NULL
INQUIRE	Inq
INTERIOR	Int