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**Information technology — Font
information interchange — Procedure for
registration of glyph and glyph collection
identifiers**

*Technologies de l'information — Échange d'information de fonte —
Procédures d'enregistrement des identificateurs de glyphes et jeux de
glyphes*

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 10036 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 18, *Document processing and related communication*.

Annex A forms an integral part of this International Standard. Annexes B, C and D are for information only.

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Introduction

The use of text processing in an open system for the interchange of documents in both office and publishing environments has prompted the development of an International Standard for the interchange of font resource information. A font resource, as defined by ISO/IEC 9541, includes glyph shape and glyph positioning information for a collection of glyphs. ISO/IEC 9541 requires unique identification of each glyph for which information is provided in a font resource, and the unique identification of the collection of glyphs comprising a font resource.

This International Standard specifies the procedures to be followed in preparing and maintaining a register of glyph identifiers and glyph collection identifiers. The purpose of these registers is to provide a common reference source to be used in the creation and interchange of font resources.

The registration process aims to be comprehensive, to include all glyphs used in the world, to assign unique and unambiguous identifiers, and to avoid changes in identifiers over time.

The publication of the registers should promote compatibility in interchange of font resource information and avoid duplication of effort in developing application-oriented glyph collections for font resources. Registration provides an identifier for glyph collections but registration should not be regarded as a standardization procedure. Nevertheless, as a matter apart from registration the glyph collection may, but need not, be the subject of an international, national, or other standard.

Information technology — Font information interchange — Procedure for registration of glyph and glyph collection identifiers

1 Scope

This International Standard specifies the procedures to be followed by a Registration Authority in preparing, maintaining, and publishing a register of glyph identifiers and a register of glyph collection identifiers.

The glyph identifiers to which this International Standard refers are those described in ISO/IEC 9541-1, which provides for identification of glyphs within a font resource as to their design-independent shape and description. ISO/IEC 9541-1 also defines the concept of glyph collections, and provides for their naming.

A glyph identifier registered in accordance with this International Standard shall be used to identify the glyph in the glyph register. A glyph collection identifier registered in accordance with this International Standard shall be used to identify the glyph collection (of glyph identifiers) in the collection register.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO/IEC 9541-1:1991, *Information technology — Font information interchange — Part 1: Architecture*.

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 registrar: The person or organization appointed by the Registration Authority, responsible for preparing and maintaining the register(s).

3.2 Registration Authority: An organization nominated and appointed by ISO/IEC Council to register the entities required by the technical standard.

3.3 responsible body: A body, usually the JTC 1 Subcommittee, that wrote the technical standard, or if that body is not in existence any longer, the current body supporting the technical standard.

3.4 technical standard: A standard that includes the item or items that require an entity (name/value) to be registered.

4 Registration Authority

See annex A.

5 Registration procedure

5.1 Application requests

Any individual or organization having a need for registration of a glyph or glyph collection, shall request registration by completing and submitting the appropriate request form (annex C or D) to the registrar.

Fees may be charged per glyph or glyph collection registration, or portions of the registration process, to cover registration processing and maintenance of the register database. The levels of such fees are to be agreed upon between the Registrar and the Registration Authority. Fees, or a portion thereof, may be waived at the discretion of the registrar.

It is the responsibility of the requestor to ensure that the current request is not a duplicate of another request submitted by their own organization and/or currently contained in a published version of the register(s). Duplicate requests may be subject to a processing fee.

5.2 Application review

Upon receipt of a completed form and required fee, the registrar shall ensure that the required information has been provided and clearly stated. If the request form is complete, or questions of interpretation arise, the registrar will return the request by regular mail within two weeks of receipt.

If an identical glyph or glyph collection exists in the register, the registrar will record that identifier on the form and return the form to the applicant (see 5.4 for response time).

A processing fee may be charged for review of the form and search of the database.

5.3 Identifier assignment

An acceptable registration request will be processed as follows:

For glyphs, the identifier shall be assigned so as to satisfy the following conditions, listed in descending order of priority:

- a) Each assigned identifier shall be for a glyph distinct from all others in their design-independent shape and their description, with a description that is clear, concise and non-intersecting of others.
- b) Identifiers should be assigned in simple relationship to other international and national standards. Simple relationship implies, where reasonable, sequence and glyph description shall be respected.
- c) Glyph identifiers which occur together within writing scripts or applications should be grouped together. Where relevant, glyphs should be ordered as they would normally appear within the script, or application.
- d) Glyph identifiers should be assigned densely, and with shorter glyph identifiers assigned first; except that identifiers may be left unassigned to allow for future glyph assignments in compliance with the preceding conditions.

For collections, the identifier shall be assigned the next numeric value.

The registrar may seek the advice of appropriate technical experts in best satisfying these conditions. When this occurs, the registrar is encouraged to deal with experts sanctioned by national bodies or professional societies where appropriate. Resolution of questions should not be permitted to delay unduly the assignment of an identifier, and operating procedures should be established by the registrar to handle situations where delay or confusion may arise.

The registrar shall not change the identifier of a glyph or a glyph collection once registered. The registrar may revise the description of a glyph or collection as necessary.

5.4 Application response

The applicant shall be notified within six weeks of receipt of application form of the assigned identifier by an application response form (annex C or D). If an extension is required, the applicant will be notified of the approximate date of availability.

6 Database maintenance

The registrar shall keep a file copy of all applications and responses. The registrar shall also maintain an electronic copy of all information required to print each register using commercially available hardware.

7 Registry publication and distribution

7.1 General

The registrar shall produce a reproducible copy of each register at least once every three years if minimal changes have occurred, more often when numerous changes have been made. If the glyph or glyph collection register increases by 3 % of the current number of identifiers, a copy must be generated and forwarded to the Registration Authority, unless significant new additions to the register are anticipated within the next 30 days.

The Registration Authority shall be responsible for forwarding copies of the registry to ISO/IEC Member Bodies and Liaison Organizations.

The registrar shall provide copies of the registers at a nominal fee covering duplication and distribution costs to any organization or individual making a request.

7.2 Glyphs

The registrar shall maintain a register of glyph identifiers and, for each glyph, the corresponding example glyph image and description.

The example glyph image shall be a sample, design-independent representation, devoid of any design attributes which are not required to define the glyph. The example glyph image shall be specified in terms of the glyph model defined in ISO/IEC 9541-1, including relative size and location of the positioning and escapement points for the glyph.

The description for each registered glyph shall be as complete as practical, including a name(s) or title(s) for the glyph (e.g. SGML public entity names), any significant information about the meaning or significance about the glyph, about intended use of the glyph (e.g. initial, medial, or final form), and about significant relationships to or distinctions from other registered glyphs (e.g. ligatures).

An example glyph register page is illustrated in figure 1.

7.3 Glyph collections

The registrar shall maintain a register of glyph collection identifiers and, for each collection, a description of the collection and the corresponding collection definition, consisting of a list of glyph identifiers.

An example glyph collection register page is illustrated in figure 2.

Signature 357 - General and technical symbols 1 (ID's 61184+)

These glyph identifiers are reserved for general and technical symbols.

Some of these symbols, for instance the circle, have a large number of different applications or interpretations (see guides such as Shepherd's Glossary of Graphic Signs and Symbols). Only the most common applications are currently mentioned.

Glyph Identifier	Example Glyph Image	Glyph Description
.	.	.
.	.	.
.	.	.
61412		Thin vertical line
61413	-	Thin horizontal line
61414	+	Thin intersecting line
.	.	.
.	.	.
.	.	.

Figure 1 — Example glyph register page

Collection 4823 - ABC Engineering Symbols

Registrant: ABC Corporation
Date of Registration February 17, 1993
Number of Glyph Identifiers 236

Glyph Identifier	Glyph Identifier	Glyph Identifier
58	8261	15200
91	8262	15254
92	8263	37245
93	8264	37300
123	8422	38433
125	8995	53221
.	.	.
.	.	.
.	.	.

Figure 2 — Example glyph collection register page

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Annex A
(normative)

Registration Authority

The Registration Authority for glyph and glyph collections approved by the ISO/IEC Councils is:

Association for Font Information Interchange
2961 Copa de Oro
Los Alamitos, CA 90720 USA

Telephone: +1 310 596-4457
Facsimile: +1 310 596-0822

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Annex B (informative)

Projected Activity Report

(This annex does not form an integral part of this International Standard.)

B.1 Glyph register

At IS publication the glyph register will contain approximately 15 000 of the world's most commonly used glyphs. The example glyph images are being provided to the Registry for printing of the register, free of charge, by the Association for Font Information Interchange (AFII) and supporting font vendors.

At IS publication plus one year, the glyph register will include an additional 10 000 glyphs representing East Asian languages. These example glyph images are being provided free of charge by AFII personnel working in conjunction with East Asian countries and participating academic, industry, and government representatives. This base document of 25 000 glyphs is necessary to provide a register of significant contribution to the font standard.

It is projected that additional growth to the register will be approximately 200 glyphs per year.

B.2 Glyph collection register

It is estimated that 50 collections per year will be registered during the first three years after IS status is obtained. Following this initial period of registration, it is projected that the number of requests will decline to a level of about 20 per year.

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Annex C (informative)

Glyph registry forms

The following form and questions provide an example of the information that will be requested when registering a glyph. The specific format and content may be revised as necessary for administration of the glyph registry. Applicants should contact the registrar for the latest form.

For AFII Use only

Glyph ID	New	Old	Rev.	Den.	Date	Signature
Action taken						

Application for assignment of a glyph identifier

Please answer the following questions. The more information provided, the more likely that a correct registration of the glyph(s) can be made.

Registrant

Name:

Organization:

Address:

City:

State, District, or Province and Postal Code:

Country:

Telephone, Telex, and/or Facsimile #:

Glyph description

The description should be as complete as possible (using the language of this form), including name(s) or title(s) for the glyph (e.g., SGML public entity names), any significant information about the meaning or intended use (e.g., initial, medial, or final form), and any significant relationships to, or distinctions from, other registered glyphs (e.g., ligatures).

What script, alphabet, syllabary, if any, is the glyph used with?

What language, if any, is the glyph used with?

Does this glyph apply to any one application environment? If so, for what environment is this glyph most applicable (e.g., mathematics, legal, medical, etc.)? Be as specific as practical.

This glyph is similar in appearance to what other glyph(s) (give glyph ID(s)) already in the registry?

This glyph is similar in description to what other glyph(s) (give glyph ID(s)) already in the registry?

Is this glyph *design dependent* or *design independent*, i.e., does the appearance change with font design?

Does this glyph vary in any of the following ways? If so, how?

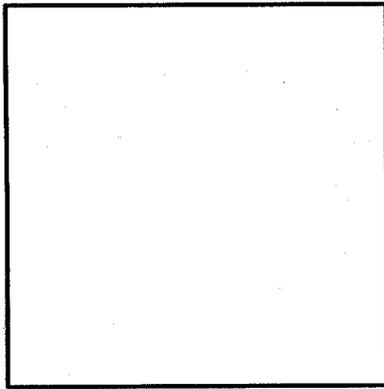
Weight (light, bold, etc.):
Posture (italic, oblique, etc.):
Proportionate Width (condensed, expanded, etc.):
Structure (Solid, Outline, Inline, Shadow, etc.):

Are there size limitations on this glyph? (YES or NO)? If so, what are they?

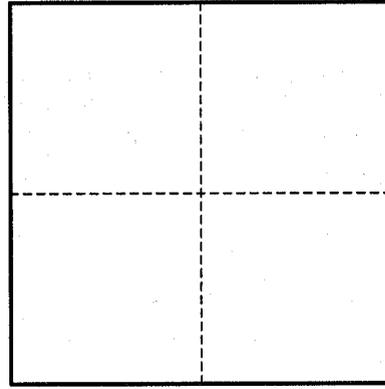
Does this glyph exist in electronic format, either bit map or outline? (YES or NO)? If yes, where, in what format, and may it be submitted for use by AFII?

Additional comment(s) or information relating to this glyph (use additional pages if necessary):

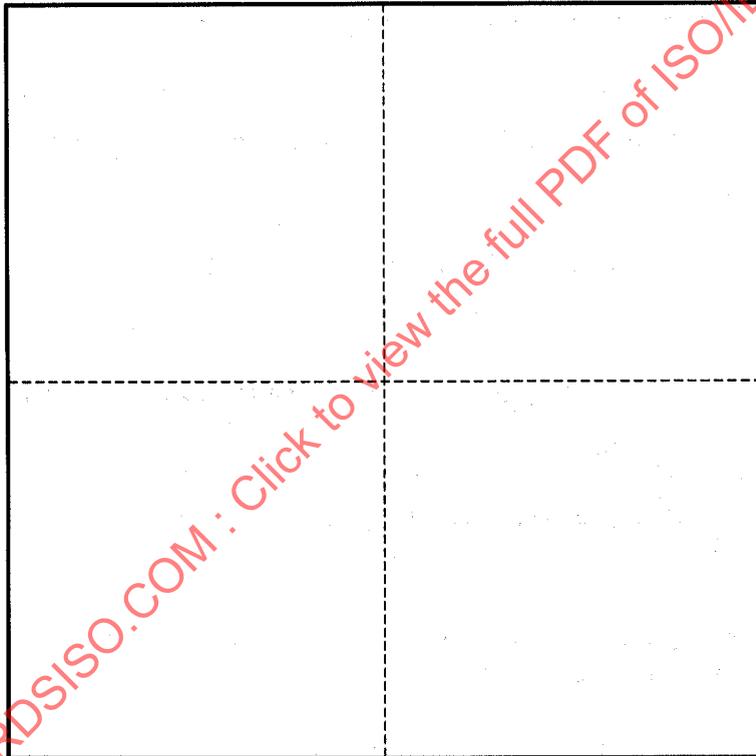
Figure C.1 — Example glyph registration form



Large glyph sample
(box equals design space)



Medium glyph sample
(line equals escapement axis)



Example of glyph in context with other glyphs

Figure C.2 — Example of Glyph

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Annex D (informative)

Collection registry form

The following form provides an example of the information that will be requested when registering a glyph collection. The specific format and content may be revised as necessary for administration of the glyph collection registry. Applicants should contact the registrar for the latest form.

For AFII Use only

Collection ID	New	Old	Rev.	Den.	Date	Signature
Action taken						

Application for assignment of a glyph collection identifier

Please answer the following questions as best as possible. The more information provided, the more likely that a correct registration of the glyph collection(s) can be made.

Registrant

Name:

Organization:

Address:

City:

State, District, or Province and Postal Code:

Country:

Telephone, Telex, and/or Facsimile #:

Glyph Collection description

The description should be as complete as possible (using the language of this form), including name or title for the glyph collection, any significant information about the meaning or intended use, and significant relationships to, or distinctions from, other registered glyph collections.

What script, alphabet, syllabary, if any, is the collection used with?

What language, if any, is the collection used with?

Does this glyph collection apply to any one application environment? If so, for what environment is this glyph collection most applicable (e.g., mathematical textbook publishing)? Be as specific as practical.

This collection is similar in content to what other Glyph Collection ID already in the registry?

Additional comment(s) or information relating to this collection (use additional pages if necessary):

NOTE — A glyph description that is to be used in the definition of the Glyph Collection can be either a glyph description as used in the AFII Glyph Register or it can be a name that the applicant chooses. In the event that the name is not the same as the glyph description found in the AFII Register, the AFII Registrar may request clarification of the names.

Figure D.1 — Example glyph collection registration form