Alphanumeric character sets for optical recognition — Part I : Character set OCR-A — Shapes and dimensions of the printed image

Jeux alphanumériques de caractères pour la reconnaissance optique — Partie I : Jeu de caractères ROC-A — Formes et cotes de l'image imprimée

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

International Standard ISO 1073/I was drawn up by Technical Committee ISO/TC 97, *Computers and information processing,* and was circulated to the Member Bodies in May 1975.

It has been approved by the Member Bodies of the following countries :

Belgium	Japan	Turkey
Czechoslovakia	Netherlands	United Kingdom
France	New Zealand	U.S.A.
Germany	Romania	Yugoslavia
Hungary	South Africa, Rep. of	
Italy	Switzerland	

The Member Body of the following country expressed disapproval of the document on technical grounds :

Brazil

This International Standard, together with ISO 1073/II, cancels and replaces ISO Recommendation R 1073-1969.

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1 GENERAL

1.1 Scope

This International Standard for character shapes and sizes is intended to facilitate and foster the use of Optical Character Recognition (OCR) in data processing, by defining character shapes suitable for both human and machine reading.

It establishes a common basis for printing equipment and optical scanning equipment for OCR interchange appli-cations.

Additional International Standards will cover the print quality and the relevant characteristics of the formats needed to satisfy interchange requirements.

1.2 Field of application

This International Standard specifies the printed image shapes and sizes of alphanumeric characters, graphics and symbols designed for use in Optical Character Recognition. They are also suitable for general purposes.

In order to satisfy present requirements and encourage the wide extension of OCR applications, two sets of characters are specified. These are named OCR-A and OCR-B.

Character set OCR-A includes the numeric sub-set which was recommended in draft ISO Recommendation No. 890 (now part of this International Standard). The shapes of the characters have been designed to be suitable for use in many applications of OCR. Dimensions of OCR-A are given in three sizes.

The shapes of the OCR-B characters have been designed for use in OCR systems without undue sacrifice of their suit-ability for general purposes in a wide range of applications. Dimensions of OCR-B are given in three sizes. (See part II.)

1.3 Definitions

For the purpose of this International Standard the follow-ing definitions apply :

1.3.1 OCR-A : A repertoire of 69 characters of which 56 are graphics included in the ISO 7-bit coded character set (ISO 646-1973). It comprises digits, capital letters, capital national letters and other graphics.

1.3.2 OCR-B : A repertoire of 121 characters comprising digits, capital and small letters, all the graphics specified in the ISO 7-bit coded character set (ISO 646-1973), national letters, diacritical signs and further graphics. (See part II.)

1.3.3 printing frame : The smallest rectangle the sides of which are horizontal and vertical and which includes the centreline shapes of all characters with the exception of long vertical mark.

1.3.4 sizes of a repertoire : The sizes specified by the height H and the width W of the relevant printing frame.

NOTES

1 Three sets of sizes are specified in order to permit the use of the OCR character sets with a wide range of printing equipment with different print quality characteristics. Devices such as typewriters, cash registers, numbering machines, high-speed printers, credit card imprinters and non-impact imprinters, and printing processes such as letterpress and offset, are all involved.

2 For applications which involve circulation of documents across boundaries between areas in which different national characters are in use, agreement between the sender and the recipient of the document is required.

3 The metric and inch dimensions in this International Standard are rounded and therefore consistent but not exactly equal. Either system may be used, but the two should not be intermixed.

4 It is recognized that some type-making and printing processes will not be able to produce sharp corners. Corners not specified as having a specific radius should be as sharp as practicable. However, it is not necessary for OCR purposes that the radii of the corners of the nominal printed image be less than 0,08 mm (0.003 5 in).

5 All OCR-A characters are designed to be free-standing individual characters, and therefore are not intended for dual use with (or as) diacritical marks in OCR applications.

2 CHARACTER SET OCR-A

2.1 Name

The name of the character set is OCR-A.

2.2 OCR-A sizes

Table 1 below specifies the dimensions of the printing frame (W,H) of the total repertoire in three sizes. It also indicates the nominal strokewidth T and the minimum length L of the long vertical mark ($14\,H/9$). The maximum length of the vertical mark is not specified as there is no intention of restricting it.