

Australian Standard[®]

**ALPHANUMERIC CHARACTER
SET OCR-B FOR OPTICAL
RECOGNITION**

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PREFACE

This standard was prepared by the Association's Committee on Information Processing Systems. It is identical with and has been reproduced from International Standard ISO 1073/II, drawn up by ISO/TC97, Information Processing Systems. This edition constitutes a revision of AS 1436-1973, Parts 1 and 2, which were technically identical with ISO/R 1073-1969, and accordingly supersedes those standards. The revision takes account of a corresponding revision of the ISO standard.

The purpose of this standard is to specify the printed image shape and dimensions of alphanumeric characters in the character set OCR-B.

In the text of this standard reference is made to OCR-A which is specified in ISO 1073/I, but OCR-A is not covered by an Australian standard. The reasons for this are many and varied but briefly the reasons for adoption of OCR-B as the preferred Australian font are as follows:

- (a) The adoption of a single font would provide a more definite guide for manufacturers and users.
- (b) OCR-B is closer to a normal type font and therefore more acceptable to users at large.
- (c) OCR-B offers a greater range of characters, particularly lower case alphabets, and most of the graphics of the AS 1776 character set.
- (d) A normal office typewriter could be used for data capture in the case of OCR-B.
- (e) Variations of OCR-A are already firmly established as proprietary fonts and would not be affected by adoption of the ISO form of OCR-A as an Australian standard.

The committee intends to maintain a close watch on international activities in this field and if the situation changes, steps will be taken to ensure that the Australian standard is brought into line with international thinking.

For the purpose of this Australian standard, the text of the ISO standard given herein should be modified as follows:

- (a) *Terminology*: The words 'Australian standard' should replace the words 'International Standard' wherever they appear.
- (b) *Decimal comma*: The decimal point should replace the decimal comma wherever it appears.
- (c) *Cross-references*: The references to International Standards should be replaced by references to Australian standards as follows:

<i>Reference to International Standard</i>	<i>Appropriate Australian Standard</i>
ISO 646, 7-bit coded character set for information processing interchange	AS 1776, Information Processing—7-bit coded character set for information interchange

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
**Alphanumeric Character Set OCR-B for
Optical Recognition**

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 applications.

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. (See part I.)

The shapes of the OCR-B characters have been designed for use in OCR systems without undue sacrifice of their suitability for general purposes in a wide range of applications. Dimensions of OCR-B are given in three sizes.

1.3 Definitions

For the purpose of this International Standard the following 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. (See part 1.)

1.3.2 OCR-B : A repertoire of 121 characters com-

prising 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.

NOTES

1 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 documents is required.

2 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.

3 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).

2 STYLES

The OCR-B font (see clause 13) comprises 121 characters, but, in general, only a subset will be used for a specific application.

The character shapes and dimensions are specified by reference drawings on a reference grid. The nominal strokewidth is constant for each character of the standard set entitled "constant-strokewidth font"; the centreline of each character is indicated on the reference grid.

A second style of characters entitled "letterpress font" may be used with printing equipment which can reproduce fine details with sufficient accuracy. For many classes of printers, however, the strokewidth is less controllable and therefore for these printers the constant-strokewidth font shall be used.

For aesthetic reasons, the strokewidth of the letterpress font characters is varied deliberately and the stroke endings are specially designed. But the centrelines are the same for both fonts and these centrelines, as defined for the constant-strokewidth font, are the definitive part of this standard.

3 OCR-B SIZES

3.1 Three sizes are specified for OCR-B characters in order to provide for use with a wide range of printing equipment processing differing print quality characteristics. Devices such as typewriters, cash registers, numbering machines, high-speed printers, and credit card imprinters, besides printing processes such as letterpress and offset lithography, are all suitable.