

ECMA

EUROPEAN COMPUTER MANUFACTURERS ASSOCIATION

STANDARD ECMA - 8

NOMINAL CHARACTER DIMENSIONS OF THE NUMERIC OCR-A FONT

2nd Edition—January 1977

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BRIEF HISTORY

ECMA TC4 started their standardization work in the field of Optical Character Recognition in June 1961. In the course of its work, several character sets already in existence, were evaluated. As a result of this evaluation and under consideration of the widely varying European OCR requirements, it was decided to develop two fonts, a stylized (Class A) numeric character set and a conventional one (Class B).

The ECMA concept of a stylized set was then submitted to Committee ISO/TC97/SC3 in November 1963. As a result, two ISO expert groups, with the participation of ECMA in both, were formed to seek a compromise between several proposals. This joint effort led to a draft proposal, which was accepted by ISO/TC97/SC3 in New York in 1964 and became a part of ISO R 1073. This Standard ECMA-8 corresponds to this ISO Recommendation.

This Recommendation was revised and re-issued in 1976 as International Standard ISO 1073. The present 2nd Edition of Standard ECMA-8 differs from the 1st Edition only in editorial matters. The technical content of the Standard has remained unchanged.

THIS 2nd EDITION SUPERSEDES THE VERSION DATED APRIL 1965.

1. SCOPE

This Standard ECMA-8 specifies the shapes of the stylized numeric character set OCR-A. Included are the nominal dimensions of the characters, i.e. height, width, radii and nominal strokewidth.

This document does not include any specification of tolerances on print quality, which are the subject of Standard ECMA-15, or other requirements such as those pertaining to paper, printing materials and format.

2. DEFINITIONS

For the purpose of this Standard the following definitions apply:

PRINTING FRAME. The smallest rectangle the sides of which are horizontal and vertical and which includes the centreline shapes of all characters.

SIZES OF A REPERTOIRE. The sizes specified by the height H and the width W of the relevant printing frame.

NOTES

1. Three 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. 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.

3. REPERTOIRE

The OCR-A character set comprises 14 characters :

Digit ONE

1

Digit TWO

2

Digit THREE

3

Digit FOUR

4

Digit FIVE

Digit SIX

Digit SEVEN

Digit EIGHT

Digit NINE

Digit ZERO

HOOK

FORK

CHAIR

LONG VERTICAL MARK

5
6
7
8
9
0
S
F
H
I

4. NOMINAL CHARACTER DIMENSIONS

The table 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 this character is not specified as there is no intention of restricting it.

Size	W	H	T	L
I	1,40	2,40	0,35	3,7
III	1,52	3,20	0,38	5,0
IV	2,04	3,80	0,51	5,9

5. USE OF THE TABLE OF VALUES

This table specifies the dimensions for each character in each of the three sizes I, III and IV. The table lists character height, width and stroke dimensions based on :

- the height H of the printing frame,
- the width W of the printing frame,
- the nominal strokewidth T.

	I	III	IV
H	2,400	3,200	3,800
W	1,400	1,520	2,040
T	0,350	0,380	0,510
1/2 T	0,175	0,190	0,255
1/8 W	0,175	0,190	0,255
1/4 W	0,350	0,380	0,510
1/2 W	0,700	0,760	1,020
9/16 W	0,787	0,855	1,170
3/4 W	1,050	1,140	1,530
7/8 W	1,225	1,330	1,785
1/16 H	0,150	0,200	0,238
3/8 H	0,900	1,200	1,425
1/2 H	1,200	1,600	1,900
5/8 H	1,500	2,000	2,375
7/8 H	2,100	2,800	3,325
15/16 H	2,250	3,000	3,563









