

ECMA

EUROPEAN COMPUTER MANUFACTURERS ASSOCIATION

---

RECOMMENDED SIZES  
OF  
FORMS FOR OPTICAL READING

June 1972

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## BRIEF HISTORY

A technical committee, TC14, was formed by ECMA in September 1967 to study the paper sizes used.

One of the tasks of this committee was to consider sizes of forms for OCR and OMR applications.

This recommendation is intended to provide a guide to suppliers and users in the choice of sizes for OCR and OMR forms as well as to manufacturers of reading machines in the range of form sizes to be considered for the transport system.

A rationalization of form sizes as outlined in this recommendation is expected to provide economic advantage to both user and supplier in the majority of systems.

It is recognized that, for special applications, other form sizes may be necessary.



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1. SCOPE

This recommendation applies to the sizes of optical character recognition (OCR) and optical mark recognition (OMR) forms for use in automatic data processing.

2. GENERAL

This recommendation is based on

- a) The ECMA white cover document "Recommended Sizes of Sprocket Punched Continuous Forms for Data Processing", and the corresponding ISO document (ISO/TC95/N 233).
- b) The requirements of the industries involved in Optical Reading.
- c) ISO/R 216 Trimmed Sizes of Writing Paper and Certain classes of Printed Matter (A sizes).

NOTE

In considering a) and c) above it has been necessary to give, where possible, both the inch dimensions and the corresponding A sizes. This does not imply that all reading machines are capable of handling "corresponding" form sizes intermixed.

3. DEFINITIONS

For the purpose of this Recommendation the following definitions apply :

OCR: The recognition of characters by optical scanning and identifying differences in their shapes or particular features.

OMR: The recognition of marks by optically sensing their positions on the document.

4. OCR FORM SIZES

Forms are divided into different categories defined by the type and method of reading. Where possible this recommendation gives a list of preferred sizes and a range of sizes within which any other size should be chosen to suit the relevant requirements of the system.

WIDTH is defined as the dimension parallel to the nominal OCR line or lines.

DEPTH is defined as the dimension at right angles to the nominal OCR line or lines.



4.1 OCR Documents

OCR documents are here defined as forms for OCR line readers, with up to 3 lines of OCR characters. The width of such documents is normally greater than the depth.

The preferred size is :

	inches	mm	Corresponding A size	
WIDTH	6	152,4	A6L	148
DEPTH	4	101,6		105

In order to arrive more directly at dimensions equivalent to those of A6L, the following size may be used :

	inches	mm	Equivalent A size	
WIDTH	5,9	149,9	A6L	148 ± 1,5
DEPTH	4 1/6	105,8		105 ± 1,5

Since the depth 105,8 mm falls within the A6L tolerance it is possible to mix the size 4 1/6 x 5,9 inches with A6L without restrictions.

Other document sizes should be within the following range :

	MINIMUM		MAXIMUM	
	inches	mm	inches	mm
WIDTH	5,8	148	8,3	210
DEPTH	3	76,2	4 1/6	105,8



#### 4.2 OCR page

OCR pages are here defined as forms with more than 3 lines of OCR characters. The width of such pages is normally less than the depth.

The preferred sizes are :

	inches	mm	Corresponding A size	
WIDTH	8	203,2	A4	210
DEPTH	12	304,8		297
WIDTH	6	152,4	A5	148
DEPTH	8	203,2		210

Other page sizes should be within the range:

	MINIMUM		MAXIMUM	
	inches	mm	inches	mm
WIDTH	4	101,6	8,3	210
DEPTH	5,5	139	12	304,8



#### 4.3 OCR tags

OCR tags are here defined as forms which are smaller than OCR documents, generally produced on a card material and used for garment and other article identification. The width of such tags may be greater or less than the depth, depending on the system.

Tag sizes should be within the range:

	MINIMUM		MAXIMUM	
	inches	mm	inches	mm
WIDTH	2,5	63,5	4	101,6
DEPTH	2	50,8	3	76,2





5. OMR FORM SIZES

OMR forms are here defined as forms used solely for OMR reading.

The flexibility of optical mark reading allows the form to be designed so that the information may be presented to the user with the form either upright or horizontal simply by making respectively horizontal or vertical marks for machine recognition. Thus the width and depth terms are replaced by the self evident terms "longer side" and "shorter side".

The preferred sizes are:

inches	mm	Corresponding A sizes	
		A size	mm
8 x 12	203,2 x 304,8	A4 or A4L	210 x 297
6 x 8	152,4 x 203,2	A5 or A5L	148 x 210
4 x 8	101,6 x 203,2	1/3 A4	99 x 210
4 x 6	101,6 x 152,4	A6 or A6L	105 x 148

Other form sizes should be within the range:

	MINIMUM		MAXIMUM	
	inches	mm	inches	mm
SHORTER SIDE	3	76,2	8,3	210
LONGER SIDE	5,8	148	12	304,8

NOTE

Where OMR tags are required, the sizes given in subsection 4.3 (OCR tags) should be used.



6. COMBINED OCR AND OMR FORM SIZES

When both OCR and OMR data are to be read from the same form, the size will normally be chosen from the size ranges given in section 4.





