INTERNATIONAL STANDARD

ISO/IEC 23634

First edition
2022-04

Information technology — Automatic identification and data capture techniques — JAB Code polychrome bar code symbology specification

Reference number
ISO/IEC 23634:2022(E)

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Published in Switzerland

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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.

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

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Introduction

JAB Code is a colour-based, two-dimensional matrix symbology whose basic symbols are made up of colourful modules, arranged in either square or rectangle grids. JAB Code has two types of basic symbols: a primary symbol and the secondary symbol. A JAB Code contains one primary symbol, and optionally, multiple secondary symbols. A primary symbol contains four finder patterns, located at the corners of the symbol. Secondary symbols contain finder pattern.

A secondary symbol can be docked to a primary symbol, or another docked secondary symbol, in either a horizontal or vertical direction. JAB Code can encode from small to large amounts of data, correlated to user-specified percentages of the error correction.

Both manufacturers and users of bar code equipment require publicly available symbology standards when developing equipment and application standards. The publication of standardised symbology specifications, such as this one, are designed to achieve this.

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Information technology — Automatic identification and data capture techniques — JAB Code polychrome bar code symbology specification

IMPORTANT — The electronic file of this document contains colours which are considered to be useful for the correct understanding of the document. Users should therefore consider printing this document using a colour printer.

1 Scope

This document defines the requirements for the symbology known as JAB Code. It specifies the JAB Code symbology characteristics, symbol structure, symbol dimensions, symbol cascading rules, data character encodation, error correction rules, user-selectable application parameters, print quality requirements and a reference decode algorithm.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 646, *Information technology — ISO 7-bit coded character set for information interchange*

ISO/IEC 10646, *Information technology — Universal coded character set (UCS)*

ISO/IEC 15415, *Information technology — Automatic identification and data capture techniques — Bar code symbol print quality test specification — Two-dimensional symbols*

ISO/IEC 15424, *Information technology — Automatic identification and data capture techniques — Data Carrier Identifiers (including Symbology Identifiers)*

ISO/IEC 15434, *Information technology — Automatic identification and data capture techniques — Syntax for high-capacity ADC media*

3 Terms, definitions, abbreviated terms and symbols

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 Terms and definitions

3.1.1
module
single square in one colour within the matrix pattern that is the elemental entity used to encode data

3.1.2
finder pattern
fixed reference pattern at predefined positions in a matrix symbology, which enables the decode software to locate the JAB symbol in an image

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3.1.3
alignment pattern
fixed reference pattern at predefined positions in a matrix symbology, which enables the decode software to resynchronize the coordinate mapping of the *modules* (3.1.1) in the event of moderate amounts of distortion of the image

3.1.4
data interleaving
procedure which pseudo-randomly arranges the data in a matrix symbology

3.1.5
colour palette
set of reference *modules* (3.1.1) of colours used in the symbol, which is located at predefined positions in a matrix symbology

3.1.6
padding bits
bits which do not represent data and are used to fill empty positions of the available encoding capacity after the final bit of encoded data

3.1.7
primary symbol
main symbol which contains finder patterns and is used to locate the whole JAB code

3.1.8
secondary symbol
appending symbols which may be used to encode more data with a lower overhead in terms of auxiliary *modules* (3.1.1)

3.1.9
host symbol
symbol, either primary or secondary, in a JAB Code which docks secondary symbols on its horizontal or vertical sides

3.1.10
JAB Code
colour two-dimensional matrix symbology

Note 1 to entry: JAB code is used for “just another bar code”.

3.2 Abbreviated terms

LDPC	low-density parity-check
SS	in primary symbol: symbol shape flag / in secondary symbol: same shape and size flag
MSK	masking reference
SE	same error correction level
V	side-version
E	error correction parameter
S	secondary positions
m	raw data bits
c	transmitted codeword

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