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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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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 29, *Coding of audio, picture, multimedia and hypermedia information*.

This second edition cancels and replaces the first edition (ISO/IEC 19566-10:2024), which has been technically revised. It also incorporates the Amendment ISO/IEC 19566-10:2024/Amd 1:2025.

The main changes are as follows:

— Inclusion of more reference implementation supporting all JUMBF Content Types defined throughout the ISO/IEC 19566 series,

— Revision of the JUMBF reference implementation to support the processing of JUMBF data in more image file formats,

— Enhancement of the reference dataset to include more scenarios from different image file formats.

A list of all parts in the ISO 19566 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

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Introduction

The JPEG Universal Metadata Box Format (JUMBF) provides a mechanism to embed and refer generic metadata in JPEG files. Specific content types can be assigned to identify the specific type of the embedded metadata.

This document specifies reference software implementations that handle JUMBF data according to the Content Types specified in the ISO/IEC 19566 series. For each part of the ISO/IEC 19566 series, a reference dataset is also provided, allowing for the conformance checking of candidate applications. The dataset provides cases focusing on the intrinsic characteristics of the JUMBF data model, but also expands to the encoding of JUMBF files in image file formats.

In the second edition of this document (JPEG Systems reference implementations), more reference implementations are included covering all JUMBF Content Types specified in ISO/IEC 19566 specifications. At least one reference implementation exists per ISO/IEC 19566 parts, while more implementations are specified in ISO/IEC 19566-5 [1](JUMBF) and ISO/IEC 19566-8 [2](JPEG Snack).

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Information technology — JPEG systems —

Part 10:
Reference software

1 Scope

This document specifies a reference software implementation of ISO/IEC 19566-5 [1]. The reference software is accompanied with a reference dataset which provides an extensive list of the various JUMBF data structures specified in ISO/IEC 19566-5 [1].

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

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

3.1.1
codestream
compressed image data representation that includes all necessary data to allow a (full or approximate) reconstruction of the sample values of a digital image

3.2 Abbreviated terms

APP11	application marker 11: JPEG XT extension marker
CBOR	concise binary object representation
CLI	command line interface
CSV	comma separated values
GUI	graphical user interface
IoC	inversion of controls
ISOBMFF	ISO base media file format
IV	initial value
JPEG	joint photographic experts group

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