International Standard

ISO/IEC 21122-5

Information technology — JPEG XS low-latency lightweight image coding system —

Part 5: Reference software

Technologies de l'information — Système de codage d'images léger à faible latence JPEG XS —

Partie 5: Logiciel de référence

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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

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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 third edition cancels and replaces the second edition (ISO/IEC 21122-5:2022), which has been technically revised.

The main changes are as follows:

— the reference software has been updated.

A list of all parts in the ISO/IEC 21122 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

This document is part of a series of standards for a low-latency lightweight image coding system, denoted JPEG XS. It provides the software reference implementation of ISO/IEC 21122-1 and ISO/IEC 21122-2. It has been successfully compiled and tested on various operating systems at the time of writing. This reference software implementation includes both encoder and decoder functionality. It is important to note that this reference software implementation represents just one way of implementing JPEG XS. This implementation can serve as a validation anchor to other implementations.

No guarantee of the quality that will be achieved by an encoder is provided by its conformance to ISO/IEC 21122-1 and ISO/IEC 21122-2, as the conformance is only defined in terms of specific constraints imposed on the syntax of the generated codestream. In particular, while sample encoder software implementations can suffice to provide some illustrative examples of which quality can be achieved within the ISO/IEC 21122 series, they provide neither an assurance of minimum guaranteed image encoding quality nor maximum achievable image encoding quality.

Similarly, the computation resource characteristics in terms of program or data memory usage, execution speed, etc. of sample software encoder or decoder implementations should not be construed as a representative of the typical, minimal or maximal computational resource characteristics to be exhibited by implementations of the ISO/IEC 21122 series.

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Information technology — JPEG XS low-latency lightweight image coding system —

Part 5: Reference software

1 Scope

This document contains the reference software of the ISO/IEC 21122 series. It acts as guidance for implementation of the ISO/IEC 21122 series and as a reference for conformance testing.

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 21122-1, *Information technology — JPEG XS low-latency lightweight image coding system — Part 1: Core coding system*

ISO/IEC 21122-2, *Information technology — JPEG XS low-latency lightweight image coding system — Part 2: Profiles and buffer models*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 21122-1 and ISO/IEC 21122-2 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/

4 Reference software

4.1 General

In addition to the main text, including Annexes A, B and C, the reference software is available at https://standards.iso.org/iso-iec/21122/-5/ed-3/en/.

Annex A provides guidelines on how to build the provided reference software.

Annex B describes input and output image file formats that are supported by the provided reference software.

Annex C provides guidelines on how to use the reference decoder and encoder.

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