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Information technology — MPEG video technologies —

Part 7: Versatile supplemental enhancement information messages for coded video bitstreams

Technologies de l'information — Technologies vidéo MPEG —

Partie 7: Messages d'améliorations complémentaires polyvalents pour les flux binaires vidéo codés

Reference number
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Contents

Page

Foreword ... **vi**
Introduction ... **vii**
1 Scope ... **1**
2 Normative references ... **1**
3 Terms and definitions ... **1**
4 Abbreviated terms ... **8**
5 Conventions ... **9**
5.1 General ... 9
5.2 Arithmetic operators ... 9
5.3 Logical operators ... 10
5.4 Relational operators ... 10
5.5 Bit-wise operators ... 10
5.6 Assignment operators ... 11
5.7 Range notation ... 11
5.8 Mathematical functions ... 11
5.9 Order of operation precedence ... 12
5.10 Variables, syntax elements and tables ... 13
5.11 Text description of logical operations ... 14
5.12 Processes ... 15
6 Syntax and semantics ... **16**
6.1 General ... 16
6.2 Method of specifying syntax in tabular form ... 17
6.3 Specification of syntax functions and descriptors ... 18
7 Video usability information parameters ... **19**
7.1 General ... 19
7.2 VUI parameters syntax ... 19
7.3 VUI parameters semantics ... 20
8 SEI messages ... **27**
8.1 General ... 27
8.2 Filler payload SEI message ... 28
8.2.1 Filler payload SEI message syntax ... 28
8.2.2 Filler payload SEI message semantics ... 28
8.3 User data registered by Rec. ITU-T T.35 SEI message ... 28
8.3.1 User data registered by Rec. ITU-T T.35 SEI message syntax ... 28
8.3.2 User data registered by Rec. ITU-T T.35 SEI message semantics ... 29
8.4 User data unregistered SEI message ... 29
8.4.1 User data unregistered SEI message syntax ... 29
8.4.2 User data unregistered SEI message semantics ... 29
8.5 Film grain characteristics SEI message ... 29
8.5.1 Film grain characteristics SEI message syntax ... 29
8.5.2 Film grain characteristics SEI message semantics ... 30
8.6 Frame packing arrangement SEI message ... 38
8.6.1 Frame packing arrangement SEI message syntax ... 38
8.6.2 Frame packing arrangement SEI message semantics ... 38
8.7 Parameter sets inclusion indication SEI message ... 47
8.7.1 Parameter sets inclusion indication SEI message syntax ... 47
8.7.2 Parameter sets inclusion indication SEI message semantics ... 47
8.8 Decoded picture hash SEI message ... 48
8.8.1 Decoded picture hash SEI message syntax ... 48
8.8.2 Decoded picture hash SEI message semantics ... 48
8.9 Mastering display colour volume SEI message ... 50

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8.9.1 Mastering display colour volume SEI message syntax 50
8.9.2 Mastering display colour volume SEI message semantics 50
8.10 Content light level information SEI message 52
8.10.1 Content light level information SEI message syntax 52
8.10.2 Content light level information SEI message semantics 52
8.11 Dependent random access point indication SEI message 53
8.11.1 Dependent random access point indication SEI message syntax 53
8.11.2 Dependent random access point indication SEI message semantics 53
8.12 Alternative transfer characteristics information SEI message 54
8.12.1 Alternative transfer characteristics information SEI message syntax 54
8.12.2 Alternative transfer characteristics SEI message semantics 54
8.13 Ambient viewing environment SEI message 54
8.13.1 Ambient viewing environment SEI message syntax 54
8.13.2 Ambient viewing environment SEI message semantics 54
8.14 Content colour volume SEI message 55
8.14.1 Content colour volume SEI message syntax 55
8.14.2 Content colour volume SEI message semantics 56
8.15 Omnidirectional video specific SEI messages 58
8.15.1 Sample location remapping process 58
8.15.2 Equirectangular projection SEI message 69
8.15.3 Generalized cubemap projection SEI message 72
8.15.4 Sphere rotation SEI message 78
8.15.5 Region-wise packing SEI message 79
8.15.6 Omnidirectional viewport SEI message 86
8.16 Frame-field information SEI message 88
8.16.1 Frame-field information SEI message syntax 88
8.16.2 Frame-field information SEI message semantics 88
8.17 Sample aspect ratio information SEI message 91
8.17.1 Sample aspect ratio information SEI message syntax 91
8.17.2 Sample aspect ratio information SEI message semantics 91
8.18 Annotated regions SEI message 92
8.18.1 Annotated regions SEI message syntax 92
8.18.2 Annotated regions SEI message semantics 94
8.19 Scalability dimension information SEI message 97
8.19.1 Scalability dimension information SEI message syntax 97
8.19.2 Scalability dimension information SEI message semantics 97
8.20 Multiview acquisition information SEI message 99
8.20.1 Multiview acquisition information SEI message syntax 99
8.20.2 Multiview acquisition information SEI message semantics 100
8.21 Multiview view position SEI message 104
8.21.1 Multiview view position SEI message syntax 104
8.21.2 Multiview view position SEI message semantics 104
8.22 Depth representation information SEI message 104
8.22.1 Depth representation information SEI message syntax 104
8.22.2 Depth representation information SEI message semantics 105
8.23 Alpha channel information SEI message 108
8.23.1 Alpha channel information SEI message syntax 108
8.23.2 Alpha channel information SEI message semantics 109
8.24 Extended DRAP indication SEI message 112
8.24.1 Extended DRAP indication SEI message syntax 112
8.24.2 Extended DRAP indication SEI message semantics 112
8.25 Display orientation SEI message 113
8.25.1 Display orientation SEI message syntax 113
8.25.2 Display orientation SEI message semantics 113
8.26 Colour transform information SEI message 114
8.26.1 Colour transform information SEI message syntax 114
8.26.2 Colour transform information SEI message semantics 115
8.27 Reserved SEI message 119

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8.27.1 Reserved SEI message syntax 119
8.27.2 Reserved SEI message semantics 119

9 Parsing process for k-th order Exp-Golomb codes 119
9.1 General 119
9.2 Mapping process for signed Exp-Golomb codes 121

Bibliography 122

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents) or the IEC list of patent declarations received (see patents.iec.ch).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

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 information*, in collaboration with ITU-T (as Rec. ITU-T H.274).

This second edition cancels and replaces the first edition (ISO/IEC 23002-7:2021), which has been technically revised.

The main changes are as follows:

— the addition of the annotated regions SEI message,

— the addition of the alpha channel information SEI message,

— the addition of the depth representation information SEI message,

— the addition of the multiview acquisition information SEI message,

— the addition of the multiview view position SEI message,

— the addition of the scalability dimension information SEI message,

— the addition of the extended dependent random access point indication SEI message,

— the addition of the display orientation SEI message, and

— the addition of the colour transform information SEI message.

A list of all parts in the ISO/IEC 23002 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

Versions of this document

Rec. ITU-T H.274 | ISO/IEC 23002-7 version 1 refers to the first approved version of this document. The first edition published by ITU-T as Rec. ITU-T H.274 (08/2020) and by ISO/IEC as ISO/IEC 23002-7:2021 corresponded to the first version.

Rec. ITU-T H.274 | ISO/IEC 23002-7 version 2 (the current version) refers to the integrated text containing nine additional SEI messages, namely the annotated regions SEI message, the alpha channel information SEI message, the depth representation information SEI message, the multiview acquisition information SEI message, the multiview view position SEI message, the scalability dimension information SEI message, the extended dependent random access point indication SEI message, the display orientation SEI message, and the colour transform information SEI message. Besides these additional SEI messages, this version also contains corrections to various minor defects in the prior content of the specification. The second edition published by ISO/IEC as ISO/IEC 23002-7:202X corresponds to the second version. At the time of publication of this edition by ISO/IEC, a corresponding second edition of Rec. ITU-T H.274 was in preparation for publication by ITU-T.

Conventions

The term "this document" is used to refer to this Recommendation | International Standard.

In this document, the following verbal forms are used:

— “shall” indicates a requirement. When used to express a mandatory constraint on the values of syntax elements or the values of variables derived from these syntax elements, it is the responsibility of the encoder to ensure that the constraint is fulfilled.

— “should” indicates a recommendation. It is used to refer to behaviour of an implementation that is encouraged to be followed under anticipated ordinary circumstances, but is not a requirement for conformance to this document.

— “may” indicates a permission.

— “can” indicates a possibility or a capability.

Information marked as “NOTE” is intended to assist the understanding or use of the document. “Notes to entry” used in Clause 3 provide additional information that supplements the terminological data and can contain provisions relating to the use of a term.

Patent declarations

The International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) draw attention to the fact that it is claimed that compliance with this document may involve the use of a patent.

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Information technology — MPEG video technologies —

Part 7: Versatile supplemental enhancement information messages for coded video bitstreams

1 Scope

This document specifies the syntax and semantics of video usability information (VUI) parameters and supplemental enhancement information (SEI) messages. The VUI parameters and SEI messages defined in this document are designed to be conveyed within coded video bitstreams in a manner specified in a video coding specification or to be conveyed by other means determined by the specifications for systems that make use of such coded video bitstreams. This document is particularly intended for use with coded video bitstreams as specified by Rec. ITU-T H.266 | ISO/IEC 23090-3, although it is drafted in a manner intended to be sufficiently generic that it can also be used with other types of coded video bitstreams.

VUI parameters and SEI messages can assist in processes related to decoding, display or other purposes. However, unless otherwise specified in a referencing specification, the interpretation and use of the VUI parameters and SEI messages specified in this document is not a required functionality of a video decoder or receiving video system. Although semantics are specified for the VUI parameters and SEI messages, decoders and receiving video systems can simply ignore the content of the VUI parameters and SEI messages or can use them in a manner that somewhat differs from what is specified in this document.

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

ISO/IEC 11578:1996, *Information technology — Open Systems Interconnection — Remote Procedure Call (RPC)*

Recommendation ITU-T H.273 | ISO/IEC 23091-2, *Information technology — Coding-independent code points — Part 2: Video*

Recommendation ITU-T T.35:2000, *Procedure for the allocation of ITU-T defined codes for non-standard facilities*

ISO/CIE 11664-1, *Colorimetry — Part 1: CIE standard colorimetric observers*

IETF RFC 1321, *The MD5 Message-Digest Algorithm*

IETF RFC 5646, *Tags for Identifying Languages.*

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