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Standard

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**Information technology — Coding of
audio-visual objects —**

Part 10:

Advanced video coding

*Technologies de l'information — Codage des objets
audiovisuels —*

Partie 10: Codage visuel avancé

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Contents

Foreword	vi
Introduction	vii
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
3.1 General terms related to advanced video coding	1
3.2 Terms related to scalable video coding (Annex F)	18
3.3 Terms related to multiview video coding (Annex G)	26
3.4 Terms related to multiview and depth video coding (Annex H)	30
3.5 Terms related to multiview and depth video with enhanced non-base view coding (Annex I)	32
4 Abbreviated terms	33
5 Conventions	33
5.1 Arithmetic operators	34
5.2 Logical operators	34
5.3 Relational operators	34
5.4 Bit-wise operators	34
5.5 Assignment operators	35
5.6 Range notation	35
5.7 Mathematical functions	35
5.8 Order of operation precedence	37
5.9 Variables, syntax elements, and tables	38
5.10 Text description of logical operations	39
5.11 Processes	40
6 Source, coded, decoded and output data formats, scanning processes, and neighbouring relationships	41
6.1 Bitstream formats	41
6.2 Source, decoded, and output picture formats	41
6.3 Spatial subdivision of pictures and slices	46
6.4 Inverse scanning processes and derivation processes for neighbours	47
6.4.1 Inverse macroblock scanning process	47
6.4.2 Inverse macroblock partition and sub-macroblock partition scanning process	48
6.4.3 Inverse 4x4 luma block scanning process	50
6.4.4 Inverse 4x4 Cb or Cr block scanning process for ChromaArrayType equal to 3	50
6.4.5 Inverse 8x8 luma block scanning process	50
6.4.6 Inverse 8x8 Cb or Cr block scanning process for ChromaArrayType equal to 3	51
6.4.7 Inverse 4x4 chroma block scanning process	51
6.4.8 Derivation process of the availability for macroblock addresses	51
6.4.9 Derivation process for neighbouring macroblock addresses and their availability	51
6.4.10 Derivation process for neighbouring macroblock addresses and their availability in MBAFF frames	52
6.4.11 Derivation processes for neighbouring macroblocks, blocks, and partitions	53
6.4.12 Derivation process for neighbouring locations	58
6.4.13 Derivation processes for block and partition indices	62
7 Syntax and semantics	63
7.1 Method of specifying syntax in tabular form	63
7.2 Specification of syntax functions, categories, and descriptors	64
7.3 Syntax in tabular form	67
7.3.1 NAL unit syntax	67
7.3.2 Raw byte sequence payloads and RBSP trailing bits syntax	68
7.3.3 Slice header syntax	76
7.3.4 Slice data syntax	81
7.3.5 Macroblock layer syntax	82
7.4 Semantics	89
7.4.1 NAL unit semantics	89
7.4.2 Raw byte sequence payloads and RBSP trailing bits semantics	102
7.4.3 Slice header semantics	118

7.4.4	Slice data semantics	132
7.4.5	Macroblock layer semantics	133
8	Decoding process	147
8.1	NAL unit decoding process	149
8.2	Slice decoding process	149
8.2.1	Decoding process for picture order count.....	149
8.2.2	Decoding process for macroblock to slice group map.....	154
8.2.3	Decoding process for slice data partitions	158
8.2.4	Decoding process for reference picture lists construction	159
8.2.5	Decoded reference picture marking process	167
8.3	Intra prediction process	172
8.3.1	Intra_4x4 prediction process for luma samples.....	173
8.3.2	Intra_8x8 prediction process for luma samples.....	180
8.3.3	Intra_16x16 prediction process for luma samples	188
8.3.4	Intra prediction process for chroma samples	191
8.3.5	Sample construction process for I_PCM macroblocks.....	196
8.4	Inter prediction process	196
8.4.1	Derivation process for motion vector components and reference indices.....	199
8.4.2	Decoding process for Inter prediction samples	213
8.4.3	Derivation process for prediction weights.....	224
8.5	Transform coefficient decoding process and picture construction process prior to deblocking filter process.....	226
8.5.1	Specification of transform decoding process for 4x4 luma residual blocks	227
8.5.2	Specification of transform decoding process for luma samples of Intra_16x16 macroblock prediction mode	227
8.5.3	Specification of transform decoding process for 8x8 luma residual blocks	228
8.5.4	Specification of transform decoding process for chroma samples.....	229
8.5.5	Specification of transform decoding process for chroma samples with ChromaArrayType equal to 3231	231
8.5.6	Inverse scanning process for 4x4 transform coefficients and scaling lists.....	231
8.5.7	Inverse scanning process for 8x8 transform coefficients and scaling lists.....	232
8.5.8	Derivation process for chroma quantization parameters	234
8.5.9	Derivation process for scaling functions	234
8.5.10	Scaling and transformation process for DC transform coefficients for Intra_16x16 macroblock type.....	236
8.5.11	Scaling and transformation process for chroma DC transform coefficients.....	237
8.5.12	Scaling and transformation process for residual 4x4 blocks	238
8.5.13	Scaling and transformation process for residual 8x8 blocks	242
8.5.14	Picture construction process prior to deblocking filter process	246
8.5.15	Intra residual transform-bypass decoding process.....	247
8.6	Decoding process for P macroblocks in SP slices or SI macroblocks	248
8.6.1	SP decoding process for non-switching pictures	248
8.6.2	SP and SI slice decoding process for switching pictures	251
8.7	Deblocking filter process	253
8.7.1	Filtering process for block edges	258
8.7.2	Filtering process for a set of samples across a horizontal or vertical block edge	260
9	Parsing process	267
9.1	Parsing process for Exp-Golomb codes	267
9.1.1	Mapping process for signed Exp-Golomb codes	269
9.1.2	Mapping process for coded block pattern	269
9.2	CAVLC parsing process for transform coefficient levels	272
9.2.1	Parsing process for total number of non-zero transform coefficient levels and number of trailing ones	273
9.2.2	Parsing process for level information.....	278
9.2.3	Parsing process for run information.....	280
9.2.4	Combining level and run information.....	283
9.3	CABAC parsing process for slice data	283
9.3.1	Initialization process.....	285
9.3.2	Binarization process	309
9.3.3	Decoding process flow	319
9.3.4	Arithmetic encoding process.....	343

Annex A (normative) Profiles and levels	351
Annex B (normative) Byte stream format	376
Annex C (normative) Hypothetical reference decoder	379
Annex D (normative) Supplemental enhancement information	404
Annex E (normative) Video usability information	512
Annex F (normative) Scalable video coding.....	536
Annex G (normative) Multiview video coding	799
Annex H (normative) Multiview and depth video coding.....	876
Annex I (normative) Multiview and depth video with enhanced non-base view coding	934
Bibliography.....	997

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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)

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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*, in collaboration with ITU-T (as ITU-T H.264).

This eleventh edition cancels and replaces the tenth edition (ISO/IEC 14496-10:2022), which has been technically revised.

The main changes are as follows:

- the addition of support for neural-network post-filter characteristics, neural-network post-filter activation, phase indication SEI messages specified in Rec. ITU-T H.274 | ISO/IEC 23002-7, and additional colour type identifiers.

A list of all parts in the ISO/IEC 14496 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.

Introduction

0.1 Prologue

As the costs for both processing power and memory have reduced, network support for coded video data has diversified, and advances in video coding technology have progressed, the need has arisen for an industry standard for compressed video representation with substantially increased coding efficiency and enhanced robustness to network environments. Toward these ends the ITU-T Video Coding Experts Group (VCEG) and the ISO/IEC Moving Picture Experts Group (MPEG) formed a Joint Video Team (JVT) in 2001 for development of a new Recommendation | International Standard. The standard has since been maintained and enhanced jointly by VCEG and MPEG.

0.2 Purpose

This Recommendation | International Standard was developed in response to the growing need for higher compression of moving pictures for various applications such as videoconferencing, digital storage media, television broadcasting, internet streaming, and communication. It is also designed to enable the use of the coded video representation in a flexible manner for a wide variety of network environments. The use of this Recommendation | International Standard allows motion video to be manipulated as a form of computer data and to be stored on various storage media, transmitted and received over existing and future networks and distributed on existing and future broadcasting channels.

0.3 Applications

This Recommendation | International Standard is designed to cover a broad range of applications for video content including but not limited to the following:

- CATV: cable TV on optical networks, copper, etc.
- DBS: direct broadcast satellite video services.
- DSL: digital subscriber line video services.
- DTTB: digital terrestrial television broadcasting.
- ISM: interactive storage media (optical disks, etc.).
- MMM: multimedia mailing.
- MSPN: multimedia services over packet networks.
- RTC: real-time conversational services (videoconferencing, videophone, etc.).
- RVS: remote video surveillance.
- SSM: serial storage media (digital VTR, etc.).

0.4 Publication and versions of this document

ITU-T Rec. H.264 | ISO/IEC 14496-10 version 1 refers to the first approved version of this Recommendation | International Standard.

ITU-T Rec. H.264 | ISO/IEC 14496-10 version 2 refers to the integrated text containing the corrections specified in the first technical corrigendum.

ITU-T Rec. H.264 | ISO/IEC 14496-10 version 3 refers to the integrated text containing both the first technical corrigendum (2004) and the first amendment, which is referred to as the "Fidelity range extensions".