



DPC: 25/30498968 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

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Interested committees:

Title: Draft BS ISO/IEC 14496-12/Amd 1 Information technology — Coding of audio-visual objects. Part 12: ISO base media file format. Amendment 1: Tools for enhanced CMAF and DASH integration.

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This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



DRAFT Amendment

ISO/IEC 14496-12:XXXX/ DAM 1

Information technology — Coding of audio-visual objects —

Part 12:

ISO base media file format

AMENDMENT 1: Tools for enhanced CMAF and DASH integration

ICS: 35.040.40

ISO/IEC JTC 1/SC 29

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CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
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Foreword

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

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.

Information technology — Coding of audio-visual objects —

Part 12: ISO base media file format

AMENDMENT 1: Tools for enhanced CMAF and DASH integration

1 Clause 2 Normative references

Add the following reference to clause 2:

ISO/IEC 14496-34, *Information technology — Coding of audio-visual objects — Part 34: Syntactic description language*

2 Clause 3.1, Terms and definitions

Add/replace the following definitions to clause 3.1:

3.1.28

media stream

samples of a track in their decoding order

3.1.68

content box

box that is not a container box

3.1.69

compressed movie file

typed ISO base media file containing a `CompressedMovieBox`

3 Clause 4.2, Binary structure

Replace the following text from subclause 4.2.2:

Boxes specified in this document may be extended but such extensions are reserved for future use by ISO/IEC. Syntax may be added at the end of a box derived from `FullBox` and an already specified `version` value may be kept, if it is not essential to parse such added syntax. When a parser has not reached the end of a box derived from `FullBox` as defined by the values of the `size` or `largetsize` field (as appropriate) but does not recognize the remaining syntax elements, it shall ignore and skip the remaining of the box.

with:

Content boxes specified in this document may be extended but such extensions are reserved for future use by ISO/IEC. When it is not essential to parse a syntax extension of a content box, the syntax extension may be added at the end of the content box. When a content box is derived from `FullBox` and it is not essential to

parse a syntax extension that is added at the end of the content box, an already specified `version` value of the content box may be kept. When a parser has not reached the end of a content box as defined by the values of the `size` or `largesize` field (as appropriate) but does not recognize the remaining syntax elements, it shall ignore and skip the remaining of the content box.

4 Clause 5.2, File-type box

Change part of the definition in clause 5.2.1 from:

This box shall be placed as early as possible in the file (e.g. after any obligatory signature, but before any significant variable-size boxes such as a `MovieBox`, `MediaDataBox`, or `FreeSpaceBox`). It identifies which specification is the 'best use' of the file (the `major_brand`), and a minor version of that specification; and also a set of other specifications to which the file complies (the `compatible_brands`); the `major_brand` should be repeated in the `compatible_brands` list. Readers implementing this format should attempt to read files that are marked as compatible with any of the specifications that the reader implements. Any incompatible change in a specification should therefore register a new 'brand' identifier to identify files conformant to the new specification.

The minor version is informative only. It does not appear for compatible-brands, and is not used to determine the conformance of a file to a standard. It may allow more precise identification of the major specification, for inspection, debugging, or improved decoding.

to:

This box shall be placed as early as possible in the file (e.g. after any obligatory signature, but before any significant variable-size boxes such as a `MovieBox`, `MediaDataBox`, or `FreeSpaceBox`). It identifies which specification is the 'best use' of the file (the `major_brand`), and a minor version of that specification; and also a set of other specifications to which the file complies (the `major_brand` and the `compatible_brands`); the `major_brand` may be repeated in the `compatible_brands` list. If only a single brand needs to be signaled, the compatible brands list may be empty. Readers implementing this format should attempt to read files that are marked as compatible with any of the specifications that the reader implements. Any incompatible change in a specification should therefore register a new 'brand' identifier to identify files conformant to the new specification.

The minor version is informative only. It does not appear for compatible-brands, and is not used to determine the conformance of a file to a standard. It may allow more precise identification of the major specification, for inspection, debugging, or improved decoding. The interpretation of the minor version is major-brand specific. The semantics of the 32 bits of the `minor_version` field may be re-defined by the specification defining the major brand value, for example using these 32 bits as flags.

5 Clause 6.2, Box order

Replace the subclause 6.2 with the following:

An overall view of the normal encapsulation structure is provided in the following informative Table 2. In the event of a conflict between this table and the prose, the prose prevails. The order of boxes within its container is not necessarily indicated in Table 2.

The table shows those boxes that may occur at the top-level in the left-most column; indentation is used to show possible containment. Thus, for example, a `TrackHeaderBox` ('tkhd') is found in a `TrackBox` ('trak'), which is found in a `MovieBox` ('moov').

Boxes using an extended type may be placed in a wide variety of containers, not just the top level.

Table 2 — Box types, structure and cross-reference

ftyp						5.2	file type and compatibility
otyp						8.16.5	original file-type
pdin						8.1.3	progressive download information
moov						8.2.1	container for all the structure-data
	mvhd					8.2.2	movie header, overall declarations
	meta					8.11.1	metadata
	trak					8.3.1	container for an individual track or stream
		ttyp				8.3.5	track type
		tkhd				8.3.2	track header, overall information about the track
		tref				8.3.3	track reference container
		trgr				8.3.4	track grouping indication
			msrc			8.3.4.4.1	multi-source presentation track group type box
			ster			8.3.4.4.2	stereoscopic pair track group type box
		edts				8.6.5	edit list container
			elst			8.6.6	an edit list
		meta				8.11.1	metadata
		mdia				8.4.1	container for the media information in a track
			mdhd			8.4.2	media header, overall information about the media
			hdlr			8.4.3	handler, declares the media (handler) type
			elng			8.4.6	extended language tag
			minf			8.4.4	media information container
				vmhd		12.1.2	video media header, overall information (video track only)
				smhd		12.2.2	sound media header, overall information (sound track only)
				hmhd		12.4.3	hint media header, overall information (hint track only)
				sthd		12.6.2	subtitle media header, overall information (subtitle track only)
				nmhd		8.4.5.2	Null media header, overall information (some tracks only)
				dinf		8.7.1	data information box, container
					dref	8.7.2	data reference box, declares source(s) of media data in track
				stbl		8.5.1	sample table box, container for the time/space map
					stsd	8.5.2	sample description box (codec types, initialization etc.)
					stts	8.6.1.2	(decoding) time-to-sample
					ctts	8.6.1.3	(composition) time to sample
					cslg	8.6.1.4	composition to decode timeline mapping
					stsc	8.7.4	sample-to-chunk, partial data-offset information
					stsz	8.7.3.2	sample sizes (framing)
					stz2	8.7.3.3	compact sample sizes (framing)

Table 2 (continued)

				stco		8.7.5	chunk offset, partial data-offset information
				co64		8.7.5	64-bit chunk offset
				stss		8.6.2	sync sample table
				stsh		8.6.3	shadow sync sample table
				padb		8.7.6	sample padding bits
				stdp		8.5.3	sample degradation priority
				sdtg		8.6.4	independent and disposable samples
				sbgp		8.9.2	sample-to-group
				sgpd		8.9.3	sample group description
				subs		8.7.7	sub-sample information
				saiz		8.7.8	sample auxiliary information sizes
				saio		8.7.9	sample auxiliary information offsets
				ssrt		8.7.10	sub-sample references
		udta				8.10.1	user-data
			cpri			8.10.2	copyright etc.
			tsel			8.10.3	track selection box
			kind			8.10.4	track kind box
			strk			8.13.3	sub track box
				stri		8.13.4	sub track information box
				strd		8.13.5	sub track definition box
				stsg		8.13.6	sub track sample group
			ludt			12.2.7	audio stream loudness
	extk					8.3.6.1	external track box
		extl				8.3.6.2	external track location box
	mvex					8.8.1	movie extends box
		mehd				8.8.2	movie extends header box
		trex				8.8.3	track extends defaults
		leva				8.8.13	level assignment
		trep				8.8.15	Track extension properties
			assp			8.8.16	Alternative startup sequence
	udta					8.10.1	user-data
		cpri				8.10.2	copyright etc.
moof						8.8.4	movie fragment
	mfhd					8.8.5	movie fragment header
	meta					8.11.1	metadata
	traf					8.8.6	track fragment
		tfhd				8.8.7	track fragment header
		trun				8.8.8	track fragment run
		sbgp				8.9.2	sample-to-group
		sgpd				8.9.3	sample group description
		subs				8.7.7	sub-sample information
		saiz				8.7.8	sample auxiliary information sizes
		saio				8.7.9	sample auxiliary information offsets
		ssrt				8.7.10	sub-sample references

Table 2 (continued)

		tfdt				8.8.12	track fragment decode time
		rsot				8.8.18	sample original timing
		meta				8.11.1	metadata
		udta				8.10.1	user-data
	udta					8.10.1	user-data
mfra						8.8.9	movie fragment random access
	tfra					8.8.10	track fragment random access
	mfro					8.8.11	movie fragment random access offset
mdat						8.1.1	media data container
free						8.1.2	free space
skip						8.1.2	free space
imda						8.1.4	media data container that contains an identifier to be used with data references
meta						8.11.1	metadata
	hdlr					8.4.3	handler, declares the metadata (handler) type
	dinf					8.7.1	data information box, container
		dref				8.7.2	data reference box, declares source(s) of metadata items
	iloc					8.11.3	item location
	ipro					8.11.5	item protection
		sinf				13.4.2	protection scheme information box
			frma			13.4.3	original format box
			schm			13.4.6	scheme type box
			schl			13.4.7	scheme information box
	iinf					8.11.6	item information
	xml					8.11.2	XML container
	bxml					8.11.2	binary XML container
	pitm					8.11.4	primary item reference
	fiin					8.12.2	file delivery item information
		paen				8.12.2	partition entry
			fire			8.12.7	file reservoir
			fpar			8.12.3	file partition
			fecr			8.12.4	FEC reservoir
		sgr				8.12.5	file delivery session group
		gitn				8.12.6	group id to name
	idat					8.11.11	item data
	iref					8.11.12	item reference
	iprp					8.11.14	item properties
		ipco				8.11.14	item properties container
			brnd			8.11.15	item brand
			hdlp			8.11.16	item handler
		ipma				8.11.14	item properties association
	grpl					8.15.2	entities groups list
		swit				8.15.4.2	switching group box
		prsl				8.15.4.1	preselection group