
**Information technology — Generic coding
of moving pictures and associated audio
information —**

**Part 4:
Conformance testing**

**AMENDMENT 3: Additional audio
conformance bitstreams**

*Technologies de l'information — Codage générique des images animées et
des informations sonores associées —*

Partie 4: Essais de conformité

*AMENDEMENT 3: Courants continus de bits supplémentaires pour la
conformité sonore*

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this Amendment may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

Amendment 3 to International Standard ISO/IEC 13818-4:1998 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

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AMENDMENT 3:

Additional audio conformance bitstreams

1) In the foreword, replace the last sentence with the following:
“Annexes A to F of this part of ISO/IEC 13818 are for information only.”

2) Replace Table 2.6 with:

“

Feature	bitstream number			
	22	23	35	37
Layer	I	III	II	II
matrix	0	0	3	0
extension	Y	Y	N	Y
transmission channel allocation	Y	N/A	-	Y
phantom centre	N	Y	N	N
prediction	N	N	N	N
Dynamic crosstalk	N	N/A	N	N
sampling frequency	44.1	48	44.1	48
LFE	N	N	N	N
multilingual	N	N	N	
multilingual sampling frequency	-	-	-	
ancillary data	N	N	N	N
bitrate base stream	384	320	384	384
bitrate extension stream	384	320	-	384.
configuration	3/2	3/2	3/2	3/2
dematrixing	N/A	Y	N/A	
segment lists	N/A	Y	N/A	
matrix attenuation	N/A	N	N/A	
scale factor select info	N/A	N	N/A	
Split MC_ CRC				Y
NOTE bitstreams 35: Bitstream intended for accuracy test. Output represented with 24 bit resolution.				

”

3) Add the following paragraph at the end of subclause 2.6.9.2:

“

L9, S18, S19, S20 and S21 are ADTS bitstreams described in the normative part of ISO/IEC 13818-7. Although parsing the ADTS bitstream is not required for a conformant decoder, a decoder may optionally use ADTS, and so bitstreams are supplied.

DRC1, DRC2 and DRC3 are Dynamic Range Control (DRC) bitstreams described in the normative part of ISO/IEC 13818-7. The DRC syntax is backward compatible with the FILL element, so that these bitstreams must be parsed by conformant decoders. However DRC semantics is optional, making the result of decoding the DRC bitstreams informative only.

4) Change Table 2-10 in subclause 2.6.9.2 with:

Table 2-10 – Main Profile Bitstreams

	M1_fs	M2_fs	M3_fs	DRC1_fs	DRC2_fs	DRC3_fs
bitrate	40/64	80/128	240/512	64/128	192/384	128/256
# single channel elements	1	0	1	0	1	1
# channel pair elements	0	1	2	1	2	1
# LFE channels	0	0	1	0	1	0
# Dep coupling channels	0	0	1	0	0	0
# Indep Coupling Channels	0	0	2	0	1	0
intensity		Yes	Yes	Yes	Yes	Yes
MS		Yes	Yes	Yes	Yes	Yes
prediction	Yes	Yes	Yes	Yes	Yes	Yes
window shape		Yes	Yes			
tns		Yes	Yes	Yes	Yes	Yes
pulse data						
Multi program (2)			Yes			
Arithmetic torture		Yes				
Nonmeaningful window_sequence transitions						
Dynamic Range Control (DRC)				Yes	Yes	Yes

5) Change Table 2-11 in subclause 2.6.9.2 with:

Table 2-11 – Low Complexity Profile Bitstreams

	L1_fs	L2_fs	L3_fs	L4_fs	L5_fs	L6_fs	L7_fs	L8_fs	L9_fs
bitrate	40/64	40/64	40/64	40/64	80/128	120/192	240/384	1920/3072	40/64
# single channel elements	1	1	1	1	0	1	1	16	1
# channel pair elements	0	0	0	0	1	1	2	16	0
# LFE channels	0	0	0	0	0	0	1	0	0
# Dep coupling channels	0	0	0	0	0	0	1	0	0
Data stream elements	Yes								
intensity					Yes	Yes	Yes	Yes	
MS					Yes	Yes	Yes	Yes	
window shape				Yes		Yes	Yes	Yes	
tns				Yes		Yes	Yes	Yes	
pulse data				Yes		Yes	Yes	Yes	
Buffer test		Yes							Yes

Arithmetic torture							Yes		
Nonmeaningful window_sequence transitions			Yes						
ADTS									Yes

	L10_fs	L11_fs
bitrate	40/64	40/64
# single channel elements	1	1
# channel pair elements	0	0
# LFE channels	0	0
# Dep coupling channels	0	0
Data stream elements	Yes	Yes
intensity		
MS		
window shape		
tns		
pulse data		
Buffer test		
Arithmetic torture		
Nonmeaningful window_sequence transitions		
ADTS		

”

6) Change Table 2-12 in subclause 2.6.9.2 with:

“

Table 2-12 – SSR Profile Bitstreams

	S1_fs	S2_fs	S3_fs	S4_fs	S5_fs	S6_fs	S7_fs	S8_fs
bitrate	40/64	40/64	40/64	40/64	40/64	40/64	40/64	40/64
# single channel elements	1	1	1	1	1	1	1	1
# channel pair elements	0	0	0	0	0	0	0	0
# LFE channels	0	0	0	0	0	0	0	0
Data stream elements					Yes	Yes	Yes	Yes
intensity								
MS								
Gain Control	Yes	Yes	Yes					
window shape	Yes	Yes	Yes	Yes				
tns	Yes	Yes	Yes	Yes				
pulse data	Yes	Yes	Yes	Yes				
Buffer test	Yes	Yes	Yes	Yes				
Arithmetic torture								

Bandwidth	4	3	2	1	4	3	2	1
Nonmeaningful window_sequence transitions								
ADTS								

	S9_fs	S10_fs	S11_fs	S12_fs	S13_fs	S14_fs	S15_fs	S16_fs
bitrate	80/ 128	80/ 128	80/ 128	80/ 128	200/ 320	200/ 320	280/ 448	280/ 448
# single channel elements	0	0	0	0	1	1	1	1
# channel pair elements	1	1	1	1	2	2	3	3
# LFE channels	0	0	0	0	1	1	1	1
Data stream elements								
intensity	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Gain Control	Yes	Yes	Yes		Yes	Yes	Yes	Yes
window shape					Yes	Yes	Yes	Yes
tns					Yes	Yes	Yes	Yes
pulse data					Yes	Yes	Yes	Yes
Buffer test								
Arithmetic torture								
Bandwidth	4	3	2	1	4	3	4	3
Nonmeaningful window_sequence transitions								
ADTS								

	S17_fs	S18_fs	S19_fs	S20_fs	S21_fs
bitrate	40/ 64	40/ 64	40/ 64	40/ 64	40/ 64
# single channel elements	1	1	1	1	1
# channel pair elements	0	0	0	0	0
# LFE channels	0	0	0	0	0
Data stream elements					
intensity					
MS					
Gain Control	Yes	Yes	Yes	Yes	
window shape		Yes	Yes	Yes	Yes
tns		Yes	Yes	Yes	Yes
pulse data		Yes	Yes	Yes	Yes
Buffer test		Yes	Yes	Yes	Yes
Arithmetic torture					
Bandwidth	4	4	3	2	1
Nonmeaningful window_sequence transitions	Yes				
ADTS		Yes	Yes	Yes	Yes

”

7) Add Annex F:

“

Annex F

(informative)

Description of bitstream L10

Bitstream L10 demonstrates how AAC's Data Stream Element (DSE) can be used to carry a transport within a fully conformant AAC bitstream. This bitstream illustrates a transport that is particularly well suited for a bitstream communication channel, such as a satellite communication channel. It is equally well suited to channels with or without any additional error correction, and if the channel does have error correction, to channels that do or do not report the reliability of the channel bits to the audio decoder.

In order to identify that the DSE carries the transport information defined below, the DSE element `instance_tag` value 0 shall be used. The DSE's `count` field (and `esc_count` field, if necessary) must be set to indicate the correct number of bytes in the DSE.

The function `bitstream_transport()`, defined in the table below, begins parsing its component bits coincident with the first bit in the DSE's `data_stream_byte` payload.

Table F.1 – Syntax of `bitstream_transport()`

Syntax	No. of bits	Mnemonic
<code>bitstream_transport()</code>		
{		
synchword	16	uimsbf
block_len	14	uimsbf
if (next_block_len_present)	1	uimsbf
next_block_len	14	uimsbf
if (block_crc_present)	1	uimsbf
block_crc	16	uimsbf
if (ele_prot_present) {	1	uimsbf
num_ele	3	uimsbf
for (i=0; i<num_ele; i++) {		
if (ele_bit_len_present) {	1	uimsbf
ele_bit_len	12	uimsbf
if (ele_crc_present)	1	uimsbf
ele_crc	16	rpchof
}		
if (is_cpe) {	1	uimsbf
if (ics_bit_len_present) {	1	uimsbf
ics_bit_len	12	uimsbf
if (ics_crc_present)	1	uimsbf
ics0_crc	16	rpchof
ics1_crc	16	rpchof
}		
if (next_block_info_present) {	1	uimsbf
next_block_window_sequence	2	uimsbf
if (next_block_window_sequence == EIGHT_SHORTSEQUENCE) {		
next_block_max_sfb	4	uimsbf
next_block_scale_factor_grouping	7	uimsbf
}		
else {		
next_block_max_sfb	6	uimsbf
}		