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Information technology — Coding of audio-visual objects —

Part 26:
Audio conformance

AMENDMENT 5: Conformance for new levels of ALS simple profile, SBR enhancements

Technologies de l'information — Codage des objets audiovisuels —

Partie 26: Conformité audio

AMENDEMENT 5

Foreword

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Add a new paragraph as third paragraph of this subclause:

> The conformance bitstreams and decoded wav-files package can be found at: http://standards.iso .org/iso-iec/14496/-26/ed-1/en/amd/5

6.1

Replace the paragraph for **<tool>** with:

> **<tool>** indicates the SBR module mainly targeted by the test sequence. Possible values are "e" for testing the envelope adjuster "s" for testing sine addition, "gh" for testing time-grid transitions in combination with changes of SBR header data, "i" for testing inverse filtering, "qmf" for testing the QMF implementation, "cm" and "gen" for testing various channel modes, "sig" for testing SBR signalling, "twi" for QMF identification, "sr" for testing various combinations of sampling rates, and "esbr" for testing SBR enhancements.

7.17.1.1

Add a new paragraph at the end of this subclause:

> If SBR enhancements (eSBR) are used, eSBR data shall be stored as outlined in ISO/IEC 14496-3:2009, Annex 8.A.

7.17.1.2.1.6

Add a new subclause at the end of this sublclause:

7.17.1.2.1.7   esbr_data()

The top level syntactic element for conveying SBR enhancement data to the decoder is defined in ISO/ IEC 14496-3:2009/Amd.7:2018. No restrictions apply to bitstream elements within esbr_data().

If SBR enhancements are used in combination with parametric stereo, ps_data() shall precede esbr_ data() in the compressed data.

7.17.2.1

Add a new paragraph at the end of this subclause:

> If no esbr_data() is present in the current frame the decoder shall resort to legacy SBR processing (i.e. bs_sbr_preprocessing = 0; sbrPatchingMode = 1).

7.17.2.3

Update Table 69 with the grey-shaded columns/rows.

file base name	content	bit rate (kbit /s)	QMF Iden- tification	QMF Accu- racy	enve- lope Ad- juster Accu- racy	grid con- trol tests	head- er cha nge tes ts	in- verse filter- ing tests	addi- tional sines tests	SBR pre-pro- cessing tests	har- monic trans- poser tests	C R C	Di ff ma x	RMS max (lin ear val ue)	test proce- dure
al_sbr_twi	none	24	y	y	—	—	—	—	y	—	—	—	—	—	—
al_sbr_qmf	Sine Sweep	24	—	y	—	—	—	—	—	—	—	—	5	1.4	maxDiff/ RMS
al_sbr_e	rec- tangle * 10Hz sine	24/ 48	—	—	y	—	—	—	—	—	—	y [a]	90	2.0	maxDiff/ RMS
al_sbr_gh	rec- tangle * 10Hz sine	24/ 48	—	—	—	y	y	—	—	—	—	—	51	1.5	maxDiff/ RMS
al_sbr_i [b]	rectan- gle + noise	24/ 48	—	—	—	—	—	y	—	—	—	y [a]	36	3.4	maxDiff/ RMS
al_sbr_s	noise	24	—	—	—	—	—	—	y	—	—	—	1 2 0	1.9	maxDiff/ RMS
al_sbr_cm	music	24- 128	—	—	—	—	—	—	—	—	—	—	—	—	—
al_sbr_sig	music	48	—	—	—	—	—	—	—	—	—	—	—	—	—
al_sbr_sr	music	24- 56	—	—	—	—	—	—	—	—	—	—	—	—	—
al_sbr_gen	sine	192- 224								—	—				
al_sbr_ esbr_00	syn- thetic	24/ 48	—	—	—	—	—	—	—	y	—	—	T B D	TBD	maxDiff/ RMS
al_sbr_ esbr_01	syn- thetic	24/ 48	—	—	—	—	—	—	—	—	y	—	T B D	TBD	maxDiff/ RMS
al960_sbr_ qmf	Sine Sweep	24	—	y	—	—	—	—	—	—	—	—	T B D	TBD	maxDiff/ RMS
al960_sbr_e	rec- tangle* 10Hz sine	24/ 48	—	—	y	—	—	—	—	—	—	yA	T B D	TBD	maxDiff/ RMS

[a]   CRC enabled for 32 kHz testvectors.

[b]   The following bitstreams also exist with the suffix _new: al_sbr_i_32_1, al_sbr_i_44_1, al_sbr_i_48_1. These are preferred for conformance testing while the ones without this suffix are deprecated.

file base name	content	bit rate (kbit /s)	QMF Identification	QMF Accuracy	envelope Adjuster Accuracy	grid control tests	header change tests	inverse filtering tests	additional sines tests	SBR pre-processing tests	harmonic transposer tests	CRC	Diff max	RMS max (linear value)	test procedure
al960_sbr_gh	rectangle* 10Hz sine	24/48	—	—	—	y	y	—	—	—	—	—	TBD	TBD	maxDiff/RMS
al960_sbr_i	rectangle + noise	24/48	—	—	—	—	—	y	—	—	—	yA	TBD	TBD	maxDiff/RMS
al960_sbr_s	noise	24	—	—	—	—	—	—	y	—	—	—	TBD	TBD	maxDiff/RMS

a   CRC enabled for 32 kHz testvectors.

b   The following bitstreams also exist with the suffix _new: al_sbr_i_32_1, al_sbr_i_44_1, al_sbr_i_48_1. These are preferred for conformance testing while the ones without this suffix are deprecated.

7.18.1.1, paragraph 2

Replace:

> ... PS data shall be stored as outlined in ISO/IEC 14496-3, Annex 8.A, Combination of the SBR tool with the parametric stereo tool.

With:

> ... PS data shall be stored as outlined in ISO/IEC 14496-3:2009, Annex 8.A.

7.22.2.3

Replace Table 74 with:

Table 74 — ALS test sequences

file base name	content	Number of Channels	sampling frequency (kHz)	word length (bit)	adaptive order	random access	block switching	LTP	joint stereo	MCC	B-GMC	RL-SLMS	Profile and levels	Conformance criteria
als_00	music	2	48, 96,192	16, 20, 24	y	y							No indication	Bit exact
als_01	music	2	48, 96,192	16, 20, 24	y		y		y				No indication	Bit exact
als_02	music	2	48, 96,192	16, 20, 24				y					No indication	Bit exact
als_03	music	2	48, 96,192	16, 20, 24					y				No indication	Bit exact
als_04	music	2	48, 96,192	16, 20, 24						y			No indication	Bit exact

Table 74 (continued)

file base name	con-tent	Num-ber of Chan-nels	sampling fre-quency (kHz)	word length (bit)	adap-tive order	ran-dom access	block switch-ing	L T P	joint ste-reo	M C C	B-GMC	RL-SLMS	Profile and levels	Con-form-ance criteria
als_05	mu-sic	2	48, 96,192	16, 20, 24								y	No indi-cation	Bit exact
als_06	mu-sic	2	48, 96,192	16, 20, 24									y	No indi-cation	Bit exact
als_07	mu-sic	2	192	32 float	y									No indi-cation	Bit exact
als_08	mu-sic	6	96	24	y	y	y	y	y	y	y			No indi-cation	Bit exact
als_09	bio data	512	2	16	y		y	y	y	y	y			No indi-cation	Bit exact
als_10	sine wave	1	48	16	y	y								No indi-cation	Bit exact
als_11	mu-sic	2	48	16	y	y	y	y	y	y				Simple Profile Level 1	Bit exact
als_12	mu-sic	2	48	24	y	y	y	y	y	y				Simple Profile Level 2	Bit exact
als_13	mu-sic	6	48	16	y	y	y	y	y	y				Simple Profile Level 3	Bit exact
als_14	mu-sic	6	48	24	y	y	y	y	y	y				Simple Profile Level 4	Bit exact

12.2

Update Table 95 with the grey-shaded row:

Object type	sequence name	AAC sProfile							High Efficiency AAC Profile							High Efficiency AAC v2 Profile						
	Level	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
AAC LC	al00	≥6	≥3	NA	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X
	al01	≥6	≥3	NA	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X
	al02	≥6	≥3	NA	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X
	al03	≥6	≥3	NA	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X
	al04	≥6	≥3	NA	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X
	al05	≥6	≥3	NA	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X
	al06	≥6	≥3	NA	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X
	al07	≥6	≥3	NA	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X
	al08	≥6	≥3	NA	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X
	al14	≥6	≥3	NA	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X
	al16	≥6	≥3	NA	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X	NA	≥3	≥3	≥3	X	≥3	X