INTERNATIONAL STANDARD ISO/IEC 14496-4:2004
TECHNICAL CORRIGENDUM 5

Published 2008-11-01

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION
INTERNATIONAL ELECTROTECHNICAL COMMISSION • МЕЖДУНАРОДНАЯ ЭЛЕКТРОТЕХНИЧЕСКАЯ КОМИССИЯ • COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

Information technology — Coding of audio-visual objects —

Part 4:
Conformance testing

TECHNICAL CORRIGENDUM 5

Technologies de l'information — Codage des objets audiovisuels —

Partie 4: Essai de conformité

RECTIFICATIF TECHNIQUE 5

Technical Corrigendum 5 to ISO/IEC 14496-4:2004 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information.*

ICS 35.040 **Ref. No. ISO/IEC 14496-4:2004/Cor.5:2008(E)**

Published in Switzerland

In the following, changes in existing text and tables are highlighted by gray background.

In 6.6.4.1.2.1.3, [program_config_element()], delete the following paragraph:

program_configuration_element()'s in access units shall be ignored. Therefore, PCEs transmitted in Access Units cannot be used to convey decoder configuration information. The PCE in the GASpecificConfig() describes the decoder information for the elementary stream under consideration.

and replace:

matrix_mixdown_idx_present: shall only be encoded with a value of 1 if a 3 front/2 rear 5-channel program is indicated for this PCE.

with:

matrix_mixdown_idx_present: may only be encoded with a value of 1 if a 3 front/2 rear 5-channel program (with or without LFE) is indicated for this PCE.

In 6.6.4.1.2.2.4 [ics_info()], replace:

A conformant bitstream shall consist of only meaningful window_sequence transitions. However, decoders are required to handle non-meaningful window_sequence transitions as well. Test bitstreams al03 and as17 are provided respectively for Main and Low-Complexity profiles to test decoder performance on non-meaningful transitions (see 6.6.4.1.2.2.1). The performance requirements for non-meaningful window_sequence transitions are the same as for the meaningful transitions.

with:

A conformant bitstream shall consist of only meaningful window_sequence transitions. However, decoders are required to handle non-meaningful window_sequence transitions as well. Test bitstreams al03 and as17 are provided respectively for Low-Complexity and Scalable Sampling Rate profiles to test decoder performance on non-meaningful transitions (see 6.6.4.1.2.2.1). The performance requirements for non-meaningful window_sequence transitions are the same as for the meaningful transitions.

In 6.6.4.2.1 (Characteristics of Decoders), add after Table 39 — AAC Parameter:

The channel configuration information given in a program_config_element() inside an AAC payload conveyed as an MPEG-4 access unit shall be ignored. Note that in this case, the channel configuration information is already available from the MPEG-4 decoder configuration, specifically the GASpecificConfig(), which can include a program_config_element(). The channel configuration information given in a program_config_element() inside an AAC payload is only evaluated in case of an MPEG-4 ADTS bitstream with channel_configuration == 0, since such a bitstream does not include a GASpecificConfig().
Note that next to channel configuration information, a program_config_element() can carry additional information, e.g. coefficients for a matrix mixdown or a comment field. This additional information can be conveyed dynamically by a program_config_element() inside an MPEG-4 access unit as well as by a program_config_element() included in the GASpecificConfig(). Such information does not affect the normative behavior of a decoder and may hence be ignored. However it may be utilized for non-normative decoder operation modes like matrix mixdown.

In 6.7.2.2 (Test procedure), replace Table 94 — EP tool test sequences with:

coreSetup	epSetup	layer	epConfig	directMapping	SamplingFrequencyIndex (if not specified: same as for epConfig=0,1)	number_of_predefinition_set	interleave_type	bit_stuffing	number_of_concatenated_frame	number_of_class	length_escape	rate_escape	crc_len_escape	concatenated_flag	fec_type	termination_switch	interleave_switch	class_optional	number_of_bits_for_length	class_length	class_rate	class_crclen	class_reordered_output	class_output_order	header_protection	header_rate	header_crclen
er_al10	crc01	-	3	1	11/7	1	0	1	1	3	1,1,1	0,0,0	0,0,0,0	-	1,0,1	-,0,-	-	0,1,0	10,10,14	-	0,0,0	1,2,0	0	-	0	-	-
er_al18	crc02	-	3	1	10/6	1	2	1	1	4	1,1,1,1	0,0,0,0	0,0,0,0,0	-	0,1,0,1	0,-,0,-	0,0,0,0	0,0,1,0	10,10,10,14	-	0,0,0,0	3,0,4,0	0	-	1	24	6
er_al21	crc03	-	3	1	9/5	1	2	1	1	7	1,1,1,1, 1,1,1,1	0,0,0,0, 0,0,0,0	0,0,0,0, 0,0,0,0	-	0,1,0,1, 0,1,0,0	0,-,0,-, 0,-,0	0,0,0,0, 0,0,0	0,0,1,0, 0,1,0,0	8,10,10,14, 10,10,10,0	-	0,0,0,0, 0,0,0,0	5,6,7,0, 8,9,0	0	-	0	-	-
er_al23	crc04	-	3	1	8/4	1	0	1	1	9	1,1,1,1,1, 1,1,1,1,1	0,0,0,0,0, 0,0,0,0,0	0,0,0,0,0, 0,0,0,0,0	-	1,0,1,0,1, 0,1,0,1,0	-,0,-,0,-; -,0,-,0	-	0,0,0,1,0, 0,0,1,0,0	8,10,10,10,14, 10,10,10,0	-	0,0,0,0,0, 0,0,0,0,0	10,11,0,12,0 13,0,14,0	0	-	0	-	-
er_al15	srcpc01	-	3	1	11/3	1	2	1	1	3	1,1,1,1	0,0,0,0	0,0,0,0	-	0,0,0,0	0,0,0	2,0,1	0,1,0,0	10,10,10,0	-	8,0,0,0	15,16,0	0	-	0	-	-
er_al18	srcpc02	-	3	1	10/2	1	2	1	1	4	1,1,1,1	0,0,0,0	0,0,0,0	-	0,0,0,0	0,0,0,0	2,1,0,1	0,0,1,0	10,10,10,0	-	8,0,0,0	17,0,18,0	0	-	0	-	-
er_al26	srcpc03	-	3	1	9/1	1	2	1	1	7	1,1,1,1, 1,1,1,1	0,0,0,0, 0,0,0,0	0,0,0,0, 0,0,0,0	-	1,1,0,0,0, 1,0,0,0	2,2,0,3, 2,0,1	0,0,0,1,0, 0,0,1,0,0	0,0,1,0, 0,1,0,0	8,10,10,14, 10,10,10,0	-	11,10,0,0, 9,0,0	9,8,7,0, 6,5,0	0	-	1	17	5
er_ap27	srcpc04	-	3	1	8/0	1	2	1	1	9	1,1,1,1,1, 1,1,1,1,1	0,0,0,0,0, 0,0,0,0,0	0,0,0,0,0, 0,0,0,0,0	-	0,0,0,0,0, 0,0,0,0,0	1,0,0,0,0, 0,0,0,0,0	2,2,1,0,3, 2,1,0,1	0,0,0,1,0, 0,0,1,0,0	8,10,10,10,14, 10,10,10,0	-	7,6,5,0,0, 4,3,0,0	18,18,18,13,1, 15,16,17,2	0	-	0	-	-
er_ad115	srs01	-	3	1	7/4	1	2	1	1	3	1,1,1	0,0,0	0,0,0	-	1,0,0	-,0,0,0	1,0,1	0,1,0	10,10,0	-	8,0,0	15,16,0	0	-	0	-	-
er_ap14	srs02	-	3	1	9/5	1	2	1	1	4	1,1,1,1	0,0,0,0	0,0,0,0	-	1,0,0,0	-,1,1,0	1,1,0,1	0,0,1,0	10,10,10,0	-	8,0,0,0	17,0,18,0	0	-	0	-	-
er_ad206	srs03	-	3	1	6/3	1	2	1	1	7	1,1,1,1, 1,1,1,1	0,0,0,0, 0,0,0,0	0,0,0,0, 0,0,0,0	-	2,2,0,0,0, 1,0,0,0	-,-,0,0, -,0,0	1,1,0,3, 1,0,1	0,0,1,0, 0,1,0,0	8,10,10,14, 10,10,10,0	-	9,9,0,0, 9,0,0	9,8,7,0, 6,5,0	1	0,1,4, 2,5,3,6	0	-	-
er_ad218	srs04	-	3	1	5	1	1	1	1	9	1,1,1,1,1, 1,1,1,1,1	0,0,0,0,0, 0,0,0,0,0	0,0,0,0,0, 0,0,0,0,0	-	2,2,0,0,0, 1,0,0,0,0	-,-,0,0,0, -,0,0,0,0	-	0,0,0,1,0, 0,0,1,0,0	8,10,10,10,14, 10,10,10,0	-	20,20,0,0,0, 20,0,0,0,0	18,18,18,13,1, 15,16,17,2	1	0,1,5,2, 6,3,7,4,8	1	19	7
er_ac111	cplx01	0	3	1	-	1	0	1	1	3	1,1,1	0,0,0	0,0,0	-	0,0,0	1,1,1	-	0,0,1,0	10,10,0	-	24,23,0	1,2,3	0	-	0	-	-
		1			-	1	1	1	1	7	1,1,1,1, 1,1,1,1	0,0,0,0, 0,0,0,0	0,0,0,0, 0,0,0,0	-	2,2,0,0, 1,0,0	-,-,1,0, -,0,1	-	0,0,1,0, 0,1,0,0	8,10,10,14, 10,10,10,0	-	31,31,21,0, 31,19,0	4,5,6,7, 8,9,10	1	0,1,4, 2,5,3,6	0	-	-
er_ac123	cplx02	0	3	1	-	1	0	1	1	9	1,1,1,1,1, 1,1,1,1,1	0,0,0,0,0, 0,0,0,0,0	0,0,0,0,0, 0,0,0,0,0	-	0,0,0,0,0, 0,0,0,0,0	0,0,0,0,0, 0,0,0,0,0	-	0,0,0,1,0, 0,0,1,0,0	8,10,10,10,14, 10,10,10,0	-	15,14,13,12,7, 10,9,11,2	11,12,13,14,15 16,17,18,17	1	0,1,5,2, 6,3,7,4,8	0	-	-
		1	3	1	-	1	1	1	1	9	1,1,1,1,1, 1,1,1,1,1	0,0,0,0,0, 0,0,0,0,0	0,0,0,0,0, 0,0,0,0,0	-	1,1,1,1,1, 1,1,1,1,1	-;-;-;-;-; -;-;-;-;-	-	0,0,0,1,0, 0,0,1,0,0	8,10,10,10,14, 10,10,10,14	-	0,1,2,3,4 5,6,7,8	16,15,14,13,12, 11,10,9,8	0	-	0	-	-
er_ac211	cplx03	0	3	1	-	1	1	1	1	5	0,0,0,0,0	0,0,0,0,0	0,0,0,0,0	-	0,0,0,0,0	0,0,0,0,0	-	0,0,0,0,0	-	4,9,12,31,64	7,5,3,1,0	8,6,4,2,0	0	-	0	-	-
		1	3	1	-	1	2	1	1	4	1,1,1,1	0,0,0,0	0,0,0,0	-	2,2,2,1	-;-;-;-	0,0,0,0	0,0,1,0	10,10,10,14	-	22,22,22,22	7,6,5,4	0	-	0	-	-
		2	3	1	-	1	0	1	1	7	1,1,1,1, 1,1,1,1	0,0,0,0, 0,0,0,0	0,0,0,0, 0,0,0,0	-	2,2,2,2, 2,2,1	-;-;-;-; -;-;-	-	0,0,1,0, 0,1,0,0	8,10,10,14, 10,10,14	-	0,0,0,0, 0,0,0	0,1,2,3, 4,5,6	1	0,1,4, 2,5,3,6	0	-	-
er_ac221	cplx04	0	3	1	-	1	1	1	1	5	0,0,0,0,0	0,0,0,0,0	0,0,0,0,0	-	1,1,1,1,1	-;-;-;-;-	-	0,0,0,0,0	-	6,13,20,49,98	7,5,3,1,0	9,7,5,3,1	0	-	0	-	-
		1	3	1	-	1	1	1	1	7	1,1,1,1, 1,1,1,1	0,0,0,0, 0,0,0,0	0,0,0,0, 0,0,0,0	-	0,1,0,1, 0,1,0	0,-,1,-; 1,-,0	-	0,0,0,1, 0,1,0,0	8,10,10,14, 10,10,0	-	0,0,1,1, 22,3,4	7,8,9,10, 13,14,15	1	0,1,4, 2,5,3,6	0	-	-
		2	3	1	-	1	2	1	1	9	1,1,1,1,1, 1,1,1,1,1	0,0,0,0,0, 0,0,0,0,0	0,0,0,0,0, 0,0,0,0,0	-	2,2,1,1,1, 1,1,1,1,1	-;-;-;-;-; -;-;-;-	1,1,1,3,0, 1,3,1,0	0,0,0,1,0, 0,0,1,0,0	8,10,10,10,14, 10,10,10,14	-	0,0,0,0,0, 0,0,0,0,0	16,17,18,17,16, 15,14,13,12	1	0,1,5,2, 6,3,7,4,8	0	-	-
er_ac311	cplx05	0	2	1	5	1	0	1	1	2	0,0	0,0	0,0	-	0,0	0,0	-	0,0,1,0	-	64,192	0,0	8,0	0	-	0	-	-
		1	3	1	5	1	0	1	1	3	1,1,1	0,0,0	0,0,0	-	2,1,0	-,-,0	-	0,1,0	10,10,0	-	8,5	11,10,9	0	-	0	-	-
		2	3	1	5	1	1	1	1	9	1,1,1,1,1, 1,1,1,1,1	0,0,0,0,0, 0,0,0,0,0	0,0,0,0,0, 0,0,0,0,0	-	1,2,1,1,1, 1,2,2,1	-;-;-;-;-; -;-;-;-	-	0,0,0,1,0, 0,0,1,0,0	8,10,10,10,14, 10,10,10,14	-	11,11,17,1,0, 19,19,19,21	8,7,6,5,0, 1,2,3,4	1	8,7,6,5,0, 4,3,2,1,0	0	-	-

coreSetup	epSetup	layer	epConfig	directMaping	Sampling-frequency-index (if not specified: same as for epConfig=0,1)	number_of_predefinition_set	interleave_type	bit_stuffing	number_of_concatenated_frame	number_of_class	length_escape	rate_escape	crc_len_escape	concatenated_flag	fec_type	termination_switch	interleave_switch	class_optional	number_of_bits_for_length	class_length	class_rate	class_rcvlen	class_reordered_output	class_output_order	header_protection	header_rate	header_crclen
er_ac321	cplx06	0	2	1	6	1	1	1	1	2	0,0	0,0	0,0	-	0,0	0,0	-	0,0	-	80,400	6,6	8,8	0	0,1,4, 2,5,3,6	0	-	-
		1	3	1	6	1	2	1	1	9	1,1,1,1,1, 1,1,1,1	0,0,0,0,0, 0,0,0,0	0,0,0,0,0, 0,0,0,0	-	0,1,2,1,0, 0,1,1,0	1,-,-,-,-1, 0,-,-,0	3,3,1,1,0, 1,1,3,2	0,0,0,1,0, 0,0,1,0	8,10,10,10,14, 10,10,10,0	-	6,6,1,1,1,1, 8,3,3,0	5,6,7,8,9, 10,11,12,13	0	0	0	-	-
		2	3	1	6	1	0	1	1	7	1,1,1,1,1, 1,1,1,1	0,0,0,0, 0,0,0,0	0,0,0,0, 0,0,0,0	-	2,1,1,2, 2,2,1	-,-,-,-, -,-,-	-	0,0,1,0, 0,1,0	8,10,10,14, 10,10,14	-	24,24,12,6, 12,6,6	14,15,16,17, 18,6,0	1	0,1,4, 2,5,3,6	0	-	-
er_tv01		-	2	-	5	1	0	1	1	2	0,0	0,0	0,0	-	0,0	0,0	-	0,0	-	128,896	0,0	8,0	0	-	0	-	-
er_tv02		0	2	-	3	1	1	1	1	2	0,0	0,0	0,0	-	0,0	0,0	-	0,0	-	136,200	6,0	8,0	0	-	0	-	-
.		1	2	-	3	1	1	1	1	2	0,0	0,0	0,0	-	0,0	0,0	-	0,0	-	64,272	4,0	8,0	0	-	0	-	-
.		2	2	-	3	1	1	1	1	2	0,0	0,0	0,0	-	0,0	0,0	-	0,0	-	64,272	2,0	8,0	0	-	0	-	-
er_ce00			3	-	-	4	0	1	1	1 / 5 / 1	0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0	-	0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0	-	0,0,0,0,0 / 0,0,0,0,0 / 0	-	2 / 8,13,20,37,78 / 23 / 8	8 / 8,6,4,2,0 / 8 / 8	5 / 5,6,7,8,0 / 5 / 5	0	-	0
er_ce02		-	3	-	-	1	1	1	1	5	0,0,0,0,0	0,0,0,0,0	0,0,0,0,0	-	0,0,0,0,0	0,0,0,0,0	-	0,0,0,0,0	-	4,9,12,31,64	8,6,4,2,0	5,6,7,8,0	0	-	0	-	-
er_ce06		0	3	-	-	4	0	1	1	1 / 5 / 1	0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0	-	0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0	-	0,0,0,0,0 / 0,0,0,0,0 / 0	-	2 / 7,11,16,39,85 / 23 / 8	8 / 8,6,4,2,0 / 8 / 8	5 / 5,6,7,8,0 / 5 / 5	0	-	0	-	-
		1	3	-	-	2	0	1	1	0 / 1	-/ 0	-/ 0	-/ 0	-	-/ 0	-/ 0	-	0 / 0	-	0 / 60	-/ 0	-/ 8	0	-	0	-	-
		2	3	-	-	2	0	1	1	0 / 1	-/ 0	-/ 0	-/ 0	-	-/ 0	-/ 0	-	0 / 0	-	0 / 60	-/ 0	-/ 8	0	-	0	-	-
		3	3	-	-	3	0	1	1	0 / 1 / 1	-/ 0 / 0	-/ 0 / 0	-/ 0 / 0	-	-/ 0 / 0	-/ 0 / 0	-	-/ 0 / 0	-	0 / 320 / 21	-/ 0 / 0	-/ 10 / 5	0	-	0	-	-
er_ce09		-	3	-	-	5	0	1	1	1 / 5 / 5 / 1 / 1	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	-	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	-	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	-	2 / 21,14,19,39,77 / 6,8,9,26,75 / 40 / 8	8 / 8,6,4,2,0 / 8,6,4,2,0 / 8 / 8	5 / 5,6,7,8,0 / 5,6,7,8,0 / 5 / 5	0	-	0	-	-
er_ce13		-	3	-	-	2	1	1	1	1 / 5 / 1 / 5	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	-	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	-	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	-	2 / 34,18,26,21,63 / 19,12,16,8,61 / 40 / 8	8 / 8,6,4,2,0 / 8,6,4,2,0 / 8 / 8	5 / 5,6,7,8,0 / 5,6,7,8,0 / 5 / 5	0	-	0	-	-
er_ce15		-	3	-	-	4	0	1	1	1 / 5 / 1 / 5	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	-	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	-	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	-	2 / 50,30,42,29,131 / 40 / 8	8 / 8,6,4,2,0 / 8 / 8	5 / 5,6,7,8,0 / 5 / 5	0	-	0	-	-
er_ce18		-	3	-	-	5	0	1	1	1 / 5 / 5 / 1 / 1	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	-	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	-	0,0,0,0,0 / 0,0,0,0,0 / 0,0,0,0,0 / 0	-	2 / 60,36,50,33,163 / 45,30,40,20,161 / 40 / 8	8 / 8,6,4,2,0 / 8,6,4,2,0 / 8 / 8	5 / 5,6,7,8,0 / 5,6,7,8,0 / 5 / 5	0	-	0	-	-