



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

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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*.

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	erc01	-	3	1	11/7	1	0	1	3	1,1,1	0,0,0	0,0,0	-	-	1,0,1	-0,-	-	0,1,0	10,10,14	-	0,0,0	1,2,0	0	-	0	-	-	
	erc02	-	3	1	10/6	1	2	1	4	1,1,1,1	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	
	erc03	-	3	1	9/5	1	2	1	7	1,1,1,1,1	0,0,0,0,0	0,0,0,0,0	-	-	0,1,0,1,0,1	0,-0,-0,-	0,0,0,0,0	0,1,0,1,0	8,10,10,14,10,10,0	-	0,0,0,0,0	5,6,7,0,0	0	-	0	-		
er_al23	erc04	-	3	1	8/4	1	0	1	9	1,1,1,1,1,1	0,0,0,0,0,0	0,0,0,0,0,0	-	-	1,0,1,0,1,0,1	-0,-0,-0,-	-	0,0,0,1,0	8,10,10,10,14,10,10,0	-	0,0,0,0,0,0	10,11,0,12,0	0	-	0	-	-	
	srcpc01	-	3	1	11/3	1	2	1	3	1,1,1	0,0,0	0,0,0	-	-	0,0,0	-0,-0	0,0,0	0,1,0	10,10,0	-	8,0,0	15,16,0	0	-	0	-	-	
	srcpc02	-	3	1	10/2	1	2	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	7	1,1,1,1,1	0,0,0,0,0	0,0,0,0,0	-	-	0,0,0,0	1,1,0,0	2,2,0,3	0,0,1,0	8,10,10,14,10,10,0	-	11,10,0,0	9,8,7,0,0	0	-	1	17	5	
	srcpc04	-	3	1	8/0	1	2	1	9	1,1,1,1,1,1	0,0,0,0,0,0	0,0,0,0,0,0	-	-	0,0,0,0,0	1,0,0,0,0	2,2,1,0,3	0,0,0,1,0	8,10,10,10,14,10,10,0	-	7,6,5,0,0	18,18,18,13,1,0	0	-	0	-	-	
		srcs01	-	3	1	7/4	1	2	1	3	1,1,1	0,0,0	0,0,0	-	-	1,0,0	-0,0	1,0,1	0,1,0	10,10,0	-	8,0,0	15,16,0	0	-	0	-	-
er_ap14	srcs02	-	3	1	9/5	1	2	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	-	-	
	srcs03	-	3	1	6/3	1	2	1	7	1,1,1,1,1	0,0,0,0,0	0,0,0,0,0	-	-	2,2,0,0	-1,0,0	1,1,0,3	0,0,1,0	8,10,10,14,10,10,0	-	9,9,0,0,0	9,8,7,0,0	1	0,1,4	0	-	-	
	srcs04	-	3	1	5	1	1	1	9	1,1,1,1,1,1	0,0,0,0,0,0	0,0,0,0,0,0	-	-	2,2,0,0,0	-1,0,0,0	-	0,0,0,1,0	8,10,10,10,14,10,10,0	-	20,20,0,0,0	18,18,18,13,1,0	1	0,1,5,2	1	19	7	
er_ac111	cpix01	0	3	1	-	1	0	1	3	1,1,1	0,0,0	0,0,0	-	-	0,0,0	1,1,1	-	0,1,0	10,10,0	-	24,23,0	1,2,3	0	-	0	-	-	
		1			-	1	1	1	7	1,1,1,1	0,0,0,0	0,0,0,0	-	-	2,2,0,0	-1,1,0	-	0,0,1,0	8,10,10,14,10,10,0	-	31,31,21,0	4,5,6,7	1	0,1,4	0	-	-	
		cpix02	0	3	1	-	1	0	1	9	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	-	0,0,0,1,0	8,10,10,10,14,10,10,0	-	15,14,13,12,7	11,12,13,14,15	1	0,1,5,2	0	-	-
er_ac123		1	3	1	-	1	1	1	9	1,1,1,1,1,1	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	8,10,10,10,14,10,10,0	-	0,1,2,3,4	16,15,14,13,12	0	-	0	-	-	
	cpix03	0	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	10,10,10,14	-	7,5,3,1,0	8,6,4,2,0	0	-	0	-	-	
		1	3	1	-	1	2	1	4	1,1,1,1	0,0,0,0	0,0,0,0	-	-	2,2,2,1	-1,1,0	-	0,0,1,0	10,10,10,14	-	22,22,22,22	7,6,5,4	0	-	0	-	-	
er_ac221		2	3	1	-	1	0	1	7	1,1,1,1,1	0,0,0,0,0	0,0,0,0,0	-	-	2,2,2,2	-1,1,1	-	0,0,1,0	8,10,10,14,10,10,0	-	0,0,0,0	0,1,2,3	1	0,1,4	0	-	-	
	cpix04	0	3	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	-1,1,1	-	0,0,0,0,0	10,10,14	-	7,5,3,1,0	9,7,5,3,1	0	-	0	-	-	
		1	3	1	-	1	1	1	7	1,1,1,1	0,0,0,0	0,0,0,0	-	-	0,1,0,1	0,-1	-	0,0,0,1	8,10,10,14,10,10,0	-	0,0,1,1	7,8,9,10	1	0,1,4	0	-	-	
er_ac311		2	3	1	-	1	2	1	9	1,1,1,1,1	0,0,0,0,0	0,0,0,0,0	-	-	2,2,1,1,1	-1,1,1,1	-	0,0,0,1,0	8,10,10,10,14,10,10,0	-	22,3,4	13,14,15	0	2,5,3,6	0	-	-	
		0	2	1	5	1	0	1	1	2	0,0	0,0	-	-	0,0	0,0	-	0,0,0	10,10,10,14	-	0,0,0,0	15,14,13,12	6,3,7,4,8	0	-	0	-	-
	cpix05	0	2	1	5	1	0	1	1	2	0,0	0,0	-	-	0,0	0,0	-	0,0	8,0	-	8,8,5	8,0	0	-	0	-	-	
		1	3	1	5	1	0	1	1	3	1,1,1	0,0,0	-	-	2,1,0	-1,0	-	0,1,0	10,10,0	-	8,8,5	11,10,9	0	-	0	-	-	
		2	3	1	5	1	1	1	9	1,1,1,1,1,1	0,0,0,0,0,0	0,0,0,0,0,0	-	-	1,2,1,1,1	-1,1,1,1	-	0,0,0,1,0	8,10,10,10,14,10,10,0	-	11,11,17,1,0	8,7,6,5,0	1	8,7,6,5	0	-	-	
											1,1,1,1	0,0,0,0	-	-	1,2,2,1	-1,1,1	-	0,0,1,0	10,10,10,14	-	19,19,19,21	1,2,3,4	4,3,2,1,0	0	-	-	-	-

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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_hv03	crc	-	2	-	-	1	0	1	2	4	0,0,0,0	0,0,0,0	0,0,0,0	1,0,0,1	0,0,0,0	0,0,0,0	-	0,0,0,0	-	22,4,4,10	0,0,0,0	6,1,1,0	0	-	0	-	header_crclen
	er_hv04	crc	-	2	-	1	0	1	2	5	0,0,0,0	0,0,0,0	0,0,0,0	1,1,0,0,1	0,0,0,0	0,0,0,0	-	0,0,0,0	-	33,22,4,4,17	0,0,0,0	6,6,1,1,0	0	-	0	header_rate	
	er_hv03	fec	-	2	-	1	2	1	2	4	0,0,0,0	0,0,0,0	0,0,0,0	1,0,0,1	0,0,0,0	0,0,0,0	2,3,3,3	0,0,0,0	-	22,4,4,10	8,0,0,0	6,1,1,0	0	-	0	-	
	er_hv04	fec	-	2	-	1	2	1	2	5	0,0,0,0	0,0,0,0	0,0,0,0	1,1,0,0,1	0,0,0,0	0,0,0,0	2,3,3,3,3	0,0,0,0	-	33,22,4,4,17	8,0,0,0	6,6,1,1,0	0	-	0	-	
er_bs01		-	3	1	-	1	1	1	1	6	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	7,11,10,10,10,10	20,16,8,0,0,0	7,10,10,10,10,10	0	-	0	-		
	er_bs02		-	3	1	-	1	1	1	6	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	7,11,10,10,10,10	20,16,8,0,0,0	7,10,10,10,10,10	0	-	0	-		
	er_bs03		0	3	1	-	1	1	1	2	1,1	0,0	0,0	-	0,0	0,0	-	0,0	8,0	-	20,16	7,10	0	-	0	-	
			1	3	1	-	1	1	1	4	1,1,1,1	0,0,0,0	0,0,0,0	-	0,0,0,0	0,0,0,0	-	0,0,0,0	11,11,11,0	8,0,0,0	20,16	10,10,10,10	0	-	0	-	
er_bs04		0	3	1	-	1	1	1	1	2	1,1	0,0	0,0	-	0,0	0,0	-	0,0	10,0	-	20,16	7,10	0	-	0	-	
		1	3	1	-	1	1	1	1	2	1,1	0,0	0,0	-	0,0	0,0	-	0,0	11,0	-	8,0	10,10	0	-	0	-	
		2	3	1	-	1	1	1	1	1	1	0	0	-	0	0	-	0	0	-	0	10	0	-	0	-	
		3	3	1	-	1	1	1	1	1	1	0	0	-	0	0	-	0	0	-	0	10	0	-	0	-	
er_bs05		0	3	1	-	1	1	1	1	2	1,1	0,0	0,0	-	0,0	0,0	-	0,0	10,0	-	20,16	7,10	0	-	0	-	
		1	3	1	-	1	1	1	1	1	1	0	0	-	0	0	-	0	0	-	8	10	0	-	0	-	
		2	3	1	-	1	1	1	1	1	1	0	0	-	0	0	-	0	0	-	0	10	0	-	0	-	
		3	3	1	-	1	1	1	1	1	1	0	0	-	0	0	-	0	0	-	0	10	0	-	0	-	
er_bs06		4	3	1	-	1	1	1	1	1	1	0	0	-	0	0	-	0	0	-	0	10	0	-	0	-	
		0	3	1	-	1	1	1	1	2	1,1	0,0	0,0	-	0,0	0,0	-	0,0	10,0	-	20,16	7,10	0	-	0	-	
		1	3	1	-	1	1	1	1	1	2	1,1	0,0	0,0	-	0,0	0,0	-	0,0	11,0	8,0	10,10	0	-	0	-	
		2	3	1	-	1	1	1	1	2	1,1	0,0	0,0	-	0,0	0,0	-	0,0	11,0	-	0	10,10	0	-	0	-	
er_hi26	crc	-	3	1	-	1	0	1	1	5	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	-	0,0,0,0,1	6,8,12,12,0	0	0,0,0,0,0	6,9,12,12,4	0	-	0	-	
	er_hi27	crc	-	3	1	-	1	0	1	1	5	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	-	0,0,0,0,1	6,8,12,12,0	0	0,0,0,0,0	6,9,12,12,4	0	-	0	-
	er_hi28	crc	-	3	1	-	1	0	1	1	5	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	-	0,0,0,0,1	6,8,12,12,0	0	0,0,0,0,0	6,9,12,12,4	0	-	0	-
	er_hi29	crc	-	3	1	-	1	0	1	1	5	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	-	0,0,0,0,1	6,8,12,12,0	0	0,0,0,0,0	6,9,12,12,4	0	-	0	-
er_hi26	fec	-	3	1	-	1	1	1	1	1	5	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	-	0,0,0,0,1	6,8,12,12,0	0	8,4,2,0,0	6,9,12,12,4	0	-	0	-
	er_hi27	fec	-	3	1	-	1	1	1	1	5	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	-	0,0,0,0,1	6,8,12,12,0	0	8,4,2,0,0	6,9,12,12,4	0	-	0	-
	er_hi28	fec	-	3	1	-	1	1	1	1	5	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	-	0,0,0,0,1	6,8,12,12,0	0	8,4,2,0,0	6,9,12,12,4	0	-	0	-
	er_hi29	fec	-	3	1	-	1	1	1	1	5	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	-	0,0,0,0,1	6,8,12,12,0	0	8,4,2,0,0	6,9,12,12,4	0	-	0	-