INTERNATIONAL STANDARD

ISO/IEC 13818-1

Second edition
2000-12-01

AMENDMENT 5
2005-12-15

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

AMENDMENT 5: New audio profile and level signalling and change to audio_type table entry

Technologies de l'information — Codage générique des images animées et du son associé: Systèmes

AMENDEMENT 5: Signalisation de nouvelles combinaisons de profil et de niveau de flux audio et modification de la table des types audio

Reference number
ISO/IEC 13818-1:2000/Amd.5:2005(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published by ISO in 2006

Published in Switzerland

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. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. 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 document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

Amendment 5 to ISO/IEC 13818-1:2000 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information,* in collaboration with ITU-T. The identical text is published as ITU-T Rec. H.222.0.

INTERNATIONAL STANDARD
ITU-T RECOMMENDATION

Information technology – Generic coding of moving pictures and associated audio information: Systems

Amendment 5

New audio profile and level signalling and change to audio_type table entry

1) Subclause 2.6.2

Replace Table 2-39 by the following table (with the changes underlined):

Table 2-39 – Program and program element descriptors

descriptor_tag	TS	PS	Identification
0	n/a	n/a	Reserved
1	n/a	n/a	Reserved
2	X	X	video_stream_descriptor
3	X	X	audio_stream_descriptor
4	X	X	hierarchy_descriptor
5	X	X	registration_descriptor
6	X	X	data_stream_alignment_descriptor
7	X	X	target_background_grid_descriptor
8	X	X	Video_window_descriptor
9	X	X	CA_descriptor
10	X	X	ISO_639_language_descriptor
11	X	X	System_clock_descriptor
12	X	X	Multiplex_buffer_utilization_descriptor
13	X	X	Copyright_descriptor
14	X		Maximum_bitrate_descriptor
15	X	X	Private_data_indicator_descriptor
16	X	X	Smoothing_buffer_descriptor
17	X		STD_descriptor
18	X	X	IBP_descriptor
19-26	X		Defined in ISO/IEC 13818-6
27	X	X	MPEG-4_video_descriptor
28	X	X	MPEG-4_audio_descriptor
29	X	X	IOD_descriptor
30	X		SL_descriptor
31	X	X	FMC_descriptor
32	X	X	External_ES_ID_descriptor
33	X	X	MuxCode_descriptor
34	X	X	FmxBufferSize_descriptor
35	X		MultiplexBuffer_descriptor
36	X	X	Content_labeling_descriptor

Table 2-39 – Program and program element descriptors

descriptor_tag	TS	PS	Identification
37	X	X	Metadata_pointer_descriptor
38	X	X	Metadata_descriptor
39	X	X	Metadata_STD_descriptor
40	X	X	AVC video descriptor
41	X	X	IPMP_descriptor (defined in ISO/IEC 13818-11, MPEG-2 IPMP)
42	X	X	AVC timing and HRD descriptor
43	X	X	MPEG-2_AAC_audio_descriptor
44-63	n/a	n/a	ITU-T Rec. H.222.0 | ISO/IEC 13818-1 Reserved
64-255	n/a	n/a	User Private

2) Subclause 2.6.19

Replace Table 2-53 by the following (with the changes underlined):

Table 2-53 – Audio type values

Value	Description
0x00	Undefined
0x01	Clean effects
0x02	Hearing impaired
0x03	Visual impaired commentary
0x04-0x7F	User Private
0x80-0xFF	Reserved

3) Subclause 2.6.40

Replace Table 2-62, MPEG-4_audio_profile_and_level assignment values, by the following table (with the changes underlined):

Table 2-62 – MPEG-4_audio_profile_and_level assignment values

Value	Description
0x00-0x0F	Reserved
0x10	Main profile, level 1
0x11	Main profile, level 2
0x12	Main profile, level 3
0x13	Main profile, level 4
0x14-0x17	Reserved
0x18	Scalable Profile, level 1
0x19	Scalable Profile, level 2
0x1A	Scalable Profile, level 3
0x1B	Scalable Profile, level 4
0x1C-0x1F	Reserved

Table 2-62 – MPEG-4_audio_profile_and_level assignment values

Value	Description
0x20	Speech profile, level 1
0x21	Speech profile, level 2
0x22-0x27	Reserved
0x28	Synthesis profile, level 1
0x29	Synthesis profile, level 2
0x2A	Synthesis profile, level 3
0x2B-0x2F	Reserved
0x30	High quality audio profile, level 1
0x31	High quality audio profile, level 2
0x32	High quality audio profile, level 3
0x33	High quality audio profile, level 4
0x34	High quality audio profile, level 5
0x35	High quality audio profile, level 6
0x36	High quality audio profile, level 7
0x37	High quality audio profile, level 8
0x38	Low delay audio profile, level 1
0x39	Low delay audio profile, level 2
0x3A	Low delay audio profile, level 3
0x3B	Low delay audio profile, level 4
0x3C	Low delay audio profile, level 5
0x3D	Low delay audio profile, level 6
0x3E	Low delay audio profile, level 7
0x3F	Low delay audio profile, level 8
0x40	Natural audio profile, level 1
0x41	Natural audio profile, level 2
0x42	Natural audio profile, level 3
0x43	Natural audio profile, level 4
0x44-0x47	Reserved
0x48	Mobile audio internetworking profile, level 1
0x49	Mobile audio internetworking profile, level 2
0x4A	Mobile audio internetworking profile, level 3
0x4B	Mobile audio internetworking profile, level 4
0x4C	Mobile audio internetworking profile, level 5
0x4D	Mobile audio internetworking profile, level 6
0x4E-0x4F	Reserved
0x50	AAC profile, level 1
0x51	AAC profile, level 2
0x52	AAC profile, level 4
0x53	AAC profile, level 5
0x54-0x57	Reserved
0x58	High efficiency AAC profile, level 2
0x59	High efficiency AAC profile, level 3
0x5A	High efficiency AAC profile, level 4
0x5B	High efficiency AAC profile, level 5
0x5C-0xFF	Reserved

4) Subclause 2.6.67

Add the following after subclause 2.6.67:

2.6.68 MPEG-2 AAC audio descriptor

For individual ISO/IEC 13818-7 streams directly carried in PES packets, the MPEG-2 AAC audio descriptor defined in Table Amd.5-1 provides basic information for identifying the coding parameters of such audio elementary streams.

Table Amd.5-1 – MPEG-2 AAC_audio_descriptor

Syntax	No. of bits	Mnemonic
MPEG-2_AAC_audio_descriptor () {		
descriptor_tag	**8**	**uimsbf**
descriptor_length	**8**	**uimsbf**
MPEG-2_AAC_profile	**8**	**uimsbf**
MPEG-2_AAC_channel_configuration	**8**	**uimsbf**
MPEG-2_AAC_additional_information	**8**	**uimsbf**
}		

Semantics of fields in MPEG-2 AAC audio descriptor

MPEG-2_AAC_profile – This 8-bit field indicates the AAC profile according to the index in ISO/IEC 13818-7:2004 subclause 7.1 Table 31.

MPEG-2_AAC_channel_configuration – This 8-bit field indicates the number and configuration of audio channels presented to the listener by the AAC decoder for the specified program. Values in the range from 1 to 6 indicate number and configuration of audio channels as given for "Default bitstream index number" in ISO/IEC 13818-7:2004 subclause 8.9 Table 42. All other values indicate that the number and configuration of audio channels is undefined.

MPEG-2_AAC_additional_information – This 8-bit field indicates whether or not bandwidth extension data as defined in ISO/IEC 13818-7:2004 is embedded in the AAC bitstream according to Table Amd.5-2.

Table Amd.5-2 – MPEG-2_AAC_additional_information field values

Value	Description
0x00	AAC data according to ISO/IEC 13818-7:2004
0x01	AAC data with Bandwidth Extension data present according to ISO/IEC 13818-7:2004
0x02-0xFF	Reserved

5) Subclause 2.11.2.1

Replace the following text (with the changes underlined):

In case of an ISO/IEC 14496-3 elementary stream, before PES packetization the elementary stream data shall be first encapsulated in the LATM transport syntax defined in ISO/IEC 14496-3 / Amd.1. If a PTS is present in the PES packet header it shall refer to the first audio frame that follows the first syncword that commences in the payload of the PES packet.

to:

In case of an ISO/IEC 14496-3 elementary stream, before PES packetization the elementary stream data shall be first encapsulated in the LATM/LOAS AudioSyncStream() transport syntax defined in ISO/IEC 14496-3:2001 subclause 1.7.2. If a PTS is present in the PES packet header, it shall refer to the first audio frame that follows the first syncword that commences in the payload of the PES packet.