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

**AMENDMENT 1: Transport of MPEG-4
streaming text and MPEG-4 lossless audio
over MPEG-2 systems**

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

*AMENDEMENT 1: Transport de texte en flux MPEG-4 et d'audio sans
perte MPEG-4 sur des systèmes MPEG-2*



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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.

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INTERNATIONAL STANDARD
ITU-T RECOMMENDATION**Information technology – Generic coding of moving pictures
and associated audio information: Systems****Amendment 1****Transport of MPEG-4 streaming text and MPEG-4 lossless audio over MPEG-2 systems****1) Subclause 1.2.3**

Add the following references to subclause 1.2.3:

- ISO/IEC 14496-3:2005/Amd.1:2007, *Low delay AAC profile*.
- ISO/IEC 14496-17:2006, *Information technology – Coding of audio-visual objects – Part 17: Streaming text format*.

2) Subclause 2.1.1

Replace, in the definition for access unit in subclause 2.1.1:

In the case of audio, an access unit is the coded representation of an audio frame.

by:

In the case of audio, an access unit is the coded representation of an audio frame, whereby each audio frame carries data from one or more audio channels; an audio frame may carry for example one mono channel, or two stereo channels or seven surround sound channels.

In the case of an ISO/IEC 14496-17 text stream, see ISO/IEC 14496-17 for the definition of an access unit.

3) New subclause 2.4.2.9

Add, after subclause 2.4.2.8:

2.4.2.9 T-STD extensions for carriage of ISO/IEC 14496-17 text streams

To define the decoding in the T-STD of ISO/IEC 14496-17 text streams carried in a Transport Stream, the T-STD model needs to be extended. The T-STD extension and T-STD parameters for decoding of ISO/IEC 14496-17 text streams are defined in 2.15.3.1.

4) Subclause 2.4.3.5

Replace, in the semantics of "discontinuity indicator" under subclause 2.4.3.5 starting from the 5th paragraph:

For the purpose of this clause, an elementary stream access point is defined as follows:

- ISO/IEC 11172-2 video and ITU-T Rec. H.262 | ISO/IEC 13818-2 video – The first byte of a video sequence header.
- ISO/IEC 14496-2 visual – The first byte of the visual object sequence header.
- ITU-T Rec. H.264 | ISO/IEC 14496-10 video – The first byte of an AVC access unit. The SPS and PPS parameter sets referenced in this and all subsequent AVC access units in the coded video stream shall be provided after this access point in the byte stream and prior to their activation.
- Audio – The first byte of an audio frame.

by:

For the purpose of this clause, an elementary stream access point is defined as follows:

- ISO/IEC 11172-2 video and ITU-T Rec. H.262 | ISO/IEC 13818-2 video – The first byte of a video sequence header.
- ISO/IEC 14496-2 visual – The first byte of the visual object sequence header.
- ITU-T Rec. H.264 | ISO/IEC 14496-10 video – The first byte of an AVC access unit. The SPS and PPS parameter sets referenced in this and all subsequent AVC access units in the coded video stream shall be provided after this access point in the byte stream and prior to their activation.
- Audio – The first byte of an audio frame.
- ISO/IEC 14496-17 text stream – The first byte of a text access unit. In case in-band sample descriptions are used, each in-band sample description shall be provided in the ISO/IEC 14496-17 stream after this access point and prior to its use by an access unit.

5) Subclause 2.4.3.7

a) In subclause 2.4.3.7, replace Table 2-27:

Table 2-27 – Stream_id_extension assignments

stream_id_extension	Note	stream coding
000 0000	1	IPMP Control Information stream
000 0001	2	IPMP stream
000 0010 ... 011 1111		reserved_data_stream
100 0000 ... 111 1111		private_stream
NOTE 1 – PES packets of stream_id_extension 0b000 0000 (IPMP Control Information Stream) have a unique syntax specified in ISO/IEC 13818-11 (MPEG-2 IPMP).		
NOTE 2 – PES packets of stream_id_extension 0b000 0001 (IPMP Stream) have a unique syntax specified in ISO/IEC 13818-11 (MPEG-2 IPMP).		

by:

Table 2-27 – Stream_id_extension assignments

stream_id_extension	Note	stream coding
000 0000	1	IPMP Control Information stream
000 0001	2	IPMP stream
000 0010 ... 000 1111		ISO/IEC 14496-17 text stream
001 0000 ... 011 1111		reserved_data_stream
100 0000 ... 111 1111		private_stream
NOTE 1 – PES packets of stream_id_extension 0b000 0000 (IPMP Control Information Stream) have a unique syntax specified in ISO/IEC 13818-11 (MPEG-2 IPMP).		
NOTE 2 – PES packets of stream_id_extension 0b000 0001 (IPMP Stream) have a unique syntax specified in ISO/IEC 13818-11 (MPEG-2 IPMP).		

b) Replace, in the semantics of PTS in subclause 2.4.3.7:

The presentation time $t_{pn}(k)$ shall be equal to the decoding time $t_{dn}(k)$ for:

- audio access units;
- access units in ITU-T Rec. H.262 | ISO/IEC 13818-2 or ISO/IEC 14496-2 low delay video sequences;
- B-pictures in ISO/IEC 11172-2, ITU-T Rec. H.262 | ISO/IEC 13818-2 or ISO/IEC 14496-2 video streams.