
**Information technology — Coding of
audio-visual objects —**

**Part 1:
Systems**

**AMENDMENT 2: Support for raw audio-
visual data**

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Technologies de l'information — Codage des objets audiovisuels —

Partie 1: Systèmes

ISO/IEC 14496-1:2010/Amd 2:2014

<https://standards.iteh.ai/AMENDMENT 2: Prise en charge de données audiovisuelles brutes>
6e42d469fbec/iso-iec-14496-1-2010-amd-2-2014

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ISO/IEC 14496-1:2010/Amd 2:2014
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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 2 to ISO/IEC 14496-1:2010 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

This Amendment is to define the mechanisms for enabling the use of raw data (audio and video) an MPEG-4 scene. It consists in defining the `ObjectTypeIndication`, the `DecoderSpecificInfo` and the `Access Unit for RawVideo` and `RawAudio`.

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Information technology — Coding of audio-visual objects —

Part 1: Systems

AMENDMENT 2: Support for raw audio-visual data

In Table 1, replace line:

0x6A-0xBF	Reserved for ISO use
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with lines:

0x6A-0x92	Reserved for Registration Authority
0x93-0xBF	Reserved for ISO use

In Table 2, replace line:

0x09-0xBF	Reserved for ISO (command tags)
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with lines:

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0x09-0x63	Reserved for Registration Authority
0x64-0xBF	Reserved for ISO (command tags)

In Table 5, replace line:

0x09-0x1F	reserved for ISO use
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with lines:

0x09	LASeR stream (defined in ISO/IEC 14496-20:2008, clauses 6 and 12)
0x0A	SAF stream (defined in ISO/IEC 14496-20:2008, clause 7)
0x0B	Raw video stream
0x0C	Raw audio stream
0x0D-0x1F	reserved for ISO use

In Table 6, replace:

0x0C - 0x1F	reserved for ISO use
-------------	----------------------

with:

0x0C	Application Multiplex Stream
0x0D - 0x5B	reserved for Registration Authority
0x5C - 0x1F	reserved for ISO use

In 7.2.6.7.2, add the following new paragraph at the end of the subclause:

For values of DecoderConfigDescriptor.objectTypeIndication that refer to streams complying with ISO/IEC 14496-20, the decoder specific information is a LASerHeader() defined in 12.2.1 of ISO/IEC 14496-20:2008.

RAW Video Decoder Specific Info

```
class RAWVideoConfig extends DecoderSpecificInfo : bit(8) tag=DecSpecificInfoTag {
unsigned int(16) width;
unsigned int(16) height;
unsigned int(8) bit_depth;
unsigned int(32) stride;
unsigned int(32) coding4CC;
unsigned int(8) fps;
unsigned int(1) use_frame_packing;
unsigned int(7) frame_packing;
}
```

Semantics:



width	– width of the video of the largest color component
height	– height of the video of the largest color component
bit_depth	– number of bits for each channel sample from the set of permitted values as defined by coding4CC
stride	– size in bytes of one horizontal line
coding4CC	– a 4 character code representing the parameters of the raw data as specified by the MPEG-4 Registration Authority (http://www.mp4ra.org/)
fps	– frames per second of the video stream; if 0 then the frame rate is not known or variable
use_frame_packing	– this indicates if a frame contains two or more views
frame_packing	– framePacking as defined in ISO/IEC 23001-8, Coding Independent Code Points

Note For more than one view the data is packed in a single frame (it is assumed that all views are sampled at the same instant). The packaging is indicated by the frame_packing field.

Example

```
<decSpecificInfo>
<RAWVideoConfig width=480 height=800 bits_per_pixel=12 stride=720 colorFOURCC="NV21" fps=15
use_frame_packing=1 frame_packing=4 />
</decSpecificInfo>
```

Note NV21 is just an example codingFOURCC value.

RAW Audio Decoder Specific Info

```
class RAWAudioConfig extends DecoderSpecificInfo : bit(8) tag=DecSpecificInfoTag {
unsigned int(24) sampling_rate;
unsigned int(16) bits_per_sample;
unsigned int(8) channels;
unsigned int(32) coding4CC;
```

```
unsigned int(8)    channel_configuration;
}
```

Semantics:

Note For more than one channel the data is interleaved (it is assumed that all channels are sampled at the same instant). The ordering of audio channel data within an interleaved sample shall be the same as the order of the audio channel sequence given in the channel to speaker mapping defined by the channel_configuration.

sampling_rate	– number of samples per second (in Hz)
bits_per_sample	– number of bits for each channel of the audio sample, from the set of permitted values as defined by coding4CC
coding4CC	– a 4 character code representing the parameters of the raw data as specified by the MPEG-4 Registration Authority (http://www.mp4ra.org/)
channels	– number of audio channels
channel_configuration	– channelConfiguration as defined in ISO/IEC 23001-8, Coding Independent Code Points

Example

```
<decSpecificInfo>
<RAWAudioConfig sampling_rate=48000 bits_per_sample=16 coding4CC=RWAV channels=3 channel_
configuration=3 />
</decSpecificInfo>
```

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Note RWAV is just an example coding4CC value.

In Table 13, replace: <https://standards.iteh.ai/catalog/standards/sist/12a5ae57-1191-465c-a679-6e42d469f8ec/iso-iec-14496-1-2010-amd-2-2014>

0x03 - 0xFF	reserved for ISO use
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with:

0x03 - 0x7B	reserved for Registration Authority
0x7C - 0xFF	reserved for ISO use

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