



INTERNATIONAL STANDARD ISO/IEC 14496-15:2010
TECHNICAL CORRIGENDUM 2

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**Information technology — Coding of audio-visual objects —
Part 15:
Advanced Video Coding (AVC) file format**

TECHNICAL CORRIGENDUM 2

*Technologies de l'information — Codage des objets audiovisuels —
Partie 15: Format de fichier de codage vidéo avancé (AVC)*

RECTIFICATIF TECHNIQUE 2

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<https://standards.iteh.ai/catalog/standards/sist/flaec546-4b02-4ae2-81c3-30144-33011-111111111111>

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Technical Corrigendum 2 to ISO/IEC 14496-15:2010 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

5.2.2

Update the bulleted item as follows:

- **Parameter set track:** A sync sample in a parameter set track indicates that all parameter sets needed from that (decoding) time forward in the video elementary stream are in that or succeeding parameter stream samples. Also there shall be a parameter set sample at each point a parameter set is updated. Each parameter set sample shall contain exactly the sequence and picture parameter sets needed to decode the relevant section of the video elementary stream.

5.2.4.1

Update the indicated paragraph as follows:

ICS 35.040

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The values for AVCPprofileIndication, AVCLevelIndication, and the flags which indicate profile compatibility must be valid for all parameter sets of the stream described by this record. The level indication must indicate a level of capability equal to or greater than the highest level indicated in the included parameter sets; each profile compatibility flag may only be set if all the included parameter sets set that flag. The profile indication must indicate a profile to which the entire stream associated with this configuration record conforms. If the sequence parameter sets are marked with different profiles, and the relevant profile compatibility flags are all zero, then the stream may need examination to determine which profile, if any, the entire stream conforms to. If the entire stream is not examined, or the examination reveals that there is no profile to which the entire stream conforms, then the stream must be split into two or more sub-streams with separate configuration records in which these rules can be met.

5.2.4.1.2

Correct the following paragraph as follows:

`bit_depth_chroma_minus8` indicates the bit depth of the samples in the Chroma arrays. For example, a bit depth of 8 is indicated with a value of zero ($\text{BitDepth} = 8 + \text{bit_depth_chroma_minus8}$). The value of this field shall be in the range of 0 to 4, inclusive.

5.3.4.1.3

Adjust the documentation for `compressorname` as follows:

`Compressorname` in the base class `VisualSampleEntry` indicates the name of the compressor used with the value "`\012AVC Coding`" being recommended; the first byte is a count of the remaining bytes, here represented by `\012`, which (being octal 12) is 10 (decimal), the number of bytes in the rest of the string.

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5.3.4.1.1

Replace "entire" as follows:

<https://standards.iteh.ai/catalog/standards/sist/flaec546-4b02-4ae2-81c3-21b0a1506040/iso-iec-14496-15-2010-cor-2-2012>

The sample entry name 'avc1' may only be used when the stream to which this sample entry applies is a compliant and usable AVC stream as viewed by an AVC decoder operating under the configuration (including profile and level) given in the `AVCConfigurationBox`.

5.3.4.2.2

Replace `EBSP` with `RBSP`:

`NALUnitLength` indicates the size of a NAL unit measured in bytes. The length field includes the size of both the one byte NAL header and the `RBSP` payload but does not include the length field itself.

5.3.10

Adjust as follows:

An AVC sample is considered as a sync sample if ALL of the following conditions are met:

- The video data NAL units in the sample indicate that the primary picture contained in the sample is an instantaneous decoding refresh (IDR) picture.
- All SPSs and PPSs needed to decode the video data NAL units in the sample of the IDR picture and the following samples in decode order are contained in the decoder configuration of the video elementary stream or in a separate parameter set elementary stream sample.

A parameter set elementary stream sample is a sync sample if and only if all parameter sets required by the associated video elementary stream from the time of the parameter set sample forward are supplied, in the parameter set stream, before they are required by the associated video elementary stream.

5.3.14

Change the title to “Sample groups on random access recovery points and random access points” and replace its contents with the following:

The AVC codec includes the concept of a ‘gradual decoding refresh’ or random access recovery point. This is signalled in the bit-stream using the recovery point SEI message. This message is found at the beginning of the random access, and indicates how much data must be decoded subsequent to the access unit at the position of the SEI message before the recovery is complete.

When all access units in output order starting from the access unit at the position of the SEI message can be successfully decoded after random access, i.e. when the `recovery_frame_cnt` syntax element of the recovery point SEI message is 0, the Random Access Point (‘rap ’) sample grouping should be used.

This concept of gradual recovery is supported in the file format also by using RollRecoveryEntry Groups [4.5]. In order that the group membership marks the sample containing the SEI message the ‘roll-distance’ is constrained to being only positive (i.e. a post-roll). In other words, RollRecoveryEntry Groups can be used when the value of the `recovery_frame_cnt` syntax element of the recovery point SEI message is greater than 0.

Note carefully that the roll-group counts samples in the file format; this may not match the way that the distances are represented in the SEI message.

Within a stream, it is necessary to mark the beginning of the pre-roll, so that a stream decoder may start decoding there. However, in a file, when performing random access, a deterministic search is desired for the closest preceding frame which can be decoded perfectly (either a sync sample, or the end of a pre-roll).

A.6.8

Change the title to “Sample groups on random access recovery points and random access points” and replace its contents with the following:

For video data described by a sample entry of type ‘avc1’ or ‘avc2’, the random access recovery sample group and the random access point sample group identify random access recovery points and random access points, respectively, for both an AVC decoder, and an SVC decoder (if any) operating on the entire bitstream.

NOTE If the random access recovery points or the random access points for the AVC decoder and the SVC decoder operating on the entire bitstream are not all aligned, the random access recovery points table or the random access point table, respectively, will not document all of them. In this case, the stream can be stored in multiple tracks, e.g. two tracks, one containing the AVC base layer with a sample entry of type ‘avc1’, and the other containing the SVC enhancement layers with a sample entry of type ‘svc1’.

For video data described by a sample entry of type ‘svc1’, the random access recovery sample group identifies random access recovery in the entire SVC bitstream and the random access point sample group identifies random access points in the entire SVC bitstream.

F.6.6

Change its title to “Sample groups on random access recovery points and random access points” and replace its contents with the following:

For video data described by a sample entry of type ‘avc1’ or ‘avc2’, the random access recovery sample group and the random access point sample group identify random access recovery points and random access points, respectively, for both an AVC decoder, and an MVC decoder (if any) operating on the entire bitstream.

For video data described by an MVC sample entry type, the random access recovery sample group identifies random access recovery in the entire MVC bitstream and the random access point sample group identifies random access points in the entire MVC bitstream.