INTERNATIONAL STANDARD ISO/IEC 11172-4:1995
TECHNICAL CORRIGENDUM 1

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Information technology — Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s —

Part 4: **Compliance testing**

TECHNICAL CORRIGENDUM 1

Technologies de l'information — Codage de l'image animée et du son associé pour les supports de stockage numérique jusqu'à environ 1,5 Mbit/s —

Partie 4: Essais de conformité

RECTIFICATIF TECHNIQUE 1

Technical Corrigendum 1 to ISO/IEC 11172-4:1995 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information.*

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In subclause 1.2, "Normative references", remove the following:

IEEE Draft Standard P1180/D2 1990, *Specification for the implementation of 8x8 inverse discrete cosine transform.*

In subclause 1.2, "Normative references", add the following:

ISO/IEC 23002-1, *Information technology — MPEG video technologies — Part 1: Accuracy requirements for implementation of integer-output 8x8 inverse discrete cosine transform*

In subclause 2.4.2, "Video decoders", replace the following:

For a video decoder to be compliant to ISO/IEC 11172-2 a statement of whether or not computation is carried out with the full accuracy specified in ISO/IEC 11172-2 is required. If the full arithmetic precision is not implemented, the accuracy shall be specified. In the case of the inverse DCT, compliance testing requires performing the tests described in IEEE standard P1180/D2, as indicated in Annex A of ISO/IEC 11172-2, and a statement of the numerical results for peak error and mean square error.

with:

For a video decoder to be compliant to ISO/IEC 11172-2 a statement of whether or not computation is carried out with the full accuracy specified in ISO/IEC 11172-2 is required. If the full arithmetic precision is not implemented, the accuracy shall be specified. In the case of the inverse DCT, compliance testing requires performing the tests specified in Annex A of ISO/IEC 11172-2 (which are the tests specified in the main body of ISO/IEC 23002-1), and a statement of the numerical results for maximum peak absolute error (PAE) and overall mean square error (OMSE), which shall be measured as specified in ISO/IEC 23002-1.

In subclause 2.6.2, "Video decoder tests", replace the following:

b) Encode the video material using a range of parameters to cover the decoder characteristics to be tested. Parameters should be tested at normal values as well as close to the maximum and minimum values permitted by the decoder characteristics. Horizontal and vertical picture sizes should be tested that are not multiples of 16. The bitstreams should contain a mix of I-, B- and P-pictures, as appropriate for the characteristics of the decoder under test. To test IDCT mismatch, bitstreams should contain series of 132 successive P-pictures.

c) Decode the video bitstream using a reference decoder. The reference decoder could for example apply the reference inverse DCT specified in the IEEE draft standard P1180/D2 (see Annex A of ISO/IEC 11172-2). The reference decoder may be an accurate software implementation.

with:

b) Encode the video material using a range of parameters to cover the decoder characteristics to be tested. Parameters should be tested at normal values as well as close to the maximum and minimum values permitted by the decoder characteristics. Horizontal and vertical picture sizes should be tested that are not multiples of 16. The bitstreams should contain a mix of I-, B- and P-pictures, as appropriate for the characteristics of the decoder under test. To test IDCT mismatch, bitstreams should contain a long series of successive P-pictures in which appear a variety of cases for which a macroblock position has 131 successive uses of non-intra macroblock coding with non-zero motion vectors or non-zero transform coefficients (or both).

c) Decode the video bitstream using a reference decoder that applies the ideal integer-valued 8x8 inverse DCT specified in ISO/IEC 23002-1.

In subclause 2.6.2, "Video decoder tests", replace the following:

On arithmetic precision, compliance of an ISO/IEC 11172-2 video decoder requires a statement of whether or not computation is carried out with the full accuracy specified in ISO/IEC 11172-2. If the computation is not fully accurate, the accuracy shall be specified. In the case of the IDCT, this includes performing the tests described in the IEEE standard P1180/D2 as indicated in annex A of ISO/IEC 11172-2, and stating the numerical results for peak error and mean square error. To be called a limited accuracy ISO/IEC 11172-2 video decoder, the numerical results for peak error and mean square error for the decoder shall not be greater than exactly twice the values specified in the IEEE standard P1180/D2. To be ISO/IEC 11172-2 compliant, a video decoder shall meet the accuracy requirements for limited accuracy ISO/IEC 11172-2 video decoders. To be called an ISO/IEC 11172-2 video decoder, the peak error and mean square error of the decoder shall meet the full accuracy requirements from IEEE standard P1180/D2.

with:

On arithmetic precision, compliance of an ISO/IEC 11172-2 video decoder requires a statement of whether or not computation is carried out with the full accuracy specified in ISO/IEC 11172-2. If the computation is not fully accurate, the accuracy shall be specified. In the case of the IDCT, this includes performing the tests specified in Annex A of ISO/IEC 11172-2 (which are the tests specified in the main body of ISO/IEC 23002-1), and stating the numerical results for maximum peak absolute error (PAE) and overall mean square error (OMSE), which shall be measured as specified in ISO/IEC 23002-1. To be called a limited accuracy ISO/IEC 11172-2 video decoder, the numerical results for maximum PAE and OMSE for the decoder shall not be greater than exactly twice the values specified in ISO/IEC 23002-1. To be ISO/IEC 11172-2 limited-accuracy compliant, a video decoder shall meet the accuracy requirements for limited accuracy ISO/IEC 11172-2 video decoders. To be called an ISO/IEC 11172-2 video decoder, the decoder shall meet the full accuracy requirements of ISO/IEC 11172-2 (including Annex A of ISO/IEC 11172-2 in particular, which requires conformance to the accuracy requirements specified in the main body of ISO/IEC 23002-1).