INTERNATIONAL STANDARD ISO/IEC 11172-2:1993
TECHNICAL CORRIGENDUM 4

Published 2006-08-15

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

Part 2:
Video

TECHNICAL CORRIGENDUM 4

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 2: Vidéo

RECTIFICATIF TECHNIQUE 4

Technical Corrigendum 4 to ISO/IEC 11172-2:1993 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information.*

———————

In subclause 1.2, remove the following:

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

In subclause 1.2, insert 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*

ICS 35.040
Ref. No. ISO/IEC 11172-2:1993/Cor.4:2006(E)

In subclause 2.4.4.1, "Intra-coded macroblocks", replace the following:

Once the DCT coefficients are reconstructed, the inverse DCT transform defined in Annex A shall be applied to obtain the inverse transformed pel values in the range [-256, 255]. These pel values shall be limited to the range [0, 255] and placed in the luminance and chrominance matrices in the positions defined by mb_row, mb_column, and the list defined by the array pattern_code[].

with:

Once the DCT coefficients are reconstructed, an inverse DCT that conforms to the requirements specified in Annex A shall be applied to obtain inverse transformed pel values. The inverse transformed pel values shall be limited to the range [0, 255] and placed in the luminance and chrominance matrices in the positions defined by mb_row, mb_column, and the pattern_code list.

In subclause 2.4.4.2, "Predictive-coded macroblocks in P-pictures", replace the following:

Once the DCT coefficients are reconstructed, the inverse DCT transform defined in Annex A shall be applied to obtain the inverse transformed pel values in the range [-256, 255]. The inverse DCT pel values shall be added to the pel[i][j] which were computed above using the motion vectors. The result of the addition shall be limited to the interval [0,255]. The location of the pels is determined from mb_row, mb_column, and the pattern_code list.

with:

Once the DCT coefficients are reconstructed, an inverse DCT that conforms to the requirements specified in Annex A shall be applied to obtain inverse transformed pel values. The inverse transformed pel values shall be added to the pel[][] which were computed above using the motion vectors. The result of the addition shall be limited to the interval [0,255] and placed in the luminance and chrominance matrices in the positions defined by mb_row, mb_column, and the pattern_code list.

In subclause 2.4.4.3, "Predictive-coded macroblocks in B-pictures", replace the following:

Once the DCT coefficients are reconstructed, the inverse DCT transform defined in Annex A shall be applied to obtain the inverse transformed pel values in the range [-256, 255]. The inverse DCT pel values shall be added to the pel[][], which were computed above using the motion vectors. The result of the addition shall be limited to the interval [0,255]. The location of the pels is determined from mb_row, mb_column, and the pattern_code list.

with:

Once the DCT coefficients are reconstructed, an inverse DCT that conforms to the requirements specified in Annex A shall be applied to obtain inverse transformed pel values. The inverse transformed pel values shall be added to the pel[][] which were computed above using the motion vectors. The result of the addition shall be limited to the interval [0,255] and placed in the luminance and chrominance matrices in the positions defined by mb_row, mb_column, and the pattern_code list.

Replace subclause 2.4.4.5, "Forced updating", which states as follows:

This function is achieved by forcing the use of an intra-coded macroblock. The update pattern is not defined. For control of accumulation of IDCT mismatch error, each macroblock shall be intra-coded at least once per 132 times it is coded in a P-picture without an intervening I-picture.

with:

This function is achieved by forcing the use of intra-coded macroblocks as a requirement for conformance of the bitstream. No particular pattern for intra macroblock coding is specified. For control of accumulation of IDCT mismatch error, it is a requirement of bitstream conformance that each macroblock shall be intra-coded at least once within each series of 132 times that it is coded in a P-picture without an intervening I-picture. For purposes of counting the number of times a macroblock is coded in P-pictures, a skipped macroblock is not considered to be a coded macroblock.

Order Number: W2102024   © ISO/IEC 2006 – All rights reserved

Replace Annex A, "8 by 8 Inverse discrete cosine transform":

Annex A

(normative)

8 by 8 Inverse discrete cosine transform

The 8 by 8 inverse discrete cosine transform for I-pictures and P-pictures shall conform to IEEE Draft Standard, P1180/D2, July 18, 1990. For B-pictures this specification may also be applied but may be unnecessarily stringent. Note that clause 2.3 of P1180/D2 "Considerations of Specifying IDCT Mismatch Errors" requires the specification of periodic intra-coding in order to control the accumulation of mismatch errors. The maximum refresh period requirement for this part of ISO/IEC 11172 shall be as stated in 2.4.4.5, which is the same as indicated in P1180/D2 for visual telephony according to Recommendation ITU-T H.261:1993.

with:

Annex A

(normative)

8 by 8 Inverse discrete cosine transform

The 8 by 8 inverse discrete cosine transform (IDCT) approximation that is used in the decoding process for I-pictures and P-pictures shall conform to the accuracy requirements specified for conformance to ISO/IEC 23002-1. Passing the additional tests specified in ISO/IEC 23002-1 Annexes A and B is encouraged but not required.

Note that for B-pictures the use of an integer approximation of the ideal 8 by 8 IDCT process is also necessary, and that the use of an IDCT approximation that conforms to the requirements specified in ISO/IEC 23002-1 may be beneficial. However, the accuracy requirements specified in ISO/IEC 23002-1 may be unnecessarily stringent for the decoding of B-pictures and are thus not required for the decoding of B-pictures in conformance to this International Standard.

INTERNATIONAL STANDARD ISO/IEC 11172-2:1993

TECHNICAL CORRIGENDUM 3

Published 2003-11-01

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

Part 2:
Video

TECHNICAL CORRIGENDUM 3

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 2: Vidéo

RECTIFICATIF TECHNIQUE 3

Technical Corrigendum 3 to ISO/IEC 11172-2:1993 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information.*

ICS 35.040

Ref. No. ISO/IEC 11172-2:1993/Cor.3:2003(E)

Order Number: W2102024

In 1.2, replace the list of Normative references with:

"

ITU-T T.81:1992 | ISO/IEC 10918-1:1994, *Information technology — Digital compression and coding of continuous-tone still images: Requirements and guidelines*

ISO/IEC 11172-1:1993, *Information technology — Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s — Part 1: Systems*

ISO/IEC 11172-3:1993, *Information technology — Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s — Part 3: Audio*

ITU-R BT 470-6:1998, *Conventional television systems*

ITU-R BR.648, *Digital Recording of audio signals*

ITU-R BT.601-5, *Studio encoding parameters of digital television for standard 4:3 and widescreen 16:9 aspect ratio*

ITU-R BO.955-3, *Satellite sound broadcasting to vehicular, portable and fixed receivers in the range 500-3 000 MHz*

ITU-T H.261:1993, *Video codec for audiovisual services at p×64 kbit/s*

ITU-T J.17:1988, *Pre-emphasis used on Sound-Programme Circuits*

IEC 60461:1986, *Time and control code for video tape recorders*

IEC 60908:1999, *Audio recording — Compact disc digital audio system*

IEEE 1180:1990, *IEEE Standard Specifications for the Implementations of 8 by 8 Inverse Discrete Cosine Transform*

"

In 2.1, delete definitions on audio coding:

2.1.3-2.1.10, 2.1.12, 2.1.15, 2.1.17, 2.1.21, 2.1.23, 2.1.35, 2.1.36, 2.1.47, 2.1.52, 2.1.55, 2.1.61, 2.1.62, 2.1.67, 2.1.69, 2.1.70, 2.1.72, 2.1.7.4-2.1.7.6, 2.1.81-2.1.83, 2.1.87-2.1.90, 2.1.94, 2.1.96, 2.1.102, 2.1.109, 2.1.116, 2.1.123, 2.1.126-2.1.128, 2.1.133, 2.1.135, 2.1.138, 2.1.140-2.1.144, 2.1.148, 2.1.149.

*In 2.1, replace definition 2.1.66 (**frame**) with:*

"

2.1.66
frame [video]: image data represented by lines of spatial information of a video signal. For progressive video, these lines contain samples starting from one time instant and continuing through successive lines to the bottom of frame. For interlaced video, a frame consists of two fields, a top field and bottom field. One of this fields commence one field period later than the other.

"

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.

fastcase®
Smarter legal research.