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Part 1: Accuracy requirements for implementation of integer-output 8×8 inverse discrete cosine transform

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Partie 1: Exigences d'exactitude pour l'implémentation de la transformation cosinus inverse discrète de sortie du nombre entier 8×8

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Contents

Page

Foreword iv

1 Scope 1

2 Terms and definitions 1

3 Abbreviations and symbols 2
3.1 Abbreviations 2
3.2 Symbols 3

4 Conventions 3
4.1 Arithmetic operators 3
4.2 Logical operators 3
4.3 Relational operators 3
4.4 Bit-wise operators 4
4.5 Assignment operators 4
4.6 Mathematical functions 4
4.7 Range notation 5
4.8 Hexadecimal notation 5

5 IDCT accuracy specification 5
5.1 Ideal real-valued 8x8 forward DCT 5
5.2 Ideal integer-valued 8x8 forward DCT 5
5.3 Ideal real-valued 8x8 inverse DCT 5
5.4 Ideal integer-valued 8x8 inverse DCT 5
5.5 Integer-output IDCT accuracy testing procedure and requirements 6

Annex A (normative) **Additional test of near-DC inversion behaviour** 9

Annex B (normative) **Additional pseudo-random input data tests** 10

Bibliography 11

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Foreword

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ISO/IEC 23002 consists of the following parts, under the general title *Information technology — MPEG video technologies*:

— *Part 1: Accuracy requirements for implementation of integer-output 8x8 inverse discrete cosine transform*

The following part is under preparation:

— *Part 3: Auxiliary video data representation*

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Information technology — MPEG video technologies —

Part 1: Accuracy requirements for implementation of integer-output 8x8 inverse discrete cosine transform

1 Scope

A number of image and video coding related standards (see Bibliography) include a requirement for decoders to implement an integer-output 8x8 inverse discrete cosine transform (IDCT) for the generation of inverse-transformed sample differences with a nominal range from -2^B to $(2^B)-1$ for some integer number of bits B, where B is greater than or equal to 8. This part of ISO/IEC 23002 specifies conformance requirements for establishing sufficient accuracy in such an integer-output IDCT implementation. It is intended to be suitable for reference to establish partial or complete requirements for IDCT accuracy for conformance to other standards that require IDCT use.

The accuracy requirements specified in the main body of this part of ISO/IEC 23002 are essentially the same as those previously specified in [7], in Annex A of [1], and in Annex A of [5]. These requirements have been specified herein to resolve normative references to [7] in MPEG standards after its withdrawal and to provide improved clarity for the specification of IDCT accuracy requirements.

An additional requirement on encoded-bitstream intra refresh frequency was also previously specified in [7], establishing a requirement of bitstream conformance that each macroblock be intra-coded at least once within each series of 132 times that it is coded in a predicted picture without an intervening intra picture. That additional requirement is not specified in this part of ISO/IEC 23002, in order to confine its scope to the domain of decoder conformance specification.

Some allowances for modification of the specified accuracy requirements are made within this part of ISO/IEC 23002. Additional accuracy requirements that may be invoked by a referencing specification are specified in Annexes A and B.

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