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**Information technology — Lossless  
and near-lossless compression of  
continuous-tone still images: Extensions**

*Technologies de l'information — Compression sans perte et quasi sans  
perte d'images fixes à modelé continu: Extensions*

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## CONTENTS

	<i>Page</i>	
1	Scope .....	1
2	Normative references .....	1
2.1	Identical Recommendations   International Standards .....	1
2.2	Additional references .....	1
3	Definitions, abbreviations, symbols and conventions .....	2
3.1	Definitions.....	2
3.2	Abbreviations.....	2
3.3	Symbols.....	2
4	General .....	3
4.1	Extensions specified by this Recommendation   International Standard .....	4
4.1.1	Encoding with arithmetic coding .....	4
4.1.2	Extension of near-lossless coding .....	4
4.1.3	Extension of prediction .....	5
4.1.4	Extension of Golomb coding .....	5
4.1.5	Fixed length coding.....	5
4.1.6	Sample transformation for inverse colour transforms .....	5
4.2	Descriptions of extended functions .....	5
5	Interchange format requirements.....	6
6	Encoder requirements.....	6
7	Decoder requirements.....	6
8	Conformance testing for extensions .....	7
8.1	Purpose.....	7
8.2	Encoder conformance tests.....	7
8.3	Decoder conformance tests .....	7
Annex A	– Encoding procedures with arithmetic coding for a single component.....	10
A.1	Coding parameters and compressed image data.....	10
A.2	Initializations and conventions.....	10
A.2.1	Initializations.....	10
A.2.2	Conventions for figures.....	12
A.3	Context determination.....	12
A.3.1	Local gradient computation.....	12
A.3.2	Flat region detection.....	13
A.3.3	Local gradient quantization.....	13
A.3.4	Quantized gradient merging .....	14
A.3.5	Adjustment of error tolerance for near-lossless coding with visual quantization.....	14
A.4	Prediction .....	14
A.4.1	Edge-detecting predictor .....	14
A.4.2	Prediction correction.....	14
A.4.3	Computation of prediction error.....	15
A.4.4	Error quantization for near-lossless coding, and reconstructed value computation .....	16
A.4.5	Modulo reduction of the prediction error .....	16
A.5	Prediction error encoding.....	16
A.5.1	Error mapping .....	17
A.5.2	Binarization of MErrval with the Golomb code tree.....	17
A.5.3	Mapped-error encoding.....	18
A.6	Update variables.....	18
A.6.1	Update .....	18
A.6.2	Bias computation.....	21
A.7	Flow of encoding procedures .....	22

	<i>Page</i>
Annex B – Arithmetic coding.....	24
B.1 Arithmetic encoding procedures .....	24
B.1.1 Binary arithmetic encoding principles .....	24
B.1.2 Procedures of arithmetic coding.....	25
B.2 Arithmetic decoding procedures .....	28
B.2.1 Binary arithmetic decoding principles .....	28
B.2.2 Procedures of arithmetic decoding.....	28
Annex C – Encoding with arithmetic coding for multiple component images .....	30
C.1 Introduction.....	30
C.2 Line interleaved mode.....	30
C.2.1 Description.....	30
C.2.2 Process flow.....	30
C.3 Sample interleaved mode .....	30
C.3.1 Description.....	30
C.3.2 Process flow.....	31
C.4 Minimum coded unit (MCU) .....	31
Annex D – Extended functions for the baseline coding model.....	32
D.1 Extensions of near-lossless coding.....	32
D.1.1 Near-lossless coding with visual quantizaion .....	32
D.1.2 Near-lossless coding with NEAR value re-specification .....	32
D.2 Extensions of prediction on baseline coding model.....	33
D.2.1 Initializations.....	33
D.2.2 Prediction correction.....	33
D.2.3 Symbol packing.....	33
D.2.4 Update variables.....	34
D.2.5 Run interruption sample encoding .....	35
D.2.6 Flow of encoding procedures.....	35
D.3 Extension of Golomb coding.....	35
D.3.1 Golomb code completion.....	36
D.3.2 Run interruption handling for qbpp=1 .....	36
Annex E – Fixed length coding .....	37
E.1 Introduction.....	37
E.2 Fixed length coding.....	37
Annex F – Sample transformation for inverse colour transform .....	38
F.1 Inverse colour transform .....	38
F.2 Example and guideline (Informative).....	39
Annex G – Compressed data format.....	41
G.1 General aspects of the compressed data format specification .....	41
G.1.1 Marker assignments .....	41
G.1.2 JPEG-LS preset parameters specification syntax.....	41
Annex H – Control procedures for extensions.....	48
H.1 Control procedure for encoding a restart interval.....	48
H.2 Control procedure for encoding a minimum coded unit (MCU) with fixed length code (FLC) .....	48
Annex I – Conformance tests.....	51
I.1 Test images .....	51
I.1.1 Source images .....	51
I.1.2 Compressed image data.....	51
I.1.3 Test image formats.....	51
Annex J – Patents .....	53
J.1 List of patents.....	53
Annex K – Bibliography.....	55

## 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.

ISO/IEC 14495-2 was prepared jointly by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*, in collaboration with ITU-T. The identical text is published as ITU-R Recommendation T.870.

This second edition cancels and replaces the first edition (ISO/IEC 14495-2:2002), which has been technically revised.

ISO/IEC 14495 consists of the following parts, under the general title *Information technology — Lossless and near-lossless compression of continuous-tone still images*:

- *Part 1: Baseline*
- *Part 2: Extensions*



**INTERNATIONAL STANDARD  
ITU-T RECOMMENDATION**

**Information technology – Lossless and near-lossless compression of  
continuous-tone still images: Extensions**

**1 Scope**

This Recommendation | International Standard defines a set of lossless (bit-preserving) and nearly lossless (where the error for each reconstructed sample is bounded by a predefined value) compression methods for coding continuous-tone (including bi-level), gray-scale, or colour digital still images.

This Recommendation | International Standard:

- specifies extensions (including arithmetic coding, extension of near lossless coding, extension of prediction and extension of Golomb coding) to processes for converting source image data to compressed image data;
- specifies extensions to processes for converting compressed image data to reconstructed image data including an extension for sample transformation for inverse colour transforms;
- specifies coded representations for compressed image data;
- provides guidance on how to implement these processes in practice.

**2 Normative references**

The following Recommendations and International Standards contain provisions which, through references in this text, constitute provisions of this Recommendation | International Standard. At the time of publication, the editions indicated were valid. All Recommendations and Standards are subject to revision, and parties to agreements based on this Recommendation | International Standard are encouraged to investigate the possibility of applying the most recent edition of the Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a list of currently valid ITU-T Recommendations.

**2.1 Identical Recommendations | International Standards**

- CCITT Recommendation T.81 (1992) | ISO/IEC 10918-1:1994, *Information technology – Digital compression and coding of continuous-tone still images: Requirements and guidelines.*
- ITU-T Recommendation T.83 (1994) | ISO/IEC 10918-2:1995, *Information technology – Digital compression and coding of continuous-tone still images: Compliance testing.*
- ITU-T Recommendation T.84 (1996) | ISO/IEC 10918-3:1997, *Information technology – Digital compression and coding of continuous-tone still images: Extensions.*
- ITU-T Recommendation T.87 (1998) | ISO/IEC 14495-1:2000, *Information technology – Lossless and near-lossless compression of continuous-tone still images: Baseline.*

**2.2 Additional references**

- ISO/IEC 646:1991, *Information technology – ISO 7-bit coded character set for information interchange.*
- ISO 5807:1985, *Information processing – Documentation symbols and conventions for data, program and system flowcharts, program network charts and system resources charts.*
- ISO/IEC 9899:1999, *Programming languages – C.*