BS ISO/IEC 18477-1:2015

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Information technology — Scalable compression and coding of continuous-tone still images

Part 1: Scalable compression and coding of continuous-tone still images

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National foreword

This British Standard is the UK implementation of ISO/IEC 18477-1:2015.

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Information technology — Scalable compression and coding of continuous-tone still images —

Part 1: Scalable compression and coding of continuous-tone still images

Technologies de l'information — Compression échelonnable et codage d'images plates en ton continu —

Partie 1: Codage des images à gamme dynamique élevée

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Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Symbols and abbreviated terms **4**
4.1 Symbols 4
4.2 Abbreviated terms 4
5 Conventions **4**
5.1 Conformance language 4
5.2 Operators 4
5.2.1 Arithmetic operators 4
5.2.2 Assignment operators 5
5.2.3 Precedence order of operators 5
5.2.4 Mathematical functions 5
6 General **5**
6.1 General definitions 5
6.2 Functional overview on the decoding process 6
6.3 Encoder requirements 6
6.4 Decoder requirements 6
Annex A (normative) **Component subsampling and expansion of subsampling** **7**
Annex B (normative) **Codestream syntax** **9**
Annex C (normative) **Multi-component decorrelation** **16**
Bibliography **18**

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, SC 29, *Coding of audio, picture, multimedia and hypermedia information.*

ISO/IEC 18477 consists of the following parts, under the general title: *JPEG HDR image coding system:*

— *Part 1: Coding of high dynamic range images*

— *Part 2: Extensions for high dynamic range images*

— *Part 3: Box file format*

— *Part 6: IDR Integer Coding*

— *Part 7: HDR Floating-Point Coding*

The following parts are under preparation:

— *Part 4: Conformance testing*

— *Part 5: Reference software*

— *Part 8: Coding of high dynamic range images*

— *Part 9: Encoding of alpha channels*

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Introduction

This part of ISO/IEC 18477 specifies a coded codestream format for storage of continuous-tone photographic content. JPEG XT is a scalable image coding system that builds on top of the legacy Rec. ITU-T T.81 | ISO/IEC 10918-1 coding system, also known as JPEG, but extends it in a backwards compatible way. This part of ISO/IEC 18477 specifies the commonly deployed components of the JPEG coding system. Additional parts of ISO/IEC 18477 will extend on this baseline.

JPEG XT has been designed to be backwards compatible to legacy applications while at the same time having a small coding complexity; JPEG XT uses, whenever possible, functional blocks of Rec. ITU-T T.81 | ISO/IEC 10918-1, Rec. ITU-T T.86 | ISO/IEC 10918-4 and Rec. ITU-T T.871 | ISO/IEC 10918-5 to extend the functionality of the legacy JPEG Coding System. It is optimized for good image quality and compression efficiency while also enabling low-complexity encoding and decoding implementations.

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Information technology — Scalable compression and coding of continuous-tone still images —

Part 1: Scalable compression and coding of continuous-tone still images

1 Scope

This part of ISO/IEC 18477 specifies a coding format, referred to as JPEG XT, which is designed primarily for continuous-tone photographic content.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 10918-1, *Information technology — Digital compression and coding of continuous-tone still images — Requirements and guidelines*

ISO/IEC 10918-4, *Information technology — Digital compression and coding of continuous-tone still images: Registration of JPEG profiles, SPIFF profiles, SPIFF tags, SPIFF colour spaces, APPn markers, SPIFF compression types, and Registration Authorities (REGAUT)*

ISO/IEC 10918-5, *Information technology — Digital compression and coding of continuous-tone still images: JPEG File Interchange Format (JFIF)*

3 Terms and definitions

For the purposes of this document, the following definitions apply.

3.1
bit stream
partially encoded or decoded sequence of bits comprising an entropy-coded segment

3.2
block
8 × 8 array of samples or an 8 × 8 array of DCT coefficient values of one component

3.3
byte
group of 8 bits

3.4
coder
embodiment of a coding process

3.5
coding
encoding or decoding

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