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

**Part 1:
Core coding system specification**

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

Partie 1: Spécification du système de codage de noyau





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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.

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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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

This second edition cancels and replaces the first edition (ISO/IEC 18477-1:2015), which has been technically revised.

The main changes compared to the previous edition are as follows:

- Annex A.3 has been revised to adopt centred upsampling by default;
- minor editorial changes throughout.

A list of all parts in the ISO/IEC 18477 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document specifies a coded codestream format for storage of continuous-tone photographic content. JPEG XT is a scalable image coding system that builds on 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 document specifies the commonly deployed components of the JPEG coding system. Additional parts of the ISO/IEC 18477 series 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.

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

Part 1: Core coding system specification

1 Scope

This document specifies a coding format, referred to as JPEG XT, which is designed primarily for continuous-tone photographic content. This document defines the core coding system, which forms the basis for the entire ISO/IEC 18477 series.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

Rec. ITU-T T.86 | ISO/IEC 10918-4, *Information technology — Digital compression and coding of continuous-tone still images — Part 4: Registration of JPEG profiles, SPIFF profiles, SPIFF tags, SPIFF colour spaces, APPn markers, SPIFF compression types and Registration Authorities (REGAUT)*

Rec. ITU-T T.871 | ISO/IEC 10918-5, *Information technology — Digital compression and coding of continuous-tone still images — Part 5: JPEG File Interchange Format (JFIF)*