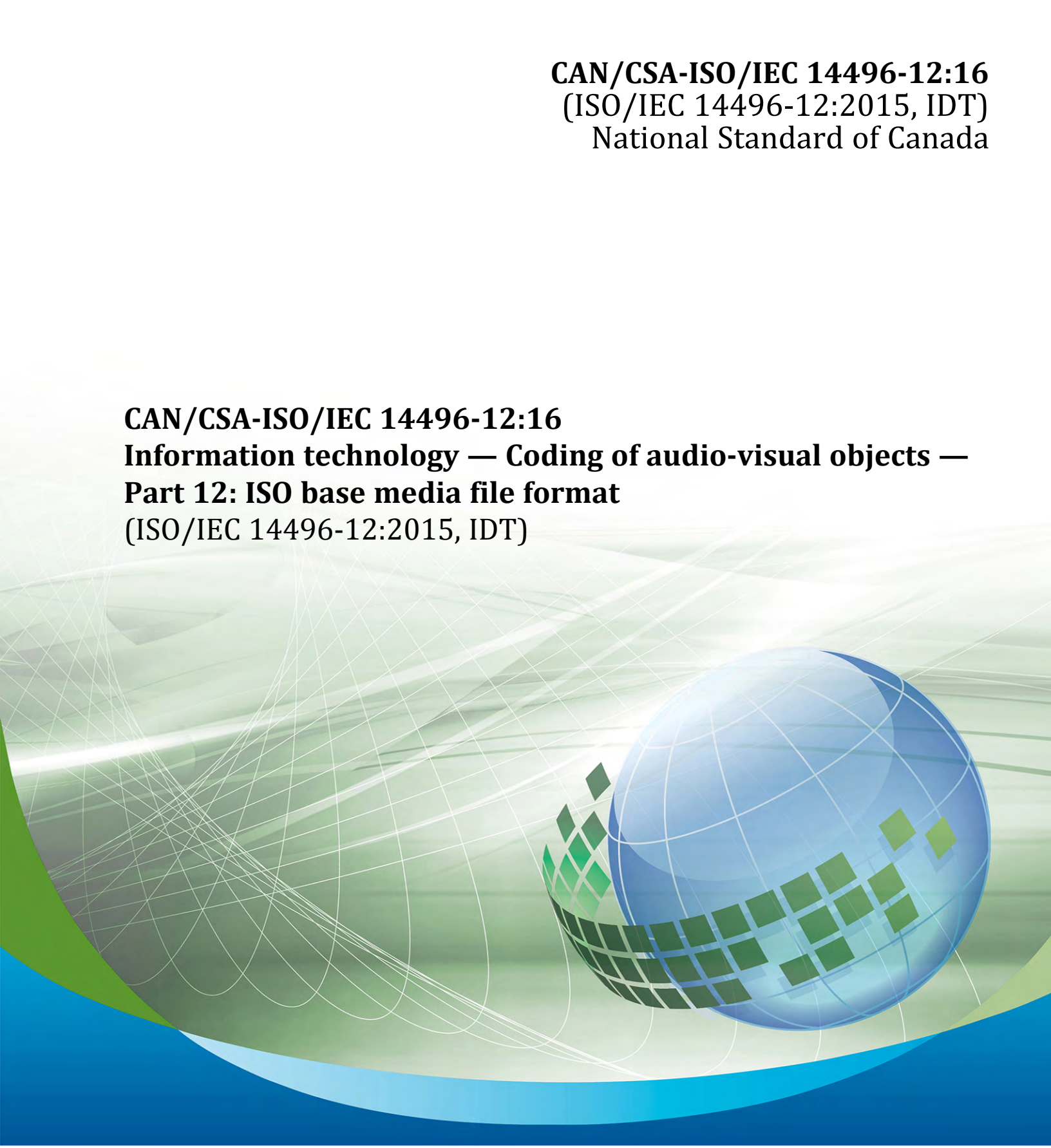
CAN/CSA-ISO/IEC 14496-12:16
(ISO/IEC 14496-12:2015, IDT)
National Standard of Canada

CAN/CSA-ISO/IEC 14496-12:16
Information technology — Coding of audio-visual objects — Part 12: ISO base media file format
(ISO/IEC 14496-12:2015, IDT)



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Information technology — Coding of audio-visual objects — Part 12: ISO base media file format
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CSA Preface

Standards development within the Information Technology sector is harmonized with international standards development. Through the CSA Technical Committee on Information Technology (TCIT), Canadians serve as the SCC Mirror Committee (SMC) on ISO/IEC Joint Technical Committee 1 on Information Technology (ISO/IEC JTC1) for the Standards Council of Canada (SCC), the ISO member body for Canada and sponsor of the Canadian National Committee of the IEC. Also, as a member of the International Telecommunication Union (ITU), Canada participates in the International Telegraph and Telephone Consultative Committee (ITU-T).

For brevity, this Standard will be referred to as "CAN/CSA-ISO/IEC 14496-12" throughout.

This Standard supersedes CAN/CSA-ISO/IEC 14496-12:14 (adopted ISO/IEC 14496-12:2012). At the time of publication, ISO/IEC 14496-12:2015 is available from ISO and IEC in English only. CSA Group will publish the French version when it becomes available from ISO and IEC.

This Standard was reviewed by the CSA TCIT under the jurisdiction of the CSA Strategic Steering Committee on Information Technology and deemed acceptable for use in Canada. From time to time, ISO/IEC may publish addenda, corrigenda, etc. The TCIT will review these documents for approval and publication. For a listing, refer to the *Current Standards Activities* page at **standardsactivities.csa.ca**. This Standard has been formally approved, without modification, by the Technical Committee and has been approved as a National Standard of Canada by the Standards Council of Canada.

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INTERNATIONAL STANDARD

ISO/IEC 14496-12

Fifth edition
2015-12-15

Information technology — Coding of audio-visual objects —

Part 12: ISO base media file format

Technologies de l'information — Codage des objets audiovisuels —

Partie 12: Format ISO de base pour les fichiers médias

Reference number

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Foreword

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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*.

This fifth edition cancels and replaces the fourth edition (ISO/IEC 14496-12:2012), which has been technically revised. It also incorporates the Amendments ISO/IEC 14496-12:2012/Amd1:2013, ISO/IEC 14496-12:2012/Amd2:2014, ISO/IEC 14496-12:2012/Amd3:2015 and the Technical Corrigenda ISO/IEC 14496-12:2012/Cor1:2013, ISO/IEC 14496-12:2012/Cor2:2014 and ISO/IEC 14496-12:2012/Cor3:2015.

ISO/IEC 14496 consists of the following parts, under the general title *Information technology — Coding of audio-visual objects*:

— *Part 1: Systems*

— *Part 2: Visual*

— *Part 3: Audio*

— *Part 4: Conformance testing*

— *Part 5: Reference software*

— *Part 6: Delivery Multimedia Integration Framework (DMIF)*

— *Part 7: Optimized reference software for coding of audio-visual objects*

— *Part 8: Carriage of ISO/IEC 14496 contents over IP networks*

— *Part 9: Reference hardware description*

— *Part 10: Advanced Video Coding*

— *Part 11: Scene description and application engine*

— *Part 12: ISO base media file format*

— *Part 13: Intellectual Property Management and Protection (IPMP) extensions*

— *Part 14: MP4 file format*

— *Part 15: Carriage of NAL unit structured video in the ISO Base Media File Format*

— *Part 16: Animation Framework eXtension (AFX)*

— *Part 17: Streaming text format*

— *Part 18: Font compression and streaming*

— *Part 19: Synthesized texture stream*

— *Part 20: Lightweight Application Scene Representation (LASeR) and Simple Aggregation Format (SAF)*

— *Part 21: MPEG-J Graphics Framework eXtensions (GFX)*

— *Part 22: Open Font Format*

— *Part 23: Symbolic Music Representation*

— *Part 24: Audio and systems interaction*

— *Part 25: 3D Graphics Compression Model*

— *Part 26: Audio conformance*

— *Part 27: 3D Graphics conformance*

— *Part 28: Composite font representation*

— *Part 29: Web video coding*

— *Part 30: Timed text and other visual overlays in ISO base media file format*

— *Part 31: Video Coding for Browsers*

Introduction

The ISO Base Media File Format is designed to contain timed media information for a presentation in a flexible, extensible format that facilitates interchange, management, editing, and presentation of the media. This presentation may be 'local' to the system containing the presentation, or may be via a network or other stream delivery mechanism.

The file structure is object-oriented; a file can be decomposed into constituent objects very simply, and the structure of the objects inferred directly from their type.

The file format is designed to be independent of any particular network protocol while enabling efficient support for them in general.

The ISO Base Media File Format is a base format for media file formats.

It is intended that the ISO Base Media File Format shall be jointly maintained by WG1 and WG11. Consequently, a subdivision of work created ISO/IEC 15444-12 and ISO/IEC 14496-12 in order to document the ISO Base Media File Format and to facilitate the joint maintenance.

This technically identical text is published as ISO/IEC 14496-12 for MPEG-4, and as ISO/IEC 15444-12 for JPEG 2000, and reference to this specification should be made accordingly. The recommendation is to reference one, for example ISO/IEC 14496-12, and append to the reference a parenthetical comment identifying the other, for example "(technically identical to ISO/IEC 15444-12)".

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Information technology — Coding of audio-visual objects —

Part 12:
ISO base media file format

1 Scope

This part of ISO/IEC 14496 specifies the ISO base media file format, which is a general format forming the basis for a number of other more specific file formats. This format contains the timing, structure, and media information for timed sequences of media data, such as audio-visual presentations.

This part of ISO/IEC 14496 is applicable to MPEG-4, but its technical content is identical to that of ISO/IEC 15444-12, which is applicable to JPEG 2000.

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 639-2:1998, *Codes for the representation of names of languages — Part 2: Alpha-3 code*

ISO/IEC 9834-8:2005, *Information technology — Open Systems Interconnection — Procedures for the operation of OSI Registration Authorities: Generation and registration of Universally Unique Identifiers (UUIDs) and their use as ASN.1 Object Identifier components*

ISO/IEC 11578:1996, *Information technology — Open Systems Interconnection — Remote Procedure Call (RPC)*

ISO/IEC 14496-1:2010: *Information technology — Coding of audio-visual objects — Part 1: Systems*

ISO/IEC 14496-10, *Information technology — Coding of audio-visual objects — Part 10: Advanced Video Coding*

ISO/IEC 14496-14, *Information technology — Coding of audio-visual objects — Part 14: MP4 file format*

ISO/IEC 15444-1, *Information technology — JPEG 2000 image coding system: Core coding system*

ISO/IEC 15444-3, *Information technology — JPEG 2000 image coding system: Motion JPEG 2000*

ISO/IEC 15938-1, *Information technology — Multimedia content description interface — Part 1: Systems*

ISO/IEC 23001-1, *Information technology — MPEG systems technologies — Part 1: Binary MPEG format for XML*