

First edition
2010-05-01

Information technology — Coding of audio-visual objects —

Part 26: Audio conformance

*Technologies de l'information — Codage des objets audiovisuels —
Partie 26: Conformité audio*

Reference number
ISO/IEC 14496-26:2010(E)



This is a preview of "ISO/IEC 14496-26:201...". [Click here to purchase the full version from the ANSI store.](#)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2010

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

This is a preview of "ISO/IEC 14496-26:201...". Click here to purchase the full version from the ANSI store.

Contents

Page

Foreword	v
Introduction.....	vii
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Conformance Points	2
5 Profiles.....	4
6 Conformance data	4
6.1 File name conventions	4
6.2 Content	6
7 Audio Object Types	7
7.1 General	7
7.2 Null	14
7.3 AAC-based scalable configurations	14
7.4 AAC (main, LC, ER LC, SSR, LTP, ER LTP, ER LD, scalable, ER scalable).....	15
7.5 TwinVQ and ER_TwinVQ	40
7.6 ER BSAC.....	44
7.7 CELP	52
7.8 ER CELP	56
7.9 HVXC.....	61
7.10 ER HVXC.....	71
7.11 ER HILN and ER Parametric	74
7.12 TTSI	89
7.13 General MIDI.....	91
7.14 Wavetable Synthesis	92
7.15 Algorithmic Synthesis and AudioFX	93
7.16 Main Synthetic	100
7.17 SBR	102
7.18 PS (Parametric Stereo).....	113
7.19 SSC (Sinusoidal Coding).....	115
7.20 DST (Lossless coding of oversampled audio)	121
7.21 Layer-3	123
7.22 ALS (Audio lossless coding).....	125
7.23 SLS (Scalable Lossless Coding).....	127
7.24 Layer-1 and Layer 2.....	130
7.25 Low Delay SBR	131
8 Audio EP tool	134
8.1 Compressed data	134
8.2 Decoders	137
9 Audio Composition	142
9.1 AudioBIFS v1	142
9.2 Advanced Audio BIFS nodes	153
9.3 AudioBIFS v3 Nodes	179
10 MPEG-4 audio transport stream	197
10.1 General	197
10.2 Compressed Data	198
10.3 Decoders	198

This is a preview of "ISO/IEC 14496-26:201...". [Click here to purchase the full version from the ANSI store.](#)

11	Upstream	199
11.1	Compressed data.....	199
11.2	Decoders.....	200
12	Conformance test sequence assignment to profiles and levels	200
12.1	Overview	200
12.2	Audio	200
12.3	Systems	216
Annex A (informative)	Complexity measurement criteria and tool for level definitions of algorithmic synthesis and AudioFX Object Type.....	221
Annex B (informative)	Test bitstreams for the CELP object type	242

This is a preview of "ISO/IEC 14496-26:201...". [Click here to purchase the full version from the ANSI store.](#)

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 14496-26 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology, Subcommittee SC 29, Coding of audio, picture, multimedia and hypermedia information*.

This part of ISO/IEC 14496 cancels and replaces:

- ISO/IEC 14496-4:2004, Clause 6,
- ISO/IEC 14496-4:2004/Cor.5,
- ISO/IEC 14496-4:2004/Cor.6,
- ISO/IEC 14496-4:2004/Amd.8:2005, including ISO/IEC 14496:2004/Amd.8:2005/Cor.1:2008,
- ISO/IEC 14496-4:2004/Amd.11:2006, including ISO/IEC 14496-4:2004/Amd.11:2006/Cor.1:2008,
- ISO/IEC 14496-4:2004/Amd.11:2006/Cor.2:2007,
- ISO/IEC 14496-4:2004/Amd.11:2006/Cor.3:2008,
- ISO/IEC 14496:2004-4/Amd.13:2007, including ISO/IEC 14496-4:2004/Amd.13:2007/Cor.1:2007,
- ISO/IEC 14496:2004-4/Amd.13:2007/Cor.2:2007,
- ISO/IEC 14496-4:2004/Amd.14:2007,
- ISO/IEC 14496-4:2004/Amd.15:2007,
- ISO/IEC 14496-4:2004/Amd.18:2007,
- ISO/IEC 14496-4:2004/Amd.19:2007, including ISO/IEC 14496-4:2004/Amd.19:2007/Cor.1:2008,
- ISO/IEC 14496-4:2004/Amd.20:2008, and
- ISO/IEC 14496-4:2004/Amd.22:2008.

This is a preview of "ISO/IEC 14496-26:201...". [Click here to purchase the full version from the ANSI store.](#)

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: Optimised 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: Advanced Video Coding (AVC) 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 [Technical Report]*
- *Part 25: 3D Graphics Compression Model*
- *Part 26: Audio conformance*
- *Part 27: 3D Graphics conformance*

This is a preview of "ISO/IEC 14496-26:201...". [Click here to purchase the full version from the ANSI store.](#)

Introduction

ISO/IEC 14496-3 specifies coded representations of audio information. ISO/IEC 14496-3 allows for large flexibility, achieving suitability of ISO/IEC 14496 for many different applications. The flexibility is obtained by including parameters in the bitstream that define the characteristics of coded bitstreams. Examples are the audio sampling frequency bitrate parameters, synchronisation timestamps, the association of bitstreams and synthetic objects within objects.

This part of ISO/IEC 14496 specifies how tests can be designed to verify whether bitstreams and decoders meet the requirements as specified in ISO/IEC 14496-3 and allow interoperability with remote terminals in interactive, broadcast and local (with stored contents) sessions. These tests can be used for various purposes such as

- manufacturers of encoders, and their customers, can use the tests to verify whether the encoder produces bitstreams compliant with ISO/IEC 14496-3,
- manufacturers of decoders and their customers can use the tests to verify whether the decoder meets the requirements specified in ISO/IEC 14496-3 for the claimed decoder capabilities,
- manufacturers and customers of terminals supporting interactive, broadcast and local sessions over a multitude of transport protocols and networks, can use the tests to verify whether the claimed functionalities are compliant with ISO/IEC 14496-6,
- manufacturers of test equipments, and their customers can use the tests to verify compliance with ISO/IEC 14496-3.