# INTERNATIONAL STANDARD

### ISO/IEC 23000-11

First edition 2009-11-15

## Information technology — Multimedia application format (MPEG-A) —

Part 11:

Stereoscopic video application format

Technologies de l'information — Format pour application multimédia (MPEG-A) —

Partie 11: Format pour application vidéo stéréoscopique



#### 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 2009

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

#### **Contents**

Page

Forewordv				
Introductionv				
1	Scope	1		
2	Normative references	1		
3	Terms and definitions	2		
4	Abbreviated terms	2		
5	Overview	2		
5.1	Overall procedure of stereoscopic contents	4		
5.2	Acquisition of the stereoscopic contents	4		
5.3	Stereoscopic contents composition type			
5.3.1	Side-by-side type			
5.3.2	Vertical line interleaved type	7		
5.3.3	Frame sequential type	7		
5.3.4	Left/Right view sequence type	7		
6	Components of Stereoscopic Video AF			
6.1	Supported components			
6.1.1	ISO base media file format			
6.1.1	LASeR			
6.1.2	AMR			
6.1.3	EVRC			
0.1.4				
7	File structures	ę		
7.1	Table for boxes	ę		
7.2	File structures of Stereoscopic Video AF	.11		
7.2.1	File structure for stereoscopic contents	.11		
7.2.2	File structure for stereo-monoscopic mixed contents			
0	Syntax and Semantics of the Boxes	41		
8 8.1	File Type Box	.15		
8.1.1	Definition			
8.1.1 8.2				
8.2.1	Track Reference Box  Definition			
8.2.2				
8.2.3	Syntax			
	Semantics			
8.3	Sync Sample Box			
8.3.1	Definition	.16		
8.4	Stereoscopic Video Media Information Box	.17		
8.4.1	Definition			
8.4.2	Syntax			
8.4.3 8.5	Starsanania Comerc and Display Information Box			
8.5.1	Stereoscopic Camera and Display Information Box			
8.5.2 8.5.3	Syntax			
8.6				
	Item Location Box			
8.6.1 8.6.2	Definition			
	Semantics			
8.7	Registration of voice codecs			
8.7.1	AMRSampleEntry box			
8.7.2	EVRCSampleEntry box	. 21		

#### ISO/IEC 23000-11:2009(E)

Annex A (informative)	Use cases of the file structure of stereo-monoscopic mixed contents	22
Bibliography		23

#### **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 23000-11 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

ISO/IEC 23000 consists of the following parts, under the general title *Information technology* — *Multimedia application format (MPEG-A)*:

- Part 1: Purpose for multimedia application formats [Technical Report]
- Part 2: MPEG music player application format
- Part 3: MPEG photo player application format
- Part 4: Musical slide show application format
- Part 5: Media streaming application format
- Part 6: Professional archival application format
- Part 7: Open access application format
- Part 8: Portable video application format
- Part 9: Digital Multimedia Broadcasting application format
- Part 10: Video surveillance application format
- Part 11: Stereoscopic video application format
- Part 12: Interactive music application format

#### Introduction

In today's technological arena, there is an abundance of digital content for digital image machinery such as laptops, cell-phones, digital cameras, and mobile devices. Stereoscopic video contents provide users with an experience of natural three-dimensional scenes, which are displayed using acquisition and generation techniques. The market for applying stereoscopic video contents on such devices is taking shape and maturing. Stereoscopic laptops, mobile phones, digital TVs, and multimedia devices are already on the market; however, what seems to be required for an immersive 3D market is a standard file format which is capable of storage, interchange, management, editing, and presentation of stereoscopic video contents.

The Stereoscopic Video application format (AF) defines a file format for stereoscopic video services in mobile environments. It specifies core structures of stereoscopic video AF being organized by the combination of related information for stereoscopic video applications.

Applicable areas of the Stereoscopic Video AF are quite broad, including the internet, telecommunications, and storage devices. The user can download the Stereoscopic Video AF files from the internet or via the telecommunication networks to his/her personal multimedia devices (e.g. Portable Multimedia Player or cell-phone) for local playback.

### Information technology — Multimedia application format (MPEG-A) —

#### Part 11:

#### Stereoscopic video application format

#### 1 Scope

This part of ISO/IEC 23000 specifies a file format which is capable of storage, interchange, management, editing, and presentation of stereoscopic video contents based on the ISO base media file format. The file format provides the overall structure for storing stereoscopic video contents with the related stereoscopic information in mobile environments.

#### 2 Normative references

The following referenced documents are indispensable for the application 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.

ISO/IEC 10918-1:1994, Information technology — Digital compression and coding of continuous-tone still images: Requirements and guidelines

ISO/IEC 14496-2, Information technology — Coding of audio-visual objects — Part 2: Visual

ISO/IEC 14496-3, Information technology — Coding of audio-visual objects — Part 3: Audio

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

ISO/IEC 14496-12, Information technology — Coding of audio-visual objects — Part 12: ISO base media file format

ISO/IEC 14496-20, Information technology — Coding of audio-visual objects — Part 20: Lightweight Application Scene Representation (LASeR) and Simple Aggregation Format (SAF)

ISO/IEC 15948:2004, Information technology — Computer graphics and image processing — Portable Network Graphics (PNG): Functional specification

3GPP TS 26.071, Mandatory speech CODEC speech processing functions; AMR speech Codec; General description

TIA/EIA/IS-127, Enhanced Variable Rate Codec (EVRC)