## INTERNATIONAL **STANDARD**



Third edition 2008-03-15

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

Part 4: Musical slide show application format

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

es Partie 4: Format pour application de présentation musicale de diapositives

Reference number ISO/IEC 23000-4:2008(E)

#### 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 2008

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

Forewo	ord	iv
Introdu	uction	v
1	Scope	1
2	Normative references	1
3 3.1 3.2	Terms and definitions Slide show track Animation effect	2
4 4.1 4.2 4.3 4.4 4.5 4.6	Overview of MPEG Standards for Musical slide show application format MPEG-1 Layer 3 ISO Base Media File Format. The ISO Base Media and MPEG-4 File Formats MPEG-4 "MPEG-1/2 Audio in MPEG-4" MPEG-4 LASeR MPEG-7 Multimedia Description Scheme	2 2 3 3 4 4
5 5.1 5.2 5.3 5.4	File structure of Musical slide show application format General Components of Musical slide show application format File format Playback	4 4 5 7
6 6.1 6.2 6.3 6.4 6.5	Technical features of Musical Slide Show application format General Synchronization of Media Animation Timed text Metadata	8 9 10 11
A.1 A.2 A.3 A.4 A.5 A.6 A.7	A (informative) Use cases of Musical slide show application format General Personal slide show application Photo-Music album application Foreign language exercise materials Storytelling application Karaoke application Slide show + Karaoke application	30 30 31 31 32 32
Annex B.1 B.2	B (informative) Examples of LASeR description element usage General Examples of basic transition effects	33
Bibliog	graphy	37

## 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 23000-4 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): TON OCTOBILIST OF OCTOBILIST. OF OCTOBILIST OF OCTOBILIST OF OCTOBILIST OF OCTOBILIST OF OCTOBILIST OF OCTOBILIST OF OCTOBILIST. OF OCTOBILIST OF OCTOBILIST. OF OCTOBILIST OF OCTOBILIST OF OCTOBILIST. OF OCTOBILIST OF OCTOBILIST OF OCTOBILIST. OF OCTOBILIST OF OCTOBILIS OCTOBILISTO OF OCTOBILOS OF OCTOBILOS OF OCTOBILISTO OF OCTOBILOS OF OCTOBILISTO OF O

- Part 1: Purpose for multimedia application formats
- Part 2: MPEG music player application format
- Part 3: MPEG photo player application format
- Part 4: Musical slide show application format

## Introduction

ISO/IEC 23000 (also known as "MPEG-A") is an MPEG standard that supports a fast track to standardization by selecting readily tested and verified tools taken from the MPEG body of standards and combining them to form a MAF (Multimedia Application Format). If a needed piece of technology is not provided within the MPEG, then additional technologies originating from other organizations can be included by reference in order to facilitate the envisioned application format.

The existing music player application format (ISO/IEC 23000-2) was designed as a format for enhanced MP3 players. It contains MP3 audio data, MPEG-7 metadata and an optional JPEG still image for cover art. The photo player application format (ISO/IEC 23000-3) is a format for digital photo library applications. It contains JPEG still images and associated MPEG-7 metadata.

The Musical slide show application format (ISO/IEC 23000-4) is a richer multimedia format that builds on top of the music player and the photo player application format. This format supports the use of MP3 audio data along with multiple JPEG images in the form of a slide show presentation, and it is designed to render timed text data for annotations or lyrics. The format also features animation effects for image transitions and synchronization of media data.

this document is a preview demendence of the document is a preview demendence of the document of the document

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

## Part 4: Musical slide show application format

### 1 Scope

This part of ISO/IEC 23000 specifies a file format for multimedia applications that feature MP3 audio playback and image slide show presentation. This part of ISO/IEC 23000 also defines other technical features such as timed text (e.g. song lyrics) and animation (image transition effect).

#### 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 14496-3:2005, Information technology - Coding of audio-visual objects - Part 3: Audio

ISO/IEC 14496-12:2005, Information technology – Coding of audio-visual objects – Part 12: ISO base media file format

ISO/IEC 14496-14:2003, Information technology - Coding of audio-visual objects - Part 14: MP4 file format

ISO/IEC 14496-20:2006, Information technology – Coding of audio-visual objects – Part 20: Lightweight Application Scene Representation (LASeR) and Simple Aggregation Format (SAF)

ISO/IEC 15938-2, Information technology – Multimedia content description interface – Part 2: Description definition language

ISO/IEC 15938-5:2003, Information technology – Multimedia content description interface – Part 5: Multimedia description schemes

ISO/IEC 15938-10, Information technology – Multimedia content description interface – Part 10: Schema definition

ISO/IEC 21000-17, Information technology – Multimedia framework (MPEG-21) – Part 17: Fragment identification of MPEG resources

3GPP TS 26.245, Transparent end-to-end Packet switched Streaming Service (PSS); Timed text format. Version 6.1.0, 2005-01-06

#### 3 Terms and definitions

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