
**Information technology — Coding
of audio-visual objects —**

**Part 5:
Reference software**

**AMENDMENT 16: Symbolic Music
Representation reference software**

Technologies de l'information — Codage des objets audiovisuels —

Partie 5: Logiciel de référence

*AMENDEMENT 16: Logiciel de référence pour la représentation
musicale symbolique*



Reference number
ISO/IEC 14496-5:2001/Amd.16:2008(E)

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Foreword

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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.

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Amendment 16 to ISO/IEC 14496-5:2001 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

This Amendment adds the Reference Software of Symbolic Music Representation as defined in ISO/IEC 14496-23 and ISO/IEC 14496-11:2005/Amd.5.

There are two parts to the SMR reference software reference software — MPEG-4 Systems dependent and MPEG-4 Systems independent parts. The MPEG-4 Systems dependent part is implemented and made available as a revision to the IM1 reference software for MPEG-4 Systems. The MPEG-4 Systems independent part is available as an independent implementation.

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Part 5: Reference software

AMENDMENT 16: Symbolic Music Representation reference software

In Clause 3: "Audio reference software", add a row to the table:

audio/SNHC/mpeg4smr	Symbolic Music Representation decoder and tools
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In Clause 5: "Systems reference software", add a row to the table:

systems/IM1-SMR	IM1 supporting SMR nodes
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Add Annex D: "Guidance on SMR reference software" and rename Annexes D and E as Annexes E and F respectively.

Annex D (informative)

Guidance on SMR reference software

D.1 IM1 Reference Software update

In Systems/IM1-SMR directory the IM1 project has been enhanced to provide support for SMR, in more details:

- the Nodes.cpp, Nodes.h file has been updated to support the two new nodes (MusicScore and ScoreShape);
- the new *MusicScoreProxy* and *ScoreShapeProxy* classes have been created;
- the new SMRDecoder project to build the decoder dll has been created, it provides the interface needed for the integration with IM1, it uses the SMRDecoderLib to process the SMR bitstream, to generate a bitmap representing the score and it is used also to manipulate the SMR content itself.
- The MP4Enc application has been enhanced to allow the encoding in MP4 files of SMR information together with the BIFS scene description.