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

**Part 17:
Streaming text format**

*Technologies de l'information — Codage des objets audiovisuels —
Partie 17: Format de texte en flux*

Reference number
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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 14496-17 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 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* [Technical Report]
- *Part 8: Carriage of ISO/IEC 14496 contents over IP networks*
- *Part 9: Reference hardware description* [Technical Report]
- *Part 10: Advanced Video Coding (AVC)*
- *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 GFX*
- *Part 22: Open Font Format*

Introduction

This International Standard was developed in response to the need for a generic method for coding of text at very low bitrate as one of the multimedia components within audiovisual presentations. This International Standard allows for example subtitles and Karaoke song texts to be coded and transported as separate text streams for presentation jointly with other components of an audiovisual presentation at bitrates that are sufficiently low for use in mobile services over IP.

Information technology — Coding of audio-visual objects —

Part 17: Streaming text format

1 Scope

This International Standard specifies the coded representation of textual information for timed presentation on screens. The text may be streamed in association with video and audio, in which case the text may represent subtitles e.g. with translations of the associated audio in another language, or as an aid to the hard of hearing; another example is the text of a song in a Karaoke application. However, the text may also be streamed as a stand-alone application without any associated video and audio. The streaming text format is specified in a transport agnostic manner, so as to allow transport over a large variety of transport means, while providing a reasonable level of random access and error robustness.

The text streams are defined as byte streams that are capable of carrying text access units of a specified format, optionally interleaved with data needed for the decoding of the text stream. The format of text streams and text access units is specified, as well as signaling and decoding of text streams.

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 14496-18:2004, *Information technology — Coding of audio-visual objects — Part 18: Font compression and streaming*

3GPP TS 26.245: 2003, Timed text format (Release 6)