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colour inside

Guideline for synchronization of audio and video –
Part 2: Methods for synchronization of audio and video systems

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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GUIDELINE FOR SYNCHRONIZATION OF AUDIO AND VIDEO –

Part 2: Methods for synchronization of audio and video systems

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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This Redline version provides you with a quick and easy way to compare all the changes between this standard and its previous edition. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

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- the required support cannot be obtained for the publication of an International Standard, despite repeated efforts, or
- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical Specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 62312-2, which is a technical specification, has been prepared by technical area 11: Quality for audio, video and multimedia systems, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

This second edition cancels and replaces the first edition published in 2007. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) fingerprint is newly introduced;

b) addition of the synchronization information from fingerprint (SMPTE spec.);

c) addition of the method for using the above information.

The text of this Technical Specification is based on the following documents:

Draft TS	Report on voting
100/3049/DTS	100/3106/RVDTS

Full information on the voting for the approval of this Technical Specification can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

The list of all the parts of IEC 62312, published under the general title *Guideline for synchronization of audio and video*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- transformed into an International standard,
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- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The “colour inside” logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this publication using a colour printer.

INTRODUCTION

Audio, video and multimedia systems and equipment have begun to use digital technologies. Digital systems or equipment may cause delay of audio and video signals because digital signal processing causes latency and delay. The unevenness of the delay between audio and video ~~may~~ can cause synchronization problems.

For instance, a digital broadcasting system uses signal compression of audio and video. A receiver has signal decoders, and this ~~may~~ can cause unevenness of the delay between audio and video. Digital video signal processing of the display causes a significant delay in the reproduction time of the video image. Another example is an audio-video system consisting of a digital media player, an audio amplifier and a display. A digital media player outputs audio and video signals separately to the amplifier and display through digital interfaces. This may cause synchronization problems of audio and video when ~~each~~ the processing time of ~~the~~ each piece of equipment is different.

To solve synchronization problems of audio and video reproduction on the user side, this document gives guidelines for general methods for the synchronization of audio and video.

GUIDELINE FOR SYNCHRONIZATION OF AUDIO AND VIDEO –

Part 2: Methods for synchronization of audio and video systems

1 Scope

The IEC 62312 series gives guidelines for methods of synchronization of audio and video.

This part of IEC 62312 describes the system model and general methods for the synchronization of audio and video. The methods exclude the synchronization of the signal source and the spatial delay of audio reproduction.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 60958-1, *Digital audio interface – Part 1: General*

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SMPTE 12M, *Television, Audio and Film – Time and Control Code*

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Edition 2.0 2018-11

TECHNICAL SPECIFICATION

Guideline for synchronization of audio and video –
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IEC TS 62312-2:2018-11(en)

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A bilingual version of this publication may be issued at a later date.

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