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Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 –
Part 11: MPEG-4 AAC and its extensions and MPEG-D USAC in LATM/LOAS

INTERNATIONAL
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FOREWORD

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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 61937-11:2010+AMD1:2018 CSV. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 61937-11 has been prepared by technical area 20: Analogue and digital audio, of IEC technical committee 100: Audio, video and multimedia systems and equipment. It is an International Standard.

This second edition cancels and replaces the first edition published in 2010, and Amendment 1:2018. This edition constitutes a technical revision.

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

a) MPEG-D USAC has been added.

The text of this International Standard is based on the following documents:

Draft	Report on voting
100/3523/CDV	100/3582/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

A list of all parts in the IEC 61937 series, published under the general title *Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958*, can be found on the IEC website.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

Modern digital video broadcasting standards, such as DVB, include support for the MPEG-4 HE AAC and/or HE AAC v2 audio codecs specified in ISO/IEC 14496-3. An increasing number of countries are adopting these new codecs for their standard-definition and high-definition digital video broadcasting services and have started with implementations.

For MPEG-2 AAC audio (ISO/IEC 13818-7), the specified framing format for the audio bit stream is ADTS and its transport over an IEC 60958 interface is specified in IEC 61937-6.

However, the MPEG-4 (ISO/IEC 14496-3) and MPEG-D (ISO/IEC 23003-3) audio codecs introduce new features and capabilities that require a framing format that supports more flexible signalling and delivery mechanisms. Therefore, MPEG-2 systems (ISO/IEC 13818-1) specify the MPEG-4 LATM/LOAS framing format for MPEG-4 audio codecs to overcome the limitations of ADTS.

In order to be able to pass the MPEG-4 or MPEG-D audio bit stream from a set-top box to an A/V receiver connected via the IEC 60958 interface without needing to reframe the audio bit stream within ADTS, the MPEG-4 LATM/LOAS framing format needs to be supported by IEC 61937, including the high-speed transmission protocol where the interface does not carry an embedded sampling frequency clock.

~~INTRODUCTION to Amendment 1~~

~~The revision of IEC 61937-11:2010 has become necessary to specify the protocol where the interface does not carry an embedded sampling frequency clock. The purpose is primarily to support stereophonic multichannel audio applications increasing their channel counts. It is justified in that ARIB introduces 22.2/7.1 audio channel applications, as given in ITU-R BS.2051-0, into the market in 2018. This Amendment 1 contains the following significant technical changes with respect to IEC 61937-11:2010:~~

- ~~new Annex B specifies new high-speed transmission;~~
- ~~the term "Sub-data-type" is discontinued.~~

DIGITAL AUDIO – INTERFACE FOR NON-LINEAR PCM ENCODED AUDIO BITSTREAMS APPLYING IEC 60958 –

Part 11: MPEG-4 AAC and its extensions and MPEG-D USAC in LATM/LOAS

1 Scope

This part of IEC 61937 describes the method to convey non-linear PCM bitstreams encoded in accordance with the MPEG-4 AAC format and its extensions (spectral band replication, parametric stereo and MPEG surround), and non-linear PCM bitstreams encoded in accordance with the MPEG-D USAC format, framed in MPEG-4 LATM/LOAS.

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 (all parts), *Digital audio interface*~~

IEC 60958-3:2021, *Digital audio interface – Part 3:* Consumer applications

IEC 61937-1:2021, *Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 – Part 1: General*

IEC 61937-2:2021, *Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 – Part 2: Burst-info*

ISO/IEC 14496-3:~~2009~~2019, *Information technology – Coding of audio-visual objects – Part 3: Audio*

ISO/IEC 23003-3:2020, *Information technology – MPEG audio technologies – Part 3: Unified speech and audio coding*

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