

CONSOLIDATED VERSION



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



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**Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 –
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AUDIO BITSTREAMS APPLYING IEC 60958 –**

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

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This Consolidated version of IEC 61937-11 bears the edition number 1.1. It consists of the first edition (2010-05) [documents 100/1491/CDV and 100/1580/RVC] and its amendment 1 (2018-11) [documents 100/2948/CDV and 100/3033/RVC]. The technical content is identical to the base edition and its amendment.

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 61937-11 has been prepared by technical area 4: Digital system interfaces and protocols, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

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

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

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

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- withdrawn,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 as 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) audio codecs introduce new features and capabilities that require a framing format that supports more flexible signaling and delivery mechanisms. Therefore, MPEG-2 Systems (ISO/IEC 13818-1) specifies 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 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.

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 in LATM/LOAS

1 Scope

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

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.

IEC 60958 (all parts), *Digital audio interface*

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

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

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

3 Terms, definitions and abbreviations

For the purposes of this document the terms, definitions and abbreviations of IEC 61937-1, IEC 61937-2 and the following apply.

3.1 Terms and definitions

3.1.1

access unit

smallest entity to which timing information can be attributed; an access unit is the smallest individually decodable unit; a decoder consumes access units

3.1.2

AudioMuxElement(1)

LATM element that carries payload data for at least one audio elementary stream, related payload length information and multiplex configuration information

NOTE This element carries payload data in form of PayloadMux elements. The number in brackets indicates multiplexing configuration (StreamMuxConfig) is multiplexed into AudioMuxElements, that is in-band transmission.

3.1.3

AudioSpecificConfig

configuration structure used to convey parameters to initialize the MPEG-4 audio decoder