

# INTERNATIONAL STANDARD

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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**





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INTERNATIONAL  
ELECTROTECHNICAL  
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## CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references.....	7
3 Terms and definitions .....	7
3.1 Terms and definitions .....	7
3.2 Abbreviated terms .....	9
4 Mapping of the audio bit stream on to IEC 61937-1 .....	10
4.1 General.....	10
4.2 Burst-info for MPEG-4 AAC and its extensions and MPEG-D USAC in LATM/LOAS.....	10
5 Format of data-burst for MPEG-4 AAC and its extensions and MPEG-D USAC in LATM/LOAS .....	10
5.1 General.....	10
5.2 Pause data-bursts for MPEG-4 AAC and its extensions in LATM/LOAS .....	11
5.3 Audio data-bursts .....	11
5.3.1 MPEG-4 AAC and its extensions in LATM/LOAS .....	11
5.3.2 USAC in LATM/LOAS.....	13
5.3.3 LATM/LOAS framing .....	14
5.3.4 Latency.....	15
Annex A (informative) Calculation of delay and data-burst repetition rates – guidelines.....	16
A.1 Examples .....	16
A.2 Guidelines.....	17
Annex B (normative) High-speed transmission.....	18
B.1 Indication .....	18
B.2 Example.....	18
Annex C (informative) MPEG-4 and MPEG-D audio profiles and audio object types.....	19
C.1 Overview.....	19
C.2 MPEG-4 AAC Profile .....	19
C.3 MPEG-4 High-Efficiency AAC Profile .....	19
C.4 MPEG-4 High-Efficiency AAC v2 Profile.....	19
C.5 MPEG-D Baseline USAC Profile .....	20
C.6 MPEG-D Extended HE-AAC Profile.....	20
Bibliography .....	21
Figure 1 – Data-burst structure.....	11
Figure 2 – Data-burst structure.....	13
Figure 3 – Latency diagram for burst reception and decoding.....	15
Figure C.1 – MPEG-4 /MPEG-D audio profiles structure .....	19
Table 1 – Values for data-type bits 0-4 and data-type bits 5-6.....	10
Table 2 – Repetition period of pause data-bursts .....	11
Table 3 – Data-type-dependent information for MPEG-4 AAC audio and its extensions in LATM/LOAS.....	12

Table 4 – Data-type-dependent information for USAC audio in LATM/LOAS .....	14
Table A.1 – Examples – Calculation of delay and data-burst repetition rates for AAC_LC and HE AAC .....	16
Table A.2 – Examples – Calculation of delay and data-burst repetition rates for USAC .....	17
Table B.1 – Indication fields .....	18
Table B.2 – Signalling example .....	18

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**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**

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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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://www.iec.ch/standardsdev/publications).

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

## 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.

# 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 60958-3:2021, *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 14496-3:2019, *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*

### 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

#### 3.1 Terms and definitions

##### 3.1.1

##### **access unit**

smallest entity to which timing information can be attributed

Note 1 to entry: An access unit is the smallest individually decodable unit.

Note 2 to entry: A decoder consumes access units.