

# INTERNATIONAL STANDARD

# IEC 61937-2

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

**Part 2:  
Burst-info**



Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

#### **Part 2: Burst-info**

#### **FOREWORD**

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International Standard IEC 61937-2 has been prepared by Technical Area 4, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

This second edition of IEC 61937-2 cancels and replaces the first edition published in 2000. This edition contains the following significant technical changes with respect to the previous edition.

- a) New audio data-types of enhanced AC-3 data, MPEG-2 AAC low sampling frequency, MPEG-4 AAC, DTS type IV, ATRAC-X, WMA professional and MAT are added.
- b) Data-type field in Pc is expanded from bit 0-4 to 0-6.

The text of this standard is based on the following documents:

| CDV          | Report on voting |
|--------------|------------------|
| 100/1115/CDV | 100/1221/RVC     |

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

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

The list of all the parts of the IEC 61937 series, 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 this publication will remain unchanged until the maintenance result 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

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- withdrawn,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

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

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

## **Part 2: Burst-info**

### **1 Scope**

This part of IEC 61970 specifies the digital audio interface to convey non-linear PCM encoded audio bitstreams applying IEC 60958-1 and IEC 60958-3. This standard specifies burst-info which defines content information about the data contained in the burst payload.

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

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

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

IEC 61937-3, *Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 – Part 3: Non-linear PCM bitstreams according to the AC-3 format*

IEC 61937-4, *Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 – Part 4: Non-linear PCM bitstreams according to the MPEG audio formats*

IEC 61937-5, *Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 – Part 5: Non-linear PCM bitstreams according to the DTS (Digital Theater Systems) format(s)*

IEC 61937-6, *Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 – Part 6: Non-linear PCM bitstreams according to the MPEG-2 AAC and MPEG-4 AAC formats*

IEC 61937-7, *Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 – Part 7: Non-linear PCM bitstreams according to the ATRAC, ATRAC2/3 and ATRAC-X formats*

IEC 61937-8, *Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 – Part 8: Non-linear PCM bitstreams according to the Windows Media Audio (WMA) Professional format*

IEC 61937-9, *Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 – Part 9: Non-linear PCM bitstreams according to the MAT format<sup>1</sup>*

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<sup>1</sup> To be published.

ISO/IEC 11172-3, *Information technology – Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mb/s – Part 3: Audio*

ISO/IEC 13818-3, *Information technology – Generic coding of moving pictures and associated audio information – Part 3: Audio*

ISO/IEC 13818-7, *Information technology – Generic coding of moving pictures and associated audio information – Advanced Audio Coding (AAC)*

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

ITU-R Recommendation BS.1196, *Audio coding for digital terrestrial television broadcasting*

### 3 Terms, definitions and abbreviations

#### 3.1 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

|                     |                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| audio data-burst    | data-burst with an encoded audio frame as burst-payload                                                                                                                                                                                                                                                                                                             |
| audio data-word     | 16-bit data word                                                                                                                                                                                                                                                                                                                                                    |
| audio frame         | fixed number of audio samples. The number of samples in an audio frame is dependent on the particular encoding system which is used to encode the audio frame into the encoded audio frame                                                                                                                                                                          |
| audio gap           | period in the sequence of baseband audio samples where valid samples of audio are not available                                                                                                                                                                                                                                                                     |
| bitstream           | non-linear PCM encoded audio source, represented in a sequence of bits. In this interface the bitstream consists of a sequence of data-bursts                                                                                                                                                                                                                       |
| data-burst          | packet of data, including the burst-preamble, to be transmitted across the interface                                                                                                                                                                                                                                                                                |
| burst-payload       | information content of the data-burst                                                                                                                                                                                                                                                                                                                               |
| burst-preamble      | header for the data-burst, containing synchronization and information about the data contained in the burst-payload                                                                                                                                                                                                                                                 |
| data-type           | reference to the type of payload of the data-bursts                                                                                                                                                                                                                                                                                                                 |
| encoded audio frame | minimum decodable unit of an encoded data sequence. Each encoded audio frame is the encoded representation of a fixed number of audio samples (for each original audio channel). The number of samples which are encoded into an encoded audio frame depends on the particular encoding system which is used to encode the audio frame into the encoded audio frame |
| length-code         | length of the data-burst-payload in bits                                                                                                                                                                                                                                                                                                                            |
| repetition period   | period between the reference point of the current data-burst, and the reference point of the immediately following data-burst of the same data-type                                                                                                                                                                                                                 |
| sampling frequency  | sampling frequency of the encoded PCM audio samples (i.e. before encoding and after decoding)                                                                                                                                                                                                                                                                       |
| sampling period     | period related to the sampling frequency of the PCM audio samples, represented in the encoded bitstream                                                                                                                                                                                                                                                             |
| stuffing            | occupying the unused data capacity of the interface                                                                                                                                                                                                                                                                                                                 |
| stuffing sub-frame  | occupying the unused data capacity in 16-bit audio data words                                                                                                                                                                                                                                                                                                       |
| stream gap          | period within the encoded audio bitstream without any audio frame; a discontinuity in the bitstream. Typically, a stream gap will occur between encoded audio frames                                                                                                                                                                                                |