

# P1857.8

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**Submitter Email:** [wgao@pku.edu.cn](mailto:wgao@pku.edu.cn)  
**Type of Project:** New IEEE Standard  
**PAR Request Date:** 24-Sep-2015  
**PAR Approval Date:** 05-Dec-2015  
**PAR Expiration Date:** 31-Dec-2019  
**Status:** PAR for a New IEEE Standard

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**1.1 Project Number:** P1857.8  
**1.2 Type of Document:** Standard  
**1.3 Life Cycle:** Full Use

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**2.1 Title:** Standard for 2nd Generation Audio Coding

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**3.1 Working Group:** Audio Video Coding Working Group (C/SAB/AVS\_1857\_WG)

**Contact Information for Working Group Chair**

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**3.2 Sponsoring Society and Committee:** IEEE Computer Society/Standards Activities Board (C/SAB)

**Contact Information for Sponsor Chair**

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**4.1 Type of Ballot:** Individual

**4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot:** 06/2016

**4.3 Projected Completion Date for Submittal to RevCom:** 12/2016

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**5.1 Approximate number of people expected to be actively involved in the development of this project:** 20

**5.2 Scope:** This standard specifies audio compression, decompression and packaging tools and mechanism which support the efficient transmission and storage of the multimedia data over internet and flexible configuration of compression parameters for providing better Quality of Experience (QoE) about bitrate and subjective assessment of playback quality, aiming at satisfying the requirement of network user, such as self-made multi-tracks and multi-components audio production, or music scene coding. These include the bitrate from 16kb/s/ch to 192kb/s/ch and multiple channels up to 128 for audio signals with sampling frequency 8kHz~192kHz and quantization resolution 8 bit, 16 bit and 24 bit.

**5.3 Is the completion of this standard dependent upon the completion of another standard:** No

**5.4 Purpose:** This standard is the second generation of IEEE std 1857.2-2013 [IEEE Standard for Advanced Audio Coding], which provides more flexible and high efficiency coding tool sets for compression, decompression, and packaging of the audio data which should double the coding efficiency of IEEE std 1857.2-2013. The target applications and services include but are not limited to the audio accompanying video and other audio services and applications, such as the audio accompanying Internet video, TV audio system, digital audio storage, Audio broadcasting and communication.

**5.5 Need for the Project:** There are some alternative specifications with similar purpose but they do not satisfy the need for balance between efficiency and complexity required for providing high quality aural and visual service in limited band width settings. The committee views standardization as essential for lowering the cost of solutions intended for low-band width consumer devices.

**5.6 Stakeholders for the Standard:** -Audio and video products (hardware or software) manufacturers or vendors

-Aural and visual content providers

- Audio and video service providers, including broadcasting operators, Internet audio or video service providers

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## Intellectual Property

**6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?:** No

**6.1.b. Is the Sponsor aware of possible registration activity related to this project?:** No

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**7.1 Are there other standards or projects with a similar scope?:** Yes

**If Yes please explain:** The audio coding tools developed by ISO/IEC in MPEG-1/2/4 are mainly used in broadcasting industry, which requires accurate frame rate, and assured bandwidth. G.711, G.722, G.726, G.727, G.723, G.729 developed by ITU-T are mainly used in telecommunication industry. None of them is specified for Internet multimedia coding and search, and none of them matches the needs of the emerging cloud computing environment.

**and answer the following**

**Sponsor Organization:** ISO/IEC and ITU-T

**Project/Standard Number:** G.711, G.722, G.726, G.727, G.723, G.729

**Project/Standard Date:**

**Project/Standard Title:** Audio parts of the MPEG-1(ISO/IEC 11172-3), MPEG-2 (ISO/IEC 13818-3, -7), MPEG-4 (ISO/IEC 14496-3), MPEG-H(ISO/IEC 23008-3)

**7.2 Joint Development**

**Is it the intent to develop this document jointly with another organization?:** No

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## 8.1 Additional Explanatory Notes (Item Number and Explanation): 7.1

- 1) ISO/IEC 11172-3:1993 Information technology -- Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s -- Part 3: Audio
- 2) ISO/IEC 13818-3:1995 Information technology -- Generic coding of moving pictures and associated audio information -- Part 3: Audio
- 3) ISO/IEC 13818-7:1997 Information technology -- Generic coding of moving pictures and associated audio information -- Part 7: Advanced Audio Coding
- 4) ISO/IEC 14496-3: 1999 Information technology - Coding of audio-visual objects - Part 3 Audio
- 5) ISO/IEC 23008-3: 2014 Information technology -- High efficiency coding and media delivery in heterogeneous environments -- Part 3: 3D audio
- 6) ITU-T Recommendation G.711--Pulse Code Modulation (PCM) of Voice Frequencies
- 7) ITU-T Recommendation G.722.2: Wideband Coding of Speech at around 16kbit/s Using Adaptive Multi-Rate Wideband (AMR-WB)
- 8) ITU-T Recommendation G.723.1: Dual Rate Speech Coder for Multimedia Communication Transmitting at 5.3 and 6.3kbit/s
- 9) ITU-T Recommendation G.726: 40, 32, 24,16kbit/s Adaptive Differential Pulse Code Modulation (ADPCM)
- 10) ITU-T Recommendation G.727 (1990): Extensions of Recommendation G.727 for use with uniform-quantized input and output
- 11) ITU-T Recommendation G.729: Coding of Speech at 8 kbit/s Using Conjugate-Structure Algebraic-Code-Excited Linear-Prediction (CS-ACELP)