STANDARDS AND INFORMATION DOCUMENTS

AES71-2018
(Reaffirmed 2023)

AES Recommended Practice Loudness Guidelines for Over the Top Television and Online Video Distribution

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AES71-2018
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AES Recommended Practice - Loudness Guidelines for Over the Top Television and Online Video Distribution

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Abstract:

This AES Recommended Practice (RP) describes the many issues related to online audio Loudness variations. It provides comprehensive recommendations documenting effective guidelines for managing audio Loudness of soundtracks of television and video content available to consumers by Over-The-Top (OTT) and by Online Video Distributors (OVD).

When followed, these guidelines will provide consistent Loudness, appropriate playback loudness range, reduce audio quality degradation from excessive limiting, preserve the original artistic intent, and improve the listening experience. This document does not provide specific recommendations about target playback loudness or dynamic range.

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Foreword

This foreword is not part of the *Loudness Guidelines for Over the Top Television and Online Video Distribution*.

The Audio Guidelines for Over the Top Television and Video Streaming (AGOTTVS) technical subcommittee was formed in early 2016 to study the many issues related to online audio Loudness variations. Its goal is to develop comprehensive recommendations, providing effective guidelines for managing audio Loudness of soundtracks of television and video content available to consumers by Over-The-Top (OTT) and by Online Video Distributors (OVD).

Comprehensive recommendations require a thorough process of user input, data collection, discussion and drafting on an ongoing basis.

In October of 2016 the group recognized an urgent need to publish preliminary loudness guidelines as AES Technical Council document AESTD1005.1.16-09 that addressed the fundamental concern of audio Loudness in the developing segment of on-line television and video content delivery, from creation through distribution and to the consumer experience.

With the release of the preliminary loudness guidelines the group raised awareness of more forthcoming, comprehensive and ongoing work and invited all interested parties to join the effort.

As a result, the AGOTTVS group increased in membership and met multiple times to continue their work drafting enhanced OTT and OVD loudness guidelines that were released as AES Technical Council document AESTD1006.1.17-10.

This group consists of volunteer members with expertise and/or interest in the creation, distribution and emission of professional audio. AGOTTVS membership is open to all stakeholders with a material interest in its work, regardless of AES membership status.

The members of the writing group that developed this document in draft are:

This draft standard was developed under project AES-X244 by writing group within task group SC-02-12-P led by Jim Starzynski, and with the following members: Frank Baumgarte, David Bialik, Tim Carroll, Roger Charlesworth, Jim DeFilippis, Chris Homer, Fabian Kuech, Thomas Lund, Scott Norcross, Kazuho Ono, Sean Richardson, Jeff Riedmiller, Steven A. Silva, Jean-Michel Trivi, and Adrian Wisbey.

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Chair, Working Group SC-02-12

Note on normative language

In AES standards documents, sentences containing the word “shall” are requirements for compliance with the document. Sentences containing the verb “should” are strong suggestions (recommendations). Sentences giving permission use the verb “may”. Sentences expressing a possibility use the verb “can”.

AES Recommended Practice
Loudness Guidelines for Over the Top Television and Online Video Distribution

0 Introduction

0.1 General

Television content distributed as Over-the-Top-Television (OTT) or by Online Video Distribution (OVD) is prone to the same Loudness management problems as early Digital Television (DTV). All digital implementations provided a substantial increase in audio dynamic range capability compared to their analog predecessor. This created an opportunity for severe Loudness variation between Programs, channels and commercial advertising content. Where Loudness was not managed correctly, audiences became annoyed with the need to constantly adjust their listening volume.

Using the audio Loudness measurement recommendation, ITU-R BS.1770, organizations around the world independently developed guidelines for TV engineers to follow. These guidelines focused on maintaining and improving DTV's sonic integrity and listening experience by managing the Loudness and Loudness Range of Program and Interstitial Content. Recognizing that devices can receive multiple services or use multiple audio CODECs, guidelines were produced to align the playback Loudness of DTV receiving devices by establishing suitable gain structures in the audio output paths.

0.2 Patents

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. AES shall not be held responsible for identifying any or all such patent rights.

0.3 Documentation conventions

Capitalization denotes the term is defined in section 3: Terms, definitions and abbreviations.

1 Scope

This AES document addresses OTT and OVD Loudness challenges by leveraging the established practices, noted above, providing new guidelines focused on the Loudness and Content Dynamic Range for connected set-top and mobile devices. When followed, these guidelines will:

- Provide consistent Loudness across different Programs, service providers and advertising content
- Provide appropriate ranges for playback Loudness for different devices and listening conditions
- Prevent excessive Peak Limiting or other processing from degrading the audio quality
- Preserve the artistic intent of wide Content Dynamic Range (movies, drama, live music)
- Improve the listening experience

Note that this document does not provide specific recommendations about device target playback loudness, Loudness Range or dynamic range.

For the purpose of this document OTT is defined as: The means to deliver video content via streaming, VOD, pay TV, IPTV and download via IP mechanisms. OVD is defined as any entity that offers video content by means of Internet Protocol (IP)-based transmission paths provided by a person or entity other than the OVD. OTT and OVD do not include delivery of content via means of traditional distribution e.g., broadcast TV, cable TV, satellite TV, and telco supplied TV, etc.