Audio Engineering Society
Technical Committee – Audio for Cinema (TC-AC)

Cinema Loudness – Control and Conformance

Request For Proposals (RFP)

September 2019

About AES TC-AC

Established in 1948, the Audio Engineering Society (AES) draws its membership from engineers, scientists, other individuals with an interest or involvement in the professional audio industry. The membership largely comprises engineers developing devices or products for audio, and persons working in audio content production. It also includes acousticians, audiologists, academics, and those in other disciplines related to audio. The AES is the only worldwide professional society devoted exclusively to audio technology.

The Society develops, reviews and publishes engineering standards for the audio and related media industries, and produces the AES Conventions, which are held twice a year alternating between Europe and the US. The AES and individual regional or national sections also hold AES Conferences on different topics during the year.

Technical Committee – Audio for Cinema (TC-AC) is co-chaired by Julian Pinn and Julius Newell with international membership of leading technology experts in cinema production, post-production, and re-production. TC-AC aims to work in harmony with other established motion-picture engineering societies, international standards organisations, and related trade bodies to further the art and science of cinema audio through the confluence of expert debate, research, liaison, education, and proposal-setting.

More information: http://www.aes.org.

Problem definition and goal

There exists a set of international standards and industry norms that enable post-production sound studios world-wide to produce motion-picture content in the same—or similar—electro-acoustic setup as the world's cinemas, should they too aspire to meet those same standards. Controlled and often proprietary workflow channels and formats to produce motion-picture content have enabled a good level of adoption of these standards for content creation and for theatres. However, and in particular, because of a shift towards open-standards and therefore less proprietary control, the prevalence of content creators and cinemas to deviate from these standards is increasing. The result is an experience for the cinemagoers where the levels between elements of the show are not so consistent nor is the ability for cinema operators to be confident in adopting the standards for fear of receiving content that is mixed, arguably, too loud for such standards.

The goal is to provide a more consistent and appropriate audio experience for all elements of the in-theatre show that respects the artistic intent and also the replay reference level standard and related standards; i.e. for cinema operators to be confident in their selection of the reference replay fader level.

Scope

AES TC-AC hereby requests project-proposals, solution-proposals, or offers of collaboration/liaison from the wider industry and its members that aim to address or that aim to further the progress to addressing the problem as defined above in order that TC-AC may consider the most suitable and

viable next steps that are also in keeping with the wishes of the industry. Such next steps could be for AES TC-AC to coordinate research on the evaluation of metrics both new and existing, methods of measurement including easy workflow integration, communication and ease of adoption, and the promotion of cross-industry harmony with other deliverable specifications related to cinema such as for streaming services.

Framework and RFP guidance
- Consider metrics.
- Consider method to compare metrics together with human response surveys.
- Consider maximum requirement versus informative communication.
- Consider referencing existing work.
- Consider electric (file-based etc) measurement versus acoustic measurement.
- Consider workflow integration and faster-than-real-time measurement.
- Consider immersive audio formats.
- Consider existing B-Chain standards and recommendations that define the electroacoustic match between post-production and exhibition, such as:
    o SMPTE ST202, SMPTE RP200, SMPTE ST2095-1, SMPTE RP2096-1 and -2, etc;
    o ISO 22234, ISO 2969, ISO 21727, etc;
    o the Leq(m)-based recommendations from TASA (US Trailers) and SAWA (Global Commercials), etc.
- Consider existing post-production file formats, distribution and exhibition formats such as DCP.
- Consider exhibition community needs.

Deadline for proposals
- 1st March 2020 emailed to Julian Pinn via julian@julianpinn.com (TC-AC Chair) for committee review, evaluation, response-formulation, and project-initiation.