



# IAMT Report on AES Standards Committee Meetings 18 - 22 May and 1 June 2026

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This report is a confidential IAMT member resource

AES Standards meetings are held twice a year to progress the development of new Audio Engineering Society standards and to revise existing ones.

The AES is currently holding its Standards meetings online. Until recently, the meetings were always held face-to-face as part of the AES Conventions that are held twice per year. This time, the associated AES Convention will be 28 -30 May in Copenhagen (see below).



An IAMT representative attends the AES standards meetings and we produce the following information after each meeting round:

- Executive Summary in website **News** items
  - *This* report, focussing on a selection of projects thought to be of interest to members
  - An update to the Standards Monitoring Group (SMG) projects (usually a few weeks after the meetings, to give people a chance to get under way with the work they've signed up for).
- More information** about the IABM SMG service that helps members to be more involved with development of relevant standards.

Between the six-monthly meetings, we attend telecons for relevant standards projects and issue technology news items **on this page**.

We also update the SMG project information.

	LA	7:30	8:00	8:30	9:00	9:30
	NY	10:30	11:00	11:30	12:00	12:30
	London	15:30	16:00	16:30	17:00	17:30
	Warsaw	16:30	17:00	17:30	18:00	18:30
	Tokyo	23:30	0:00	0:30	1:00	1:30
Wed. 5/6 2026			(C) AESSC Steering			
Mon. 5/18 2026			SC-05-05		SC-04-03	
Tues. 5/19 2026			SC-04-08		SC-03-12	
Wed. 5/20 2026			SC-04-09		SC-02-08	SC-02-01
Thur. 5/21 2026			SC-03-06		SC-02-02	
Fri. 5/22 2026			SC-02-12		SC-03-07	SC-05-02
Mon. 6/1 2026			AESSC PLENARY			



Held online - but associated with the 160<sup>th</sup> AES Convention in Copenhagen, Denmark – **details here**.

We normally attend the Standards Committee plenary and the Working Group meetings for:

- Digital Input/Output Interfacing (SC-02-02)
- Audio-File Transfer and Exchange (SC-02-08)
- Audio Applications of Networks (SC-02-12)
- Digital Audio Measurement Techniques (SC-02-01)
- Digital Library & Archive Systems (SC-03-06)
- Metadata for Audio (SC-03-07)
- Audio Connectors (SC-05-02)
- Grounding and EMC Practices (SC-05-05)

The other Working Groups are:

- Forensic Audio (SC-03-12)
- Loudspeaker Modeling and Measurement (SC-04-03)
- Microphone Measurement and Characterization (SC-04-04)
- Measurement of sound systems in rooms (SC-04-08)
- Loudness and Annoyance (SC-04-09)

The Chair of AES Standards Committee is Bruce Olson, Vice Chair Jeff Berryman, Secretary Rich Cabot.

The IABM welcomes feedback on these resources to help us fine-tune the projects we study and report on.

There are lists of recently-initiated projects as well as AES Engineering documents published in the last quarter at the **end of this report**.

**General Information picked up at the meetings**

This “general” information is usually gathered during the AES Standards plenary meeting. However, that meeting is being held much later – June 1 – and we want to publish before that. If anything important emerges, it will be posted as a Technology News item on the IAMT website.

Links in each page header allow fast navigation to each of these topic groups as well as the SMG projects that are covered in greater detail.

If this is the first time you have used one of these reports, there is a **page** at the end of the report that explains the AES Standards process, Technology Committees - and the acronyms used!

**SEVERE DISRUPTION TO AES STANDARDS RESOURCES**

Last time I reported that various features of the standards resources were beginning to get repaired. Unfortunately, they got worse again. All this disruption was caused by the introduction of a new website that ignored all of the previously-available AES Standards functionality. If IAMT members require support with AES standards-related issues, **contact me** and I will find ways to pass queries on to the correct people.

Features currently not working include the standards development document repository, project tracking, agenda and meeting report archive, email lists, public call-for-comment and others. The published standards site is also out-of-date, and the Standards Manager cannot post the latest revisions (last standard published was November 20<sup>th</sup> 2024; several have been completed since then).

**IMPROVEMENTS ARE PLANNED**

At this meeting round, it was announced that AES Standards will adopt Microsoft Teams for its collaboration tool. It will not solve all of the problems, so email and call-for-comment will still need new solutions, as well as getting the standards store up-to-date again.

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## Projects Covered In-depth by our Standards Monitoring Group (SMG)

These projects have been selected because they are topics of potential importance to our industry and deserve additional attention. As well as attending the quarterly SMPTE face-to-face meeting rounds, the IAMT attends the document development telecons for these projects. Members are encouraged to propose other SMPTE projects for extra attention.

If you want to see - and comment on - the documents as they develop [join our Standards Monitoring Group \(SMG\)](#).

### Streaming Audio Metadata over IP

#### AES-X242 Streaming audio metadata over IP networks

##### Assigned to task group SC-02-12-R

At the last meeting, there was general agreement that the standard being developed should be replaced by a report on carrying audio and audio metadata over IP. One member stepped forward to lead the effort.

##### Status at meeting:

It was agreed that this project will be transferred to task group SC-02-12-M, that developed AES67 and has the experts to contribute to the report. The report scope will be widened to cover interoperability between SMPTE ST 2110 audio and AES67. This task group will be closed and members transferred to SC-02-12-M (where necessary).



### AES70 – Open Control Architecture projects

#### Assigned to task group SC-02-12-L

**AES70: Open Control Architecture**  
*Perspective: During the development of these AES standards, the original proponent (Open Control Alliance) continued to develop the system and to resolve some issues that had arisen.*

*A major change is the replacement of connection management scheme CM3 in the previously published AES70 with the more efficient CM4. There are mechanisms to deal with backwards compatibility. The 2024 document suite is much more robust, easier to use, and it has new features of interest to both the broadcast and pro-audio industries.*

*This technology was brought to the AES by the **OCA Alliance** for standardization at the October 2012 meeting. This suite of documents was first published January 2016, and a set of revised documents was published early in 2019 (dated 2018). The current versions of the suite were published May 2024.*

*AES70 defines a scalable control-protocol architecture for the control and monitoring of professional media networks.*

##### **PUBLISHED AES70 DOCUMENTS:**

*Part 1: Framework describes the models and mechanisms of the AES70 Open Control Architecture. These models and mechanisms together form the AES70 Framework.*

*Part 2: Class Structure specifies the AES70 control class structure that defines the control and monitoring functional capabilities of the standard and includes class relationships in machine-readable XML Interchange format (xmi 2.0). Includes UML.*

*Part 3: OCP.1 Binary Protocol – expanded from its earlier scope and title confining it to IP networks (it was Protocol for IP Networks and specified protocol implementation for TCP, UDP, WebSockets).*

*Part 22: Using AES70 to manage Milan™ media transport. Milan is an AVB profile for real-time audio transport. It is created and maintained by the AVNU Alliance.*

**Status of AES70 document suite at meeting:**

In addition to the published parts of AES70 (see box, above right), there are projects introducing further functionality, described below.

At this meeting, the task group Chair informed the group that further improvements are being worked on in the OCA Alliance and, when complete, will lead to revisions of the core parts AES70-1, -2, -3.

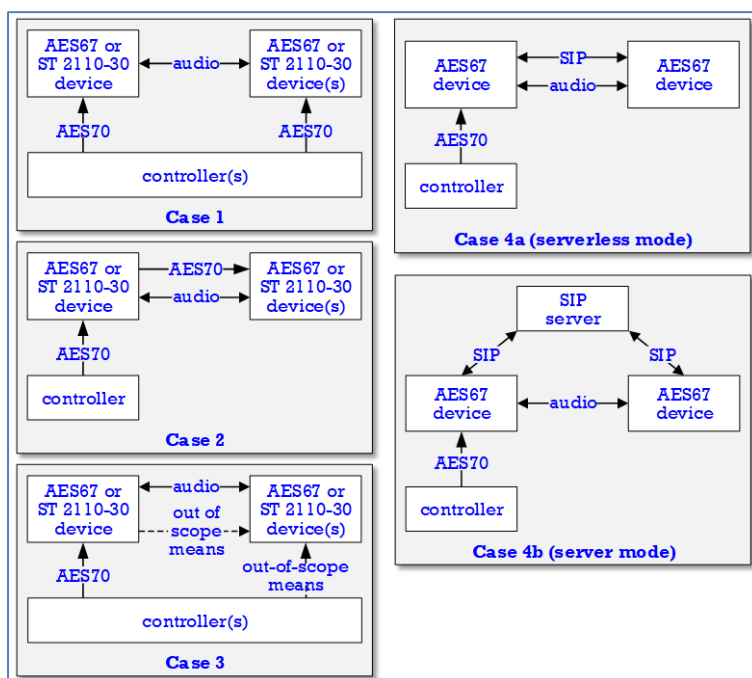
**AES-X243: Using AES70 connection management for AES67 and SMPTE ST 2110-30**

Define a new standard in the AES70 family for using the AES70-CM4 connection management mechanism to set up, manage, and tear down AES67 and SMPTE ST 2110-30 media stream connections. It is document AES70-21.

The use-cases covered are shown in the diagram (right).

**Status at meeting:**

Two rounds of public Call-for-Comment have been held and comments were received each time. The group is still processing the second set of comments (which it regards as valid, and which will be used to further revise the draft. There is a good chance that a third public Call-for-Comment will be held.



**AES-X264 Project for AES70-4: OCP.2 – JSON Protocol**

This Standard contains the technical specification of the OCP.2 protocol of AES70, the Open Control Architecture. OCP.2 is a JSON-encoded protocol that supports AES70-compliant remote control and monitoring of media devices over IP networks and Point-to-Point Links.

**Status at meeting:**

AES70-4 has been approved for publication – there are just a couple of minor typos that need correction in the final document.

It is the JSON equivalent of the published AES70-3 Standard that defines OCP.1, a binary AES70 protocol. OCP.1 and OCP.2 are functionally equivalent.

The table (right) shows the functions and structure of the document.

Group	Clauses
Introductory topics	0 ... 5
OCP.2 protocol and related mechanisms	6 ... 8
OCP.2 programming constructs	9
OCP.2 implementation details for various Control Session Transport Types	10 ... 11
JSON Schema - normative specification	Annex A
Protocol data unit examples - informative	Annex B
WebSocket security - informative	Annex C

**AES-X258: Using AES70 to manage Audinate Dante® media transport**

Project scope: This standard specifies the use of AES70 to manage Audinate Dante® media stream connections between devices, where AES70 is used to control at least one of the devices, while

other devices may be controlled using Audinate mechanisms or other out-of-scope means. The document will be AES70-23.

### Status at meeting:

Work is underway. The group has significantly changed direction on this document, to focus on using the “Dante Management API” (DMAPI) and there are discussions with Audinate to find the best way to implement AES70-23. It may be that these two documents will need to grow in parallel.



## Analog Interfaces

### AES-X152 - Standard for PRESENTING signal levels and circuit impedances of audio system components and for the specification of these quantities in product data sheets

The heart of the document was conceived as a datasheet template for each type of interconnect; intended for manufacturers to complete along with their product literature (see a version below for a balanced analog interface; output and input characteristics). In October 2024, the plan was to make this into a report, and also to split it into several parts.

**X152 scope:** to develop a standard for signal levels and circuit impedances of audio system components and for the specification of these quantities in **product data sheets** in order to achieve predictable interconnection results (both balanced and unbalanced).

This project was reactivated in spring 2020.

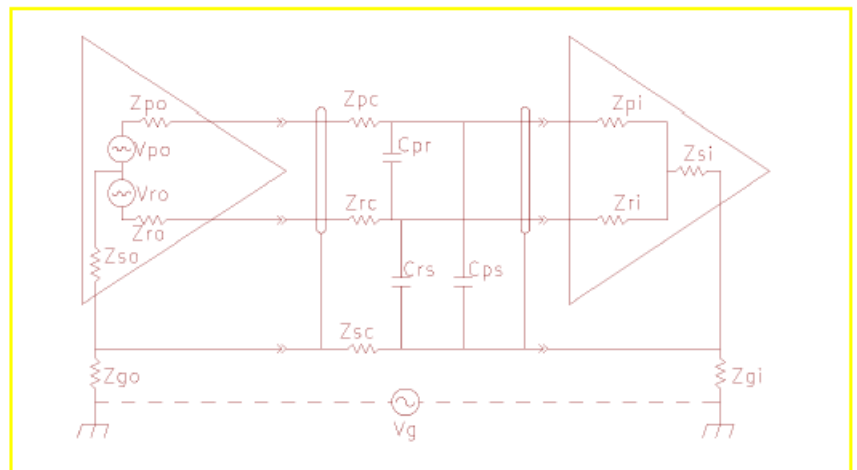
### Status at meeting:

The group discussed ways to manage activity, given the **failings** of the AES Connect resources.

An alternative way to email the group will be used and GoogleDocs will be used for document storage.

It was agreed that a time for future meetings will be agreed that takes in European as well as US participants – likely 9am on 3<sup>rd</sup> Tuesday of each month.

The diagram (right) is just an extract from the last draft of the document (that I was able to see).



## Other Projects - Arranged by Working Group

### Working Group SC-02-01: Digital Audio Measurements

Chair: Jayant Datta; Vice Chair: Ian Dennis

- Measurement methods for equipment used for the recording, reproduction, and transmission of digital audio signals.
  - Effects of perceptually based coding algorithms on audio signals.
  - Psychophysical and electrical analysis under all operational and listening conditions.
- Ranking of codecs and test methods to determine presence of coders or their proper operation.

### AES17-R Review of AES17-2020: Measurement of digital audio equipment

*Provides methods for specifying and verifying the performance of digital audio equipment, and specifically to describe the testing of medium and high-performance digital audio equipment.*

*AES17 scope: To provide methods for specifying and verifying the performance of digital audio equipment, and specifically to describe the testing of medium- and high-performance digital audio equipment.*

#### Status at this meeting:

At the last meeting, it was agreed that there is ongoing confusion about 0dB FS being a sine wave, just touching full scale and that a diagram showing this would be added to AES17 (even though the text itself has always been clear).

The Chair showed two versions of a diagram illustrating this issue. It was agreed that the simpler version would be added to the definitions section of AES17 and that the more complex one, with mathematical derivations, would be added to an informative annex.

When this is done, the document should be ready for public Call-for-Comment.

**AES-X217 Audio ADC test method and performance specification for archiving and preservation applications**

A draft document has been available for some while. The group received a large number of comments on this document and these have been incorporated in the latest draft that was submitted to the working group.

**Status at this meeting:**

This document will be published as AES information document AES78id.

It was reported that the document had passed its Call-for-Comment process (though it has not been posted [here](#)) but that it is not yet published.

The “meat” of the document is summarized in the contents extract (right).

**Other SC-02-01 business**

The Standards Manager notified the group about work in SC-04-03, principally intended for acoustics measurements that are often “spiky”. It implements a smoothing algorithm.

The group is also responsible for maintaining published documents (reviewed every 5 years):

- AES-R7 Standards project report - Considerations for accurate peak metering of digital audio signals
- AES-12id-2020 (r2025): AES information document for digital audio measurements - Jitter performance specifications

*Audio ADC test method and performance specification*  
 At the 2013-05 meeting, a group member who had been working with the US government on requirements for ADCs for archival purposes submitted a document that is based largely on AES17 measurement methods, but which also defines performance limits that must be achieved. It was agreed that this is a very important subject and this project, to turn the input document into an AES standard, was initiated. It was agreed to separate the measurement definition and the performance required into separate sections of the document to facilitate easy changes to performance specification (e.g. adding requirements for other applications). A revised draft document was submitted to the Oct. 2016 meeting, reflecting ADC testing experience gained by the author and two colleagues. Wherever possible, the document was based on tests within AES17.

*ADCtest application - source code and binaries have been developed and are freely available for windows. This software uses a subset of AES-X217 techniques. **Contact me** and I'll get GitHub URL*

**4 Setup**.....

4.1 Signal generator.....

4.2 ADC setup.....

4.3 Filters.....

4.4 Setup diagram.....

**5 Measurements**.....

5.1 Frequency response.....

5.2 Total harmonic distortion + noise (THD+N).....

5.3 Dynamic range (signal to noise ratio).....

5.4 Crosstalk.....

5.5 Common-mode rejection ratio (CMRR).....

5.6 Modulation distortion.....

5.7 Difference-frequency distortion.....

5.8 Gain non-linearity.....

5.9 Spurious inharmonic signals.....

5.10 Alias rejection.....

5.11 Sync input jitter susceptibility.....

5.12 Jitter transfer gain.....

**Annex A (informative): Informative references**.....

**Annex B (normative): Minimum performance specifications**.....

B.1 Frequency response.....

B.2 Total harmonic distortion + Noise (THD+N).....

B.3 Dynamic range (Signal to noise ratio).....

B.4 Crosstalk.....

B.5 Common-mode rejection ratio (CMRR).....

B.6 Modulation distortion.....

B.7 Difference-frequency distortion.....

B.8 Gain non-linearity.....

B.9 Spurious inharmonic signals.....

B.10 Alias rejection.....

B.11 Sync input jitter susceptibility.....

B.12 Jitter transfer gain.....

## Working Group SC-02-02: Digital Input-Output Interfaces

Chair: John Grant

- Specification of configurations, synchronization and operating limits for digital interfaces carrying audio, labeling, and control data.

### AES-X260 UWB Hi Res, Low Latency Audio Interface – Task Group SC-02-02-B

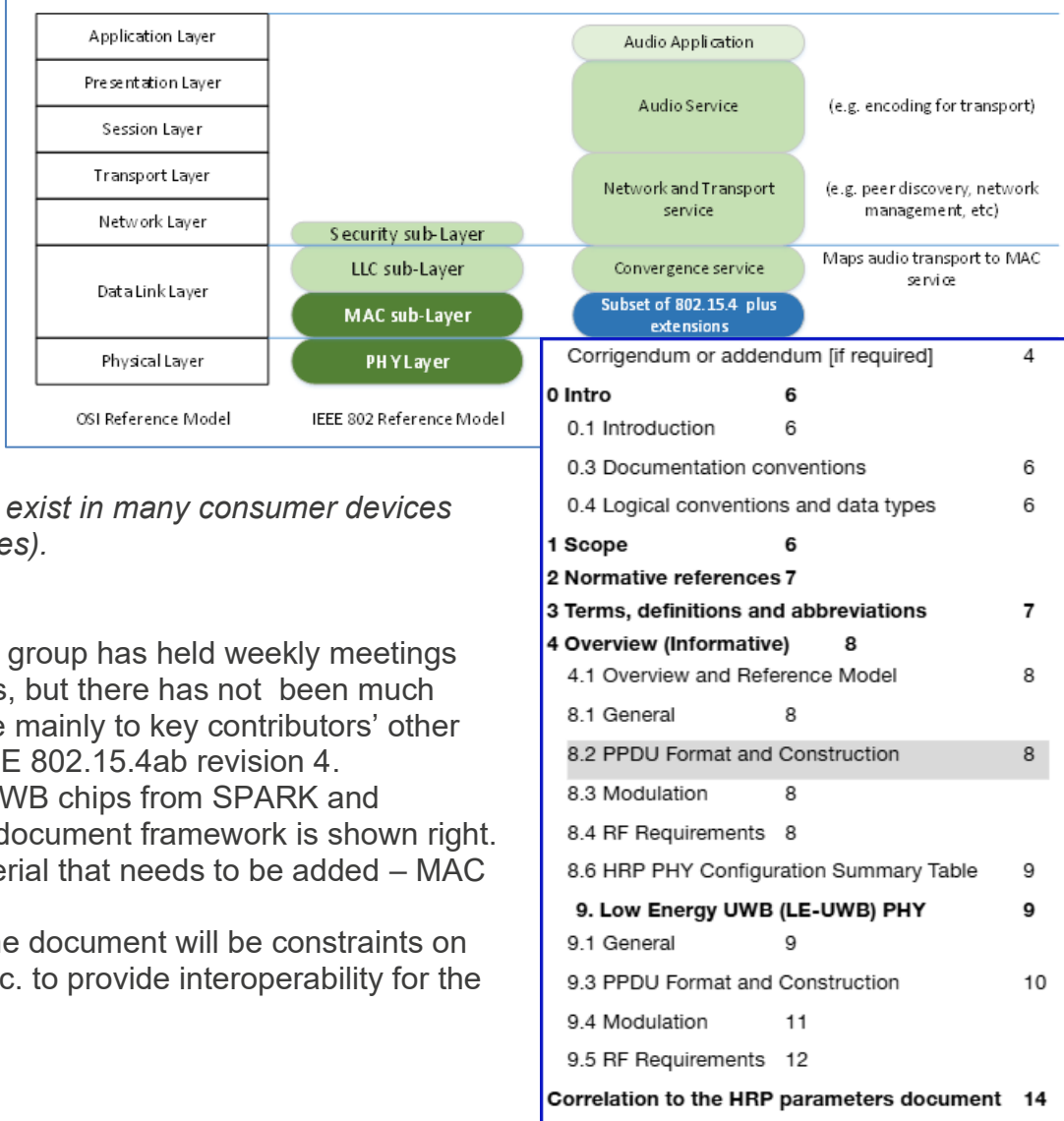
*This document will describe the preferred way to implement connection management, assure consistent audio quality and provide for interoperable audio and feature control sets for the MAC convergence and application layers of UWB devices intended for high-quality audio use. Provide extensions to IEEE 802.15.4ab standard which defines connection, operating features and command structure in order to provide an interoperable interface between UWB audio capture and playback devices.*

*At the October 2023 meeting, the proponent introduced the work with a presentation (see slide) on how UWB can be used for high quality audio interfaces.*

*It has low latency and has been used with wireless mics in festival venues where conventional wireless mics would not work due to interference sources.*

*UWB interfaces already exist in many consumer devices (such as high-end phones).*

### Example of how we might map audio profile



**Status at meeting:** The group has held weekly meetings over the last few months, but there has not been much document progress, due mainly to key contributors' other commitments to the IEEE 802.15.4ab revision 4. The group is studying UWB chips from SPARK and QUORVO. The current document framework is shown right. There is a lot more material that needs to be added – MAC definitions, for instance. It seems that much of the document will be constraints on clauses in the IEEE spec. to provide interoperability for the UWB application.

**Other SC-02-02 business**

The group is also responsible for maintaining published documents (reviewed every 5 years):

- AES3-1-2009 (r2024), AES standard for digital audio – Digital input-output interfacing - Serial transmission format for two-channel linearly represented digital audio data
  - Part 1: Audio Content
  - Part 2: Metadata and Subcode
  - Part 3: Transport
  - Part 4: Physical and Electrical
- AES5-2018 (r2023): AES recommended practice for professional digital audio - Preferred sampling frequencies for applications employing pulse-code modulation
- AES41-2012 (r2022): AES standard for digital audio - Audio-embedded metadata
  - Part 1: General
  - Part 2: MPEG-1 Layer II or MPEG-2 LSF Layer II
  - Part 3: AAC & HE-AAC
  - Part 4: Dolby E
  - Part 5: EBU loudness, true-peak, and downmix
- AES52-2006 (r2022): AES standard for digital audio engineering - Insertion of unique identifiers into the AES3 transport stream
- AES53-2018 (r2022): AES Standard for digital audio - Digital input-output interfacing - Sample-accurate timing in AES47
- AES55-2012 (r2022): AES standard for digital audio engineering - Carriage of MPEG Surround in an AES3 bitstream
- AES10-2020 (r2025): AES Recommended Practice for Digital Audio Engineering - Serial Multichannel Audio Digital Interface (MADI)
- AES11-2020 (r2025): AES Recommended Practice for Digital Audio Engineering - Synchronization of digital audio equipment in studio operations
- AES50-2020 (r2025): AES standard for digital audio engineering - High-resolution multi-channel audio interconnection (HRMAI)
- AES51-2020 (r2025): AES standard for digital audio - Digital input-output interfacing - Transmission of ATM cells over Ethernet physical layer
- AES-2id-2020 (r2025): AES information document for digital audio engineering - Guidelines for the use of the AES3 interface
- AES-10id-2020 (r2025): AES information document for digital audio engineering - Engineering guidelines for the multichannel audio digital interface (MADI) AES10
- AES-R6-2020: Guidelines for AES50 (no review needed)
- AES-R8-2020: Synchronisation of digital audio over wide areas (no review needed) Stabilized or Withdrawn
- AES47-2018 (s2018) AES standard for digital audio - Digital input-output interfacing - Transmission of digital audio over asynchronous transfer mode (ATM) networks

## Working Group SC-02-08: Audio-File Transfer and Exchange

Chair: Piotr Majdak; Vice-Chair: Markus Noisternig

- User implementation, and adoption of technologies for the exchange of audio data files and editing information among systems, by either transfer over a network or by exchange of physical media.

### AES31-2-R Review of AES31-2-2019: Audio-file transfer and exchange - Part 2: File Format for Transferring Digital Audio Data Between Systems of Different Type and Manufacture

*This standard defines a file format for interchanging audio data between compliant equipment. It is primarily intended for audio applications in professional recording, production, postproduction, and archiving.*

#### Status at meeting:

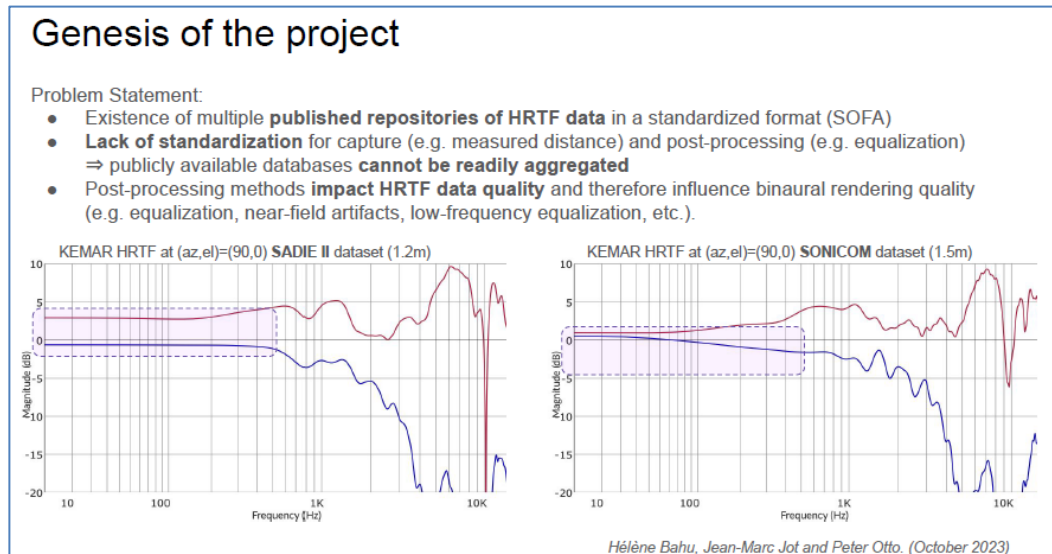
A group member has revised the document to add 32 bit float format. A draft document has been submitted to the SC-02-08 group. At the last meeting, it was decided that it can have a very short further review and then be submitted for public Call-for-Comment. That didn't happen, so it will be done shortly.

### AES69-R Review of AES69-2022: AES standard for file exchange - Spatial acoustic data file format

*This document standardizes a file format to exchange space-related acoustic data in various forms. The format is designed to be scalable to match the available rendering process. The format is designed to be sufficiently flexible to include source materials from different databases.*

This presentation was given at the May 2023 meeting. It explains the revision work proposed for AES69 on "Normalizing HRTF datasets".

It is aimed at standardizing a number of parameters in HRTF data sets – slide shows variation due to measured distance. This work was introduced at the Spring AES Convention.



the

There is continued interest in developing collaborative tools for document development and the AES69 Chair is working on a LaTeX template.

### Status at meeting:

The following revisions to AES69 have been proposed:

- Correction of typos relating to matrices, that could lead to implementation errors. Versions of a new draft have been exchanged between the document editor and the Standards Manager, adding further corrections.  
It will soon be sent for Call for Comment.
- Addition to the standard to include work related to normalizing HRTF datasets (see above). There was further discussion about this revision work, and the intention to include work on directivity. It was considered that this creates overlap with AES56 - Loudspeaker Polar Radiation Measurements. The Standards Committee Chair suggested that AES56 should be moved into this group and the two documents should be revised together. My note: AES56 hardly fits into the group's Audio File Transfer and Exchange scope.

### **AES31-3-R Review of AES31-3-2021: AES standard for network and file transfer of audio - Audio-file transfer and exchange - Part 3: Simple project interchange.**

There was further discussion of whether this document should be updated to add an explanatory sentence that bit depth can be 32 or 64 and that a user needs to check the bwf file to determine whether float or fixed point is being used (a consequence of adding 32 bit float to AES31-2). It was agreed to add this sentence, which is considered editorial and will not need formal Call-for-Comment.

### **Other SC-02-08 business**

The group is also responsible for maintaining published documents (reviewed every 5 years):

- AES31-4-2024: AES standard for network and file transport of audio - XML Implementation of Audio Decision Lists (recently transferred from SC-03-07).  
Stabilized or Withdrawn:
- AES-21id-2011 (r2017), AES Information Document for audio-file transfer and exchange - Screen-less navigation for high-resolution audio on Blu-ray Disc [STABILIZED]
- AES31-1-2001 (r2011): AES standard for network and file transfer of audio - Audio-file transfer and exchange - Part 1: Disk format [STABILIZED]

Also, providing expertise to IEC for maintaining IEC 62942 Broadcast Wave File Format via project AES-X236

### **Working Group SC-02-12: Audio Applications of Networks**

Chair: Morton Lave; Vice-Chair Kevin Gross

- The use of various network types for audio and audio-related applications

### **See SMG monitored projects**

Most of the current active projects in this Working Group are featured in our **SMG monitored projects section** above; media networks is where most recent action has been, also reflected by the much larger number of participants.

**Other SC-02-12 business**

The group is also responsible for maintaining published documents (reviewed every 5 years):

- AES67-2023 (r2024): AES standard for audio applications of networks - High-performance streaming audio over IP interoperability (review due in 2028).
- AES70-1-2024: AES standard for audio applications of networks - Open Control Architecture - Part 1: Framework
- AES70-2-2024: AES standard for audio applications of networks - Open Control Architecture - Part 2: Class structure
- AES70-3-2024: AES standard for audio applications of networks - Open Control Architecture - Part 3: OCP.1 Binary Protocol
- AES70-22-2024: AES standard for audio applications of networks – Open Control Architecture – Part 22: Using AES70 to manage Milan™ media transport
- AES71-2018 (r2023): AES Recommended Practice: Loudness Guidelines for Over the Top Television and Online Video Distribution (review due in 2028).
- AES77-2023: AES Recommended Practice: Loudness Guidelines for Internet Audio Streaming and On-Demand Distribution (review due in 2028).
- AES-R10: AES Standards Report - Use cases for networks in professional audio
- AES-R16 AES Standards Report - PTP parameters for AES67 and SMPTE ST 2059-2 Interoperability (revised and published since last meeting round)
- AES-R20-2021: AES Standards Report - AES67 beyond the LAN

**Stabilized and Withdrawn:**

- AES58: AES Standard for audio applications of networks - Application of IEC 61883-6 32-bit generic data [STABILIZED]
- AES-R17: Standards project report - AES67 Interoperability PlugFest - London 2017 [STABILIZED]
- AES74-2019 (w2024) AES standard for audio applications of networks - Requirements for Media Network Directories and Directory Services WITHDRAWN



### Working Group SC-03-06: Digital Library and Archive Systems

Chair: Nadja Wallaszkovits; Vice-Chair: Brad McCoy

- The application of digital technologies for media preservation and access

*This WG restarted in 2020, having been closed for some years.*

*The subject matter may not be of great relevance to IABM members, but we will continue to attend to see how the work develops.*

**AES-X120 Liaison with International Association of Sound and Audiovisual Archives IASA**

Their core std, TC-04, needed update and this led to the formation of the X255 project below. Their TC-04 group will review the X255 AES document.

**Status at this meeting:**

SC-03-6 members continue to take part in IASA TC meetings. The group will continue to liaise with IASA, currently an informal relationship as there is already a lot of cross-membership. A current joint activity is putting together articles from the AES Journal and IASA Bulletin - sorting into topics and priority for republishing. The aim is to preserve the history of these technologies. It is likely that the documents identified will be republished online.

**AES-X255 AES information document: Implementation of a Recommended Workflow for the Creation and Archiving of Analogue and Digital Archival Materials from Professional /Multitrack/ Multichannel Audio Production Formats**

*Scope: An AES Information Document covering recommended workflow for professional audio production formats, such as:*

- Multichannel - multitrack
- Quadraphonic formats (tape and disc)
- Noise reduction systems
- Surround sound

**Status at this meeting:**

The last draft document available to the group stood at 82 pages (revision continues, but the website problems have prevented group access). Also, the Chair has additional work duties that have prevented progress in the last 6 months. The “meat” of the document is shown in the excerpt from the contents, right. Some annexes have been added.

The group recognizes that it would be possible to keep adding to this document forever, so it was decided that it would be cleaned up (some recent incomplete additions removed) and the document moved forward to publication.

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**Other SC-03-06 Business**

- The group is also responsible for maintaining a published document (reviewed every 5 years):
- AES57-2011 (r2022), AES standard for audio metadata - audio object structures for preservation and restoration.

**Working Group SC-03-07: Audio Metadata**

Chair: Kaylie Ackerman; Vice Chair: Vacant

- Formal descriptions and metadata sets for audio elements.

**AES-X155: Production recording metadata set (iXML)****Status at this meeting:**

An new author has taken over this work. He has some iXML chunks to test the schema and has done much of the work to complete the document. He hopes to have a new draft for review in a couple of weeks.

***AES-X155:** will support communication of file- and project-based production metadata between audio stages of film and television workflow. iXML is primarily designed to write an embedded tagged data RIFF chunk inside a BWF file (it can be included in other file types).*

*iXML standardizes current production metadata, with an extensible framework to add private or public data, while permitting expansion in a*

**Other SC-03-07 business**

The group is also responsible for maintaining published documents (reviewed every 5 years):

- AES60id-2020 (r2025) AES standard for audio metadata - Core audio metadata
- AES-R9 AES standards project report - Considerations for standardizing AES metadata sets  
It is keeping in abeyance a project that was started but not completed:
- Best Practices for the Management of Embedded Metadata in Audio Files

**Working Group SC-05-02: Audio Connectors**

Chair: Fred Morgenstern; Vice-Chair: Anthony Kuzub

- New usage, description, and contact designation for connectors for audio and ancillary functions.

**AES-X261 Polarity and pin configuration for linear balanced audio PCB connector (aka Euroblock)**

*Defines the number of pins used for each channel and the pin configuration for connecting +, -, signal conductors and cable shield for linear PCB connectors.*

Both 3 pin and 6 pin (stereo) implementations are supported.

**Status at Meeting**

A group member has done a lot of work on this draft document. The lack of standards resources has hampered further progress, but it is hoped that, when Teams is introduced, work can resume to get this document ready for review and publication.

**Other SC-05-02 business**

The group has also been keeping an eye on single-pair ethernet connectors due to their compactness and suitability for carrying audio; though this was not discussed this time.

The group is also responsible for maintaining published documents (reviewed every 5 years):

**Contents SMG Measurement Interfaces File Transfer Networks Archive Metadata Connectors EMC**

- AES59-2012 (r2023): Audio application of 25-way D-type connectors in balanced circuits (review due 2029)
- AES65-2012 (r2023): Connector for Surround Microphones (review due 2029)
- AES66-2012 (r2023): Application of connectors, miniature XLR-type polarity and gender (review due 2029)
- AES63-2024: AES standard for audio connectors - Data connector in an XLR connector shell (review due 2029)
- AES68-2014 (r2024): AES standard for audio connectors – XL Connectors to Improve Electromagnetic Compatibility (review due 2029)
- AES72-2019 (r2024): AES standard for audio connectors - Application of RJ45-type connectors to professional audio (review due 2029)

**Working Group SC-05-05: Grounding and Electromagnetic Compatibility Practices**

Chairs: Anthony Kuzub, Bill Whitlock

- All practices affecting usage and performance of audio hardware, with respect to the susceptibility of the signals it carries to effects such as noise and crosstalk due to the manner of its connection and construction, and the effects of its signals on other hardware and systems in its vicinity. It shall not set standards for personal safety with regard to such connections and construction but shall keep safety considerations in mind in its recommendations.

The **AES-X152** project (Signal levels and impedances of analog audio interfaces) in this Working Group is featured in our SMG monitored projects section, **above**.

**AES-X249 AES standard on interconnections - Grounding and EMC practices - Shields of 25-way D-type connectors in balanced circuits**

This work focuses on optimal grounding for DB25 connectors using AES59 pinouts and applying the principles established in AES48.

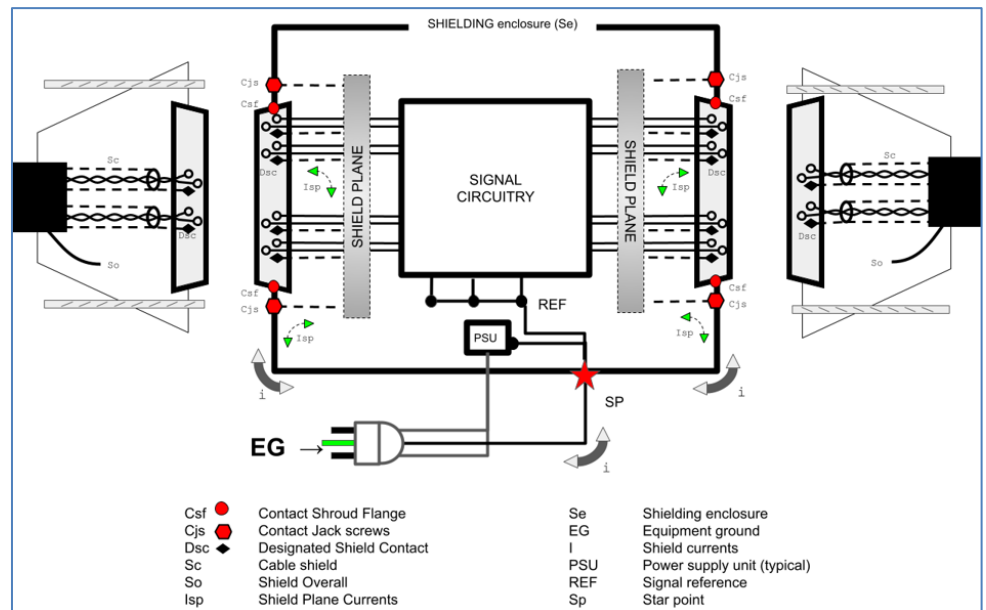
Although some problems have arisen due to the move from panel-mounted connectors to pcb-mounted connectors, in the case of grounding pins 2,5,8,11,16,19,22,25 on a DB25, that can probably be better achieved on a pcb ground plane.

**Status at this meeting:**

This document developed additions to AES48 - Grounding and EMC practices - Shields of connectors in audio equipment containing active circuitry - to cover shielding for 25-way D connectors in balanced circuits. The AES Standards manager has now incorporated these additions in AES48 and this project is closed (completed).

It includes the following definitions to be added to a new section 4.5:

- Csf (Contact Shroud Flange): A connector component designed to establish electrical contact between a metal enclosure and an external mating connector.
- Cjs (Contact Jack Screw): Hexagonal metal standoffs with threaded holes designed to receive screws. Contact Jack Screws are commonly used to securely fasten connectors, such as AES59 D-Sub connectors, to electronic devices or panels. They provide both mechanical support and electrical bonding.



## AES48-R Review of AES48-2019: AES standard on interconnections - Grounding and EMC practices - Shields of connectors in audio equipment containing active circuitry

### Status at this meeting:

The AES-X249 additions have been done. The next stages are presumably to submit the revision for public call-for-comment and then publication.

### Other SC-05-05 business

The group Chair is considering additions to the AES54 suite to include the use of devices based on AES72.

The group is also responsible for maintaining published documents (reviewed every 5 years):

AES54-1-R Review of AES54-1-2008 (r2019): AES standard on interconnections – Grounding and EMC practices - Connection of cable shields within connectors attached to portable balanced audio cables

AES54-2-R Review of AES54-2-2008 (r2019): AES standard on interconnections – Grounding and EMC practices - Shields of balanced audio wiring within fixed and portable passive connector panels, jack fields, and passive microphone splitters

AES54-3-R Review of AES54-3-2008 (r2019): AES standard on interconnections – Grounding and EMC practices - Shields of balanced microphone-level outputs of active equipment other than microphones



## Recently Initiated Projects

*Progress on any new projects will be noted in the assigned WG section of this report (if relevant).*

*No new projects in the last 6 months (probably aggravated by website problems)*

### **AES-X264 Project for AES70-4: OCP.2 – JSON Protocol**

This Standard contains the technical specification of the OCP.2 protocol of AES70, the Open Control Architecture. OCP.2 is a JSON-encoded protocol that supports AES70-compliant remote control and monitoring of media devices over IP networks and Point-to-Point Links.

### **AES-X261: Polarity and pin configuration for linear balanced audio PCB connectors**

Project scope: Define the number of pins used for each channel and the pin configuration for connecting +, -, signal conductors and cable shield for linear PCB (aka euroblock) connectors. The widespread adoption of PCB (aka euroblock) connectors without a pin configuration has led to many different varieties causing wiring mistakes, compromised noisy immunity, and added time to installs. Much of the industry has gravitated toward a (+/-/shield) configuration but it should be standardized. Furthermore, there are practical and technical considerations to avoid a 5-pin configuration for channel pairs.

Assigned to: SC-05-02 Status: Work beginning

Intent: Standard, Initiated: 2024-02-17 Target: TBA.

### **AES-X260: UWB Hi Res, Low Latency Audio Interface**

Project scope: Describe the preferred way to implement connection management, assure consistent audio quality, and provide for interoperable audio and feature control sets for the MAC convergence and application layers of UWB devices intended for high-quality audio use. Provide extensions to IEEE 802.15.4ab standard which defines connection, operating features and command structure in order to provide an interoperable interface between UWB audio capture and playback devices.

Assigned to: SC-02-02, Status: Work beginning

Intent: Standard, Initiated: 2023-09-18, Target: 2024-12-31

### **AES-X259: (D259) Criteria for the authentication of digital audio recordings**

Project scope: The purpose of this standard is to formulate a standard scientific procedure for the authentication of digital audio recordings intended to be offered as evidence or otherwise utilized in civil, criminal, or other fact-finding proceedings.

Assigned to: SC-03-12, Status: Work beginning

Intent: Standard, Initiated: 2023-09-12, Target: 2024-09-01

### **AES-X258: Using AES70 to manage Audinate Dante® media transport**

Project scope: This standard specifies the use of AES70 to manage Audinate Dante® media stream connections between devices, where AES70 is used to control at least one of the devices, while other devices may be controlled using Audinate mechanisms or other out-of-scope means.

Assigned to: SC-02-12, Status: Work beginning

Intent: Standard, Initiated: 2023-04-14.

## **AES-X255: (D255) AES Guidelines for Audio Preservation and Restoration – Digital Archiving of Professional Audio Production Formats**

Project scope: *Implementation of a recommended workflow for the creation and archiving of digital archival materials from (analogue but also digital) professional audio production formats, such as:* • Multichannel - multitrack • Quadraphonic formats (tape and disc) • Noise reduction systems • Surround sound

Assigned to: SC-03-06, Status: Initial development

Intent: Information Document, Initiated: 2022-01-09

### **Document actions since the last meeting round**

*Note that the disruption to AES Standards resources noted on page 2 has had an impact on all these document actions.*

#### **Public Calls-for-Comment:**

Although some calls-for-comment have been issued, the website problems are not getting advertised publicly.

#### **New Publications / Revisions:**

The Standards Manager notified the groups of some new documents being ready for publication, however they will not be available in the store until website problems are fixed.

At the moment, the AES Standards Store does not have any publications since 20 November 2024.

#### **Stabilized (still in-force, but not scheduled for review every 5 years):**

None

#### **Reaffirmed (validity extended for further 5 years from reaffirm date):**

Some, but list unavailable

#### **Withdrawn (where it may be harmful in a present-day context):**

None

## AES Standards Committee Process

### Structure

*AES Standards Committees produce Standards, Information Documents and Reports. The AES Standards Committee, chaired by Bruce Olson, is currently structured into these sub-committees (SC's):*

**SC-00: Stabilized Standards**

*chaired by Richard Cabot*

**SC-02: Digital Audio**

*chaired by John Grant*

**SC-03: Preservation and Restoration of Audio Recording**

*chaired by Nadja Wallaszkovits*

**SC-04: Acoustics**

*chaired by David Josephson*

**SC-05: Interconnections**

*chaired by Bruce Olson*

*WG's are identified "SC-sc-wg" e.g. SC-02-02 is an SC-02 WG on Digital Input-Output Interfaces.*

*A WG may be held "dormant" if it has no current work, but the expectation of future work.*

*There may also be Task Groups (TGs) under a WG and TGs usually have a specific project to work on – though some projects, usually smaller ones, are done in the WG itself.*

*e.g. SC-02-12-M is a SC-02-12 task group on AES67.*

### Projects

*Projects are numbered in one of these ways:*

**AESnn-R** is a review of an existing document nn

**AES-Xnnn** is a new project with no publication number yet assigned.

*Document development states are identified thus:*

**PTD:** Proposed task group draft.

**PWD:** Proposed working group draft

**PCFC:** Proposed call for comment - a checking stage prior to:

**CFC:** Call for Comment – a 6-week period for public comment before publication.

### Using this document

*This report starts by covering the projects that are monitored in the IABM's Standards Monitoring Group (SMG). These are believed to be the highest priority for our members.*