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An informative and self-contained abstract of 100 to 200 words must be provided. The abstract should mention the motivation, problem statement, approach, results, and implications of the work, usually with one or two sentences each. The abstract should be written in a single paragraph without citing any references. The *Journal of the Audio Engineering Society* is a modern scientific journal supporting online publishing with colors and a graphical abstract. It is a hybrid access journal publishing both Open Access and traditional papers, the latter being available for subscribers, such as AES members, or at an individual article access fee. If a paper published in the *Journal of the Audio Engineering Society* has been made Open Access, it will have the OA logo next to it and will be freely downloadable from the AES E-Library by anyone, even if they are not an AES member or E-Library subscriber. This example abstract contains 151 words.

Keywords: Document Formatting, Manuscript Preparation, Style Guidelines

1 INTRODUCTION

The *Journal of the Audio Engineering Society (JAES)* seeks original unpublished Research Papers and Engineering Reports of archive quality on subjects related to the audio domain. All submissions will go through a peer-review process to check their suitability for *JAES*. Manuscripts should describe original work unpublished elsewhere or not being considered for publication elsewhere. The different types of possible submission are

- Research Paper,
- Engineering Report,
- Review/Tutorial Paper,
- Communication,
- Letter to the Editor, and
- Erratum.

Full details of these submission types are given on the AES Journal Manuscript Types description page.[1]

As of 1-Jan-2027 the *JAES* will employ a thematic categorisation system. Submission should indicate which section their works belongs to. The section titles are

1. Audio processing
2. Audio analysis
3. Networked audio
4. Production, post-production, and delivery
5. Spatial audio
6. Electroacoustics
7. Room acoustics
8. Auditory perception
9. Immersive audio
10. Active sound control
11. Audio forensics and restoration
12. Sound design
13. Machine learning and AI for audio
14. Interactive audio
15. Acoustic sources
16. Education and career

This categorisation will both assist in the selection of reviewers and also in an improved organisation of the works published in the journal. These 16 categories identify where a paper's primary contribution lives, not a set of mutually exclusive bins that every submission must fit into cleanly. Many papers will touch more than one category, and that

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[1] https://aes.org/publications/journal-of-the-audio-engineering-society/aes-journal-manuscript-types/

is expected rather than a sign the taxonomy has failed. Authors and reviewers should ask: what is actually novel here, the signal processing method, the analysis or classification technique, the production workflow, the spatial rendering, the experiential evaluation, or the underlying model architecture, and classify based on that, not based on every topic the paper happens to mention. Detailed descriptions of the sections are available on the journal's website.[2] A worked example: a paper on an AI voice-cloned, dubbed dialogue line, rendered through spatial audio in a VR scene, could plausibly sit under Audio processing (if the contribution is the voice conversion signal processing), Audio analysis (if it is analysing speaker characteristics to drive the cloning), Production, post-production, and delivery (if it is the dubbing workflow), Spatial audio (if it is the 3D rendering method), Immersive audio (if it is the presence or quality-of-experience evaluation in the VR context), or Machine learning and AI for audio (if it is the generative model itself). None of these is wrong; the right one is whichever describes where the paper's main contribution actually sits.

All articles accepted for publication will be subject to page fee charges based on manuscript type. For Research Papers, Engineering Reports, Communications, and Letters to the Editor, there is currently no charge for manuscripts up to ten (10) pages; pages 11 and beyond are charged at $100 per page. For Review/Tutorial Papers, there is no charge for manuscripts up to twenty (20) pages; pages 21 and beyond are charged at $100 per page. Please always refer to the Author Guidelines web page to be sure that you follow the latest rules.[3]

Authors should submit a manuscript for review to the online submission and peer-review system.[4] Manuscripts are reviewed anonymously by members of the review board, invited from the scientific and industry-led community. Prior to being sent for review, the manuscript is checked for relevance to the journal. Authors should check the list of topics treated by the journal[5] and indicate the appropriate category on submission. One general check for relevance to the journal is whether or not prior articles in the *JAES* are cited. If this is not the case, or a suitable category is not listed, the authors should provide a clear argument for consideration by the journal to the Editor upon submission. In absence of such justification, or if considered not appropriate to the journal, the manuscript will likely receive a *desk reject* decision. After the reviewers' analysis and recommendation to the editors, the author is promptly advised of the decision. On the basis of the reviewers' comments, the Editor may request that the author make certain revisions that could allow the paper to be accepted for publication.

Non-native English speakers and international authors who would like assistance with their writing before submission can use the English editing service of American Journal Experts.[6] The link provided automatically gives a 10 % discount on the service.

A growing number of *JAES* papers are published as Open Access articles. They are freely available to read for all, not only to AES Members. This is certain to attract more readers and citations for these articles. The authors of each paper can decide whether they want their work to be available like this. The AES policy on Open Access is explained in detail on the Open Access web pages: https://aes.org/publications/open-access-publications-policy/.

The final paragraph of the Introduction should briefly summarize the contents of the rest of the paper. Sec. 2 describes how the paper may be organized and how equations, figures, tables, and a graphical abstract are formatted. The reference format is described in Sec. 3. Sec. 4 gives instructions about author photographs and biographies. Sec. 5 provides guidance on the acceptable appropriate use and citation for artificial intelligence (AI)/large language models (LLMs) in the journal. Sec. 6 lists the basic requirements for *JAES* papers, and Sec. 7 concludes.

2 ORGANIZATION

Technical articles published in *JAES* should be informative and well organized. They should cite original work or review previous work, giving proper credit. Results of actual experiments or research should be included. The journal cannot accept unsubstantiated or commercial statements. Authors should observe the general requirements for AES publications, as agreed by the Publications Policy Committee, given in Sec. 6 of this template.

The paper title should be short, accurate, and interesting. A title of under 125 characters (including spaces) is recommended. It should give an idea of the type of work. For example, the title of a Research Paper should highlight the main application or advantage of the presented work. Similarly, a Review/Tutorial article should have a broad and inclusive title. The paper title should include the essential keyword(s) to attract readers. The words "new" and "novel" in the paper title are prohibited. Repeating a word in the title is not recommended. The use of domain-specific acronyms or uncommon words in the title is discouraged because they limit the number of potential readers, while they can be included among the keywords. A list of approved acronyms for use in titles is provided in Appendix A.3. Article short titles, which are shown in the header, should not exceed 60 characters, including spaces.

Three to five keywords describing the field and contents of the article should be inserted in alphabetical order below the Abstract. Keywords should give additional information beyond the paper title. Please choose commonly used keywords to describe the field of work and the methods used, such as those appearing in the IEEE Taxonomy list [1]. Please do not invent new terms, as they are not helpful for classification or searching. Do not repeat consecutive

[2] https://aes.org/publications/journal-of-the-audio-engineering-society/journal-sections

[3] https://aes.org/publications/journal-of-the-audio-engineering-society/journal-author-guidelines/

[4] https://aes.org/publications/journal-of-the-audio-engineering-society/submit-a-paper-to-the-aes-journal/.

[5] https://aes.org/publications/journal-of-the-audio-engineering-society/aes-journal-indicative-topic-list/.

[6] https://www.aje.com/c/AES1?

words from the article title as keywords, but use synonyms instead.

The manuscript should develop the main point, beginning with a section entitled "Introduction" and ending with a "Conclusion". Subheads are appropriate and should be inserted where necessary. Section division numbers should be of the form 1, 1.1, 1.1.1, 2, 2.1, 2.1.1, etc. Paragraphs longer than 180 words and paragraphs containing a single sentence should be avoided. A free word counter can be found at: https://wordcounter.net/. For cross-referencing sections and other elements within the document, it is strongly recommended to use the `cleveref` LaTeXpackage.

Mathematical symbols, abbreviations, and acronyms, which may not be familiar to all readers must be spelled out or defined the first time they are cited in the text. It is the style that an abbreviation must be used three times to warrant it being used over the full term. Appendix A.2 and Appendix A.3 list commonly accepted abbreviations that do not need to be spelled out. Footnotes should be avoided, when possible, by making parenthetical remarks in the text, though they are recommended for web links.

Metric units according to the System of International (SI) Units should be used. For example, instead of "1 minute and 23 seconds", write "1 min and 23 s". Please use a non-breaking space between the number and the unit, such as in "44.1 kHz" (not "44.1kHz"). Units are not generally italicized. When in doubt, and to facilitate things, the use of the `siunitx` LaTeX package is strongly encouraged. Further guidance on units and symbols is provided in the AES references on metric usage,[7] quantities and letter symbols,[8] and a compiled list of frequently used SI units and their symbols.[9] English or other units can be provided in parenthesis if desired. When a number is used to count the number of cases, spell out numbers ten or smaller, for example, "seven microphones" (not "7 microphones") and "a five-point scale" (not "5-point").

2.1 Equations

This subsection shows how equations are inserted and formatted in a *JAES* article. A transfer function $A(z)$ can be written as

$$A(z) = \frac{a_1 + z^{-1}}{1 + a_1 z^{-1}}, \tag{1}$$

where a_1 and a_2 are variables, which should be italicized. They must be explained when they first appear. The equation should be part of the sentence in which it is inserted. Here is another equation, which ends a sentence:

$$\phi(\omega) = -\omega + 2\arctan\left(\frac{a_1 \sin\omega}{1 + a_1 \cos\omega}\right). \tag{2}$$

Function names, such as the trigonometric functions used in Eq. (2) above, are not italicized. All equations should be numbered. This enables referring to them with their numbers, such as Eqs. (1) and (2) above. Bold characters for matrices can be written in the following way:

$$\mathbf{U}\mathbf{U}^{\mathrm{H}} = \mathbf{U}\mathbf{U}^{\mathrm{H}} = \mathbf{I}. \tag{3}$$

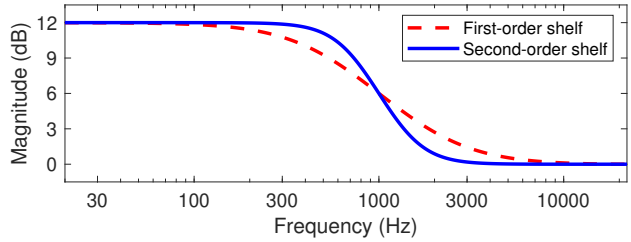


Fig. 1. Figures using color must be understandable also in grayscale printing. It helps if both the line color and the line type are different for each curve.

2.2 Manuscript File Format

The submission system accepts manuscripts in LaTeXformat. While early submissions may be via PDF, final submissions require LaTeXsource files as well as PDF compiled versions. JAES no longer supports other template formats.

This template was compiled with the latest version of the JAES template. Please note that when submitting LaTeXfiles, it is necessary to include the jaes.cls template file. No other template related files should be necessary, only author manuscript related files (e.g. figures, bibliography.bib).

2.3 Figures

For the initial submission, illustrations should be incorporated in the same PDF as the manuscript, along with their captions, at a sufficiently high resolution for review purposes. It is recommended to produce all figures as PNG or EPS files, or to covert them from other formats. LaTeXdoes not accept TIFF files.

Illustrations must have informative captions and must be referred to in the text, such as Fig. 1. Figures presenting data must have a label on both the horizontal and the vertical axis, and the numerical scales and units must be indicated. A wide figure may expand over the two columns. Fig. 2 shows an example. The `cleveref` LaTeXpackage is strongly recommended for cross-referencing numbered items.

For the final submission, photographic and bitmap images should be submitted as separate PNG files with a resolution of at least 300 dpi. JPEG files can be used, but are discouraged due to lossy compression. Line drawings can be submitted in EPS files. The figure number should be clearly indicated in the file name. The size of illustrations when formatted to the column size in the journal is usually 82 mm (3.25 in) wide, although 170 mm (6.75 in) wide can be used if required.

Text labels on illustrations must be large enough so that the smallest letters are at least 1.5 mm (1/16 in) high when the image is reduced to one of the above widths. If possible,

[7] https://aes.org/wp-content/uploads/2025/02/AESmetricreviewupdated.pdf
[8] https://aes.org/wp-content/uploads/2025/02/AESQuantitiesUnitsSymbols.pdf
[9] https://aes.org/wp-content/uploads/2025/02/AEScommon-units-and-symbols.pdf

Table 1. Tables should have a brief caption. Highlighting the best result(s) is helpful to readers. Highlighting should use bold font, color or shaded cells are not acceptable. Numbers should be decimal aligned while text is left aligned.

Excerpt No.	Genre	Spatial Mode	Correlation
1	Pop	FB	**94**%
2	Classical	FB	33%
3	Jazz	FF	76%
4	Arabian	FF	41%
5	GNE	H220	45%
6	GNE	H45	93%
7	MNK	G416	74%
8	MNK	D413	72%
9	MNK	R420	**94**%
10	MNK	N516	91%

Note. This table contains several acronyms that should be defined in the paper, when they are first used (but not in the abstract).

text labels on all original illustrations should be scaled so that they will be the same size when reduced for reproduction in the journal. Figure legends should be placed so as not cover data plots.

If not using LaTeX, figure captions should either be inserted on a separate page of the main manuscript, following the references, or uploaded as a separate file. Captions should be concise, while ensuring the figure is comprehensible.

As an online journal, color figures are encouraged. However, it is still good practice to review all figures and associated captions and legends/keys to ensure that figures will be understandable if printed by readers in black and white.

2.4 Tables

JAES articles often include tables, such as Table 1. They must be referred to and explained in text.

2.5 Supplemental Materials

The *JAES* does not host supplementary material for published manuscripts. Authors are encouraged to provide links to externally publicly available material when possible. These materials can be references in the bibliography with all necessary citation information, as footnotes, or collected in a section after the Conclusion which can easily be referenced throughout the manuscript. An example entry could be the following:

All audio stimuli and supplementary materials are openly available at https://doi.org/10.5281/zenodo.17208477.

2.6 Graphical Abstract

Authors of a paper accepted for publication in *JAES* are strongly encouraged to prepare a graphical abstract (GA) of the work performed. A GA is an image that summarizes the work in an eye-catching way, ideally summarizing the ideas of the paper. It appears alongside the text abstract in the online journal and AES E-Library. The GA may be a figure from the article or preferably one specially prepared for the purpose.[10] A useful guide to preparing a GA can be found from Anna Clemens.[11]

Any text in the image should be clear and readable, in a sans serif font such as Helvetica or Arial. No caption or additional descriptive text is expected. The image file for the GA needs to be a PNG (Portable Network Graphics) file and should be uploaded with the final version of your manuscript. It should be in portrait format, US Letter or A4 aspect ratio, with a minimum resolution of 600 pixels wide, and preferably in color.

3 REFERENCE FORMAT AND DIGITAL OBJECT IDENTIFIERS

References should be cited numerically in brackets in order of appearance in the text. References should be listed at the end of the text in order of appearance. In the reference list, please insert “and” between the last and second-to-last author name. Use a comma before “and” if there are more than two authors in the list. List up to five authors in a citation; references with six or more authors should have the first three authors listed, followed by “et al.” In publication titles, all words should be capitalized except articles, conjunctions, and prepositions fewer than four letters, unless they are the first word of the title or follow a punctuation mark with the title, such as a colon.

References to periodicals (journals) should include the authors’ names, title of article, periodical title abbreviation, volume, issue number, page numbers or article ID, year and month of publication, and the Digital Object Identifier (DOI) link, if available. The following are examples of the expected format of journal paper references [2, 3, 4].

Authors are expected to include DOIs for those references that have them. Manuscripts may be returned to authors to complete DOI referencing before a paper will be accepted for publication. Ideally, DOIs should be included for references when a paper is first submitted, avoiding additional delays. The journal is registered with CrossRef for the issuing of DOIs, and it is a condition of membership that *JAES* provides outbound linking of references in its papers. This enables readers to find the papers to which your references refer easily. AES will also issue and register a DOI for your paper when it is published. Authors can look up individual DOIs using the free service provided by CrossRef[12] or for multiple references in a list using the text query interface[13] (though you will have to validate your email address by setting up a free account).

Book references should contain the names of the authors, title of book, name and location of publisher, publication year, and edition (if other than first) [5, 6]. A reference to a chapter published in an edited book should have the authors, the chapter name, the editors, the book title, the

[10] An example GA is available at: https://www.aes.org/assets/base/img/content/journal/authors/guidelines/GraphicalAbstractExample4.png.

[11] www.annaclemens.com/blog/make-graphical-abstract-paper.

[12] http://www.crossref.org/guestquery/.

[13] http://www.crossref.org/SimpleTextQuery/.

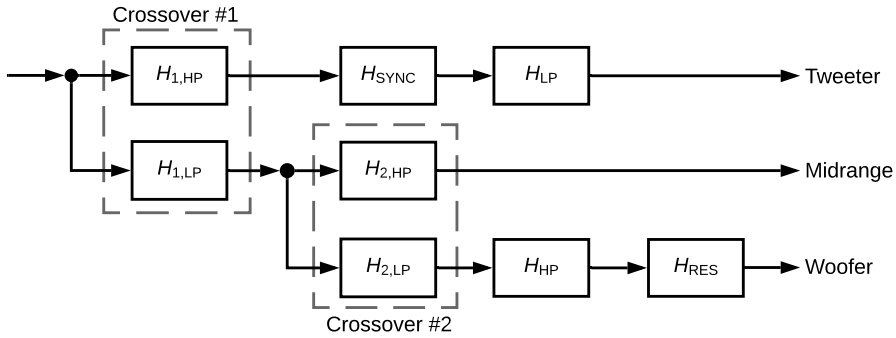


Fig. 2. Example of a wide figure and caption extending over the two columns.

book series name, page numbers, the name and location of the publisher, publication year, and the edition number [7].

For articles or conference papers that employ article numbers (`eid` field in bibtex), the page range is added as a suffix to the paper number (e.g. "paper 807162:1–12"). Full examples of this are shown for the AES Conv. paper [8] and the journal article [4].

For conference papers published in proceedings, please shorten the conference name. The conference acronym may optionally be shown in parentheses. The page numbers (if available, otherwise list page numbers as 1-N with N being the length of the manuscript), conference address (city, country/state), and year and month of the conference should also be shown, like in this example [9]. The year of the conference is omitted from the conference name. For this reason, this reference example mentions the acronym "ICASSP," not "ICASSP-17" [9]. In a reference to an AES convention paper, the convention paper number can optionally be included, as in this example [8]. The paper's AES E-Library number link must be provided. References to AES convention papers should be replaced with the peer-reviewed journal publication citations if appropriately related journal papers have been published.

Presentations at conferences without published papers (e.g., abstract only) can be referenced as [10]. Please note that such references provide little scientific value, but can be used to note prior activity in the field.

For a thesis reference, please include the author name, thesis title, type of thesis (Ph.D. thesis or M.Sc. thesis), the name and address (city, country/state) of the university, year, and month of publication. For example, this is a complete reference to a doctoral thesis [11], and this a reference to a Master's thesis [12]. Links to online archives of thesis documents are also encouraged.

References to a patent should include the inventors' names, patent title, specification of the patent (e.g., US or European patent) together with the patent number, and year and month of publication. The following is an example of the expected format of a patent reference in *JAES* [13].

Citations of standards do not include author names, and are formatted as in this example [14].

A web page reference should include the author, such as a company, the title of the web page, the web address (URL), and the date accessed. Access dates are required for all non-DOI links, unless the reference is to a fixed, versioned, or archival document (such as a formally published standard with a stable identifier). This is an example of a correctly referenced web site in *JAES* [15]. More examples of our current reference style may be viewed in recent issues of *JAES*.

For works in languages other than English, it is advisable to include an English translation of the title. An example format for the placement of the translated title is as follows: Author Names, "Article Title Original Language [Title Translated in English]," *Journal Abbr.*, vol. #, no. #, pp. x-x (2026 Month.), doi:xxx.

Preprint archive citations (e.g., arXiv) are suitable only for manuscripts currently under review elsewhere, when temporal priority must be established. Preprints are not peer-reviewed and have the same evidential validity as personal communications or blog postings. They represent the authors' claims prior to independent verification. Citation of a preprint is therefore not acceptable as supporting evidence for scientific, technical, or factual assertions. It may only be used to acknowledge priority of discovery or to reference ongoing work. Preprints that have not been submitted for peer review, or that have been submitted and rejected, are not acceptable references for any purpose other than temporal priority. When a manuscript has been subsequently published, the published, peer-reviewed citation must be used as the official reference, not the preprint citation. An arXiv reference, for example, that is more than 1 year old can be assumed to be scientifically irrelevant. An arXiv download link may be used for file availability, equally for sites such as ResearchGate or University or national open science repositories (e.g., https://hal.science/), but the reference citation should be the actual reference.

Some abbreviations are allowed in bibliographic references, such as "Conf." for Conference. A listing of such abbreviations is given in Table 4 of Appendix A.4.

4 AUTHOR INFORMATION, PHOTOGRAPHS, AND BIOGRAPHIES

If authors are AES members, they should provide their status and AES member number on the author line. This is used for indexing in the AES library and other membership services. Members should indicate their current member-

ship status as *AES Member*, *AES Student Member*, *AES Associate Member*, *AES Fellow*, *AES Honorary Member*, or *AES Life Member*. The journal now supports ORCID. Authors are encouraged to include a link to their ORCID in the author line.

For purely demographic statistics purposes, please not that the journal now asks authors and reviewers to report their gender. This in no way affects the peer-review process. Authors are here informed that this information is not communicated to reviewers.

At the end of the manuscript, author biographies are required with optional photographs for each author for all Research Papers, Engineering Reports, and Review/Tutorial Papers. Each photograph should be a professional photo of the author's face and the image must be able to be supplied as a separate, high-resolution graphic (PNG, EPS, or JPEG files with a resolution of at least 300 dpi).

Author biographies should highlight each author's education, places of employment, research visits, key research areas, professional memberships, and awards in 150 words or less. This section should appear after the references at the end of the manuscript file. Examples are given at the end of this template.

In the unfortunate event that an author passes away prior to the publication of the manuscript, the following guidelines apply for the inclusion of a deceased author:

- The corresponding author must provide written confirmation that, to the best of their knowledge, the deceased individual met the authorship criteria, and that all surviving co-authors agree with this inclusion.
- The author's name should be marked with a symbol (a dagger, †) and accompanied by a footnote on the first page indicating the date of their passing.
- The author's biography should be updated to include the date of death.

5 USE OF ARTIFICIAL INTELLIGENCE AND LARGE LANGUAGE MODELS

Authors who use AI technologies, including LLMs or other generative tools (for text, image, or data creation), in the preparation of a manuscript must adhere to the following principles:

- Appropriate use: Use of AI or LLM tools for limited editorial tasks such as spelling, grammar, or formatting corrections is permitted and does not require disclosure. However, substantive drafting or generation of text, data, or figures must be fully disclosed and justified. Unless clearly described as part of the research method, AI-generated content cannot replace the authors' core intellectual contribution.
- Authorship and responsibility: AI or LLM tools cannot be listed as authors. All listed authors must meet the journal's authorship criteria and accept full responsibility for the integrity of the work.
- Disclosure and transparency: At submission, authors must disclose any use of AI, LLM, or generative-tool assistance in any part of the manuscript (e.g., text drafting, data generation, figure creation, or editing). The disclosure, in a section-relevant footnote or in the acknowledgments, should include the tool name, version, model, date of use, manufacturer (if applicable), and a brief description of how the tool was used.
- Verification and accountability: Human authors must critically review, verify, and take full responsibility for all content, including text, figures, data, tables, references, and interpretations. AI-generated or AI-edited material must meet the same standards of originality, accuracy, ethics (including avoidance of plagiarism and data fabrication), and attribution as any other content.
- Citation and attribution: AI tools must not be cited as authors or treated as unreferenced original content. Any material generated via AI or LLM must be clearly attributed or acknowledged, and its provenance must be traceable.
- Ethical compliance: Authors must not input confidential, personal, or proprietary data into AI or LLM systems. Use of such tools must not compromise confidentiality, peer-review ethics, or data integrity.

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All material published by the AES, regardless of the type, shall conform to the following requirements unless specifically exempted by Publications Policy or by the Editor.

- Style: The technical content should be accurate; the writing should use good grammar and be easy to understand by those versed in the art. Abbreviations, units, and definitions of quantities should conform to the AES editorial style.
- Good taste: Good taste is a necessity. No derogatory mention of other engineering work, engineers, or organizations shall be made. Constructive technical criticism, which makes a suggestion(s) for improvement(s) that would remove the objection, is not derogatory if the technical basis is well developed and accurate. The Editorial Office should ask reviewers to judge carefully the substance of such criticism. Specifically, the initiation of controversy should be minimized by a careful checking of the critical judgments. Controversy for its own sake should be discouraged.
- Commercialism: A manuscript that is based on a commercial product should be reviewed extremely carefully to determine the real scientific content (including Engineering Reports). If a manuscript has no other merit than as a description of the product, it is not acceptable. This requirement is especially important in articles that provide technical results without an adequate description of a device's operation.

- Original unpublished work: Manuscripts should describe original work unpublished elsewhere or that is not being considered for publication elsewhere. The Editor may also reject manuscripts that are original but too similar to other published work. Publications of AES conference/convention papers, or of other meetings at the discretion of the Editor, may be further reviewed and republished in *JAES*, but only after they have been revised and extended. A typical guideline is at least 30 % new material relative to a prior published conference manuscript. The title of the journal manuscript must be different from that of the convention or conference paper.
- Trademarks: Trademarks are generally inappropriate because they serve a commercial purpose, not an engineering purpose. (a) Trademark symbols are not permitted. (b) Trademark names in titles and abstracts should be replaced by generic descriptions where possible. If trademarked names are retained in titles and abstracts, they will not be acknowledged as such. (c) The first time a trademarked name appears in the body text, it may be footnoted. The footnote will state that it is registered and the name of the owner.

7 CONCLUSION

The manuscript submitted to *JAES* should end with a section entitled "Conclusion". The Conclusion should briefly review the main points of the paper and its relation to the state of the art. However, do not replicate the abstract. All results mentioned in the Conclusion must be deducted from the other parts of the paper. Do not introduce new results in the Conclusion. This section may also speculate on applications and extensions of the results (future work). Many readers browsing technical papers only read the abstract and the Conclusion.

8 SUPPLEMENTAL MATERIAL

The *JAES* template is maintained by the Editor-in-Chief. The most current LaTeX version is maintained at https://www.overleaf.com/latex/templates/journal-of-the-audio-engineering-society-jaes-template/sbvwbwjptgts.

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For questions related to copyright, reproduction, republication, reuse, and other related issues, authors are directed to https://aes.org/publications/publications-policy/ for the latest information.

10 ACKNOWLEDGMENT

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11 REFERENCES

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A.1 APPENDIX USAGE

One or more appendixes can appear after the references. Each appendix must have its own title. An appendix can present, for example, a mathematical derivation, pseudocode, or other additional data that is unsuitable to show in the body of the article. Tables, figures, and equations included in appendixes are numbered based on where they left off in the text (they do not restart with "1" or have labels like "Figure A.2"). Appendix tables, figures, and equation labels match and follow from those of main article tables, figures, and equations, such as Fig. 3.



Fig. 3. Example of a figure in an appendix.

A.2 COMMON ABBREVIATIONS

Table 2, along with Table 3, lists commonly accepted abbreviations that should not need to be spelled out within the manuscript. Please contact the journal's Editor in Chief if you would like to propose an additional term.

Table 2. JAES abbreviations approved for use in the text without needing to be spelled out.

Term	Definition
ADC	Analogue-to-digital converter
AI	Artificial intelligence
ANOVA	Analysis of variance
CNRS	Centre National de la Recherche Scientifique (French National Centre for Scientific Research)
DAC	Digital-to-analogue converter
DAW	Digital audio workstation
DIN	Deutsches Institut für Normung (German National Standards Organisation)
EBU	European Broadcasting Union
FIR	Finite impulse response
HDMI	High-Definition Multimedia Interface
IIR	Infinite impulse response
I/O	Input/output
MR	Mixed reality
MUSHRA	Multiple Stimuli with Hidden Reference and Anchor
THD	Total harmonic distortion
VR	Virtual reality

A.3 ABBREVIATIONS IN TITLES

Table 3 lists commonly accepted and unambiguous abbreviations which are sufficiently well-known that they can be used within journal titles. Please contact the journal's Editor in Chief if you would like to propose an additional term.

Table 3. JAES abbreviations and acronyms approved for use in article titles.

Term	Definition
3D	Three-dimensional
AES	Audio Engineering Society
AM	Amplitude modulation
DFT	Discrete Fourier Transform
DNN	Deep neural network
DSP	Digital signal processing
FFT	Fast Fourier Transform
FM	Frequency modulation
HRTF	Head-Related Transfer Function
MIDI	Musical Instrument Digital Interface communication protocol
MPEG	Moving Picture Experts Group
SNR	Signal-to-Noise Ratio
SPL	Sound pressure level
STFT	Short-Time Fourier Transform

A.4 ABBREVIATIONS IN BIBLIOGRAPHY

Table 4 lists commonly accepted and unambiguous abbreviations which are sufficiently well-known that they can be used within journal titles. Please contact the journal's Editor in Chief if you would like to propose an additional term. Additional terms can be found in the ISO 4 List of Title Word Abbreviations[14]

[14] See the List of Title Word Abbreviations (LTWA) https://portal.issn.org/ltwa or the dynamic LTWA search engine https://marcinwrochna.github.io/abbrevIso/.

Table 4. JAES abbreviations approved for use in bibliography.

Abbreviation	Definition
Acoust.	Acoustics, Acoustical
Colloq.	Colloquium
Conf.	Conference
Cong.	Congress
Conv.	Convention
Int.	International
ISO	Int. Org. for Standardization
J.	Journal
Org.	Organisation
Proc.	Proceedings
Q.	Quarterly
Soc.	Society
Symp.	Symposium

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