

SMPTE Technical Paper Style Guide

SMPTE Board of Editors

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1 Introduction

The SMPTE Motion Imaging Journal publishes papers on technical, engineering, and scientific developments in motion pictures, television, and related fields, including desktop video, multimedia, and computers.

1.1 Review Process

Every paper submitted to SMPTE is reviewed by three or four members of the Board of Editors, knowledgeable in the subject presented. The identities of the reviewers are confidential, so they may feel unconstrained in their evaluations. Once the paper is reviewed, the author is informed of its acceptance or rejection. Based on the reviewers' remarks, the editor often suggests revisions to improve the paper. Every manuscript undergoes copy editing by the editorial staff to ensure accuracy, consistency, style, and readability.

1.2 Content

The Journal's primary objective is to follow the progress of engineering developments in the motion imaging fields. Controversial papers are welcome, providing they are substantiated by reliable data. Technical articles must be informative and well organized. They must record original work or review previous work, giving proper credit. Results of actual experience and research should be given. **Commercialism is unacceptable!**

2 Prose

2.1 American English

In all cases text shall be in American English and shall conform to normal grammatical usage of American English.

2.2 Writing Style

Sentences shall be short and declarative. Wherever possible avoid the use of complex, compound sentences.

Each paragraph should deal with a single issue.

Text shall flow in a logical manner gradually developing ideas and concepts. Do not jump around among ideas; keep the presentation linear and logical.

The body of the paper should develop the main argument, starting with introductory material and advancing toward a summary. All illustrations must be referred to in the text by figure number. Source materials should be keyed (in order of appearance) to the references by superscript numbers in the text. Footnotes should be avoided, where possible, by making parenthetical notes in the text. Mathematical symbols, abbreviations, acronyms, etc., that may not be familiar to the average reader should be spelled out the first time used, or defined in the text.

2.3 Reader's Skill Level

Assume the reader is not an expert on the topic. Before going into the new material, give the reader background information and groundwork.

2.4 Pronouns and Their Antecedents

There must be no ambiguity between a pronoun and its antecedent. It must be *completely* clear what *he*, *she*, or *it* refers to in a sentence or paragraph.

2.5 References on Good Prose Writing

1. William Strunk, Jr. and E. B. White, "*Elements of Style, Fourth Edition*," Longman, 1999
2. Robert Graves and Alan Hodge, "*The Reader Over Your Shoulder*," Jonathan Cape, London, 1947
3. University of Chicago Press Staff, "*The Chicago Manual of Style, Sixteenth Edition*," University of Chicago Press, 2010
4. R. W. Burchfield, "*Fowler's Modern English Usage*," Oxford University Press, 2004

3 Spelling

All spelling shall be American English except for foreign words, phrases, and abbreviations.

4 Punctuation

4.1 The Use Of Commas With Conjunctions

Where three or more items are listed in a sentence joined by a conjunction, a comma shall be used before the conjunction. An example: Sam, Fred, and Alvin are friends of John.

4.2 References on Punctuation

1. William Strunk, Jr. and E. B. White, "*Elements of Style, Fourth Edition*," Longman, 1999
2. Robert Graves and Alan Hodge, "*The Reader Over Your Shoulder*," Jonathan Cape, London, 1947
3. University of Chicago Press Staff, "*The Chicago Manual of Style, Sixteenth Edition*," University of Chicago Press, 2010
4. R. W. Burchfield, "*Fowler's Modern English Usage*," Oxford University Press, 2004
5. Lynne Truss, "*Eats, Shoots & Leaves*," Gotham Books, 2003

5 Units

All units shall conform to the SI system of measures as set forth in NIST document sp811.pdf which is available on the NIST website (www.nist.gov).

It is permissible to use English units in square brackets after the SI units. As an example: 21.05 mm [0.8287 in.]

Attention shall be paid to significant digits. Do not use more digits than the accuracy or certainty of the variable being enumerated.

Certain units are not SI, but are in common engineering usage, *e.g.*, dBm, FET, VAR, etc. If there is any uncertainty as to the reader's lack of familiarity with a unit, even if it is well-known to the author, it should be explained clearly in the text.

The IEEE has published an excellent book on the SI system which also includes conversion factors for other measurements systems. The book: Theodori Wildi, "*Metric Units and Conversions Charts*," IEEE Press, Second Edition, 1995.

5.1 decibel

The decibel presents some special issues. First, the correct abbreviation for the decibel is dB (“d” is lower case; “B” is uppercase). Second, some units are based on the dB, *e.g.*, dBm, dBa, etc. The rule for these units: The trailing letters after “dB” should be subscripted unless the units is in common usage, *e.g.*, dBm. Some examples:

- dBW (db with respect to one watt) NOTE: Common unit so no subscript
- dB_{LUFs} (db loudness units with respect to full scale)
- dB_{rn} (db with respect to reference noise (-90 dBm))

Because the decibel expresses a ratio between two values, it is essential that the reference value for the decibel be explicitly stated.

6 Title

Titles shall be brief and evocative of the content of the paper.

7 Author

Each author’s name shall be clearly set forth after the title of the paper.

8 Abstract

The Abstract shall be a complete, self-contained, informative abstract of about 100 words giving the objective of the paper and an outline of its contents. The abstract shall be no more than 250 words.

The abstract is often the only part of the paper to be read; it should include all major findings in a useful and concise manner. The abstract should also include a problem statement, objectives, brief methods, quantitative results, and the significance of the paper's findings.

9 Keywords

List both specific and general terms and short phrases separated by commas that will aid in searches.

10 Section Headings

Papers shall be divided into sections. Each section shall develop an aspect of the overall thesis of the paper. Each section shall have a title and be sequentially numbered.

11 Figures

Each figure shall be numbered in the order first referenced in the text. Captions should be included under each figure and also at the end of the document following the references. Captions shall be concise.

All figures should be numbered and included in the document and submitted in separate .TIFF, .JPG, or .EPS files. Photographs and figures should be at least 300 dpi resolution and illustrations 600 dpi (preferably in color).

12 Tables

Each table shall be numbered in the order first referenced in the text.

13 Equations

For each equation or group of equations there shall be a list following the equation(s) listing and defining all terms in the equation(s). As an example:

$$D_n = \frac{HS}{H + (S - F)} \quad (1)$$

$$D_f = \frac{HS}{H - (S - F)} \quad (2)$$

where D_n = Camera to Near Limit
 D_f = Camera to Far Limit
 H = Hyperfocal Distance
 S = Distance from Camera to Subject
 F = Focal Length of Lens

Often after the equation there should be a worked example so that the reader can understand exactly how to use the equation. As an example using the above equations:

Example: A 35 mm camera lens of 50 mm focal length is focused at 6.1 m [20 feet] and is set to $f2.8$. At this f -stop the hyperfocal distance is 36.3 meters.

First convert all the units to the same system. In this example meters will be used.

Using the hyperfocal distance given and equations 1 and 2, we can now calculate the near and far distances that will be in acceptable focus.

$$D_n = \frac{36.3 \times 6.1}{36.3 + (6.1 - 0.05)} = 5.23 \text{ meters}$$

$$D_f = \frac{36.3 \times 6.1}{36.3 - (6.1 - 0.05)} = 7.32 \text{ meters}$$

Therefore, when a 50 mm lens at $f2.8$ is focused at 6.1 m [20 feet], everything from 5.23 m to 7.32 m will be in acceptable focus. The total depth of field for this example is $D_{total} = D_f - D_n = 7.32 - 5.23 = 2.09$ meters

14 Acronyms & Abbreviations

A table of acronyms and abbreviations used in a paper along with their meanings shall be provided. This table shall be after the text of the paper and before the references and bibliography. Common engineering units and abbreviations, *e.g.*, dBm, ITU, etc. need not be included in this table

The SMPTE website, www.smpte.org, shall provide a table of abbreviations and acronyms in common engineering use. This table shall indicate the acceptable form of an acronym or abbreviation. This table shall be updated from time to time by the SMPTE Board of Editors.

15 Citations & Footnotes

15.1 Layout of References

All references must be cited in the text in numerical order and listed at the end of the paper.

References to periodicals should include the authors name, full title of article, periodical title, volume, inclusive pagination, and month and year of publication. Use standard abbreviation for journal articles when known; otherwise, spell out the abbreviation.

Book references should contain the name of the author, title of book, edition (if other than the first edition), name and location of publisher (the street address is not usually required), year of publication, and the relevant page number(s).

Internet URL references shall only be used if there is not a hard-copy publication that can be cited. This is due to the fragile nature of Internet URL links. Where URL links are the only way to access a reference, as much textual information of the reference shall be included and the domain URL, *i.e.*, no long , detailed URL, only the domain name of the site plus the textual information of the citation.

- Bibliography entries are in alphabetical order.
- References shall be in numerical order according to their citations in text.
- In bibliographies, the last name is listed first; if there is no author, the entries begin with "Anon." and are alphabetized by title. If more than three authors are listed, use the first name followed by *et al.*

15.2 Examples

The following are examples of format for various types of publications or non-published documents:

Journal Articles

M. C. Gruszka, "Bumps on the All-Digital Road", *TV Technology*, 12:12-39, June 1994.

Articles Published in Proceedings

M. Shibata, "A Temporal Segmentation Method for Video Sequence," *Proc. SPIE Visual Comm. and Image Proc. 1992*, pp. 1194-1205 1992.

Internet References

www.nist.gov, Ambler Thompson and Barry S. Taylor, "Guide For The Use of the International System of Units (SI)," NIST Special Publication 811, 2008

Books

L. S. Birks, *Electron Probe Microanalysis*, Wiley: New York, 1982.

Chapter in a Book

P. E. Wilcock, "Analog Components in Video Pictures of the Future," SMPTE: Scarsdale, N.Y., 1983.

Unpublished Paper

W. E. Glenn, J. Marcinka, and R. Dhein, "Subband Coding Compression System for Program Production," presented at the 136th SMPTE Technical Conference, Los Angeles, Oct. 1994.

Dissertation or Thesis

T. L. Gilbert, "Rate of Decay of Auditory Sensation," Ph.D. dissertation, Dept. of Chemistry, University of Massachusetts, 1984.

Standards

SMPTE 259M, "Television 10-Bit 4:2:2 Component and 4fsc NTSC Composite Digital Signals Serial Digital Interface," *SMPTE Mot. Imag. J.*, 102:174-179, Feb. 1993.

Patents

W. J. Thompson and D. R. Albert, U.S. Patent No.7 430 020, Mar. 3,1975.

16 Submission Requirements

Authors are encouraged to submit manuscripts in Microsoft Word via e-mail or on CDROM. For further information, please contact the Editor.

Manuscripts should be submitted to:

Dianne Purrier
Managing Editor, *SMPTE Motion Imaging Journal*
3 Barker Avenue
White Plains, NY 10601
E-mail: dpurrier@smpte.org

17 Copyright Issues

A copyright agreement must be completed and signed by authors prior to publication of all papers accepted for publication. Copyright agreements are provided electronically to authors and are accepted electronically in PDF format.

If published, citation of the work should state that it was published in the *SMPTE Motion Imaging Journal*. EXAMPLE: First published in the (month, year) issue of the *SMPTE Motion Imaging Journal*. Copyright ©SMPTE (year of publication).

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