

IEEE: Overview

The Institute of Electrical and Electronics Engineers (IEEE) format is a set of conventions for documenting sources in written work. It is the standard style of documentation in Engineering, but it is also used in other fields. This handout provides basic guidelines and examples. For authoritative information about IEEE format, see the IEEE Reference Guide:

<https://journals.ieeeauthorcenter.ieee.org/your-role-in-article-production/ieee-editorial-style-manual/>

Documentation

In academic writing, you must cite sources for all borrowed information and ideas, not only quoted material, but also ideas that you've put into your own words. Do not cite sources for common knowledge or generally known facts. If in doubt, cite your source.

Complete IEEE documentation consists of two elements:

1. A **bracketed in-text reference citation** in the body of your paper at the end of each section of cited information (inside punctuation), which begins with a [1] and continues indefinitely with [2], [3], and [4] and so on;
2. An **entry in your 'References' page** at the end of your paper that gives complete publication information for all sources cited in your paper.

In-Text Citations

Whenever you are quoting or paraphrasing information, you must include an in-text citation at the end of the borrowed section. IEEE requires you to insert your citation directly after the borrowed information in your sentence, rather than solely at the end of the sentence. When you reference the same source, **use the same number** throughout the paper.

Example 1	Example 2
As discussed by Smith et al. [4] , the results demonstrate a correlation between speed and damage.	Scholars in the field argue over the reliability of this method of manufacturing. [2], [4]-[6], [12] support the method, while [1], [5], [7-11] criticize its reliability.

Guidelines for Paraphrased Research

- IEEE recommends treating references like footnotes (appearing in line and inside punctuation marks). When including authors' names, it recommends using et al. when there are three or more authors, as in example 1.
- Numerical references (i.e., [2]) can be used instead of authors' names. Similarly, ranges (i.e., [4]-[6]) can be used to include several sources.

Guidelines for Quotations and References to Specific Parts of Documents:

- When citing a source directly with quotation marks, make sure you “include the page number as well” [4, p. 1]. The source number, 4, and the page number, p. 1, must be separated by a comma.
- You are also allowed to refer to the page number in the sentence itself, in which case you wouldn’t need to include it in the citation.
- When citing multiple sources in a single sentence, use semi-colons to separate each item [6, p. 25; 7, p. 26]. The only exception to this rule is when page numbers are involved. If you directly quote a source twice and use two different page numbers, then the page number will need to change in your in-text citation.

Example 3	Example 4
The results included a “5% increase in temperature of the control group” [5, p.55].	Various models for determining the maximum operating pressure in pipelines have been proposed [8, Fig. 3; 7 p. 26]

Formatting an IEEE Reference List

Format: Do not list the authors in alphabetical order. List them in order of their citation number, starting with [1]. Do not combine references either; each reference should have its own number. The reference numbers should be in a separate column, flush left and in square brackets. Reference numbers are set flush left and form a column of their own, hanging out beyond the body of the reference.

Authors’ Names: Start with the first initials of the author followed by the last names (i.e., A. B. Smith). If there are more than six names listed, use the primary author’s name followed by *et al.*

Date: Include the month, day, year (i.e., Nov. 15, 1987) for reports and patents. Include the month and year for journal articles where possible. Include the year for books. For any reference that cites two months for the same issue, the two months should be separated by a slash (e.g., Jul./Aug.), followed by the year of publication

Titles: The IEEE style prefers abbreviations for titles. If the title has a common abbreviation, use that instead of the full title. If there is no common abbreviation, use the full title. Typically, the titles of books and journals feature capitalization of all major words. Titles of chapters and journal articles are placed in quotation marks and only the title’s first word and proper nouns are capitalized.

Medium Designator: For online sources, specify the [Type of medium] after the title, as well as the document’s location.

Punctuation: All references, except those ending with URLs, will end with a period, including those with a DOI. However, if a reference contains both a DOI or accessed date, as well as a URL, place the DOI after the URL and end with a period.

Sample IEEE Reference List Entries

Books (Online)

Format: J. K. Author, “Title of chapter in the book,” in Title of Published Book, xth ed. City of Publisher, State, Country: Abbrev. of Publisher, year, ch. x, sec. x, pp. xxx–xxx. [Online]. Available:

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<http://www.web.com>

[1] G.O Young, "Synthetic structure of industrial plastics," in *Plastics, vol. 3, Polymers of Hexadromicon*, J. Peters, Ed., 2nd ed. New York, NY, USA: McGraw-Hill, 1964, pp. 15-64. [Online]. Available: <http://www.bookref.com>.

Books (Print)

Format: J. K. Author, "Title of chapter in the book," in Title of His Published Book, xth ed. City of Publisher, (only U.S. State), Country: Abbrev. of Publisher, year, ch. x, sec. x, pp. xxx-xxx.

[2] B. Klaus and P. Horn, *Robot Vision*. Cambridge, MA, USA: MIT Press, 1986.

[3] L. Stein, "Random patterns," in *Computers and You*, J. S. Brake, Ed. New York, NY, USA: Wiley, 1994, pp. 55-70

[4] E. F. Moore, "Gedanken-experiments on sequential machines," in *Automata Studies (Ann. of Math. Studies, no. 1)*, C. E. Shannon and J. McCarthy, Eds. Princeton, NJ, USA: Princeton Univ. Press, 1965, pp. 129-153.

Note on Authors and Editors: With two authors, use "and" to connect them. If six or more authors are included, use et al. If referring to an edited book, followed the editors' names with Ed(s) as in [3].

Periodical/Journal Articles (Online)

Format: J. K. Author, "Name of paper," Abbrev. Title of Periodical, vol. x, no. x, pp. xxx-xxx, Abbrev. Month, year. Accessed: Month, Day, Year, doi: 10.1109.XXX.123456. [Online]. Available: site/path/file

[5] W. P. Risk, G. S. Kino, and H. J. Shaw, "Fiber-optic frequency shifter using a surface acoustic wave incident at an oblique angle," *Opt. Lett.*, vol. 11, no. 2, pp. 115-117, Feb. 1986. [Online]. Available: <http://ol.osa.org/abstract.cfm?URI=ol-11-2-115>

Reports (Online)

Format: J. K. Author, "Title of report," Abbrev. Name of Co., City of Co., Abbrev. State, Country, Rep. xxx, year.

[6] S. L. Talleen, "The IntraNet Architecture: Managing information in the new paradigm" Amdahl Corp., San Diego, CA. Aug. 1996. [Online]. Available: <http://www.amdahl.com/doc/products/bsg/intra/infra/html>

Patents (Online)

Format: Name of the invention, by inventor's name. (year, month day). Patent Number [Type of medium]. Available: site/path/file

[7] Screwless clip mounted computer drive, by D. Williams. (2005, Apr. 26). U.S. Patent 6,885,550 [Online]. Available: <http://patft.uspto.gov/netacgi/6,885,550>

Conference Proceedings (Online)

Format: J. K. Author. (Date). Title. Presented at Abbreviated Conf. title. [Type of Medium]. Available: site/path/file

[8] T. Schubert, "Real challenges and solutions for validating system-on-chip high level formal verification of nextgeneration microprocessors," in *Proc. 40th Design Automation Conf. (DAC'03)*,

Last Updated by LCR: August 28, 2019

Jun. 2–6, 2003. [Online]. Available:
<http://www.computer.org/csdl/proceedings/dac/2003/2394/00/2394001-abs.html>

Standards (Online)

Format: Title of Standard, Standard number, Corporate author, location, date. [Online]. Available:
<http://www.url.com>

[9] Frequency Response and Bias, NERC Reliability Standard BAL-003-0.1b, May 2009. [Online]. Available: http://www.nerc.com/files/BAL-003-0_1b.pdf

Sample IEEE Reference List

References

[1] G.O Young, “Synthetic structure of industrial plastics,” in *Plastics, vol. 3, Polymers of Hexadromicon*, J. Peters, Ed., 2nd ed. New York, NY, USA: McGraw-Hill, 1964, pp15-64. [Online]. Available:
<http://www.bookref.com>

[2] B. Klaus and P. Horn, Robot Vision. Cambridge, MA, USA: MIT Press, 1986.

[3] L. Stein, “Random patterns,” in Computers and You, J.S. Brake, Ed. New York, NY, USA: Wiley, 1994, pp. 55-70.

[4] E.F. Moore, “Gedanken-experiments on sequential machines,” in Automata Studies (Ann. Of Math. Studies, no. 1), C.E. Shannon and J. McCarthy, Eds. Princeton, NJ, USA: Princeton Univ. Press, 1965, pp. 129-153.

[5] W.P. Risk, G.S. Kino, and H.J. Shaw, “Fiber-optic frequency shifter using a surface acoustic wave incident at an oblique angle,” *Opt. Lett.*, vol. 11, no.2, pp. 115-117, Feb. 1986. [Online]. Available:
<http://ol.osa.org/abstract.cfm?URL=ol-11-2-115>

[6] S.L. Talleen, “The IntraNet Architecture: Managing information in the new paradigm” Amdahl Corp., San Diego, CA, Aug. 1996. [Online]. Available:
<http://www.amdahl.com/doc/products/bsg/intra/infra/html>

[7] Screwless clip mounted computer drive, by D. Williams. (2005, Apr. 26). U.S. Patent 6,885,550 [Online]. Available: <http://patft.uspto.gov/netacgi/6,885,550>

[8] T. Schubert, “Real challenges and solutions for validating system-on-chip high level formal verification of nextgeneration microprocessors,” in Proc. 40th Design Automation Conf. (DAC’03), Jun. 2–6, 2003. [Online]. Available:
<http://www.computer.org/csdl/proceedings/dac/2003/2394/00/2394001-abs.html>

[9] Frequency Response and Bias, NERC Reliability Standard BAL-003-0.1b, May 2009. [Online]. Available: http://www.nerc.com/files/BAL-003-0_1b.pdf