

Overview

The default EndNote BibTeX output does not contain the required reference types for the IEEE standard. Furthermore, the format of the output styles does not match the IEEE standard. Provided below are the steps to modify both these facets. The purpose of this document is to highlight how we achieved the setups of EndNote and LaTeX we found optimal, and why we made the choices that we did.

Reference Types

As previously mentioned, the EndNote output styles do not match those of the IEEE standard. Furthermore, each reference type has a unique set of input fields. The input fields for each of the reference types is provided in the 'Fields-For-Reference-Types.xls' file. The reference types and their input fields can be exported and imported in EndNote. The configuration for the IEEE standard is provided in 'Final IEEE BiBTeX Reference Types.xml'.

To import the new reference types and their respective input fields, follow the steps given below:

1. From the navigation header click 'Edit' and select 'Preferences'.
2. A mini window should popup titled 'EndNote Preferences'.
3. Select 'Reference Types' from the list on the left. You should now see a subsection titled 'Reference Type Table' .
4. Click 'import' and choose the 'Final IEEE BiBTeX Reference Types.xml' file.

This should change the list of reference types available to EndNote and their respective input fields. Below is a list of current EndNote reference types and the corresponding IEEE reference types they are mapped to.

1. Journal Article
2. Artwork -> Trade Journal Article
3. Book
4. Ancient Text -> Book Chapter
5. Book Section
6. Unused-1 -> Company
7. Conference Proceedings
8. Statue -> Datasheet
9. Grants
10. Music -> Instruction Manual
11. Newspaper Article
12. Issues Patent
13. Bill -> Patent Publication
14. Classical Work -> Patent Application
15. Case -> Provisional Patent Application
16. Hearing -> Record of Invention
17. Film of Broadcast -> PhD Thesis
18. Pamphlet -> Preprint Article
19. Interview -> MS Thesis
20. Report
21. Unused-2 -> Roadmap
22. Unused-3 -> Software

- 23. Standard
- 24. Web-page article

A complete list of all 25 primary and secondary reference types is given below.

Table 1 Primary reference types needed in engineering writing. (25 types)

Book	Grant
Book Chapter	Instruction Manual
Book Section	Issued Patent
Company	Journal Article
Conference Paper	MS Thesis
Dataset	Patent Application
Datasheet	Patent Publication
PhD Thesis	Software
Preprint Article	Standard
Provisional Patent Application	Trade Journal Article
Record of invention	Web-page Article
Report	Newspaper Article
Roadmap	

Table 2 Secondary reference Types that are needed in engineering. This are implemented within the Miscellaneous Universal Reference Type (19 types)

Accepted Paper	Personal Communication
Application Note	Podcast
Associations	Poster
Blog Post	Press Release
Boards	Programs
BS Thesis	Seminar
Computer Program	Unpublished Work
Conference Presentation without proceedings	Video
Legislative Action	Webinar
Manuscript	

The secondary reference types listed above are examples of reference material that are needed in engineering but are not covered by the primary list in Table 1. However, any other reference material the EndNote user believes is not covered by the primary reference types be cited under miscellaneous.

Miscellaneous Universal Reference Type

The miscellaneous universal reference type allows the user to reference material that is not covered by the primary reference types (Refer to Table 1 above). This includes B.S Thesis, Computer Program, manuscript, etc... (Refer to Table 2 above) The miscellaneous universal type contains just two field entries – The referenced material type, and the citation. The user must enter the complete citation for the material in IEEE style into the second field, and EndNote will export the citation as entered.

BibTex-EndNote Reference Type Mapping

Each EndNote reference type must be exported as an appropriate BibTex reference type with the required fields. The following is a table of BibTex reference types, and the EndNote reference types they are linked to.

BibTex Reference Type	EndNote Reference Type
@article	Journal Article Trade Journal Article
@book	Book Edited Book
@booklet	Preprint Article
@inbook	Book Chapter Book Section
@inproceedings	Conference Proceedings
@mastersthesis	MS Thesis
@misc	Company Dataset Datasheet Generic Grant Instruction Manual Issued Patent Miscellaneous Newspaper Article Patent Application Patent Publication Provisional Patent Application Record of Invention Roadmap Software Standard Web-Page Article
@phdthesis	Ph.D. Thesis
@techreport	Report
@unpublished	Unpublished Work

To view a list of BibTex fields each EndNote type uses, see the appendix.

Reference Styles

The format of an exported reference can be changed by modifying the 'EndNote style file' for that output style. Changing this style file changes how a certain reference type will look when exported from EndNote. This style file was modified to better reflect the IEEE standard and is provided as 'BibTex Export Copy.ens'. To import this new style, follow the following documentation:

https://support.clarivate.com/Endnote/s/article/EndNote-Install-Additional-Output-Styles?language=en_US

The steps have also been included here:

Installing the style into **EndNote X2 and later:**

1. In Windows, or using your macOS Finder, browse to the location where you downloaded the style. Double-click on the style file to open it. It should open in the EndNote program.
2. In EndNote, go to the "File Menu" and choose "Save as."
3. Remove the word "copy" from the end of your style's name, and then click the Save button.
4. Click on the "File Menu" and choose "Close Style."
5. [Optional]: To update an existing document with this style, see [EndNote: Changing Output Styles Within a Document](#).

Installing the style into **EndNote 8, 9, X, or X1**:

1. Using Windows, or using your macOS Finder, browse to the location where you downloaded the style. Right-click on the style file and select Copy.
2. Browse to your EndNote Styles folder. This will typically be in following location:
Windows: C:\Program Files\EndNote #\Styles (Where # is the version number for EndNote)
macOS: Applications\EndNote #\Styles (Where # is the version number for EndNote)
Note: If you modify the EndNote preferences, you can set this to another location. To check this setting, go to the "Edit" menu or EndNote menu on the Mac and select "Preferences." Click on the Folder Locations option to see the custom Style folder location and modify as needed. Keep in mind that the default location for the Styles folder may cause problems when trying to save or edit in Windows Vista, 7, 8, and 10 with versions prior to **EndNote X2**. Please see [EndNote: Problems saving Styles](#) for more information on this issue.
3. Right-click in this folder and choose Paste. Your style should now be installed in the *EndNote* program.
4. [Optional]: To update an existing document with this style, see [EndNote: Changing Output Styles Within a Document](#).

BibTex Library

For the output of the EndNote BibTex Export to function as intended, the LaTeX file must be modified. The 'cite' package must be used in conjunction with the 'ieetr' style. To do this, include the following in the preamble of your document:

```
\usepackage{cite}
```

To ensure the ieeetr style formatting is used, the following must be added wherever the Bibliography is printed:

```
\bibliographystyle{ieetr}
```

```
\bibliography{Bibli} % Where "Bibli" is the name of the .bib file with your bibliography entries
```

By default, this creates a right-aligned Bibliography. However, this could lead to odd spacing between bibliography entries. To solve this issue, the following is included in the preamble of the document:

```
\raggedright
```

Alternatively, if this affects other parts of your document, you could use the following:

```
\begin{flushleft}
```

```
\bibliography{Bibli} % Where "Bibli" is the name of the .bib file with your
bibliography entries

\end{flushleft}
```

Author Name Format

EndNote's default naming format dictates how an entered name appears in the reference export. This format doesn't export suffixes correctly to BibTeX. It recognizes suffixes such as Jr. and Sr. as surnames, leaving room for error. This issue was addressed by changing the EndNote settings and should be reflected when the 'BibTeX Export Copy.ens' file was imported.

1. From the navigation header, select 'Tools'.
2. Click 'Output Styles' and select "Edit BibTeX Export Copy".
3. A new window should have opened titled 'BibTeX Export Copy'.
4. From the navbar on the left select 'Author Name' under 'Bibliography'.
5. Set the 'First Author' field to "Smith, Jane".
6. Next, set the 'Other Authors' field to "Doe, John".
7. Set 'Capitalization' to "As Is".
8. Ensure the "Capitalize only the author's last name" checkbox is unselected.
9. Set 'Initials' to "Full Name".

This format was chosen as it allows for appropriate exporting for both the default "IEEE" style and the created BibTeX export. This allows for correct formatting for both LaTeX and Cite While You Write (CWYW) users.

To ensure that any authors with suffixes are appropriately formatted, the following must be done:

1. Find any authors with suffixes.
2. Cut the surname and suffix and paste them in front of the maiden name.
3. Add a comma after the suffix.

An example is provided below:

John Doe Jr. -> Doe Jr., John

Inserting Special Characters

EndNote's character set is limited, and hence does not allow certain special characters. This includes Greek and Latin characters sometimes found in research papers. The same issue arises in Overleaf and other LaTeX compilers. To bypass this issue, search for the appropriate symbol in the 'LaTeX math symbols' list found here: https://oeis.org/wiki/List_of_LaTeX_mathematical_symbols. Type the corresponding LaTeX macro into the appropriate section of EndNote to ensure the symbol is correctly displayed in LaTeX.

Alternatively, if you would like to keep your EndNote library compatible with both LaTeX and Cite While You Write (CWYW), add the following to the preamble of your LaTeX document:

```
\usepackage[mathletters]{ucs}
\usepackage[utf8x]{inputenc}
```

Make sure you are using Tex Live version 2023. On Overleaf, click the 'Menu' button on the top-left corner of the page. Then select '2023' from the dropdown for 'Text Live version'.

Then, ensure you are using the ASCII version of the character you wish to insert. The appropriate symbol can be searched for on this website: <https://www.ascii-code.com/characters>. This ensures compatibility with both LaTeX and CWYW. Note that this method only works for characters that do not have any accents. For instance, 'Greek small letter alpha' will work, but 'Greek small letter alpha with tonos' will not display correctly on LaTeX. For these more complex characters, use the appropriate LaTeX macro as mentioned above. It's also important to note that the Var-theta symbol is not currently supported as of the writing of this document.

Not all LaTeX IDEs can understand the required Greek symbols. Provided below is a list of known LaTeX IDEs that accept the required Greek symbols:

1. Overleaf
2. TexStudio
3. TexMaker

Provided below is a list of LaTeX IDEs that do not understand the required Greek symbols:

1. Texworks Editor
2. PCTex

Changing Reference Type Templates

This section highlights the process of changing the output template for a particular reference type. Here are the steps to undertake the same:

1. From the navigation header, select 'Tools'.
2. Click 'Output Styles' and select "Edit BibTeX Export Copy".
3. A new window should have opened titled 'BibTeX Export Copy'.
4. From the navbar on the left select 'Templates' under 'Bibliography'.
5. Click the 'Reference Types' button on the top-left of the editing window and select the reference type whose reference you wish to change.
6. Choose an appropriate BibTeX base for this template and type all the required LaTeX input fields to the left of the '=' sign.
7. Place your cursor between the curly braces of any input field.
8. Click the 'Insert Field' button on the top-right of the editing window.
9. Select the EndNote field that corresponds to that LaTeX input field (Or manually type the field name).
10. Repeat this for all LaTeX input fields in the template.

BibTeX Reference Fields

Each BibTeX reference type has a set of reference fields from which it obtains its information. A list of reference fields can be found in the 'bibentries.pdf' file. The file also contains a list of mandatory and optional reference fields for each reference type. When modifying the EndNote reference type templates, it is important to choose the appropriate reference type to match the EndNote type. Furthermore, once the BibTeX reference type is chosen, it is important to ensure that the correct reference fields are being filled with the appropriate information. In order of these reference fields when compiled by LaTeX may not match the order in which they are exported by EndNote. For example, if 'Title' is the first field that is populated by EndNote in its 'article' reference template, that

does not guarantee that the Title will appear first in the reference for articles in the BibTeX bibliography. The order in the bibliography is decided by the LaTeX package and style you choose. In this project, as mentioned in the [BibTeX Library](#) section, the 'cite' package and the 'ieeetr' style are chosen.

Conditional Text

In certain occasions, you may want to include hardcoded text for a field. For example, you may want to include the text 'doi: ' before the doi of a paper. However, this text must only be displayed if a doi exists for that paper. To do this, the hardcoded text can be enclosed in back-ticks (`) and the conditional field can be linked with a link character (A degree symbol).

To do this:

1. Place your cursor between the curly braces for the appropriate field.
2. Type the required text between two backticks.
3. Click the 'Insert Field' button on the top-right of the editing window and select the 'Link Adjacent Text' option.
4. Then, Click the 'Insert Field' button on the top-right of the editing window and choose the appropriate EndNote field (Or manually type the field name).

Multiple EndNote Fields per Input Field

On certain occasions, you might want to include several EndNote fields in a single BibTeX input field. For instance, you may want the 'month' and 'year' fields included under one BibTeX 'date' field. To do this, you can simply include multiple EndNote fields under a single input field. However, if a single input field is missing at the start of middle of the list of fields, the subsequent fields will not be filled. Furthermore, the closing curly brace will not be included. To bypass the issue, do the following:

Include a 'space character' as the first and last characters within the curly braces. This can be inserted by hitting the 'space bar' key on your keyboard. This character is represented on EndNote by a dot. Adding the prefix and suffix spaces ensures that the curly brace is included in exporting and that any missing fields do not prevent the exporting of other fields.

Here is an example:

```
| `Date = `{ month, year },
```

Quotations

Often, the 'Title' field must be enclosed in quotation marks. BibTeX automatically inserts the quotation marks for the 'Title' field of several Reference Types including Book, Book Chapter, Book Section etc... However, in other Reference Types, this quotation mark is not automatically included, including Grant, Issued Patent, Instruction Manual etc... This issue often occurs with the '@misc' reference type. In these cases, the quotations can be manually inserted in the template. However, the regular quotation marks, called straight quotes, shown here: " ", differ from the ones automatically inserted by some BibTeX styles. As a result, a discrepancy can sometimes arise that creates a non-uniform appearance. To change this, we can, if appropriate, insert a modified quotation mark character, called curly quotes, shown here: “ ”. Matching the quotation characters automatically inserted by BibTeX provides a more uniform Bibliography export.

The following is a list of BibTeX reference types which do not automatically include quotations:

1. @inbook – Chapter field
2. @misc

3. @phdthesis

Plain Tex

If you wish to write plain Tex rather than LaTeX, popular Integrated Development Environments (IDEs) such as Overleaf and TexStudio will not work. Provided below is a list of IDEs that are recommended for plain Tex:

1. Texworks Editor
2. PcTex

Appendix

Table-1: Map of EndNote Reference Style and BibTex Fields.

EndNote Reference Type	Corresponding BibTex Fields
Book	BibTex Reference Type: @book 1. Author 2. Title 3. Publisher 4. Address 5. Year 6. Type
Book Chapter	BibTex Reference Type: @inbook 1. Author 2. Title 3. Booktitle 4. Editor 5. Series 6. Publisher 7. Address 8. Volume 9. Chapter 10. Note 11. Abstract 12. Keywords 13. ISBN 14. DOI 15. URL 16. Year 17. Type
Book Section	BibTex Reference Type: @inbook 1. Author 2. Title 3. Booktitle 4. Editor 5. Series 6. Publisher 7. Address 8. Volume 9. Chapter 10. Note 11. Abstract 12. Keywords 13. ISBN 14. DOI 15. URL 16. Year 17. Type

Company	BibTex Reference Type: @misc 1. Note 2. Type
Conference Proceedings	BibTex Reference Type: @inproceedings 1. Author 2. Title 3. Note 4. Type
Dataset	BibTex Reference Type: @misc 1. Author 2. Title 3. Note 4. Year 5. Type
Datasheet	BibTex Reference Type: @misc 1. Note 2. Type
Grant	BibTex Reference Type: @misc 1. Author 2. Title 3. Year 4. Type
Instruction Manual	BibTex Reference Type: @misc 1. Note 2. Type
Issued Patent	BibTex Reference Type: @misc 1. Note 2. Type
Journal Article	BibTex Reference Type: @article 1. Author 2. Title 3. Journal 4. Volume 5. Pages 6. Note 7. Year 8. Month 9. Type
MS Thesis	BibTex Reference Type: @mastersthesis 1. Author 2. Title 3. Note 4. Type
Newspaper Article	BibTex Reference Type: @misc 1. Author 2. Year 3. Type
Patent Application	BibTex Reference Type: @misc 1. Note 2. Type
Patent Publication	BibTex Reference Type: @misc 1. Note 2. Type
PhD Thesis	BibTex Reference Type: @phdthesis 1. Author 2. Title 3. Type 4. School
Preprint Article	BibTex Reference Type: @booklet 1. Author 2. Title 3. Publisher 4. Address 5. Pages 6. ISBN 7. DOI

	8. Note 9. Year 10. Type
Provisional Patent Application	BibTex Reference Type: @misc 1. Note 2. Type
Record of Invention	BibTex Reference Type: @misc 1. Year 2. Author 3. Type
Report	BibTex Reference Type: @techreport 1. Author 2. Title 3. Institution 4. Month 5. Year 6. Type
Roadmap	BibTex Reference Type: @misc 1. Note
Software	BibTex Reference Type: @misc 1. Note 2. Type
Standard	BibTex Reference Type: @misc 1. Author 2. Title 3. Month 4. Year 5. Type
Trade Journal Article	BibTex Reference Type: @article 1. Author 2. Title 3. Journal 4. Volume 5. Pages 6. Note 7. Year 8. Month 9. Type
Web-page article	BibTex Reference Type: @misc 1. Note 2. Type