The IEEEtrantools package

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Contents

This is a PDF version of IEEEtrantools_doc.txt 2007/01/11 version 1.2 (Version 1.2 is based on the commands of version 1.7 of IEEEtran.cls)
This document is the user guide for the IEEEtrantools.sty package.

The IEEEtrantools.sty package provides several popular and unique commands from the IEEEtran.cls class (version 1.7) file.

IEEEtrantools.sty should not be used with IEEEtran.cls.

For helpful tips, answers to frequently asked questions and other support, visit the IEEEtrantools support page at my website:
http://www.michaelshell.org/tex/ieeetran/tools/

The latest version and documentation of IEEEtrantools can be obtained at:
http://www.ctan.org/tex-archive/macros/latex/contrib/IEEEtran/

See http://www.michaelshell.org/ for current contact information.

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File list of work: `IEEEtrantools.sty`, `IEEEtrantools_doc.txt`

2 Available package options

e. g., `\usepackage[retainorgcmds]{IEEEtrantools}`

retainorgcmds Prevents IEEEtrantools from overriding existing LaTeX commands. Currently, the only effect is to preserve the original definitions of `itemize`, `enumerate` and `description`. The IEEEtran versions are always available as `IEEEitemize`, `IEEEenumerate` and `IEEEdescription` and the original LaTeX versions are always available as `LaTeXitemize`, `LaTeXenumerate` and `LaTeXdescription`.

3 1/2007 V1.2 (V1.7 of `IEEEtran.cls`) changes:

1. Several commands and enviroments have depreciated in favor of replacements with IEEE prefixes to better avoid potential future name clashes with other packages. Legacy code retained to allow use of the obsolete forms, but with an warning message to the console during compilation: `\IEEEPARstart`
   For IED lists: `\IEEEiedlabeljustifyc`, `\IEEEiedlabeljustifyl`, `\IEEEiedlabeljustifyr`, `\IEEEnocalcleftmargin`, `\IEEElabelindent`, `\IEEEsetlabelwidth`, `\IEEEusemathlabelsep`

2. These commands/lengths now require the IEEE prefix and do not have legacy support: `\IEEEnormaljot`.
   For IED lists: `\ifIEEEnocalcleftmargin`, `\ifIEEEnolabelindentfactor`, `\IEEEiedlistdecl`, `\IEEElabelindentfactor`

3. `\normalsizebaselineskip` no longer provided.

4. New \IEEEPARstart controls: \IEEEPARstartHEIGHTTEXT, \IEEEPARstartFONTSTYLE, \IEEEPARstartCAPSTYLE, \IEEEPARstartWORDFONTSTYLE, \IEEEPARstartWORDCAPSTYLE, \IEEEPARstartHOFFSET, \IEEEPARstartITLCORRECT and the (output) length \IEEEPARstartletwidth.

5. Provide for an optional argument to \bstctlcite to provide a way to specify a different aux file. Define \bstctlcite even if it has already been defined.

4 11/2002 V1.1 (v1.6b of IEEEtran.cls) changes:

1. In addition to the IEEE IED lists, the original LaTeX IED style list environments are now preserved as LaTeXitemize, LaTeXenumerate, and LaTeXdescription. Also, users can now redefine \makelabel within IEEE IED list controls. There may be some use for these in specialized applications. Thanks to Eli Barzilay for suggesting this feature.

5 Package Description

The IEEEtrantools.sty package provides several commands from IEEEtran.cls so that they can be used under other LaTeX classes. This guide covers only the differences in the use of the commands from those provided by IEEEtran.cls. For complete documentation on these commands, see the relevant sections in the IEEEtran_HOWTO manual which is available at the CTAN site.

IEEEtrantools.sty provides \IEEEPARstart; the \bstctlcite command for the control entry types of IEEEtran.bst V1.00 and later; the IEEE IED list environments; and the complete IEEEeqnarray family, including the IEEEeqnarray support commands.

Please note that, as a package file, IEEEtrantools.sty will not attempt to alter document formatting (other than the override of the IDE lists, if the retainorgcmds option is not invoked) as controlled by the class file. Therefore, there may be spacing/layout differences between the results of the same IEEEtran commands under IEEEtran.cls and the user's class file as different fonts, default values for the various length commands, etc., are used than under IEEEtran.cls.

6 \IEEEPARstart

\IEEEPARstart{}{} is used to provide a large initial "drop cap" letter(s) as well as to capitialize the remaining letters of the first word of a chapter or section (if placed within the second argument). e. g.,
\IEEEPARstart{O}{nce}

Unlike IEEEtran.cls, IEEEtrantools.sty provides the user with a way to control the various parameters of the \IEEEPARstart letters.

Below is how the user can alter them (after the IEEEtrantools.sty package is loaded). Default values are shown. IEEEtrantools will not override any previous definitions of these parameters if they already exist when the package is loaded.

```
% The number of lines that are indented to clear the drop cap letter.
% You may need to increase this beyond 1 + \IEEEPARstartDROPDEPTH if
% you are using lowercase letters with descenders.
\renewcommand{\IEEEPARstartDROPLINES}{2}

% The minimum number of lines left on a page to allow an \IEEEPARstart.
% Does not take into consideration glue shrink, so it tends to be overly
% cautious.
\renewcommand{\IEEEPARstartMINPAGELINES}{2}

% The height of the drop cap (*above* the baseline), is adjusted to match
% the height of this text in the current font (when \IEEEPARstart is called).
% Use a strut if you want a height not based on that of the main text font.
\renewcommand{\IEEEPARstartHEIGHTTEXT}{T}

% The depth the letter is lowered below the baseline. The height (and size)
% of the letter is determined by the sum of this value and the height of
% \IEEEPARstartHEIGHTTEXT in the current font. It is a good idea to set this
% value in terms of the baselineskip so that it can respond to changes
% therein.
\renewcommand{\IEEEPARstartDROPDEPTH}{1.1\baselineskip}

% The font the drop cap will be rendered in. The argument is a command that
% can take zero or one argument.
\renewcommand{\IEEEPARstartFONTSTYLE}{\bfseries}

% Any additional, non-font related commands needed to modify the drop cap
% letter, can take zero or one argument.
\renewcommand{\IEEEPARstartCAPSTYLE}{\MakeUppercase}

% The font that will be used to render the rest of the word (second argument
% to \IEEEPARstart), can take zero or one argument.
\renewcommand{\IEEEPARstartWORDFONTSTYLE}{\relax}

% Any additional, non-font related commands needed to modify the rest of the
% word (second argument to \IEEEPARstart), can take zero or one argument.
\renewcommand{\IEEEPARstartWORDCAPSTYLE}{\MakeUppercase}

% The horizontal separation distance from the drop letter to the main text.
% Lengths that depend on the font (i.e., ex, em, etc.) will be referenced to
% the font that is active when \IEEEPARstart is called.
\renewcommand{\IEEEPARstartSEP}{0.15em}

% The Horizontal offset applied to the left of the drop cap. The drop cap
% can be shifted left (negative) or right (positive) using this parameter.
% Lengths that depend on the font (e.g., ex, em, etc.) will be referenced
```

```
% to the font that is active when \IEEEPARstart is called.
\renewcommand{\IEEEPARstartHOFFSET}{0em}
```

For \IEEEPARstartSEP and \IEEEPARstartHOFFSET, you can also reference the length variable, \IEEEPARstartletwidth, which will be set to the width of the drop drop before it is rendered. e. g.,
\renewcommand{\IEEEPARstartHOFFSET}{-0.5\IEEEPARstartletwidth}
will cause the drop cap to be shifted leftward by half its width.

```
% Italic correction command applied at the end of the drop cap when
% evaluating its width. Without this, italic or slanted drop cap letters will
% "crash into" the main text because their full true width is not taken into
% consideration.
\renewcommand{\IEEEPARstartITLCORRECT}{\/}
```

7 \bstctlcite

\bstctlcite{} is used to issue a citation for a special IEEEtran.bst BibTeX style control entry which can control various operating parameters of the IEEEtran.bst file (V1.00 and later):
\bstctlcite{IEEEexample:BSTcontrol}

V1.2 and later of IEEEtrantools.sty provides for an optional argument so that different auxiliary file specifiers may be used in documents with multiple bibliographies:
\bstctlcite[@auxoutsec]{IEEEexample:BSTcontrol}

See the IEEEtran.bst documentation for details:
http://www.ctan.org/tex-archive/macros/latex/contrib/IEEEtran/bibtex
http://www.michaelshell.org/tex/ieeetran/bibtex/

\bstctlcite operates silently and will not alter the citation numbers or place a citation entry into the main text or bibliography (when used with IEEEtran.bst). It should not be used with .bst files that do not provide support for these special BST control entries.

See the IEEEtran.bst BibTeX style documentation for details.
http://www.michaelshell.org/tex/ieeetran/bibtex/
http://www.ctan.org/tex-archive/macros/latex/contrib/IEEEtran/bibtex

8 itemize, enumerate and description (IED) lists

IEEEtrantools provides revised itemize, enumerate and description list environments that offer enhanced controls and make it much easier to create such lists when the main text is "block indented" from the labels (IEEE style).

By default, the LaTeX IED list environments are overridden with the IEEE IED versions. To prevent this, load IEEEtrantools.sty with the "retainorgcmds" option:
\usepackage[retainorgcmds]{IEEEtrantools}

In any event, the IEEE IED list environments are available as
IEEEitemize, IEEEenumerate, and IEEEdescription. The IEEE IED lists depend on

the LaTeX low-level `list` environment, so class files that redefine it may also alter the IEEE IED list formatting. The original LaTeX IED environments (as provided by the LaTeX kernel and class file) are always retained as `LaTeXitemize`, `LaTeXenumerate` and `LaTeXdescription`.

Beware that the default enumerate label width will not be correct if the class file is not using normalfont "9)" style labeled enumerated lists.

The support commands for the IEEE IED list environments (`\IEEEsetlabelwidth`, `\IEEEusemathlabelsep`, `\IEEEiedlabeljustifyl`, etc.) are also provided.

9 The `IEEEeqnarray` family

Please note that IEEEtrantools provides and sets the length variable `\IEEEnormaljot`. As IEEEtrantools is loaded, `\IEEEnormaljot` will be set to the current value of `\jot`. If the user later alters the document's nominal `\jot` the value of `\IEEEnormaljot` should be revised as well.

The support commands for the `IEEEeqnarray` commands (`\IEEEstrut`, `\IEEEeqnarrayvrule`, `\IEEEvisiblestrutstrue`, etc.) are also provided.