

# The hypbmsec package

“Bookmarks in sectioning commands”

2000/03/22, v2.1

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## Abstract

This package expands the syntax of the sectioning commands. If the argument of the sectioning commands isn’t usable as outline entry, a replacement for the bookmarks can be given.

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# 1 Usage

## 1.1 Bookmarks restrictions

Outline entries (bookmarks) are written to a file and have to obey the pdf specification. Therefore they have several restrictions:

- Bookmarks have to be encoded in PDFDocEncoding<sup>2</sup>.
- They should only expand to letters and spaces.
- The result of expansion have to be a valid pdf string.
- Stomach commands like `\relax`, box commands, math, assignments, or definitions aren't allowed.
- Short entries are recommended, which allow a clear view.

## 1.2 `\texorpdfstring`

The generic way in package `hyperref` is the use of `\texorpdfstring`<sup>3</sup>:

```
\section{Pythagoras:
\texorpdfstring{$a^2+b^2=c^2$}{%
  a\texttt{two}superior\ + b\texttt{two}superior\ =
  c\texttt{two}superior}%
}
```

## 1.3 Sectioning commands

The package `hyperref` automatically generates bookmarks from the sectioning commands, unless it is suppressed by an option. Commands that structure the text are here called “sectioning commands”:

```
\part, \chapter,
\section, \subsection, \subsubsection,
\paragraph, \subparagraph
```

## 1.4 Places for sectioning strings

The argument(s) of these commands are used on several places:

**text** The current text without restrictions.

**toc** The headlines and the table of contents with the restrictions of “moving arguments”.

**out** The outlines with many restrictions: The outline have to expand to a valid pdf string with PDFDocEncoding (see 1.1).

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<sup>2</sup>`hyperref` doesn't support Unicode.

<sup>3</sup>In versions of `hyperref` below 6.54 see `\ifbookmark`.

## 1.5 Solution with optional arguments

If the user wants to use a footnote within a sectioning command, the L<sup>A</sup>T<sub>E</sub>X solution is an optional argument:

```
\section[Title]{Title\footnote{Footnote text}}
```

Now `Title` without the footnote is used in the headlines and the table of contents. Also `hyperref` uses it for the bookmarks.

This package `hybmsec` offers two possibilities to specify a separate outline entry:

- An additional second optional argument in square brackets.
- An additional optional argument in parentheses (in assoziation with a pdf string that is internally surrounded by parentheses, too).

Because `hybmsec` stores the original meaning of the sectioning commands and uses them again, there should be no problems with packages that redefine the sectioning commands, if these packages doesn't change the syntax.

## 1.6 Syntax

The following examples show the syntax of the sectioning commands. For the places the strings appear the abbreviations are used, that are introduced in [1.4](#).

### 1.6.1 Star form

The behaviour of the star form isn't changed. The string appears only in the current text:

```
\section*{text}
```

### 1.6.2 Without optional arguments

The normal case, the string in the mandatory argument is used for all places:

```
\section{text, toc, out}
```

### 1.6.3 One optional argument

Also the form with one optional parameter in square brackets isn't new; for the bookmarks the optional parameter is used:

```
\section[toc, out]{text}
```

### 1.6.4 Two optional arguments

The second optional parameter in square brackets is introduced by this package to specify an outline entry:

```
\section[toc][out]{text}
```

### 1.6.5 Optional argument in parentheses

Often the `toc` and the `text` string would be the same. With the method of the two optional arguments in square brackets (see 1.6.4) this string must be given twice, if the user only wants to specify a different outline entry. Therefore this package offers another possibility: In association with the internal representation in the pdf file an outline entry can be given in parentheses. So the package can easily distinguish between the two forms of optional arguments and the order does not matter:

```
\section(out){toc, text}
\section[toc](out){text}
\section(out)[toc]{text}
```

## 1.7 Without hyperref

Package `hyrbmsec` uses `hyperref` for support of the bookmarks, but this package is not required. If `hyperref` isn't loaded, or is called with a driver that doesn't support bookmarks, package `hyrbmsec` shouldn't be removed, because this would lead to a wrong syntax of the sectioning commands. In any cases package `hyrbmsec` supports its syntax and ignores the outline entries, if there are no code for bookmarks. So it is possible to write texts, that are processed with several drivers to get different output formats.

## 1.8 Protecting parentheses

If the string itself contains parentheses, they have to be hidden from `TeX`'s argument parsing mechanism. The argument should be surrounded by curly braces:

```
\section({outlines(bookmarks)}){text, toc}
```

With version 6.54 of `hyperref` the other standard method works, too: The closing parenthesis is protected:

```
\section(outlines(bookmarks{})) {text, toc}
```

# 2 Installation

## 2.1 Package

Run `hyrbmsec.ins` through `TeX` to get file `hyrbmsec.sty`:

```
tex hyrbmsec.ins
```

Move the file `hyrbmsec.sty` into a directory that is searched by `LaTeX`. As location in a TDS tree I recommend:

```
texmf/tex/latex/oberdiek/hyrbmsec.sty    or
texmf/tex/latex/misc/hyrbmsec.sty
```

## 2.2 Documentation

### 2.2.1 With LaTeX

If you have package `hyperref` installed and want to use another driver than the default, use the configuration file `hyperref.cfg` to set your driver choice:

```
\hypersetup{<your driver>}
```

The following commands produce the documentation, don't forget *MakeIndex*'s option `-r`, if you use `hyperref` (eventually you need another cycle with *MakeIndex* and `LATEX`):

```
latex hypbmsec.dtx
makeindex -rs gind hypbmsec
latex hypbmsec.dtx
makeindex -rs gind hypbmsec
latex hypbmsec.dtx
```

### 2.2.2 With pdf $\text{\LaTeX}$

Package `hyperref` for hyperlinks and package `thumbpdf` for thumbnails are supported. Generate the pdf file with the following commands (eventually you need another cycle with *MakeIndex* and pdf $\text{\LaTeX}$ ):

```
pdflatex hypbmsec.dtx
makeindex -rs gind hypbmsec
pdflatex hypbmsec.dtx
makeindex -rs gind hypbmsec
pdflatex hypbmsec.dtx
thumbpdf hypbmsec
pdflatex hypbmsec.dtx
hothread hypbmsec.dtx
```

Within the current pdf $\text{\LaTeX}$  there are still problems and bugs with the thread support. The perl script `hothread(.pl)` reads the informations of the `.pdf` and the `.log` file and corrects the `.pdf` file by appending an update section.

## 3 Implementation

```
1 (*package)
```

Because of redefining the sectioning commands, it is dangerous to reload the package several times.

```
2 \@ifundefined{hbs@do}{}{%
3   \PackageInfo{hypbmsec}{Package 'hypbmsec' is already loaded}
4   \endinput
5 }
```

`\hbs@do` The redefined sectioning commands calls `\hbs@do`. It does

- handle the star case.
- resets the macros that store the entries for the outlines (`\hbs@bmstring`) and table of contents (`\hbs@tocstring`).
- store the sectioning command #1 in `\hbs@seccmd` for later reuse.
- at last call `\hbs@checkarg` that scans and interprets the parameters of the redefined sectioning command.

```
6 \def\hbs@do#1{%
7   \@ifstar{#1*}{}%
8   \let\hbs@tocstring\relax
```

```

9      \let\hbs@bmstring\relax
10     \let\hbs@seccmd#1%
11     \hbs@checkarg
12 }%
13 }

```

`\hbs@checkarg` `\hbs@checkarg` determines the type of the next argument:

- An optional argument in square brackets can be an entry for the table of contents or the bookmarks. It will be read by `\hbs@getsquare`
- An optional argument in parentheses is an outline entry. This is worked off by `\hbs@getbookmark`.
- If there are no more optional arguments, `\hbs@process` reads the mandatory argument and calls the original sectioning commands.

```

14 \def\hbs@checkarg{%
15   \@ifnextchar[\hbs@getsquare{%
16     \@ifnextchar(\hbs@getbookmark\hbs@process
17   }%
18 }

```

`\hbs@getsquare` `\hbs@getsquare` reads an optional argument in square brackets and determines, if this is an entry for the table of contents or the bookmarks.

```

19 \long\def\hbs@getsquare[#1]{%
20   \ifx\hbs@tocstring\relax
21     \def\hbs@tocstring{#1}%
22   \else
23     \hbs@bmdef{#1}%
24   \fi
25   \hbs@checkarg
26 }

```

`\hbs@getbookmark` `\hbs@getbookmark` reads an outline entry in parentheses.

```

27 \def\hbs@getbookmark(#1){%
28   \hbs@bmdef{#1}%
29   \hbs@checkarg
30 }

```

`\hbs@bmdef` The command `\hbs@bmdef` save the bookmark entry in parameter `#1` in the macro `\hbs@bmstring` and catches the case, if the user has given several outline strings.

```

31 \def\hbs@bmdef#1{%
32   \ifx\hbs@bmstring\relax
33     \def\hbs@bmstring{#1}%
34   \else
35     \PackageError{hypbmsec}{%
36       Sectioning command with too many parameters%
37     }{%
38       You can only give one outline entry.%
39     }%
40   \fi
41 }

```

`\hbs@process` The parameter `#1` is the mandatory argument of the sectioning commands. `\hbs@process` calls the original sectioning command stored in `\hbs@seccmd` with arguments that depend of which optional argument are used previously.

```

42 \long\def\hbs@process#1{%
43   \ifx\hbs@tocstring\relax
44     \ifx\hbs@bmstring\relax
45       \hbs@seccmd{#1}%
46     \else
47       \hbs@seccmd{\texorpdfstring{#1}\hbs@bmstring}%
48     \fi
49   \else
50     \ifx\hbs@bmstring\relax
51       \hbs@seccmd[\hbs@tocstring]{#1}%
52     \else
53       \hbs@seccmd[\texorpdfstring\hbs@tocstring\hbs@bmstring]{#1}%
54     \fi
55   \fi
56 }

```

We have to check, whether package `hyperref` is loaded and have to provide a definition for `\texorpdfstring`. Because `hyperref` can be loaded after this package, we do the work later (`\AtBeginDocument`).

This code only checks versions of `hyperref` that define `\ifbookmark` (v6.4x until v6.53) or `\texorpdfstring` (v6.54 and above). Older versions aren't supported.

```

57 \AtBeginDocument{%
58   \@ifundefined{texorpdfstring}{%
59     \@ifundefined{ifbookmark}{%
60       \let\texorpdfstring@firstoftwo
61       \@ifpackageloaded{hyperref}{%
62         \PackageInfo{hybmsec}{%
63           \ifx\hy@driver\empty
64             Default driver
65           \else
66             '\hy@driver'
67           \fi
68           of hyperref not supported,\MessageBreak
69           bookmark parameters will be ignored%
70         }%
71       }{%
72         \PackageInfo{hybmsec}{%
73           Package hyperref not loaded,\MessageBreak
74           bookmark parameters will be ignored%
75         }%
76       }%
77     }%
78   }%
79   \newcommand\texorpdfstring[2]{\ifbookmark{#2}{#1}}%
80   \PackageWarningNoLine{hybmsec}{%
81     Old hyperref version found,\MessageBreak
82     update of hyperref recommended%
83   }%
84 }%
85 }{}%

```

Other packages are allowed to redefine the sectioning commands, if they does not change the syntax. Therefore the redefinitions of this package should be done after the other packages.

```

86 \let\hbs@part      \part
87 \let\hbs@section  \section

```

```

88 \let\hbs@subsection \subsection
89 \let\hbs@subsubsection\subsubsection
90 \let\hbs@paragraph \paragraph
91 \let\hbs@subparagraph \subparagraph
92 \renewcommand\part {\hbs@do\hbs@part}
93 \renewcommand\section {\hbs@do\hbs@section}
94 \renewcommand\subsection {\hbs@do\hbs@subsection}
95 \renewcommand\subsubsection{\hbs@do\hbs@subsubsection}
96 \renewcommand\paragraph {\hbs@do\hbs@paragraph}
97 \renewcommand\subparagraph {\hbs@do\hbs@subparagraph}
98 \begingroup\expandafter\expandafter\expandafter\endgroup
99 \expandafter\ifx\csname chapter\endcsname\relax\else
100 \let\hbs@chapter \chapter
101 \renewcommand\chapter {\hbs@do\hbs@chapter}
102 \fi
103 }
104 \end{package}

```

## 4 History

[1998/11/20 v1.0]

- First version.
- It merges package `hysecopt` and package `hypbmpar`.
- Published for the DANTE'99 meeting<sup>4</sup>.

[1999/04/12 v2.0]

- Adaptation to `hyperref` version 6.54.
- Documentation in dtx format.
- Copyright: LPPL ([CTAN:macros/latex/base/lppl.txt](http://www.ctan.org/CTAN:macros/latex/base/lppl.txt)<sup>5</sup>)
- First CTAN release.

[2000/03/22 v2.1]

- Bug fix in redefinition of `\chapter`.
- Copyright: LPPL 1.2

## 5 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

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<sup>4</sup>Url: <http://dante99.cs.uni-dortmund.de/handouts/oberdiek/hypbmsec.sty>

<sup>5</sup>Url: [ftp://ftp.dante.de/tex-archive/macros/latex/base/lppl.txt](http://ftp.dante.de/tex-archive/macros/latex/base/lppl.txt)



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