

# The **thumbs** package

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## **Abstract**

This L<sup>A</sup>T<sub>E</sub>X2e package allows to create one or more customizable thumb index(es), providing a quick and easy reference method for large documents. It must be loaded after the page size has been set, when printing the document “shrink to page” should not be used, and a printer capable of printing up to the border of the sheet of paper is needed (or afterwards cutting the paper).

Disclaimer for web links: The author is not responsible for any contents referred to in this work unless he has full knowledge of illegal contents. If any damage occurs by the use of information presented there, only the author of the respective pages might be liable, not the one who has referred to these pages.

Save per page about 200 ml water, 2 g CO<sub>2</sub> and 2 g wood:  
Therefore please print only if this is really necessary.

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# 1 Introduction

This package puts running, customizable thumb marks in the outer margin, moving downward as the chapter number (or whatever shall be marked by the thumb marks) increases. Additionally an overview page/table of thumb marks can be added automatically, which gives the respective names of the thumb objects, the page where the object/thumb mark first appears, and the thumb mark itself at the respective position. The thumb marks are probably useful for documents, where a quick and easy way to find e.g. a chapter is needed, for example in reference guides, anthologies, or quite large documents.

`thumbs` must be loaded after the page size has been set, when printing the document “shrink to page” should not be used, a printer capable of printing up to the border of the sheet of paper is needed (or afterwards cutting the paper).

Usage with `\usepackage[landscape]{geometry}`, `\documentclass[landscape]{...}`, `\usepackage[landscape]{geometry}`, `\usepackage{lscape}`, or `\usepackage{pdfscape}` is possible.

There *are* already some packages for creating thumbs, but because none of them did what I wanted, I wrote this new package.<sup>1</sup>

## 2 Usage

### 2.1 Loading

Load the package placing

```
\usepackage[<options>]{thumbs}
```

in the preamble of your  $\text{\LaTeX 2}_{\epsilon}$  source file.

The `thumbs` package takes the dimensions of the page `\AtBeginDocument` and does not react to changes afterwards. Therefore this package must be loaded *after* the page dimensions have been set, e.g. with package `geometry` (<http://ctan.org/pkg/geometry>). Of course it is also OK to just keep the default page/paper settings, but when anything is changed, it must be done before `thumbs` executes its `\AtBeginDocument` code.

The format of the paper, where the document shall be printed upon, should also be used for creating the document. Then the document can be printed without adapting the size, like e.g. “shrink to page”. That would add a white border around the document and by moving the thumb marks from the edge of the paper they no longer appear at the side of the stack of paper. (Therefore e.g. for printing the example file to A4 paper it is necessary to add `a4paper` option to the document class and recompile it! Then the thumb marks column change will occur at another point, of course.) It is also necessary to use a printer capable of printing up to the border of the sheet of paper. Alternatively it is possible after the printing to cut the paper to the right size. While performing this manually is probably quite cumbersome, printing houses use paper, which is slightly larger than the desired format, and afterwards cut it to format.

Some faulty `pdf`-viewer adds a white line at the bottom and right side of the document when presenting it. This does not change the printed version. To test for this problem, a page of the example file has been completely coloured. (Probably better exclude that page from printing...)

When using the thumb marks overview page, it is necessary to `\protect` entries like `\pi` (same as with entries in tables of contents, figures, tables,...).

---

<sup>1</sup>Probably this holds true for the motivation of the authors of quite a lot of packages.

## 2.2 Options

**options**      The thumbs package takes the following options:

### 2.2.1 linefill

**linefill**      Option **linefill** wants to know how the line between object (e.g. chapter name) and page number shall be filled at the overview page. Empty option will result in a blank line, **line** will fill the distance with a line, **dots** will fill the distance with dots.

### 2.2.2 minheight

**minheight**      Option **minheight** wants to know the minimal vertical extension of each thumb mark. This is only useful in combination with option **height=auto** (see below). When the height is automatically calculated and smaller than the **minheight** value, the height is set equal to the given **minheight** value and a new column/page of thumb marks is used. The default value is 47pt ( $\approx 16.5\text{ mm} \approx 0.65\text{ in}$ ).

### 2.2.3 height

**height**      Option **height** wants to know the vertical extension of each thumb mark. The default value “**auto**” calculates an appropriate value automatically decreasing with increasing number of thumb marks (but fixed for each document). When the height is smaller than **minheight**, this package deems this as too small and instead uses a new column/page of thumb marks. If smaller thumb marks are really wanted, choose a smaller **minheight** (e.g. 0pt).

### 2.2.4 width

**width**      Option **width** wants to know the horizontal extension of each thumb mark. The default option-value “**auto**” calculates a width-value automatically: ( $\backslash\text{paperwidth}$  minus  $\backslash\text{textwidth}$ ), which is the total width of inner and outer margin, divided by 4. Instead of this, any positive width given by the user is accepted. (Try **width={\paperwidth}** in the example!) Option **width={autoauto}** leads to thumb marks, which are just wide enough to fit the widest thumb mark text.

### 2.2.5 distance

**distance**      Option **distance** wants to know the vertical spacing between two thumb marks. The default value is 2mm.

### 2.2.6 tophthumbmargin

**topthumbmargin**      Option **topthumbmargin** wants to know the vertical spacing between the upper page (paper) border and top thumb mark. The default (auto) is 1 inch plus  $\backslash\text{th@bmsvoffset}$  plus  $\backslash\text{topmargin}$ . Dimensions (e.g. 1cm) are also accepted.

### 2.2.7 bottomthumbmargin

**bottomthumbmargin** Option **bottomthumbmargin** wants to know the vertical spacing between the lower page (paper) border and last thumb mark. The default (auto) for the position of the last thumb is  
`1in+\topmargin-\th@mbdistance+\th@mbheighty+\headheight+\headsep+\textheight +\footskip-\th@mbdistance-\th@mbheighty`.  
Dimensions (e. g. 1 cm) are also accepted.

### 2.2.8 thumblink

**thumblink** Option **thumblink** determines, what is hyperlinked at the thumb marks overview page (when the **hyperref** package is used):

- **none** creates *none* hyperlinks
- **title** hyperlinks the *titles* of the thumb marks
- **page** hyperlinks the *page* numbers of the thumb marks
- **titleandpage** hyperlinks the *title and page* numbers of the thumb marks
- **line** hyperlinks the whole *line*, i. e. title, dots (or line or whatsoever) and page numbers of the thumb marks
- **rule** hyperlinks the whole *rule*.

### 2.2.9 nophantomsection

**nophantomsection** Option **nophantomsection** globally disables the automatical placement of a `\phantomsection` before the thumb marks. Generally it is desirable to have a hyperlink from the thumbs overview page to lead to the thumb mark and not to some earlier place. Therefore automatically a `\phantomsection` is placed before each thumb mark. But for example when using the thumb mark after a `\chapter{...}` command, it is probably nicer to have the link point at the top of that chapter's title (instead of the line below it). When automatical placing of the `\phantomsections` has been globally disabled, nevertheless manual use of `\phantomsection` is still possible. The other way round: When automatical placing of the `\phantomsections` has *not* been globally disabled, it can be disabled just for the following thumb mark by the command `\thumbsnophantom`.

### 2.2.10 ignorehoffset, ignorevoffset

**ignorehoffset** Usually `\hoffset` and `\voffset` should be regarded, but moving the thumb marks away from the paper edge probably makes them useless. Therefore `\hoffset` and `\voffset` are ignored by default, or when option **ignorehoffset** or **ignorehoffset=true** is used (and **ignorevoffset** or **ignorevoffset=true**, respectively). But in case that the user wants to print at one sort of paper but later trim it to another one, regarding the offsets would be necessary. Therefore **ignorehoffset=false** and **ignorevoffset=false** can be used to regard these offsets. (Combinations **ignorehoffset=true**, **ignorevoffset=false** and **ignorehoffset=false**, **ignorevoffset=true** are also possible.)

### 2.2.11 verbose

**verbose** Option **verbose=false** (the default) suppresses some messages, which otherwise are presented at the screen and written into the log file. Look for  
\*\*\*\*\* THUMB dimensions \*\*\*\*\*  
in the log file for height and width of the thumb marks as well as top and bottom thumb marks margins.

### 2.2.12 draft

**draft** Option **draft** (*not* the default) sets the thumb mark width to 2pt, thumb mark text colour to black and thumb mark background colour to grey (**gray**). Either do not use this option with the **thumbs** package at all, or use **draft=false**, or **final**, or **final=true** to get the original appearance of the thumb marks.

### 2.2.13 hidethumbs

**hidethumbs** Option **hidethumbs** (*not* the default) prevents **thumbs** to create thumb marks (or thumb marks overview pages). This could be useful when thumb marks were placed, but for some reason no thumb marks (and overview pages) shall be placed. Removing `\usepackage[...]{thumbs}` would not work but create errors for unknown commands (e.g. `\addthumb`, `\addtitlethumb`, `\thumbnewcolumn`, `\stopthumb`, `\continuethumb`, `\addthumbsoverviewtocontents`, `\thumbsoverview`, `\thumbsoverviewback`, `\thumbsoverviewverso`, and `\thumbsoverviewdouble`). (A `\jobname.tmb` file is created nevertheless.) – Either do not use this option with the **thumbs** package at all, or use **hidethumbs=false** to get the original appearance of the thumb marks.

### 2.2.14 pagecolor (obsolete)

**pagecolor** Option **pagecolor** is obsolete. Instead the **pagecolor** package is used.  
Use `\pagecolor{...}` *after* `\usepackage[...]{thumbs}` and *before* `\begin{document}` to define a background colour of the pages.

## 2.3 Commands to be used in the document

### 2.3.1 \addthumb

**\addthumb** To add a thumb mark, use the `\addthumb` command, which has these four parameters:

1. a title for the thumb mark (for the thumb marks overview page, e.g. the chapter title),
2. the text to be displayed in the thumb mark (for example the chapter number: `\thechapter`),
3. the colour of the text in the thumb mark,
4. and the background colour of the thumb mark

(parameters in this order) at the page where you want this thumb mark placed (for the first time).

### 2.3.2 `\addtitlethumb`

`\addtitlethumb` When a thumb mark shall not or cannot be placed on a page, e.g. at the title page or when using `\includepdf` from `pdfpages` package, but the reference in the thumb marks overview nevertheless shall name that page number and hyperlink to that page, `\addtitlethumb` can be used at the following page. It has five arguments. The arguments one to four are identical to the ones of `\addthumb` (see above), and the fifth argument consists of the label of the page, where the hyperlink at the thumb marks overview page shall link to. The `thumbs` package does *not* create that label! But for the first page the label `pagesLTS.0` can be use, which is already placed there by the used `pageslts` package.

### 2.3.3 `\stopthumb` and `\continuethumb`

`\stopthumb` When a page (or pages) shall have no thumb marks, use the `\stopthumb` command (without parameters). Placing another  
`\continuethumb` thumb mark with `\addthumb` or `\addtitlethumb` or using the command `\continuethumb` continues the thumb marks.

### 2.3.4 `\thumbsoverview/back/verso/double`

`\thumbsoverview` The commands `\thumbsoverview`, `\thumbsoverviewback`, `\thumbsoverviewverso`, and/or `\thumbsoverviewdouble` is/are  
`\thumbsoverviewback` used to place the overview page(s) for the thumb marks. Their single parameter is used to mark this page/these pages (e.g.  
`\thumbsoverviewverso` in the page header). If these marks are not wished, `\thumbsoverview...{}` will generate empty marks in the page header(s).  
`\thumbsoverviewdouble` `\thumbsoverview` can be used more than once (for example at the beginning and at the end of the document, or `\thumbsoverview`  
at the beginning and `\thumbsoverviewback` at the end). The overviews have labels `TableOfThumbs1`, `TableOfThumbs2`, and so  
on, which can be referred to with e.g. `\pageref{TableOfThumbs1}`. The reference `TableOfThumbs` (without number) aims at  
the last used Table of Thumbs (for compatibility with older versions of this package).

- `\thumbsoverview` prints the thumb marks at the right side and (in `twoside` mode) skips left sides (useful e.g. at the beginning of a document)
- `\thumbsoverviewback` prints the thumb marks at the left side and (in `twoside` mode) skips right sides (useful e.g. at the end of a document)
- `\thumbsoverviewverso` prints the thumb marks at the right side and (in `twoside` mode) repeats them at the next left side and so on (useful anywhere in the document and when one wants to prevent empty pages)
- `\thumbsoverviewdouble` prints the thumb marks at the left side and (in `twoside` mode) repeats them at the next right side and so on (useful anywhere in the document and when one wants to prevent empty pages)

### 2.3.5 `\thumbnewcolumn`

`\thumbnewcolumn` With the command `\thumbnewcolumn` a new column can be started, even if the current one was not filled. This could be useful e.g. for a dictionary, which uses one column for translations from language A to language B, and the second column for translations from language B to language A. But in that case one probably should increase the size of the thumb marks, so that 26 thumb marks (in case of the Latin alphabet) fill one thumb column. Do not use `\thumbnewcolumn` on a page where `\addthumb` was already used, but use `\addthumb` immediately after `\thumbnewcolumn`.



### 2.3.6 `\addthumbsoverviewtocontents`

`\thumbsoverviewtocontents` `\addthumbsoverviewtocontents` with two arguments is a replacement for `\addcontentsline{toc}{<level>}{<text>}`, where the first argument of `\addthumbsoverviewtocontents` is for `<level>` and the second for `<text>`. If an entry of the thumbs mark overview shall be placed in the table of contents, `\addthumbsoverviewtocontents` with its arguments should be used immediately before `\thumbsoverview`.

### 2.3.7 `\thumbsnophantom`

`\thumbsnophantom` When automatical placing of the `\phantomsections` has *not* been globally disabled by using option `nophantomsection` (see subsection 2.2.9), it can be disabled just for the following thumb mark by the command `\thumbsnophantom`.

### 3 Alternatives

- chapterthumb, 2005/03/10, v0.1, by MARKUS KOHM, available at <http://mirror.ctan.org/info/examples/KOMA-Script-3/Anhang-B/source/chapterthumb.sty>; unfortunately without documentation, which is probably available in the book:  
Kohm, M., & Morawski, J.-U. (2008): KOMA-Script. Eine Sammlung von Klassen und Paketen für L<sup>A</sup>T<sub>E</sub>X<sub>2</sub>ε, 3., überarbeitete und erweiterte Auflage für KOMA-Script 3, Lehmanns Media, Berlin, Edition dante, ISBN-13: 978-3-86541-291-1, <http://www.lob.de/isbn/3865412912>; in German.
- eso-pic, 2010/10/06, v2.0c by ROLF NIEPRASCHK, available at <http://www.ctan.org/pkg/eso-pic>, was suggested as alternative. If I understood its code right, `\AtBeginShipout{\AtBeginShipoutUpperLeft{\put(...` is used there, too. Thus I do not see its advantage. Additionally, while compiling the `eso-pic` test documents with T<sub>E</sub>XLive2010 worked, compiling them with *Scientific WorkPlace* 5.50 Build 2960 (© MacKichan Software, Inc.) led to significant deviations of the placements (also changing from one page to the other).
- fancytabs, 2011/04/16 v1.1, by RAPHAËL PINSON, available at <http://www.ctan.org/pkg/fancytabs>, but requires TikZ from the `pgf` bundle.
- thumb, 2001, without file version, by INGO KLÖCKEL, available at <ftp://ftp.dante.de/pub/tex/info/examples/ltt/thumb.sty>, unfortunately without documentation, which is probably available in the book:  
Klöckel, I. (2001): L<sup>A</sup>T<sub>E</sub>X<sub>2</sub>ε. Tips und Tricks, Dpunkt.Verlag GmbH, ISBN-13: 978-3-93258-837-2; in German.
- thumb (a completely different one), 1997/12/24, v1.0, by CHRISTIAN HOLM, available at <http://www.ctan.org/pkg/thumb>.
- thumbindex, 2009/12/13, without file version, by HISASHI MORITA, available at <http://hisashim.org/2009/12/13/thumbindex.html>.
- thumb-index, from the fancyhdr package, 2005/03/22 v3.2, by PIET VAN OOSTRUM, available at <http://www.ctan.org/pkg/fancyhdr>.
- thumbpdf, 2010/07/07, v3.11, by HEIKO OBERDIEK, is for creating thumbnails in a pdf document, not thumb marks (and therefore *no* alternative); available at <http://www.ctan.org/pkg/thumbpdf>.
- thumby, 2010/01/14, v0.1, by SERGEY GOLDGABER, “is designed to work with the `memoir` class, and also requires `PerLTEX` and `tikz`” (<http://www.ctan.org/pkg/thumby>), available at <http://www.ctan.org/pkg/thumby>.

(You programmed or found another alternative, which is available at [CTAN](#)?

OK, send an e-mail to me with the name, location at [CTAN](#), and a short notice, and I will probably include it in the list above.)

## 4 Example

```
1 {*example}
2 \documentclass[twoside,british]{article}[2007/10/19]% v1.4h
3 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
4 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5 %% When compiling with SWP 5.50. Build 2960 %
6 %% (copyright MacKichan Software, Inc.), %
7 %% this is additionally needed: %
8 %% \usepackage[T1]{fontenc} %
9 %% \usepackage{amsfonts} %
10 %% \usepackage[math]{cellspace} %
11 %% \usepackage{xcolor} %
12 %% \pagecolor{white} %
13 %% \providecommand{\QT0}[2]{#2} %
14 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
15 \usepackage{lipsum}[2011/04/14]% v1.2
16 \usepackage{eurosym}[1998/08/06]% v1.1
17 \usepackage[extension=pdf,%
18 pdfpagelayout=TwoPageRight,pdfpagemode=UseThumbs,%
19 plainpages=false,pdfpagelabels=true,%
20 hyperindex=false,%
21 pdflang={en},%
22 pdftitle={thumbs package example},%
23 pdfauthor={H.-Martin Muench},%
24 pdfsubject={Example for the thumbs package},%
25 pdfkeywords={LaTeX, thumbs, thumb marks, H.-Martin Muench},%
26 pdfview=Fit,pdfstartview=Fit,%
27 linktoc=all]{hyperref}[2012/02/06]% v6.82o
28 \usepackage[thumbblink=rule,linefill=dots,height={auto},minheight={47pt},%
29 width={auto},distance={2mm},topthumbmargin={auto},bottomthumbmargin={auto},%
30 nophantomsection=false,ignorehoffset=true,ignorevoffset=true,final=true,%
31 hidethumbs=false,verbose=true]{thumbs}[2012/02/23]% v1.0m
32 \nopagecolor% use \pagecolor{white} if \nopagecolor does not work
33 \gdef\unit#1{\mathord{\thinspace\mathrm{#1}}}%
34 \makeatletter
35 \ltx@ifpackageloaded{hyperref}{% hyperref loaded
36 }{% hyperref not loaded
37 \@ifundefined{url}{\let\url\verb}% neither url
38 }%
39 \makeatother
40 \listfiles
41 \begin{document}
42 \pagenumbering{arabic}
43 \section*{Example for thumbs}
44 \addcontentsline{toc}{section}{Example for thumbs}
45 \markboth{Example for thumbs}{Example for thumbs}
```

```

46
47 This example demonstrates the most common uses of package
48 \textsf{thumbs}, v1.0m as of 2012/02/23 (HMM).
49 The used options were \texttt{thumblink=rule}, \texttt{linefill=dots},
50 \texttt{height=auto}, \texttt{minheight=\{47pt\}}, \texttt{width={auto}},
51 \texttt{distance=\{2mm\}}, \newline
52 \texttt{topthumbmargin=\{auto\}}, \texttt{bottomthumbmargin=\{auto\}}, \newline
53 \texttt{nophantomsection=false},
54 \texttt{ignorehoffset=true}, \texttt{ignorevoffset=true}, \newline
55 \texttt{final=true}, \texttt{hidethumbs=false}, and \texttt{verbose=true}.
56
57 \noindent These are the default options, except \texttt{verbose=true}.
58 For more details please see the documentation!\newline
59
60 \textbf{Hyperlinks or not:} If the \textsf{hyperref} package is loaded,
61 the references in the overview page for the thumb marks are also hyperlinked
62 (except when option \texttt{thumblink=none} is used).\newline
63
64 \bigskip
65
66 {\color{teal} Save per page about $200\unit{ml}$ water, $2\unit{g}$ CO$_{2}$
67 and $2\unit{g}$ wood:\newline
68 Therefore please print only if this is really necessary.}\newline
69
70 \bigskip
71
72 \textbf{%
73 For testing purpose page \pageref{greenpage} has been completely coloured!
74 \newline
75 Better exclude it from printing\ldots \newline}
76
77 \bigskip
78
79 Some thumb mark texts are too large for the thumb mark (especially when the
80 paper size and therefore also the thumb mark size is decreased).
81 When option \texttt{width=\{autoauto\}} would be used,
82 the thumb mark width would be automatically increased.
83
84 \bigskip
85
86 For printing this example to another format of paper (e.\,g. A4)
87 it is necessary to add the according option (e.\,g. \verb|a4paper|)
88 to the document class and recompile it! (In that case the
89 thumb marks column change will occur at another point, of course.)
90 With paper format equal to document format the document can be printed
91 without adapting the size, like e.\,g.
92 \textquotedblleft shrink to page\textquotedblright .

```

93 That would add a white border around the document  
94 and by moving the thumb marks from the edge of the paper they no longer appear  
95 at the side of the stack of paper. It is also necessary to use a printer  
96 capable of printing up to the border of the sheet of paper. Alternatively  
97 it is possible after the printing to cut the paper to the right size.  
98 While performing this manually is probably quite cumbersome,  
99 printing houses use paper, which is slightly larger than the  
100 desired format, and afterwards cut it to format.

101  
102 \newpage  
103  
104 \addtitlethumb{Frontmatter}{0}{white}{gray}{pagesLTS.0}  
105  
106 At the first page no thumb mark was used, but we want to begin with thumb marks  
107 at the first page, therefore a  
108 \begin{verbatim}  
109 \addtitlethumb{Frontmatter}{0}{white}{gray}{pagesLTS.0}  
110 \end{verbatim}  
111 was used at the beginning of this page.

112  
113 \newpage  
114  
115 \tableofcontents  
116  
117 \newpage  
118  
119 To include an overview page for the thumb marks,  
120 \begin{verbatim}  
121 \addthumbsoverviewtocontents{section}{Thumb marks overview}%  
122 \thumbsoverview{Table of Thumbs}  
123 \end{verbatim}  
124 is used, where \verb|\addthumbsoverviewtocontents| adds the thumb  
125 marks overview page to the table of contents.

126  
127 \smallskip  
128  
129 Generally it is desirable to have a hyperlink from the thumbs overview page  
130 to lead to the thumb mark and not to some earlier place. Therefore automatically  
131 a \verb|\phantomsection| is placed before each thumb mark. But for example when  
132 using the thumb mark after a \verb|\chapter{...}| command, it is probably nicer  
133 to have the link point at the top of that chapter's title (instead of the line  
134 below it). The automatical placing of the \verb|\phantomsection| can be disabled  
135 either globally by using option \texttt{nophantomsection}, or locally for the next  
136 thumb mark by the command \verb|\thumbsnophantom|. (When disabled globally,  
137 still manual use of \verb|\phantomsection| is possible.)  
138

```

139 \addthumbsoverviewtocontents{section}{Thumb marks overview}%
140 \thumbsoverview{Table of Thumbs}
141
142 That were the overview pages for the thumb marks.
143
144 \newpage
145
146 \section{The first section}
147 \addthumb{First section}{\space\Huge{\textbf{$1^{\text{st}}$}}}{yellow}{green}
148
149 \begin{verbatim}
150 \addthumb{First section}{\space\Huge{\textbf{$1^{\text{st}}$}}}{yellow}{green}
151 \end{verbatim}
152
153 A thumb mark is added for this section. The parameters are: title for the thumb mark,
154 the text to be displayed in the thumb mark (choose your own format),
155 the colour of the text in the thumb mark,
156 and the background colour of the thumb mark (parameters in this order).\newline
157
158 Now for some pages of \textquotedblleft content\textquotedblright\ldots
159
160 \newpage
161 \lipsum[1]
162 \newpage
163 \lipsum[1]
164 \newpage
165 \lipsum[1]
166 \newpage
167
168 \section{The second section}
169 \addthumb{Second section}{\Huge{\textbf{\arabic{section}}}}{green}{yellow}
170
171 For this section, the text to be displayed in the thumb mark was set to
172 \begin{verbatim}
173 \Huge{\textbf{\arabic{section}}}
174 \end{verbatim}
175 i.\,e. the number of the section will be displayed (huge \& bold).\newline
176
177 Let us change the thumb mark on a page with an even number:
178
179 \newpage
180
181 \section{The third section}
182 \addthumb{Third section}{\Huge{\textbf{\arabic{section}}}}{blue}{red}
183
184 No problem!
185

```

```

186 And you do not need to have a section to add a thumb:
187
188 \newpage
189
190 \addthumb{Still third section}{\Huge{\textbf{\arabic{section}b}}}{red}{blue}
191
192 This is still the third section, but there is a new thumb mark.
193
194 On the other hand, you can even get rid of the thumb marks
195 for some page(s):
196
197 \newpage
198
199 \stopthumb
200
201 The command
202 \begin{verbatim}
203 \stopthumb
204 \end{verbatim}
205 was used here. Until another \verb|\addthumb| (with parameters) or
206 \begin{verbatim}
207 \continuethumb
208 \end{verbatim}
209 is used, there will be no more thumb marks.
210
211 \newpage
212
213 Still no thumb marks.
214
215 \newpage
216
217 Still no thumb marks.
218
219 \newpage
220
221 Still no thumb marks.
222
223 \newpage
224
225 \continuethumb
226
227 Thumb mark continued (unchanged).
228
229 \newpage
230
231 Thumb mark continued (unchanged).
232

```

```

233 \newpage
234
235 Time for another thumb,
236
237 \addthumb{Another heading}{Small text}{white}{black}
238
239 and another.
240
241 \addthumb{Huge Text}{\Huge{Huge Text}}{yellow}{green}
242
243 \bigskip
244
245 \textquotedblleft {\Huge{Huge Text}}\textquotedblright\ is too large for
246 the thumb mark. When option \texttt{width=\{autoauto\}} would be used,
247 the thumb mark width would be automatically increased.\label{HugeText}
248
249 \addthumb{bold text }{\textbf{Bf Text}}{pink}{blue}
250
251 \addthumb{Huge Bold Text}{\Huge{\textbf{HBT}}}{black}{yellow}
252
253 \bigskip
254
255 When there is more than one thumb mark at one page, this is also no problem.
256
257 \newpage
258
259 Some text
260
261 \newpage
262
263 Some text
264
265 \newpage
266
267 Some text
268
269 \newpage
270
271 \section{xcolor}
272 \addthumb{xcolor}{\Huge{\textbf{xcolor}}}{magenta}{cyan}
273
274 It is probably a good idea to have a look at the \textsf{xcolor} package
275 and use other colours than used in this example.
276
277 (About automatically increasing the thumb mark width to the thumb mark text
278 width please see the note at page~\pageref{HugeText}.)
279

```



280 \newpage  
281  
282 \addthumb{A mark}{\Huge{\textbf{A}}}{lime}{darkgray}  
283  
284 I just need to add further thumb marks to get them reaching the bottom of the page.  
285  
286 Generally the vertical size of the thumb marks is set to the value given in the  
287 height option. If it is \texttt{auto}, the size of the thumb marks is decreased,  
288 so that they fit all on one page. But when they get smaller than \texttt{minheight},  
289 instead of decreasing their size further, a new thumbs column is started  
290 (which will happen here).  
291  
292 \newpage  
293  
294 \addthumb{B mark}{\Huge{\textbf{B}}}{brown}{pink}  
295  
296 There! A new thumb column was started automatically!  
297  
298 \newpage  
299  
300 \addthumb{C mark}{\Huge{\textbf{C}}}{brown}{pink}  
301  
302 You can, of course, keep the colour for more than one thumb mark.  
303  
304 \newpage  
305  
306 \addthumb{\$1/1.\,955\,83\$, EUR}{\Huge{\textbf{D}}}{orange}{violet}  
307  
308 I am just adding further thumb marks.  
309  
310 If you are curious why the thumb mark between  
311 \textquotedblleft C mark\textquotedblright and \textquotedblleft E mark\textquotedblright has  
312 not been named \textquotedblleft D mark\textquotedblright but  
313 \textquotedblleft \$1/1.\,955\,83\$, EUR\textquotedblright :  
314  
315  $1\text{DM}=1\text{D\ Mark}=1\text{Deutsche\ Mark}$ \newline  
316  $=\frac{1}{1.\,955\,83}\text{\,€},=1/1.\,955\,83\text{Euro}=1/1.\,955\,83\text{EUR}$ .  
317  
318 \newpage  
319  
320 Let us have a look at \verb|\thumbsoverviewverso|:  
321  
322 \addthumbsoverviewtocontents{section}{Table of Thumbs, verso mode}%  
323 \thumbsoverviewverso{Table of Thumbs, verso mode}  
324  
325 \newpage  
326

```

327 And, of course, also at \verb|\thumbsoverviewdouble|:
328
329 \addthumbsoverviewtocontents{section}{Table of Thumbs, double mode}%
330 \thumbsoverviewdouble{Table of Thumbs, double mode}
331
332 \newpage
333
334 \addthumb{E mark}{\Huge{\textbf{E}}}{lightgray}{black}
335
336 I am just adding further thumb marks.
337
338 \newpage
339
340 \addthumb{F mark}{\Huge{\textbf{F}}}{magenta}{black}
341
342 Some text.
343
344 \newpage
345 \thumbnewcolumn
346 \addthumb{New thumb marks column}{\Huge{\textit{NC}}}{magenta}{black}
347
348 There! A new thumb column was started manually!
349
350 \newpage
351
352 Some text.
353
354 \newpage
355
356 \addthumb{G mark}{\Huge{\textbf{G}}}{orange}{violet}
357
358 I just added another thumb mark.
359
360 \newpage
361
362 \pagecolor{green}
363
364 \makeatletter
365 \ltx@ifpackageloaded{hyperref}{% hyperref loaded
366 \phantomsection%
367 }{% hyperref not loaded
368 }%
369 \makeatother
370

```

```

371 \label{greenpage}
372
373 Some faulty pdf-viewer sometimes (for the same document!)
374 adds a white line at the bottom and right side of the document
375 when presenting it. This does not change the printed version.
376 To test for this problem, this page has been completely coloured.
377 (Probably better exclude this page from printing!)
378
379 \textsc{Heiko Oberdiek} wrote at Tue, 26 Apr 2011 14:13:29 +0200
380 in the \newline
381 comp.text.tex newsgroup (see e.\,g. \newline
382 \url{http://groups.google.com/group/de.comp.text.tex/msg/b3aea4a60e1c3737}): \newline
383 \textquotedblleft Der Ursprung ist 0 0,
384 da gibt es nicht viel zu runden; bei den anderen Seiten
385 werden pt als bp in die PDF-Datei geschrieben, d.h.
386 der Balken ist um 72.27/72 zu gro\ss{}, das
387 sollte auch Rundungsfehler abdecken. \textquotedblright
388
389 (The origin is 0 0, there is not much to be rounded;
390 for the other sides the  $\unit{pt}$  are written as  $\unit{bp}$  into
391 the pdf-file, i.\,e. the rule is too large by  $72.27/72$ , which
392 should cover also rounding errors.)
393
394 The thumb marks are also too large - on purpose! This has been done
395 to assure, that they cover the page up to its (paper) border,
396 therefore they are placed a little bit over the paper margin.
397
398 Now I red somewhere in the net (should have remembered to note the url),
399 that white margins are presented, whenever there is some object outside
400 of the page. Thus, it is a feature, not a bug?!
401 What I do not understand: The same document sometimes is presented
402 with white lines and sometimes without (same viewer, same PC). \newline
403 But at least it does not influence the printed version.
404
405 \newpage
406
407 \pagecolor{white}
408
409 It is possible to use the Table of Thumbs more than once (for example
410 at the beginning and the end of the document) and to refer to them via e.\,g.
411 \verb|\pageref{TableOfThumbs1}, \pageref{TableOfThumbs2}|, ... ,
412 here: page \pageref{TableOfThumbs1}, page \pageref{TableOfThumbs2},
413 and via e.\,g. \verb|\pageref{TableOfThumbs}| it is referred to the last used
414 Table of Thumbs (for compatibility with older package versions).
415 If there is only one Table of Thumbs, this one is also the last one, of course.
416 Here it is at page \pageref{TableOfThumbs}. \newline
417

```

```
418 Now let us have a look at \verb|\thumbsoverviewback|:
419
420 \addthumbsoverviewtocontents{section}{Table of Thumbs, back mode}%
421 \thumbsoverviewback{Table of Thumbs, back mode}
422
423 \newpage
424
425 Text can be placed after any of the Tables of Thumbs, of course.
426
427 \end{document}
428 \end{example}
```

## 5 The implementation

We start off by checking that we are loading into L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> and announcing the name and version of this package.

```
429 \*package)
430 \NeedsTeXFormat{LaTeX2e}[2011/06/27]
431 \ProvidesPackage{thumbs}[2012/02/23 v1.0m]
432     Thumb marks and overview page(s) (HMM)]
433
```

A short description of the thumbs package:

```
434 %% This package allows to create a customizable thumb index,
435 %% providing a quick and easy reference method for large documents,
436 %% as well as an overview page.
437
```

For SW(P) users, we issue a warning. Unfortunately, we cannot check for the used software (Can we? `tcilatex.tex` is *probably* exactly there when SWP is used, but it *could* also be there without SWP for compatibility reasons.), and there will be a stack overflow when using `hyperref` even before the `thumbs` package is loaded, thus the warning might not even reach the users. (Thus: Read the manual of the `thumbs` package!) The options for those packages might be changed by the user – I did not test all available options, thus first test, whether the document can be compiled with these options, and then try to change them according to your wishes.

```
438 \IfFileExists{tcilatex.tex}{%
439   % Quite probably SWP/SW/SN
440   \PackageWarningNoLine{thumbs}{%
441     When compiling with SWP 5.50 Build 2960\MessageBreak%
442     (copyright MacKichan Software, Inc.),\MessageBreak%
443     these additional packages are needed:\MessageBreak%
444     \string\usepackage[T1]{fontenc}\MessageBreak%
445     \string\usepackage{amsfonts}\MessageBreak%
446     \string\usepackage[math]{cellspace}\MessageBreak%
447     \string\usepackage{xcolor}\MessageBreak%
448     \string\pagecolor{white}\MessageBreak%
449     \string\providecommand{\string\QT0}[2]{\string##2}\MessageBreak%
450     especially before hyperref and thumbs,\MessageBreak%
451     but best right after the \string\documentclass!%
452   }%
453 }{% Probably not SWP/SW/SN
454   \message{^^J *** Compiling with SW(P)? ^^J%
455     When compiling with SWP 5.50 Build 2960^^J%
456     (copyright MacKichan Software, Inc.),^^J%
457     these additional packages are needed:^^J%
458     \string\usepackage[T1]{fontenc}^^J%
459     \string\usepackage{amsfonts}^^J%
460     \string\usepackage[math]{cellspace}^^J%
461     \string\usepackage{xcolor}^^J%
462     \string\pagecolor{white}^^J%

```

```

463 \string\providecommand{\string\QT0}[2]{\string##2}^^J%
464 especially before hyperref and thumbs,^^J%
465 but best right after the \string\documentclass!^^J%
466 ^^J%
467 }%
468 }
469

```

For the handling of the options we need the `kvoptions` package of HEIKO OBERDIEK (see subsection 6.1):

```

470 \RequirePackage{kvoptions}[2010/12/23]%      v3.10

```

as well as some other packages:

```

471 \RequirePackage{atbegshi}[2011/01/30]%      v1.15
472 \RequirePackage{xcolor}[2007/01/21]%      v2.11
473 \RequirePackage{picture}[2009/10/11]%      v1.3
474 \RequirePackage{alphalph}[2010/04/18]%      v2.3

```

For the total number of the current page we need the `pageslts` package of myself (see subsection 6.1). It also loads the `undolabl` package, which is needed for `\overridelabel`:

```

475 \RequirePackage{pageslts}[2011/08/08]%      v1.2a
476 \RequirePackage{pagecolor}[2012/02/23]%      v1.0e
477 \RequirePackage{rerunfilecheck}[2011/04/15]% v1.7
478 \RequirePackage{infwarerr}[2010/04/08]%      v1.3
479 \RequirePackage{ltxcmds}[2011/04/18]%      v1.20
480 \RequirePackage{atveryend}[2011/04/23]%      v1.7
481 %% \RequirePackage{atveryend}[2011/06/30]%  v1.8
482 %% would be needed but is currently (2012/02/23) not available at CTAN yet

```

A last information for the user:

```

483 %% thumbs may work with earlier versions of LaTeX2e and those packages,
484 %% but this was not tested. Please consider updating your LaTeX contribution
485 %% and packages to the most recent version (if they are not already the most
486 %% recent version).
487

```

See subsection 6.1 about how to get them.

L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> 2011/06/27 changed the `\enddocument` command and thus broke the `atveryend` package, which was then fixed. If new L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> and old `atveryend` are combined, `\AtVeryVeryEnd` will never be called. `\@ifl@t@r\fmtversion` is from `\@needsf@rmat` as in

File L: `ltclass.dtx` Date: 2007/08/05 Version v1.1h, line 259,  
of The L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> Sources

by JOHANNES BRAAMS, DAVID CARLISLE, ALAN JEFFREY, LESLIE LAMPORT, FRANK MITTELBAACH, CHRIS ROWLEY, AND  
RAINER SCHÖPF,  
as of 2011/06/27, p. 464.

```

488 \ifl@t@r\fmtversion{2011/06/27}% or possibly even newer
489 {\@ifpackagelater{atveryend}{2011/06/29}%
490 {% 2011/06/30, v1.8, or even more recent: OK
491 }{% else: older package version, no \AtVeryVeryEnd
492   \PackageWarningNoLine{thumbs}{%
493     LaTeX 2011/06/27 has changed \string\enddocument\space and thus broken the\MessageBreak%
494     \string\AtVeryVeryEnd\space command/hooks of atveryend package as of\MessageBreak%
495     2011/04/23, v1.7. New package version 2011/06/30, v1.8, works with\MessageBreak%
496     the new LaTeX format, but some older package version was loaded.\MessageBreak%
497     (As of 2012/02/23, the new version is NOT available at CTAN yet.)\MessageBreak%
498     For fixing this problem until the update is available,\MessageBreak%
499     \string\let\string\AtVeryVeryEnd\string\AtEndAfterFileList\MessageBreak%
500     is used now, fingers crossed.%
501   }%
502   \let\AtVeryVeryEnd\AtEndAfterFileList%
503   \AtEndAfterFileList{% if there is \AtVeryVeryEnd inside \AtEndAfterFileList
504     \let\AtEndAfterFileList\ltx@firstofone%
505   }
506 }
507 }{% else: older fmtversion: OK

```

In this case the used  $\TeX$  format is outdated, but when

`\NeedsTeXFormat{LaTeX2e}[2011/06/27]`

is executed at the beginning of `regstats` package, the appropriate warning message is issued automatically. (And `regstats` should also work with older versions, I used it with a 2003/12/01 version myself.)

```

508 }
509

```

The options are introduced:

```

510 \SetupKeyvalOptions{family=thumbs,prefix=thumbs@}
511 \DeclareStringOption[linefill][dots]% \thumbs@linefill
512 \DeclareStringOption[rule]{thumbblink}[rule]
513 \DeclareStringOption[47pt]{minheight}[47pt]
514 \DeclareStringOption{height}[auto]
515 \DeclareStringOption{width}[auto]
516 \DeclareStringOption{distance}[2mm]
517 \DeclareStringOption{topthumbmargin}[auto]
518 \DeclareStringOption{bottomthumbmargin}[auto]
519 \DeclareBoolOption[true]{ignorehoffset}
520 \DeclareBoolOption[true]{ignorevoffset}
521 \DeclareBoolOption{nophantomsection}% false by default, but true if used
522 \DeclareBoolOption[true]{verbose}
523 \DeclareComplementaryOption{silent}{verbose}
524 \DeclareBoolOption{draft}
525 \DeclareComplementaryOption{final}{draft}
526 \DeclareBoolOption[false]{hidethumbs}

```

pagecolor The pagecolor option is obsolete now, but for compatibility with older documents we still provide it at the time being (might be removed in future versions).

```
527 \DeclareStringOption{pagecolor}
528
529 \ProcessKeyvalOptions*
530
```

We set the (background) page colour to \thepagecolor (from the pagecolor package), because the xcolour package needs a defined colour here (it can be changed later).

```
531 \ifx\thumbs@pagecolor\empty%
532   \pagecolor{\thepagecolor}
533 \else
534   \PackageWarningNoLine{thumbs}{Option pagecolor is obsolete.\MessageBreak%
535     Instead the pagecolor package is used.\MessageBreak%
536     Use \string\pagecolor{...}\space after \string\usepackage[...]{thumbs}\space and \MessageBreak%
537     before \string\begin{document}\space to define a background colour \MessageBreak%
538     of the pages}
539   \pagecolor{\thumbs@pagecolor}
540 \fi
541
```

ignorehoffset Usually \hoffset and \voffset should be regarded, but moving the thumb marks away from the paper edge probably makes them useless. Therefore \hoffset and \voffset are ignored by default, or when option ignorehoffset or ignorehoffset=true is used (and ignorevoffset or ignorevoffset=true, respectively). But in case that the user wants to print at one sort of paper but later trim it to another one, regarding the offsets would be necessary. Therefore ignorehoffset=false and ignorevoffset=false can be used to regard these offsets. (Combinations ignorehoffset=true, ignorevoffset=false and ignorehoffset=false, ignorevoffset=true are also possible.)

```
542 \ifthumbs@ignorehoffset
543   \PackageInfo{thumbs}{%
544     Option ignorehoffset NOT =false:\MessageBreak%
545     hoffset will be ignored.\MessageBreak%
546     To make thumbs regard hoffset use option \MessageBreak%
547     ignorehoffset=false}
548   \gdef\th@bmshoffset{0pt}
549 \else
550   \PackageInfo{thumbs}{%
551     Option ignorehoffset=false:\MessageBreak%
552     hoffset will be regarded.\MessageBreak%
553     This might move the thumb marks away from the paper edge}
554   \gdef\th@bmshoffset{\hoffset}
555 \fi
556
557 \ifthumbs@ignorevoffset
558   \PackageInfo{thumbs}{%
559     Option ignorevoffset NOT =false:\MessageBreak%
560     voffset will be ignored.\MessageBreak%
561     To make thumbs regard voffset use option \MessageBreak%
```



```

562   ignorevoffset=false}
563   \gdef\th@bmsvoffset{-\voffset}
564 \else
565   \PackageInfo{thumbs}{%
566     Option ignorevoffset=false:\MessageBreak%
567     voffset will be regarded.\MessageBreak%
568     This might move the thumb mark outside of the printable area}
569   \gdef\th@bmsvoffset{\voffset}
570 \fi
571

```

linefill We process the linefill option value:

```

572 \ifx\thumbs@linefill\empty%
573   \gdef\th@bms@linefill{\hspace*{\fill}}
574 \else
575   \def\th@mbstest{line}%
576   \ifx\thumbs@linefill\th@mbstest%
577     \gdef\th@bms@linefill{\hrulefill}
578   \else
579     \def\th@mbstest{dots}%
580     \ifx\thumbs@linefill\th@mbstest%
581       \gdef\th@bms@linefill{\dotfill}
582     \else
583       \PackageError{thumbs}{Option linefill with invalid value}{%
584         Option linefill has value '\thumbs@linefill'.\MessageBreak%
585         Valid values are '' (empty), 'line', or 'dots'.\MessageBreak%
586         '' (empty) will be used now.\MessageBreak%
587       }
588       \gdef\th@bms@linefill{\hspace*{\fill}}
589   \fi
590 \fi
591 \fi
592

```

We introduce new dimensions for width, height, position of and vertical distance between the thumb marks and some helper dimensions.

```

593 \newdimen\th@mbwidthx
594
595 \newdimen\th@mbheighty% Thumb height y
596 \setlength{\th@mbheighty}{\z@}
597
598 \newdimen\th@mbposx
599 \newdimen\th@mbposy
600 \newdimen\th@mbposyA
601 \newdimen\th@mbposytop
602 \newdimen\th@mbposybottom
603 \newdimen\th@mbwidthxtoc
604 \newdimen\th@mbposytopcy

```

```

605 \newdimen\th@mbsposytocyy
606
607 \newdimen\th@mbsdistance% vertical distance between thumb marks
608 \ifx\thumbs@distance\empty%
609   \setlength{\th@mbsdistance}{1mm}
610 \else
611   \setlength{\th@mbsdistance}{\thumbs@distance}
612 \fi
613
614 \ifthumbs@verbose% \relax
615 \else
616   \PackageInfo{thumbs}{%
617     Option verbose=false (or silent=true) found:\MessageBreak%
618     You will lose some information}
619 \fi
620

```

We create a new Box for the thumbs and make some global definitions.

```

621 \newbox\ThumbsBox
622
623 \gdef\th@mbs{0}
624 \gdef\th@mbsmax{0}
625 \gdef\th@umbisperpage{0}% will be set via .aux file
626 \gdef\th@umbisperpagecount{0}
627
628 \gdef\th@mbtitle{}
629 \gdef\th@mbtext{}
630 \gdef\th@mbtextcolour{\thepagecolor}
631 \gdef\th@mbackgroundcolour{\thepagecolor}
632 \gdef\th@mbcolumn{0}
633
634 \gdef\th@mbtextA{}
635 \gdef\th@mbtextcolourA{\thepagecolor}
636 \gdef\th@mbackgroundcolourA{\thepagecolor}
637
638 \gdef\th@mbprinting{1}
639 \gdef\th@mbtoprint{0}
640 \gdef\th@mbonpage{0}
641 \gdef\th@mbonpagemax{0}
642
643 \gdef\th@mbcolumnnew{0}
644
645 \gdef\th@mbs@toc@level{}
646 \gdef\th@mbs@toc@text{}
647
648 \gdef\th@mbmaxwidth{Opt}
649

```

```

650 \gdef\th@mb@titlelabel{}
651
652 \gdef\th@mbstable{0}% number of thumb marks overview tables
653

```

It is checked whether writing to thumbs.tmb is allowed.

```

654 \if@files% \relax
655 \else
656   \PackageWarningNoLine{thumbs}{No auxiliary files allowed!\MessageBreak%
657     It was not allowed to write to files.\MessageBreak%
658     A lot of packages do not work without access to files\MessageBreak%
659     like the .aux one. The thumbs package needs to write\MessageBreak%
660     to the \jobname.tmb file. To exit press\MessageBreak%
661     Ctrl+Z\MessageBreak%
662     .\MessageBreak%
663   }
664 \fi
665

```

In `\setth@mbheight` the height of a thumb mark (for automatically thumb heights) is computed as “((Thumbs extension) / (Number of Thumbs)) - (2 × distance between Thumbs)”.

```

666 \newcommand{\setth@mbheight}{%
667   \setlength{\th@mbheighty}{\z@}
668   \advance\th@mbheighty+\headheight
669   \advance\th@mbheighty+\headsep
670   \advance\th@mbheighty+\textheight
671   \advance\th@mbheighty+\footskip
672   \@tempcnta=\th@mbsmax\relax
673   \ifnum\@tempcnta>1
674     \divide\th@mbheighty\th@mbsmax
675   \fi
676   \advance\th@mbheighty-\th@mbsdistance
677   \advance\th@mbheighty-\th@mbsdistance
678 }
679

```

At the beginning of the document `\AtBeginDocument` is executed. `\th@bmshoffset` and `\th@bmsvoffset` are set again, because `\hoffset` and `\voffset` could have been changed.

```

680 \AtBeginDocument{%
681   \ifthumbs@ignorehoffset
682     \gdef\th@bmshoffset{0pt}
683   \else
684     \gdef\th@bmshoffset{\hoffset}
685   \fi
686   \ifthumbs@ignorevoffset
687     \gdef\th@bmsvoffset{-\voffset}
688   \else

```

```

689 \gdef\th@bmsvoffset{\voffset}
690 \fi
691 \xdef\th@mbpaperwidth{\the\paperwidth}
692 \setlength{\@tempdima}{1pt}
693 \ifdim \thumbs@minheight < \@tempdima% too small
694 \setlength{\thumbs@minheight}{1pt}
695 \else
696 \ifdim \thumbs@minheight = \@tempdima% small, but ok
697 \else
698 \ifdim \thumbs@minheight > \@tempdima% ok
699 \else
700 \PackageError{thumbs}{Option minheight has invalid value}{%
701 Please use a number and a length unit (e.g. mm, cm, pt)\MessageBreak%
702 and no space between as value for option minheight\MessageBreak%
703 and include this value+unit combination in curly brackets\MessageBreak%
704 (please see the thumbs-example.tex file).\MessageBreak%
705 When pressing return, minheight will now be set to 47pt.\MessageBreak%
706 }
707 \setlength{\thumbs@minheight}{47pt}
708 \fi
709 \fi
710 \fi
711 \setlength{\@tempdima}{\thumbs@minheight}

```

Thumb height `\th@mbheighty` is treated. If the value is empty, it is set to `\@tempdima`, which was just defined to be 47 pt (by default, or to the value chosen by the user with package option `minheight={...}`):

```

712 \ifx\thumbs@height\empty%
713 \setlength{\th@mbheighty}{\@tempdima}
714 \else
715 \def\th@mbstest{auto}
716 \ifx\thumbs@height\th@mbstest%

```

If it is not empty but `auto(matic)`, the value is computed via `\setth@mbheight` (see above).

```

717 \setth@mbheight

```

When the height is smaller than `\thumbs@minheight` (default: 47 pt), this is too small, and instead a new column/page of thumb marks is used.

```

718 \ifdim \th@mbheighty < \thumbs@minheight
719 \PackageWarningNoLine{thumbs}{Thumbs not high enough:\MessageBreak%
720 Option height has value 'auto'. For \th@bmsmax\space thumbs per page\MessageBreak%
721 this results in a thumb height of \the\th@mbheighty.\MessageBreak%
722 This is lower than the minimal thumb height, \thumbs@minheight,\MessageBreak%
723 therefore another thumbs column will be opened.\MessageBreak%
724 If you do not want this, choose a smaller value\MessageBreak%
725 for option 'minheight'%
726 }
727 \setlength{\th@mbheighty}{\z@}

```

```

728     \advance\th@mbheighty by \@tempdima% = \thumbs@minheight
729     \fi
730     \else

```

When a value has been given for the thumb marks' height, this fixed value is used.

```

731     \ifthumbs@verbose
732     \edef\thumbsinfo{\the\th@mbheighty}
733     \PackageInfo{thumbs}{Now setting thumbs' height to \thumbsinfo .}
734     \fi
735     \setlength{\th@mbheighty}{\thumbs@height}
736     \fi
737     \fi

```

Read in the \jobname.tmb-file:

```

738     \newread\@instreamthumb%

```

Inform the users about the dimensions of the thumb marks (look in the log file):

```

739     \ifthumbs@verbose
740     \message{^^J}
741     \@PackageInfoNoLine{thumbs}{***** THUMB dimensions *****}
742     \edef\thumbsinfo{\the\th@mbheighty}
743     \@PackageInfoNoLine{thumbs}{The height of the thumb marks is \thumbsinfo}
744     \fi

```

Setting the thumb mark width (\th@mbwidthx):

```

745     \ifthumbs@draft
746     \setlength{\th@mbwidthx}{2pt}
747     \else
748     \setlength{\th@mbwidthx}{\paperwidth}
749     \advance\th@mbwidthx-\textwidth
750     \divide\th@mbwidthx4
751     \setlength{\@tempdima}{0sp}
752     \ifx\thumbs@width\empty%
753     \else
754     \def\th@mbstest{auto}
755     \ifx\thumbs@width\th@mbstest%
756     \else
757     \def\th@mbstest{autoauto}
758     \ifx\thumbs@width\th@mbstest%
759     \ifundefined{th@mbmaxwidtha}{%
760     \if@files%
761     \gdef\th@mbmaxwidtha{0pt}
762     \setlength{\th@mbwidthx}{\th@mbmaxwidtha}
763     \AtEndAfterFileList{
764     \PackageWarningNoLine{thumbs}{%
765     \string\th@mbmaxwidtha\space undefined.\MessageBreak%
766     Rerun to get the thumb marks width right%
767     }

```

```

768     }
769     \else
770     \PackageError{thumbs}{%
771     You cannot use option autoauto without \jobname.aux file.%
772     }
773     \fi
774   }{%\else
775     \setlength{\th@mbwidthx}{\th@mbmaxwidtha}
776   }%\fi
777   \else
778     \ifdim \thumbs@width > \@tempdima% OK
779     \setlength{\th@mbwidthx}{\thumbs@width}
780   \else
781     \PackageError{thumbs}{Thumbs not wide enough}{%
782     Option width has value '\thumbs@width'.\MessageBreak%
783     This is not a valid dimension larger than zero.\MessageBreak%
784     Width will be set automatically.\MessageBreak%
785     }
786   \fi
787 \fi
788 \fi
789 \fi
790 \fi
791 \ifthumbs@verbose
792   \edef\thumbsinfo{\the\th@mbwidthx}
793   \@PackageInfoNoLine{thumbs}{The width of the thumb marks is \thumbsinfo}
794 \ifthumbs@draft
795   \@PackageInfoNoLine{thumbs}{because thumbs package is in draft mode}
796 \fi
797 \fi

```

Setting the position of the first/top thumb mark. Vertical (y) position is a little bit complicated, because option `\thumbs@topthumbmargin` must be handled:

```

798 % Thumb position x \th@mbposx
799 \setlength{\th@mbposx}{\paperwidth}
800 \advance\th@mbposx-\th@mbwidthx
801 \ifthumbs@ignorehoffset
802   \advance\th@mbposx-\hoffset
803 \fi
804 \advance\th@mbposx+1pt
805 % Thumb position y \th@mbposy
806 \ifx\thumbs@topthumbmargin\empty%
807   \def\thumbs@topthumbmargin{auto}
808 \fi
809 \def\th@mbstest{auto}
810 \ifx\thumbs@topthumbmargin\th@mbstest%
811   \setlength{\th@mbposy}{1in}

```

```

812 \advance\th@mbposy+\th@bmsvoffset
813 \advance\th@mbposy+\topmargin
814 \advance\th@mbposy-\th@mbdistance
815 \advance\th@mbposy+\th@mbheighty
816 \else
817 \setlength{\@tempdima}{-1pt}
818 \ifdim \thumbs@topthumbmargin > \@tempdima% OK
819 \else
820 \PackageWarning{thumbs}{Thumbs column starting too high.\MessageBreak%
821 Option topthumbmargin has value '\thumbs@topthumbmargin'.\MessageBreak%
822 topthumbmargin will be set to -1pt.\MessageBreak%
823 }
824 \gdef\thumbs@topthumbmargin{-1pt}
825 \fi
826 \setlength{\th@mbposy}{\thumbs@topthumbmargin}
827 \advance\th@mbposy-\th@mbdistance
828 \advance\th@mbposy+\th@mbheighty
829 \fi
830 \setlength{\th@mbposytop}{\th@mbposy}
831 \ifthumbs@verbose%
832 \setlength{\@tempdimc}{\th@mbposytop}
833 \advance\@tempdimc-\th@mbheighty
834 \advance\@tempdimc+\th@mbdistance
835 \edef\thumbsinfo{\the\@tempdimc}
836 \@PackageInfoNoLine{thumbs}{The top thumb margin is \thumbsinfo}
837 \fi

```

Setting the lowest position of a thumb mark, according to option \thumbs@bottomthumbmargin:

```

838 % Max. thumb position y \th@mbposybottom
839 \ifx\thumbs@bottomthumbmargin\empty%
840 \gdef\thumbs@bottomthumbmargin{auto}
841 \fi
842 \def\th@mbstest{auto}
843 \ifx\thumbs@bottomthumbmargin\th@mbstest%
844 \setlength{\th@mbposybottom}{1in}
845 \ifthumbs@ignorevoffset% \relax
846 \else \advance\th@mbposybottom+\th@bmsvoffset
847 \fi
848 \advance\th@mbposybottom+\topmargin
849 \advance\th@mbposybottom-\th@mbdistance
850 \advance\th@mbposybottom+\th@mbheighty
851 \advance\th@mbposybottom+\headheight
852 \advance\th@mbposybottom+\headsep
853 \advance\th@mbposybottom+\textheight
854 \advance\th@mbposybottom+\footskip
855 \advance\th@mbposybottom-\th@mbdistance
856 \advance\th@mbposybottom-\th@mbheighty
857 \else

```

```

858 \setlength{\@tempdima}{\paperheight}
859 \advance\@tempdima by -\thumbs@bottomthumbmargin
860 \advance\@tempdima by -\th@mbposytop
861 \advance\@tempdima by -\th@mbdistance
862 \advance\@tempdima by -\th@mbheighty
863 \advance\@tempdima by -\th@mbdistance
864 \ifdim \@tempdima > 0sp \relax
865 \else
866 \setlength{\@tempdima}{\paperheight}
867 \advance\@tempdima by -\th@mbposytop
868 \advance\@tempdima by -\th@mbdistance
869 \advance\@tempdima by -\th@mbheighty
870 \advance\@tempdima by -\th@mbdistance
871 \advance\@tempdima by -1pt
872 \PackageWarning{thumbs}{Thumbs column ending too high.\MessageBreak%
873 Option bottomthumbmargin has value '\thumbs@bottomthumbmargin'.\MessageBreak%
874 bottomthumbmargin will be set to '\the\@tempdima'.\MessageBreak%
875 }
876 \xdef\thumbs@bottomthumbmargin{\the\@tempdima}
877 \fi
878 \setlength{\@tempdima}{\thumbs@bottomthumbmargin}
879 \setlength{\@tempdimc}{-1pt}
880 \ifdim \@tempdima < \@tempdimc%
881 \PackageWarning{thumbs}{Thumbs column ending too low.\MessageBreak%
882 Option bottomthumbmargin has value '\thumbs@bottomthumbmargin'.\MessageBreak%
883 bottomthumbmargin will be set to -1pt.\MessageBreak%
884 }
885 \gdef\thumbs@bottomthumbmargin{-1pt}
886 \fi
887 \setlength{\th@mbposybottom}{\paperheight}
888 \advance\th@mbposybottom-\thumbs@bottomthumbmargin
889 \fi
890 \ifthumbs@verbose%
891 \setlength{\@tempdimc}{\paperheight}
892 \advance\@tempdimc by -\th@mbposybottom
893 \edef\thumbsinfo{\the\@tempdimc}
894 \@PackageInfoNoLine{thumbs}{The bottom thumb margin is \thumbsinfo}
895 \@PackageInfoNoLine{thumbs}{*****}
896 \message{^^J}
897 \fi

```

\th@mbposyA is set to the top-most vertical thumb position (y). Because it will be increased (i.e. the thumb positions will move downwards on the page), \th@mbposytop is used to remember this position unchanged.

```

898 \advance\th@mbposy-\th@mbheighty%           because it will be advanced also for the first thumb
899 \setlength{\th@mbposyA}{\th@mbposy}%        \th@mbposyA will change.
900 \setlength{\th@mbposytop}{\th@mbposy}%      \th@mbposytop shall not be changed.
901 }

```



`\thumb@advance` The internal command `\thumb@advance` is used to advance the position of the current thumb by `\thumbheighty` and `\thumb@bsdistance`. If the resulting position of the thumb is lower than the `\thumb@bposybottom` position (i.e. `\thumb@bposy` *higher* than `\thumb@bposybottom`), a new thumb column will be started by the next `\addthumb`, otherwise a blank thumb is created and `\thumb@advance` is calling itself again. This loop continues until a new thumb column is ready to be started.

```

903 \newcommand{\thumb@advance}{%
904   \advance\thumb@bposy+\thumbheighty%
905   \advance\thumb@bposy+\thumb@bsdistance%
906   \ifdim\thumb@bposy>\thumb@bposybottom%
907     \advance\thumb@bposy-\thumbheighty%
908     \advance\thumb@bposy-\thumb@bsdistance%
909   \else%
910     \advance\thumb@bposy-\thumbheighty%
911     \advance\thumb@bposy-\thumb@bsdistance%
912     \thumborigaddthumb{}{}{\string\thepagecolor}{\string\thepagecolor}%
913     \thumb@advance%
914   \fi%
915 }
916
```

`\thumbnewcolumn` With the command `\thumbnewcolumn` a new column can be started, even if the current one was not filled. This could be useful e.g. for a dictionary, which uses one column for translations from language A to language B, and the second column for translations from language B to language A. But in that case one probably should increase the size of the thumb marks, so that 26 thumb marks (in case of the Latin alphabet) fill one thumb column. Do not use `\thumbnewcolumn` on a page where `\addthumb` was already used, but use `\addthumb` immediately after `\thumbnewcolumn`.

```

917 \newcommand{\thumbnewcolumn}{%
918   \ifx\thumb@toprint\pagesLTS@one%
919     \PackageError{thumbs}{\string\thumbnewcolumn\space after \string\addthumb }{%
920       On page \thepage\space (approx.) \string\addthumb\space was used and *afterwards* %
921       \string\thumbnewcolumn .\MessageBreak%
922       When you want to use \string\thumbnewcolumn , do not use an \string\addthumb\space %
923       on the same\MessageBreak%
924       page before \string\thumbnewcolumn . Thus, either remove the \string\addthumb , %
925       or use a\MessageBreak%
926       \string\pagebreak , \string\newpage\space etc. before \string\thumbnewcolumn .\MessageBreak%
927       (And remember to use an \string\addthumb\space*after* \string\thumbnewcolumn .)\MessageBreak%
928       Your command \string\thumbnewcolumn\space will be ignored now.%
929     }%
930   \else%
931     \PackageWarning{thumbs}{%
932       Starting of another column requested by command\MessageBreak%
933       \string\thumbnewcolumn.\space Only use this command directly\MessageBreak%
934       before an \string\addthumb\space - did you?!\MessageBreak%
935     }%
936     \gdef\thumb@columnnew{1}%
937     \thumb@advance%

```

```

938 \gdef\th@mbprinting{0}%
939 \gdef\th@mbcolumnnew{2}%
940 \fi%
941 }
942

```

`\addtitlethumb` When a thumb mark shall not or cannot be placed on a page, e. g. at the title page or when using `\includepdf` from `pdfpages` package, but the reference in the thumb marks overview nevertheless shall name that page number and hyperlink to that page, `\addtitlethumb` can be used at the following page. It has five arguments. The arguments one to four are identical to the ones of `\addthumb` (see immediately below), and the fifth argument consists of the label of the page, where the hyperlink at the thumb marks overview page shall link to. For the first page the label `pagesLTS.0` can be use, which is already placed there by the used `pageslts` package.

```

943 \newcommand{\addtitlethumb}[5]{%
944 \xdef\th@mb@titlelabel{#5}%
945 \addthumb{#1}{#2}{#3}{#4}%
946 \xdef\th@mb@titlelabel{}}%
947 }
948

```

`\thumbsnophantom` To locally disable the setting of a `\phantomsection` before a thumb mark, the command `\thumbsnophantom` is provided. (But at first it is not disabled.)

```

949 \gdef\th@mbphantom{1}
950
951 \newcommand{\thumbsnophantom}{%
952 \gdef\th@mbphantom{0}%
953 }
954

```

`\addthumb` Now the `\addthumb` command is defined, which is used to add a new thumb mark to the document.

```

955 \newcommand{\addthumb}[4]{%
956 \gdef\th@mbprinting{1}%
957 \advance\th@mbposy\th@mbheighty%
958 \advance\th@mbposy\th@mbdistance%
959 \ifdim\th@mbposy>\th@mbposybottom%
960 \PackageInfo{thumbs}{%
961 Thumbs column full, starting another column.\MessageBreak%
962 }%
963 \setlength{\th@mbposy}{\th@mbposytop}%
964 \advance\th@mbposy\th@mbdistance%
965 \ifx\th@mbcolumn\pagesLTS@zero%
966 \xdef\th@umbsperpagecount{\th@mb}%
967 \gdef\th@mbcolumn{1}%
968 \fi%
969 \fi%
970 \@tempcnta=\th@mb\relax%
971 \advance\@tempcnta by 1%
972 \xdef\th@mb{\the\@tempcnta}%

```

The `\addthumb` command has four parameters:

1. a title for the thumb mark (for the thumb marks overview page, e.g. the chapter title),
2. the text to be displayed in the thumb mark (for example a chapter number),
3. the colour of the text in the thumb mark,
4. and the background colour of the thumb mark

(parameters in this order).

```
973 \gdef\th@mbtitle{#1}%
974 \gdef\th@mbtext{#2}%
975 \gdef\th@mbtextcolour{#3}%
976 \gdef\th@mbackgroundcolour{#4}%
```

The width of the thumb mark text is determined and compared to the width of the thumb mark (rule). When the text is wider than the rule, this has to be changed (either automatically with option `width={autoauto}` in the next compilation run or manually by changing `width={...}` by the user).

```
977 \settowidth{\@tempdima}{\th@mbtext\space}%
978 \ifdim\@tempdima>\th@mbmaxwidth%
979 \xdef\th@mbmaxwidth{\the\@tempdima}%
980 \fi%
981 \ifdim\@tempdima>\th@mbwidthx%
982 \ifthumbs@draft% \relax
983 \else%
984 \edef\thumbsinfoa{\the\th@mbwidthx}
985 \edef\thumbsinfob{\the\@tempdima}
986 \PackageWarning{thumbs}{%
987 Thumb mark too small (width: \thumbsinfoa )\MessageBreak%
988 or its text too wide (width: \thumbsinfob )\MessageBreak%
989 }%
990 \fi%
991 \fi%
```

Into the `\jobname.tmb` file a `\thumbcontents` entry is written. If `hyperref` is found, a `\phantomsection` is placed (except when globally disabled by option `nophantomsection` or locally by `\thumbsnophantom`), a label for the thumb mark created, and the `\thumbcontents` entry will be hyperlinked to that label (except when `\addtitlethumb` was used, then the label reported from the user is used – the `thumbs` package does *not* create that label!).

```
992 \ltx@ifpackageloaded{hyperref}{% hyperref loaded
993 \ifthumbs@nophantomsection% \relax
994 \else%
995 \ifx\th@mbsphantom\pagesLTS@one%
996 \phantomsection%
997 \else%
998 \gdef\th@mbsphantom{1}%
999 \fi%
1000 \fi%
```

```

1001 }{% hyperref not loaded
1002 }%
1003 \label{thumbs.\th@mb}%
1004 \if@files%
1005   \ifx\th@mb@titlelabel\empty%
1006     \addtocontents{tmb}{\string\thumbcontents{#1}{#2}{#3}{#4}{\thepage}{thumbs.\th@mb}{\th@mbcolumnnew}}%
1007   \else%
1008     \addtocounter{page}{-1}%
1009     \edef\th@mb@page{\thepage}%
1010     \addtocontents{tmb}{\string\thumbcontents{#1}{#2}{#3}{#4}{\th@mb@page}{\th@mb@titlelabel}{\th@mbcolumnnew}}%
1011     \addtocounter{page}{+1}%
1012   \fi%
1013 %\else there is a problem, but the according warning message was already given earlier.
1014 \fi%

```

Maybe there is a rare case, where more than one thumb mark will be placed at one page. Probably a `\pagebreak`, `\newpage` or something similar would be advisable, but nevertheless we should prepare for this case. We save the properties of the thumb mark(s).

```

1015 \ifx\th@mbcolumnnew\pagesLTS@one%
1016 \else%
1017   \@tempcnta=\th@mbonpage\relax%
1018   \advance\@tempcnta by 1%
1019   \xdef\th@mbonpage{\the\@tempcnta}%
1020 \fi%
1021 \ifx\th@mbtoprint\pagesLTS@zero%
1022 \else%
1023   \ifx\th@mbcolumnnew\pagesLTS@zero%
1024     \PackageWarning{thumbs}{More than one thumb at one page:\MessageBreak%
1025       You placed more than one thumb mark (at least \th@mbonpage)\MessageBreak%
1026       on page \thepage \space (page is approximately).\MessageBreak%
1027       Maybe insert a page break?\MessageBreak%
1028     }%
1029   \fi%
1030 \fi%
1031 \ifnum\th@mbonpage=1%
1032   \ifnum\th@mbonpagemax>0% \relax
1033   \else \gdef\th@mbonpagemax{1}%
1034   \fi%
1035   \gdef\th@mbtextA{#2}%
1036   \gdef\th@mbtextcolourA{#3}%
1037   \gdef\th@mbbackgroundcolourA{#4}%
1038   \setlength{\th@mbposyA}{\th@mbposy}%
1039 \else%
1040   \ifx\th@mbcolumnnew\pagesLTS@zero%
1041     \@tempcnta=1\relax%
1042     \edef\th@mbonpagetest{\the\@tempcnta}%
1043     \@whilenum\th@mbonpagetest<\th@mbonpage\do{%

```

```

1044 \advance\@tempcnta by 1%
1045 \xdef\th@mbonpagetest{\the\@tempcnta}%
1046 \ifnum\th@mbonpage=\th@mbonpagetest%
1047 \ifnum\th@mbonpagemax<\th@mbonpage%
1048 \xdef\th@mbonpagemax{\th@mbonpage}%
1049 \fi%
1050 \edef\th@mbtmpdef{\csname th@mbtext\AlphAlph{\the\@tempcnta}\endcsname}%
1051 \expandafter\gdef\th@mbtmpdef{#2}%
1052 \edef\th@mbtmpdef{\csname th@mbtextcolour\AlphAlph{\the\@tempcnta}\endcsname}%
1053 \expandafter\gdef\th@mbtmpdef{#3}%
1054 \edef\th@mbtmpdef{\csname th@mbbackgroundcolour\AlphAlph{\the\@tempcnta}\endcsname}%
1055 \expandafter\gdef\th@mbtmpdef{#4}%
1056 \fi%
1057 }%
1058 \else%
1059 \ifnum\th@mbonpagemax<\th@mbonpage%
1060 \xdef\th@mbonpagemax{\th@mbonpage}%
1061 \fi%
1062 \fi%
1063 \fi%
1064 \ifx\th@mbcolumnnew\pagesLTS@two%
1065 \gdef\th@mbcolumnnew{0}%
1066 \fi%
1067 \gdef\th@mbtoprint{1}%
1068 }
1069

```

**\stopthumb** When a page (or pages) shall have no thumb marks, **\stopthumb** stops the issuing of thumb marks (until another thumb mark is placed or **\continuethumb** is used).

```

1070 \newcommand{\stopthumb}{\gdef\th@mbprinting{0}}
1071

```

**\continuethumb** **\continuethumb** continues the issuing of thumb marks (equal to the one before this was stopped by **\stopthumb**).

```

1072 \newcommand{\continuethumb}{\gdef\th@mbprinting{1}}
1073

```

`\thumbcontents` The **internal** command `\thumbcontents` (which will be read in from the `\jobname.tmb` file) creates a thumb mark entry on the overview page(s). Its seven parameters are

1. the title for the thumb mark,
2. the text to be displayed in the thumb mark,
3. the colour of the text in the thumb mark,
4. the background colour of the thumb mark,
5. the first page of this thumb mark,
6. the label where it should hyperlink to
7. and an indicator, whether `\thumbnewcolumn` is just issuing blank thumbs to fill a column

(parameters in this order). Without `hyperref` the 6<sup>th</sup> parameter is just ignored.

```

1074 \newcommand{\thumbcontents}[7]{%
1075   \advance\th@mbposy\th@mbheighty%
1076   \advance\th@mbposy\th@mbdistance%
1077   \ifdim\th@mbposy>\th@mbposybottom%
1078     \setlength{\th@mbposy}{\th@mbposytop}%
1079     \advance\th@mbposy\th@mbdistance%
1080   \fi%
1081   \def\th@mb@tmp@title{#1}%
1082   \def\th@mb@tmp@text{#2}%
1083   \def\th@mb@tmp@textcolour{#3}%
1084   \def\th@mb@tmp@backgroundcolour{#4}%
1085   \def\th@mb@tmp@page{#5}%
1086   \def\th@mb@tmp@label{#6}%
1087   \def\th@mb@tmp@column{#7}%
1088   \ifx\th@mb@tmp@column\pagesLTS@two%
1089     \def\th@mb@tmp@column{0}%
1090   \fi%
1091   \setlength{\th@mbwidthxtoc}{\paperwidth}%
1092   \advance\th@mbwidthxtoc-1in%

```

Depending on which side the thumb marks should be placed the according dimensions have to be adapted.

```

1093   \def\th@mbstest{r}%
1094   \ifx\th@mbstest\th@mbsprntpage% r
1095     \advance\th@mbwidthxtoc-\oddsidemargin%
1096     \setlength{\@tempdimc}{1in}%
1097     \advance\@tempdimc+\oddsidemargin%
1098   \else% l
1099     \advance\th@mbwidthxtoc-\evensidemargin%
1100     \setlength{\@tempdimc}{\th@bmsoffset}%
1101     \advance\@tempdimc-\hoffset

```

```

1102 \fi%
1103 \put(\@tempdimc,-\th@mbposy){%
1104   \def\th@mbstest{1}%
1105   \ifx\th@mbstest\th@mbsprintpage% 1
1106     \advance\th@mbwidthxtoc+\evensidemargin%
1107   \fi%
1108   \begin{picture}(0,0)%

```

When the option `thumbink=rule` was chosen, the whole rule is made into a hyperlink. Otherwise the rule is created without hyperlink (here).

```

1109     \def\th@mbstest{rule}%
1110     \ifx\thumbs@thumbink\th@mbstest%
1111       \ifx\th@mb@tmp@column\pagesLTS@zero%
1112         {\color{\th@mb@tmp@backgroundcolour}\hyperref[\th@mb@tmp@label]{\rule{\th@mbwidthxtoc}{\th@mbheighty}}}%
1113       \else%

```

When `\th@mb@tmp@column` is not zero, then this is a blank thumb mark from `thumbnewcolumn`.

```

1114         {\color{\th@mb@tmp@backgroundcolour}\rule{\th@mbwidthxtoc}{\th@mbheighty}}%
1115       \fi%
1116     \else%
1117       {\color{\th@mb@tmp@backgroundcolour}\rule{\th@mbwidthxtoc}{\th@mbheighty}}%
1118     \fi%
1119   \end{picture}%

```

When `\th@mbsprintpage` is 1, before the picture `\th@mbwidthxtoc` was changed, which must be reverted now.

```

1120   \ifx\th@mbstest\th@mbsprintpage% 1
1121     \advance\th@mbwidthxtoc-\evensidemargin%
1122   \fi%

```

When `\th@mb@tmp@column` is zero, then this is **not** a blank thumb mark from `thumbnewcolumn`, and we need to fill it with some content. If it is not zero, it is a blank thumb mark, and nothing needs to be done here.

```

1123   \ifx\th@mb@tmp@column\pagesLTS@zero%
1124     \setlength{\th@mbwidthxtoc}{\paperwidth}%
1125     \advance\th@mbwidthxtoc-1in%
1126     \advance\th@mbwidthxtoc-\hoffset%
1127     \ifx\th@mbstest\th@mbsprintpage% 1
1128       \advance\th@mbwidthxtoc-\evensidemargin%
1129     \else%
1130       \advance\th@mbwidthxtoc-\oddsidemargin%
1131     \fi%
1132     \advance\th@mbwidthxtoc-\th@mbwidthx%
1133     \advance\th@mbwidthxtoc-20pt%
1134     \ifdim\th@mbwidthxtoc>\textwidth%
1135       \setlength{\th@mbwidthxtoc}{\textwidth}%
1136     \fi%

```

Depending on which side the thumb marks should be placed the according dimensions have to be adapted here, too.

```

1137 \ifx\th@mbstest\th@mbprintpage% 1
1138 \begin{picture}(0,0)(-6pt,-0.5\th@mbheighty+384930sp)%
1139 \bgroup%
1140 \setlength{\parindent}{0pt}%
1141 \makebox[\th@mbwidthx][l]{\color{\th@mb@tmp@textcolour}\th@mb@tmp@text}}%
1142 \egroup%
1143 \end{picture}%
1144 \setlength{\@tempdimc}{-1in}%
1145 \advance\@tempdimc-\evensidemargin%
1146 \else% r
1147 \setlength{\@tempdimc}{0pt}%
1148 \fi%
1149 \begin{picture}(0,0)(\@tempdimc,-0.5\th@mbheighty+384930sp)%
1150 \bgroup%
1151 \setlength{\parindent}{0pt}%
1152 \vbox%
1153 {\hsize=\th@mbwidthxtoc %

```

Depending on the value of option `thumblink`, parts of the text are made into hyperlinks:

- `none` creates *none* hyperlink

```

1154 \def\th@mbstest{none}%
1155 \ifx\thumbs@thumbink\th@mbstest%
1156 {\color{\th@mb@tmp@textcolour}\noindent \th@mb@tmp@title%
1157 \leaders\box \ThumbsBox {\th@mb@linefill \th@mb@tmp@page}%
1158 }%
1159 \else%

```

- `title` hyperlinks the *titles* of the thumb marks

```

1160 \def\th@mbstest{title}%
1161 \ifx\thumbs@thumbink\th@mbstest%
1162 {\color{\th@mb@tmp@textcolour}\noindent%
1163 \hyperref[\th@mb@tmp@label]{\th@mb@tmp@title}%
1164 \leaders\box \ThumbsBox {\th@mb@linefill \th@mb@tmp@page}%
1165 }%
1166 \else%

```

- `page` hyperlinks the *page* numbers of the thumb marks

```

1167 \def\th@mbstest{page}%
1168 \ifx\thumbs@thumbink\th@mbstest%
1169 {\color{\th@mb@tmp@textcolour}\noindent%
1170 \th@mb@tmp@title%
1171 \leaders\box \ThumbsBox {\th@mb@linefill \pageref{\th@mb@tmp@label}}%
1172 }%
1173 \else%

```



- `titleandpage` hyperlinks the *title and page* numbers of the thumb marks

```

1174             \def\th@mbstest{titleandpage}%
1175             \ifx\thumbs@thumblink\th@mbstest%
1176               {\color{\th@mb@tmp@textcolour}\noindent%
1177                 \hyperref[\th@mb@tmp@label]{\th@mb@tmp@title}%
1178                 \leaders\box \ThumbsBox {\th@mb@linefill \pageref{\th@mb@tmp@label}}%
1179               }%
1180             \else%

```

- `line` hyperlinks the whole *line*, i. e. title, dots (or line or whatsoever) and page numbers of the thumb marks

```

1181             \def\th@mbstest{line}%
1182             \ifx\thumbs@thumblink\th@mbstest%
1183               {\color{\th@mb@tmp@textcolour}\noindent%
1184                 \hyperref[\th@mb@tmp@label]{\th@mb@tmp@title%
1185                 \leaders\box \ThumbsBox {\th@mb@linefill \th@mb@tmp@page}}%
1186               }%
1187             \else%

```

- `rule` hyperlinks the whole *rule*, but that was already done above, so here no linking is done

```

1188             \def\th@mbstest{rule}%
1189             \ifx\thumbs@thumblink\th@mbstest%
1190               {\color{\th@mb@tmp@textcolour}\noindent%
1191                 \th@mb@tmp@title%
1192                 \leaders\box \ThumbsBox {\th@mb@linefill \th@mb@tmp@page}}%
1193               }%
1194             \else%

```

Another value for `\thumbs@thumblink` should never be encountered here.

```

1195             \PackageError{thumbs}{\string\thumbs@thumblink\space invalid}{%
1196             \string\thumbs@thumblink\space has an invalid value,\MessageBreak%
1197             although it did not have an invalid value before,\MessageBreak%
1198             and the thumbs package did not change it.\MessageBreak%
1199             Therefore some other package (or the user)\MessageBreak%
1200             manipulated it.\MessageBreak%
1201             Now setting it to 'none' as last resort.\MessageBreak%
1202             }%
1203             \gdef\thumbs@thumblink{none}%
1204             {\color{\th@mb@tmp@textcolour}\noindent%
1205               \th@mb@tmp@title%
1206               \leaders\box \ThumbsBox {\th@mb@linefill \th@mb@tmp@page}}%
1207             }%
1208             \fi%
1209           \fi%
1210         \fi%
1211       \fi%

```

```

1212         \fi%
1213         \fi%
1214     }%
1215 }%
1216 \egroup%
1217 \end{picture}%

```

The thumb mark (with text) as set in the document outside of the thumb marks overview page(s) is also presented here, except when we are printing at the left side.

```

1218     \ifx\th@mbstest\th@mbprintpage% 1; relax
1219     \else%
1220         \begin{picture}(0,0)(\lin+\oddsidemargin-\th@mbxpos+20pt,-0.5\th@mbheighty+384930sp)%
1221             \bgroup%
1222             \setlength{\parindent}{0pt}%
1223             \makebox[\th@mbwidthx][r]{\color{\th@mb@tmp@textcolour}\th@mb@tmp@text}%
1224             \egroup%
1225         \end{picture}%
1226     \fi%
1227 \fi%
1228 }%
1229 }
1230

```

`\th@mb@yA`      `\th@mb@yA` sets the y-position to be used in `\th@mbprint`.

```

1231 \newcommand{\th@mb@yA}{%
1232     \advance\th@mbposyA\th@mbheighty%
1233     \advance\th@mbposyA\th@mbdistance%
1234     \ifdim\th@mbposyA>\th@mbposybottom%
1235         \PackageWarning{thumbs}{You are not only using more than one thumb mark at one\MessageBreak%
1236             single page, but also thumb marks from different thumb\MessageBreak%
1237             columns. May I suggest the use of a \string\pagebreak\space or\MessageBreak%
1238             \string\newpage ?}%
1239     }%
1240     \setlength{\th@mbposyA}{\th@mbposytop}%
1241 \fi%
1242 }
1243
1244

```

**tikz, hyperref**      To determine whether to place the thumb marks at the left or right side of a two-sided paper, **thumbs** must determine whether the page number is odd or even. Because `\thepage` can be set to some value, the `CurrentPage` counter of the `pageslts` package is used instead. When the current page number is determined `\AtBeginShipout`, it is usually the number of the next page to be put out. But when the **tikz** package has been loaded before **thumbs**, it is not the next page number but the real one. But when the **hyperref** package has been loaded before the **tikz** package, it is the next page number. (When first **tikz** and then **hyperref** and then **thumbs** was loaded, it is the real page, not the next one.) Thus it must be checked which package was loaded and in what order.

```

1245 \ltx@ifpackageloaded{tikz}{% tikz loaded before thumbs
1246   \ltx@ifpackageloaded{hyperref}{% hyperref loaded before thumbs
1247   %% but tikz and hyperref in which order? To be determined now:
1248   %% Code similar to the one from Joseph Wright:
1249   %% http://tex.stackexchange.com/questions/45533/how-to-determine-which-register-a-count-uses/
1250   \def\th@mbhalt{\th@mbhalt}
1251
1252   \def\registernumber#1{%
1253     \expandafter\registernumberauxi\meaning#1\th@mbhalt\stop%
1254   }
1255
1256   \def\registernumberauxi#1#2\stop{%
1257     \ifx\th@mbhalt#1%
1258       \expandafter\ltx@gobbletwo%
1259     \else%
1260       \expandafter\registernumberauxii%
1261     \fi%
1262     {#1}{#2}%
1263   }
1264
1265   \def\registernumberauxii#1#2{%
1266     \ifnum'#1<48%
1267     \else%
1268       \ifnum'#1>57%
1269       \else%
1270         #1%
1271       \fi%
1272     \fi%
1273     \registernumberauxi#2\stop%
1274   }
1275
1276   %% End of code similar to the one from Joseph Wright
1277
1278   \def\thumbs@gobblesix#1#2#3#4#5#6#7{#7}
1279
1280   \edef\wrighta{\registernumber\Hy@linkcounter}
1281   \edef\wrightb{\expandafter\thumbs@gobblesix\wrighta}
1282   \@tempcnta=\wrightb\relax%
1283   \edef\wrighta{\registernumber\tikztreelevel}
1284   \edef\wrightb{\expandafter\thumbs@gobblesix\wrighta}
1285   \@tempcntb=\wrightb\relax%
1286   \ifnum\@tempcntb>\@tempcnta% tikz, hyperref
1287     \xdef\th@mbtikz{-1}% tikz loaded after hyperref
1288   \else
1289     \xdef\th@mbtikz{0}% tikz loaded before hyperref
1290   \fi%
1291

```

```

1292 }{% tikz loaded before thumbs and hyperref loaded afterwards or not at all
1293   \xdef\th@mbtikz{0}%
1294 }
1295 }{% tikz not loaded before thumbs
1296   \xdef\th@mbtikz{-1}
1297 }
1298
\th@mbprint   \th@mbprint places a picture containing the thumb mark on the page.
1299 \newcommand{\th@mbprint}[3]{%
1300   \put(\th@mbxpos,-\th@mbposyA){%
1301     \begin{picture}(0,0)%
1302       {\color{#3}\rule{\th@mbwidthx}{\th@mbheighty}}%
1303     \end{picture}%
1304     \begin{picture}(0,0)(0,-0.5\th@mbheighty+384930sp)%
1305       \bgroup%
1306         \setlength{\parindent}{0pt}%
1307         \ifodd\c@CurrentPage%
1308           \if@twoside%
1309             \ifx\th@mbtikz\pagesLTS@zero%
1310               %\makebox[\th@mbwidthx][r]{\color{#2}#1\space}}%
1311               \parbox{\th@mbwidthx}{\raggedleft{\hfill \color{#2}#1\space}}}%
1312             \else%
1313               %\makebox[\th@mbwidthx][l]{\color{#2}\hspace*{1pt}\space #1}}%
1314               \parbox{\th@mbwidthx}{\raggedright{\color{#2}\hspace*{1pt}\space #1}}}%
1315             \fi%
1316           \else%
1317             %\makebox[\th@mbwidthx][r]{\color{#2}#1\space}}%
1318             \parbox{\th@mbwidthx}{\raggedleft{\hfill \color{#2}#1\space}}}%
1319           \fi%
1320         \else%
1321           \if@twoside%
1322             \ifx\th@mbtikz\pagesLTS@zero%
1323               %\makebox[\th@mbwidthx][l]{\color{#2}\hspace*{1pt}\space #1}}%
1324               \parbox{\th@mbwidthx}{\raggedright{\color{#2}\hspace*{1pt}\space #1}}}%
1325             \else%
1326               %\makebox[\th@mbwidthx][r]{\color{#2}#1\space}}%
1327               \parbox{\th@mbwidthx}{\raggedleft{\hfill \color{#2}#1\space}}}%
1328             \fi%
1329           \else%
1330             %\makebox[\th@mbwidthx][r]{\color{#2}#1\space}}%
1331             \parbox{\th@mbwidthx}{\raggedleft{\hfill \color{#2}#1\space}}}%
1332           \fi%
1333         \fi%
1334       \egroup%
1335     \end{picture}%
1336   }%
1337 }

```

`\AtBeginShipout` `\AtBeginShipoutUpperLeft` calls the `\th@mbprint` macro for each thumb mark which shall be placed on that page. When `\stopthumb` was used, the thumb mark is omitted.

```

1339 \AtBeginShipout{%
1340   \ifx\th@mbcolumnnew\pagesLTS@zero% ok
1341   \else%
1342     \PackageError{thumbs}{Missing \string\addthumb\space after \string\thumbnewcolumn }{%
1343       Command \string\thumbnewcolumn\space was used, but no new thumb placed with \string\addthumb\MessageBreak%
1344       (at least not at the same page). After \string\thumbnewcolumn\space please always use an\MessageBreak%
1345       \string\addthumb . Until the next \string\addthumb , there will be no thumb marks on the\MessageBreak%
1346       pages. Starting a new column of thumb marks and not putting a thumb mark into\MessageBreak%
1347       that column does not make sense. If you just want to get rid of column marks,\MessageBreak%
1348       do not abuse \string\thumbnewcolumn\space but use \string\stopthumb .\MessageBreak%
1349       (This error message will be repeated at all following pages,\MessageBreak%
1350       \space until \string\addthumb\space is used.)\MessageBreak%
1351     }%
1352   \fi%
1353   \@tempcnta=\value{CurrentPage}\relax%
1354   \advance\@tempcnta by \th@mbtikz%

```

because `CurrentPage` is already the number of the next page, except if `tikz` was loaded before `thumbs`, then it is still the `CurrentPage`.

Changing the paper size mid-document will probably cause some problems. But if it works, we try to cope with it. (When the change is performed without changing `\paperwidth`, we cannot detect it. Sorry.)

```

1355 \edef\th@mbstmpwidth{\the\paperwidth}%
1356 \ifdim\th@mbpaperwidth=\th@mbstmpwidth% OK
1357 \else%
1358   \PackageWarningNoLine{thumbs}{%
1359     Paperwidth has changed. Thumb mark positions become now adapted%
1360   }%
1361   \setlength{\th@mbposx}{\paperwidth}%
1362   \advance\th@mbposx-\th@mbwidthx%
1363   \ifthumbs@ignorehoffset%
1364     \advance\th@mbposx-\hoffset%
1365   \fi%
1366   \advance\th@mbposx+1pt%
1367   \xdef\th@mbpaperwidth{\the\paperwidth}%
1368 \fi%

```

Determining the correct `\th@mbxpos`:

```

1369 \def\th@mbxpos{\th@mbposx}%
1370 \ifodd\@tempcnta% \relax
1371 \else%
1372   \if@twoside%
1373     \ifthumbs@ignorehoffset%
1374       \def\th@mbxpos{-1pt-\hoffset}%

```

```

1375     \else%
1376         \def\th@mbxpos{-1pt}%
1377     \fi%

    \else \relax%

1378     \fi%
1379 \fi%
1380 \AtBeginShipoutUpperLeft{%
1381     \ifx\th@mbprinting\pagesLTS@one%
1382         \th@mbprint{\th@mbtextA}{\th@mbtextcolourA}{\th@mbackgroundcolourA}%
1383         \@tempcnta=1\relax%
1384         \edef\th@mbonpagetest{\the\@tempcnta}%
1385         \@whilenum\th@mbonpagetest<\th@mbonpage\do{%
1386             \advance\@tempcnta by 1%
1387             \edef\th@mbonpagetest{\the\@tempcnta}%
1388             \th@mb@yA%
1389             \def\th@mbtmpdeftext{\csname th@mbtext\AlphAlph{\the\@tempcnta}\endcsname}%
1390             \def\th@mbtmpdefcolour{\csname th@mbtextcolour\AlphAlph{\the\@tempcnta}\endcsname}%
1391             \def\th@mbtmpdefbackgroundcolour{\csname th@mbackgroundcolour\AlphAlph{\the\@tempcnta}\endcsname}%
1392             \th@mbprint{\th@mbtmpdeftext}{\th@mbtmpdefcolour}{\th@mbtmpdefbackgroundcolour}%
1393         }%
1394     \fi%

```

When more than one thumb mark was placed at that page, on the following pages only the last issued thumb mark shall appear.

```

1395     \@tempcnta=\th@mbonpage\relax%
1396     \ifnum\@tempcnta<2% \relax
1397     \else%
1398         \gdef\th@mbtextA{\th@mbtext}%
1399         \gdef\th@mbtextcolourA{\th@mbtextcolour}%
1400         \gdef\th@mbackgroundcolourA{\th@mbackgroundcolour}%
1401         \gdef\th@mbposyA{\th@mbposy}%
1402     \fi%
1403     \gdef\th@mbonpage{0}%
1404     \gdef\th@mbtoprint{0}%
1405     }%
1406 }
1407

```

`\AfterLastShipout`      `\AfterLastShipout` is executed after the last page has been shipped out. It is still possible to e.g. write to the aux file at this time.

```

1408 \AfterLastShipout{%
1409     \ifx\th@mbcolumnnew\pagesLTS@zero% ok
1410     \else
1411         \PackageWarningNoLine{thumbs}{%
1412             Still missing \string\addthumb\space after \string\thumbnewcolumn\space after\MessageBreak%
1413             last ship-out: Command \string\thumbnewcolumn\space was used,\MessageBreak%

```

```

1414 but no new thumb placed with \string\addthumb\space anywhere in the\MessageBreak%
1415 rest of the document. Starting a new column of thumb\MessageBreak%
1416 marks and not putting a thumb mark into that column\MessageBreak%
1417 does not make sense. If you just want to get rid of\MessageBreak%
1418 thumb marks, do not abuse \string\thumbnewcolumn\space but use\MessageBreak%
1419 \string\stopthumb %
1420 }
1421 \fi

```

\AfterLastShipout the number of thumb marks per overview page, the total number of thumb marks, and the maximal thumb mark text width are determined and saved for the next L<sup>A</sup>T<sub>E</sub>X run via the .aux file.

```

1422 \ifx\th@mbcolumn\pagesLTS@zero% if there is only one column of thumbs
1423 \xdef\th@umbsperpagecount{\th@ombs}
1424 \gdef\th@mbcolumn{1}
1425 \fi
1426 \ifx\th@umbsperpagecount\pagesLTS@zero
1427 \gdef\th@umbsperpagecount{\th@ombs}% \th@ombs was increased with each \addthumb
1428 \fi
1429 \ifdim\th@mbmaxwidth>\th@mbwidthx
1430 \ifthumbs@draft% \relax
1431 \else
1432 \def\th@mbstest{autoauto}
1433 \ifx\thumbs@width\th@mbstest%
1434 \AtEndAfterFileList{%
1435 \PackageWarningNoLine{thumbs}{%
1436 Rerun to get the thumb marks width right%
1437 }
1438 }
1439 \else
1440 \AtEndAfterFileList{%
1441 \edef\thumbsinfoa{\th@mbmaxwidth}
1442 \edef\thumbsinfob{\the\th@mbwidthx}
1443 \PackageWarningNoLine{thumbs}{%
1444 Thumb mark too small or its text too wide:\MessageBreak%
1445 The widest thumb mark text is \thumbsinfoa\space wide,\MessageBreak%
1446 but the thumb marks are only \space\thumbsinfob\space wide.\MessageBreak%
1447 Either shorten or scale down the text,\MessageBreak%
1448 or increase the thumb mark width,\MessageBreak%
1449 or use option width=autoauto%
1450 }
1451 }
1452 \fi
1453 \fi
1454 \fi
1455 \if@filesw
1456 \immediate\write\@auxout{\string\gdef\string\th@mbmaxwidtha{\th@mbmaxwidth}}
1457 \immediate\write\@auxout{\string\gdef\string\th@umbsperpage{\th@umbsperpagecount}}

```

```

1458 \immediate\write\@auxout{\string\gdef\string\th@mbmax{\th@mb}}
1459 \expandafter\newwrite\csname tf@tmb\endcsname

```

And a rerun check is performed: Did the \jobname.tmb file change?

```

1460 \RerunFileCheck{\jobname.tmb}{%
1461 \immediate\closeout \csname tf@tmb\endcsname
1462 }{Warning: Rerun to get list of thumbs right!%
1463 }
1464 \immediate\openout \csname tf@tmb\endcsname = \jobname.tmb\relax
1465 %\else there is a problem, but the according warning message was already given earlier.
1466 \fi
1467 }
1468

```

`\thumbsoverviewtocontents` \addthumbsoverviewtocontents with two arguments is a replacement for \addcontentsline{toc}{<level>}{<text>}, where the first argument of \addthumbsoverviewtocontents is for <level> and the second for <text>. If an entry of the thumbs mark overview shall be placed in the table of contents, \addthumbsoverviewtocontents with its arguments should be used immediately before \thumbsoverview.

```

1469 \newcommand{\addthumbsoverviewtocontents}[2]{%
1470 \gdef\th@mb@toc@level{#1}
1471 \gdef\th@mb@toc@text{#2}
1472 }
1473

```

`\clearotherdoublepage` We need a command to clear a double page, thus that the following text is *left* instead of *right* as accomplished with the usual \cleardoublepage. For this we take the original \cleardoublepage code and revert the \ifodd\c@page\else (i.e. if even \c@page) condition.

```

1474 \newcommand{\clearotherdoublepage}{%
1475 \clearpage\if@twoside \ifodd\c@page% removed "\else" from \cleardoublepage
1476 \hbox{}\newpage\if@twocolumn\hbox{}\newpage\fi\fi\fi%
1477 }
1478

```

When the hyperref package is used, one might like to refer to the thumb overview page(s), therefore \th@mbstablabeling command is defined (and used later). First a \phantomsection is added. With or without hyperref a label TableOfThumbs1 (or TableOfThumbs2 or...) is placed here. For compatibility with older versions of this package also the label TableOfThumbs is created. Equal to older versions it aims at the last used Table of Thumbs, but since version 1.0g **without** Error: Label TableOfThumbs multiply defined - thanks to \overridelabel from the undolabl package (which is automatically loaded by the pageslts package).

When \addthumbsoverviewtocontents was used, the entry is placed into the table of contents.

```

1479 \newcommand{\th@mbstablabeling}{%
1480 \ltx@ifpackageloaded{hyperref}{\phantomsection}{}%
1481 \let\label\thumbsoriglabel%
1482 \ifx\th@mbstable\pagesLTS@one%
1483 \label{TableOfThumbs}%
1484 \label{TableOfThumbs1}%
1485 \else%

```



```

1486 \overridelabel{TableOfThumbs}%
1487 \label{TableOfThumbs\th@mbstable}%
1488 \fi%
1489 \let\label\@gobble%
1490 \ifx\th@mbs@toc@level\empty\relax
1491 \else \addcontentsline{toc}{\th@mbs@toc@level}{\th@mbs@toc@text}%
1492 \fi%
1493 }
1494

```

`\thumbsoverview` For compatibility with documents created using older versions of this package `\thumbsoverview` did not get a second argument, but it is renamed to `\thumbsoverviewprint` and additional to `\thumbsoverview` new commands are introduced. It is of course also possible to use `\thumbsoverviewprint` with its two arguments directly, therefore its name does not include any `@` (saving the users the use of `\makeatother` and `\makeatletter`).

- `\thumbsoverview` prints the thumb marks at the right side and (in `twoside` mode) skips left sides (useful e.g. at the beginning of a document)
- `\thumbsoverviewback` prints the thumb marks at the left side and (in `twoside` mode) skips right sides (useful e.g. at the end of a document)
- `\thumbsoverviewverso` prints the thumb marks at the right side and (in `twoside` mode) repeats them at the next left side and so on (useful anywhere in the document and when one wants to prevent empty pages)
- `\thumbsoverviewdouble` prints the thumb marks at the left side and (in `twoside` mode) repeats them at the next right side and so on (useful anywhere in the document and when one wants to prevent empty pages)

The `\thumbsoverview...` commands are used to place the overview page(s) for the thumb marks. Their parameter is used to mark this page/these pages (e.g. in the page header). If these marks are not wished, `\thumbsoverview...{}` will generate empty marks in the page header(s). `\thumbsoverview...` can be used more than once (for example at the beginning and at the end of the document). The overviews have labels `TableOfThumbs1`, `TableOfThumbs2` and so on, which can be referred to with e.g. `\pageref{TableOfThumbs1}`. The reference `TableOfThumbs` (without number) aims at the last used Table of Thumbs (for compatibility with older versions of this package).

```

1495 \newcommand{\thumbsoverview}[1]{\thumbsoverviewprint{#1}{r}}
1496
1497 \newcommand{\thumbsoverviewback}[1]{\thumbsoverviewprint{#1}{l}}
1498
1499 \newcommand{\thumbsoverviewverso}[1]{\thumbsoverviewprint{#1}{v}}
1500
1501 \newcommand{\thumbsoverviewdouble}[1]{\thumbsoverviewprint{#1}{d}}
1502

```

`\thumbsoverviewprint` `\thumbsoverviewprint` works by calling the internal command `\th@mbsoverview` (see below), repeating this until all thumb marks have been processed.

```
1503 \newcommand{\thumbsoverviewprint}[2]{%
```

It would be possible to just `\edef\th@mbsoverviewprintpage{#2}`, but `\thumbsoverviewprint` might be called manually and without valid second argument.

```
1504 \edef\th@mbsoverviewprintpage{#2}%
1505 \def\th@mbsoverviewprintpage{r}%
1506 \ifx\th@mbsoverviewprintpage\th@mbsoverviewprintpage r
1507 \gdef\th@mbsoverviewprintpage{r}%
1508 \else%
1509 \def\th@mbsoverviewprintpage{l}%
1510 \ifx\th@mbsoverviewprintpage\th@mbsoverviewprintpage l
1511 \gdef\th@mbsoverviewprintpage{l}%
1512 \else%
1513 \def\th@mbsoverviewprintpage{v}%
1514 \ifx\th@mbsoverviewprintpage\th@mbsoverviewprintpage v
1515 \gdef\th@mbsoverviewprintpage{v}%
1516 \else%
1517 \def\th@mbsoverviewprintpage{d}%
1518 \ifx\th@mbsoverviewprintpage\th@mbsoverviewprintpage d
1519 \gdef\th@mbsoverviewprintpage{d}%
1520 \else%
1521 \PackageError{thumbs}{%
1522   Invalid second parameter of \string\thumbsoverviewprint %
1523   }{The second argument of command \string\thumbsoverviewprint\space must be\MessageBreak%
1524   either 'r' or 'l' or 'v' or 'd', but is 'X2'.\MessageBreak%
1525   Now 'r' is chosen instead.\MessageBreak%
1526   }%
1527 \gdef\th@mbsoverviewprintpage{r}%
1528 \fi%
1529 \fi%
1530 \fi%
1531 \fi%
```

Option \thumbs@thumblink is checked for a valid and reasonable value here.

```

1532 \def\th@mbstest{none}%
1533 \ifx\thumbs@thumblink\th@mbstest% OK
1534 \else%
1535   \ltx@ifpackageloaded{hyperref}{% hyperref loaded
1536     \def\th@mbstest{title}%
1537     \ifx\thumbs@thumblink\th@mbstest% OK
1538     \else%
1539       \def\th@mbstest{page}%
1540       \ifx\thumbs@thumblink\th@mbstest% OK
1541       \else%
1542         \def\th@mbstest{titleandpage}%
1543         \ifx\thumbs@thumblink\th@mbstest% OK
1544         \else%
1545           \def\th@mbstest{line}%
1546           \ifx\thumbs@thumblink\th@mbstest% OK
1547           \else%
1548             \def\th@mbstest{rule}%
1549             \ifx\thumbs@thumblink\th@mbstest% OK
1550             \else%
1551               \PackageError{thumbs}{Option thumblink with invalid value}{%
1552                 Option thumblink has value '\thumbs@thumblink'.\MessageBreak%
1553                 Valid values are 'none', 'title', 'page',\MessageBreak%
1554                 'titleandpage', 'line', or 'rule'.\MessageBreak%
1555                 'rule' will be used now.\MessageBreak%
1556               }%
1557               \gdef\thumbs@thumblink{rule}%
1558             \fi%
1559           \fi%
1560         \fi%
1561       \fi%
1562     \fi%
1563   }{% hyperref not loaded
1564     \PackageError{thumbs}{Option thumblink != none, but hyperref not loaded}{%
1565       The option thumblink of the thumbs package was not set to 'none',\MessageBreak%
1566       but to some kind of hyperlinks, without using package hyperref.\MessageBreak%
1567       Either choose option 'thumblink=none', or load package hyperref.\MessageBreak%
1568       When pressing return, 'thumblink=none' will be set now.\MessageBreak%
1569     }%
1570     \gdef\thumbs@thumblink{none}%
1571   }%
1572 \fi%

```

When the thumb overview is printed and there is already a thumb mark set, for example for the front-matter (e. g. title page, bibliographic information, acknowledgements, dedication, preface, abstract, tables of content, tables, and figures, lists of symbols and abbreviations, and the thumbs overview itself, of course) or when the overview is placed near the end of the document, the current y-position of the thumb mark must be remembered (and later restored) and the printing of that thumb mark must be

stopped (and later continued).

```

1573 \edef\th@mbprintingovertoc{\th@mbprinting}%
1574 \ifnum \th@mbsmax > \pagesLTS@zero%
1575   \if@twoside%
1576     \def\th@mbstest{r}%
1577     \ifx\th@mbstest\th@mbsprintpage%
1578       \cleardoublepage%
1579     \else%
1580       \def\th@mbstest{v}%
1581       \ifx\th@mbstest\th@mbsprintpage%
1582         \cleardoublepage%
1583       \else% 1 or d
1584         \clearotherdoublepage%
1585       \fi%
1586     \fi%
1587   \else \clearpage%
1588   \fi%
1589   \stopthumb%
1590   \markboth{\MakeUppercase #1 }{\MakeUppercase #1 }%
1591 \fi%
1592 \setlength{\th@mbsposytocy}{\th@mbposy}%
1593 \setlength{\th@mbposy}{\th@mbsposytocyy}%
1594 \ifx\th@mbstable\pagesLTS@zero%
1595   \newcounter{th@mblinea}%
1596   \newcounter{th@mblineb}%
1597   \newcounter{FileLine}%
1598   \newcounter{thumbsstop}%
1599 \fi%
1600 \setcounter{th@mblinea}{\th@mbstable}%
1601 \addtocounter{th@mblinea}{+1}%
1602 \xdef\th@mbstable{\arabic{th@mblinea}}%
1603 \setcounter{th@mblinea}{1}%
1604 \setcounter{th@mblineb}{\th@umbsperpage}%
1605 \setcounter{FileLine}{1}%
1606 \setcounter{thumbsstop}{1}%
1607 \addtocounter{thumbsstop}{\th@mbsmax}%

```

We do not want any labels or index or glossary entries confusing the table of thumb marks entries, but the commands must work outside of it:

```

1608 \let\thumbsoriglabel\label%
1609 \let\thumbsorigindex\index%
1610 \let\thumbsorigglossary\glossary%
1611 \let\label@gobble%
1612 \let\index@gobble%
1613 \let\glossary@gobble%

```

Some preparation in case of double printing the overview page(s):

```

1614 \def\th@mbstest{v}% r l r ...
1615 \ifx\th@mbstest\th@mbsprintpage%
1616   \def\th@mbsprintpage{1}% because it will be changed to r
1617   \def\th@mbdoublepage{1}%
1618 \else%
1619   \def\th@mbstest{d}% l r l ...
1620   \ifx\th@mbstest\th@mbsprintpage%
1621     \def\th@mbsprintpage{r}% because it will be changed to l
1622     \def\th@mbdoublepage{1}%
1623   \else%
1624     \def\th@mbdoublepage{0}%
1625   \fi%
1626 \fi%
1627 \def\th@mb@resetdoublepage{0}%
1628 \@whilenum\value{FileLine}<\value{thumbsstop}\do%

```

For double printing the overview page(s) we just change between printing left and right, and we need to reset the line number of the \jobname.tmb file which is read, because we need to read things twice.

```

1629 {\ifx\th@mbdoublepage\pagesLTS@one%
1630   \def\th@mbstest{r}%
1631   \ifx\th@mbsprintpage\th@mbstest%
1632     \def\th@mbsprintpage{1}%
1633   \else% \th@mbsprintpage is l
1634     \def\th@mbsprintpage{r}%
1635   \fi%
1636   \clearpage%
1637   \ifx\th@mb@resetdoublepage\pagesLTS@one%
1638     \setcounter{th@mblinea}{\theth@mblinea}%
1639     \setcounter{th@mblineb}{\theth@mblineb}%
1640     \def\th@mb@resetdoublepage{0}%
1641   \else%
1642     \edef\theth@mblinea{\arabic{th@mblinea}}%
1643     \edef\theth@mblineb{\arabic{th@mblineb}}%
1644     \def\th@mb@resetdoublepage{1}%
1645   \fi%
1646 \else%
1647   \if@twoside%
1648     \def\th@mbstest{r}%
1649     \ifx\th@mbstest\th@mbsprintpage%
1650       \cleardoublepage%
1651     \else% l
1652       \clearotherdoublepage%
1653     \fi%
1654   \else \clearpage%
1655   \fi%
1656 \fi%

```

When the very first page of a thumb marks overview is generated, the label is set (with the `\th@mbstablabeling` command).

```

1657 \ifnum\value{FileLine}=1%
1658 \ifx\th@mbdoublepage\pagesLTS@one%
1659 \ifx\th@mb@resetdoublepage\pagesLTS@one%
1660 \th@mbstablabeling%
1661 \fi%
1662 \else
1663 \th@mbstablabeling%
1664 \fi%
1665 \fi%
1666 \null%
1667 \th@mb@verview%
1668 \pagebreak%
1669 \ifthumbs@verbose%
1670 \message{THUMBS: Fileline: \arabic{FileLine}, a: \arabic{th@mblinea}, %
1671 b: \arabic{th@mblineb}, per page: \th@umbsperpage, max: \th@mbsmax.^^J}%
1672 \fi%

```

When double page mode is active and `\th@mb@resetdoublepage` is one, the last page of the thumbs mark overview must be repeated, but

`\@whilenum\value{FileLine}<\value{thumbsstop}\do` would prevent this, because `FileLine` is already too large and would only be reset *inside* the loop, but the loop would not be executed again.

```

1673 \ifx\th@mb@resetdoublepage\pagesLTS@one%
1674 \setcounter{FileLine}{\theth@mblinea}%
1675 \fi%
1676 }%

```

After the overview, the current thumb mark (if there is any) is restored,

```

1677 \setlength{\th@mbposy}{\th@mbsposytocy}%
1678 \ifx\th@mbprintingovertoc\pagesLTS@one%
1679 \continuethumb%
1680 \fi%

```

as well as the `\label`, `\index`, and `\glossary` commands:

```

1681 \let\label\thumbsoriglabel%
1682 \let\index\thumbsorigindex%
1683 \let\glossary\thumbsorigglossary%

```

and `\th@mbs@toc@level` and `\th@mbs@toc@text` need to be emptied, otherwise for each following Table of Thumb Marks the same entry in the table of contents would be added, if no new `\addthumbsoverviewtocontents` would be given. ( But when no `\addthumbsoverviewtocontents` is given, it can be assumed that no `thumbsoverview`-entry shall be added to contents.)

```

1684 \addthumbsoverviewtocontents{}{}%
1685 }
1686

```

\th@mbs@verview The internal command \th@mbs@verview reads a line from file \jobname.tmb and executes the content of that line – if that line has not been processed yet, in which case it is just ignored (see \@unused).

```

1687 \newcommand{\th@mbs@verview}{%
1688   \ifthumbs@verbose%
1689     \message{^^JPackage thumbs Info: Processing line \arabic{th@mblinea} to \arabic{th@mblineb} of \jobname.tmb.}%
1690   \fi%
1691   \setcounter{FileLine}{1}%
1692   \AtBeginShipoutNext{%
1693     \AtBeginShipoutUpperLeftForeground{%
1694       \IfFileExists{\jobname.tmb}{% then
1695         \openin\@instreamthumb=\jobname.tmb %
1696         \@whilenum\value{FileLine}<\value{th@mblineb}\do%
1697         {\ifthumbs@verbose%
1698           \message{THUMBS: Processing \jobname.tmb line \arabic{FileLine}.}%
1699           \fi%
1700           \ifnum \value{FileLine}<\value{th@mblinea}%
1701             \read\@instreamthumb to \@unused%
1702             \ifthumbs@verbose%
1703               \message{Can be skipped.^^J}%
1704             \fi%
1705             % NIRVANA: ignore the line by not executing it,
1706             % i.e. not executing \@unused.
1707             % % \@unused
1708           \else%
1709             \ifnum \value{FileLine}=\value{th@mblinea}%
1710               \read\@instreamthumb to \@thumbsout% execute the code of this line
1711               \ifthumbs@verbose%
1712                 \message{Executing \jobname.tmb line \arabic{FileLine}.^^J}%
1713               \fi%
1714               \@thumbsout%
1715             \else%
1716               \ifnum \value{FileLine}>\value{th@mblinea}%
1717                 \read\@instreamthumb to \@thumbsout% execute the code of this line
1718                 \ifthumbs@verbose%
1719                   \message{Executing \jobname.tmb line \arabic{FileLine}.^^J}%
1720                 \fi%
1721                 \@thumbsout%
1722               \else% THIS SHOULD NEVER HAPPEN!
1723                 \PackageError{thumbs}{Unexpected error! (Really!)}{%
1724                   ! You are in trouble here.\MessageBreak%
1725                   ! Type\space \space X \string<return\string>\space to quit.\MessageBreak%
1726                   ! Delete temporary auxiliary files.\MessageBreak%
1727                   ! (like \jobname.aux, \jobname.tmb, \jobname.out).\MessageBreak%
1728                   ! and retry the compilation.\MessageBreak%
1729                   ! If the error persists, cross your fingers.\MessageBreak%
1730                   ! and try typing\space \space \string<return\string>\space to proceed.\MessageBreak%
1731                   ! If that does not work,\MessageBreak%

```

```

1732             ! you might contact the maintainer of the thumbs package.\MessageBreak%
1733         }%
1734         \fi%
1735         \fi%
1736         \fi%
1737         \stepcounter{FileLine}%
1738     }%
1739     \ifnum \value{FileLine}=\value{th@mblineb}
1740         \ifthumbs@verbose%
1741             \message{THUMBS: Processing \jobname.tmb line \arabic{FileLine}.}%
1742         \fi%
1743         \read\@instreamthumb to \@thumbsout% Execute the code of that line.
1744         \ifthumbs@verbose%
1745             \message{Executing \jobname.tmb line \arabic{FileLine}.^^J}%
1746         \fi%
1747         \@thumbsout% Well, really execute it here.
1748         \stepcounter{FileLine}%
1749     \fi%
1750 \closein\@instreamthumb%

```

And on to the next overview page of thumb marks (if there are so many thumb marks):

```

1751     \addtocounter{th@mblinea}{\th@umbsperpage}%
1752     \addtocounter{th@mblineb}{\th@umbsperpage}%
1753     \@tempcnta=\th@mbsmax\relax%
1754     \ifnum \value{th@mblineb}>\@tempcnta\relax%
1755         \setcounter{th@mblineb}{\@tempcnta}%
1756     \fi%
1757 }{% else

```

When \jobname.tmb was not found, we cannot read from that file, therefore the FileLine is set to thumbsstop, stopping the calling of \th@mbs@overview in \thumbsoverview. (And we issue a warning, of course).

```

1758     \setcounter{FileLine}{\arabic{thumbsstop}}%
1759     \AtEndAfterFileList{%
1760         \PackageWarningNoLine{thumbs}{%
1761             File \jobname.tmb not found.\MessageBreak%
1762             Rerun to get thumbs overview page(s) right.\MessageBreak%
1763         }%
1764     }%
1765 }%
1766 }%
1767 }%
1768 }
1769

```



When we are in `draft` mode, the thumb marks are “de-coloured”, their width is reduced, and a warning is given.

```
1770 \let\thumborigaddthumb\addthumb%
1771
1772 \ifthumbs@draft
1773   \setlength{\thumbwidth}{2pt}
1774   \renewcommand{\addthumb}[4]{\thumborigaddthumb{#1}{#2}{black}{gray}}
1775   \PackageWarningNoLine{thumbs}{thumbs package in draft mode:\MessageBreak%
1776     Thumb mark width is set to 2pt,\MessageBreak%
1777     thumb mark text colour to black, and\MessageBreak%
1778     thumb mark background colour to gray.\MessageBreak%
1779     Use package option final to get the original values.\MessageBreak%
1780   }
1781 \fi
1782
```

When we are in `hidethumbs` mode, there are no thumb marks and therefore neither any thumb mark overview page. A warning is given.

```
1783 \ifthumbs@hidethumbs
1784   \renewcommand{\addthumb}[4]{\relax}
1785   \PackageWarningNoLine{thumbs}{thumbs package in hide mode:\MessageBreak%
1786     Thumb marks are hidden.\MessageBreak%
1787     Remove package option hide to get thumb marks.\MessageBreak%
1788   }
1789   \renewcommand{\thumbnewcolumn}{\relax}
1790 \fi
1791
1792 \endpackage
```

## 6 Installation

### 6.1 Downloads

Everything is available on **CTAN**: <http://www.ctan.org/tex-archive/>, but may need additional packages themselves.

`thumbs.dtx` For unpacking the `thumbs.dtx` file and constructing the documentation it is required:

- `TEX`Format L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>, <http://www.CTAN.org/>
- document class `ltxdoc`, 2007/11/11, v2.0u, <http://ctan.org/pkg/ltxdoc>
- package `morefloats`, 2012/01/28, v1.0f, <http://ctan.org/pkg/morefloats>
- package `geometry`, 2010/09/12, v5.6, <http://ctan.org/pkg/geometry>
- package `hltxdoc`, 2011/02/04, v0.21, <http://ctan.org/pkg/hltxdoc>
- package `hypdoc`, 2010/03/26, v1.9, <http://ctan.org/pkg/hypdoc>

`thumbs.sty` The `thumbs.sty` for L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> (i.e. each document using the `thumbs` package) requires:

- `TEX` Format L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>, <http://www.CTAN.org/>
- package `xcolor`, 2007/01/21, v2.11, <http://ctan.org/pkg/xcolor>
- package `pageslts`, 2011/08/08, v1.2a, <http://ctan.org/pkg/pageslts>
- package `pagecolor`, 2011/08/08, v1.0c, <http://ctan.org/pkg/pagecolor>
- package `alphalph`, 2010/04/18, v2.3, <http://ctan.org/pkg/alphalph>
- package `atbegshi`, 2011/01/30, v1.15, <http://ctan.org/pkg/atbegshi>
- package `atveryend`, 2011/04/23, v1.7, <http://ctan.org/pkg/atveryend>
- package `infwarerr`, 2010/04/08, v1.3, <http://ctan.org/pkg/infwarerr>
- package `kvoptions`, 2010/12/23, v3.10, <http://ctan.org/pkg/kvoptions>
- package `ltxcmds`, 2011/04/18, v1.20, <http://ctan.org/pkg/ltxcmds>
- package `picture`, 2009/10/11, v1.3, <http://ctan.org/pkg/picture>
- package `rerunfilecheck`, 2011/04/15, v1.7, <http://ctan.org/pkg/rerunfilecheck>

`SW/SWP` When compiling with SWP 5.50 Build 2960 (© MacKichan Software, Inc.), this is additionally needed:

```
\usepackage[T1]{fontenc}
\usepackage{amsfonts}
\usepackage[math]{cellspace}
\usepackage{xcolor}
\pagecolor{white}
\providecommand{\QT0}[2]{#2}
```

especially before `hyperref` and `thumbs`, but best right after the `\documentclass`! (The options for those packages might be changed by the user – I did not test all available options, thus first test, whether the document can be compiled with these options, and then try to change them according to your wishes.)

`thumb-example.tex` The `thumb-example.tex` requires the same files as all documents using the `thumbs` package and additionally:

- package `eurosym`, 1998/08/06, v1.1, <http://ctan.org/pkg/eurosym>
- package `lipsum`, 2011/04/14, v1.2, <http://ctan.org/pkg/lipsum>
- package `hyperref`, 2012/02/06, v6.82o, <http://ctan.org/pkg/hyperref>
- package `thumbs`, 2012/02/23, v1.0m, <http://ctan.org/pkg/thumbs>  
(Well, it is the example file for this package, and because you are reading the documentation for the `thumbs` package, it can be assumed that you already have some version of it – is it the current one?)

**Alternatives** As possible alternatives in section 3 there are listed

- `chapterthumb`, 2005/03/10, v0.1, [CTAN:info/examples/KOMA-Script-3/Anhang-B/source/chapterthumb.sty](http://ctan.org/info/examples/KOMA-Script-3/Anhang-B/source/chapterthumb.sty)
- `eso-pic`, 2010/10/06, v2.0c, <http://ctan.org/pkg/eso-pic>
- `fancytabs`, 2011/04/16 v1.1, <http://ctan.org/pkg/fancytabs>
- `thumb`, 2001, without file version, [ftp://ftp.dante.de/pub/tex/info/examples/ltt/thumb.sty](http://ftp.dante.de/pub/tex/info/examples/ltt/thumb.sty)
- `thumb` (a completely different one), 1997/12/24, v1.0, <http://ctan.org/pkg/thumb>
- `thumbindex`, 2009/12/13, without file version, <http://hisashim.org/2009/12/13/thumbindex.html>.
- `thumb-index`, from the `fancyhdr` package, 2005/03/22 v3.2, <http://ctan.org/pkg/fancyhdr>
- `thumbpdf`, 2010/07/07, v3.11, <http://ctan.org/pkg/thumbpdf>
- `thumby`, 2010/01/14, v0.1, <http://ctan.org/pkg/thumby>

`Oberdiek` All packages of HEIKO OBERDIEK's bundle 'oberdiek' (especially `holtxdoc`, `alphalph`, `atbegshi`, `infwarerr`, `kvoptions`, `ltxcmds`, `picture`, and `rerunfilecheck`) are also available in a TDS compliant ZIP archive:

[CTAN:install/macros/latex/contrib/oberdiek.tds.zip](http://ctan.org/install/macros/latex/contrib/oberdiek.tds.zip).

It is probably best to download and use this, because the packages in there are quite probably both recent and compatible among themselves.

`atveryend`

`infwarerr`

`kvoptions`

`ltxcmds`

`picture`

`rerunfilecheck`

`hyperref` `hyperref` is not included in that bundle and needs to be downloaded separately,  
<http://mirror.ctan.org/install/macros/latex/contrib/hyperref.tds.zip>.

**Münch** A hyperlinked list of my (other) packages can be found at <http://www.Uni-Bonn.de/~uzs5pv/LaTeX.html>.

## 6.2 Package, unpacking TDS

**Package.** This package is available on [CTAN](#):

[CTAN:macros/latex/contrib/thumbs/thumbs.dtx](#)

The source file.

[CTAN:macros/latex/contrib/thumbs/thumbs.pdf](#)

The documentation.

[CTAN:macros/latex/contrib/thumbs/thumbs-example.pdf](#)

The compiled example file, as it should look like.

[CTAN:macros/latex/contrib/thumbs/README](#)

The README file.

There is also a thumbs.tds.zip available:

[CTAN:install/macros/latex/contrib/thumbs.tds.zip](#)

Everything in TDS compliant, compiled format.

which additionally contains

thumbs.ins	The installation file.
thumbs.drv	The driver to generate the documentation.
thumbs.sty	The <code>.style</code> file.
thumbs-example.tex	The example file.

For required other packages, please see the preceding subsection.

**Unpacking.** The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain  $\text{\TeX}$ :

```
tex thumbs.dtx
```

About generating the documentation see paragraph [6.4](#) below.

**TDS.** Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

thumbs.sty	→ tex/latex/thumbs/thumbs.sty
thumbs.pdf	→ doc/latex/thumbs/thumbs.pdf
thumbs-example.tex	→ doc/latex/thumbs/thumbs-example.tex
thumbs-example.pdf	→ doc/latex/thumbs/thumbs-example.pdf
thumbs.dtx	→ source/latex/thumbs/thumbs.dtx

If you have a `docstrip.cfg` that configures and enables `docstrip`'s TDS installing feature, then some files can already be in the right place, see the documentation of `docstrip`.

### 6.3 Refresh file name databases

If your  $\text{\TeX}$  distribution (te $\text{\TeX}$ , mik $\text{\TeX}$ ,...) relies on file name databases, you must refresh these. For example, te $\text{\TeX}$  users run `texhash` or `mktextlsr`.

### 6.4 Some details for the interested

**Unpacking with  $\text{\LaTeX}$ .** The `.dtx` chooses its action depending on the format:

**plain  $\text{\TeX}$ :** Run `docstrip` and extract the files.

**$\text{\LaTeX}$ :** Generate the documentation.

If you insist on using  $\text{\LaTeX}$  for `docstrip` (really, `docstrip` does not need  $\text{\LaTeX}$ ), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{thumbs.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

**Generating the documentation.** You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by a configuration file `ltxdoc.cfg`. For instance, put the following line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdf $\text{\LaTeX}$ :

```
pdflatex thumbs.dtx
makeindex -s gind.ist thumbs.idx
pdflatex thumbs.dtx
makeindex -s gind.ist thumbs.idx
pdflatex thumbs.dtx
```

### 6.5 Compiling the example

The example file, `thumbs-example.tex`, can be compiled via

```
latex thumbs-example.tex
```

or (recommended)

```
pdflatex thumbs-example.tex
```

and will need probably at least four (!) compiler runs to get everything right.

## 7 Acknowledgements

I would like to thank HEIKO OBERDIEK for providing the `hyperref` as well as a lot (!) of other useful packages (from which I also got everything I know about creating a file in `.dtx` format, ok, say it: copying), and the `news:comp.text.tex` and `news:de.comp.text.tex` newsgroups for their help in all things  $\text{\TeX}$ . Thanks for bug reports go to VERONICA BRANDT and MARTIN BAUTE (even two bug reports).

## 8 History

[2010/04/01 v0.01 – 2011/05/13 v0.46]

- Diverse  $\beta$ -versions during the creation of this package.

[2011/05/14 v1.0a]

- Upload to <http://www.ctan.org/pkg/thumbs>.

[2011/05/18 v1.0b]

- When more than one thumb mark is places at one single page, the variables containing the values (text, colour, backgroundcolour) of those thumb marks are now created dynamically. Theoretically, one can now have 2 147 483 647 thumb marks at one page instead of six thumb marks (as with **thumbs** version 1.0a), but I am quite sure that some other limit will be reached before the 2 147 483 647<sup>th</sup> thumb mark.
- Bug fix: When a document using the **thumbs** package was compiled, and the **.aux** and **.tmb** files were created, and the **.tmb** file was deleted (or renamed or moved), while the **.aux** file was not deleted (or renamed or moved), and the document was compiled again, and the **.aux** file was reused, then reading from the then empty **.tmb** file resulted in an endless loop. Fixed.
- Minor details.

[2011/05/20 v1.0c]

- The thumb mark width is written to the **log** file (in **verbose** mode only). The knowledge of the value could be helpful for the user, when option **width={auto}** was used, and one wants the thumb marks to be half as big, or with double width, or a little wider, or a little smaller... Also thumb marks' height, top thumb margin and bottom thumb margin are given. Look for  
\*\*\*\*\* THUMB dimensions \*\*\*\*\*  
in the **log** file.
- Bug fix: There was a  
`\advance\th@mbheighty-\th@mbdistance,`  
where  
`\advance\th@mbheighty-\th@mbdistance`  
`\advance\th@mbheighty-\th@mbdistance`  
should have been, causing wrong thumb marks' height, thereby wrong number of thumb marks per column, and thereby another endless loop. Fixed.
- The **ifthen** package is no longer required for the **thumbs** package, removed from its **\RequirePackage** entries.
- The **infwarerr** package is used for its **\@PackageInfoNoLine** command.
- The **warning** package is no longer used by the **thumbs** package, removed from its **\RequirePackage** entries. Instead, the **atveryend** package is used, because it is loaded anyway when the **hyperref** package is used.

- Minor details.

### [2011/05/26 v1.0d]

- Bug fix: labels or index or glossary entries were gobbled for the thumb marks overview page, but gobbling leaked to the rest of the document; fixed.
- New option `silent`, complementary to old option `verbose`.
- New option `draft` (and complementary option `final`), which “de-coloures” the thumb marks and reduces their width to 2 pt.

### [2011/06/02 v1.0e]

- Gobbling of labels or index or glossary entries improved.
- Dimension `\thumbsinfodimen` no longer needed.
- Internal command `\thumbs@info` no longer needed, removed.
- New value `autoauto` (not default!) for option `width`, setting the thumb marks width to fit the widest thumb mark text.
- When `width={autoauto}` is not used, a warning is issued, when the thumb marks width is smaller than the thumb mark text.
- Bug fix: Since version v1.0b as of 2011/05/18 the number of thumb marks at one single page was no longer limited to six, but the example still stated this. Fixed.
- Minor details.

### [2011/06/08 v1.0f]

- Bug fix: `\th@mb@titlelabel` should be defined `\empty` at the beginning of the package: fixed. (Bug reported by VERONICA BRANDT. Thanks!)
- Bug fix: `\thumbs@distance` versus `\th@mbsdistance`: There should be only two times `\thumbs@distance`, the value of option `distance`, otherwise it should be the length `\th@mbsdistance`: fixed. (Also this bug reported by VERONICA BRANDT. Thanks!)
- `\hoffset` and `\voffset` are now ignored by default, but can be regarded using the options `ignorehoffset=false` and `ignorevoffset=false`. (Pointed out again by VERONICA BRANDT. Thanks!)
- Added to documentation: The package takes the dimensions `\AtBeginDocument`, thus later the page dimensions should not be changed. Now explicitly stated this in the documentation. `\paperwidth` changes are probably possible.
- Documentation and example now give a lot more details.
- Changed diverse details.

### [2011/06/24 v1.0g]

- Bug fix: When `hyperref` was *not* used, then some labels were not set at all - fixed.
- Bug fix: When more than one Table of Tumbs was created with the `\thumbsoverview` command, there were some `counter ... already defined-errors` - fixed.
- Bug fix: When more than one Table of Tumbs was created with the `\thumbsoverview` command, there was a `Label TableofTumbs multiply defined-error` and it was not possible to refer to any but the last Table of Tumbs. Fixed with labels `TableofTumbs1`, `TableofTumbs2`,... (`TableofTumbs` still aims at the last used Table of Thumbs for compatibility.)
- Bug fix: Sometimes the thumb marks were stopped one page too early before the Table of Thumbs - fixed.
- Some details changed.

### [2011/08/08 v1.0h]

- Replaced `\global\edef` by `\xdef`.
- Now using the `pagecolor` package. Empty thumb marks now inherit their colour from the pages's background. Option `pagecolor` is therefore obsolete.
- The `pagesLTS` package has been replaced by the `pageslts` package.
- New kinds of thumb mark overview pages introduced additionally to `\thumbsoverview`: `\thumbsoverviewback`, `\thumbsoverviewverso`, and `\thumbsoverviewdouble`.
- New option `hidethumbs=true` to hide thumb marks (and their overview page(s)).
- Option `ignorehoffset` did not work for the thumb marks overview page(s) - neither `true` nor `false`; fixed.
- Changed a huge number of details.

### [2011/08/22 v1.0i]

- Hot fix:  $\text{\TeX}$  2011/06/27 has changed `\enddocument` and thus broken the `\AtVeryVeryEnd` command/hooks of `atveryend` package as of 2011/04/23, v1.7. Version 2011/06/30, v1.8, fixed it, but this version is not available at **CTAN**: yet. Until then `\AtEndAfterFileList` is used.

### [2011/10/19 v1.0j]

- Changed some Warnings into Infos (as suggested by MARTIN BAUTE).
- The SWP-warning is now only given `\IfFileExists{tcilatex.tex}`, otherwise just a message is given. (Warning questioned by MARTIN BAUTE, thanks.)
- New option `nophantomsection` to *globally* disable the automatical placement of a `\phantomsection` before *all* thumb marks.



- New command `\thumbsnophantom` to *locally* disable the automatical placement of a `\phantomsection` before the *next* thumb mark.
- README fixed.
- Minor details changed.

#### [2012/01/01 v1.0k]

- Bugfix: Wrong installation path given in the documentation, fixed.
- No longer uses the `th@mbs@tmpA` counter but uses `\@tempcnta` instead.
- No longer abuses the `\th@mbposyA` dimension but `\@tempdima`.
- Update of documentation, README, and `dtx` internals.

#### [2012/01/07 v1.0l]

- Bugfix: Used a `\@tempcnta` where a `\@tempdima` should have been.

#### [2012/02/23 v1.0m]

- Bugfix: Replaced `\newcommand{\QT0}[2]{#2}` (for SWP) by `\providecommand{\QT0}[2]{#2}`.
- Bugfix: When the `tikz` package was loaded before `thumbs`, in `twoside`-mode the thumb marks were printed at the wrong side of the page. (Bug reported by MARTIN BAUTE, thanks!) With `hyperref` it really depends on the loading order of the three packages.
- Now using `\ltx@ifpackageloaded` from the `ltxcmds` package to check (after `\begin{document}`) whether the `hyperref` package was loaded.
- For the thumb marks `\parboxes` instead of `\makeboxes` are used (just in case somebody wants to place two lines into a thumb mark, e. g.  
`Sch`  
`St`  
in a phone book, where the other `Ses` are placed in another chapter).
- Minor details changed.

When you find a mistake or have a suggestion for an improvement of this package, please send an e-mail to the maintainer, thanks! (Please see BUG REPORTS in the README.)

Note: X and Y are not missing in the following index, but no command *beginning* with any of these letters has been used in this `thumbs` package.

## 9 Index

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