

The **thumbs** package

H.-Martin Münch
<Martin.Muench at Uni-Bonn.de>

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Abstract

This \LaTeX package allows to create one or more customizable thumb index(es), providing a quick and easy reference methode for large documents.

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Save per page about 200 ml water, 2 g CO₂ 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.

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

2 Usage

2.1 Loading

Load the package placing

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

in the preamble of your L^AT_EX 2_ε source file.

2.2 Options

options The thumbs package takes the following options:

2.2.1 pagecolor

pagecolor Option **pagecolor** wants to know the background colour of the pages for use with the **xcolor** package. The default value is **white**.

2.2.2 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.

2.2.3 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 ($\approx 16.5\text{ mm} \approx 0.65\text{ in}$).

2.2.4 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. 0 pt).

2.2.5 width

width Option **width** wants to know the horizontal extension of each thumb mark. The default option-value “**auto**” calculates a width-value automatically: $(\text{\texttt{\textbackslash paperwidth}} - \text{\texttt{\textbackslash textwidth}})$, 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={\texttt{\textbackslash paperwidth}}** in the example!)

2.2.6 distance

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

2.2.7 topthumbmargin

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 **\voffset** plus **\topmargin**. Dimensions (e.g. 1 cm) are also accepted.

2.2.8 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 $1\text{in} + \text{\texttt{\textbackslash voffset}} + \text{\texttt{\textbackslash topmargin}} - \text{\texttt{\textbackslash thumbs@distance}} + \text{\texttt{\textbackslash th@mbheighty}} + \text{\texttt{\textbackslash headheight}} + \text{\texttt{\textbackslash headsep}} + \text{\texttt{\textbackslash textheight}} + \text{\texttt{\textbackslash footskip}} - \text{\texttt{\textbackslash thumbs@distance}} - \text{\texttt{\textbackslash th@mbheighty}}$. Dimensions (e.g. 1 cm) are also accepted.

2.2.9 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*.

¹Probably this holds true for the motivation of the authors of quite a lot of packages.

2.2.10 verbose

`verbose` Option `verbose=false` (the default) suppresses some messages, which otherwise are presented at the screen and written into the log file.

2.3 Commands to be used in the document

`\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).

`\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.

`\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.

`\thumbsoverview` The command `\thumbsoverview` is used to place the overview page(s) for the thumb marks. Its single 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` could be used more than once (for example at the beginning and at the end of the document), but the label `TableOfThumbs` would than be multilpy defined (no great harm done, but hyperlinks will only link to one of the labels).

`\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`.

`\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`.

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^AT_EX₂ε, 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_EXLive2010 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^AT_EX₂ε. 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 `PerLATEX` 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 %% these additional packages are needed: %
7 %% \usepackage[T1]{fontenc} %
8 %% \usepackage{amsfonts} %
9 %% \usepackage[math]{cellspace} %
10 %% \usepackage{xcolor} %
11 %% \pagecolor{white} %
12 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
13 \usepackage{lipsum}[2011/04/14]% v1.2
14 \usepackage{eurosym}[1998/08/06]% v1.1
15 \usepackage[extension=pdf,%
16 pdfpagelayout=TwoPageRight,pdfpagemode={UseNone},%
17 plainpages=false,%
18 pdfpagelabels=true,%
19 hyperindex=false,%
20 pdflang={en},%
21 pdftitle={thumbs package example},%
22 pdfauthor={Hans-Martin Muench},%
23 pdfsubject={Example for the thumbs package},%
24 pdfkeywords={LaTeX, thumbs, thumb marks, Hans-Martin Muench},%
25 pdfview=Fit,pdfstartview=Fit,%
26 linktoc=all]{hyperref}[2011/04/17]% v6.82g
27 \usepackage[pagecolor=white,thumblink=rule,linefill=dots,height={auto},minheight={47pt},%
28 width={auto},distance={2mm},topthumbmargin={auto},bottomthumbmargin={auto},%
29 verbose=true]{thumbs}[2011/05/14]% 1.0a
30 \gdef\unit#1{\mathord{\thinspace\mathrm{#1}}}%
31 \listfiles
32 \begin{document}
33 \pagenumbering{arabic}
34 \section*{Example for thumbs}
35 \addcontentsline{toc}{section}{Example for thumbs}
36 \markboth{Example for thumbs}{Example for thumbs}
37
38 This example demonstrates the most common uses of package
39 \textsf{thumbs}, v1.0a as of 2011/05/14 (HMM).
40 The used options were \texttt{pagecolor=white},
41 \texttt{thumblink=rule}, \texttt{linefill=dots},
42 \texttt{height=auto}, \texttt{minheight=\{47pt\}},
43 \texttt{width=auto}, \texttt{distance=\{2mm\}}, \texttt{topthumbmargin=\{auto\}},
44 \texttt{bottomthumbmargin=\{auto\}}, and \texttt{verbose=true}.
45 These are the default options, except \texttt{verbose=true}.
```

```

46 For more details please see the documentation!\newline
47
48 \textbf{Hyperlinks or not:} If the \textsf{hyperref} package is loaded,
49 the references in the overview page for the thumb marks are also hyperlinked
50 (except when option \texttt{thumblink=none} is used).\newline
51
52 \bigskip
53
54 {\color{green} Save per page about $200\unit{ml}$ water, $2\unit{g}$ CO$_{2}$
55 and $2\unit{g}$ wood:\newline
56 Therefore please print only if this is really necessary.}
57
58 \newpage
59
60 \addtitlethumb{Frontmatter}{0}{white}{gray}{pagesLTS.0}
61
62 At the first page no thumb mark was used, but we want to begin with thumb marks
63 at the first page, therefore a
64 \begin{verbatim}
65 \addtitlethumb{Frontmatter}{0}{white}{gray}{pagesLTS.0}
66 \end{verbatim}
67 was used at the beginning of this page.
68
69 \newpage
70
71 \tableofcontents
72
73 \newpage
74
75 To include an overview page for the thumb marks,
76 \begin{verbatim}
77 \addthumbsoverviewtocontents{section}{Thumb marks overview}%
78 \thumbsoverview{Table of Thumbs}
79 \end{verbatim}
80 is used, where \textbackslash addthumbsoverviewtocontents adds the thumb
81 marks overview page to the table of contents.
82
83 \addthumbsoverviewtocontents{section}{Thumb marks overview}%
84 \thumbsoverview{Table of Thumbs}
85
86 That were the overview pages for the thumb marks.
87
88 \newpage
89
90 \section{The first section}
91 \addthumb{First section}{\space\Huge{\textbf{$1^{\text{st}}$}}}{yellow}{green}
92

```



```

93 \begin{verbatim}
94 \addthumb{First section}{\space\Huge{\textbf{$1^{\text{st}}$}}}{yellow}{green}
95 \end{verbatim}
96
97 A thumb mark is added for this section. The parameters are: title for the thumb mark,
98 the text to be displayed in the thumb mark (choose your own format),
99 the colour of the text in the thumb mark,
100 and the background colour of the thumb mark (parameters in this order).\newline
101
102 Now for some pages of \textquotedblleft content\textquotedblright\ldots
103
104 \newpage
105 \lipsum[1]
106 \newpage
107 \lipsum[1]
108 \newpage
109 \lipsum[1]
110 \newpage
111
112 \section{The second section}
113 \addthumb{Second section}{\Huge{\textbf{\arabic{section}}}}{green}{yellow}
114
115 For this section, the text to be displayed in the thumb mark was set to
116 \begin{verbatim}
117 \Huge{\textbf{\arabic{section}}}
118 \end{verbatim}
119 i.\,e. the number of the section will be displayed (huge \& bold).\newline
120
121 Let us change the thumb mark on a page with an even number:
122
123 \newpage
124
125 \section{The third section}
126 \addthumb{Third section}{\Huge{\textbf{\arabic{section}}}}{blue}{red}
127
128 No problem!
129
130 And you do not need to have a section to add a thumb:
131
132 \newpage
133
134 \addthumb{Still third section}{\Huge{\textbf{\arabic{section}b}}}{red}{blue}
135
136 This is still the third section, but there is a new thumb mark.
137
138 On the other hand, you can even get rid of the the thumb marks
139 for some page(s):

```

```

140
141 \newpage
142
143 \stopthumb
144
145 The command
146 \begin{verbatim}
147 \stopthumb
148 \end{verbatim}
149 was used here. Until another addthumb (with parameters) or
150 \begin{verbatim}
151 \continuethumb
152 \end{verbatim}
153 is used, there will be no more thumb marks.
154
155 \newpage
156
157 Still no thumb marks.
158
159 \newpage
160
161 Still no thumb marks.
162
163 \newpage
164
165 Still no thumb marks.
166
167 \newpage
168
169 \continuethumb
170
171 Thumb mark continued (unchanged).
172
173 \newpage
174
175 Thumb mark continued (unchanged).
176
177 \newpage
178
179 Time for another thumb,
180
181 \addthumb{Another heading}{Small text}{white}{black}
182
183 and another.
184
185 \addthumb{Huge Text}{\Huge{Huge Text}}{yellow}{green}
186

```

187 \addthumb{bold text }{\textbf{Bf Text}}{pink}{blue}
 188
 189 \addthumb{Huge Bold Text}{\Huge{\textbf{HBT}}}{black}{yellow}
 190
 191 When there is more than one thumb mark at one page, this is no problem.
 192 When more than six (6) thumb marks are at one (1) page,
 193 only the first six will be shown,
 194 while all will appear in the thumbs overview page.
 195 On the following pages the correct, last thumb mark will appear.
 196 More than one thumb mark at one page probably does not make much sense.
 197 This package was not created to create decorations at the page margin,
 198 but if you really need more than six thumb marks at one page,
 199 feel free to send an e-mail to the maintainer.
 200 If you have got an idea how to dynamically create thumb
 201 \textquotedblleft registers\textquotedblright\ (thereby overcomming
 202 this limitation), please send an e-mail to the maintainer, too.
 203
 204 \newpage
 205
 206 Some text
 207
 208 \newpage
 209
 210 Some text
 211
 212 \newpage
 213
 214 Some text
 215
 216 \newpage
 217
 218 \section{xcolor}
 219 \addthumb{xcolor}{\Huge{\textbf{xcolor}}}{magenta}{cyan}
 220
 221 It is probably a good idea to have a look at the \textsf{xcolor} package
 222 and use other colours than used in this example.
 223
 224 \newpage
 225
 226 \addthumb{A mark}{\Huge{\textbf{A}}}{lime}{darkgray}
 227
 228 I just need to add further thumb marks to get them reaching the bottom of the page.
 229
 230 Generally the vertical size of the thumb marks is set to the value given in the
 231 height option. If it is \texttt{auto}, the size of the thumb marks is decreased,
 232 so that they fit all on one page. But when they get smaller than \texttt{minheight},
 233 instead of decreasing their size further, a new thumbs colum is started

234 (which will happen here).
235
236 \newpage
237
238 \addthumb{B mark}{\Huge{\textbf{B}}}{brown}{pink}
239
240 There! A new thumb colum was started automatically!
241
242 \newpage
243
244 \addthumb{C mark}{\Huge{\textbf{C}}}{brown}{pink}
245
246 You can, of course, keep the colour for more than one thumb mark.
247
248 \newpage
249
250 \addthumb{\$1/1.\,955\,83\$, EUR}{\Huge{\textbf{D}}}{orange}{violet}
251
252 I am just adding further thumb marks.
253
254 If you are curious why the thumb mark between
255 \textquotedblleft C mark\textquotedblright and \textquotedblleft E mark\textquotedblright has
256 not been named \textquotedblleft D mark\textquotedblright but
257 \textquotedblleft \$1/1.\,955\,83\$, EUR\textquotedblright :
258
259 \$1\unit{DM}=1\unit{D\ Mark}=1\unit{Deutsche\ Mark}\$\newline
260 \$=\frac{1}{1.\,955\,83}\,\\$, \euro \\$,=1/1.\,955\,83\unit{Euro}=1/1.\,955\,83\unit{EUR}\$.
261
262 \newpage
263
264 \addthumb{E mark}{\Huge{\textbf{E}}}{lightgray}{black}
265
266 I am just adding further thumb marks.
267
268 \newpage
269
270 \addthumb{F mark}{\Huge{\textbf{F}}}{magenta}{black}
271
272 Some text.
273
274 \newpage
275 \thumbnewcolumn
276 \addthumb{New thumb marks column}{\Huge{\textit{NC}}}{magenta}{black}
277
278 There! A new thumb colum was started manually!
279
280 \newpage

```
281
282 Some text.
283
284 \newpage
285
286 \addthumb{G mark}{\Huge{\textbf{G}}}{orange}{violet}
287
288 I just added another thumb mark.
289
290 \newpage
291
292 Well, I think that are enough thumb marks.
293
294 Good bye!
295
296 \end{document}
297 \end{example}
```

5 The implementation

We start off by checking that we are loading into L^AT_EX 2_ε and announcing the name and version of this package.

```
298 \*package)
299 \NeedsTeXFormat{LaTeX2e}[1994/06/01]% or later
300 \ProvidesPackage{thumbs}[2011/05/14 v1.0a
301           Thumb marks and overview page(s) (HMM)]
302
```

A short description of the thumbs package:

```
303 %% This package allows to create a customizable thumb index,
304 %% providing a quick and easy reference method for large documents,
305 %% as well as an overview page.
306
```

For SW(P) users, we issue a warning. Unfortunately, we cannot check for the used software (can we?), 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: RTFM of `thumbs`!) 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.

```
307 \message{^^J *** Compiling with SW(P)? ^^J%
308 Please see the sw(p)*.log or \jobname.log-file! *** ^^J}
309 \PackageWarningNoLine{thumbs}{%
310   When compiling with SWP 5.50 Build 2960,\MessageBreak%
311   these additional packages are needed:\MessageBreak%
312   \string\usepackage[T1]{fontenc}\MessageBreak%
313   \string\usepackage{amsfonts}\MessageBreak%
314   \string\usepackage[math]{cellspace}\MessageBreak%
315   \string\usepackage{xcolor}\MessageBreak%
316   \string\pagecolor{white}\MessageBreak%
317   especially before hyperref and thumbs,\MessageBreak%
318   but best right after the \string\documentclass!\MessageBreak%
319 }
320
```

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

```
321 \RequirePackage{kvoptions}[2010/12/23]% v3.10
322
323 as well as some other packages:
324 \RequirePackage{atbegshi}[2011/01/30]% v1.15
325 \RequirePackage{xcolor}[2007/01/21]% v2.11
326 \RequirePackage{picture}[2009/10/11]% v1.3
327 \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):

```
328 \RequirePackage{pagesLTS}[2011/03/17]% v1.1o
```

```

327 \RequirePackage{rerunfilecheck}[2011/04/15]% v1.7
328 \RequirePackage{ifthen}[2001/05/26]% v1.1c; for \whiledo
329 \RequirePackage{warning}[2001/08/17]% v0.01

```

A last information for the user:

```

330 %% thumbs may work with earlier versions of those packages,
331 %% but this was not tested. Please consider updating your packages
332 %% to the most recent version (if they are not already the most
333 %% recent version).
334

```

See subsection 6.1 about how to get them.

The options are introduced:

```

335 \SetupKeyvalOptions{family=thumbs,prefix=thumbs@}
336 \DeclareStringOption[white]{pagecolor}[white]% \thumbs@pagecolor
337 \DeclareStringOption[linefill]{dots}
338 \DeclareStringOption[rule]{thumblink}[rule]
339 \DeclareStringOption[47pt]{minheight}[47pt]
340 \DeclareStringOption{height}[auto]
341 \DeclareStringOption{width}[auto]
342 \DeclareStringOption{distance}[2mm]
343 \DeclareStringOption{topthumbmargin}[auto]
344 \DeclareStringOption{bottomthumbmargin}[auto]
345 \DeclareBoolOption[true]{verbose}
346
347 \ProcessKeyvalOptions*
348
349 \ifthumbs@verbose
350 \else
351   \PackageWarningNoLine{thumbs}{Option verbose=false found:\MessageBreak%
352     You will lose some information.}
353 \fi
354

```

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

```

355 \pagecolor{\thumbs@pagecolor}
356

```

linefill We process the `linefill` option value:

```

357 \ifx\thumbs@linefill\empty%
358   \gdef\th@mb@linefill{\hspace*{\fill}}
359 \else
360   \def\th@mbstest{line}%
361   \ifx\thumbs@linefill\th@mbstest%
362     \gdef\th@mb@linefill{\hrulefill}

```

```

363 \else
364 \def\th@mbstest{dots}%
365 \ifx\thumbs@linefill\th@mbstest%
366 \gdef\th@mb@linefill{\dotfill}
367 \else
368 \PackageError{thumbs}{Option linefill with invalid value}{%
369 Option linefill has value '\thumbs@linefill'.\MessageBreak%
370 Valid values are '' (empty), 'line', or 'dots'.\MessageBreak%
371 '' (empty) will be used now.\MessageBreak%
372 }
373 \gdef\th@mb@linefill{\hspace*{\fill}}
374 \fi
375 \fi
376 \fi
377

```

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

```

378 \newdimen\th@mbwidthx
379
380 \newdimen\th@mbheighty% Thumb height y
381 \setlength{\th@mbheighty}{\z@}
382
383 \newdimen\th@mbposx
384 \newdimen\th@mbposy
385 \newdimen\th@mbposyA
386 \newdimen\th@mbposytop
387 \newdimen\th@mbposybottom
388 \newdimen\th@mbwidthxtoc
389 \newdimen\th@mbposytopcy
390 \newdimen\th@mbposytopcy
391
392 \newdimen\th@mbdistance% vertical distance between thumb marks
393 \ifx\thumbs@distance\empty%
394 \setlength{\th@mbdistance}{1mm}
395 \else
396 \setlength{\th@mbdistance}{\thumbs@distance}
397 \fi
398

```

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

```

399 \newbox\ThumbsBox
400

```

Generally it is not necessary to initialise a counter, because this is done automatically. But some packages change the handling of counters (e.g. the `lualloc` package as of 1995/09/24, v1.1b), and then a new counter might have a value different from zero (or the register might even contain something which is not a number value at all but some other string).


```

401 \newcounter{th@mbs@tmpA}
402 \setcounter{th@mbs@tmpA}{0}
403
404 \gdef\th@mbs{0}
405 \gdef\th@mbsmax{0}
406 \gdef\th@umbsperpage{0}
407
408 \gdef\th@mbtitle{}
409 \gdef\th@mbtext{}
410 \gdef\th@mbtextcolour{\thumbs@pagecolor}
411 \gdef\th@mbackgroundcolour{\thumbs@pagecolor}
412 \gdef\th@mbcolumn{0}
413
414 \gdef\th@mbtextA{}
415 \gdef\th@mbtextcolourA{\thumbs@pagecolor}
416 \gdef\th@mbackgroundcolourA{\thumbs@pagecolor}
417
418 \gdef\th@mbprinting{1}
419 \gdef\th@mbtoprint{0}
420 \gdef\th@mbonpage{0}
421 \gdef\th@mbonpagemax{0}
422
423 \gdef\th@mbcolumnnew{0}
424
425 \gdef\thumb@two{2}% There is no \pagesLTS@two (yet).
426
427 \gdef\th@mbs@toc@level{}
428 \gdef\th@mbs@toc@text{}
429

```

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

```

430 \if@files% \relax
431 \else
432   \PackageWarningNoLine{thumbs}{No auxiliary files allowed!\MessageBreak%
433     It was not allowed to write to files.\MessageBreak%
434     A lot of packages do not work without access to files\MessageBreak%
435     like the .aux one. The thumbs package needs to write\MessageBreak%
436     to the \jobname.tmb file. To exit press\MessageBreak%
437     Ctrl+Z\MessageBreak%
438     .\MessageBreak%
439   }
440 \fi
441

```

In `\setth@mbheight` the height of a thumb mark (for automatically thumb heights) is computed as

"round down{((Thumbs extension) / (Number of Thumbs)) - (distance between Thumbs)}"

```

442 \newcommand{\setth@mbheight}{%
443   \setlength{\th@mbheighty}{\z@}
444   \advance\th@mbheighty+\headheight
445   \advance\th@mbheighty+\headsep
446   \advance\th@mbheighty+\textheight
447   \advance\th@mbheighty+\footskip
448   \setcounter{th@mbs@tmpA}{\th@mbsmax}
449   \ifnum\value{th@mbs@tmpA}>1
450     \divide\th@mbheighty\th@mbsmax
451   \fi
452   \advance\th@mbheighty-\th@mbsdistance
453   % Remove numbers behind the decimal seperator, e.g. 13.67777 pt -> 13 pt:
454   \@settopoint\th@mbheighty%
455 }
456

```

At the beginning of the document `\AtBeginDocument` is executed.

```

457 \AtBeginDocument{%
458   \setlength{\th@mbposyA}{1pt}
459   \ifdim \thumbs@minheight < \th@mbposyA% too small
460     \setlength{\thumbs@minheight}{1pt}
461   \else
462     \ifdim \thumbs@minheight = \th@mbposyA% small, but ok
463     \else
464       \ifdim \thumbs@minheight > \th@mbposyA% ok
465       \else
466         \PackageError{thumbs}{Option minheight has invalid value}{%
467           Please use a number and a length unit (e.g. mm, cm, pt)\MessageBreak%
468           and no space between as value for option minheight\MessageBreak%
469           and include this value+unit combination in curly brackets\MessageBreak%
470           (please see the thumbs-example.tex file).\MessageBreak%
471           When pressing return, minheight will now be set to 47pt.\MessageBreak%
472         }
473         \setlength{\thumbs@minheight}{47pt}
474       \fi
475     \fi
476   \fi
477   \setlength{\th@mbposyA}{\thumbs@minheight}

```

This should be a temporary dimension, but we do not want to waste a `newdimension`, and `\th@mbposyA` is not used here yet and will be set later.

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

```

478 \ifx\thumbs@height\empty%
479 \setlength{\th@mbheighty}{\th@mbposyA}
480 \else
481 \def\th@mbstest{auto}
482 \ifx\thumbs@height\th@mbstest%

```

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

```

483 \setth@mbheight

```

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

```

484 \ifdim \th@mbheighty < \thumbs@minheight
485 \PackageWarningNoLine{thumbs}{Thumbs not high enough:\MessageBreak%
486 Option height has value 'auto'. For \th@mbsmax\space thumbs per page\MessageBreak%
487 this results in a thumb height of \the\th@mbheighty.\MessageBreak%
488 This is lower than the minimal thumb height, \thumbs@minheight,\MessageBreak%
489 therefore another thumbs column will be opened.\MessageBreak%
490 If you do not want this, choose a smaller value\MessageBreak%
491 for option 'minheight'%
492 }
493 \setlength{\th@mbheighty}{\z@}
494 \advance\th@mbheighty+\th@mbposyA% = \thumbs@minheight
495 \fi
496 \else

```

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

```

497 \PackageInfo{thumbs}{Now setting thumbs' height to \thumbs@height.\MessageBreak}
498 \setlength{\th@mbheighty}{\thumbs@height}
499 \fi
500 \fi

```

Read in the \jobname.tmb-file:

```

501 \newread\@instreamthumb%

```

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

```

502 \setlength{\th@mbwidthx}{\paperwidth}
503 \advance\th@mbwidthx-\textwidth
504 \divide\th@mbwidthx4
505 \setlength{\th@mbposyA}{0sp}
506 \ifx\thumbs@width\empty%
507 \else
508 \def\th@mbstest{auto}
509 \ifx\thumbs@width\th@mbstest%
510 \else
511 \ifdim \thumbs@width > \th@mbposyA% OK
512 \setlength{\th@mbwidthx}{\thumbs@width}
513 \else
514 \PackageError{thumbs}{Thumbs not wide enough}{%

```

```

515         Option width has value '\thumbs@width'.\MessageBreak%
516         This is not a valid dimension larger than zero.\MessageBreak%
517         Width will be set automatically.\MessageBreak%
518     }
519     \fi
520 \fi
521 \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:

```

522 % Thumb position x \th@mbposx
523 \setlength{\th@mbposx}{\paperwidth}
524 \advance\th@mbposx-\th@mbwidthx
525 \advance\th@mbposx+1pt
526 % Thumb position y \th@mbposy
527 \ifx\thumbs@topthumbmargin\empty%
528     \def\thumbs@topthumbmargin{auto}
529 \fi
530 \def\th@mbstest{auto}
531 \ifx\thumbs@topthumbmargin\th@mbstest%
532     \setlength{\th@mbposy}{1in}
533     \advance\th@mbposy+\voffset
534     \advance\th@mbposy+\topmargin
535     \advance\th@mbposy-\thumbs@distance
536     \advance\th@mbposy+\th@mbheighty
537 \else
538     \setlength{\th@mbposy}{-1pt}
539     \ifdim \thumbs@topthumbmargin > \th@mbposyA% OK
540     \else
541         \PackageWarning{thumbs}{Thumbs column starting too high.\MessageBreak%
542             Option topthumbmargin has value '\thumbs@topthumbmargin'.\MessageBreak%
543             topthumbmargin will be set to -1pt.\MessageBreak%
544         }
545         \gdef\thumbs@topthumbmargin{-1pt}
546     \fi
547     \setlength{\th@mbposy}{\thumbs@topthumbmargin}
548     \advance\th@mbposy-\thumbs@distance
549     \advance\th@mbposy+\th@mbheighty
550 \fi
551 \setlength{\th@mbposytop}{\th@mbposy}

```

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

```

552 % Max. thumb position y \th@mbposybottom
553 \ifx\thumbs@bottomthumbmargin\empty%
554     \gdef\thumbs@bottomthumbmargin{auto}
555 \fi
556 \def\th@mbstest{auto}
557 \ifx\thumbs@bottomthumbmargin\th@mbstest%

```

```

558 \setlength{\th@mbposybottom}{1in}
559 \advance\th@mbposybottom+\voffset
560 \advance\th@mbposybottom+\topmargin
561 \advance\th@mbposybottom-\thumbs@distance
562 \advance\th@mbposybottom+\th@mbheighty
563 \advance\th@mbposybottom+\headheight
564 \advance\th@mbposybottom+\headsep
565 \advance\th@mbposybottom+\textheight
566 \advance\th@mbposybottom+\footskip
567 \advance\th@mbposybottom-\thumbs@distance
568 \advance\th@mbposybottom-\th@mbheighty
569 \else
570 \setlength{\th@mbposyA}{\paperheight}
571 \advance\th@mbposyA-\thumbs@bottomthumbmargin
572 \advance\th@mbposyA-\th@mbposytop
573 \advance\th@mbposyA-\thumbs@distance
574 \advance\th@mbposyA-\th@mbheighty
575 \advance\th@mbposyA-\thumbs@distance
576 \ifdim \th@mbposyA > 0sp%ok
577 \else
578 \setlength{\th@mbposyA}{\paperheight}
579 \advance\th@mbposyA-\th@mbposytop
580 \advance\th@mbposyA-\thumbs@distance
581 \advance\th@mbposyA-\th@mbheighty
582 \advance\th@mbposyA-\thumbs@distance
583 \advance\th@mbposyA-1pt
584 \PackageWarning{thumbs}{Thumbs column ending too high.\MessageBreak%
585 Option bottomthumbmargin has value '\thumbs@bottomthumbmargin'.\MessageBreak%
586 bottomthumbmargin will be set to '\the\th@mbposyA'.\MessageBreak%
587 }
588 \global\edef\thumbs@bottomthumbmargin{\the\th@mbposyA}
589 \fi
590 \setlength{\th@mbposyA}{\thumbs@bottomthumbmargin}
591 \setlength{\@tempdimc}{-1pt}
592 \ifdim \th@mbposyA < \@tempdimc%
593 \PackageWarning{thumbs}{Thumbs column ending too low.\MessageBreak%
594 Option bottomthumbmargin has value '\thumbs@bottomthumbmargin'.\MessageBreak%
595 bottomthumbmargin will be set to -1pt.\MessageBreak%
596 }
597 \gdef\thumbs@bottomthumbmargin{-1pt}
598 \fi
599 \setlength{\th@mbposybottom}{\paperheight}
600 \advance\th@mbposybottom-\thumbs@bottomthumbmargin
601 \fi

```

`\th@mbposyA` is no longer used as temporary dimension here, but 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@mbposyA` is used to remember this position unchanged.

```

602 \advance\th@mbposy-\th@mbheighty% because it will be advanced also for the first thumb
603 \setlength{\th@mbposyA}{\th@mbposy}% \th@mbposyA will change.
604 \setlength{\th@mbposyA}{\th@mbposy}% \th@mbposyA shall not be changed.
605 }
606

```

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

```

607 \newcommand{\th@mb@dadvance}{%
608   \advance\th@mbposy+\th@mbheighty%
609   \advance\th@mbposy+\th@mbdistance%
610   \ifdim\th@mbposy>\th@mbposybottom%
611     \advance\th@mbposy-\th@mbheighty%
612     \advance\th@mbposy-\th@mbdistance%
613   \else%
614     \advance\th@mbposy-\th@mbheighty%
615     \advance\th@mbposy-\th@mbdistance%
616     \addthumb{}{}{\thumbs@pagecolor}{\thumbs@pagecolor}%
617     \th@mb@dadvance%
618   \fi%
619 }
620

```

`\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`.

```

621 \newcommand{\thumbnewcolumn}{%
622   \ifx\th@mbtoprint\pagesLTS@one%
623     \PackageError{thumbs}{\string\thumbnewcolumn\space after \string\addthumb }{%
624       On page \thepage\space (approx.) \string\addthumb\space was used and *afterwards* \string\thumbnewcolumn .\MessageBreak%
625       When you want to use \string\thumbnewcolumn , do not use an \string\addthumb\space on the same\MessageBreak%
626       page before \string\thumbnewcolumn . Thus, either remove the \string\addthumb , or use a\MessageBreak%
627       \string\pagebreak , \string\newpage\space etc. before \string\thumbnewcolumn .\MessageBreak%
628       (And remember to use an \string\addthumb\space*after* \string\thumbnewcolumn .)\MessageBreak%
629       Your command \string\thumbnewcolumn\space will be ignored now.%
630     }%
631   \else%
632     \PackageWarning{thumbs}{%
633       Starting of another column requested by command\MessageBreak%

```

```

634 \string\thumbnewcolumn.\space Only use this command directly\MessageBreak%
635 before an \string\addthumb\space - did you?!\MessageBreak%
636 }%
637 \gdef\th@mbcolumnnew{1}%
638 \th@mb@advance%
639 \gdef\th@mbprinting{0}%
640 \gdef\th@mbcolumnnew{2}%
641 \fi%
642 }
643

```

`\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.

```

644 \newcommand{\addtitlethumb}[5]{%
645 \global\edef\th@mb@titlelabel{#5}%
646 \addthumb{#1}{#2}{#3}{#4}%
647 \global\edef\th@mb@titlelabel{}}%
648 }
649

```

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

```

650 \newcommand{\addthumb}[4]{%
651 \gdef\th@mbprinting{1}%
652 \advance\th@mbposy\th@mbheighty%
653 \advance\th@mbposy\th@mbsdistance%
654 \ifdim\th@mbposy>\th@mbposybottom%
655 \PackageWarning{thumbs}{%
656 Thumbs column full, starting another column.\MessageBreak%
657 }%
658 \setlength{\th@mbposy}{\th@mbposytop}%
659 \advance\th@mbposy\thumbs@distance%
660 \ifx\th@mbcolumn\pagesLTS@zero%
661 \global\edef\th@umbsperspage{\th@mbs}%
662 \gdef\th@mbcolumn{1}%
663 \fi%
664 \fi%
665 \setcounter{th@mbs@tmpA}{\th@mbs}%
666 \addtocounter{th@mbs@tmpA}{+1}%
667 \global\edef\th@mbs{\arabic{th@mbs@tmpA}}%

```

We do not want any labels or index or glossary entries confusing the table of thumbs entries:

```

668 {\let\label@gobble%
669 \let\index@gobble%
670 \let\glossary@gobble%

```

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).

```

671 \gdef\th@mbtitle{#1}%
672 \gdef\th@mbtext{#2}%
673 \gdef\th@mbtextcolour{#3}%
674 \gdef\th@mbbackgroundcolour{#4}%
675 }
```

`\ifpackageloaded` cannot be used after `\AtBeginDocument`, so here it is not checked for the `hyperref` package, but for its `\Hy@Warning` command. If some other package or user is defining `\Hy@Warning`, `thumbs` will falsely assume, that `hyperref` has been loaded, but by my humble opinion, defining `\Hy@Warning` does not make sense and is bad style (except definition by the `hyperref` package itself, of course). Into the `\jobname.tmb` file a `\thumbcontents` entry is written. If `hyperref` is found, a `\phantomsection` is placed, 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!).

```

676 \ifundefined{Hy@Warning}{% hyperref not loaded
677 }{% hyperref loaded
678   \phantomsection%
679   \label{thumbs.\th@mbs}%
680   }%
681 \if@files%
682   \ifx\th@mb@titlelabel\empty%
683     \addtocontents{tmb}{\string\thumbcontents{#1}{#2}{#3}{#4}{\thepage}{thumbs.\th@mbs}{\th@mbcolumnnew}}%
684   \else%
685     \addtocounter{page}{-1}%
686     \edef\th@mb@page{\thepage}%
687     \addtocontents{tmb}{\string\thumbcontents{#1}{#2}{#3}{#4}{\th@mb@page}{\th@mb@titlelabel}{\th@mbcolumnnew}}%
688     \addtocounter{page}{+1}%
689   \fi%
690 %\else there is a problem, but the according warning message was already given earlier.
691 \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). Instead of using `\...A`, `\...B` and so on, I really would like to generate this dynamically. If anybody could tell me how to do this, please send me an e-mail, thanks!


```

692 \ifx\th@mbcolumnnew\pagesLTS@one%
693 \else%
694   \setcounter{th@mps@tmpA}{\th@mbonpage}%
695   \addtocounter{th@mps@tmpA}{+1}%
696   \global\edef\th@mbonpage{\arabic{th@mps@tmpA}}%
697 \fi%
698 \ifx\th@mbtoprint\pagesLTS@zero%
699 \else%
700   \ifx\th@mbcolumnnew\pagesLTS@zero%
701     \PackageWarning{thumbs}[More than one thumb at one page:\MessageBreak%
702       You placed more than one thumb mark (at least \th@mbonpage)\MessageBreak%
703       on page \thepage \space (page is approximately).\MessageBreak%
704       Maybe insert a pagebreak?\MessageBreak%
705     ]%
706   \fi%
707 \fi%
708 \ifnum\th@mbonpage=1%
709   \ifnum\th@mbonpagemax>0% \relax
710   \else \gdef\th@mbonpagemax{1}%
711   \fi%
712   \gdef\th@mbtextA{#2}%
713   \gdef\th@mbtextcolourA{#3}%
714   \gdef\th@mbackgroundcolourA{#4}%
715   \setlength{\th@mbposyA}{\th@mbposy}%
716 \else%
717   \ifx\th@mbcolumnnew\pagesLTS@zero%
718     \ifnum\th@mbonpage=2%
719       \ifnum\th@mbonpagemax>1%
720       \else \gdef\th@mbonpagemax{2}%
721       \fi%
722       \gdef\th@mbtextB{#2}%
723       \gdef\th@mbtextcolourB{#3}%
724       \gdef\th@mbackgroundcolourB{#4}%
725     \else%
726       \ifnum\th@mbonpage=3%
727       \ifnum\th@mbonpagemax>2%
728       \else \gdef\th@mbonpagemax{3}%
729       \fi%
730       \gdef\th@mbtextC{#2}%
731       \gdef\th@mbtextcolourC{#3}%
732       \gdef\th@mbackgroundcolourC{#4}%
733     \else%
734       \ifnum\th@mbonpage=4%
735       \ifnum\th@mbonpagemax>3%
736       \else \gdef\th@mbonpagemax{4}%
737       \fi%
738       \gdef\th@mbtextD{#2}%

```

```

739         \gdef\th@mbtextcolourD{#3}%
740         \gdef\th@mbackgroundcolourD{#4}%
741     \else%
742         \ifnum\th@mbonpage=5%
743             \ifnum\th@mbonpagemax>4%
744                 \else \gdef\th@mbonpagemax{5}%
745             \fi%
746             \gdef\th@mbtextE{#2}%
747             \gdef\th@mbtextcolourE{#3}%
748             \gdef\th@mbackgroundcolourE{#4}%
749         \else%
750             \ifnum\th@mbonpage=6%
751                 \ifnum\th@mbonpagemax>5%
752                     \else \gdef\th@mbonpagemax{6}%
753                 \fi%
754                 \gdef\th@mbtextF{#2}%
755                 \gdef\th@mbtextcolourF{#3}%
756                 \gdef\th@mbackgroundcolourF{#4}%
757             \else%

```

Dynamical creation also would overcome the limitation of six thumb marks on a single page. It would be possible to continue with `\...G` and so on, but this increases the code further – and where to stop?

```

758         \PackageError{thumbs}{Too many thumbs on one page!}{%
759             You tried to placed more than six (!) thumb marks on a single page,\MessageBreak%
760             (approximate page number: \thepage ).\MessageBreak%
761             Maybe insert a \string\pagebreak or \string\newpage?\MessageBreak%
762             No following thumb marks will show on this page, sorry.\MessageBreak%
763             If you absolutly need more marks on one page,\MessageBreak%
764             please write an e-mail to the package maintainer.\MessageBreak%
765         }%
766     \fi%
767 \fi%
768 \fi%
769 \fi%
770 \fi%
771 \else%
772     \ifnum\th@mbonpagemax<\th@mbonpage%
773         \global\edef\th@mbonpagemax{\th@mbonpage}%
774     \fi%
775 \fi%
776 \fi%
777 \ifx\th@mbcolumnnew\thumb@two% There is no \pagesLTS@two (yet).
778     \gdef\th@mbcolumnnew{0}%
779 \fi%
780 \gdef\th@mbtoprint{1}%
781 }
782

```

`\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).

```

783 \newcommand{\stopthumb}{\gdef\th@mbprinting{0}}
784

```

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

```

785 \newcommand{\continuethumb}{\gdef\th@mbprinting{1}}
786

```

`\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 6th parameter is just ignored.

```

787 \newcommand{\thumbcontents}[7]{%
788   \advance\th@mbposy\th@mbheighty%
789   \advance\th@mbposy\th@mbsdistance%
790   \ifdim\th@mbposy>\th@mbposybottom%
791     \setlength{\th@mbposy}{\th@mbposytop}%
792     \advance\th@mbposy\th@mbsdistance%
793   \fi%
794   \def\th@mb@tmp@title{#1}%
795   \def\th@mb@tmp@text{#2}%
796   \def\th@mb@tmp@textcolour{#3}%
797   \def\th@mb@tmp@backgroundcolour{#4}%
798   \def\th@mb@tmp@page{#5}%
799   \def\th@mb@tmp@label{#6}%
800   \def\th@mb@tmp@column{#7}%
801   \ifx\th@mb@tmp@column\thumb@two%
802     \def\th@mb@tmp@column{0}%
803   \fi%
804   \setlength{\th@mbwidthxtoc}{\paperwidth}%
805   \advance\th@mbwidthxtoc-1in%
806   \advance\th@mbwidthxtoc-\hoffset%
807   \advance\th@mbwidthxtoc-\oddsidemargin%

```

```

808 \put(1in+\hoffset+\oddsidemargin,-\th@mbposy){%
809 \begin{picture}(0,0)%

```

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

```

810 \def\th@mbstest{rule}%
811 \ifx\thumbs@thumbblink\th@mbstest%
812 \ifx\th@mb@tmp@column\pagesLTS@zero%
813 {\color{\th@mb@tmp@backgroundcolour}\hyperref[\th@mb@tmp@label]{\rule{\th@mbwidthxto}{\th@mbheighty}}}%
814 \else%

```

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

```

815 {\color{\th@mb@tmp@backgroundcolour}\rule{\th@mbwidthxto}{\th@mbheighty}}%
816 \fi%
817 \else%
818 {\color{\th@mb@tmp@backgroundcolour}\rule{\th@mbwidthxto}{\th@mbheighty}}%
819 \fi%
820 \end{picture}%

```

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.

```

821 \ifx\th@mb@tmp@column\pagesLTS@zero%
822 \begin{picture}(0,0)(0,-0.5\th@mbheighty+384930sp)%
823 \bgroup%
824 \setlength{\parindent}{0pt}%
825 \vbox% to \textwidth
826 {\hspace=\textwidth}%

```

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

- `none` creates *none* hyperlink

```

827 \def\th@mbstest{none}
828 \ifx\thumbs@thumbblink\th@mbstest%
829 {\color{\th@mb@tmp@textcolour}\noindent \th@mb@tmp@title%
830 \leaders\box \ThumbsBox {\th@mbs@linefill \th@mb@tmp@page}%
831 }%
832 \else%

```

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

```

833 \def\th@mbstest{title}%
834 \ifx\thumbs@thumbblink\th@mbstest%
835 {\color{\th@mb@tmp@textcolour}\noindent%
836 \hyperref[\th@mb@tmp@label]{\th@mb@tmp@title}%
837 \leaders\box \ThumbsBox {\th@mbs@linefill \th@mb@tmp@page}%
838 }%
839 \else%

```

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

```
840             \def\th@mbstest{page}%
841             \ifx\thumbs@thumblink\th@mbstest%
842                 {\color{\th@mb@tmp@textcolour}\noindent%
843                 \th@mb@tmp@title%
844                 \leaders\box \ThumbsBox {\th@mbs@linefill \pageref{\th@mb@tmp@label}}}%
845             }%
846             \else%
```

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

```
847             \def\th@mbstest{titleandpage}%
848             \ifx\thumbs@thumblink\th@mbstest%
849                 {\color{\th@mb@tmp@textcolour}\noindent%
850                 \hyperref[\th@mb@tmp@label]{\th@mb@tmp@title}%
851                 \leaders\box \ThumbsBox {\th@mbs@linefill \pageref{\th@mb@tmp@label}}}%
852             }%
853             \else%
```

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

```
854             \def\th@mbstest{line}%
855             \ifx\thumbs@thumblink\th@mbstest%
856                 {\color{\th@mb@tmp@textcolour}\noindent%
857                 \hyperref[\th@mb@tmp@label]{\th@mb@tmp@title%
858                 \leaders\box \ThumbsBox {\th@mbs@linefill \th@mb@tmp@page}}}%
859             }%
860             \else%
```

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

```
861             \def\th@mbstest{rule}%
862             \ifx\thumbs@thumblink\th@mbstest%
863                 {\color{\th@mb@tmp@textcolour}\noindent%
864                 \th@mb@tmp@title%
865                 \leaders\box \ThumbsBox {\th@mbs@linefill \th@mb@tmp@page}}%
866             }%
867             \else%
```

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

```
868             \PackageError{thumbs}{\string\thumbs@thumblink\space invalid}{%
869             \string\thumbs@thumblink\space has an invalid value,\MessageBreak%
870             although it did not have an invalid value before,\MessageBreak%
871             and the thumbs package did not change it.\MessageBreak%
872             Therefore some other package (or the user)\MessageBreak%
873             manipulated it.\MessageBreak%
874             Now setting it to 'none' as last resort.\MessageBreak%
```

```

875             }%
876             \gdef\thumbs@thumblink{none}%
877             {\color{\th@mb@tmp@textcolour}\noindent%
878             \th@mb@tmp@title%
879             \leaders\box \ThumbsBox {\th@mb@linefill \th@mb@tmp@page}%
880             }%
881         \fi%
882     \fi%
883 \fi%
884 \fi%
885 \fi%
886 \fi%
887 }%
888 }%
889 \egroup%
890 \end{picture}%

```

The thumb mark (with text) as set in the document outside of the thumb marks overview page(s) is also presented here.

```

891 \begin{picture}(0,0)(1in+\hoffset+\oddsidemargin-\th@mbxpos,-0.5\th@mbheighty+384930sp)%
892 \bgroup%
893 \setlength{\parindent}{0pt}%
894 \makebox[\th@mbwidthx][r]{\color{\th@mb@tmp@textcolour}\th@mb@tmp@text \space}}%
895 \egroup%
896 \end{picture}%
897 \fi%
898 }%
899 }
900

```

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

```

901 \newcommand{\th@mb@yA}{%
902 \advance\th@mbposyA\th@mbheighty%
903 \advance\th@mbposyA\th@mbdistance%
904 \ifdim\th@mbposyA>\th@mbposybottom%
905 \PackageWarning{thumbs}{You are not only using more than one thumb mark at one\MessageBreak%
906 single page, but also thumb marks from different thumb\MessageBreak%
907 columns. May I suggest the use of a \string\pagebreak\space or\MessageBreak%
908 \string\newpage ?}%
909 }%
910 \setlength{\th@mbposyA}{\th@mbposytop}%
911 \fi%
912 }
913

```

`\th@mbprint` `\th@mbprint` places a picture containing the thumb mark on the page.

```

914 \newcommand{\th@mbprint}[3]{%
915   \put(\th@mbxpos,-\th@mbposyA){%
916     \begin{picture}(0,0)%
917       {\color{#3}\rule{\th@mbwidthx}{\th@mbheighty}}%
918     \end{picture}%
919   \begin{picture}(0,0)(0,-0.5\th@mbheighty+384930sp)%
920     \bgroup%
921     \setlength{\parindent}{0pt}%
922     \ifodd\c@CurrentPage%
923       \if@twoside%
924         \makebox[\th@mbwidthx][l]{\color{#2}\hspace*{1pt}\space #1}}%
925       \else%
926         \makebox[\th@mbwidthx][r]{\color{#2}#1\space}}%
927     \fi%
928     \else%
929       \makebox[\th@mbwidthx][r]{\color{#2}#1\space}}%
930     \fi%
931   \egroup%
932 \end{picture}%
933 }%
934 }
935
```

`\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.

```

936 \AtBeginShipout{%
937   \ifx\th@mbcolumnnew\pagesLTS@zero% ok
938   \else%
939     \PackageError{thumbs}{Missing \string\addthumb\space after \string\thumbnewcolumn }{%
940       Command \string\thumbnewcolumn\space was used, but no new thumb placed with \string\addthumb\MessageBreak%
941       (at least not at the same page). After \string\thumbnewcolumn\space please always use an\MessageBreak%
942       \string\addthumb . Until the next \string\addthumb , there will be no thumb marks on the\MessageBreak%
943       pages. Starting a new column of thumb marks and not putting a thumb mark into\MessageBreak%
944       that column does not make sense. If you just want to get rid of column marks,\MessageBreak%
945       do not abuse \string\thumbnewcolumn\space but use \string\stopthumb .\MessageBreak%
946       (This error message will be repeated at all following pages,\MessageBreak%
947       \space until \string\addthumb\space is used.)\MessageBreak%
948     }%
949   \fi%
950   \setcounter{th@mbs@tmpA}{\value{CurrentPage}}%
951   \addtocounter{th@mbs@tmpA}{-1}% because CurrentPage is already the one of the next page
952   \def\th@mbxpos{\th@mbposx}%
953   \ifodd\c@th@mbs@tmpA \relax
954   \else%
955     \if@twoside \def\th@mbxpos{-1pt}% \else \relax
956     \fi%

```

```

957 \fi%
958 \AtBeginShipoutUpperLeft{%
959   \setcounter{th@mbs@tmpA}{\th@mbonpage}%
960   \ifx\th@mbprinting\pagesLTS@one%
961     \th@mbprint{\th@mbtextA}{\th@mbtextcolourA}{\th@mbackgroundcolourA}%
962     \ifnum\value{th@mbs@tmpA}>1%
963       \th@mb@yA%
964       \th@mbprint{\th@mbtextB}{\th@mbtextcolourB}{\th@mbackgroundcolourB}%
965       \ifnum\value{th@mbs@tmpA}>2%
966         \th@mb@yA%
967         \th@mbprint{\th@mbtextC}{\th@mbtextcolourC}{\th@mbackgroundcolourC}%
968         \ifnum\value{th@mbs@tmpA}>3%
969           \th@mb@yA%
970           \th@mbprint{\th@mbtextD}{\th@mbtextcolourD}{\th@mbackgroundcolourD}%
971           \ifnum\value{th@mbs@tmpA}>4%
972             \th@mb@yA%
973             \th@mbprint{\th@mbtextE}{\th@mbtextcolourE}{\th@mbackgroundcolourE}%
974             \ifnum\value{th@mbs@tmpA}>5%
975               \th@mb@yA%
976               \th@mbprint{\th@mbtextF}{\th@mbtextcolourF}{\th@mbackgroundcolourF}%
977               \ifnum\value{th@mbs@tmpA}>6%
978                 \PackageWarning{thumbs}{Too many thumbs on one page,\MessageBreak%
979                   please see error message already given above.\MessageBreak%
980                 }%
981               \fi%
982             \fi%
983           \fi%
984         \fi%
985       \fi%
986     \fi%
987   \fi%

```

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

```

988   \ifnum\value{th@mbs@tmpA}<2% \relax
989   \else%
990     \gdef\th@mbtextA{\th@mbtext}%
991     \gdef\th@mbtextcolourA{\th@mbtextcolour}%
992     \gdef\th@mbackgroundcolourA{\th@mbackgroundcolour}%
993     \gdef\th@mbposyA{\th@mbposy}%
994   \fi%
995   \gdef\th@mbonpage{0}%
996   \gdef\th@mbtoprint{0}%
997 }%
998 }
999

```


\AfterLastShipout

```

1000 \AfterLastShipout{%
1001   \ifx\th@mbcolumnnew\pagesLTS@zero% ok
1002   \else
1003     \PackageWarningNoLine{thumbs}{%
1004       Still missing \string\addthumb\space after \string\thumbnewcolumn\space after\MessageBreak%
1005       last shipout: Command \string\thumbnewcolumn\space was used,\MessageBreak%
1006       but no new thumb placed with \string\addthumb\space anywhere in the\MessageBreak%
1007       rest of the document. Starting a new column of thumb\MessageBreak%
1008       marks and not putting a thumb mark into that column\MessageBreak%
1009       does not make sense. If you just want to get rid of\MessageBreak%
1010       thumb marks, do not abuse \string\thumbnewcolumn\space but use\MessageBreak%
1011       \string\stopthumb %
1012     }
1013   \fi

```

\AfterLastShipout the number of thumb marks per overview page and the total number of thumb marks are determined and saved for the next L^AT_EX run via the .aux file.

```

1014   \ifx\th@mbcolumn\pagesLTS@zero% if there is only one column of thumbs
1015     \global\edef\th@umbsperpage{\th@mbs}
1016     \gdef\th@mbcolumn{1}
1017   \fi
1018   \ifx\th@umbsperpage\pagesLTS@zero
1019     \gdef\th@umbsperpage{\th@mbs}% \th@mbs was increased with each \addthumb
1020   \fi
1021   \if@files
1022     \immediate\write\@auxout{\string
1023       \gdef\string\th@umbsperpage{\th@umbsperpage}}
1024     \immediate\write\@auxout{\string
1025       \gdef\string\th@mbsmax{\th@mbs}}
1026     \expandafter\newwrite\csname tf@tmb\endcsname

```

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

```

1027   \RerunFileCheck{\jobname.tmb}{%
1028     \immediate\closeout \csname tf@tmb\endcsname
1029     }{Warning: Rerun to get list of thumbs right!%
1030   }
1031   \immediate\openout \csname tf@tmb\endcsname = \jobname.tmb\relax
1032   %\else there is a problem, but the according warning message was already given earlier.
1033   \fi
1034 }
1035

```

`\thumbsoverviewtocontents` 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`.

```

1036 \newcommand{\addthumbsoverviewtocontents}[2]{%
1037   \gdef\th@mbs@toc@level{#1}
1038   \gdef\th@mbs@toc@text{#2}
1039 }
1040

```

`\thumbsoverview` `\thumbsoverview` is used to place the overview page(s) for the thumb marks. Its 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` could be used more than once (for example at the beginning and at the end of the document), but the label `TableOfThumbs` would than be multilpy defined (no great harm done, but hyperlinks will only link to one of the labels). `\thumbsoverview` works by calling the internal command `\th@mbs@verview` (see below), repeating this until all thumb marks have been processed.

```

1041 \newcommand{\thumbsoverview}[1]{%

```

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

```

1042 \def\th@mbs@test{none}%
1043 \ifx\thumbs@thumblink\th@mbs@test% OK
1044 \else%
1045   \@ifundefined{Hy@Warning}{% hyperref not loaded
1046     \PackageError{thumbs}{Option thumblink != none, but hyperref not loaded}{%
1047       The option thumblink of the thumbs package was not set to 'none',\MessageBreak%
1048       but to some kind of hyperlinks, without using package hyperref.\MessageBreak%
1049       Either choose option 'thumblink=none', or load package hyperref.\MessageBreak%
1050       When pressing return, 'thumblink=none' will be set now.\MessageBreak%
1051     }%
1052     \gdef\thumbs@thumblink{none}%
1053   }{% hyperref loaded
1054     \def\th@mbs@test{title}%
1055     \ifx\thumbs@thumblink\th@mbs@test% OK
1056     \else%
1057       \def\th@mbs@test{page}%
1058       \ifx\thumbs@thumblink\th@mbs@test% OK
1059       \else%
1060         \def\th@mbs@test{titleandpage}%
1061         \ifx\thumbs@thumblink\th@mbs@test% OK
1062         \else%
1063           \def\th@mbs@test{line}%
1064           \ifx\thumbs@thumblink\th@mbs@test% OK
1065           \else%
1066             \def\th@mbs@test{rule}%
1067             \ifx\thumbs@thumblink\th@mbs@test% OK
1068             \else%

```

```

1069         \PackageError{thumbs}{Option thumblink with invalid value}{%
1070             Option thumblink has value '\thumbs@thumbblink'.\MessageBreak%
1071             Valid values are 'none', 'title', 'page',\MessageBreak%
1072             'titleandpage', 'line', or 'rule'.\MessageBreak%
1073             'rule' will be used now.\MessageBreak%
1074         }%
1075         \gdef\thumbs@thumbblink{rule}%
1076     \fi%
1077 \fi%
1078 \fi%
1079 \fi%
1080 \fi%
1081 }%
1082 \fi%

```

When the thumb overview is printed and there is already a thumb mark set, for example for the frontmatter (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).

```

1083 \edef\th@mbprintingovertoc{\th@mbprinting}%
1084 \stopthumb%
1085 \markboth{\MakeUppercase #1 }{\MakeUppercase #1 }
1086 \setlength{\th@mbposytocy}{\th@mbposy}
1087 \setlength{\th@mbposy}{\th@mbposytocy}
1088 \newcounter{th@mblinea}
1089 \setcounter{th@mblinea}{1}
1090 \newcounter{th@mblineb}
1091 \setcounter{th@mblineb}{\th@umbsperpage}
1092 \newcounter{FileLine}
1093 \setcounter{FileLine}{1}
1094 \newcounter{thumbsstop}
1095 \setcounter{thumbsstop}{1}
1096 \addtocounter{thumbsstop}{\th@mbsmax}
1097 \whiledo{\value{FileLine}<\value{thumbsstop}}
1098     {\if@twoside \cleardoublepage%
1099         \else \clearpage%
1100         \fi%

```

When the hyperref package is used, one might like to refer to the thumb overview page(s), therefore a phantomsection is added and a label TableOfThumbs is placed here. When \addthumbsoverviewtocontents was used, the entry is placed into the table of contents.

```

1101     \ifnum\value{FileLine}=1%
1102         \@ifundefined{Hy@Warning}{}{\phantomsection \label{TableOfThumbs}}%
1103         \ifx\th@mbs@toc@level\empty%
1104             \else \addcontentsline{toc}{\th@mbs@toc@level}{\th@mbs@toc@text}%
1105             \fi%

```

```

1106     \fi%
1107     \null%
1108     \th@mbs@verview%
1109     \pagebreak%
1110     \ifthumbs@verbose%
1111         \message{THUMBS: Fileline: \arabic{FileLine}, a: \arabic{th@mblinea}, %
1112             b: \arabic{th@mblineb}, per page: \th@umbsperpage, max: \th@mbsmax.^^J}%
1113     \fi%
1114 }%

```

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

```

1115 \setlength{\th@mbposy}{\th@mbsposytocy}%
1116 \ifx\th@mbprintingovertoc\pagesLTS@one%
1117     \continuethumb%
1118 \fi%
1119 }
1120

```

\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**).

```

1121 \newcommand{\th@mbs@verview}{%
1122     \ifthumbs@verbose%
1123         \message{^^JPackage thumbs Info: Processing line \arabic{th@mblinea} to \arabic{th@mblineb} of \jobname.tmb.}%
1124     \fi%
1125     \setcounter{FileLine}{1}%
1126     \AtBeginShipoutNext{%
1127         \AtBeginShipoutUpperLeftForeground{%
1128             \IfFileExists{\jobname.tmb}{% then
1129                 \openin\@instreamthumb=\jobname.tmb %
1130                 \whiledo{\value{FileLine}<\value{th@mblineb}}
1131                 {% \ifthumbs@verbose%
1132                     \message{THUMBS: Processing \jobname.tmb line \arabic{FileLine}.}%
1133                     \fi%
1134                     \ifnum \value{FileLine}<\value{th@mblinea}%
1135                         \read\@instreamthumb to \@unused%
1136                         \ifthumbs@verbose%
1137                             \message{Can be skipped.^^J}%
1138                         \fi%
1139                         % NIRVANA: ignore the line by not executing it,
1140                         % i.e. not executing \@unused.
1141                         % % \@unused
1142                     \else%
1143                         \ifnum \value{FileLine}=\value{th@mblinea}%
1144                             \read\@instreamthumb to \@thumbsout% execute the code of this line
1145                             \ifthumbs@verbose%
1146                                 \message{Executing \jobname.tmb line \arabic{FileLine}.^^J}%
1147                             \fi%
1148                             \@thumbsout%

```

```

1149 \else%
1150 \ifnum \value{FileLine}>\value{th@mblinea}%
1151 \read\@instreamthumb to \@thumbsout% execute the code of this line
1152 \ifthumbs@verbose%
1153 \message{Executing \jobname.tmb line \arabic{FileLine}.^^J}%
1154 \fi%
1155 \@thumbsout%
1156 \else% THIS SHOULD NEVER HAPPEN!
1157 \PackageError{thumbs}{Unexpected error! (Really!)}{%
1158 ! You are in trouble here.\MessageBreak%
1159 ! Type X \string<return\string> to quit.\MessageBreak%
1160 ! Delete temporary auxiliary files.\MessageBreak%
1161 ! (like \jobname.aux, \jobname.tmb, \jobname.out).\MessageBreak%
1162 ! and retry the compilation.\MessageBreak%
1163 ! If the error persists, cross your fingers.\MessageBreak%
1164 ! and try typing \string<return\string> to proceed.\MessageBreak%
1165 ! If that does not work,\MessageBreak%
1166 ! you might contact the maintainer of the thumbs package.\MessageBreak%
1167 }%
1168 \fi%
1169 \fi%
1170 \fi%
1171 \stepcounter{FileLine}%
1172 }%
1173 \ifnum \value{FileLine}=\value{th@mblineb}
1174 \ifthumbs@verbose%
1175 \message{THUMBS: Processing \jobname.tmb line \arabic{FileLine}.}%
1176 \fi%
1177 \read\@instreamthumb to \@thumbsout% Execute the code of that line.
1178 \ifthumbs@verbose%
1179 \message{Executing \jobname.tmb line \arabic{FileLine}.^^J}%
1180 \fi%
1181 \@thumbsout% Well, really execute it here.
1182 \stepcounter{FileLine}%
1183 \fi%
1184 \closein\@instreamthumb%

```

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

```

1185 \addtocounter{th@mblinea}{\th@umbsperpage}%
1186 \addtocounter{th@mblineb}{\th@umbsperpage}%
1187 \setcounter{th@mbs@tmpA}{\th@mbsmax}%
1188 \ifnum \value{th@mblineb}>\value{th@mbs@tmpA}
1189 \setcounter{th@mblineb}{\value{th@mbs@tmpA}}%
1190 \fi%
1191 }{% else
1192 \addglobalwarning{%
1193 \PackageWarningNoLine{thumbs}{%
1194 File \jobname.tmb not found.\MessageBreak%

```

```
1195         Rerun to get thumbs overview page(s) right.\MessageBreak%
1196     }%
1197 }%
1198 }%
1199 }%
1200 }%
1201 }
1202
1203 </package>
```

6 Installation

6.1 Downloads

Everything should be 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:

- T_EXFormat L^AT_EX 2_ε: <http://www.CTAN.org/>
- package `geometry`, 2010/09/12, v5.6, [CTAN:macros/latex/contrib/geometry/geometry.dtx](#)
- document class `ltxdoc`, 2007/11/11, v2.0u, [CTAN:macros/latex/base/ltxdoc.dtx](#)
- package `hltxdoc`, 2011/02/04, v0.21, [CTAN:macros/latex/contrib/oberdiek/hltxdoc.dtx](#)
- package `hypdoc`, 2010/03/26, v1.9, [CTAN:macros/latex/contrib/oberdiek/hypdoc.dtx](#)

`thumbs.sty` The `thumbs.sty` for L^AT_EX 2_ε (i. e. all documents using the `thumbs` package) requires:

- T_EXFormat L^AT_EX 2_ε, <http://www.CTAN.org/>
- package `kvoptions`, 2010/12/23, v3.10, [CTAN:macros/latex/contrib/oberdiek/kvoptions.dtx](#)
- package `atbegshi`, 2011/01/30, v1.15, [CTAN:macros/latex/contrib/oberdiek/atbegshi.dtx](#)
- package `xcolor`, 2007/01/21, v2.11, [CTAN:macros/latex/contrib/xcolor/xcolor.dtx](#)
- package `picture`, 2009/10/11, v1.3, [CTAN:macros/latex/contrib/oberdiek/picture.dtx](#)
- package `alphalph`, 2010/04/18, v2.3, [CTAN:macros/latex/contrib/oberdiek/alphalph.dtx](#)
- package `pagesLTS`, 2011/03/17, v1.1o, [CTAN:macros/latex/contrib/pageslts/pagesLTS.dtx](#)
- package `rerunfilecheck`, 2011/04/15, v1.7, [CTAN:macros/latex/contrib/oberdiek/rerunfilecheck.dtx](#)
- package `ifthen`, 2001/05/26, v1.1c, [CTAN:macros/latex/base/ifthen.dtx](#)
- package `warning`, 2001/08/17, v0.01, [CTAN:macros/latex/contrib/warning/warning.sty](#)

SW/SWP When compiling with SWP 5.50 Build 2960, these additional packages are needed:

```
\usepackage[T1]{fontenc}
\usepackage{amsfonts}
\usepackage[math]{cellspace}
\usepackage{xcolor}
\pagecolor{white}
```

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, [CTAN:fonts/eurosym.zip](#)
- package lipsum, 2011/04/14, v1.2, [CTAN:macros/latex/contrib/lipsum/lipsum.dtx](#)
- package hyperref, 2011/04/17, v6.82g, [CTAN:macros/latex/contrib/hyperref/hyperref.dtx](#)
- package thumbs, 2011/05/14, v1.0a, [CTAN:macros/latex/contrib/thumbs/thumbs.dtx](#)
(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](#)
- eso-pic, 2010/10/06, v2.0c, [CTAN:macros/latex/contrib/eso-pic/eso-pic.dtx](#)
- fancytabs, 2011/04/16 v1.1, [CTAN:macros/latex/contrib/fancytabs/fancytabs.dtx](#)
- thumb, 2001, without file version, <ftp://ftp.dante.de/pub/tex/info/examples/ltt/thumb.sty>
- thumb (a completely different one), 1997/12/24, v1.0, [CTAN:macros/latex/contrib/thumb/thumb.dtx](#)
- 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, [CTAN:macros/latex/contrib/fancyhdr/fancyhdr.pdf](#)
- thumbpdf, 2010/07/07, v3.11, [CTAN:support/thumbpdf/thumbpdf.sty](#)
- thumby, 2010/01/14, v0.1, [CTAN:macros/latex/contrib/thumby/thumby.sty](#)

Oberdiek

holtxdoc

alphalph

atbegshi

kvoptions

picture

rerunfilecheck

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

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

It is probably best to download and use this, because the packages in there should be both recent and compatible.

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 should be 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.

`CTAN:install/macros/latex/contrib/thumbs.tds.zip`

Everything in TDS compliant, compiled format,

which additionally contains

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

For required other packages, see the preceding subsection.

Unpacking. The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain `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):

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

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 \TeX distribution (te \TeX , mik \TeX ,...) relies on file name databases, you must refresh these. For example, te \TeX users run `texhash` or `mktexlsr`.

6.4 Some details for the interested

Unpacking with \LaTeX . The `.dtx` chooses its action depending on the format:

plain \TeX : Run `docstrip` and extract the files.

\LaTeX : Generate the documentation.

If you insist on using \LaTeX for `docstrip` (really, `docstrip` does not need \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 this 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 \LaTeX :

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

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 (heiko dot oberdiek at googlemail dot com) 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 \TeX .

8 History

[2010/04/01 v0.01 – 2011/05/13 v0.46]

- Diverse β -versions during the creation of this package.

[2011/05/14 v1.0a]

- Upload to **CTAN**:.

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: Q, 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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