The **thumbs** package

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Abstract

This LaTeX 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).

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Save per page about $200\,\text{ml}$ water, $2\,\text{g}$ CO_2 and $2\,\text{g}$ wood:
Therefore please print only if this is really necessary.

Contents

1 Introduction

This LaTeX 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 thumbed 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{pdflscape}` is possible.

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 LaTeX 2_ε 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,. . .).

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

2.2 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 47 pt (≈ 16.5 mm ≈ 0.65 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. 0 pt).

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: (\paperwidth minus \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 2 mm.

2.2.6 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 \th@bmsvoffset plus \topmargin. Dimensions (e. g. 1 cm) 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@mbsdistance+\th@mbheighty+\headheight+\headsep+\textheight +\footskip-\th@mbsdistance -\th@mbheighty`.
Dimensions (e. g. 1 cm) are also accepted.

2.2.8 eventxtindent

eventxtindent   Option `eventxtindent` expects a dimension (default value: 5 pt, negative values are possible, of course), by which the text inside of thumb marks on even pages is moved away from the page edge, i.e. to the right. Probably using the same or at least a similar value as for option `oddtxtexdent` makes sense.

2.2.9 oddtxtexdent

oddtxtexdent   Option `oddtxtexdent` expects a dimension (default value: 5 pt, negative values are possible, of course), by which the text inside of thumb marks on odd pages is moved away from the page edge, i.e. to the left. Probably using the same or at least a similar value as for option `eventxtindent` makes sense.

2.2.10 evenmarkindent

evenmarkindent   Option `evenmarkindent` expects a dimension (default value: 0 pt, negative values are possible, of course), by which the thumb marks (background and text) on even pages are moved away from the page edge, i.e. to the right. This might be usefull when the paper, onto which the document is printed, is later cut to another format. Probably using the same or at least a similar value as for option `oddmarkexdent` makes sense.

2.2.11 oddmarkexdent

oddmarkexdent   Option `oddmarkexdent` expects a dimension (default value: 0 pt, negative values are possible, of course), by which the thumb marks (background and text) on odd pages are moved away from the page edge, i.e. to the left. This might be usefull when the paper, onto which the document is printed, is later cut to another format. Probably using the same or at least a similar value as for option `oddmarkexdent` makes sense.

2.2.12 evenprintvoffset

evenprintvoffset   Option `evenprintvoffset` expects a dimension (default value: 0 pt, negative values are possible, of course), by which the thumb marks (background and text) on even pages are moved downwards. This might be usefull when a duplex printer shifts recto and verso pages against each other by some small amount, e.g. a millimeter or two, which is not uncommon. Please do not use this option with another value than 0 pt for files which you submit to other persons. Their printer probably shifts the pages by another amount, which might even lead to increased mismatch if both printers shift in opposite directions. Ideally the pdf viewer would correct the shift depending on printer (or at least give some option similar to "shift verso pages by x mm".

2.2.13 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*.

2.2.14 nophantomsection

nophantomsection   Option `nophantomsection` globally disables the automatic 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 `\phantomsection`s has been globally disabled, nevertheless manual use of `\phantomsection` is still possible. The other way round: When automatical placing of the `\phantomsection`s has *not* been globally disabled, it can be disabled just for the following thumb mark by the command `\thumbsnophantom`.

2.2.15 ignorehoffset, ignorevoffset

ignorehoffset   Usually `\hoffset` and `\voffset` should be regarded, but moving the thumb marks away from the paper edge probably makes
ignorevoffset   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.)

2.2.16 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.

2.2.17 draft

draft   Option `draft` (*not* the default) sets the thumb mark width to 2 pt, 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.

2.2.18 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.

2.2.19 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.

2.2.20 evenindent (obsolete)

evenindent   Option `evenindent` is obsolete and was replaced by `eventxtindent`.

2.2.21 oddexdent (obsolete)

oddexdent   Option `oddexdent` is obsolete and was replaced by `oddtxtexdent`.

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

2.3.4 \thumbsoverview/back/verso/double

\thumbsoverview
\thumbsoverviewback
\thumbsoverviewverso
\thumbsoverviewdouble The commands \thumbsoverview, \thumbsoverviewback, \thumbsoverviewverso, and/or \thumbsoverviewdouble is/are used to place the overview page(s) for the thumb marks. Their 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 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

`\addthumbsoverviewtocontents` `\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 2.2.14), 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 LaTeX2e,
  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 alter-
  native. 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 TeXLive2010 worked, compil-
  ing 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 proba-
  bly available in the book:
  Klöckel, I. (2001): LaTeX2e. 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.

Newer versions might be available (and better suited). You programmed or found another alternative, which is available at
CTAN.org? OK, send an e-mail to me with the name, location at CTAN.org, 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 \usepackage{lipsum}[2011/04/14]%  v1.2
 4 \usepackage{eurosym}[1998/08/06]% v1.1
 5 \usepackage[extension=pdf,%
 6  pdfpagelayout=TwoPageRight,pdfpagemode=UseThumbs,%
 7  plainpages=false,pdfpagelabels=true,%
 8  hyperindex=false,%
 9  pdflang={en},%
10  pdftitle={thumbs package example},%
11  pdfauthor={H.-Martin Muench},%
12  pdfsubject={Example for the thumbs package},%
13  pdfkeywords={LaTeX, thumbs, thumb marks, H.-Martin Muench},%
14  pdfview=Fit,pdfstartview=Fit,%
15  linktoc=all]{hyperref}[2012/11/06]% v6.83m
16 \usepackage[thumblink=rule,linefill=dots,height={auto},minheight={47pt},%
17           width={auto},distance={2mm},topthumbmargin={auto},bottomthumbmargin={auto},%
18           eventxtindent={5pt},oddtxtexdent={5pt},%
19           evenmarkindent={0pt},oddmarkexdent={0pt},evenprintvoffset={0pt},%
20           nophantomsection=false,ignorehoffset=true,ignorevoffset=true,final=true,%
21           hidethumbs=false,verbose=true]{thumbs}[2014/03/09]% v1.0q
22 \nopagecolor% use \pagecolor{white} if \nopagecolor does not work
23 \gdef\unit#1{\mathord{\thinspace\mathrm{#1}}}
24 \makeatletter
25 \ltx@ifpackageloaded{hyperref}{% hyperref loaded
26 }{% hyperref not loaded
27  \usepackage{url}% otherwise the "\url"s in this example must be removed manually
28 }
29 \makeatother
30 \listfiles
31 \begin{document}
32 \pagenumbering{arabic}
33 \section*{Example for thumbs}
34 \addcontentsline{toc}{section}{Example for thumbs}
35 \markboth{Example for thumbs}{Example for thumbs}
36
37 This example demonstrates the most common uses of package
38 \textsf{thumbs}, v1.0q as of 2014/03/09 (HMM).
39 The used options were \texttt{thumblink=rule}, \texttt{linefill=dots},
40 \texttt{height=auto}, \texttt{minheight=\{47pt\}}, \texttt{width={auto}},
41 \texttt{distance=\{2mm\}}, \newline
42 \texttt{topthumbmargin=\{auto\}}, \texttt{bottomthumbmargin=\{auto\}}, \newline
43 \texttt{eventxtindent=\{5pt\}}, \texttt{oddtxtexdent=\{5pt\}},
44 \texttt{evenmarkindent=\{0pt\}}, \texttt{oddmarkexdent=\{0pt\}},
45 \texttt{evenprintvoffset=\{0pt\}},
```

```
46 \textttt{nophantomsection=false},
47 \textttt{ignorehoffset=true}, \textttt{ignorevoffset=true}, \newline
48 \textttt{final=true},\textttt{hidethumbs=false}, and \textttt{verbose=true}.
49
50 \noindent These are the default options, except \textttt{verbose=true}.
51 For more details please see the documentation!\newline
52
53 \textbf{Hyperlinks or not:} If the \textsf{hyperref} package is loaded,
54 the references in the overview page for the thumb marks are also hyperlinked
55 (except when option \textttt{thumblink=none} is used).\newline
56
57 \bigskip
58
59 {\color{teal} Save per page about $200\unit{ml}$ water, $2\unit{g}$ CO$_{2}$
60 and $2\unit{g}$ wood:\newline
61 Therefore please print only if this is really necessary.}\newline
62
63 \bigskip
64
65 \textbf{%
66 For testing purpose page \pageref{greenpage} has been completely coloured!
67 \newline
68 Better exclude it from printing\ldots \newline}
69
70 \bigskip
71
72 Some thumb mark texts are too large for the thumb mark by intention
73 (especially when the paper size and therefore also the thumb mark size
74 is decreased). When option \textttt{width=\{autoauto\}} would be used,
75 the thumb mark width would be automatically increased.
76 Please see page~\pageref{HugeText} for details!
77
78 \bigskip
79
80 For printing this example to another format of paper (e.\,g. A4)
81 it is necessary to add the according option (e.\,g. \verb|a4paper|)
82 to the document class and recompile it! (In that case the
83 thumb marks column change will occur at another point, of course.)
84 With paper format equal to document format the document can be printed
85 without adapting the size, like e.\,g.
86 \textquotedblleft shrink to page\textquotedblright .
87 That would add a white border around the document
88 and by moving the thumb marks from the edge of the paper they no longer appear
89 at the side of the stack of paper. It is also necessary to use a printer
90 capable of printing up to the border of the sheet of paper. Alternatively
91 it is possible after the printing to cut the paper to the right size.
92 While performing this manually is probably quite cumbersome,
```

```
 93 printing houses use paper, which is slightly larger than the
 94 desired format, and afterwards cut it to format.
 95
 96 \newpage
 97
 98 \addtitlethumb{Frontmatter}{0}{white}{gray}{pagesLTS.0}
 99
100 At the first page no thumb mark was used, but we want to begin with thumb marks
101 at the first page, therefore a
102 \begin{verbatim}
103 \addtitlethumb{Frontmatter}{0}{white}{gray}{pagesLTS.0}
104 \end{verbatim}
105 was used at the beginning of this page.
106
107 \newpage
108
109 \tableofcontents
110
111 \newpage
112
113 To include an overview page for the thumb marks,
114 \begin{verbatim}
115 \addthumbsoverviewtocontents{section}{Thumb marks overview}%
116 \thumbsoverview{Table of Thumbs}
117 \end{verbatim}
118 is used, where \verb|\addthumbsoverviewtocontents| adds the thumb
119 marks overview page to the table of contents.
120
121 \smallskip
122
123 Generally it is desirable to have a hyperlink from the thumbs overview page
124 to lead to the thumb mark and not to some earlier place. Therefore automatically
125 a \verb|\phantomsection| is placed before each thumb mark. But for example when
126 using the thumb mark after a \verb|\chapter{...}| command, it is probably nicer
127 to have the link point at the top of that chapter's title (instead of the line
128 below it). The automatical placing of the \verb|\phantomsection| can be disabled
129 either globally by using option \texttt{nophantomsection}, or locally for the next
130 thumb mark by the command \verb|\thumbsnophantom|. (When disabled globally,
131 still manual use of \verb|\phantomsection| is possible.)
132
```

```
133 \addthumbsoverviewtocontents{section}{Thumb marks overview}%
134 \thumbsoverview{Table of Thumbs}
135
136 That were the overview pages for the thumb marks.
137
138 \newpage
139
140 \section{The first section}
141 \addthumb{First section}{\space\Huge{\textbf{$1^ \textrm{st}$}}}{yellow}{green}
142
143 \begin{verbatim}
144 \addthumb{First section}{\space\Huge{\textbf{$1^ \textrm{st}$}}}{yellow}{green}
145 \end{verbatim}
146
147 A thumb mark is added for this section. The parameters are: title for the thumb mark,
148 the text to be displayed in the thumb mark (choose your own format),
149 the colour of the text in the thumb mark,
150 and the background colour of the thumb mark (parameters in this order).\newline
151
152 Now for some pages of \textquotedblleft content\textquotedblright\ldots
153
154 \newpage
155 \lipsum[1]
156 \newpage
157 \lipsum[1]
158 \newpage
159 \lipsum[1]
160 \newpage
161
162 \section{The second section}
163 \addthumb{Second section}{\Huge{\textbf{\arabic{section}}}}{green}{yellow}
164
165 For this section, the text to be displayed in the thumb mark was set to
166 \begin{verbatim}
167 \Huge{\textbf{\arabic{section}}}
168 \end{verbatim}
169 i.\,e. the number of the section will be displayed (huge \& bold).\newline
170
171 Let us change the thumb mark on a page with an even number:
172
173 \newpage
174
175 \section{The third section}
176 \addthumb{Third section}{\Huge{\textbf{\arabic{section}}}}{blue}{red}
177
178 No problem!
179
```

```
180 And you do not need to have a section to add a thumb:
181
182 \newpage
183
184 \addthumb{Still third section}{\Huge{\textbf{\arabic{section}b}}}{red}{blue}
185
186 This is still the third section, but there is a new thumb mark.
187
188 On the other hand, you can even get rid of the thumb marks
189 for some page(s):
190
191 \newpage
192
193 \stopthumb
194
195 The command
196 \begin{verbatim}
197 \stopthumb
198 \end{verbatim}
199 was used here. Until another \verb|\addthumb| (with parameters) or
200 \begin{verbatim}
201 \continuethumb
202 \end{verbatim}
203 is used, there will be no more thumb marks.
204
205 \newpage
206
207 Still no thumb marks.
208
209 \newpage
210
211 Still no thumb marks.
212
213 \newpage
214
215 Still no thumb marks.
216
217 \newpage
218
219 \continuethumb
220
221 Thumb mark continued (unchanged).
222
223 \newpage
224
225 Thumb mark continued (unchanged).
226
```

```
227 \newpage
228
229 Time for another thumb,
230
231 \addthumb{Another heading}{Small text}{white}{black}
232
233 and another.
234
235 \addthumb{Huge Text paragraph}{\Huge{Huge\\ \ Text}}{yellow}{green}
236
237 \bigskip
238
239 \textquotedblleft {\Huge{Huge Text}}\textquotedblright\ is too large for
240 the thumb mark. When option \texttt{width=\{autoauto\}} would be used,
241 the thumb mark width would be automatically increased. Now the text is
242 either split over two lines (try \verb|Huge\\ \ Text| for another format)
243 or (in case \verb|Huge~Text| is used) is written over the border of the
244 thumb mark. When the text is too wide for the thumb mark and cannot
245 be split, \LaTeX{} might nevertheless place the text into the next line.
246 By this the text is placed too low. Adding a
247 \hbox{\verb|\protect\vspace*{-| some lenght \verb|}|} to the text could help,
248 for example\\
249 \verb|\addthumb{Huge Text}{\protect\vspace*{-3pt}\Huge{Huge~Text}}...|.
250 \label{HugeText}
251
252 \addthumb{Huge Text}{\Huge{Huge~Text}}{red}{blue}
253
254 \addthumb{Huge Bold Text}{\Huge{\textbf{HBT}}}{black}{yellow}
255
256 \bigskip
257
258 When there is more than one thumb mark at one page, this is also no problem.
259
260 \newpage
261
262 Some text
263
264 \newpage
265
266 Some text
267
268 \newpage
269
270 Some text
271
272 \newpage
273
```

17

```latex
274 \section{xcolor}
275 \addthumb{xcolor}{\Huge{\textbf{xcolor}}}{magenta}{cyan}
276
277 It is probably a good idea to have a look at the \textsf{xcolor} package
278 and use other colours than used in this example.
279
280 (About automatically increasing the thumb mark width to the thumb mark text
281 width please see the note at page~\pageref{HugeText}.)
282
283 \newpage
284
285 \addthumb{A mark}{\Huge{\textbf{A}}}{lime}{darkgray}
286
287 I just need to add further thumb marks to get them reaching the bottom of the page.
288
289 Generally the vertical size of the thumb marks is set to the value given in the
290 height option. If it is \texttt{auto}, the size of the thumb marks is decreased,
291 so that they fit all on one page. But when they get smaller than \texttt{minheight},
292 instead of decreasing their size further, a~new thumbs column is started
293 (which will happen here).
294
295 \newpage
296
297 \addthumb{B mark}{\Huge{\textbf{B}}}{brown}{pink}
298
299 There! A new thumb column was started automatically!
300
301 \newpage
302
303 \addthumb{C mark}{\Huge{\textbf{C}}}{brown}{pink}
304
305 You can, of course, keep the colour for more than one thumb mark.
306
307 \newpage
308
309 \addthumb{$1/1.\,955\,83$\, EUR}{\Huge{\textbf{D}}}{orange}{violet}
310
311 I am just adding further thumb marks.
312
313 If you are curious why the thumb mark between
314 \textquotedblleft C mark\textquotedblright\ and \textquotedblleft E mark\textquotedblright\ has
315 not been named \textquotedblleft D mark\textquotedblright\ but
316 \textquotedblleft $1/1.\,955\,83$\, EUR\textquotedblright :
317
318 $1\unit{DM}=1\unit{D\ Mark}=1\unit{Deutsche\ Mark}$\newline
319 $=\frac{1}{1.\,955\,83}\,$\euro $\,=1/1.\,955\,83\unit{Euro}=1/1.\,955\,83\unit{EUR}$.
320
```

18

```
321 \newpage
322
323 Let us have a look at \verb|\thumbsoverviewverso|:
324
325 \addthumbsoverviewtocontents{section}{Table of Thumbs, verso mode}%
326 \thumbsoverviewverso{Table of Thumbs, verso mode}
327
328 \newpage
329
330 And, of course, also at \verb|\thumbsoverviewdouble|:
331
332 \addthumbsoverviewtocontents{section}{Table of Thumbs, double mode}%
333 \thumbsoverviewdouble{Table of Thumbs, double mode}
334
335 \newpage
336
337 \addthumb{E mark}{\Huge{\textbf{E}}}{lightgray}{black}
338
339 I am just adding further thumb marks.
340
341 \newpage
342
343 \addthumb{F mark}{\Huge{\textbf{F}}}{magenta}{black}
344
345 Some text.
346
347 \newpage
348 \thumbnewcolumn
349 \addthumb{New thumb marks column}{\Huge{\textit{NC}}}{magenta}{black}
350
351 There! A new thumb column was started manually!
352
353 \newpage
354
355 Some text.
356
357 \newpage
358
359 \addthumb{G mark}{\Huge{\textbf{G}}}{orange}{violet}
360
361 I just added another thumb mark.
362
363 \newpage
364
365 \pagecolor{green}
366
367 \makeatletter
```

```
368 \ltx@ifpackageloaded{hyperref}{% hyperref loaded
369 \phantomsection%
370 }{% hyperref not loaded
371 }%
372 \makeatother
373
```

```
374 \label{greenpage}
375
376 Some faulty pdf-viewer sometimes (for the same document!)
377 adds a white line at the bottom and right side of the document
378 when presenting it. This does not change the printed version.
379 To test for this problem, this page has been completely coloured.
380 (Probably better exclude this page from printing!)
381
382 \textsc{Heiko Oberdiek} wrote at Tue, 26 Apr 2011 14:13:29 +0200
383 in the \newline
384 comp.text.tex newsgroup (see e.\,g. \newline
385 \url{http://groups.google.com/group/de.comp.text.tex/msg/b3aea4a60e1c3737}):\newline
386 \textquotedblleft Der Ursprung ist 0 0,
387 da gibt es nicht viel zu runden; bei den anderen Seiten
388 werden pt als bp in die PDF-Datei geschrieben, d.h.
389 der Balken ist um 72.27/72 zu gro\ss{}, das
390 sollte auch Rundungsfehler abdecken.\textquotedblright
391
392 (The origin is 0 0, there is not much to be rounded;
393 for the other sides the $\unit{pt}$ are written as $\unit{bp}$ into
394 the pdf-file, i.\,e. the rule is too large by $72.27/72$, which
395 should cover also rounding errors.)
396
397 The thumb marks are also too large - on purpose! This has been done
398 to assure, that they cover the page up to its (paper) border,
399 therefore they are placed a little bit over the paper margin.
400
401 Now I red somewhere in the net (should have remembered to note the url),
402 that white margins are presented, whenever there is some object outside
403 of the page. Thus, it is a feature, not a bug?!
404 What I do not understand: The same document sometimes is presented
405 with white lines and sometimes without (same viewer, same PC).\newline
406 But at least it does not influence the printed version.
407
408 \newpage
409
410 \pagecolor{white}
411
412 It is possible to use the Table of Thumbs more than once (for example
413 at the beginning and the end of the document) and to refer to them via e.\,g.
414 \verb|\pageref{TableOfThumbs1}, \pageref{TableOfThumbs2}|,... ,
415 here: page \pageref{TableOfThumbs1}, page \pageref{TableOfThumbs2},
416 and via e.\,g. \verb|\pageref{TableOfThumbs}| it is referred to the last used
417 Table of Thumbs (for compatibility with older package versions).
418 If there is only one Table of Thumbs, this one is also the last one, of course.
419 Here it is at page \pageref{TableOfThumbs}.\newline
420
```

```
421 Now let us have a look at \verb|\thumbsoverviewback|:
422
423 \addthumbsoverviewtocontents{section}{Table of Thumbs, back mode}%
424 \thumbsoverviewback{Table of Thumbs, back mode}
425
426 \newpage
427
428 Text can be placed after any of the Tables of Thumbs, of course.
429
430 \end{document}
431 ⟨/example⟩
```

5   The implementation

We start off by checking that we are loading into LaTeX 2$_\varepsilon$ and announcing the name and version of this package.

```
432 ⟨*package⟩
```

```
433 \NeedsTeXFormat{LaTeX2e}[2011/06/27]
434 \ProvidesPackage{thumbs}[2014/03/09 v1.0q
435           Thumb marks and overview page(s) (HMM)]
436
```

A short description of the thumbs package:

```
437 %% This package allows to create a customizable thumb index,
438 %% providing a quick and easy reference method for large documents,
439 %% as well as an overview page.
440
```

For possible SW(P) users, we issue a warning. Unfortunately, we cannot check for the used software (Can we? `tcilatex.tex` is *probably* exactly there when SW(P) is used, but it *could* also be there without SW(P) 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. The options for those packages might be changed by the user – I neither tested all available options nor the current thumbs package, thus first test, whether the document can be compiled with these options, and then try to change them according to your wishes (*or just get a current TeX distribution instead!*).

```
441 \IfFileExists{tcilatex.tex}{% Quite probably SWP/SW/SN
442   \PackageWarningNoLine{thumbs}{%
443     When compiling with SWP 5.50 Build 2960\MessageBreak%
444     (copyright MacKichan Software, Inc.)\MessageBreak%
445     and using an older version of the thumbs package\MessageBreak%
446     these additional packages were needed:\MessageBreak%
447     \string\usepackage[T1]{fontenc}\MessageBreak%
448     \string\usepackage{amsfonts}\MessageBreak%
449     \string\usepackage[math]{cellspace}\MessageBreak%
450     \string\usepackage{xcolor}\MessageBreak%
451     \string\pagecolor{white}\MessageBreak%
452     \string\providecommand{\string\QTO}[2]{\string##2}\MessageBreak%
453     especially before hyperref and thumbs,\MessageBreak%
454     but best right after the \string\documentclass!%
455     }%
456 }{% Probably not SWP/SW/SN
457   }
458
```

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

```
459 \RequirePackage{kvoptions}[2011/06/30]%      v3.11
```

as well as some other packages:

```
460 \RequirePackage{atbegshi}[2011/10/05]%       v1.16
461 \RequirePackage{xcolor}[2007/01/21]%         v2.11
```

```
462 \RequirePackage{picture}[2009/10/11]%        v1.3
463 \RequirePackage{alphalph}[2011/05/13]%       v2.4
```

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:

```
464 \RequirePackage{pageslts}[2014/01/19]%       v1.2c
465 \RequirePackage{pagecolor}[2012/02/23]%      v1.0e
466 \RequirePackage{rerunfilecheck}[2011/04/15]% v1.7
467 \RequirePackage{infwarerr}[2010/04/08]%      v1.3
468 \RequirePackage{ltxcmds}[2011/11/09]%        v1.22
469 \RequirePackage{atveryend}[2011/06/30]%      v1.8
```

A last information for the user:

```
470 %% thumbs may work with earlier versions of LaTeX2e and those packages,
471 %% but this was not tested. Please consider updating your LaTeX contribution
472 %% and packages to the most recent version (if they are not already the most
473 %% recent version).
474
```

See subsection 6.1 about how to get them.

LaTeX 2$_\varepsilon$ 2011/06/27 changed the \enddocument command and thus broke the atveryend package, which was then fixed. If new LaTeX 2$_\varepsilon$ 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 LaTeX 2$_\varepsilon$ Sources by JOHANNES BRAAMS, DAVID CARLISLE, ALAN JEFFREY, LESLIE LAMPORT, FRANK MITTELBACH, CHRIS ROWLEY, AND RAINER SCHÖPF as of 2011/06/27, p. 464.

```
475 \@ifl@t@r\fmtversion{2011/06/27}% or possibly even newer
476 {\@ifpackagelater{atveryend}{2011/06/29}%
477  {% 2011/06/30, v1.8, or even more recent: OK
478  }{% else: older package version, no \AtVeryVeryEnd
479    \PackageError{thumbs}{Outdated atveryend package version}{%
480      LaTeX 2011/06/27 has changed \string\enddocument\space and thus broken the\MessageBreak%
481      \string\AtVeryVeryEnd\space command/hooking of atveryend package as of\MessageBreak%
482      2011/04/23, v1.7. Package versions 2011/06/30, v1.8, and later work with\MessageBreak%
483      the new LaTeX format, but some older package version was loaded.\MessageBreak%
484      Please update to the newer atveryend package.\MessageBreak%
485      For fixing this problem until the updated package is installed,\MessageBreak%
486      \string\let\string\AtVeryVeryEnd\string\AtEndAfterFileList\MessageBreak%
487      is used now, fingers crossed.%
488      }%
489    \let\AtVeryVeryEnd\AtEndAfterFileList%
490    \AtEndAfterFileList{% if there is \AtVeryVeryEnd inside \AtEndAfterFileList
491      \let\AtEndAfterFileList\ltx@firstofone%
492    }
493  }
494 }{% 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 thumbs probably also works with older versions).

```
495 }
496
```

The options are introduced:

```
497 \SetupKeyvalOptions{family=thumbs,prefix=thumbs@}
498 \DeclareStringOption{linefill}[dots]% \thumbs@linefill
499 \DeclareStringOption[rule]{thumblink}[rule]
500 \DeclareStringOption[47pt]{minheight}[47pt]
501 \DeclareStringOption{height}[auto]
502 \DeclareStringOption{width}[auto]
503 \DeclareStringOption{distance}[2mm]
504 \DeclareStringOption{topthumbmargin}[auto]
505 \DeclareStringOption{bottomthumbmargin}[auto]
506 \DeclareStringOption[5pt]{eventxtindent}[5pt]
507 \DeclareStringOption[5pt]{oddtxtexdent}[5pt]
508 \DeclareStringOption[0pt]{evenmarkindent}[0pt]
509 \DeclareStringOption[0pt]{oddmarkexdent}[0pt]
510 \DeclareStringOption[0pt]{evenprintvoffset}[0pt]
511 \DeclareBoolOption[false]{txtcentered}
512 \DeclareBoolOption[true]{ignorehoffset}
513 \DeclareBoolOption[true]{ignorevoffset}
514 \DeclareBoolOption{nophantomsection}% false by default, but true if used
515 \DeclareBoolOption[true]{verbose}
516 \DeclareComplementaryOption{silent}{verbose}
517 \DeclareBoolOption{draft}
518 \DeclareComplementaryOption{final}{draft}
519 \DeclareBoolOption[false]{hidethumbs}
```

obsolete options   The options pagecolor, evenindent, and oddexdent are obsolete now, but for compatibility with older documents they are still provided at the time being (will be removed in some future version).

```
520 %% Obsolete options:
521 \DeclareStringOption{pagecolor}
522 \DeclareStringOption{evenindent}
523 \DeclareStringOption{oddexdent}
524
525 \ProcessKeyvalOptions*
526
```

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

```
527 \ifx\thumbs@pagecolor\empty\relax
528   \pagecolor{\thepagecolor}
529 \else
530   \PackageError{thumbs}{Option pagecolor is obsolete}{%
531     Instead the pagecolor package is used.\MessageBreak%
532     Use \string\pagecolor{...}\space after \string\usepackage[...]{thumbs}\space and\MessageBreak%
533     before \string\begin{document}\space to define a background colour\MessageBreak%
534     of the pages}
535   \pagecolor{\thumbs@pagecolor}
536 \fi
537
538 \ifx\thumbs@evenindent\empty\relax
539 \else
540   \PackageError{thumbs}{Option evenindent is obsolete}{%
541     Option "evenindent" was renamed to "eventxtindent",\MessageBreak%
542     the obsolete "evenindent" is no longer regarded.\MessageBreak%
543     Please change your document accordingly}
544 \fi
545
546 \ifx\thumbs@oddexdent\empty\relax
547 \else
548   \PackageError{thumbs}{Option oddexdent is obsolete}{%
549     Option "oddexdent" was renamed to "oddtxtexdent",\MessageBreak%
550     the obsolete "oddexdent" is no longer regarded.\MessageBreak%
551     Please change your document accordingly}
552 \fi
553
```

ignorehoffset   Usually \hoffset and \voffset should be regarded, but moving the thumb marks away from the paper edge probably makes
ignorevoffset   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.)

```
554 \ifthumbs@ignorehoffset
555   \PackageInfo{thumbs}{%
556     Option ignorehoffset NOT =false:\MessageBreak%
557     hoffset will be ignored.\MessageBreak%
558     To make thumbs regard hoffset use option\MessageBreak%
559     ignorehoffset=false}
560   \gdef\th@bmshoffset{0pt}
561 \else
562   \PackageInfo{thumbs}{%
563     Option ignorehoffset=false:\MessageBreak%
564     hoffset will be regarded.\MessageBreak%
```

```
565     This might move the thumb marks away from the paper edge}
566   \gdef\th@bmshoffset{\hoffset}
567 \fi
568
569 \ifthumbs@ignorevoffset
570   \PackageInfo{thumbs}{%
571     Option ignorevoffset NOT =false:\MessageBreak%
572     voffset will be ignored.\MessageBreak%
573     To make thumbs regard voffset use option\MessageBreak%
574     ignorevoffset=false}
575   \gdef\th@bmsvoffset{-\voffset}
576 \else
577   \PackageInfo{thumbs}{%
578     Option ignorevoffset=false:\MessageBreak%
579     voffset will be regarded.\MessageBreak%
580     This might move the thumb mark outside of the printable area}
581   \gdef\th@bmsvoffset{\voffset}
582 \fi
583
```

linefill   We process the linefill option value:

```
584 \ifx\thumbs@linefill\empty%
585   \gdef\th@mbs@linefill{\hspace*{\fill}}
586 \else
587   \def\th@mbstest{line}%
588   \ifx\thumbs@linefill\th@mbstest%
589     \gdef\th@mbs@linefill{\hrulefill}
590   \else
591     \def\th@mbstest{dots}%
592     \ifx\thumbs@linefill\th@mbstest%
593       \gdef\th@mbs@linefill{\dotfill}
594     \else
595       \PackageError{thumbs}{Option linefill with invalid value}{%
596         Option linefill has value "\thumbs@linefill ".\MessageBreak%
597         Valid values are "" (empty), "line", or "dots".\MessageBreak%
598         "" (empty) will be used now.\MessageBreak%
599         }
600       \gdef\th@mbs@linefill{\hspace*{\fill}}
601     \fi
602   \fi
603 \fi
604
```

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

```
605 \newdimen\th@mbwidthx
606
607 \newdimen\th@mbheighty% Thumb height y
608 \setlength{\th@mbheighty}{\z@}
609
610 \newdimen\th@mbposx
611 \newdimen\th@mbposy
612 \newdimen\th@mbposyA
613 \newdimen\th@mbposyB
614 \newdimen\th@mbposytop
615 \newdimen\th@mbposybottom
616 \newdimen\th@mbwidthxtoc
617 \newdimen\th@mbwidthtmp
618 \newdimen\th@mbsposytocy
619 \newdimen\th@mbsposytocyy
620
```

Horizontal indention of thumb marks text on odd/even pages according to the choosen options:

```
621 \newdimen\th@mbHitO
622 \setlength{\th@mbHitO}{\thumbs@oddtxtexdent}
623 \newdimen\th@mbHitE
624 \setlength{\th@mbHitE}{\thumbs@eventxtindent}
625
```

Horizontal indention of whole thumb marks on odd/even pages according to the choosen options:

```
626 \newdimen\th@mbHimO
627 \setlength{\th@mbHimO}{\thumbs@oddmarkexdent}
628 \newdimen\th@mbHimE
629 \setlength{\th@mbHimE}{\thumbs@evenmarkindent}
630
```

Vertical distance between thumb marks on odd/even pages according to the choosen option:

```
631 \newdimen\th@mbsdistance
632 \ifx\thumbs@distance\empty%
633   \setlength{\th@mbsdistance}{1mm}
634 \else
635   \setlength{\th@mbsdistance}{\thumbs@distance}
636 \fi
637
638 \ifthumbs@verbose% \relax
639 \else
640   \PackageInfo{thumbs}{%
641     Option verbose=false (or silent=true) found:\MessageBreak%
642     You will lose some information}
643 \fi
```

644

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

```
645 \newbox\ThumbsBox
646
647 \gdef\th@mbs{0}
648 \gdef\th@mbsmax{0}
649 \gdef\th@umbsperpage{0}% will be set via .aux file
650 \gdef\th@umbsperpagecount{0}
651
652 \gdef\th@mbtitle{}
653 \gdef\th@mbtext{}
654 \gdef\th@mbtextcolour{\thepagecolor}
655 \gdef\th@mbbackgroundcolour{\thepagecolor}
656 \gdef\th@mbcolumn{0}
657
658 \gdef\th@mbtextA{}
659 \gdef\th@mbtextcolourA{\thepagecolor}
660 \gdef\th@mbbackgroundcolourA{\thepagecolor}
661
662 \gdef\th@mbprinting{1}
663 \gdef\th@mbtoprint{0}
664 \gdef\th@mbonpage{0}
665 \gdef\th@mbonpagemax{0}
666
667 \gdef\th@mbcolumnnew{0}
668
669 \gdef\th@mbs@toc@level{}
670 \gdef\th@mbs@toc@text{}
671
672 \gdef\th@mbmaxwidth{0pt}
673
674 \gdef\th@mb@titlelabel{}
675
676 \gdef\th@mbstable{0}% number of thumb marks overview tables
677
```

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

```
678 \if@filesw% \relax
679 \else
680   \PackageWarningNoLine{thumbs}{No auxiliary files allowed!\MessageBreak%
681     It was not allowed to write to files.\MessageBreak%
682     A lot of packages do not work without access to files\MessageBreak%
683     like the .aux one. The thumbs package needs to write\MessageBreak%
684     to the \jobname.tmb file. To exit press\MessageBreak%
685     Ctrl+Z\MessageBreak%
686     .\MessageBreak%
687   }
```

\th@mb@txtBox \th@mb@txtBox writes its second argument (most likely \th@mb@tmp@text) in normal text size. Sometimes another text size could "leak" from the respective page, \normalsize prevents this. If another text size is whished for, it can always be changed inside \th@mb@tmp@text. The colour given in the first argument (most likely \th@mb@tmp@textcolour) is used and either \centering (depending on the txtcentered option) or \raggedleft or \raggedright (depending on the third argument). The forth argument determines the width of the \parbox.

```
690 \newcommand{\th@mb@txtBox}[4]{%
691   \parbox[c][\th@mbheighty][c]{#4}{%
692     \settowidth{\th@mbwidthtmp}{\normalsize #2}%
693     \addtolength{\th@mbwidthtmp}{-#4}%
694     \ifthumbs@txtcentered%
695       {\centering{\color{#1}\normalsize #2}}%
696     \else%
697       \def\th@mbstest{#3}%
698       \def\th@mbstestb{r}%
699       \ifx\th@mbstest\th@mbstestb%
700          \ifdim\th@mbwidthtmp >0sp\relax\hspace*{-\th@mbwidthtmp}\fi%
701          {\raggedleft\leftskip 0sp minus \textwidth{\hfill\color{#1}\normalsize{#2}}}%
702       \else% \th@mbstest = l
703         {\raggedright{\color{#1}\normalsize\hspace*{1pt}\space{#2}}}%
704       \fi%
705     \fi%
706     }%
707 }
708
```

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

```
709 \newcommand{\setth@mbheight}{%
710   \setlength{\th@mbheighty}{\z@}
711   \advance\th@mbheighty+\headheight
712   \advance\th@mbheighty+\headsep
713   \advance\th@mbheighty+\textheight
714   \advance\th@mbheighty+\footskip
715   \@tempcnta=\th@mbsmax\relax
716   \ifnum\@tempcnta>1
717     \divide\th@mbheighty\th@mbsmax
718   \fi
719   \advance\th@mbheighty-\th@mbsdistance
720   \advance\th@mbheighty-\th@mbsdistance
721 }
722
```

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.

```
723 \AtBeginDocument{%
724   \ifthumbs@ignorehoffset
725     \gdef\th@bmshoffset{0pt}
726   \else
727     \gdef\th@bmshoffset{\hoffset}
728   \fi
729   \ifthumbs@ignorevoffset
730     \gdef\th@bmsvoffset{-\voffset}
731   \else
732     \gdef\th@bmsvoffset{\voffset}
733   \fi
734   \xdef\th@mbpaperwidth{\the\paperwidth}
735   \setlength{\@tempdima}{1pt}
736   \ifdim \thumbs@minheight < \@tempdima% too small
737     \setlength{\thumbs@minheight}{1pt}
738   \else
739     \ifdim \thumbs@minheight = \@tempdima% small, but ok
740     \else
741       \ifdim \thumbs@minheight > \@tempdima% ok
742       \else
743         \PackageError{thumbs}{Option minheight has invalid value}{%
744           As value for option minheight please use\MessageBreak%
745           a number and a length unit (e.g. mm, cm, pt)\MessageBreak%
746           and no space between them\MessageBreak%
747           and include this value+unit combination in curly brackets\MessageBreak%
748           (please see the thumbs-example.tex file).\MessageBreak%
749           When pressing Return, minheight will now be set to 47pt.\MessageBreak%
750         }
751         \setlength{\thumbs@minheight}{47pt}
752       \fi
753     \fi
754   \fi
755   \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={...}`):

```
756   \ifx\thumbs@height\empty%
757     \setlength{\th@mbheighty}{\@tempdima}
758   \else
759     \def\th@mbstest{auto}
760     \ifx\thumbs@height\th@mbstest%
```

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

```
761       \setth@mbheight
```

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

```
762        \ifdim \th@mbheighty < \thumbs@minheight
763          \PackageWarningNoLine{thumbs}{Thumbs not high enough:\MessageBreak%
764            Option height has value "auto". For \th@mbsmax\space thumbs per page\MessageBreak%
765            this results in a thumb height of \the\th@mbheighty.\MessageBreak%
766            This is lower than the minimal thumb height, \thumbs@minheight,\MessageBreak%
767            therefore another thumbs column will be opened.\MessageBreak%
768            If you do not want this, choose a smaller value\MessageBreak%
769            for option "minheight"%
770          }
771          \setlength{\th@mbheighty}{\z@}
772          \advance\th@mbheighty by \@tempdima% = \thumbs@minheight
773        \fi
774      \else
```

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

```
775        \ifthumbs@verbose
776          \edef\thumbsinfo{\the\th@mbheighty}
777          \PackageInfo{thumbs}{Now setting thumbs' height to \thumbsinfo .}
778        \fi
779        \setlength{\th@mbheighty}{\thumbs@height}
780      \fi
781    \fi
```

Read in the \jobname.tmb-file:

```
782    \newread\@instreamthumb%
```

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

```
783    \ifthumbs@verbose
784      \message{^^J}
785      \@PackageInfoNoLine{thumbs}{************** THUMB dimensions **************}
786      \edef\thumbsinfo{\the\th@mbheighty}
787      \@PackageInfoNoLine{thumbs}{The height of the thumb marks is \thumbsinfo}
788    \fi
```

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

```
789    \ifthumbs@draft
790      \setlength{\th@mbwidthx}{2pt}
791    \else
792      \setlength{\th@mbwidthx}{\paperwidth}
793      \advance\th@mbwidthx-\textwidth
794      \divide\th@mbwidthx by 4
795      \setlength{\@tempdima}{0sp}
796      \ifx\thumbs@width\empty%
797      \else
```

```
798    \def\th@mbstest{auto}
799    \ifx\thumbs@width\th@mbstest%
800    \else
801      \def\th@mbstest{autoauto}
802      \ifx\thumbs@width\th@mbstest%
803        \@ifundefined{th@mbmaxwidtha}{%
804          \if@filesw%
805            \gdef\th@mbmaxwidtha{0pt}
806            \setlength{\th@mbwidthx}{\th@mbmaxwidtha}
807            \AtEndAfterFileList{
808              \PackageWarningNoLine{thumbs}{%
809                \string\th@mbmaxwidtha\space undefined.\MessageBreak%
810                Rerun to get the thumb marks width right%
811              }
812            }
813          \else
814            \PackageError{thumbs}{%
815              You cannot use option autoauto without \jobname.aux file.%
816            }
817          \fi
818        }{%\else
819          \setlength{\th@mbwidthx}{\th@mbmaxwidtha}
820        }%\fi
821      \else
822        \ifdim \thumbs@width > \@tempdima% OK
823          \setlength{\th@mbwidthx}{\thumbs@width}
824        \else
825          \PackageError{thumbs}{Thumbs not wide enough}{%
826            Option width has value "\thumbs@width".\MessageBreak%
827            This is not a valid dimension larger than zero.\MessageBreak%
828            Width will be set automatically.\MessageBreak%
829          }
830        \fi
831      \fi
832    \fi
833    \fi
834 \fi
835 \ifthumbs@verbose
836   \edef\thumbsinfo{\the\th@mbwidthx}
837   \@PackageInfoNoLine{thumbs}{The width of the thumb marks is \thumbsinfo}
838   \ifthumbs@draft
839     \@PackageInfoNoLine{thumbs}{because thumbs package is in draft mode}
840   \fi
841 \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:

```
842  % Thumb position x \th@mbposx
843  \setlength{\th@mbposx}{\paperwidth}
844  \advance\th@mbposx-\th@mbwidthx
845  \ifthumbs@ignorehoffset
846    \advance\th@mbposx-\hoffset
847  \fi
848  \advance\th@mbposx+1pt
849  % Thumb position y \th@mbposy
850  \ifx\thumbs@topthumbmargin\empty%
851    \def\thumbs@topthumbmargin{auto}
852  \fi
853  \def\th@mbstest{auto}
854  \ifx\thumbs@topthumbmargin\th@mbstest%
855    \setlength{\th@mbposy}{1in}
856    \advance\th@mbposy+\th@bmsvoffset
857    \advance\th@mbposy+\topmargin
858    \advance\th@mbposy-\th@mbsdistance
859    \advance\th@mbposy+\th@mbheighty
860  \else
861    \setlength{\@tempdima}{-1pt}
862    \ifdim \thumbs@topthumbmargin > \@tempdima% OK
863    \else
864      \PackageWarning{thumbs}{Thumbs column starting too high.\MessageBreak%
865        Option topthumbmargin has value "\thumbs@topthumbmargin ".\MessageBreak%
866        topthumbmargin will be set to -1pt.\MessageBreak%
867      }
868      \gdef\thumbs@topthumbmargin{-1pt}
869    \fi
870    \setlength{\th@mbposy}{\thumbs@topthumbmargin}
871    \advance\th@mbposy-\th@mbsdistance
872    \advance\th@mbposy+\th@mbheighty
873  \fi
874  \setlength{\th@mbposytop}{\th@mbposy}
875  \ifthumbs@verbose%
876    \setlength{\@tempdimc}{\th@mbposytop}
877    \advance\@tempdimc-\th@mbheighty
878    \advance\@tempdimc+\th@mbsdistance
879    \edef\thumbsinfo{\the\@tempdimc}
880    \@PackageInfoNoLine{thumbs}{The top thumb margin is \thumbsinfo}
881  \fi
```

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

```
882    % Max. thumb position y \th@mbposybottom
883    \ifx\thumbs@bottomthumbmargin\empty%
884      \gdef\thumbs@bottomthumbmargin{auto}
885    \fi
886    \def\th@mbstest{auto}
887    \ifx\thumbs@bottomthumbmargin\th@mbstest%
888      \setlength{\th@mbposybottom}{1in}
889      \ifthumbs@ignorevoffset% \relax
890      \else \advance\th@mbposybottom+\th@bmsvoffset
891      \fi
892      \advance\th@mbposybottom+\topmargin
893      \advance\th@mbposybottom-\th@mbsdistance
894      \advance\th@mbposybottom+\th@mbheighty
895      \advance\th@mbposybottom+\headheight
896      \advance\th@mbposybottom+\headsep
897      \advance\th@mbposybottom+\textheight
898      \advance\th@mbposybottom+\footskip
899      \advance\th@mbposybottom-\th@mbsdistance
900      \advance\th@mbposybottom-\th@mbheighty
901    \else
902      \setlength{\@tempdima}{\paperheight}
903      \advance\@tempdima by -\thumbs@bottomthumbmargin
904      \advance\@tempdima by -\th@mbposytop
905      \advance\@tempdima by -\th@mbsdistance
906      \advance\@tempdima by -\th@mbheighty
907      \advance\@tempdima by -\th@mbsdistance
908      \ifdim \@tempdima > 0sp \relax
909      \else
910        \setlength{\@tempdima}{\paperheight}
911        \advance\@tempdima by -\th@mbposytop
912        \advance\@tempdima by -\th@mbsdistance
913        \advance\@tempdima by -\th@mbheighty
914        \advance\@tempdima by -\th@mbsdistance
915        \advance\@tempdima by -1pt
916        \PackageWarning{thumbs}{Thumbs column ending too high.\MessageBreak%
917          Option bottomthumbmargin has value "\thumbs@bottomthumbmargin ".\MessageBreak%
918          bottomthumbmargin will be set to "\the\@tempdima".\MessageBreak%
919        }
920        \xdef\thumbs@bottomthumbmargin{\the\@tempdima}
921      \fi
```

```
922    \setlength{\@tempdima}{\thumbs@bottomthumbmargin}
923    \setlength{\@tempdimc}{-1pt}
924    \ifdim \@tempdima < \@tempdimc%
925      \PackageWarning{thumbs}{Thumbs column ending too low.\MessageBreak%
926        Option bottomthumbmargin has value "\thumbs@bottomthumbmargin ".\MessageBreak%
927        bottomthumbmargin will be set to -1pt.\MessageBreak%
928      }
929      \gdef\thumbs@bottomthumbmargin{-1pt}
930    \fi
931    \setlength{\th@mbposybottom}{\paperheight}
932    \advance\th@mbposybottom-\thumbs@bottomthumbmargin
933  \fi
934  \ifthumbs@verbose%
935    \setlength{\@tempdimc}{\paperheight}
936    \advance\@tempdimc by -\th@mbposybottom
937    \edef\thumbsinfo{\the\@tempdimc}
938    \@PackageInfoNoLine{thumbs}{The bottom thumb margin is \thumbsinfo}
939    \@PackageInfoNoLine{thumbs}{*********************************************}
940    \message{^^J}
941  \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@mbsposytocyy is used to remember this position unchanged.

```
942    \advance\th@mbposy-\th@mbheighty%        because it will be advanced also for the first thumb
943    \setlength{\th@mbposyA}{\th@mbposy}%      \th@mbposyA will change.
944    \setlength{\th@mbsposytocyy}{\th@mbposy}% \th@mbsposytocyy shall not be changed.
945  }
946
```

\th@mb@dvance The internal command \th@mb@dvance is used to advance the position of the current thumb by \th@mbheighty and \th@mbsdistance. 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@dvance is calling itself again. This loop continues until a new thumb column is ready to be started.

```
947 \newcommand{\th@mb@dvance}{%
948    \advance\th@mbposy+\th@mbheighty%
949    \advance\th@mbposy+\th@mbsdistance%
950    \ifdim\th@mbposy>\th@mbposybottom%
951      \advance\th@mbposy-\th@mbheighty%
952      \advance\th@mbposy-\th@mbsdistance%
953    \else%
954      \advance\th@mbposy-\th@mbheighty%
955      \advance\th@mbposy-\th@mbsdistance%
956      \thumborigaddthumb{}{}{\string\thepagecolor}{\string\thepagecolor}%
957      \th@mb@dvance%
958    \fi%
959  }
960
```

\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.

```
961 \newcommand{\thumbnewcolumn}{%
962   \ifx\th@mbtoprint\pagesLTS@one%
963     \PackageError{thumbs}{\string\thumbnewcolumn\space after \string\addthumb }{%
964       On page \thepage\space (approx.) \string\addthumb\space was used and *afterwards* %
965       \string\thumbnewcolumn .\MessageBreak%
966       When you want to use \string\thumbnewcolumn , do not use an \string\addthumb\space %
967       on the same\MessageBreak%
968       page before \string\thumbnewcolumn . Thus, either remove the \string\addthumb , %
969       or use a\MessageBreak%
970       \string\pagebreak , \string\newpage\space etc. before \string\thumbnewcolumn .\MessageBreak%
971       (And remember to use an \string\addthumb\space*after* \string\thumbnewcolumn .)\MessageBreak%
972       Your command \string\thumbnewcolumn\space will be ignored now.%
973     }%
974   \else%
975     \PackageWarning{thumbs}{%
976       Starting of another column requested by command\MessageBreak%
977       \string\thumbnewcolumn.\space Only use this command directly\MessageBreak%
978       before an \string\addthumb\space - did you?!\MessageBreak%
979     }%
980     \gdef\th@mbcolumnnew{1}%
981     \th@mb@dvance%
982     \gdef\th@mbprinting{0}%
983     \gdef\th@mbcolumnnew{2}%
984   \fi%
985 }
986
```

\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.

```
987 \newcommand{\addtitlethumb}[5]{%
988   \xdef\th@mb@titlelabel{#5}%
989   \addthumb{#1}{#2}{#3}{#4}%
990   \xdef\th@mb@titlelabel{}%
991 }
992
```

`\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.)

```
993 \gdef\th@mbsphantom{1}
994
995 \newcommand{\thumbsnophantom}{\gdef\th@mbsphantom{0}}
996
```

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

```
997 \newcommand{\addthumb}[4]{%
998   \gdef\th@mbprinting{1}%
999   \advance\th@mbposy\th@mbheighty%
1000   \advance\th@mbposy\th@mbsdistance%
1001   \ifdim\th@mbposy>\th@mbposybottom%
1002     \PackageInfo{thumbs}{%
1003       Thumbs column full, starting another column.\MessageBreak%
1004       }%
1005     \setlength{\th@mbposy}{\th@mbposytop}%
1006     \advance\th@mbposy\th@mbsdistance%
1007     \ifx\th@mbcolumn\pagesLTS@zero%
1008       \xdef\th@umbsperpagecount{\th@mbs}%
1009       \gdef\th@mbcolumn{1}%
1010     \fi%
1011   \fi%
1012   \@tempcnta=\th@mbs\relax%
1013   \advance\@tempcnta by 1%
1014   \xdef\th@mbs{\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).

```
1015   \gdef\th@mbtitle{#1}%
1016   \gdef\th@mbtext{#2}%
1017   \gdef\th@mbtextcolour{#3}%
1018   \gdef\th@mbbackgroundcolour{#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). It could be acceptable to have a thumb mark text consisting of more than one line, of course, in which case nothing needs to be changed. Possible horizontal movement (`\th@mbHitO`, `\th@mbHitE`) has to be taken into account.

```
1019    \settowidth{\@tempdima}{\th@mbtext}%
1020    \ifdim\th@mbHitO>\th@mbHitE\relax%
1021      \advance\@tempdima+\th@mbHitO%
1022    \else%
1023      \advance\@tempdima+\th@mbHitE%
1024    \fi%
1025    \ifdim\@tempdima>\th@mbmaxwidth%
1026      \xdef\th@mbmaxwidth{\the\@tempdima}%
1027    \fi%
1028    \ifdim\@tempdima>\th@mbwidthx%
1029      \ifthumbs@draft% \relax
1030      \else%
1031        \edef\thumbsinfoa{\the\th@mbwidthx}
1032        \edef\thumbsinfob{\the\@tempdima}
1033        \PackageWarning{thumbs}{%
1034          Thumb mark too small (width: \thumbsinfoa )\MessageBreak%
1035          or its text too wide (width: \thumbsinfob )\MessageBreak%
1036        }%
1037      \fi%
1038    \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!).

```
1039    \ltx@ifpackageloaded{hyperref}{% hyperref loaded
1040      \ifthumbs@nophantomsection% \relax
1041      \else%
1042        \ifx\th@mbsphantom\pagesLTS@one%
1043          \phantomsection%
1044        \else%
1045          \gdef\th@mbsphantom{1}%
1046        \fi%
1047      \fi%
1048    }{% hyperref not loaded
1049     }%
1050    \label{thumbs.\th@mbs}%
1051    \if@filesw%
1052      \ifx\th@mb@titlelabel\empty%
1053        \addtocontents{tmb}{\string\thumbcontents{#1}{#2}{#3}{#4}{\thepage}{thumbs.\th@mbs}{\th@mbcolumnnew}}%
1054      \else%
1055        \addtocounter{page}{-1}%
1056        \edef\th@mb@page{\thepage}%
1057        \addtocontents{tmb}{\string\thumbcontents{#1}{#2}{#3}{#4}{\th@mb@page}{\th@mb@titlelabel}{\th@mbcolumnnew}}%
1058        \addtocounter{page}{+1}%
1059      \fi%
1060    %\else there is a problem, but the according warning message was already given earlier.
```

```
1061    \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).

```
1062    \ifx\th@mbcolumnnew\pagesLTS@one%
1063    \else%
1064      \@tempcnta=\th@mbonpage\relax%
1065      \advance\@tempcnta by 1%
1066      \xdef\th@mbonpage{\the\@tempcnta}%
1067    \fi%
1068    \ifx\th@mbtoprint\pagesLTS@zero%
1069    \else%
1070      \ifx\th@mbcolumnnew\pagesLTS@zero%
1071        \PackageWarning{thumbs}{More than one thumb at one page:\MessageBreak%
1072          You placed more than one thumb mark (at least \th@mbonpage)\MessageBreak%
1073          on page \thepage \space (page is approximately).\MessageBreak%
1074          Maybe insert a page break?\MessageBreak%
1075        }%
1076      \fi%
1077    \fi%
1078    \ifnum\th@mbonpage=1%
1079      \ifnum\th@mbonpagemax>0% \relax
1080      \else \gdef\th@mbonpagemax{1}%
1081      \fi%
1082      \gdef\th@mbtextA{#2}%
1083      \gdef\th@mbtextcolourA{#3}%
1084      \gdef\th@mbbackgroundcolourA{#4}%
1085      \setlength{\th@mbposyA}{\th@mbposy}%
1086    \else%
1087      \ifx\th@mbcolumnnew\pagesLTS@zero%
1088        \@tempcnta=1\relax%
1089        \edef\th@mbonpagetest{\the\@tempcnta}%
1090        \@whilenum\th@mbonpagetest<\th@mbonpage\do{%
1091         \advance\@tempcnta by 1%
1092         \xdef\th@mbonpagetest{\the\@tempcnta}%
1093         \ifnum\th@mbonpage=\th@mbonpagetest%
1094           \ifnum\th@mbonpagemax<\th@mbonpage%
1095             \xdef\th@mbonpagemax{\th@mbonpage}%
1096           \fi%
1097           \edef\th@mbtmpdef{\csname th@mbtext\AlphAlph{\the\@tempcnta}\endcsname}%
1098           \expandafter\gdef\th@mbtmpdef{#2}%
1099           \edef\th@mbtmpdef{\csname th@mbtextcolour\AlphAlph{\the\@tempcnta}\endcsname}%
1100           \expandafter\gdef\th@mbtmpdef{#3}%
1101           \edef\th@mbtmpdef{\csname th@mbbackgroundcolour\AlphAlph{\the\@tempcnta}\endcsname}%
1102           \expandafter\gdef\th@mbtmpdef{#4}%
1103         \fi%
```

```
1104      }%
1105    \else%
1106      \ifnum\th@mbonpagemax<\th@mbonpage%
1107        \xdef\th@mbonpagemax{\th@mbonpage}%
1108      \fi%
1109    \fi%
1110  \fi%
1111  \ifx\th@mbcolumnnew\pagesLTS@two%
1112    \gdef\th@mbcolumnnew{0}%
1113  \fi%
1114  \gdef\th@mbtoprint{1}%
1115  }
1116
```

\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).

```
1117 \newcommand{\stopthumb}{\gdef\th@mbprinting{0}}
1118
```

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

```
1119 \newcommand{\continuethumb}{\gdef\th@mbprinting{1}}
1120
```

\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.

```
1121 \newcommand{\thumbcontents}[7]{%
1122     \advance\th@mbposy\th@mbheighty%
1123     \advance\th@mbposy\th@mbsdistance%
1124     \ifdim\th@mbposy>\th@mbposybottom%
1125         \setlength{\th@mbposy}{\th@mbposytop}%
1126         \advance\th@mbposy\th@mbsdistance%
1127     \fi%
1128     \def\th@mb@tmp@title{#1}%
1129     \def\th@mb@tmp@text{#2}%
1130     \def\th@mb@tmp@textcolour{#3}%
1131     \def\th@mb@tmp@backgroundcolour{#4}%
1132     \def\th@mb@tmp@page{#5}%
1133     \def\th@mb@tmp@label{#6}%
1134     \def\th@mb@tmp@column{#7}%
1135     \ifx\th@mb@tmp@column\pagesLTS@two%
1136         \def\th@mb@tmp@column{0}%
1137     \fi%
1138     \setlength{\th@mbwidthxtoc}{\paperwidth}%
1139     \advance\th@mbwidthxtoc-1in%
```

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

```
1140     \def\th@mbstest{r}%
1141     \ifx\th@mbstest\th@mbsprintpage% r
1142         \advance\th@mbwidthxtoc-\th@mbHimO%
1143         \advance\th@mbwidthxtoc-\oddsidemargin%
1144         \setlength{\@tempdimc}{1in}%
1145         \advance\@tempdimc+\oddsidemargin%
1146     \else% l
1147         \advance\th@mbwidthxtoc-\th@mbHimE%
1148         \advance\th@mbwidthxtoc-\evensidemargin%
```

```
1149    \setlength{\@tempdimc}{\th@bmshoffset}%
1150    \advance\@tempdimc-\hoffset
1151  \fi%
1152  \setlength{\th@mbposyB}{-\th@mbposy}%
1153  \if@twoside%
1154    \ifodd\c@CurrentPage%
1155      \ifx\th@mbtikz\pagesLTS@zero%
1156      \else%
1157        \setlength{\@tempdimb}{-\th@mbposy}%
1158        \advance\@tempdimb-\thumbs@evenprintvoffset%
1159        \setlength{\th@mbposyB}{\@tempdimb}%
1160      \fi%
1161    \else%
1162      \ifx\th@mbtikz\pagesLTS@zero%
1163        \setlength{\@tempdimb}{-\th@mbposy}%
1164        \advance\@tempdimb-\thumbs@evenprintvoffset%
1165        \setlength{\th@mbposyB}{\@tempdimb}%
1166      \fi%
1167    \fi%
1168  \fi%
1169  \def\th@mbstest{l}%
1170  \ifx\th@mbstest\th@mbsprintpage% l
1171    \advance\@tempdimc+\th@mbHimE%
1172  \fi%
1173  \put(\@tempdimc,\th@mbposyB){%
1174    \ifx\th@mbstest\th@mbsprintpage% l
```

Increase `\th@mbwidthxtoc` by the absolute value of `\evensidemargin`.

With the bigintcalc package it would also be possible to use:

```
\setlength{\@tempdimb}{\evensidemargin}%
\@settopoint\@tempdimb%
\advance\th@mbwidthxtoc+\bigintcalcSgn{\expandafter\strip@pt \@tempdimb}\evensidemargin%
```

```
1175      \ifdim\evensidemargin <0sp\relax%
1176        \advance\th@mbwidthxtoc-\evensidemargin%
1177      \else% >=0sp
1178        \advance\th@mbwidthxtoc+\evensidemargin%
1179      \fi%
1180    \fi%
1181    \begin{picture}(0,0)%
```

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

```
1182      \def\th@mbstest{rule}%
1183      \ifx\thumbs@thumblink\th@mbstest%
1184        \ifx\th@mb@tmp@column\pagesLTS@zero%
1185        {\color{\th@mb@tmp@backgroundcolour}%
1186          \hyperref[\th@mb@tmp@label]{\rule{\th@mbwidthxtoc}{\th@mbheighty}}}%
```

```
1187          }%
1188        \else%
```

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

```
1189          {\color{\th@mb@tmp@backgroundcolour}\rule{\th@mbwidthxtoc}{\th@mbheighty}}%
1190        \fi%
1191      \else%
1192        {\color{\th@mb@tmp@backgroundcolour}\rule{\th@mbwidthxtoc}{\th@mbheighty}}%
1193      \fi%
1194    \end{picture}%
```

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

```
1195    \ifx\th@mbstest\th@mbsprintpage% l
1196      \advance\th@mbwidthxtoc-\evensidemargin%
1197    \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.

```
1198    \ifx\th@mb@tmp@column\pagesLTS@zero%
1199      \setlength{\th@mbwidthxtoc}{\paperwidth}%
1200      \advance\th@mbwidthxtoc-1in%
1201      \advance\th@mbwidthxtoc-\hoffset%
1202      \ifx\th@mbstest\th@mbsprintpage% l
1203        \advance\th@mbwidthxtoc-\evensidemargin%
1204      \else%
1205        \advance\th@mbwidthxtoc-\oddsidemargin%
1206      \fi%
1207      \advance\th@mbwidthxtoc-\th@mbwidthx%
1208      \advance\th@mbwidthxtoc-20pt%
1209      \ifdim\th@mbwidthxtoc>\textwidth%
1210        \setlength{\th@mbwidthxtoc}{\textwidth}%
1211      \fi%
```

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

```
1212        \ifx\th@mbstest\th@mbsprintpage% l
1213          \begin{picture}(-\th@mbHimE,0)(-6pt,-0.5\th@mbheighty+384930sp)%
1214            \bgroup%
1215              \setlength{\parindent}{0pt}%
1216              \setlength{\@tempdimc}{\th@mbwidthx}%
1217              \advance\@tempdimc-\th@mbHitO%
1218              \setlength{\@tempdimb}{\th@mbwidthx}%
1219              \advance\@tempdimb-\th@mbHitE%
1220              \ifodd\c@CurrentPage%
1221                \if@twoside%
1222                  \ifx\th@mbtikz\pagesLTS@zero%
1223                    \hspace*{-\th@mbHitO}%
1224                    \th@mb@txtBox{\th@mb@tmp@textcolour}{\protect\th@mb@tmp@text}{r}{\@tempdimc}%
1225                  \else%
1226                    \hspace*{+\th@mbHitE}%
1227                    \th@mb@txtBox{\th@mb@tmp@textcolour}{\protect\th@mb@tmp@text}{l}{\@tempdimb}%
1228                  \fi%
1229                \else%
1230                  \hspace*{-\th@mbHitO}%
1231                  \th@mb@txtBox{\th@mb@tmp@textcolour}{\protect\th@mb@tmp@text}{r}{\@tempdimc}%
1232                \fi%
1233              \else%
1234                \if@twoside%
1235                  \ifx\th@mbtikz\pagesLTS@zero%
1236                    \hspace*{+\th@mbHitE}%
1237                    \th@mb@txtBox{\th@mb@tmp@textcolour}{\protect\th@mb@tmp@text}{l}{\@tempdimb}%
1238                  \else%
1239                    \hspace*{-\th@mbHitO}%
1240                    \th@mb@txtBox{\th@mb@tmp@textcolour}{\protect\th@mb@tmp@text}{r}{\@tempdimc}%
1241                  \fi%
1242                \else%
1243                  \hspace*{-\th@mbHitO}%
1244                  \th@mb@txtBox{\th@mb@tmp@textcolour}{\protect\th@mb@tmp@text}{r}{\@tempdimc}%
1245                \fi%
1246              \fi%
1247            \egroup%
1248          \end{picture}%
1249          \setlength{\@tempdimc}{-1in}%
1250          \advance\@tempdimc-\evensidemargin%
1251        \else% r
1252          \setlength{\@tempdimc}{0pt}%
1253        \fi%
1254        \begin{picture}(0,0)(\@tempdimc,-0.5\th@mbheighty+384930sp)%
1255          \bgroup%
1256            \setlength{\parindent}{0pt}%
1257            \vbox%
```

45

```
1258              {\hsize=\th@mbwidthxtoc {%
```

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

- `none` creates *none* hyperlink

```
1259                    \def\th@mbstest{none}%
1260                    \ifx\thumbs@thumblink\th@mbstest%
1261                      {\color{\th@mb@tmp@textcolour}\noindent \th@mb@tmp@title%
1262                       \leaders\box \ThumbsBox {\th@mbs@linefill \th@mb@tmp@page}%
1263                      }%
1264                    \else%
```

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

```
1265                    \def\th@mbstest{title}%
1266                    \ifx\thumbs@thumblink\th@mbstest%
1267                      {\color{\th@mb@tmp@textcolour}\noindent%
1268                       \hyperref[\th@mb@tmp@label]{\th@mb@tmp@title}%
1269                       \leaders\box \ThumbsBox {\th@mbs@linefill \th@mb@tmp@page}%
1270                      }%
1271                    \else%
```

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

```
1272                    \def\th@mbstest{page}%
1273                    \ifx\thumbs@thumblink\th@mbstest%
1274                      {\color{\th@mb@tmp@textcolour}\noindent%
1275                       \th@mb@tmp@title%
1276                       \leaders\box \ThumbsBox {\th@mbs@linefill \pageref{\th@mb@tmp@label}}%
1277                      }%
1278                    \else%
```

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

```
1279                    \def\th@mbstest{titleandpage}%
1280                    \ifx\thumbs@thumblink\th@mbstest%
1281                      {\color{\th@mb@tmp@textcolour}\noindent%
1282                       \hyperref[\th@mb@tmp@label]{\th@mb@tmp@title}%
1283                       \leaders\box \ThumbsBox {\th@mbs@linefill \pageref{\th@mb@tmp@label}}%
1284                      }%
1285                    \else%
```

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

```
1286                    \def\th@mbstest{line}%
1287                    \ifx\thumbs@thumblink\th@mbstest%
1288                      {\color{\th@mb@tmp@textcolour}\noindent%
1289                       \hyperref[\th@mb@tmp@label]{\th@mb@tmp@title%
1290                       \leaders\box \ThumbsBox {\th@mbs@linefill \th@mb@tmp@page}}%
1291                      }%
1292                    \else%
```

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

```
1293                        \def\th@mbstest{rule}%
1294                        \ifx\thumbs@thumblink\th@mbstest%
1295                          {\color{\th@mb@tmp@textcolour}\noindent%
1296                           \th@mb@tmp@title%
1297                           \leaders\box \ThumbsBox {\th@mbs@linefill \th@mb@tmp@page}%
1298                          }%
1299                        \else%
```

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

```
1300                          \PackageError{thumbs}{\string\thumbs@thumblink\space invalid}{%
1301                            \string\thumbs@thumblink\space has an invalid value,\MessageBreak%
1302                            although it did not have an invalid value before,\MessageBreak%
1303                            and the thumbs package did not change it.\MessageBreak%
1304                            Therefore some other package (or the user)\MessageBreak%
1305                            manipulated it.\MessageBreak%
1306                            Now setting it to "none" as last resort.\MessageBreak%
1307                          }%
1308                          \gdef\thumbs@thumblink{none}%
1309                          {\color{\th@mb@tmp@textcolour}\noindent%
1310                           \th@mb@tmp@title%
1311                           \leaders\box \ThumbsBox {\th@mbs@linefill \th@mb@tmp@page}%
1312                          }%
1313                        \fi%
1314                      \fi%
1315                    \fi%
1316                  \fi%
1317                \fi%
1318              \fi%
1319            }%
1320          }%
1321        \egroup%
1322      \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.

```
1323      \ifx\th@mbstest\th@mbsprintpage% l; relax
1324      \else%
1325        \begin{picture}(0,0)(1in+\oddsidemargin-\th@mbxpos+20pt,-0.5\th@mbheighty+384930sp)%
1326          \bgroup%
1327            \setlength{\parindent}{0pt}%
1328            \setlength{\@tempdimc}{\th@mbwidthx}%
1329            \advance\@tempdimc-\th@mbHitO%
1330            \setlength{\@tempdimb}{\th@mbwidthx}%
1331            \advance\@tempdimb-\th@mbHitE%
1332            \ifodd\c@CurrentPage%
```

```
1333              \if@twoside%
1334                \ifx\th@mbtikz\pagesLTS@zero%
1335                  \hspace*{-\th@mbHitO}%
1336                  \th@mb@txtBox{\th@mb@tmp@textcolour}{\protect\th@mb@tmp@text}{r}{\@tempdimc}%
1337                \else%
1338                  \hspace*{+\th@mbHitE}%
1339                  \th@mb@txtBox{\th@mb@tmp@textcolour}{\protect\th@mb@tmp@text}{l}{\@tempdimb}%
1340                \fi%
1341              \else%
1342                \hspace*{-\th@mbHitO}%
1343                \th@mb@txtBox{\th@mb@tmp@textcolour}{\protect\th@mb@tmp@text}{r}{\@tempdimc}%
1344              \fi%
1345            \else%
1346              \if@twoside%
1347                \ifx\th@mbtikz\pagesLTS@zero%
1348                  \hspace*{+\th@mbHitE}%
1349                  \th@mb@txtBox{\th@mb@tmp@textcolour}{\protect\th@mb@tmp@text}{l}{\@tempdimb}%
1350                \else%
1351                  \hspace*{-\th@mbHitO}%
1352                  \th@mb@txtBox{\th@mb@tmp@textcolour}{\protect\th@mb@tmp@text}{r}{\@tempdimc}%
1353                \fi%
1354              \else%
1355                \hspace*{-\th@mbHitO}%
1356                \th@mb@txtBox{\th@mb@tmp@textcolour}{\protect\th@mb@tmp@text}{r}{\@tempdimc}%
1357              \fi%
1358            \fi%
1359          \egroup%
1360        \end{picture}%
1361      \fi%
1362    \fi%
1363    }%
1364  }
1365
```

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

```
1366 \newcommand{\th@mb@yA}{%
1367  \advance\th@mbposyA\th@mbheighty%
1368  \advance\th@mbposyA\th@mbsdistance%
1369  \ifdim\th@mbposyA>\th@mbposybottom%
1370    \PackageWarning{thumbs}{You are not only using more than one thumb mark at one\MessageBreak%
1371      single page, but also thumb marks from different thumb\MessageBreak%
1372      columns. May I suggest the use of a \string\pagebreak\space or\MessageBreak%
1373      \string\newpage ?%
1374    }%
1375    \setlength{\th@mbposyA}{\th@mbposytop}%
1376  \fi%
1377  }
```

`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.

```
1379 \ltx@ifpackageloaded{tikz}{% tikz loaded before thumbs
1380   \ltx@ifpackageloaded{hyperref}{% hyperref loaded before thumbs,
1381     %% but tikz and hyperref in which order? To be determined now:
1382     %% Code similar to the one from David Carlisle:
1383     %% http://tex.stackexchange.com/a/45654/6865
```

http://tex.stackexchange.com/a/45654/6865

```
1384     \xdef\th@mbtikz{-1}% assume tikz loaded after hyperref,
1385     %% check for opposite case:
1386     \def\th@mbstest{tikz.sty}
1387     \let\th@mbstestb\@empty
1388     \@for\@th@mbsfl:=\@filelist\do{%
1389       \ifx\@th@mbsfl\th@mbstest
1390         \def\th@mbstestb{hyperref.sty}
1391       \fi
1392       \ifx\@th@mbsfl\th@mbstestb
1393         \xdef\th@mbtikz{0}% tikz loaded before hyperref
1394       \fi
1395       }
1396     %% End of code similar to the one from David Carlisle
1397   }{% tikz loaded before thumbs and hyperref loaded afterwards or not at all
1398     \xdef\th@mbtikz{0}%
1399   }
1400 }{% tikz not loaded before thumbs
1401   \xdef\th@mbtikz{-1}
1402 }
1403
```

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

```
1404 \newcommand{\th@mbprint}[3]{%
1405   \setlength{\th@mbposyB}{-\th@mbposyA}%
1406   \if@twoside%
1407     \ifodd\c@CurrentPage%
1408       \ifx\th@mbtikz\pagesLTS@zero%
1409       \else%
1410         \setlength{\@tempdimc}{-\th@mbposyA}%
1411         \advance\@tempdimc-\thumbs@evenprintvoffset%
1412         \setlength{\th@mbposyB}{\@tempdimc}%
1413       \fi%
1414     \else%
1415       \ifx\th@mbtikz\pagesLTS@zero%
1416         \setlength{\@tempdimc}{-\th@mbposyA}%
1417         \advance\@tempdimc-\thumbs@evenprintvoffset%
1418         \setlength{\th@mbposyB}{\@tempdimc}%
1419       \fi%
1420     \fi%
1421   \fi%
1422   \put(\th@mbxpos,\th@mbposyB){%
1423     \begin{picture}(0,0)%
1424       {\color{#3}\rule{\th@mbwidthx}{\th@mbheighty}}}%
1425     \end{picture}%
1426   \begin{picture}(0,0)(0,-0.5\th@mbheighty+384930sp)%
1427     \bgroup%
1428       \setlength{\parindent}{0pt}%
1429       \setlength{\@tempdimc}{\th@mbwidthx}%
1430       \advance\@tempdimc-\th@mbHitO%
1431       \setlength{\@tempdimb}{\th@mbwidthx}%
1432       \advance\@tempdimb-\th@mbHitE%
1433       \ifodd\c@CurrentPage%
1434         \if@twoside%
1435           \ifx\th@mbtikz\pagesLTS@zero%
1436             \hspace*{-\th@mbHitO}%
1437             \th@mb@txtBox{#2}{#1}{r}{\@tempdimc}%
1438           \else%
1439             \hspace*{+\th@mbHitE}%
1440             \th@mb@txtBox{#2}{#1}{l}{\@tempdimb}%
1441           \fi%
1442         \else%
1443           \hspace*{-\th@mbHitO}%
1444           \th@mb@txtBox{#2}{#1}{r}{\@tempdimc}%
1445         \fi%
1446       \else%
1447         \if@twoside%
1448           \ifx\th@mbtikz\pagesLTS@zero%
1449             \hspace*{+\th@mbHitE}%
```

```
1450                \th@mb@txtBox{#2}{#1}{l}{\@tempdimb}%
1451              \else%
1452                \hspace*{-\th@mbHitO}%
1453                \th@mb@txtBox{#2}{#1}{r}{\@tempdimc}%
1454              \fi%
1455            \else%
1456              \hspace*{-\th@mbHitO}%
1457              \th@mb@txtBox{#2}{#1}{r}{\@tempdimc}%
1458            \fi%
1459          \fi%
1460        \egroup%
1461      \end{picture}%
1462    }%
1463  }
1464
```

\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.

```
1465 \AtBeginShipout{%
1466   \ifx\th@mbcolumnnew\pagesLTS@zero% ok
1467   \else%
1468     \PackageError{thumbs}{Missing \string\addthumb\space after \string\thumbnewcolumn }{%
1469       Command \string\thumbnewcolumn\space was used, but no new thumb placed with \string\addthumb\MessageBreak%
1470       (at least not at the same page). After \string\thumbnewcolumn\space please always use an\MessageBreak%
1471       \string\addthumb . Until the next \string\addthumb , there will be no thumb marks on the\MessageBreak%
1472       pages. Starting a new column of thumb marks and not putting a thumb mark into\MessageBreak%
1473       that column does not make sense. If you just want to get rid of column marks,\MessageBreak%
1474       do not abuse \string\thumbnewcolumn\space but use \string\stopthumb .\MessageBreak%
1475       (This error message will be repeated at all following pages,\MessageBreak%
1476       \space until \string\addthumb\space is used.)\MessageBreak%
1477     }%
1478   \fi%
1479   \@tempcnta=\value{CurrentPage}\relax%
1480   \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.)

```
1481   \edef\th@mbstmpwidth{\the\paperwidth}%
1482   \ifdim\th@mbpaperwidth=\th@mbstmpwidth% OK
1483   \else%
1484     \PackageWarningNoLine{thumbs}{%
1485       Paperwidth has changed. Thumb mark positions become now adapted%
1486     }%
1487     \setlength{\th@mbposx}{\paperwidth}%
1488     \advance\th@mbposx-\th@mbwidthx%
```

```
1489    \ifthumbs@ignorehoffset%
1490      \advance\th@mbposx-\hoffset%
1491    \fi%
1492    \advance\th@mbposx+1pt%
1493    \xdef\th@mbpaperwidth{\the\paperwidth}%
1494  \fi%
```

Determining the correct \th@mbxpos:

```
1495  \edef\th@mbxpos{\the\th@mbposx}%
1496  \ifodd\@tempcnta% \relax
1497  \else%
1498    \if@twoside%
1499      \ifthumbs@ignorehoffset%
1500        \setlength{\@tempdimc}{-\hoffset}%
1501        \advance\@tempdimc-1pt%
1502        \edef\th@mbxpos{\the\@tempdimc}%
1503      \else%
1504        \def\th@mbxpos{-1pt}%
1505      \fi%

      \else \relax%

1506    \fi%
1507  \fi%
1508  \setlength{\@tempdimc}{\th@mbxpos}%
1509  \if@twoside%
1510    \ifodd\@tempcnta \advance\@tempdimc-\th@mbHimO%
1511    \else \advance\@tempdimc+\th@mbHimE%
1512    \fi%
1513  \else \advance\@tempdimc-\th@mbHimO%
1514  \fi%
1515  \edef\th@mbxpos{\the\@tempdimc}%
1516  \AtBeginShipoutUpperLeft{%
1517    \ifx\th@mbprinting\pagesLTS@one%
1518      \th@mbprint{\th@mbtextA}{\th@mbtextcolourA}{\th@mbbackgroundcolourA}%
1519      \@tempcnta=1\relax%
1520      \edef\th@mbonpagetest{\the\@tempcnta}%
1521      \@whilenum\th@mbonpagetest<\th@mbonpage\do{%
1522        \advance\@tempcnta by 1%
1523        \edef\th@mbonpagetest{\the\@tempcnta}%
1524        \th@mb@yA%
1525        \def\th@mbtmpdeftext{\csname th@mbtext\AlphAlph{\the\@tempcnta}\endcsname}%
1526        \def\th@mbtmpdefcolour{\csname th@mbtextcolour\AlphAlph{\the\@tempcnta}\endcsname}%
1527        \def\th@mbtmpdefbackgroundcolour{\csname th@mbbackgroundcolour\AlphAlph{\the\@tempcnta}\endcsname}%
1528        \th@mbprint{\th@mbtmpdeftext}{\th@mbtmpdefcolour}{\th@mbtmpdefbackgroundcolour}%
1529      }%
1530    \fi%
```

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

```
1531    \@tempcnta=\th@mbonpage\relax%
1532    \ifnum\@tempcnta<2% \relax
1533    \else%
1534      \gdef\th@mbtextA{\th@mbtext}%
1535      \gdef\th@mbtextcolourA{\th@mbtextcolour}%
1536      \gdef\th@mbbackgroundcolourA{\th@mbbackgroundcolour}%
1537      \gdef\th@mbposyA{\th@mbposy}%
1538    \fi%
1539    \gdef\th@mbonpage{0}%
1540    \gdef\th@mbtoprint{0}%
1541    }%
1542  }
1543
```

\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.

```
1544 \AfterLastShipout{%
1545   \ifx\th@mbcolumnnew\pagesLTS@zero% ok
1546   \else
1547     \PackageWarningNoLine{thumbs}{%
1548       Still missing \string\addthumb\space after \string\thumbnewcolumn\space after\MessageBreak%
1549       last ship-out: Command \string\thumbnewcolumn\space was used,\MessageBreak%
1550       but no new thumb placed with \string\addthumb\space anywhere in the\MessageBreak%
1551       rest of the document. Starting a new column of thumb\MessageBreak%
1552       marks and not putting a thumb mark into that column\MessageBreak%
1553       does not make sense. If you just want to get rid of\MessageBreak%
1554       thumb marks, do not abuse \string\thumbnewcolumn\space but use\MessageBreak%
1555       \string\stopthumb %
1556     }
1557   \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 LaTeX run via the .aux file.

```
1558   \ifx\th@mbcolumn\pagesLTS@zero% if there is only one column of thumbs
1559     \xdef\th@umbsperpagecount{\th@mbs}
1560     \gdef\th@mbcolumn{1}
1561   \fi
1562   \ifx\th@umbsperpagecount\pagesLTS@zero
1563     \gdef\th@umbsperpagecount{\th@mbs}% \th@mbs was increased with each \addthumb
1564   \fi
1565   \ifdim\th@mbmaxwidth>\th@mbwidthx
1566     \ifthumbs@draft% \relax
1567     \else
```

```
1568        \def\th@mbstest{autoauto}
1569        \ifx\thumbs@width\th@mbstest%
1570          \AtEndAfterFileList{%
1571            \PackageWarningNoLine{thumbs}{%
1572              Rerun to get the thumb marks width right%
1573            }
1574          }
1575        \else
1576          \AtEndAfterFileList{%
1577            \edef\thumbsinfoa{\th@mbmaxwidth}
1578            \edef\thumbsinfob{\the\th@mbwidthx}
1579            \PackageWarningNoLine{thumbs}{%
1580              Thumb mark too small or its text too wide:\MessageBreak%
1581              The widest thumb mark text is \thumbsinfoa\space wide,\MessageBreak%
1582              but the thumb marks are only \space\thumbsinfob\space wide.\MessageBreak%
1583              Either shorten or scale down the text,\MessageBreak%
1584              or increase the thumb mark width,\MessageBreak%
1585              or use option width=autoauto%
1586            }
1587          }
1588        \fi
1589      \fi
1590    \fi
1591    \if@filesw
1592      \immediate\write\@auxout{\string\gdef\string\th@mbmaxwidtha{\th@mbmaxwidth}}
1593      \immediate\write\@auxout{\string\gdef\string\th@umbsperpage{\th@umbsperpagecount}}
1594      \immediate\write\@auxout{\string\gdef\string\th@mbsmax{\th@mbs}}
1595      \expandafter\newwrite\csname tf@tmb\endcsname
```

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

```
1596      \RerunFileCheck{\jobname.tmb}{%
1597        \immediate\closeout \csname tf@tmb\endcsname
1598        }{Warning: Rerun to get list of thumbs right!%
1599        }
1600      \immediate\openout \csname tf@tmb\endcsname = \jobname.tmb\relax
1601 %\else there is a problem, but the according warning message was already given earlier.
1602    \fi
1603  }
1604
```

humbsoverviewtocontents `\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`.

```
1605 \newcommand{\addthumbsoverviewtocontents}[2]{%
1606   \gdef\th@mbs@toc@level{#1}%
1607   \gdef\th@mbs@toc@text{#2}%
```

```
1608    }
1609
```

\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.

```
1610 \newcommand{\clearotherdoublepage}{%
1611 \clearpage\if@twoside \ifodd\c@page% removed "\else" from \cleardoublepage
1612 \hbox{}\newpage\if@twocolumn\hbox{}\newpage\fi\fi\fi%
1613 }
1614
```

\th@mbstablabeling 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.

```
1615 \newcommand{\th@mbstablabeling}{%
1616    \ltx@ifpackageloaded{hyperref}{\phantomsection}{}%
1617    \let\label\thumbsoriglabel%
1618    \ifx\th@mbstable\pagesLTS@one%
1619       \label{TableOfThumbs}%
1620       \label{TableOfThumbs1}%
1621    \else%
1622       \overridelabel{TableOfThumbs}%
1623       \label{TableOfThumbs\th@mbstable}%
1624    \fi%
1625    \let\label\@gobble%
1626    \ifx\th@mbs@toc@level\empty%\relax
1627    \else \addcontentsline{toc}{\th@mbs@toc@level}{\th@mbs@toc@text}%
1628    \fi%
1629    }
1630
```

\thumbsoverview
\thumbsoverviewback
\thumbsoverviewverso
\thumbsoverviewdouble
  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).

`\thumbsoverview`

```
1631 \newcommand{\thumbsoverview}[1]{\thumbsoverviewprint{#1}{r}}
1632
```

`\thumbsoverviewback`

```
1633 \newcommand{\thumbsoverviewback}[1]{\thumbsoverviewprint{#1}{l}}
1634
```

`\thumbsoverviewverso`

```
1635 \newcommand{\thumbsoverviewverso}[1]{\thumbsoverviewprint{#1}{v}}
1636
```

`\thumbsoverviewdouble`

```
1637 \newcommand{\thumbsoverviewdouble}[1]{\thumbsoverviewprint{#1}{d}}
1638
```

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

```
1639 \newcommand{\thumbsoverviewprint}[2]{%
```

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

```
1640    \edef\th@mbstest{#2}%
1641    \def\th@mbstestb{r}%
1642    \ifx\th@mbstest\th@mbstestb% r
1643      \gdef\th@mbsprintpage{r}%
1644    \else%
1645      \def\th@mbstestb{l}%
1646      \ifx\th@mbstest\th@mbstestb% l
1647        \gdef\th@mbsprintpage{l}%
1648      \else%
1649        \def\th@mbstestb{v}%
1650        \ifx\th@mbstest\th@mbstestb% v
```

```
1651          \gdef\th@mbsprintpage{v}%
1652       \else%
1653          \def\th@mbstestb{d}%
1654          \ifx\th@mbstest\th@mbstestb% d
1655            \gdef\th@mbsprintpage{d}%
1656          \else%
1657            \PackageError{thumbs}{%
1658               Invalid second parameter of \string\thumbsoverviewprint %
1659            }{The second argument of command \string\thumbsoverviewprint\space must be\MessageBreak%
1660               either "r" or "l" or "v" or "d" but it is neither.\MessageBreak%
1661               Now "r" is chosen instead.\MessageBreak%
1662            }%
1663            \gdef\th@mbsprintpage{r}%
1664          \fi%
1665        \fi%
1666      \fi%
1667    \fi%
```

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

```
1668    \def\th@mbstest{none}%
1669    \ifx\thumbs@thumblink\th@mbstest% OK
1670    \else%
1671      \ltx@ifpackageloaded{hyperref}{% hyperref loaded
1672        \def\th@mbstest{title}%
1673        \ifx\thumbs@thumblink\th@mbstest% OK
1674        \else%
1675          \def\th@mbstest{page}%
1676          \ifx\thumbs@thumblink\th@mbstest% OK
1677          \else%
1678            \def\th@mbstest{titleandpage}%
1679            \ifx\thumbs@thumblink\th@mbstest% OK
1680            \else%
1681              \def\th@mbstest{line}%
1682              \ifx\thumbs@thumblink\th@mbstest% OK
1683              \else%
1684                \def\th@mbstest{rule}%
1685                \ifx\thumbs@thumblink\th@mbstest% OK
1686                \else%
1687                  \PackageError{thumbs}{Option thumblink with invalid value}{%
1688                    Option thumblink has invalid value "\thumbs@thumblink ".\MessageBreak%
1689                    Valid values are "none", "title", "page",\MessageBreak%
1690                    "titleandpage", "line", or "rule".\MessageBreak%
1691                    "rule" will be used now.\MessageBreak%
1692                  }%
1693                  \gdef\thumbs@thumblink{rule}%
1694                \fi%
1695              \fi%
1696            \fi%
```

```
1697          \fi%
1698        \fi%
1699    }{% hyperref not loaded
1700      \PackageError{thumbs}{Option thumblink not "none", but hyperref not loaded}{%
1701        The option thumblink of the thumbs package was not set to "none",\MessageBreak%
1702        but to some kind of hyperlinks, without using package hyperref.\MessageBreak%
1703        Either choose option "thumblink=none", or load package hyperref.\MessageBreak%
1704        When pressing Return, "thumblink=none" will be set now.\MessageBreak%
1705        }%
1706      \gdef\thumbs@thumblink{none}%
1707    }%
1708  \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).

```
1709  \edef\th@mbprintingovertoc{\th@mbprinting}%
1710  \ifnum \th@mbsmax > \pagesLTS@zero%
1711    \if@twoside%
1712      \def\th@mbstest{r}%
1713      \ifx\th@mbstest\th@mbsprintpage%
1714        \cleardoublepage%
1715      \else%
1716        \def\th@mbstest{v}%
1717        \ifx\th@mbstest\th@mbsprintpage%
1718          \cleardoublepage%
1719        \else% l or d
1720          \clearotherdoublepage%
1721        \fi%
1722      \fi%
1723    \else \clearpage%
1724    \fi%
1725    \stopthumb%
1726    \markboth{\MakeUppercase #1 }{\MakeUppercase #1 }%
1727  \fi%
1728  \setlength{\th@mbsposytocy}{\th@mbposy}%
1729  \setlength{\th@mbposy}{\th@mbsposytocyy}%
1730  \ifx\th@mbstable\pagesLTS@zero%
1731    \newcounter{th@mblinea}%
1732    \newcounter{th@mblineb}%
1733    \newcounter{FileLine}%
1734    \newcounter{thumbsstop}%
1735  \fi%
```

```
1736    \setcounter{th@mblinea}{\th@mbstable}%
1737    \addtocounter{th@mblinea}{+1}%
1738    \xdef\th@mbstable{\arabic{th@mblinea}}%
1739    \setcounter{th@mblinea}{1}%
1740    \setcounter{th@mblineb}{\th@umbsperpage}%
1741    \setcounter{FileLine}{1}%
1742    \setcounter{thumbsstop}{1}%
1743    \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:

\thumbsoriglabel

```
1744    \let\thumbsoriglabel\label%
```

\thumbsorigindex

```
1745    \let\thumbsorigindex\index%
```

\thumbsorigglossary

```
1746    \let\thumbsorigglossary\glossary%
```

```
1747    \let\label\@gobble%
1748    \let\index\@gobble%
1749    \let\glossary\@gobble%
```

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

```
1750    \def\th@mbstest{v}% r l r ...
1751    \ifx\th@mbstest\th@mbsprintpage%
1752      \def\th@mbsprintpage{l}% because it will be changed to r
1753      \def\th@mbdoublepage{1}%
1754    \else%
1755      \def\th@mbstest{d}% l r l ...
1756      \ifx\th@mbstest\th@mbsprintpage%
1757        \def\th@mbsprintpage{r}% because it will be changed to l
1758        \def\th@mbdoublepage{1}%
1759      \else%
1760        \def\th@mbdoublepage{0}%
1761      \fi%
1762    \fi%
1763    \def\th@mb@resetdoublepage{0}%
1764    \@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.

```
1765    {\ifx\th@mbdoublepage\pagesLTS@one%
1766        \def\th@mbstest{r}%
1767        \ifx\th@mbsprintpage\th@mbstest%
1768            \def\th@mbsprintpage{l}%
1769        \else% \th@mbsprintpage is l
1770            \def\th@mbsprintpage{r}%
1771        \fi%
1772        \clearpage%
1773        \ifx\th@mb@resetdoublepage\pagesLTS@one%
1774            \setcounter{th@mblinea}{\theth@mblinea}%
1775            \setcounter{th@mblineb}{\theth@mblineb}%
1776            \def\th@mb@resetdoublepage{0}%
1777        \else%
1778            \edef\theth@mblinea{\arabic{th@mblinea}}%
1779            \edef\theth@mblineb{\arabic{th@mblineb}}%
1780            \def\th@mb@resetdoublepage{1}%
1781        \fi%
1782    \else%
1783        \if@twoside%
1784            \def\th@mbstest{r}%
1785            \ifx\th@mbstest\th@mbsprintpage%
1786                \cleardoublepage%
1787            \else% l
1788                \clearotherdoublepage%
1789            \fi%
1790        \else%
1791            \clearpage%
1792        \fi%
1793    \fi%
```

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

```
1794    \ifnum\value{FileLine}=1%
1795        \ifx\th@mbdoublepage\pagesLTS@one%
1796            \ifx\th@mb@resetdoublepage\pagesLTS@one%
1797                \th@mbstablabeling%
1798            \fi%
1799        \else
1800            \th@mbstablabeling%
1801        \fi%
1802    \fi%
1803    \null%
1804    \th@mbs@verview%
1805    \pagebreak%
```

```
1806        \ifthumbs@verbose%
1807          \message{THUMBS: Fileline: \arabic{FileLine}, a: \arabic{th@mblinea}, %
1808            b: \arabic{th@mblineb}, per page: \th@umbsperpage, max: \th@mbsmax.^^J}%
1809        \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.

```
1810        \ifx\th@mb@resetdoublepage\pagesLTS@one%
1811          \setcounter{FileLine}{\theth@mblinea}%
1812        \fi%
1813      }%
```

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

```
1814      \setlength{\th@mbposy}{\th@mbsposytocy}%
1815      \ifx\th@mbprintingovertoc\pagesLTS@one%
1816        \continuethumb%
1817      \fi%
```

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

```
1818      \let\label\thumbsoriglabel%
1819      \let\index\thumbsorigindex%
1820      \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.)

```
1821      \addthumbsoverviewtocontents{}{}%
1822    }
1823
```

\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).

```
1824 \newcommand{\th@mbs@verview}{%
1825    \ifthumbs@verbose%
1826      \message{^^JPackage thumbs Info: Processing line \arabic{th@mblinea} to \arabic{th@mblineb} of \jobname.tmb.}%
1827    \fi%
1828    \setcounter{FileLine}{1}%
1829    \AtBeginShipoutNext{%
1830      \AtBeginShipoutUpperLeftForeground{%
1831        \IfFileExists{\jobname.tmb}{% then
1832          \openin\@instreamthumb=\jobname.tmb %
1833            \@whilenum\value{FileLine}<\value{th@mblineb}\do%
1834              {\ifthumbs@verbose%
1835                \message{THUMBS: Processing \jobname.tmb line \arabic{FileLine}.}%
```

```
1836              \fi%
1837              \ifnum \value{FileLine}<\value{th@mblinea}%
1838                \read\@instreamthumb to \@unused%
1839                \ifthumbs@verbose%
1840                  \message{Can be skipped.^^J}%
1841                \fi%
1842                % NIRVANA: ignore the line by not executing it,
1843                % i.e. not executing \@unused.
1844                % % \@unused
1845              \else%
1846                \ifnum \value{FileLine}=\value{th@mblinea}%
1847                  \read\@instreamthumb to \@thumbsout% execute the code of this line
1848                  \ifthumbs@verbose%
1849                    \message{Executing \jobname.tmb line \arabic{FileLine}.^^J}%
1850                  \fi%
1851                  \@thumbsout%
1852                \else%
1853                  \ifnum \value{FileLine}>\value{th@mblinea}%
1854                    \read\@instreamthumb to \@thumbsout% execute the code of this line
1855                    \ifthumbs@verbose%
1856                      \message{Executing \jobname.tmb line \arabic{FileLine}.^^J}%
1857                    \fi%
1858                    \@thumbsout%
1859                  \else% THIS SHOULD NEVER HAPPEN!
1860                    \PackageError{thumbs}{Unexpected error! (Really!)}{%
1861                      ! You are in trouble here.\MessageBreak%
1862                      ! Type\space \space X \string<Return\string>\space to quit.\MessageBreak%
1863                      ! Delete temporary auxiliary files\MessageBreak%
1864                      ! (like \jobname.aux, \jobname.tmb, \jobname.out)\MessageBreak%
1865                      ! and retry the compilation.\MessageBreak%
1866                      ! If the error persists, cross your fingers\MessageBreak%
1867                      ! and try typing\space \space \string<Return\string>\space to proceed.\MessageBreak%
1868                      ! If that does not work,\MessageBreak%
1869                      ! please contact the maintainer of the thumbs package.\MessageBreak%
1870                    }%
1871                  \fi%
1872                \fi%
1873              \fi%
1874              \stepcounter{FileLine}%
1875            }%
1876          \ifnum \value{FileLine}=\value{th@mblineb}
1877            \ifthumbs@verbose%
1878              \message{THUMBS: Processing \jobname.tmb line \arabic{FileLine}.}%
1879            \fi%
1880            \read\@instreamthumb to \@thumbsout% Execute the code of that line.
1881            \ifthumbs@verbose%
1882              \message{Executing \jobname.tmb line \arabic{FileLine}.^^J}%
```

```
1883              \fi%
1884              \@thumbsout% Well, really execute it here.
1885              \stepcounter{FileLine}%
1886            \fi%
1887          \closein\@instreamthumb%
```

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

```
1888          \addtocounter{th@mblinea}{\th@umbsperpage}%
1889          \addtocounter{th@mblineb}{\th@umbsperpage}%
1890          \@tempcnta=\th@mbsmax\relax%
1891          \ifnum \value{th@mblineb}>\@tempcnta\relax%
1892            \setcounter{th@mblineb}{\@tempcnta}%
1893          \fi%
1894        }{% 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@verview in \thumbsoverview. (And we issue a warning, of course.)

```
1895          \setcounter{FileLine}{\arabic{thumbsstop}}%
1896          \AtEndAfterFileList{%
1897            \PackageWarningNoLine{thumbs}{%
1898              File \jobname.tmb not found.\MessageBreak%
1899              Rerun to get thumbs overview page(s) right.\MessageBreak%
1900            }%
1901          }%
1902        }%
1903      }%
1904    }%
1905  }
1906
```

\thumborigaddthumb   When we are in draft mode, the thumb marks are "de-coloured", their width is reduced, and a warning is given.

```
1907 \let\thumborigaddthumb\addthumb%
1908
```

```
1909 \ifthumbs@draft
1910   \setlength{\th@mbwidthx}{2pt}
1911   \renewcommand{\addthumb}[4]{\thumborigaddthumb{#1}{#2}{black}{gray}}
1912   \PackageWarningNoLine{thumbs}{thumbs package in draft mode:\MessageBreak%
1913     Thumb mark width is set to 2pt,\MessageBreak%
1914     thumb mark text colour to black, and\MessageBreak%
1915     thumb mark background colour to gray.\MessageBreak%
1916     Use package option final to get the original values.\MessageBreak%
1917   }
1918 \fi
1919
```

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

```
1920 \ifthumbs@hidethumbs
1921   \renewcommand{\addthumb}[4]{\relax}
1922   \PackageWarningNoLine{thumbs}{thumbs package in hide mode:\MessageBreak%
1923     Thumb marks are hidden.\MessageBreak%
1924     Set package option "hidethumbs=false" to get thumb marks%
1925   }
1926   \renewcommand{\thumbnewcolumn}{\relax}
1927 \fi
1928
1929 ⟨/package⟩
```

6 Installation

6.1 Downloads

Everything is available on http://www.ctan.org/ but may need additional packages themselves.

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

- TEXFormat LaTeX 2_ε, 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 holtxdoc, 2012/03/21, v0.24, http://ctan.org/pkg/holtxdoc

- package hypdoc, 2011/08/19, v1.11, http://ctan.org/pkg/hypdoc

thumbs.sty   The `thumbs.sty` for LaTeX 2_ε (i. e. each document using the thumbs package) requires:

- TEX Format LaTeX 2_ε, http://www.CTAN.org/

- package xcolor, 2007/01/21, v2.11, http://ctan.org/pkg/xcolor

- package pageslts, 2014/01/19, v1.2c, http://ctan.org/pkg/pageslts

- package pagecolor, 2012/02/23, v1.0e, http://ctan.org/pkg/pagecolor

- package alphalph, 2011/05/13, v2.4, http://ctan.org/pkg/alphalph

- package atbegshi, 2011/10/05, v1.16, http://ctan.org/pkg/atbegshi

- package atveryend, 2011/06/30, v1.8, http://ctan.org/pkg/atveryend

- package infwarerr, 2010/04/08, v1.3, http://ctan.org/pkg/infwarerr

- package kvoptions, 2011/06/30, v3.11, http://ctan.org/pkg/kvoptions

- package ltxcmds, 2011/11/09, v1.22, 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

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, 2012/11/06, v6.83m, http://ctan.org/pkg/hyperref

- package thumbs, 2014/03/09, v1.0q, 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 (newer versions might be available)

- chapterthumb, 2005/03/10, v0.1, CTAN: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

- 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
holtxdoc
alphalph
atbegshi
atveryend
infwarerr
kvoptions
ltxcmds
picture
rerunfilecheck

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: http://mirror.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.

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.ctan.org/author/muench-hm.

6.2   Package, unpacking TDS

Package.   This package is available on CTAN.org

http://mirror.ctan.org/macros/latex/contrib/thumbs/thumbs.dtx
   The source file.

http://mirror.ctan.org/macros/latex/contrib/thumbs/thumbs.pdf
   The documentation.

http://mirror.ctan.org/macros/latex/contrib/thumbs/thumbs-example.pdf
   The compiled example file, as it should look like.

http://mirror.ctan.org/macros/latex/contrib/thumbs/README
   The README file.

There is also a thumbs.tds.zip available:

http://mirror.ctan.org/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 `.sty`le 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 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 TeX distribution (teTeX, mikTeX,...) relies on file name databases, you must refresh these. For example, teTeX 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 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 pdfLaTeX:

```
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 and everybody at http://tex.stackexchange.com/ for their help in all things TEX (especially DAVID CARLISLE for http://tex.stackexchange.com/a/45654/6865). 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 β-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 $2\,147\,483\,647^{\text{th}}$ 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@mbsdistance,
  where

```
\advance\th@mbheighty-\th@mbsdistance
\advance\th@mbheighty-\th@mbsdistance
```
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: TeX 2011/06/27 has changed `\enddocument` and thus broken the `\AtVeryVeryEnd` command/hooking of atveryend package as of 2011/04/23, v1.7. Version 2011/06/30, v1.8, fixed it, but this version was not available at CTAN.org yet. Until then `\AtEndAfterFileList` was used.

[2011/10/19 v1.0j]

- Changed some Warnings into Infos (as suggested by MARTIN BAUTE).

- The SW(P)-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{\QTO}[2]{#2} (for SWP) by \providecommand{\QTO}[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 `\parbox`es instead of `\makebox`es 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 `S`es are placed in another chapter).

- Minor details changed.

[2012/02/25 v1.0n]

- Check for loading order of `tikz` and `hyperref` replaced by robust method. (Thanks to DAVID CARLISLE, http://tex.stackexchange.com/a/45654/6865!)

- Fixed `url`-handling in the example in case the `hyperref` package was not loaded.

- In the index the line-numbers of definitions were not underlined; fixed.

- In the `thumbs-example` there are now a few words about "paragraph-thumbs" (i. e. text which is too long for the width of a thumb mark).

[2013/08/22 v1.0o, not released to the general public]

- STEPHANIE HEIN requested the feature to be able to increase the horizontal space between page edge and the text inside of the thumb mark. Therefore options `evenindent` and `oddexdent` were implemented (later renamed to `eventxtindent` and `oddtxtexdent`).

- BJORN VICTOR reported the same problem and also the one, that two marks are not printed at the exact same vertical position on recto and verso pages. Because this can be seen with a lot of duplex printers, the new option `evenprintvoffset` allows to vertically shift the marks on even pages by any length.

[2013/09/17 v1.0p, not released to the general public]

- The thumb mark text is now set in `\parbox`es everywhere.

- HEINI GEIRING requested the feature to be able to horizontally move the marks away from the page edge, because this is useful when using brochure printing where after the printing the physical page edge is changed by cutting the paper. Therefore the options `evenmarkindent` and `oddmarkexdent` were introduced and the options `evenindent` and `oddexdent` were renamed to `eventxtindent` and `oddtxtexdent`.

- Changed a lot of internal details.

[2014/03/09 v1.0q]

- New version of the `atveryend` package is now available at CTAN.org (see entry in this history for `thumbs` version [2011/08/22 v1.0i]).

- Support for SW(P) drastically reduced. No more testing is performed. Get a current TeX distribution instead!

- New option `txtcentered`: If it is set to `true`, the thumb's text is placed using `\centering`, otherwise either `\raggedright` or `\raggedleft` (depending on left or right page for double sided documents).

- `\normalsize` added to prevent "font size leakage" from the respective page.

- Handling of obsolete options (mainly from version 2013/08/22 v1.0o) added.

- Changed (hopefully improved) a lot of details.

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

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

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