

# The `tabularht` package

Heiko Oberdiek\*

<heiko.oberdiek at gmail.com>

2016/05/16 v2.6

## Abstract

This package defines some environments that adds a height specification to `tabular` and `array`.

## Contents

<b>1</b>	<b>Usage</b>	<b>2</b>
1.1	Option <code>vlines</code>	2
1.2	Limitations	3
1.3	Compatibility	3
1.4	Examples	3
1.4.1	Example 1	3
1.4.2	Example 2	3
<b>2</b>	<b>Implementation</b>	<b>4</b>
2.1	Environments	4
2.2	Options	6
2.3	Option <code>vlines</code> , driver independent stuff	7
2.4	Driver <code>pdftex</code>	7
2.5	DVI drivers	11
<b>3</b>	<b>Installation</b>	<b>13</b>
3.1	Download	13
3.2	Bundle installation	13
3.3	Package installation	14
3.4	Refresh file name databases	14
3.5	Some details for the interested	14
<b>4</b>	<b>Catalogue</b>	<b>15</b>
<b>5</b>	<b>History</b>	<b>15</b>
	[2005/09/22 v1.0]	15
	[2005/10/16 v2.0]	15
	[2005/10/18 v2.1]	15
	[2006/02/20 v2.2]	16
	[2006/12/22 v2.3]	16
	[2007/03/21 v2.4]	16
	[2007/04/11 v2.5]	16
	[2016/05/16 v2.6]	16

---

\*Please report any issues at <https://github.com/ho-tex/oberdiek/issues>

# 1 Usage

`\usepackage{tabularht}`

The package provides the following environments that extend the `tabular/array` environment by a height specification as first argument:

- `tabularht`, `tabularht*`
- `arrayht`
- `tabularhtx` (if package `tabularx` is loaded)

The height argument allows a length specification, package `calc` is supported if used. This means, the `tabular` will have the specified height. You can also use the prefixes `to=` and `spread=`. `to=` is the default, `spread=` means, the natural height of the `tabular` box is changed by the length after `spread=`.

Examples:

```
\begin{tabularht}{1in}           → height is 1in
\begin{tabularht}{to=1in}        → height is 1in
\begin{tabularht}{spread=0pt}    → natural height, same as \begin{tabular}
\begin{tabularht}{spread=1in}    → natural height increased by 1in
```

Hint: See also package `tabularkv`, it provides an interface, where most parameters for the environments can be given by key-value pairs.

`\interrowSPACE{...}`

Adds space between table rows. It is essentially the same as `\noalign{\vspace{...}}`.

`\interrowfill`

Short for `\interrowSPACE{\fill}`

`\interrowstart ... \interrowstop`

Marker commands, useful for option `vlines`.

## 1.1 Option `vlines`

Warning: This stuff is experimental.

Vertical lines are interrupted, if space is inserted in `\noalign`, `\interrowSPACE`, `\addlinespace` (`booktabs`), between double `\hlines`. This option tries to detect and add the vertical lines. The lines in a `tabular` with `tabularht` support (environments of this package) are numbered from left to right. The gap that is controlled by `\interrowSPACE` or inbetween `\interrowstart` and `\interrowstop` is then filled with the detected vertical lines.

If only a limited selection of the lines should be drawn, the commands know an optional argument with a list of line numbers, e.g.

```
\begin{tabularht}{50mm}{|l|l|}
  Hello & World\\
  \interrowfill[1,3]
  Foo & Bar
\end{tabularht}
```

There are three lines, but the middle line is not drawn in the gap between the first and second row. Zero can be used to suppress all lines:

`\interrow space[0]{10mm}`

The syntax of the commands with the optional argument with the line number list  $\langle list \rangle$ .  $\langle list \rangle$  is a comma separated list of numbers,  $\langle height \rangle$  means the height specification described above with the optional prefixes `to=` or `spread=`.

```
\interrow space[\langle list \rangle]{\langle height \rangle}
\interrow fill[\langle list \rangle]
\interrow start[\langle list \rangle] ... \interrow stop
```

Option `vlines` is driver dependent and uses  $\varepsilon$ -TeX features.

**pdfTeX:** pdfTeX in PDF mode. Here the positions of the lines are written with the help of the `\pdfsavepos` feature into the `.aux` file(s). Therefore you need two LaTeX runs to get the lines.

**dvips:** Here, PostScript's currentpoint is used to get the line positions. The lines are then drawn at the end of the page. Thus one LaTeX/dvips run is sufficient for this option.

**Other drivers:**

**PostScript drivers:** probably possible, an end of page hook would be nice.

**VT<sub>EX</sub>:** with GeX (PostScript interpreter) probably possible.

**dvipdfm:** no idea. The big problem is, how to get the current position?

## 1.2 Limitations

- Vertical lines are interrupted by `\noalign{\vfill}`.

## 1.3 Compatibility

- `array`, `delarray`, `tabularx` are supported.
- There can be problems with packages that redefine `\@array` (or `\@@array`, `\@tabarray`) and `\@arrayrule` (for option `vlines`).
- `colortbl`: it should at least work, but there isn't support for filling the gaps with color, neither the rules nor the backgrounds.

## 1.4 Examples

### 1.4.1 Example 1

```
1 (*example1)
2 \documentclass{article}
3 \usepackage{tabularht}
4
5 \begin{document}
6 \fbox{%
7   \begin{tabularht*}{1in}{4in}{@{}l@{\extracolsep{\fill}}r@{}}%
8     upper left corner & upper right corner\\%
9     \noalign{\vfill}%
10    \multicolumn{2}{@{}c@{}}{bounding box}\\%
11    \noalign{\vfill}%
12    lower left corner & lower right corner\\%
13  \end{tabularht*}%
14 }
15 \end{document}
16 \end{example1}
```

### 1.4.2 Example 2

```

17 (*example2)
18 \documentclass{article}
19 \usepackage{booktabs}
20 \usepackage[dvips,vlines]{tabularht}
21
22 \begin{document}
23
24 \begin{tabularht}{spread=0pt}{|l|l|}
25   \hline
26   First&Line\\%
27   \hline
28 \interrowstart
29   \addlinespace[10mm]%
30 \interrowstop
31   \hline
32   Second&Line\\%
33 \interrowstart
34   \hline
35   \hline
36 \interrowstop
37   Third&Line\\%
38   \hline
39 \interrowspace{10mm}
40   \hline
41   Fourth&Line\\%
42   \hline
43 \end{tabularht}
44
45 \end{document}
46 \end{example2}

```

## 2 Implementation

```

47 (*package)

```

Package identification.

```

48 \NeedsTeXFormat{LaTeX2e}
49 \ProvidesPackage{tabularht}%
50 [2016/05/16 v2.6 Tabular with height specified (HO)]

```

### 2.1 Environments

```

51 \let\toarrayheight\@empty
52 \let\tabH@array@init\@empty
53
54 \toks@={%
55   \begingroup
56     \long\def\x#1\vcender\fi\fi\bgroup#2\@sharp#3#4\@nil{%
57       \endgroup
58       \gdef\@array[##1]##2{%
59         \tabH@array@init
60         #1%
61         \vcender\fi\fi
62         \@toarrayheight
63         \bgroup
64         \let\toarrayheight\@empty
65         #2\@sharp##3#4%
66       }%
67     }%
68 \expandafter\x\@array[#1]{#2}\@nil % hash-ok
69 }
70 \edef\tabH@patch@array{\the\toks@}
71 \def\tabH@patch@@array{%
72   \ifx\@array\@array

```

```

73 \def\reserved@a{\let\@array\@array}%
74 \else
75 \let\reserved@a\relax
76 \fi
77 \tabH@patch@array
78 \reserved@a
79 }
80 \tabH@patch@@array
81
82 \ifpackageloaded{array}{}{%
83 \AtBeginDocument{%
84 \ifpackageloaded{array}{%
85 \tabH@patch@@array
86 }{}%
87 }%
88 }
89
90 \def\tabH@setheight#1{%
91 \tabH@@setheight#1==\@nil
92 }
93 \def\tabH@@setheight#1=#2=#3\@nil{%
94 \ifx\#2\#3\%
95 \setlength{\dimen@}{#1}%
96 \edef\@toarrayheight{to\the\dimen@}%
97 \else
98 \edef\tabH@temp{\zap@space#1 \@empty}%
99 \ifx\tabH@temp\tabH@to
100 \else
101 \ifx\tabH@temp\tabH@spread
102 \else
103 \PackageError{tabularht}{%
104 Unknown height specifier %
105 \expandafter\strip@prefix\meaning\tabH@temp'%
106 }{%
107 The height dimension for tabular height can be prefixed%
108 \MessageBreak
109 with `to=' or `spread=', default is `to='.%
110 }%
111 \let\tabH@temp\tabH@to
112 \fi
113 \fi
114 \setlength{\dimen@}{#2}%
115 \edef\@toarrayheight{\tabH@temp\the\dimen@}%
116 \fi
117 }
118 \def\tabH@to{to}
119 \def\tabH@spread{spread}

First argument is the height of the table, then the original arguments for tabular
follow.
120 \newenvironment{tabularht}[1]{%
121 \tabH@setheight{#1}%
122 \tabular
123 }{%
124 \endtabular
125 }
126
127 \newenvironment{tabularht*}[1]{%
128 \tabH@setheight{#1}%
129 \@nameuse{tabular*}%
130 }{%
131 \@nameuse{endtabular*}%
132 }

```

```

133
134 \newenvironment{tabularhtx}[1]{%
135   \tabH@setheight{#1}%
136   \tabularx
137 }{%
138   \endtabularx
139 }
140
141 \newenvironment{arrayht}[1]{%
142   \tabH@setheight{#1}%
143   \array
144 }{%
145   \endarray
146 }
147
148 \def\interrowSPACE{%
149   \noalign\bgroup
150   \tabH@interrowSPACE
151 }
152 \newcommand*{\tabH@interrowSPACE}[2][]{%
153   \tabH@vSPACE{#1}{#2}%
154   \egroup
155 }
156 \def\interrowfill{%
157   \noalign\bgroup
158   \tabH@interrowfill
159 }
160 \newcommand*{\tabH@interrowfill}[1][]{%
161   \tabH@vSPACE{#1}{\fill}%
162   \egroup
163 }
164 \def\tabH@vSPACE#1#2{%
165   \tabH@vSPACE@start{#1}%
166   \vSPACE{#2}%
167   \tabH@vSPACE@stop
168 }
169 \let\tabH@vSPACE@start\@gobble
170 \let\tabH@vSPACE@stop\@empty
171
172 \newcommand*{\interrowstart}{%
173   \noalign\bgroup
174   \tabH@interrowstart
175 }
176 \newcommand*{\tabH@interrowstart}[1][]{%
177   \tabH@vSPACE@start{#1}%
178   \egroup
179 }
180 \newcommand*{\interrowstop}{%
181   \noalign{\tabH@vSPACE@stop}%
182 }

```

## 2.2 Options

```

183 \providecommand*{\tabH@driver}{}
184
185 \DeclareOption{vlines}{%
186   \let\tabH@temp\relax
187 }
188 \DeclareOption{pdftex}{}
189 \DeclareOption{dvips}{%
190   \def\tabH@driver{dvips}%
191 }
192 \ProcessOptions*\relax

```

```

193
194 \ifx\tabH@temp\relax
195 \else
196 \expandafter\endinput
197 \fi
198
199 \begingroup
200 \ifundefined{eTeXversion}{%
201 \PackageError{tabularht}{%
202 Option `vlines' requires eTeX%
203 }{%
204 Use of eTeX is recommended for LaTeX, see ltnews16.%
205 }%
206 \endgroup
207 \endinput
208 }{}%
209 \endgroup

```

## 2.3 Option vlines, driver independent stuff

```

210 \begingroup
211 \let\@addtoreset\@gobbletwo
212 \newcounter{tabH@unique}%
213 \endgroup
214 \let\tabH@currenttab\@empty
215
216 \def\tabH@array@init{%
217 \ifx\@toarrayheight\@empty
218 % ignore vertical lines of nested tabular environments
219 \let\tabH@currenttab\@empty
220 \else
221 \stepcounter{tabH@unique}%
222 \edef\tabH@currenttab{\the\c@tabH@unique}%
223 \fi
224 }
225
226 \renewcommand*{\@arrayrule}{%
227 \@addtopreamble{%
228 \hskip -.5\arrayrulewidth
229 \ifx\tabH@currenttab\@empty
230 \else
231 \tabH@vrule{\tabH@currenttab}%
232 \fi
233 \begingroup
234 \expandafter\ifx\csname CT@arc@\endcsname\relax
235 \else
236 \expandafter\CT@arc@
237 \fi
238 \vline
239 \endgroup
240 \hskip -.5\arrayrulewidth
241 }%
242 }
243 \let\tabH@arrayrule\@arrayrule
244 \AtBeginDocument{%
245 \ifpackageloaded{colortbl}{%
246 \let\@arrayrule\tabH@arrayrule
247 }{}%
248 }
249
250 \let\tabH@vrule\@gobble

```

## 2.4 Driver pdftex

```

251 \RequirePackage{ifpdf}
252 \ifpdf
253 \begingroup
254 \ifundefined{pdfsavepos}{%
255 \PackageError{tabularht}{%
256 Your pdfTeX is too old%
257 }{%
258 \string\pdfsavepos\space is missing.%
259 }%
260 \endgroup
261 \csname fi\endcsname
262 \endinput
263 }{}%
264
265 \let\on@line\@empty
266 \PackageInfo{tabularht}{%
267 Using driver `pdftex' because of pdfTeX in PDF mode%
268 }%
269 \endgroup
270
271 \protected\def\tabH@vrule#1{%
272 \if@filesw
273 \pdfsavepos
274 \protected@write\@auxout{%
275 \let\tabH@lastxpos\relax
276 }{%
277 \tabH@aux@vrule{#1}{\tabH@lastxpos}%
278 }%
279 \fi
280 }%
281
282 \def\tabH@lastxpos{\the\pdflastxpos}%
283 \def\tabH@lastypos{\the\pdflastypos}%
284
285 % The .aux file contains three commands:
286 % \tabH@aux@vrule{tabular id}{x position}
287 % \tabH@aux@vstart{tabular id}{row id}{x position}{y position}
288 % \tabH@aux@vstop{y position}
289 %
290 \AtBeginDocument{%
291 % The .aux files are read the first time before
292 % \AtBeginDocument and later at \end{document}.
293 % \tabH@aux@done is a marker to distinguish
294 % between these two readings. Only in the first
295 % case we need the \tabH@aux@... commands.
296 \let\tabH@aux@done\@empty
297 \if@filesw
298 \immediate\write\@mainaux{%
299 \@percentchar\@percentchar BeginProlog: tabularht%
300 }%
301 % items in the aux file are executed,
302 % if tabularht is loaded
303 % and during the aux file read at \begin{document} only
304 \immediate\write\@mainaux{%
305 \detokenize{%
306 % the \tabH@aux@... commands are needed only if
307 % tabularht is loaded with driver pdftex.
308 \@ifundefined{tabH@aux@vrule}\@secondoftwo\@firstofone
309 }%
310 % disable commands except for the first .aux files reading
311 \@ifundefined{tabH@aux@done}\@gobble\@firstofone
312 }%

```



```

313     {%
314         \let\tabH@aux@vrule\@gobbletwo
315         \let\tabH@aux@vstart\@gobblefour
316         \let\tabH@aux@vstop\@gobble
317     }%
318 }%
319 }%
320 \immediate\write\@mainaux{%
321     \@percentchar\@percentchar EndProlog: tabularht%
322 }%
323 \fi
324 }%
325
326 % the x positions of vrules are stored in
327 % \tabH@<tabcount>list with distinct values
328 \protected\def\tabH@aux@vrule#1#2{%
329     \@ifundefined{tabH@#1list}{%
330         \expandafter\xdef\csname tabH@#1list\endcsname{%
331             \noexpand\do{#2}%
332         }%
333     }{%
334         \begingroup
335         \def\x{#2}%
336         \let\y\@undefined
337         \let\do\tabH@do@add
338         \expandafter\xdef\csname tabH@#1list\endcsname{%
339             \csname tabH@#1list\endcsname\@empty
340             \ifx\y\@undefined
341                 \noexpand\do{\x}%
342             \fi
343         }%
344         \endgroup
345     }%
346 }%
347 \def\tabH@do@add#1{%
348     \ifx\y\@undefined
349         \ifnum#1<\x\space
350         \else
351             \expandafter\ifx\csname y\endcsname\relax\fi
352             \ifnum#1>\x\space
353                 \noexpand\do{\x}%
354             \fi
355         \fi
356     \fi
357     \noexpand\do{#1}%
358 }%
359
360 \def\tabH@vspace@start#1{%
361     \if@files
362         \stepcounter{tabH@unique}%
363         \edef\tabH@currentrow{\the\c@tabH@unique}%
364         \pdfsavepos
365         \protected@write\@auxout{%
366             \let\tabH@lastxpos\relax
367             \let\tabH@lastypos\relax
368         }{%
369             \tabH@aux@vstart{\tabH@currenttab}{\tabH@currentrow}%
370             {\tabH@lastxpos}{\tabH@lastypos}%
371         }%
372     \fi
373     \begingroup
374     \edef\at{tabH@\tabH@currenttab row\tabH@currentrow}%

```

```

375 \expandafter\let\expandafter\x\csname\a x\endcsname
376 \ifx\x\relax
377 \else
378 \expandafter\let\expandafter\y\csname\a y\endcsname
379 \expandafter\let\expandafter\l
380 \csname tabH@\tabH@currenttab list\endcsname
381 \ifx\l\relax
382 \else
383 \def\f{#1}%
384 \ifx\f\@empty
385 \let\do\tabH@do@set
386 \else
387 \count@=\z@
388 \let\do\tabH@do@filter
389 \fi
390 \setbox\z@=\hbox{\l}%
391 \wd\z@=\z@
392 \dp\z@=\z@
393 \copy\z@
394 \fi
395 \fi
396 \endgroup
397 }%
398 \def\tabH@vspace@stop{%
399 \if@filesw
400 \pdfsavepos
401 \protected@write\@auxout{%
402 \let\tabH@lastypos\relax
403 }{%
404 \tabH@aux@vstop{\tabH@lastypos}%
405 }%
406 \fi
407 }%
408 \def\tabH@do@set#1{%
409 \hbox to \z@{%
410 \hskip \dimexpr #1sp - \x sp\relax
411 \vrule \@width\arrayrulewidth
412 \@depth\dimexpr \y sp\relax
413 \hss
414 }%
415 }%
416 \def\tabH@do@filter{%
417 \@tempswafalse
418 \advance\count@\@one
419 \@for\@e:=\f\do{%
420 \ifnum\@e=\count@
421 \@tempswatrue
422 \fi
423 }%
424 \if@tempswa
425 \expandafter\tabH@do@set
426 \else
427 \expandafter\@gobble
428 \fi
429 }%
430
431 \protected\def\tabH@aux@vstart#1#2#3#4{%
432 \def\tabH@current@vstart{{#1}{#2}{#3}{#4}}%
433 }%
434 \protected\def\tabH@aux@vstop{%
435 \expandafter\tabH@aux@v\tabH@current@vstart
436 }%

```

```

437 \def\tabH@aux@v#1#2#3#4#5{%
438 \expandafter\gdef\csname tabH@#1row#2x\endcsname{#3}%
439 \expandafter\xdef\csname tabH@#1row#2y\endcsname{%
440 \the\numexpr #4 - #5\relax
441 }%
442 }%
443
444 \csname fi\endcsname
445 \endinput
446
447 \fi

```

## 2.5 DVI drivers

```

448 \ifx\tabH@driver\@empty
449 \PackageError{tabularht}{%
450 Missing DVI driver, option `vlines' disabled%
451 }{%
452 Supported DVI drivers: dvips.%
453 }%
454 \expandafter\endinput
455 \fi
456
457 \def\tabH@driver@dvips{%
458 \def\tabH@literalps##1{\special{ps:SDict begin ##1 end}}%
459 \def\tabH@headerps##1{\special{! ##1}}%
460 }
461
462 \@onelevel@sanitize\tabH@driver
463 \@ifundefined{tabH@driver@\tabH@driver}{%
464 \PackageError{tabularht}{%
465 Unsupported driver ``\tabH@driver'%
466 }{%
467 Supported DVI drivers: dvips.%
468 }%
469 \endinput
470 }{}
471
472 \begingroup
473 \let\on@line\@empty
474 \PackageInfo{tabularht}{%
475 Using driver ``\tabH@driver'%
476 }%
477 \endgroup
478 \csname tabH@driver@\tabH@driver\endcsname
479
480 \protected\def\tabH@vrule#1#2\vrule#3\arrayrulewidth{%
481 #2% \fi or empty
482 % hack to get rid of maxdrift rounding of dvips,
483 % thus simulate a large motion
484 \kern1in\relax
485 \tabH@literalps{%
486 #1 tabH.vrule %
487 Resolution neg 0 translate%
488 }%
489 \vrule#3\arrayrulewidth
490 \tabH@literalps{Resolution 0 translate}%
491 \kern-1in\relax
492 }
493
494 \def\tabH@vspace@start#1{%
495 \begingroup
496 \let\y\@empty

```

```

497 \@for\x:=#1\do{%
498 \ifx\y\@empty
499 \edef\y{\x}%
500 \else
501 \edef\y{\y\space\x}%
502 \fi
503 }%
504 \tabH@literalps{\tabH@currenttab[\y]currentpoint exch pop}%
505 \endgroup
506 }
507 \def\tabH@vspace@stop{%
508 \tabH@literalps{%
509 currentpoint exch pop %
510 \number\dimexpr\arrayrulewidth\relax\space
511 tabH.vspace%
512 }%
513 }
514
515 \tabH@headerps{%
516 userdict begin%
517 /tabH.list 10 dict def%
518 /tabH.job [] def %
519 end%
520 /tabH.vrule{%
521 10 string cvs cvn dup tabH.list exch known{%
522 tabH.list exch dup [ exch tabH.list exch get %
523 currentpoint pop round exch true exch{%
524 % tabH.list key [ ... x true i
525 % tabH.list key [ ... false i
526 exch{%
527 % ... [ ... x i
528 2 copy lt{false}{%
529 2 copy eq{pop false}{exch true}ifelse%
530 }ifelse%
531 }{false}ifelse%
532 }forall %
533 pop%
534 lput%
535 }{%
536 tabH.list exch[currentpoint pop round]put%
537 }ifelse%
538 }bind def%
539 % <tab num> <cols array> <ytop> <ybottom> <rulewidth[sp]>
540 /tabH.vspace{%
541 userdict begin %
542 10 dict dup begin %
543 exch 65536 div Resolution mul 72.27 div %
544 % dvips uses a poor man's ceil function
545 % see dpage.c before "drawrule": (int)(... + 0.9999999)
546 0.9999999 add truncate%
547 /rulewidth exch def %
548 exch/ybottom exch def %
549 exch/ytop exch def %
550 exch/cols exch def %
551 exch/tabkey exch 10 string cvs cvn def %
552 end%
553 /tabH.job exch[exch userdict/tabH.job get aload pop]def %
554 end%
555 }bind def %
556 % Now we do the work at the end of the page.
557 % Unhappily "eop-hook" cannot be used, because "eop"
558 % executes "restore" before, so that all data are lost.

```

```

559 TeXDict begin%
560 /eop%
561 [%
562 {%
563   tabH.job{%
564     begin%
565     /colarray %
566     tabH.list tabkey known{tabH.list tabkey get}{[]}}ifelse %
567   def %
568     cols length 0 eq not{%
569       /colarray[%
570         cols{1 sub %
571           dup 0 lt{pop}{%
572             dup colarray length ge{pop}{%
573               colarray exch get%
574             }ifelse%
575           }ifelse%
576         }forall%
577       ]def%
578     }if %
579     colarray{%
580       % (rulewidth) == rulewidth == % debug
581       Resolution sub %
582       ytop rulewidth ytop ybottom sub v%
583     }forall %
584   end%
585 }forall%
586 % tabH.list{== ==}forall % debug
587 }bind aload pop %
588 TeXDict /eop get aload pop%
589 ]cvx def %
590 end%
591 }
592 </package>

```

## 3 Installation

### 3.1 Download

**Package.** This package is available on CTAN<sup>1</sup>:

[CTAN:macros/latex/contrib/oberdiek/tabularht.dtx](http://ctan.org/macros/latex/contrib/oberdiek/tabularht.dtx) The source file.

[CTAN:macros/latex/contrib/oberdiek/tabularht.pdf](http://ctan.org/macros/latex/contrib/oberdiek/tabularht.pdf) Documentation.

**Bundle.** All the packages of the bundle ‘oberdiek’ are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

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

*TDS* refers to the standard “A Directory Structure for T<sub>E</sub>X Files” ([CTAN:tds/tds.pdf](http://ctan.org/tds/tds.pdf)). Directories with `texmf` in their name are usually organized this way.

### 3.2 Bundle installation

**Unpacking.** Unpack the `oberdiek.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

---

<sup>1</sup><http://ctan.org/pkg/tabularht>

**Script installation.** Check the directory `TDS:scripts/oberdiek/` for scripts that need further installation steps. Package `attachfile2` comes with the Perl script `pdfatfi.pl` that should be installed in such a way that it can be called as `pdfatfi`. Example (linux):

```
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

### 3.3 Package installation

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

```
tex tabularht.dtx
```

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

```
tabularht.sty      → tex/latex/oberdiek/tabularht.sty
tabularht.pdf      → doc/latex/oberdiek/tabularht.pdf
tabularht-example1.tex → doc/latex/oberdiek/tabularht-example1.tex
tabularht-example2.tex → doc/latex/oberdiek/tabularht-example2.tex
tabularht.dtx      → source/latex/oberdiek/tabularht.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`.

### 3.4 Refresh file name databases

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

### 3.5 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{tabularht.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 the configuration file `ltxdoc.cfg`. For instance, put this line into this file, if you want to have A4 as paper format:

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

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

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

## 4 Catalogue

The following XML file can be used as source for the **T<sub>E</sub>X Catalogue**. The elements **caption** and **description** are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is **tabularht.xml**.

```
593 (*catalogue)
594 <?xml version='1.0' encoding='us-ascii'?>
595 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
596 <entry datestamp='$Date$' modifier='$Author$' id='tabularht'>
597   <name>tabularht</name>
598   <caption>Tabular environments with height specified.</caption>
599   <authorref id='auth:oberdiek'>
600     <copyright owner='Heiko Oberdiek' year='2005-2007'>
601       <license type='lppl1.3'>
602         <version number='2.6'>
603           <description>
604             The tabularht package defines some environments that add a height
605             specification to tabular and array environments. The default set
606             of new environments take a value for their height in the first
607             argument: defined environments are: <tt>tabularht</tt>,
608             <tt>tabularht*</tt> and <tt>arrayht</tt>. If package
609             <xref refid='tabularx'>tabularx</xref> is also loaded,
610             the package also defines environments <tt>tabularxht</tt> and
611             <tt>tabularxht*</tt>.
612           <p/>
613             The places where stretching is to happen are signalled by<br/>
614             <tt>\noalign{\vfill}</tt><br/>
615             immediately after the <tt>\\</tt> that ends a row of the table or
616             array.
617           <p/>
618             The package is part of the <xref refid='oberdiek'>oberdiek</xref> bundle.
619         </description>
620         <documentation details='Package documentation'
621           href='ctan:/macros/latex/contrib/oberdiek/tabularht.pdf'>
622           <ctan file='true' path='/macros/latex/contrib/oberdiek/tabularht.dtx'>
623             <miktex location='oberdiek'>
624               <texlive location='oberdiek'>
625                 <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'>
626             </entry>
627 </catalogue>
```

## 5 History

[2005/09/22 v1.0]

- First public version.

[2005/10/16 v2.0]

- Height specification allows `to=...` or `spread=...`, default is `to=`.
- Option `vlines` added, drivers `pdftex` and `dvips`.
- `\interrowospace`, `\interrowfil`, and `\interrowstart... \interrowstop` added.

[2005/10/18 v2.1]

- Fix for package `colortbl`, but the colors of `colortbl` remain unsupported.

[2006/02/20 v2.2]

- Code is not changed.
- DTX framework.

[2006/12/22 v2.3]

- Documentation fix.
- Fix in code of option vlines.

[2007/03/21 v2.4]

- Fix: Counter `tabh@unique` must not be changed by `\include`.

[2007/04/11 v2.5]

- Line ends sanitized.

[2016/05/16 v2.6]

- Documentation updates.

## 6 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.

Symbols	<code>\</code>
<code>\@@array</code> . . . . .	8, 10, 12, 26, 32, 37, 41, 94, 615
<code>\@addtopreamble</code> . . . . .	
<code>\@addtoreset</code> . . . . .	
<code>\@array</code> . . . . .	
<code>\@arrayrule</code> . . . . .	
<code>\@auxout</code> . . . . .	
<code>\@depth</code> . . . . .	
<code>\@empty</code> . . . . .	
<code>\@firstofone</code> . . . . .	
<code>\@for</code> . . . . .	
<code>\@gobble</code> . . . . .	
<code>\@gobblefour</code> . . . . .	
<code>\@gobbletwo</code> . . . . .	
<code>\@ifpackageloaded</code> . . . . .	
<code>\@ifundefined</code> 200, 254, 308, 311, 329, 463	
<code>\@mainaux</code> . . . . .	
<code>\@nameuse</code> . . . . .	
<code>\@ne</code> . . . . .	
<code>\@nil</code> . . . . .	
<code>\@onelevel@sanitize</code> . . . . .	
<code>\@percentchar</code> . . . . .	
<code>\@secondoftwo</code> . . . . .	
<code>\@sharp</code> . . . . .	
<code>\@tempswafalse</code> . . . . .	
<code>\@tempwattrue</code> . . . . .	
<code>\@toarrayheight</code> . 51, 62, 64, 96, 115, 217	
<code>\@undefined</code> . . . . .	
<code>\@width</code> . . . . .	
	<code>\a</code> . . . . . 374, 375, 378
	<code>\addlinespace</code> . . . . . 29
	<code>\advance</code> . . . . . 418
	<code>\array</code> . . . . . 143
	<code>\arrayrulewidth</code> . . . . . 228, 240, 411, 480, 489, 510
	<code>\AtBeginDocument</code> . . 83, 244, 290, 292
	<b>B</b>
	<code>\begin</code> . . . . . 5, 7, 22, 24, 303
	<b>C</b>
	<code>\c@tabH@unique</code> . . . . . 222, 363
	<code>\copy</code> . . . . . 393
	<code>\count@</code> . . . . . 387, 418, 420
	<code>\csname</code> 234, 261, 330, 338, 339, 351, 375, 378, 380, 438, 439, 444, 478
	<code>\CT@arc@</code> . . . . . 236
	<b>D</b>
	<code>\DeclareOption</code> . . . . . 185, 188, 189
	<code>\detokenize</code> . . . . . 305
	<code>\dimen@</code> . . . . . 95, 96, 114, 115
	<code>\dimexpr</code> . . . . . 410, 412, 510
	<code>\do</code> . . . . . 331, 337, 341, 353, 357, 385, 388, 419, 497
	<code>\documentclass</code> . . . . . 2, 18
	<code>\dp</code> . . . . . 392



<b>E</b>		<b>P</b>	
<code>\e</code> .....	419, 420	<code>\PackageError</code> ..	103, 201, 255, 449, 464
<code>\end</code> .....	13, 15, 43, 45, 292	<code>\PackageInfo</code> .....	266, 474
<code>\endarray</code> .....	145	<code>\pdfastxpos</code> .....	282
<code>\endscname</code> .....	234, 261, 330, 338, 339, 351, 375, 378, 380, 438, 439, 444, 478	<code>\pdfastypos</code> .....	283
<code>\endinput</code> ..	196, 207, 262, 445, 454, 469	<code>\pdfsavepos</code> .....	258, 273, 364, 400
<code>\endtabular</code> .....	124	<code>\ProcessOptions</code> .....	192
<code>\endtabularx</code> .....	138	<code>\protected</code> .....	271, 328, 431, 434, 480
<code>\extracolsep</code> .....	7	<code>\protected@write</code> .....	274, 365, 401
<b>F</b>		<code>\providecommand</code> .....	183
<code>\f</code> .....	383, 384, 419	<code>\ProvidesPackage</code> .....	49
<code>\fbox</code> .....	6	<b>R</b>	
<code>\fill</code> .....	7, 161	<code>\renewcommand</code> .....	226
<b>G</b>		<code>\RequirePackage</code> .....	251
<code>\gdef</code> .....	58, 438	<code>\reserved@a</code> .....	73, 75, 78
<b>H</b>		<b>S</b>	
<code>\hbox</code> .....	390, 409	<code>\setbox</code> .....	390
<code>\hline</code> ....	25, 27, 31, 34, 35, 38, 40, 42	<code>\setlength</code> .....	95, 114
<code>\hskip</code> .....	228, 240, 410	<code>\space</code> .....	258, 349, 352, 501, 510
<code>\hss</code> .....	413	<code>\special</code> .....	458, 459
<b>I</b>		<code>\stepcounter</code> .....	221, 362
<code>\if@files</code> .....	272, 297, 361, 399	<code>\strip@prefix</code> .....	105
<code>\if@temp</code> .....	424	<b>T</b>	
<code>\ifnum</code> .....	349, 352, 420	<code>\tabH@</code> .....	327
<code>\ifpdf</code> .....	252	<code>\tabH@@setheight</code> .....	91, 93
<code>\ifx</code> .....	72, 94, 99, 101, 194, 217, 229, 234, 340, 348, 351, 376, 381, 384, 448, 498	<code>\tabH@array@init</code> .....	52, 59, 216
<code>\immediate</code> .....	298, 304, 320	<code>\tabH@arrayrule</code> .....	243, 246
<code>\interrowfill</code> .....	2, 156	<code>\tabH@aux@</code> .....	295, 306
<code>\interrow</code> .....	2, 39, 148	<code>\tabH@aux@done</code> .....	293, 296
<code>\interrowstart</code> .....	2, 28, 33, 172	<code>\tabH@aux@v</code> .....	435, 437
<code>\interrowstop</code> .....	30, 36, 180	<code>\tabH@aux@vrule</code> ..	277, 286, 314, 328
<b>K</b>		<code>\tabH@aux@vstart</code> ..	287, 315, 369, 431
<code>\kern</code> .....	484, 491	<code>\tabH@aux@vstop</code> ..	288, 316, 404, 434
<b>L</b>		<code>\tabH@current@vstart</code> .....	432, 435
<code>\l</code> .....	379, 381, 390	<code>\tabH@current@row</code> .....	363, 369, 374
<b>M</b>		<code>\tabH@current@tab</code> .....	214, 219, 222, 229, 231, 369, 374, 380, 504
<code>\meaning</code> .....	105	<code>\tabH@do@add</code> .....	337, 347
<code>\MessageBreak</code> .....	108	<code>\tabH@do@filter</code> .....	388, 416
<code>\multicolumn</code> .....	10	<code>\tabH@do@set</code> .....	385, 408, 425
<b>N</b>		<code>\tabH@driver</code> .....	183, 190, 448, 462, 463, 465, 475, 478
<code>\NeedsTeXFormat</code> .....	48	<code>\tabH@driver@d</code> .....	457
<code>\newcommand</code> ..	152, 160, 172, 176, 180	<code>\tabH@headerps</code> .....	459, 515
<code>\newcounter</code> .....	212	<code>\tabH@interrowfill</code> .....	158, 160
<code>\newenvironment</code> ...	120, 127, 134, 141	<code>\tabH@interrow</code> .....	150, 152
<code>\noalign</code> ..	9, 11, 149, 157, 173, 181, 614	<code>\tabH@interrowstart</code> .....	174, 176
<code>\number</code> .....	510	<code>\tabH@lastxpos</code> ..	275, 277, 282, 366, 370
<code>\numexpr</code> .....	440	<code>\tabH@lastypos</code> ..	283, 367, 370, 402, 404
<b>O</b>		<code>\tabH@literalps</code> ..	458, 485, 490, 504, 508
<code>\on@line</code> .....	265, 473	<code>\tabH@patch@@array</code> .....	71, 80, 85
		<code>\tabH@patch@array</code> .....	70, 77
		<code>\tabH@setheight</code> ..	90, 121, 128, 135, 142
		<code>\tabH@spread</code> .....	101, 119
		<code>\tabH@temp</code> .....	98, 99, 101, 105, 111, 115, 186, 194
		<code>\tabH@to</code> .....	99, 111, 118
		<code>\tabH@vrule</code> .....	231, 250, 271, 480
		<code>\tabH@vspace</code> .....	153, 161, 164

<code>\tabH@vspace@start</code> .....	<code>\vspace</code> .....	166
..... 165, 169, 177, 360, 494		
<code>\tabH@vspace@stop</code> .....	<b>W</b>	
..... 167, 170, 181, 398, 507	<code>\wd</code> .....	391
<code>\tabular</code> .....	<code>\write</code> .....	298, 304, 320
<code>\tabularx</code> .....		
<code>\the</code> . 70, 96, 115, 222, 282, 283, 363, 440	<b>X</b>	
<code>\toks@</code> .....	<code>\x</code> .....	56, 68, 335, 341, 349, 352, 353, 375, 376, 410, 497, 499, 501
<b>U</b>		
<code>\usepackage</code> .....	<b>Y</b>	
..... 3, 19, 20	<code>\y</code> .....	336, 340, 348, 378, 412, 496, 498, 499, 501, 504
<b>V</b>		
<code>\vcenter</code> .....		56, 61
<code>\vfill</code> .....		9, 11, 614
<code>\vline</code> .....		238
<code>\vrule</code> .....	<b>Z</b>	
..... 411, 480, 489	<code>\z@</code> .....	387, 390, 391, 392, 393, 409
	<code>\zap@space</code> .....	98