

# The ltcaption package\*

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## Abstract

This package fixes caption problems with other-than-centered aligned longtables.  
(solves [L<sup>A</sup>T<sub>E</sub>X PR tools/3387](#))

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# 1 The user interface

The content of `\caption` in longtables is usually centered to the content of the longtable itself. This is sufficient for centered longtables, but for left or right aligned longtables this results in captions moved into the left or right page margin.

To solve this problem just include this package *after* the longtable package[1], e.g.:

```
\usepackage{longtable, ltcaption}
```

Afterwards the captions of all longtables should be aligned as expected, even for not-centered longtables.

## 1.1 Further justification

`\LTcapskip` This length is controlling the skip between the caption and the contents below the caption and can be altered with `\setlength\LTcapskip{...}`. When the `ltcaption` package is loaded it will be set to `\abovecaptionskip` which usually represents the skip between caption and contents in floating environments. (Without this package, the longtable package uses `\baselineskip` here.)

`\LTcapleft` You can alter the centering of the caption box (of width `\LTcapwidth`) by setting the  
`\LTcapright` lengths `\LTcapleft` & `\LTcapright` to appropriate values. These are set to `\fill` by default, just like the values `\LTleft` & `\LTright`.

`\LTcapmarginfalse` Another option is the usage of the command `\LTcapmarginfalse` which makes the `ltcaption` package using the values `\LTleft` & `\LTright` instead of `\LTcapleft` & `\LTcapright`.

*Note:* If the `ltcaption` package will be used with one of the NTG document classes[2], `\CaptionLabelFont` & `\CaptionTextFont` will not only be used for figure & table captions, but for longtable captions as well.

*Note:* These lengths & commands do not work when the `ltcaption` package is used with one of the KOMA-Script classes[3] `scrartcl`, `scrreprt` or `scrbook`, the KOMA-Script settings for captions are used instead. Same with the `caption` package which also uses its own options and settings.

## 1.2 Bonus features

`\LTcaptype` As a bonus feature this package patches the longtable package so `\LTcaptype` will be used internally instead of the fixed caption type 'table'. So for example this code snippet:

```
\renewcommand\LTcaptype{figure}
\begin{longtable}{ll}
\caption{An example longtable}\\
A & B \\
\end{longtable}
```

will result in a longtable like this:

Figure 7: An example longtable

...

`longtable*` Another bonus feature is the addition of the environment `longtable*` which does not increment the `table` counter. (As a consequence, `\caption` is not available for such `longtables`, but `\caption*` still is.)

## 2 Spot the difference

Without the `ltablex` package:

---

Table 1: Left aligned longtable left aligned longtable left aligned  
longtable

This is only a test

Table 2: Right aligned longtable right aligned longtable right aligned  
longtable

This is only a test

Table 3: Centered longtable centered longtable centered longtable cen-  
tered longtable

This is only a test

---

With the `ltablex` package (and the default value of `\LTcapwidth`):

---

Table 4: Left aligned longtable left aligned longtable left aligned  
longtable

This is only a test

Table 5: Right aligned longtable right aligned longtable right aligned  
longtable

This is only a test

Table 6: Centered longtable centered longtable centered longtable cen-  
tered longtable

This is only a test

---

With the `ltablex` package and `\LTcapwidth=\linewidth`:

---

Table 7: Left aligned longtable left aligned longtable left aligned longtable left aligned longtable

This is only a test

Table 8: Right aligned longtable right aligned longtable right aligned longtable right aligned longtable

This is only a test

Table 9: Centered longtable centered longtable centered longtable centered longtable

This is only a test

---

With the `ltablex` package and `\LTcapleft=0pt` resp. `\LTcapright=0pt`:

---

Table 10: Left aligned longtable left aligned longtable left aligned longtable

This is only a test

Table 11: Right aligned longtable right aligned longtable right aligned longtable

This is only a test

---

With the `ltablex` package and `\LTcapleft=\tabcolsep` resp. `\LTcapright=\tabcolsep`:

---

Table 12: Left aligned longtable left aligned longtable left aligned longtable

This is only a test

Table 13: Right aligned longtable right aligned longtable right aligned longtable

This is only a test

With the `lrcaption` package and `\LTcapmarginfalse`:

---

Table 14: Left aligned longtable left aligned longtable left aligned  
longtable

This is only a test

Table 15: Right aligned longtable right aligned longtable right aligned  
longtable

This is only a test

Table 16: Centered longtable centered longtable centered longtable cen-  
tered longtable

This is only a test

---

## 3 The Implementation

### 3.1 Identification

```
1 \NeedsTeXFormat{LaTeX2e}[1994/12/01]
2 \ProvidesPackage{ltcaption}[2008/03/28 v1.2 longtable captions (AR)]
```

### 3.2 User interface

`\LTcaptiontype` `\LTcaptiontype` is preset to table.

```
3 \providecommand*\LTcaptiontype{table}
4 \providecommand*\ext@table{lot}
```

`\ext@lstlisting` Since the listings package do not define `\ext@lstlisting`, but we needed it when `\renewcommand\LTcaptiontype{lstlisting}` was done by the end user, we define it here.

```
5 \@ifundefined{caption@AtBeginDocument}\AtBeginDocument\caption@AtBeginDocument{%
6   \@ifpackageloaded{listings}{%
7     \providecommand*\ext@lstlisting{lol}}{}}
```

To save TeX memory some stuff will not be defined if the caption package is loaded.

```
8 \@ifpackageloaded{caption}{}{%
```

`\LTcapskip`

```
9   \newskip\LTcapskip \LTcapskip=\abovecaptionskip
```

`\LTcapleft` Our skips and the flag belonging to them.

`\LTcapright` (Default: Use these skips (and not `\LTleft` & `\LTRight`.)

`\ifLTcapmargins`

```
10  \newskip\LTcapleft \LTcapleft=\fill
11  \newskip\LTcapright \LTcapright=\fill
12  \newif\ifLTcapmargins \LTcapmarginstrue
```

`\CaptionLabelFont` These commands are provided by the NTG document classes. To make this package work with other document classes as well, we need to define `\CaptionLabelFont` & `\CaptionTextFont` here.

```
13  \providecommand*\CaptionLabelFont{}
14  \providecommand*\CaptionTextFont{}
15 }
```

### 3.3 The longtable patch

`\LT@array` We insert our stuff into the definition of `\LT@array` here. Since the hyperref package patches `\LT@array` as well and since this only works with the original definition of `\LT@array`, we have to do this after the hyperref package, i.e. `\AtBeginDocument`.

```
16 \@ifundefined{caption@AtBeginDocument}\AtBeginDocument\caption@AtBeginDocument{%
17   \let\ltcaption@ORI@LT@array\LT@array
18   \renewcommand*\LT@array{%
```

We modify `\refstepcounter` resp. `\H@refstepcounter` and `\hyper@makecurrent`, so `\LTcaptiontype` is used instead of table.

```
19   \let\caption@LT@refstepcounter\refstepcounter
20   \def\refstepcounter{%
```

```

21 \caption@LTtype\caption@LT@refstepcounter}%
22 \let\caption@LT@Hrefstepcounter\H@refstepcounter
23 \def\H@refstepcounter{%
24 \caption@LTtype\caption@LT@Hrefstepcounter}%
25 \let\caption@LT@makecurrent\hyper@makecurrent
26 \def\hyper@makecurrent{%
27 \caption@LTtype\caption@LT@makecurrent}%

```

We redefine `\lst@@caption` so `\thelstlisting` will print out its counter, too.

```

28 \def\lst@@caption{\relax}%
29 \ltcaption@ORI@LT@array}}
30 \newcommand*\caption@LTtype[2]{%
31 \edef\caption@LT@tempa{#2}%
32 \ifx\caption@LT@tempa\caption@LT@table
33 \caption@LT@type#1%
34 \else
35 #1{#2}%
36 \fi}%
37 \newcommand*\caption@LT@type[1]{%
38 \expandafter#1\expandafter{\LTcaption}}
39 \newcommand*\caption@LT@table{table}%

```

`\LT@c@ption` The original implementation:

```

\def\LT@c@ption#1[#2]#3{%
\LT@makecaption#1\fnun@table{#3}%
\def\@tempa{#2}%
\ifx\@tempa\@empty\else
{\let\\\space
\addcontentsline{lot}{table}{\protect\numberline{\thetable}{#2}}}%
\fi}

```

Our implementation simply uses `\LTcaption` instead of `{table}`:

```

40 \long\def\LT@c@ption#1[#2]#3{%
41 \LT@makecaption#1{\csname fnun@LTcaption\endcsname}{#3}%
42 \def\@tempa{#2}%
43 \ifx\@tempa\@empty\else
44 {\let\\\space
45 \addcontentsline{\csname ext@LTcaption\endcsname}{\LTcaption}%
46 {\protect\numberline{\csname theLTcaption\endcsname}{#2}}}%
47 \fi}

```

`\LT@makecaption` `\LT@makecaption{<cmd>}{<label>}{<text>}`

Original code:

```

\def\LT@makecaption#1#2#3{%
\LT@mcol\LT@cols c{\hbox to\z@{\hss\parbox[t]\LTcapwidth{%
% Based on article class "\@makecaption", "#1" is "\@gobble" in star
% form, and "\@firstofone" otherwise.
\sbox\@tempboxa{#1{#2: }#3}%
\ifdim\wd\@tempboxa>\hsize
#1{#2: }#3%

```



```

\else
\hbox to\hsize{\hfil\box\@tempboxa\hfil}%
\fi
\endgraf\vskip\baselineskip}%
\hss}}

```

Our code:<sup>1</sup>

```

48 \renewcommand\LT@makecaption[3]{%
49   \LT@makecaption{%
50     \sbox\@tempboxa{#1{\CaptionLabelFont#2:} }\CaptionTextFont#3}%
51     \ifdim\wd\@tempboxa>\hsize
52       #1{\CaptionLabelFont{#2:} }\CaptionTextFont#3%
53     \else
54       \hbox to\hsize{\hfil\box\@tempboxa\hfil}%
55     \fi
56     \endgraf\vskip\LTcapskip}}
57 \newcommand\LT@makecaption[1]{%
58   \caption@LT@make{\hb@xt@\hsize{%
59     \ifLTcapargins
60       \hspace\LTcapleft
61       \FBifLTcapwidth{\advance\LTcapwidth-\LTcapleft}%
62     \else
63       \hspace\LTleft
64       \FBifLTcapwidth{\advance\LTcapwidth-\LTleft}%
65     \fi
66     \FBifLTcapwidth{\advance\LTcapwidth-%
67       \ifLTcapargins\LTcapright\else\LTright\fi}%
68     \parbox[t]{\LTcapwidth{#1}%
69     \ifLTcapargins
70       \hskip\LTcapright
71     \else
72       \hskip\LTright
73     \fi}}}

```

This one will be usually defined by the `fr-longtable` package, which is part of the `floatrow` package[4]:

```

74 \AtBeginDocument{\providecommand*\FBifLTcapwidth[1]{} }

```

`\caption@LT@make` Typesets the caption as `\multicolumn...`

```

75 \newcommand\caption@LT@make[1]{%
76   \noalign{\caption@LT@config}%

```

**Note:** If used with the `array` package `\caption@LTfmt` needs to be expanded, therefore we need some `\expandafter` here.

```

77   \expandafter\LT@mc@l\expandafter\LT@cols\expandafter{\caption@LTfmt}{%
78     \hb@xt@\z@{%
79       \hspace\caption@LTleft
80       \parbox[t]{\linewidth{#1}%
81       \hspace\caption@LTright}}}%

```

`\caption@LT@config` `\caption@LT@config` analyses `\LTleft` & `\LTright` and set `\caption@LTleft` & `\caption@LTright` accordingly to the ‘opposite’ values, e.g., `\LTleft=1cm`

---

<sup>1</sup>Adapted to the `floatrow` package by Olga Lapko

will result to `\caption@LTleft=-1cm` and `\LTleft=0pt` plus `1fill` will result to `\caption@LTleft=0pt` minus `1fill`. Furthermore `\caption@LTfmt` is set to the according multicolumn format; this is far away from being bulletproof (e.g., a stretch or shrink will always be treated as ‘fill’) but will hopefully cover all ‘real’ cases.

```
82 \newcommand*\caption@LT@config{%
83   \caption@LT@parse\LTleft\caption@LTleft\caption@ifLTleft
84   \caption@LT@parse\LTRight\caption@LTRight\caption@ifLTRight
85   \xdef\caption@LTfmt{%
86     @{} \caption@ifLTleft { \caption@ifLTRight { c } { r } } { l } { } }
```

`\caption@LT@parse` Parsing of the skip, we collect a `\@fixpart`, a `@pluspart`, and a `\@minuspart` and make our definitions based on that.

```
87 \newcommand*\caption@LT@parse[3]{%
88   \let\@pluspart\@undefined
89   \let\@minuspart\@undefined
90   \expandafter\caption@LT@parse@\expandafter\@fixpart\the#1 x %
91   \xdef#2{-\@fixpart
92     \ifx\@minuspart\@undefined\else
93       \space\@plus\space\@minuspart
94     \fi
95     \ifx\@pluspart\@undefined\else
96       \space\@minus\space\@pluspart
97     \fi}%
98   \let#3\@firstoftwo
99   \ifx\@pluspart\@undefined
100     \ifx\@minuspart\@undefined
101       \let#3\@secondoftwo
102     \fi
103   \fi}
104 \def\caption@LT@parse@#1#2 {%
```

Note: `\def\@tempa{#2}\ifx\@tempa\@plus...` would not work here because of different catcodes.

```
105 \edef\@tempa{\@car#2\@nil}%
106 \if p\@tempa
107   \def\next{\caption@LT@parse@\@pluspart}%
108 \else\if m\@tempa
109   \def\next{\caption@LT@parse@\@minuspart}%
110 \else\if x\@tempa
111   \let\next\relax
112 \else
113   \def#1{#2}%
114   \def\next{\caption@LT@parse@ @}%
115 \fi\fi\fi
116 \next}
```

### 3.4 The `longtable*` environment

`longtable*` A `longtable` environment without reference counter and hyperlink anchors.

```
117 \newenvironment{longtable*}{%
```

We simply suppress anything which has to do with reference counters here.

```
118 \let\caption@LT@type\@gobble
```

Unfortunately this is not so easy with `\Hy@raisedlink` (which actually sets the hyperlink anchor), so we assume that we have to suppress the first usage.

```
119 \let\caption@LT@raisedlink\Hy@raisedlink
120 \def\Hy@raisedlink{%
121   \let\Hy@raisedlink\caption@LT@raisedlink
122   \@gobble}%
```

Finally we are redefining `\caption` so the non-starred variant issues an error.

```
123 \let\lrcaption@ORI@LT@c@ption\LT@c@ption
124 \def\LT@c@ption##1[##2]##3{%
125   \ifx##1\@firstofone
126     \PackageError{lrcaption}%
127       {Not allowed in longtable* environment}%
128       {If you do not understand this error, please take a closer
129        look\MessageBreak at the documentation of the 'lrcaption'
130        package.\MessageBreak \@ehc}%
131   \else
132     \lrcaption@ORI@LT@c@ption{##1}[{##2}]{##3}%
133   \fi}%
134 \longtable}%
135 {\endlongtable}
```

### 3.5 Adaption for KOMA-Script

```
136 \@ifundefined{@komalongtablefalse}{}{}%
137 \if@komalongtable
138   \renewcommand{\LT@makecaption}[3]{%
139     \noalign{%
140       \if@captionabove
141         \vskip\belowcaptionskip
142       \else
143         \vskip\abovecaptionskip
144       \fi
145     }%
146     \caption@LT@make{%
147       \@@makecaption{#1}{#2}{#3}%
148     \endgraf
149     \if@captionabove
150       \vskip\abovecaptionskip
151     \else
152       \vskip\belowcaptionskip
153     \fi
154   }%
155 }%
156 \let\LT@@makecaption\@undefined
157 \fi}
```

## References

- [1] David Carlisle: *The longtable package*, 2004/02/01
- [2] Victor Eijkhout: *An introduction to the Dutch  $\text{\LaTeX}$  document classes*,  
3 September 1989
- [3] Markus Kohm & Jens-Uwe-Morawski: *KOMA-Script – a versatile  $\text{\LaTeX}$  2 $\epsilon$  bundle*,  
2007-01-09
- [4] Olga Lapko: *The floatrow package documentation*,  
2007/08/24