

The `telprint` package

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Abstract

Package `telprint` provides `\telprint` for formatting German phone numbers.

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

1 Documentation

1.1 Introduction

This is a very old package that I have written to format phone numbers. It follows German conventions and the documentation is mainly in German.

1.2 Short overview in English

L^AT_EX:

```
\usepackage{telprint}
\telprint{123/456-789}
```

plain T_EX:

```
\input telprint.sty
\telprint{123/456-789}
```

\telprint **\telprint{...}** formats the explicitly given number. Digits, spaces and some special characters ('+', '/', '-', '(', ')', '~', ' ') are supported. Numbers are divided into groups of two digits from the right. Examples:

```
\telprint{0761/12345}      ==> 07\,61/1\,23\,45
\telprint{01234/567-89}    ==> 0\,12\,34/5\,67\leavevmode\hbox{-
}89
\telprint{+49 (6221) 297} ==> +49~(62\,21)~2\,97
```

1.2.1 Configuration

The output of the symbols can be configured by **\telhyphen**, **\telslash**, **\telleftparen**, **\telrightparen**, **\telplus**, **\teltilde**. Example:

```
\telslash{\,/\/,}\ \telprint{12/34} ==> 12\,/\/,34
```

\telspace **\telspace** configures the space between digit groups.
\telnumber **\telnumber** only formats a number in digit groups; special characters are not recognized.

1.3 Documentation in German

\telprint • **telprint#1**
Der eigentliche Anwenderbefehl zur formatierten Ausgabe von Telefonnummern. Diese dürfen dabei nur als Zahlen angegeben werden(, da sie tokenweise analysiert werden). Als Trenn- oder Sonderzeichen werden unterstützt: '+', '/', '-', '(', ')', '~', ' ' Einfache Leerzeichen werden erkannt und durch Tilden ersetzt, um Trennungen in der Telefonnummer zu verhindern. (Man beachte aus gleichem Grunde die **\hbox** bei '-'). Beispiele:

```
\telprint{0761/12345}      ==> 07\,61/1\,23\,45
\telprint{01234/567-89}    ==> 0\,12\,34/5\,67\leavevmode\hbox{-
}89
\telprint{+49 (6221) 297} ==> +49~(62\,21)~2\,97
```

Der Rest enthält eher Technisches:

<code>\telspace</code>	<ul style="list-style-type: none"> • <code>\telspace#1</code> Mit diesem Befehl wird der Abstand zwischen den Zifferngruppen angegeben (Default: \,). (Durch <code>\telspace{}</code> kann dieser zusätzliche Abstand abgestellt werden.)
<code>\telhyphen</code>	<ul style="list-style-type: none"> • <code>\telhyphen#1</code> Dieser Befehl gibt die Art des Bindestriches, wie er ausgegeben werden soll. In der Eingabe darf jedoch nur der einfache Bindestrich stehen: <code>\telprint{123-45}</code>, jedoch NIE <code>\telprint{123--45}</code>! Kopka-Bindestrich-Fans geben an: <code>\telhyphen{\leavevmode\hbox{--}}</code>
<code>\telslash</code> <code>\telleftparen</code> <code>\telrightparen</code> <code>\telplus</code> <code>\teltilde</code> <code>\telnumber</code>	<ul style="list-style-type: none"> • <code>\telslash#1, \telleftparen#1, \telrightparen#1, \telplus#1, \teltilde</code> Diese Befehle konfigurieren die Zeichen <code>'/'</code>, <code>'('</code>, <code>')'</code>, <code>'+'</code> und <code>'~'</code>. Sie funktionieren analog zu <code>\telhyphen</code>. • <code>\telnumber#1</code> Richtung interner Befehl: Er dient dazu, eine Zifferngruppe in Zweiergruppen auszugeben. Die einzelnen Zahlen werden im Tokenregister <code>\TELtoks</code> gespeichert. Abwechselnd werden dabei zwischen zwei Token (Zahlen) <code>\TELx</code> bzw. <code>\TELy</code> eingefügt, abhängig von dem wechselnden Wert von <code>\TELswitch</code>. Zum Schluss kann dann einfach festgestellt werden ob die Nummer nun eine geradzahlige oder ungeradzahlige Zahl von Ziffern aufwies. Dem entsprechend wird <code>\TELx</code> mit dem Zusatzabstand belegt und <code>\TELy</code> leer definiert oder umgekehrt.) • <code>\TEL...</code> interne Befehle, Technisches: <code>\TELsplit</code> dient zur Aufteilung einer zusammengesetzten Telefonnummer (Vorwahl, Hauptnummer, Nebenstelle). In dieser Implementation werden als Trennzeichen nur <code>'/'</code> und <code>'-'</code> erkannt. Die einzelnen Bestandteile wie Vorwahl werden dann dem Befehl <code>\telnumber</code> zur Formatierung uebergeben. • Die Erkennung von einfachen Leerzeichen ist um einiges schwieriger: Die Tokentrennung ueber Parameter <code>#1#2</code> funktioniert nicht für einfache Leerzeichen, da TeX sie <i>niemals</i> als eigenständige Argumente behandelt! (The TeXbook, Chapter 20, p. 201) (Anmerkung am Rande: Deshalb funktionieren die entsprechenden Tokenmakros auf S. 149 des Buches „Einführung in TeX“ von N. Schwarz (3. Aufl.) nicht, wenn im Tokenregister als erstes ein einfaches Leerzeichen steht!)

2 Implementation

```
1 \<*package)
```

2.1 Reload check and package identification

Reload check, especially if the package is not used with L^AT_EX.

```
2 \begingroup\catcode61\catcode48\catcode32=10\relax%
3 \catcode13=5 % ^~M
4 \endlinechar=13 %
5 \catcode35=6 % #
6 \catcode39=12 % '
7 \catcode44=12 % ,
8 \catcode45=12 % -
9 \catcode46=12 % .
10 \catcode58=12 % :
11 \catcode64=11 % @
```

```

12 \catcode123=1 % {
13 \catcode125=2 % }
14 \expandafter\let\expandafter\x\csname ver@telprint.sty\endcsname
15 \ifx\x\relax % plain-TeX, first loading
16 \else
17 \def\empty{}%
18 \ifx\x\empty % LaTeX, first loading,
19 % variable is initialized, but \ProvidesPackage not yet seen
20 \else
21 \expandafter\ifx\csname PackageInfo\endcsname\relax
22 \def\x#1#2{%
23 \immediate\write-1{Package #1 Info: #2.}%
24 }%
25 \else
26 \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
27 \fi
28 \x{telprint}{The package is already loaded}%
29 \aftergroup\endinput
30 \fi
31 \fi
32 \endgroup%

```

Package identification:

```

33 \begingroup\catcode61\catcode48\catcode32=10\relax%
34 \catcode13=5 % ^^M
35 \endlinechar=13 %
36 \catcode35=6 % #
37 \catcode39=12 % '
38 \catcode40=12 % (
39 \catcode41=12 % )
40 \catcode44=12 % ,
41 \catcode45=12 % -
42 \catcode46=12 % .
43 \catcode47=12 % /
44 \catcode58=12 % :
45 \catcode64=11 % @
46 \catcode91=12 % [
47 \catcode93=12 % ]
48 \catcode123=1 % {
49 \catcode125=2 % }
50 \expandafter\ifx\csname ProvidesPackage\endcsname\relax
51 \def\x#1#2#3[#4]{\endgroup
52 \immediate\write-1{Package: #3 #4}%
53 \xdef#1{#4}%
54 }%
55 \else
56 \def\x#1#2[#3]{\endgroup
57 #2[#{#3}]%
58 \ifx#1\@undefined
59 \xdef#1{#3}%
60 \fi
61 \ifx#1\relax
62 \xdef#1{#3}%
63 \fi
64 }%
65 \fi
66 \expandafter\x\csname ver@telprint.sty\endcsname
67 \ProvidesPackage{telprint}%
68 [2016/05/16 v1.11 Format German phone numbers (H0)]%

```

2.2 Catcodes

```
69 \begingroup\catcode61\catcode48\catcode32=10\relax%
70 \catcode13=5 % ^^M
71 \endlinechar=13 %
72 \catcode123=1 % {
73 \catcode125=2 % }
74 \catcode64=11 % @
75 \def\x{\endgroup
76   \expandafter\edef\csname TELAtEnd\endcsname{%
77     \endlinechar=\the\endlinechar\relax
78     \catcode13=\the\catcode13\relax
79     \catcode32=\the\catcode32\relax
80     \catcode35=\the\catcode35\relax
81     \catcode61=\the\catcode61\relax
82     \catcode64=\the\catcode64\relax
83     \catcode123=\the\catcode123\relax
84     \catcode125=\the\catcode125\relax
85   }%
86 }%
87 \x\catcode61\catcode48\catcode32=10\relax%
88 \catcode13=5 % ^^M
89 \endlinechar=13 %
90 \catcode35=6 % #
91 \catcode64=11 % @
92 \catcode123=1 % {
93 \catcode125=2 % }
94 \def\TMP@EnsureCode#1#2{%
95   \edef\TELAtEnd{%
96     \TELAtEnd
97     \catcode#1=\the\catcode#1\relax
98   }%
99   \catcode#1=#2\relax
100 }
101 \TMP@EnsureCode{33}{12}% !
102 \TMP@EnsureCode{36}{3}% $
103 \TMP@EnsureCode{40}{12}% (
104 \TMP@EnsureCode{41}{12}% )
105 \TMP@EnsureCode{42}{12}% *
106 \TMP@EnsureCode{43}{12}% +
107 \TMP@EnsureCode{44}{12}% ,
108 \TMP@EnsureCode{45}{12}% -
109 \TMP@EnsureCode{46}{12}% .
110 \TMP@EnsureCode{47}{12}% /
111 \TMP@EnsureCode{91}{12}% [
112 \TMP@EnsureCode{93}{12}% ]
113 \TMP@EnsureCode{126}{13}% ~ (active)
114 \edef\TELAtEnd{\TELAtEnd\noexpand\endinput}
```

2.3 Package macros

```
115 \ifx\DeclareRobustCommand\UnDeFiNeD
116   \def\DeclareRobustCommand*#1[1]{\def#1##1}%
117   \def\TELreset{\let\DeclareRobustCommand=\UnDeFiNeD}%
118   \input infwarerr.sty\relax
119   \@PackageInfo{telprint}{%
120     Macros are not robust!%
121   }%
122 \else
```

```

123 \let\TELreset=\relax
124 \fi

\telspace
125 \DeclareRobustCommand*\telspace[1]{\def\TELspace{#1}}
126 \telspace{ }$ \, $ { }

\telhyphen
127 \DeclareRobustCommand*\telhyphen[1]{\def\TELhyphen{#1}}
128 \telhyphen{\leavevmode\hbox{-}}% \hbox zur Verhinderung der Trennung

\telslash
129 \DeclareRobustCommand*\telslash[1]{\def\TELslash{#1}}
130 \telslash{/}%

\telleftparen
131 \DeclareRobustCommand*\telleftparen[1]{\def\TELleftparen{#1}}
132 \telleftparen{(}%

\telrightparen
133 \DeclareRobustCommand*\telrightparen[1]{\def\TELrightparen{#1}}
134 \telrightparen{)}%

\telplus
135 \DeclareRobustCommand*\telplus[1]{\def\TELplus{#1}}
136 \telplus{+}%

\teltilde
137 \DeclareRobustCommand*\teltilde[1]{\def\TELtilde{#1}}
138 \teltilde{~}%

\TELtoks
139 \newtoks\TELtoks

\TELnumber
140 \def\TELnumber#1#2\TELnumberEND{%
141 \begingroup
142 \def\0{#2}%
143 \expandafter\endgroup
144 \ifx\0\empty
145 \TELtoks=\expandafter{\the\TELtoks#1}%
146 \ifnum\TELswitch=0 %
147 \def\TELx{\TELspace}\def\TELy{}%
148 \else
149 \def\TELx{}\def\TELy{\TELspace}%
150 \fi
151 \the\TELtoks
152 \else
153 \ifnum\TELswitch=0 %
154 \TELtoks=\expandafter{\the\TELtoks#1\TELx}%
155 \def\TELswitch{1}%
156 \else
157 \TELtoks=\expandafter{\the\TELtoks#1\TELy}%
158 \def\TELswitch{0}%
159 \fi
160 \TELnumber#2\TELnumberEND
161 \fi
162 }

```

```

\telnumber
163 \DeclareRobustCommand*\telnumber}[1]{%
164   \TELtoks={}%
165   \def\TELswitch{0}%
166   \TELnumber#1{}\TELnumberEND
167 }

\TELsplit
168 \def\TELsplit{\futurelet\TELfuture\TELdosplit}

\TELdosplit
169 \def\TELdosplit#1#2\TELsplitEND
170 {%
171   \def\TELsp{ }%
172   \expandafter\ifx\TELsp\TELfuture
173     \let\TELfuture=\relax
174     \expandafter\telnumber\expandafter{\the\TELtoks}~%
175     \telprint{#1#2}% Das Leerzeichen kann nicht #1 sein!
176   \else
177     \def\TELfirst{#1}%
178     \ifx\TELfirst\empty
179       \expandafter\telnumber\expandafter{\the\TELtoks}%
180       \TELtoks={}%
181     \else\if-\TELfirst
182       \expandafter\telnumber\expandafter{\the\TELtoks}\TELhyphen
183       \telprint{#2}%
184     \else\if/\TELfirst
185       \expandafter\telnumber\expandafter{\the\TELtoks}\TELslash
186       \telprint{#2}%
187     \else\if(\TELfirst
188       \expandafter\telnumber\expandafter{\the\TELtoks}\TELleftparen
189       \telprint{#2}%
190     \else\if)\TELfirst
191       \expandafter\telnumber\expandafter{\the\TELtoks}\TELrightparen
192       \telprint{#2}%
193     \else\if+\TELfirst
194       \expandafter\telnumber\expandafter{\the\TELtoks}\TELplus
195       \telprint{#2}%
196     \else\def\TELtemp{~}\ifx\TELtemp\TELfirst
197       \expandafter\telnumber\expandafter{\the\TELtoks}\TELtilde
198       \telprint{#2}%
199     \else
200       \TELtoks=\expandafter{\the\TELtoks#1}%
201       \TELsplit#2{}\TELsplitEND
202       \fi\fi\fi\fi\fi\fi\fi
203   \fi
204 }

\telprint
205 \DeclareRobustCommand*\telprint}[1]{%
206   \TELtoks={}%
207   \TELsplit#1{}\TELsplitEND
208 }

209 \TELreset\let\TELreset=\UnDeFiNeD

210 \TELatEnd%
211 \endpackage

```

3 Test

3.1 Catcode checks for loading

```
212 \test1)
213 \catcode\{=1 %
214 \catcode\}=2 %
215 \catcode\#=6 %
216 \catcode\@=11 %
217 \expandafter\ifx\csname count@\endcsname\relax
218   \countdef\count@=255 %
219 \fi
220 \expandafter\ifx\csname @gobble\endcsname\relax
221   \long\def@gobble#1{%
222 \fi
223 \expandafter\ifx\csname @firstofone\endcsname\relax
224   \long\def@firstofone#1{#1}%
225 \fi
226 \expandafter\ifx\csname loop\endcsname\relax
227   \expandafter@firstofone
228 \else
229   \expandafter@gobble
230 \fi
231 {%
232   \def\loop#1\repeat{%
233     \def\body{#1}%
234     \iterate
235   }%
236   \def\iterate{%
237     \body
238     \let\next\iterate
239   \else
240     \let\next\relax
241   \fi
242   \next
243 }%
244 \let\repeat=\fi
245 }%
246 \def\RestoreCatcodes{}
247 \count@=0 %
248 \loop
249   \edef\RestoreCatcodes{%
250     \RestoreCatcodes
251     \catcode\the\count@=\the\catcode\count@\relax
252   }%
253 \ifnum\count@<255 %
254   \advance\count@ 1 %
255 \repeat
256
257 \def\RangeCatcodeInvalid#1#2{%
258   \count@=#1\relax
259   \loop
260     \catcode\count@=15 %
261     \ifnum\count@<#2\relax
262       \advance\count@ 1 %
263     \repeat
264 }
265 \def\RangeCatcodeCheck#1#2#3{%
```



```

266 \count@=#1\relax
267 \loop
268 \ifnum#3=\catcode\count@
269 \else
270 \errmessage{%
271 Character \the\count@\space
272 with wrong catcode \the\catcode\count@\space
273 instead of \number#3%
274 }%
275 \fi
276 \ifnum\count@<#2\relax
277 \advance\count@ 1 %
278 \repeat
279 }
280 \def\space{ }
281 \expandafter\ifx\csname LoadCommand\endcsname\relax
282 \def\LoadCommand{\input telprint.sty\relax}%
283 \fi
284 \def\Test{%
285 \RangeCatcodeInvalid{0}{47}%
286 \RangeCatcodeInvalid{58}{64}%
287 \RangeCatcodeInvalid{91}{96}%
288 \RangeCatcodeInvalid{123}{255}%
289 \catcode`\@=12 %
290 \catcode`\=0 %
291 \catcode`\%=14 %
292 \LoadCommand
293 \RangeCatcodeCheck{0}{36}{15}%
294 \RangeCatcodeCheck{37}{37}{14}%
295 \RangeCatcodeCheck{38}{47}{15}%
296 \RangeCatcodeCheck{48}{57}{12}%
297 \RangeCatcodeCheck{58}{63}{15}%
298 \RangeCatcodeCheck{64}{64}{12}%
299 \RangeCatcodeCheck{65}{90}{11}%
300 \RangeCatcodeCheck{91}{91}{15}%
301 \RangeCatcodeCheck{92}{92}{0}%
302 \RangeCatcodeCheck{93}{96}{15}%
303 \RangeCatcodeCheck{97}{122}{11}%
304 \RangeCatcodeCheck{123}{255}{15}%
305 \RestoreCatcodes
306 }
307 \Test
308 \csname @@end\endcsname
309 \end
310 </test1>

```

4 Installation

4.1 Download

Package. This package is available on CTAN¹:

[CTAN:macros/latex/contrib/oberdiek/telprint.dtx](https://ctan.org/ctan/packages/macros/latex/contrib/oberdiek/telprint.dtx) The source file.

[CTAN:macros/latex/contrib/oberdiek/telprint.pdf](https://ctan.org/ctan/packages/macros/latex/contrib/oberdiek/telprint.pdf) Documentation.

¹[CTAN:pkg/telprint](https://ctan.org/ctan/packages/macros/latex/contrib/oberdiek/telprint)

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](#)

TDS refers to the standard “A Directory Structure for T_EX Files” (**CTAN:**[pkg/tds](#)). Directories with `texmf` in their name are usually organized this way.

4.2 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
```

4.3 Package installation

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

```
tex telprint.dtx
```

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

<code>telprint.sty</code>	→ <code>tex/generic/oberdiek/telprint.sty</code>
<code>telprint.pdf</code>	→ <code>doc/latex/oberdiek/telprint.pdf</code>
<code>test/telprint-test1.tex</code>	→ <code>doc/latex/oberdiek/test/telprint-test1.tex</code>
<code>telprint.dtx</code>	→ <code>source/latex/oberdiek/telprint.dtx</code>

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

4.4 Refresh file name databases

If your T_EX distribution (T_EX Live, mikT_EX, ...) relies on file name databases, you must refresh these. For example, T_EX Live users run `texhash` or `mktextlsr`.

4.5 Some details for the interested

Unpacking with L^AT_EX. The `.dtx` chooses its action depending on the format:

plain T_EX: Run `docstrip` and extract the files.

L^AT_EX: Generate the documentation.

If you insist on using L^AT_EX for `docstrip` (really, `docstrip` does not need L^AT_EX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{telprint.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 pdfL^AT_EX:

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

5 History

[1996/11/28 v1.0]

- Erste lauffähige Version.
- Nur ‘-’ und ‘/’ als zulässige Sonderzeichen.

[1997/09/16 v1.1]

- Dokumentation und Kommentare (Posting in de.comp.text.tex).
- Erweiterung um Sonderzeichen ‘(,)’, ‘+’, ‘~’ und ‘.’
- Trennungsverhinderung am ‘hyphen’.

[1997/10/16 v1.2]

- Schutz vor wiederholtem Einlesen.
- Unter L^AT_EX 2_ε Nutzung des `\DeclareRobustCommand`-Features.

[1997/12/09 v1.3]

- Temporäre Variable eingespart.
- Posted in newsgroup `de.comp.text.tex`:
“Re: Generisches Markup für Telefonnummern?”²

[2004/11/02 v1.4]

- Fehler in der Dokumentation korrigiert.

[2005/09/30 v1.5]

- Konfigurierbare Symbole: ‘/’, ‘(,)’, ‘+’ und ‘~’.

²Url: <https://groups.google.com/group/de.comp.text.tex/msg/86b3a86140007309>

[2006/02/12 v1.6]

- LPPL 1.3.
- Kurze Übersicht in Englisch.
- CTAN.

[2006/08/26 v1.7]

- New DTX framework.

[2007/04/11 v1.8]

- Line ends sanitized.

[2007/09/09 v1.9]

- Catcode section added.
- Missing docstrip tag added.

[2008/08/11 v1.10]

- Code is not changed.
- URLs updated.

[2016/05/16 v1.11]

- 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.

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