

# 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<sup>A</sup>T<sub>E</sub>X:

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

plain T<sub>E</sub>X:

```
\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:

`\telspace`

- `\telspace#1`  
 Mit diesem Befehl wird der Abstand zwischen den Zifferngruppen angegeben (Default: \,). (Durch `\telspace{}` kann dieser zusätzliche Abstand abgestellt werden.)

- \telhyphen
  - **\telhyphen#1**  
Dieser Befehl gibt die Art des Bindestriches, wie er ausgegeben werden soll. In der Eingabe darf jedoch nur der einfache Bindestrich stehen: `\telprint{123-45}`, jedoch NIE `\telprint{123--45}`! Kopka-Bindestrich-Fans geben an: `\telhyphen{\leavevmode\hbox{--}}`
- \telslash  
\telleftparen  
\telrightparen  
\telplus  
\teltilde  
\telnumber
  - **\telslash#1, \telleftparen#1, \telrightparen#1, \telplus#1, \teltilde**  
Diese Befehle konfigurieren die Zeichen '/', '(', ')', '+' und '~'. Sie funktionieren analog zu `\telhyphen`.
  - **\telnumber#1**  
Richtung interner Befehl: Er dient dazu, eine Zifferngruppe in Zweiergruppen auszugeben. Die einzelnen Zahlen werden im Tokenregister `\TELToks` gespeichert. Abwechselnd werden dabei zwischen zwei Token (Zahlen) `\TELx` bzw. `\TELy` eingefuegt, abhängig von dem wechselnden Wert von `\TELSwitch`. Zum Schluss kann dann einfach festgestellt werden ob die Nummer nun eine geradzahlige oder ungeradzahlige Zahl von Ziffern aufwies. Dem entsprechend wird `\TELx` mit dem Zusatzabstand belegt und `\TELy` leer definiert oder umgekehrt. )
  - **\TEL... interne Befehle, Technisches:**  
`\TELSplit` dient zur Aufteilung einer zusammengesetzten Telefonnummer (Vorwahl, Hauptnummer, Nebenstelle). In dieser Implementation werden als Trennzeichen nur '/' und '-' erkannt. Die einzelnen Bestandteile wie Vorwahl werden dann dem Befehl `\telnumber` zur Formatierung uebergeben.
  - Die Erkennung von einfachen Leerzeichen ist um einiges schwieriger: Die Tokentrennung ueber Parameter `#1#2` funktioniert nicht für einfache Leerzeichen, da TeX sie *niemals* 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<sup>A</sup>T<sub>E</sub>X.

```
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 (HO)]%

```

## 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\TELEnd{%
96       \TELEnd
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\TELEnd{\TELEnd\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\TELEspace{#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\TELEslash{#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
203 \fi
204 }

```

\telprint

```

205 \DeclareRobustCommand*{\telprint}[1]{%
206 \TELToks={}%
207 \TELSplit#1{\}\TELSplitEND
208 }

209 \TELreset\let\TELreset=\UnDeFiNeD

210 \TELEnd%
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 CTAN<sup>1</sup>:

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

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

*TDS* refers to the standard “A Directory Structure for T<sub>E</sub>X Files” ([CTAN:tds/tds.pdf](http://ctan.org/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
```

**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/
```

### 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<sub>E</sub>X:

```
tex telprint.dtx
```

---

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

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

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

#### 4.4 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 `mktextsr`.

#### 4.5 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{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 `pdf $\LaTeX$` :

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

## 5 Catalogue

The following XML file can be used as source for the  [\$\TeX\$  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 `telprint.xml`.

```
311 (*catalogue)
312 <?xml version='1.0' encoding='us-ascii'?>
313 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
314 <entry datestamp='$Date$' modifier='$Author$' id='telprint'>
315   <name>telprint</name>
316   <caption>Format German phone numbers.</caption>
317   <authorref id='auth:oberdiek' />
318   <copyright owner='Heiko Oberdiek' year='1996,1997,2004-2008' />
319   <license type='lpp1.3' />
320   <version number='1.11' />
```

```

321 <description>
322   The package provides a command <tt>\telprint</tt> for formatting
323   German telephone numbers.
324 <p/>
325   The package is part of the <xref refid='oberdiek'>oberdiek</xref>
326   bundle.
327 </description>
328 <documentation details='Package documentation'
329   href='ctan:/macros/latex/contrib/oberdiek/telprint.pdf'/>
330 <ctan file='true' path='/macros/latex/contrib/oberdiek/telprint.dtx'/>
331 <miktex location='oberdiek'/>
332 <texlive location='oberdiek'/>
333 <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
334 </entry>
335 </catalogue>

```

## 6 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<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> Nutzung des \DeclareRobustCommand-Features.

### [1997/12/09 v1.3]

- Temporäre Variable eingespart.
- Posted in newsgroup [de.comp.text.tex](mailto:de.comp.text.tex):  
“Re: Generisches Markup für Telefonnummern?”<sup>2</sup>

### [2004/11/02 v1.4]

- Fehler in der Dokumentation korrigiert.

### [2005/09/30 v1.5]

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

### [2006/02/12 v1.6]

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

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

## [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.

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