

The telprint package

Heiko Oberdiek*

2016/05/16 v1.11

Abstract

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

Contents

1	Documentation	2
1.1	Introduction	2
1.2	Short overview in English	2
1.2.1	Configuration	2
1.3	Documentation in German	2
2	Implementation	3
2.1	Reload check and package identification	3
2.2	Catcodes	4
2.3	Package macros	5
3	Installation	8
3.1	Download	8
3.2	Bundle installation	8
3.3	Package installation	8
3.4	Refresh file name databases	8
3.5	Some details for the interested	8
4	History	9
	[1996/11/28 v1.0]	9
	[1997/09/16 v1.1]	9
	[1997/10/16 v1.2]	9
	[1997/12/09 v1.3]	9
	[2004/11/02 v1.4]	9
	[2005/09/30 v1.5]	10
	[2006/02/12 v1.6]	10
	[2006/08/26 v1.7]	10
	[2007/04/11 v1.8]	10
	[2007/09/09 v1.9]	10
	[2008/08/11 v1.10]	10
	[2016/05/16 v1.11]	10
5	Index	10

*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:

\telspace • **\telspace#1**
Mit diesem Befehl wird der Abstand zwischen den Zifferngruppen angegeben (Default: \,). (Durch **\telspace{}** 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\cscname 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 Installation

3.1 Download

Package. This package is available on CTAN¹:

[CTAN:macros/latex/contrib/oberdiek/telprint.dtx](#) The source file.

[CTAN:macros/latex/contrib/oberdiek/telprint.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](#)

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.

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
```

3.3 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):

```
telprint.sty → tex/generic/oberdiek/telprint.sty
telprint.pdf → doc/latex/oberdiek/telprint.pdf
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`.

3.4 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 `mktexlsr`.

3.5 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.

¹[CTAN:pkg/telprint](#)

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
```

4 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 $\text{\LaTeX 2}_{\epsilon}$ 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.

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

[2005/09/30 v1.5]

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

[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.

5 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		70, 72, 73, 74, 78, 79, 80, 81, 82, 83, 84, 87, 88, 90, 91, 92, 93, 97, 99
<code>\,</code>	126	
<code>\@PackageInfo</code>	119	<code>\csname</code> 14, 21, 50, 66, 76
<code>\@undefined</code>	58	
Numbers		D
<code>\0</code>	142, 144	<code>\DeclareRobustCommand</code> 115, 116, 117, 125, 127, 129, 131, 133, 135, 137, 163, 205
A		E
<code>\aftergroup</code>	29	<code>\empty</code> 17, 18, 144, 178
C		<code>\endcsname</code> 14, 21, 50, 66, 76
<code>\catcode</code>	2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 69,	<code>\endinput</code> 29, 114
		<code>\endlinechar</code> 4, 35, 71, 77, 89

F		\TELplus	135, 194
\futurelet	168	\telplus	3, <u>135</u>
H		\telprint	2, 2, 175, 183, 186, 189, 192, 195, 198, <u>205</u>
\hbox	128	\TELreset	117, 123, 209
I		\TELrightparen	133, 191
\if	181, 184, 187, 190, 193	\telrightparen	3, <u>133</u>
\ifnum	146, 153	\TELslash	129, 185
\ifx	15, 18, 21, 50, 58, 61, 115, 144, 172, 178, 196	\telslash	3, <u>129</u>
\immediate	23, 52	\TELsp	171, 172
\input	118	\TELspace	125, 147, 149
L		\telspace	2, 2, <u>125</u>
\leavevmode	128	\TELsplit	168, 201, 207
N		\TELsplitEND	169, 201, 207
\newtoks	139	\TELswitch	146, 153, 155, 158, 165
P		\TELtemp	196
\PackageInfo	26	\TELtilde	137, 197
\ProvidesPackage	19, 67	\teltilde	3, <u>137</u>
T		\TELtoks	139, 145, 151, 154, 157, 164, 174, 179, 180, 182, 185, 188, 191, 194, 197, 200, 206
\TELatEnd	95, 96, 114, 210	\TELx	147, 149, 154
\TELdosplit	168, <u>169</u>	\TELy	147, 149, 157
\TELfirst	177, 178, 181, 184, 187, 190, 193, 196	\the	77, 78, 79, 80, 81, 82, 83, 84, 97, 145, 151, 154, 157, 174, 179, 182, 185, 188, 191, 194, 197, 200
\TELfuture	168, 172, 173	\TMP@EnsureCode	94, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113
\TELhyphen	127, 182	U	
\telhyphen	3, <u>127</u>	\UnDeFiNeD	115, 117, 209
\TELleftparen	131, 188	W	
\telleftparen	3, <u>131</u>	\write	23, 52
\TELnumber	140, 166	X	
\telnumber	2, 3, <u>163</u> , 174, 179, 182, 185, 188, 191, 194, 197	\x	14, 15, 18, 22, 26, 28, 51, 56, 66, 75, 87
\TELnumberEND	140, 160, 166		