

# The **telprint** package

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## Abstract

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

## Contents

<b>1</b>	<b>Documentation</b>	<b>2</b>
1.1	Introduction . . . . .	2
1.2	Short overview in English . . . . .	2
1.2.1	Configuration . . . . .	2
1.3	Documentation in German . . . . .	2
<b>2</b>	<b>Implementation</b>	<b>3</b>
2.1	Reload check and package identification . . . . .	3
2.2	Catcodes . . . . .	4
2.3	Package macros . . . . .	5
<b>3</b>	<b>Test</b>	<b>7</b>
3.1	Catcode checks for loading . . . . .	7
<b>4</b>	<b>Installation</b>	<b>7</b>
4.1	Download . . . . .	7
4.2	Bundle installation . . . . .	8
4.3	Package installation . . . . .	8
4.4	Refresh file name databases . . . . .	8
4.5	Some details for the interested . . . . .	8
<b>5</b>	<b>History</b>	<b>9</b>
	[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] . . . . .	9
	[2006/02/12 v1.6] . . . . .	10
	[2006/08/26 v1.7] . . . . .	10
	[2007/04/11 v1.8] . . . . .	10
	[2007/09/09 v1.9] . . . . .	10
<b>6</b>	<b>Index</b>	<b>10</b>

# 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.)

<code>\telhyphen</code>	<ul style="list-style-type: none"> <li>• <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></li> </ul>
<code>\telslash</code>	<ul style="list-style-type: none"> <li>• <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>.</li> <li>• <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. )</li> <li>• <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.</li> <li>• Die Erkennung von einfachen Leerzeichen ist um einiges schwieriger: Die Tokenentrennung 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!)</li> </ul>
<code>\telleftparen</code>	
<code>\telrightparen</code>	
<code>\telplus</code>	
<code>\teltilde</code>	
<code>\telnumber</code>	

## 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
3 \catcode44 12 % ,
4 \catcode45 12 % -
5 \catcode46 12 % .
6 \catcode58 12 % :
7 \catcode64 11 % @
8 \expandafter\let\expandafter\x\csname ver@telprint.sty\endcsname
9 \ifcase 0%
10 \ifx\x\relax % plain
11 \else
12 \ifx\x\empty % LaTeX
13 \else
14 1%
15 \fi
16 \fi
17 \else
18 \expandafter\ifx\csname PackageInfo\endcsname\relax
19 \def\x#1#2{%
20 \immediate\write-1{Package #1 Info: #2.}%

```

```

21     }%
22     \else
23         \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
24     \fi
25     \x{telprint}{The package is already loaded}%
26     \endgroup
27     \expandafter\endinput
28 \fi
29 \endgroup

```

Package identification:

```

30 \begingroup
31     \catcode40 12 % (
32     \catcode41 12 % )
33     \catcode44 12 % ,
34     \catcode45 12 % -
35     \catcode46 12 % .
36     \catcode47 12 % /
37     \catcode58 12 % :
38     \catcode64 11 % @
39     \expandafter\ifx\csname ProvidesPackage\endcsname\relax
40         \def\x#1#2#3[#4]{\endgroup
41             \immediate\write-1{Package: #3 #4}%
42             \xdef#1{#4}%
43         }%
44     \else
45         \def\x#1#2[#3]{\endgroup
46             #2[#3]}%
47         \ifx#1\relax
48             \xdef#1{#3}%
49         \fi
50     }%
51 \fi
52 \expandafter\x\csname ver@telprint.sty\endcsname
53 \ProvidesPackage{telprint}%
54 [2007/09/09 v1.9 Formatting of German phone numbers (HO)]

```

## 2.2 Catcodes

```

55 \expandafter\edef\csname TELAtEnd\endcsname{%
56     \catcode64 \the\catcode64\relax
57 }
58 \catcode64 11 % @
59 \def\TMP@EnsureCode#1#2{%
60     \edef\TELAtEnd{%
61         \TELAtEnd
62         \catcode#1 \the\catcode#1\relax
63     }%
64     \catcode#1 #2\relax
65 }
66 \TMP@EnsureCode{33}{12}% !
67 \TMP@EnsureCode{36}{3}% $
68 \TMP@EnsureCode{40}{12}% (
69 \TMP@EnsureCode{41}{12}% )
70 \TMP@EnsureCode{42}{12}% *
71 \TMP@EnsureCode{43}{12}% +
72 \TMP@EnsureCode{44}{12}% ,
73 \TMP@EnsureCode{45}{12}% -
74 \TMP@EnsureCode{46}{12}% .
75 \TMP@EnsureCode{47}{12}% /
76 \TMP@EnsureCode{61}{12}% =
77 \TMP@EnsureCode{126}{13}% ~ (active)

```

## 2.3 Package macros

```

78 \ifx\DeclareRobustCommand\UnDeFiNeD
79   \def\DeclareRobustCommand*#1[1]{\def#1##1}%
80   \def\TELreset{\let\DeclareRobustCommand=\UnDeFiNeD}%
81   \input infwarerr.sty\relax
82   \@PackageInfo{telprint}{%
83     Macros are not robust!%
84   }%
85 \else
86   \let\TELreset=\relax
87 \fi

\telspace

88 \DeclareRobustCommand*{\telspace}[1]{\def\TELspace{#1}}
89 \telspace{ }$ , $ }

\telhyphen

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

\telslash

92 \DeclareRobustCommand*{\telslash}[1]{\def\TELslash{#1}}
93 \telslash{/}%

\telleftparen

94 \DeclareRobustCommand*{\telleftparen}[1]{\def\TELleftparen{#1}}
95 \telleftparen{(}%

\telrightparen

96 \DeclareRobustCommand*{\telrightparen}[1]{\def\TELrightparen{#1}}
97 \telrightparen{)}%

\telplus

98 \DeclareRobustCommand*{\telplus}[1]{\def\TELplus{#1}}
99 \telplus{+}%

\teltilde

100 \DeclareRobustCommand*{\teltilde}[1]{\def\TELtilde{#1}}
101 \teltilde{~}%

\TELtoks

102 \newtoks\TELtoks

\TELnumber

103 \def\TELnumber#1#2\TELnumberEND{%
104   \begingroup
105   \def\0{#2}%
106   \expandafter\endgroup
107   \ifx\0\empty
108     \TELtoks=\expandafter{\the\TELtoks#1}%
109     \ifnum\TELswitch=0 %
110       \def\TELx{\TELspace}\def\TELy{ }%
111     \else
112       \def\TELx{\}\def\TELy{\TELspace}%
113     \fi
114     \the\TELtoks
115   \else
116     \ifnum\TELswitch=0 %
117       \TELtoks=\expandafter{\the\TELtoks#1\TELx}%
118       \def\TELswitch{1}%

```

```

119     \else
120         \TELToks=\expandafter{\the\TELToks#1\TELy}%
121         \def\TELswitch{0}%
122     \fi
123     \TELnumber#2\TELnumberEND
124 \fi
125 }

\telnumber

126 \DeclareRobustCommand*\telnumber}[1]{%
127     \TELToks={}%
128     \def\TELswitch{0}%
129     \TELnumber#1{}\TELnumberEND
130 }

\TELsplit

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

\TELdosplit

132 \def\TELdosplit#1#2\TELsplitEND
133 {%
134     \def\TELsp{ }%
135     \expandafter\ifx\TELsp\TELfuture
136         \let\TELfuture=\relax
137         \expandafter\telnumber\expandafter{\the\TELToks}~%
138         \telprint{#1#2}% Das Leerzeichen kann nicht #1 sein!
139     \else
140         \def\TELfirst{#1}%
141         \ifx\TELfirst\empty
142             \expandafter\telnumber\expandafter{\the\TELToks}%
143             \TELToks={}%
144         \else\if-\TELfirst
145             \expandafter\telnumber\expandafter{\the\TELToks}\TELhyphen
146             \telprint{#2}%
147         \else\if/\TELfirst
148             \expandafter\telnumber\expandafter{\the\TELToks}\TELSlash
149             \telprint{#2}%
150         \else\if\TELfirst
151             \expandafter\telnumber\expandafter{\the\TELToks}\TELleftparen
152             \telprint{#2}%
153         \else\if)\TELfirst
154             \expandafter\telnumber\expandafter{\the\TELToks}\TELrightparen
155             \telprint{#2}%
156         \else\if+\TELfirst
157             \expandafter\telnumber\expandafter{\the\TELToks}\TELplus
158             \telprint{#2}%
159         \else\def\TELtemp{~}\ifx\TELtemp\TELfirst
160             \expandafter\telnumber\expandafter{\the\TELToks}\TELtilde
161             \telprint{#2}%
162         \else
163             \TELToks=\expandafter{\the\TELToks#1}%
164             \TELsplit#2{}\TELsplitEND
165             \fi\fi\fi\fi\fi\fi\fi
166     \fi
167 }

\telprint

168 \DeclareRobustCommand*\telprint}[1]{%
169     \TELToks={}%
170     \TELsplit#1{}\TELsplitEND
171 }

```

```

172 \TELreset\let\TELreset=\UnDeFiNeD
173 \TELEnd
174 \</package>

```

## 3 Test

### 3.1 Catcode checks for loading

```

175 <*test1>
176 \catcode'\@=11 %
177 \def\RestoreCatcodes{}
178 \count@=0 %
179 \loop
180   \edef\RestoreCatcodes{%
181     \RestoreCatcodes
182     \catcode\the\count@=\the\catcode\count@\relax
183   }%
184 \ifnum\count@<255 %
185   \advance\count@\@ne
186 \repeat
187
188 \def\RangeCatcodeInvalid#1#2{%
189   \count@=#1\relax
190   \loop
191     \catcode\count@=15 %
192     \ifnum\count@<#2\relax
193       \advance\count@\@ne
194     \repeat
195 }
196 \def\Test{%
197   \RangeCatcodeInvalid{0}{47}%
198   \RangeCatcodeInvalid{58}{64}%
199   \RangeCatcodeInvalid{91}{96}%
200   \RangeCatcodeInvalid{123}{255}%
201   \catcode'\@=12 %
202   \catcode'\=0 %
203   \catcode'\{=1 %
204   \catcode'\}=2 %
205   \catcode'\#=6 %
206   \catcode'\[=12 %
207   \catcode'\]=12 %
208   \catcode'\%=14 %
209   \catcode'\ =10 %
210   \catcode13=5 %
211   \input telprint.sty\relax
212   \RestoreCatcodes
213 }
214 \Test
215 \csname @@end\endcsname
216 \end
217 </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/macros/latex/contrib/oberdiek/telprint.dtx) The source file.

---

<sup>1</sup>[ftp://ftp.ctan.org/tex-archive/](http://ftp.ctan.org/tex-archive/)

[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:macros/latex/contrib/oberdiek/oberdiek-tds.zip](#)

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

**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<sub>E</sub>X distribution (teT<sub>E</sub>X, mikT<sub>E</sub>X, ...) relies on file name databases, you must refresh these. For example, teT<sub>E</sub>X users run `texhash` or `mktextlsr`.

## 4.5 Some details for the interested

**Attached source.** The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is `pdftk`, e.g. unpack the file into the current directory:

```
pdftk telprint.pdf unpack_files output .
```



**Unpacking with L<sup>A</sup>T<sub>E</sub>X.** The .dtx chooses its action depending on the format:

**plain-T<sub>E</sub>X:** Run docstrip and extract the files.

**L<sup>A</sup>T<sub>E</sub>X:** Generate the documentation.

If you insist on using L<sup>A</sup>T<sub>E</sub>X for docstrip (really, docstrip does not need L<sup>A</sup>T<sub>E</sub>X), 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<sup>A</sup>T<sub>E</sub>X:

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

[1997/12/09 v1.3]

- Temporäre Variable eingespart.

[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.

[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.

## 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; numbers in roman refer to the code lines where the entry is used.

Symbols		E	
<code>\#</code>	205	<code>\empty</code>	12, 107, 141
<code>\%</code>	208	<code>\end</code>	216
<code>\,</code>	89	<code>\endcsname</code>	8, 18, 39, 52, 55, 215
<code>\@</code>	176, 201	<code>\endinput</code>	27
<code>\@PackageInfo</code>	82	F	
<code>\@ne</code>	185, 193	<code>\futurelet</code>	131
<code>\[</code>	206	H	
<code>\]</code>	202	<code>\hbox</code>	91
<code>\{</code>	203	I	
<code>\}</code>	204	<code>\if</code>	144, 147, 150, 153, 156
<code>\]</code>	207	<code>\ifcase</code>	9
Numbers		<code>\ifnum</code>	109, 116, 184, 192
<code>\0</code>	105, 107	<code>\ifx</code>	10,
			12, 18, 39, 47, 78, 107, 135, 141, 159
<code>\_</code>	209	<code>\immediate</code>	20, 41
		<code>\input</code>	81, 211
A		L	
<code>\advance</code>	185, 193	<code>\leavevmode</code>	91
C		<code>\loop</code>	179, 190
<code>\catcode</code>	3, 4, 5, 6, 7, 31, 32,	N	
	33, 34, 35, 36, 37, 38, 56, 58, 62,	<code>\newtoks</code>	102
	64, 176, 182, 191, 201, 202, 203,	P	
	204, 205, 206, 207, 208, 209, 210	<code>\PackageInfo</code>	23
<code>\count@</code>	178,	<code>\ProvidesPackage</code>	53
	182, 184, 185, 189, 191, 192, 193	R	
<code>\csname</code>	8, 18, 39, 52, 55, 215	<code>\RangeCatcodeInvalid</code>	
D			188, 197, 198, 199, 200
<code>\DeclareRobustCommand</code>	78, 79, 80,	<code>\repeat</code>	186, 194
	88, 90, 92, 94, 96, 98, 100, 126, 168		

\RestoreCatcodes	.. 177, 180, 181, 212	\telspace	..... 2, 2, 88
<b>T</b>		\TELsplit	..... 131, 164, 170
\TELatEnd	..... 60, 61, 173	\TELsplitEND	..... 132, 164, 170
\TELdosplit	..... 131, 132	\TELswitch	... 109, 116, 118, 121, 128
\TELfirst	..... 140,	\TELtemp	..... 159
141, 144, 147, 150, 153, 156, 159		\TELtilde	..... 100, 160
\TELfuture	..... 131, 135, 136	\teltilde	..... 3, 100
\TELhyphen	..... 90, 145	\TELtoks	..... 102, 108, 114, 117,
\telhyphen	..... 3, 90	120, 127, 137, 142, 143, 145,	
\TELleftparen	..... 94, 151	148, 151, 154, 157, 160, 163, 169	
\telleftparen	..... 3, 94	\TELx	..... 110, 112, 117
\TELnumber	..... 103, 129	\TELy	..... 110, 112, 120
\telnumber	..... 2, 3, 126, 137,	\Test	..... 196, 214
142, 145, 148, 151, 154, 157, 160		\the	..... 56, 62, 108,
\TELnumberEND	..... 103, 123, 129	114, 117, 120, 137, 142, 145,	
\TELplus	..... 98, 157	148, 151, 154, 157, 160, 163, 182	
\telplus	..... 3, 98	\TMP@EnsureCode	..... 59, 66, 67,
\telprint	..... 2, 2, 138,	68, 69, 70, 71, 72, 73, 74, 75, 76, 77	
146, 149, 152, 155, 158, 161, 168		<b>U</b>	
\TELreset	..... 80, 86, 172	\UnDeFiNeD	..... 78, 80, 172
\TELrightparen	..... 96, 154	<b>W</b>	
\telrightparen	..... 3, 96	\write	..... 20, 41
\TELslash	..... 92, 148	<b>X</b>	
\telslash	..... 3, 92	\x	..... 8, 10, 12, 19, 23, 25, 40, 45, 52
\TELsp	..... 134, 135		
\TELspace	..... 88, 110, 112		