

# Addresslists with L<sup>A</sup>T<sub>E</sub>X

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## 1 User's Guide

`\ForEachAddress` The package `adrlist` provides the macro `ForEachAddress` as follows:

```
\ForEachAddress{<addressfile>}{<commands>}
```

The parameters are:

**addressfile** Name of a file containing the addresses in the following structure:

<code>&lt;title&gt;</code>	Title, degree, e.g. "Dipl.-Inf."
<code>&lt;opening&gt;</code>	how to address the person
<code>&lt;sex&gt;</code>	the sex, for grammatical correctness
<code>&lt;first name&gt;</code>	First name
<code>&lt;name&gt;</code>	Name
<code>-- begin address --</code>	delimiter
<code>n lines of address</code>	address with variable length
<code>-- end address --</code>	delimiter, to be typed exactly this way
Telephone: <code>&lt;telephone number&gt;</code>	These entries may appear in any order. They are distinguished through the keywords before the colon ":".
Telefax: <code>&lt;telefax number&gt;</code>	
E-Mail: <code>&lt;eMail address&gt;</code>	
Private number: <code>&lt;private number&gt;</code>	

**commands** L<sup>A</sup>T<sub>E</sub>X-commands to typeset the read data. You can use these commands defined by the package in order to access the address data:

<code>\Title</code>	Title
<code>\Opening</code>	Opening
<code>\Sex</code>	Sex
<code>\Firstname</code>	First name
<code>\Name</code>	Name
<code>\Address</code>	Address. The lines are separated by <code>\\</code>
<code>\Telephone</code>	Telephone number
<code>\Telefax</code>	Telefax number
<code>\EMail</code>	E-Mail address
<code>\PrivateNumber</code>	Private telephone number

## 2 The Macros

### 2.1 Declarations

This file provides the macro package `adrlist`. For various loops and conditions we require the `ifthen`-package.

```
1 \ProvidesPackage{adrlist}[1995/12/21]
2 \RequirePackage{ifthen}
```

Declare some variables: `Rest` controls the outer loop, which reads several entries out of the address database. If there are lines left in the file, it is true. `AddressLoop` is used for reading the addresses with variable length. `Communication` is a counter to repeat four times the recognition of the keywords for phone number, email etc.

```
3 \newboolean{AddressLoop}
4 \newboolean{Rest}\setboolean{Rest}{true}
5 \newcounter{Communication}
```

### 2.2 Helper macros

`\ifstringcompare` Compare two entire strings, given in the two parameter variables, and not only tokens, like `TEX` does.

```
6 \newcommand{\ifstringcompare}[4]{%
7   \begingroup
8     \let\protect=\noexpand
9     \edef\0{#1}\edef\1{#2}%
10    \expandafter\endgroup\ifx\0\1#3\else#4\fi}
```

`\concat` Concatenate two lines of the address, with `\\` as a delimiter, as it is required by e.g. the `letter` style.

```
11 \newcommand{\concat}[2]{#1\\#2}
```

`\keyword` Extract the keyword out of a line of the form `<keyword>:<contents>`, i.e. the part before the colon. The pipe symbol may be replaced by any other character that won't appear in the address data.

```
12 \def\keyword#1:#2|#1}
```

`\contents` Like `\keyword`. Extracts the contents of the line, e.g. the phone number.

```
13 \def\contents#1:#2|#2}
```

## 2.3 The user macro

`\ForEachAddress` This macro is the one the user directly calls. It opens the file given in #1 and reads all the addresses in a loop. For each address the L<sup>A</sup>T<sub>E</sub>X-commands in #2 are executed to typeset the address in the document. After the whole file is read, it is closed again.

```
14 \newcommand{\ForEachAddress}[2]
15 {
16   \newread\File \openin\File=#1
17   \whiledo{\boolean{Rest}}
18   { \ReadNextAddress{\File}
19     \ifthenelse{\boolean{Rest}}{#2}{}
20   }
21   \closein\File
22 }
```

## 2.4 Main macrocode

`\ReadNextAddress` Here we read the next address out of the file given as #1 and save the read data into the respective variables. For the structure of the address file and the variable names, confer to section 1.

```
23 \newcommand{\ReadNextAddress}[1]{
24   \ifthenelse{\boolean{Rest}}{
25     \read#1 to \Title
26     \ifeof#1\setboolean{Rest}{false}
27     \else % If last address already is read, EOF should appear here
28       \ifthenelse{\boolean{Rest}}
29         {\read#1 to \Opening
30          \ifeof#1\setboolean{Rest}{false}\fi
31         }{}
32       \ifthenelse{\boolean{Rest}}
33         {\read#1 to \Sex
34          \ifeof#1\setboolean{Rest}{false}\fi
35         }{}
36       \ifthenelse{\boolean{Rest}}
37         {\read#1 to \Firstname
38          \ifeof#1\setboolean{Rest}{false}\fi
39         }{}
40       \ifthenelse{\boolean{Rest}}
41         {\read#1 to \Name
42          \ifeof#1\setboolean{Rest}{false}\fi
43         }{}
44       \ifthenelse{\boolean{Rest}}
45         {\read#1 to \Dummy
46          \ifeof#1\setboolean{Rest}{false}\fi
47         }{}
48     \setboolean{AddressLoop}{true}
49     \def\Emptystring{} \let\Address=\Emptystring
50     \def\Delimiter{-- end address -- }
```

Read Address, until -- end address -- appears.

```

51   \whiledo{\boolean{AddressLoop}}
52   {
53     \ifRest \read#1 to \Buffer \fi
54     \ifeof#1\setboolean{Rest}{false}\fi
55     \ifstringcompare{\Buffer}{\Delimiter}
56         {\setboolean{AddressLoop}{false}}{}
57     \ifthenelse{\boolean{AddressLoop}}
58     {
59       \ifstringcompare{\Emptystring}{\Address}
60       {
61         \let\Address=\Buffer % Don't add delimiters the first time
62       }
63       {
64         \begingroup      % keep redefinition of \ local
65         \let\protect=\noexpand
66         \def\{\noexpand\}% make \ not expandable
67         \edef\x{\endgroup
68           \def\noexpand\Address{\concat\Address\Buffer}%
69         }\x
70       }
71     }{}
72   }

```

Four informations are left. The keyword is extracted from \Buffer and compared with the defined keywords. If the comparison succeeds, the correct variable is set.

```

73   \def\KeyWTelephone{Telephone}
74   \def\KeyWTelefax{Telefax}
75   \def\KeyWEMail{EMail}
76   \setcounter{Communication}{0}
77   \whiledo{\value{Communication}<4}%
78   {
79     \ifthenelse{\boolean{Rest}}{
80       \read#1 to \Buffer
81       \edef\KeyW{\expandafter\keyword\Buffer|}
82       \ifstringcompare{\KeyW}{\KeyWTelephone}
83       {
84         \edef\Telephone{\expandafter\contents\Buffer|}
85       }
86       {
87         \ifstringcompare{\KeyW}{\KeyWTelefax}
88         {
89           \edef\Telefax{\expandafter\contents\Buffer|}
90         }
91         {
92           \ifstringcompare{\KeyW}{\KeyWEMail}
93           {
94             \edef\EMail{\expandafter\contents\Buffer|}
95           }
96         }

```

```
97         \edef\PrivateNumber{\expandafter\contents\Buffer|}
98     }
99 }
100 }
101     \ifeof#1\setboolean{Rest}{false}\fi
102 }{}
103     \stepcounter{Communication}
104 }
105 \fi
106 }{}
107 }
```