

# directory: address books with L<sup>A</sup>T<sub>E</sub>X and BIBT<sub>E</sub>X

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# 1 Introduction

`directory`<sup>1</sup> is a macro package for L<sup>A</sup>T<sub>E</sub>X and B<sub>I</sub>B<sub>T</sub>E<sub>X</sub> that facilitates the construction, the maintenance and the exploitation of an address book like database. It consists of five B<sub>I</sub>B<sub>T</sub>E<sub>X</sub> style files (`address.bst`, `phone.bst`, `email.bst`, `birthday.bst` and `letter.bst`) designed to be used in conjunction with the L<sup>A</sup>T<sub>E</sub>X style file `directory.sty`. According to the bibliographical style used, the package has two main applications:

1. the construction of a list of information (address, phone number, etc.) about selected persons, companies or places;
2. the inclusion of a selected piece of information concerning a person, a place or a company at a desired location in a document.

In the first case, `directory` behaves just like standard bibliographical styles: while standard bibliographical styles handle data concerning books, articles, proceedings, etc., `directory` handles data relative to people, companies or places. For example, the name in the title of this guide refers to the corresponding entry in the directory listed in section 6.2. The first four B<sub>I</sub>B<sub>T</sub>E<sub>X</sub> files provide several ways to handle this data.

In the second case, the package enables bits of the database to be put in your document. It can for example be used to put the address of your correspondent in the address field of a letter.

Two special B<sub>I</sub>B<sub>T</sub>E<sub>X</sub> style files (`address-html.bst` and `email-html.bst`) are also provided for an easy generation of HTML versions of your directories.

## 2 General description

### 2.1 Package inclusion and options

The package is included by the usual `\usepackage{directory}` command at the top of the document. The only option available is `break`, which allows the directory fields to be broken across pages. The old (before version 1.10) formatting options are now handled by the same command mechanism as all other customization options (see section 3).

The directory is produced by the `\directory[extension]{filename}` command, where *filename* stands for the name of the `bib` file (without the `bib` extension) and where the optional argument *extension* gives, if necessary, the extension of the file output by B<sub>I</sub>B<sub>T</sub>E<sub>X</sub> (see section 4). As usual, multiple `bib` files can be included, a comma separating the different file names.

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<sup>1</sup>`directory` is available at <http://www.geuz.org/directory/> or through the CTAN in the [biblio/bibtex/contrib/directory/](http://www.ctan.org/biblio/bibtex/contrib/directory/) subdirectory. `directory` is distributed under the L<sup>A</sup>T<sub>E</sub>X Project Public License (LPPL) since version 1.11.

## 2.2 Making a citation

An entry is cited in the text by a `\dir{key}`, `\pdir{key}`, `\rdir{key}` or `\wdir{key}` command, equivalent to the standard `\cite{key}` command, where *key* is used in the same way as ever (referring to an entry in a `bib` file). The differences between the four citation commands will be explained in the next section. A `\nodir{key}` command exists and acts exactly like `\nocite{key}` for standard bibliographies.

## 2.3 The bst styles

The style of the directory is chosen by a `\directorystyle{style}` command, where *style* is one of the following:

**address:** full listing in the directory of all fields corresponding to the *key* entry. The `\dir{key}` command also prints the **name** field of the entry in the document;

**phone:** only the phone, cellular and fax fields corresponding to the cited entry are displayed in the directory. The `\dir{key}` command acts in the same way as with the **address** style, except that the names are abbreviated;

**email:** only e-mail addresses are displayed in the directory. The `\dir{key}` command acts in the same way as with the **address** style;

**birthday:** only the birthdays are displayed, sorting the entries in chronological order. The `\dir{key}` command acts in the same way as with the **address** style;

**letter:** acts in a slightly different way than the four preceding styles. No directory is produced with the `\directory` command. The `\dir{key}` command results in the **name** field of the *key* entry to be printed in the document. The `\pdir{key}` (respectively `\rdir{key}` or `\wdir{key}`) command prints the name and the private (respectively residence or work) address in the document in a tabulated way.

## 2.4 The bib file fields

In all entry types, **name** is the only mandatory field, since it serves as a key for sorting the entries.

**person:** besides the **name**, **nickname**, **birthday**, **birthyear** and **note** fields, the available fields for the **person** entry in a `bib` file are divided in three main categories. The first one (its associated keys begin with ‘**p.**’, which stands for ‘private’) refers to the person’s private data: **p.address**, **p.phone**, **p.cellular**, **p.fax**, **p.email**, **p.url** and **p.account**. The second one (for which all the keys begin with ‘**r.**’) refers to stuff relative to a person’s residence (i.e. a secondary or temporary address, which is for example useful

for students): `r.address`, `r.phone`, `r.cellular`, `r.fax`, `r.email`, `r.url` and `r.account`. The last one (associated keys begin with ‘w.’, standing for ‘work’) refers to professional data: `w.title`, `w.name`, `w.address`, `w.phone`, `w.cellular`, `w.fax`, `w.email`, `w.url` and `w.account`.

company: the available fields for the company entry are: `name`, `address`, `phone`, `cellular`, `fax`, `email`, `url`, `account` and `note`.

place: the available fields for the place entry are: `name`, `address`, `phone`, `cellular`, `fax` and `note`.

## 3 Customization

### 3.1 Dimensions

Three new dimensions defining the indentation of the fields (`\dirindent` and `\dirparindent`) and the amount of space between two entries (`\dirsep`) have been introduced. The default values are:

```
\setlength{\dirindent}{3em}
\setlength{\dirparindent}{0em}
\setlength{\dirsep}{3ex}
```

If you want to explicitly introduce a new paragraph in a field, you should use the `\dirbreak` command.

A fourth dimension (`\dirtablewidth`) sets the width of the table used to display fields in when the `letter` style is selected. The default value is:

```
\setlength{\dirtablewidth}{0.5\textwidth}
```

### 3.2 Flags and formats

Each field of a directory is easily customizable by redefining one of the commands summarized in the table 1 at the end of this user’s guide (page 11). For example, here is how the birthday format is redefined in this document:

```
\renewcommand{\Dirbirthday}[2]
  {\ifcase #2\or January\or February\or March\or April%
    \or May\or June\or July\or August\or September%
    \or October\or November\or December\fi}%
  {\space\ifnum #1=1 1st\else\number#1\fi}}
\renewcommand{\Dirbirthyear}[1]{, {#1}}
```

To produce nicely formatted address booklets, you can redefine the `\Dirheader` command. This command (see table 1) takes the the first letter used in the sorting algorithm as an argument. To split your directory across pages, with the starting letter of the fields in the header of the page, you may thus for example define:

```
\pagestyle{headings}
\renewcommand{\Dirheader}[1]
{\newpage\markboth{\MakeUppercase{#1}}{\MakeUppercase{#1}}}
```

In this user's guide, `\Dirheader` is defined to produce inline headings:

```
\renewcommand{\Dirheader}[1]
{\item\hspace{-\dirindent}\textbf{\MakeUppercase{#1}}}
```

### 3.3 More customization

When a field type appears multiple times in an entry, the default settings assume the same formatting for each one. For example, there are three instances of a `phone` type field in a full `person` entry, i.e. `p.phone`, `r.phone` and `w.phone`, and the `\dirphone` and `\Dirphone` customization commands apply to these three instances in the same way.

To particularize the formatting of one of these instances, you can use special versions of the customization commands, constructed by inserting `p`, `r` or `w` after the `\dir` or `\Dir` prefix of the original commands. For example, to customize only the `phone` field in the work part, you should use `\dirwphone` and `\Dirwphone`.

To change the formatting of names, you have to edit the `BIBTEX` style files. For example, the default name format “Christophe von Geuzaine, Jr.” can be changed into “von Geuzaine C., Jr.” in your address books by replacing the line

```
s nameptr "{ff }{vv }{ll}{, jj}" format.name$ 't :=
```

in the file `address.bst` by the line

```
s nameptr "{vv }{ll}{ f.}{, jj}" format.name$ 't :=
```

## 4 Using both directory and bibliography

Since `BIBTEX` always produces an output file of the form ‘*filename.bbl*’, it is necessary—in order to use *both* directory and bibliography entries—, after generating the `bbl` file corresponding to the directory, to rename it with a new extension (for example `dir`), and to give this new extension as an optional argument to the `\directory` command. The normal procedure can then be followed during the rest of the bibliography processing. Remember that changing the directory (adding an entry or suppressing one) forces you to restart from the beginning.

## 5 Generating directories with hypertext links

### 5.1 Direct HTML output

Two special `BIBTEX` style files (`address-html` and `email-html`) allow the easy generation of HTML versions of your directories:

**address-html**: full listing in the HTML directory of all fields corresponding to the *key* entry. The output formatting is similar to that produced by  $\text{\LaTeX}$  with the **address** style;

**email-html**: only e-mail addresses are displayed in the HTML directory.

Since  $\text{\BIBTeX}$  directly outputs a **bb1** file in HTML format, no additional program is needed to make the HTML conversion. The **bb1** file directly contains the HTML code, ready to be included in any HTML document.

This method presents nevertheless a little drawback: after  $\text{\BIBTeX}$ 'ing your  $\text{\LaTeX}$  file, running  $\text{\LaTeX}$  on the same file (even with another non-HTML  $\backslash\text{directstyle}$ ) would produce errors, since the **bb1** file is not understandable by  $\text{\LaTeX}$ . You have either to delete the **bb1** file or to override the error messages (and to change the  $\backslash\text{directstyle}$ ) before any subsequent successful  $\text{\LaTeX}$  run.

The handling of special characters in the HTML directories is also problematic: any special  $\text{\LaTeX}$  character sequence is output the way it is in the **bib** file. This implies for example that  $\{\backslash'e\}$  is printed in the HTML document as  $\{\backslash'e\}$ , and not as  $\&eacute;$ ;

## 5.2 Using the hyperref package

You can use the **hyperref** package along with **directory**. For example, adding the following lines in the preamble of your document and using **pdflatex** will produce a PDF version of your directory, with working links for the **email** and **url** fields.

```
\ifx\pdfoutput\undefined\else
  \usepackage{hyperref}
  \newcommand\MyURL{\begingroup\url}
  \renewcommand{\Diremail}[1]{\href{mailto:#1}{\MyURL{#1}}}
  \renewcommand{\Dirurl}[1]{\href{#1}{\MyURL{#1}}}
\fi
```

## 6 Example

Despite the option described in section 4, one of the most interesting way of using **directory** is to build a separate address book, including several **bib** files referring to several categories of people, companies or places, as in the example shown in this document:

```
\nodir{*}
\directory{family,business}
```

A second interesting way of using **directory** is to use it in your faxes or letters. Using the standard  $\text{\LaTeX}$  class **letter.cls** with the **directory** style **letter**, you may for example begin a letter by the following command ( $\backslash\text{wdir}$

must be `protect`'ed since the argument of the `letter` environment is a moving argument):

```
\begin{letter}{\protect\wdir{c.geuzaine}}
```

Take a look at the example `tex` and `bib` files (`directory.tex`, `family.bib` and `business.bib`) and try the options out. The source files are commented and easy to customize. I would be very happy to get your suggestions to improve this package.

## 6.1 Source file

Here are four `bib` entries (taken from `family.bib` and `business.bib`):

```
@Person{c.geuzaine,
  name      = "Christophe Geuzaine",
  birthday   = "06 02",
  birthyear  = "1973",
  p.email    = "geuz@geuz.org",
  p.url      = "http://www.geuz.org/",
  w.title    = "PhD",
  w.name     = "University of Li{\`e}ge",
  w.address  = "Institut Montefiore (B28),
               Sart Tilman Campus, B-4000 Li{\`e}ge, Belgium",
  w.phone    = "+32-(0)4-366.37.10",
  w.fax      = "+32-(0)4-366.29.10",
}

@Person{d.d.knu,
  name      = "Knudson, Daffy Duck and Bunny, Bugs and Pluto",
  nickname   = "gnat and gnu and pluto",
  birthday   = "10 02 and 05 11 and 01 01",
  p.address  = "Haight Street 512, 80214 Novosibirsk, Gnuland",
  p.phone    = "+01-(0)2-765.43.21",
  p.cellular = "+01-(0)5-555.55.55",
  p.account  = "010-1234567-05",
  r.address  = "Manor Lane 2, 80214 Novosibirsk, Gnuland",
  r.phone    = "+01-(0)2-876.54.32",
  w.name     = "University of Novosibirsk,
               Department of Octopus Parthenogenesis",
  w.address  = "Planck Institut (V1-V2, Park. U-67),
               Hessenberg Road, 80214 Novosibirsk, Gnuland",
}

@Company{knudsoft,
  name      = "The Knudsoft Company",
  email     = "knud@knudsoft.com",
```

```

    url      = "http://knudsoft.com/hole/gates.htm",
}

@Place{knudsoft:rs.2,
  name      = "Knudsoft (RS.2 Computer Room)",
  phone     = "+01-(0)2-434.23.23",
}

```

## 6.2 Output

The output resulting from the `\directory{family,business}` command is shown below (all entries are listed, thanks to the `\nodir{*}` command):

### G

Christophe Geuzaine  
 ★ February 6, 1973  
*p* [geuz@geuz.org](mailto:geuz@geuz.org)  
<http://www.geuz.org/>  
*w* PhD  
 University of Liège  
 Institut Montefiore (B28), Sart Tilman Campus, B-4000 Liège, Belgium  
 phn: +32-(0)4-366.37.10  
 fax: +32-(0)4-366.29.10

### K

The Knudsoft Company  
[knud@knudsoft.com](mailto:knud@knudsoft.com)  
<http://knudsoft.com/hole/gates.htm>

Knudsoft (RS.2 Computer Room)  
 phn: +01-(0)2-434.23.23

Bip B. Knudson (aka road runner)  
 ★ February 27  
*p* [bip\\_bip@free.prov.gnu](mailto:bip_bip@free.prov.gnu)

Daffy Duck Knudson, Bugs Bunny and Pluto (aka gnat, gnu and pluto)  
 ★ February 10, November 5 and January 1st  
*p* Haight Street 512, 80214 Novosibirsk, Gnuland  
 phn: +01-(0)2-765.43.21  
 gsm: +01-(0)5-555.55.55  
 acc: [010-1234567-05](tel:010-1234567-05)  
*r* Manor Lane 2, 80214 Novosibirsk, Gnuland



phn: +01-(0)2-876.54.32  
*w* University of Novosibirsk, Department of Octopus Parthenogenesis  
 Planck Institut (V1-V2, Park. U-67), Hessenberg Road, 80214 Novosibirsk, Gnuland

Donald Ernest Knudson

★ January 29  
*p* phn: +01-(0)2-234.56.78  
[duck@novosi.uni.gnu](mailto:duck@novosi.uni.gnu)  
 ▷ 1952 Permafrost Press Award winner

## M

Microknud Corp.

Haight Street 513  
 80214 Novosibirsk, Gnuland  
 phn: +01-(0)2-465.83.99  
 fax: 005.79.00  
<http://microknu.com/ass/bill.html>

## 7 Contributors

Many thanks to Bernd Schandl, Robert Walker Sumner and Thomas Ruedas for their suggestions and corrections.

## 8 Versions

- 0.95** (Jan 8, 1998) First distributed version.
- 0.96** (Jan 9, 1998) New documentation. Introduction of customization commands. New alignment mechanism in the `addressbook` and `phonebook` environments.
- 0.97** (Jan 26, 1998) Entries `ccp` and `p.ccp` changed to `account` and `p.account`.
- 0.98** (Feb 9, 1998) New style `letter.bst`. New commands `\pdir`, `\rdir` and `\wdir` to produce in-text addresses when used with the `letter.bst` style. New internal key generation.
- 0.99** (Feb 12, 1998) Name change of old customization flags (`\nameflag` becomes `\dirname`). New flags introduced: `\dirnickname`, `\dirphone`, `\dirfax`, `\diremail`, `\dirurl`, `\diraccount` and `\dirand`.
- 1.00** (Mar 26, 1998) New HTML styles (`address-html.bst` and `email-html.bst`).
- 1.01** (Oct 26, 1998) Minor corrections.

- 1.10** (May 6, 1999) Major rewriting of `bst` files (suppression of direct `LATEX` formatting). Definition of new customization commands. New package global options to split directories across pages and allow page breaks inside directory fields. The `url.sty` package is now required.
- 1.11** (May 7, 1999) Introduction of `\dirparindent`.
- 1.12** (May 11, 1999) Formatting commands can be particularized to each sub-field by adding `p`, `r` or `w` after the `\dir` or `\Dir` prefix of the original customization command. Many simplifications and small corrections in the page breaking mechanism and in the list environments.
- 1.13** (Jun 21, 1999) Fixed bug for long entries without blank spaces (e.g. in `url` fields).
- 1.14** (Jun 21, 2000) More flexible definition of `\Dirheader`.
- 1.15** (Aug 28, 2000) Added fields for cellular phones (suggested by Stefano Ferrari). Added section explaining how to use `hyperref` to generate PDF documents with hyperlinks. Updated web site address.
- 1.16** (Feb 5, 2002) Added `\dirtablewidth` to set the width of the fields when the `letter` style is selected. Suppressed the `split` option (redefining the `\Dirheader` command makes it possible to achieve the same result: see section [3.2](#)).
- 1.17** (Dec 15, 2002) Revised documentation.

Table 1: Summary of customization commands

Command	Arg.	Explanation	Default
<code>\dirsymbol</code>	0	In-text symbol produced after a directory citation	
<code>\dirand</code>	0	“anding” string	and
<code>\dirbirthday</code>	0	Birthday field flag	$\star$
<code>\dirprivate</code>	0	Private field flag	$\emph{p}$
<code>\dirresidence</code>	0	Residence field flag	$\emph{r}$
<code>\dirwork</code>	0	Work field flag	$\emph{w}$
<code>\dirnote</code>	0	Note field flag	$\text{triangleright}$
<code>\dirnickname</code>	0	Nickname field flag	
<code>\diraddress</code>	0	Address fields flag	
<code>\dirphone*</code>	0	Phone fields flag	phn:␣
<code>\dircellular*</code>	0	Cellular phone fields flag	gsm:␣
<code>\dirfax*</code>	0	Fax fields flag	fax:␣
<code>\diremail*</code>	0	E-mail fields flag	
<code>\dirurl*</code>	0	Url fields flag	
<code>\diraccount*</code>	0	Account fields flag	acc:␣
<code>\dirtitle</code>	0	Title field flag	
<code>\dirname</code>	0	Name field flag	
<code>\Dirlabel</code>	1	Label format	$\text{bf}\{ \#1 \}$
<code>\Dirheader</code>	1	Command issued for each new starting letter in the directory (the arg. is the first letter used in the sorting algorithm)	$\{ \}$
<code>\Dirbirthday</code>	2	Birthday format (the first arg. is the day, the second is the month)	$\{ \text{number}\#1 \} / \{ \text{number}\#2 \}$
<code>\Dirbirthyear</code>	1	Birth year format when a <code>birthday</code> field exists	$/ \{ \#1 \}$
<code>\DirbirthyearAlone</code>	1	Birth year format when no <code>birthday</code> field exists	$\{ \#1 \}$
<code>\Dirnickname</code>	1	Nickname format	(aka␣ $\{ \#1 \}$ )
<code>\Diraddress*</code>	1	Address format	$\{ \#1 \}$
<code>\Dirphone*</code>	1	Phone format	$\{ \#1 \}$
<code>\Dircellular*</code>	1	Cellular phone format	$\{ \#1 \}$
<code>\Dirfax*</code>	1	Fax format	$\{ \#1 \}$
<code>\Diremail*</code>	1	E-mail format	$\text{url}\{ \#1 \}$
<code>\Dirurl*</code>	1	Url format	$\text{url}\{ \#1 \}$
<code>\Diraccount*</code>	1	Account format	$\text{url}\{ \#1 \}$
<code>\Dirtitle</code>	1	Title format	$\{ \#1 \}$
<code>\Dirname</code>	1	Name format	$\{ \#1 \}$
<code>\Dirnote</code>	1	Note format	$\{ \#1 \}$

\* The commands marked with an asterisk also exist in three other versions, controlling independently the private, residence and work parts (e.g. `\dirphone` can be particularized to `\dirpphone`, `\dirrphone` and `\dirwphone`).