

# pi-address FAQ

Michael Wiedmann

[mw@miwie.in-berlin.de](mailto:mw@miwie.in-berlin.de)

Copyright © 2000 by Michael Wiedmann

## Revision History

Revision v2.01 July 23, 2000

## Legal Notice

Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.1 or any later version published by the Free Software Foundation; with no invariant sections, with no Front-Cover texts. A copy of the license is included in the section entitled "GNU Free Documentation License"

## Abstract

This document is the FAQ (Frequently Asked Questions) for *pi-address*, a GUI frontend for the address database of a *3Com Palm Pilot*.

## Table of Contents

<b>1. General</b> .....	<b>1</b>
<b>2. Installation</b> .....	<b>2</b>
<b>3. Using the program</b> .....	<b>5</b>
<b>4. Miscellaneous</b> .....	<b>12</b>
<b>5. Credits</b> .....	<b>14</b>
<b>6. License</b> .....	<b>14</b>
<b>7. Links</b> .....	<b>15</b>
<b>Appendix A. GNU Free Documentation License</b> .....	<b>15</b>

## 1. General

### 1.1. What is pi-address?

A GUI frontend to address databases from a *3Com Palm Pilot*. It can read/edit/save address database files in PDB-format. Those files can be read from or written to the pilot using `pilot-xfer` from the `pilot-link` package. Starting with V0.2.0 it can read your address data directly from the Pilot.

## 1.2. Can it be used standalone?

The program can also be used as a general address manager without a *3Com Palm Pilot*. Some of the record fields may not be very meaningful in this case.

## 1.3. Can it read direct from my Palm Pilot?

Starting with V0.2.0 the program can read the address data directly from the Palm Pilot. Put your Pilot in the cradle, connect the cable properly and select **Pilot / Read from Pilot** from the menu or by pressing the button in the toolbar.

You will be prompted for pressing the **Hotsync Key** and the data is read from the pilot. Afterwards you can save the data to a file in PDB-format, the format used by `pilot-xfer` from the `pilot-link` package.

An alternative way to get your address data is using `pilot-xfer` from the `pilot-link`-package.

To fetch the database from your Pilot use the following command:

```
pilot-xfer -f AddressDB
```

Yet another way is to backup all your files from the Pilot with the following command:

```
pilot-xfer -b(ackup) backup-dir
```

Afterwards `backup-dir` is populated with all files from your Pilot. One of them is `AddressDB.pdb`. You can directly read this file with `pi-address`.

## 1.4. Can it write direct to my Palm Pilot?

Starting with V0.2.1 the program can write the address data directly to the Palm Pilot. Put your Pilot in the cradle, connect the cable properly and select **Pilot / Write to Pilot** from the menu or by pressing the button in toolbar.

You will be prompted for pressing the **Hotsync Key** and the data is written into the pilot.

An alternative way to write your address data back to the Pilot is using `pilot-xfer` from the `pilot-link`-package.

```
pilot-xfer -d AddressDB
```

```
pilot-xfer -i AddressDB.pdb
```

Before writing your database back to the Pilot you have to delete the database on the Pilot first and then install the saved data file using the second command (otherwise you will get duplicate records).

## 1.5. Can it sync my database?

No, not yet. This maybe will be added in a future version. If you want to sync all your database files from your Palm Pilot watch out for `KPilot` or `gnome-pilot`.

## 2. Installation

### 2.1. Where to find?

You can always find the newest version of the software at <ftp://ftp.belug.org/pub/user/mw/pilot/>

### 2.2. Are there precompiled binaries?

Starting with V0.2.11 there is a *ready to run* Solaris (Sparc) binary statically linked against `libpsock.a` and `libqt.a` at <ftp://ftp.belug.org/pub/user/mw/pilot/binaries/solaris/>. This binary should work on any Solaris version  $\geq 2.5$ .

**Note:** I cannot guarantee that there will always be a Solaris Sparc binary of the newest version! Usually the binaries can be found at the above mentioned location only after a short delay of several days.

From time to time users ask for precompiled binaries, so if you are willing to provide a precompiled binary for any platform this would be very appreciated. Please contact the author.

### 2.3. Prebuilt packages

#### 2.3.1. Is there a Debian package?

Beginning from V0.3.1 the author will provide an *unofficial* Debian package at:

<ftp://ftp.belug.org/pub/user/mw/pilot/packages/debian/>.

This package depends on the following packages:

- `libc6`
- `libpsock3`
- `libqt1g`
- `libstdc++2.10`
- `xlib6g`

Treat this package as *experimental* only and please report any problems in using this package to the author only and do *not* submit bug reports to the Debian bug tracking system!

#### 2.3.2. Is there an RPM package?

Beginning with V0.4.0 Matthias Kranz maintains an RPM package which will be distributed on the master ftp server at:

<ftp://ftp.belug.org/pub/user/mw/pilot/packages/rpm/>

This RPM package should run on SuSE and Redhat systems.

**Note:** I cannot guarantee that there will always be an RPM package of the newest version! Usually the RPM can be found at the above mentioned location only after a short delay of several days.

### **2.3.3. Is there a Solaris (Sparc) package?**

Beginning from V0.3.1 the author will provide an *unofficial* Solaris (Sparc) package at

<ftp://ftp.belug.org/pub/user/mw/pilot/packages/solaris/>.

### **2.3.4. Is there a Solaris (X86) package?**

Not supported anymore :(

## **2.4. How to build?**

As of V0.4.0 the build process has changed to GNU `autoconf` and it should be quite easy to build the program on any Unix like system.

A combination of

```
./configure
```

```
make
```

should build the binary and

```
make install
```

as root installs the binary and the documentation.

For some time the old Makefile will be distributed as `Makefile.old` with the package as a fallback method if the new GNU `autoconf` based installation process fails for some reason. Let me know if you have any problems using `autoconf` (please submit exact information about your system and the problem you encountered).

### **2.4.1. Prerequisites**

QT 1.3X-1.45 have been tested and are known to work. Note however that QT v2.x currently is *not* supported!

`pilot-link.0.8.9`, `0.8.11`, `0.8.13`, `0.9.0` and `0.9.3` have been tested and are known to work.

`gcc 2.7.2` and `2.8.1` have been tested on *Linux* and *Solaris*

`egcs-1.03`, `egcs-1.1.1` and `gcc-2.9.5` have been tested on *Linux* and are known to work.

## 2.5. Where to install?

In general *pi-address* does not rely on a specific directory.

Just copy the binary to any directory which is appropriate for your system. There is a `install` target in the `Makefile`, check the variable `$prefix` in the `Makefile`, change if necessary and run `make install`. Depending on the directory where you want to install you may need root privileges.

## 2.6. Where to put the online FAQ files?

The *FAQ* files can be accessed online by choosing `Help / FAQ` from the menubar.

There is an `install-doc` target in the `Makefile`, check the variable `$doc_prefix` in the `Makefile`, change if necessary and run `make install-doc`. This target is also run if a `make install` is done. Don't forget to specify this new path in your configuration file for your `HelpApplication`. Depending on the directory where you want to install you may need root privileges.

Specifying an *empty* entry for `HelpApplication` disables the menu `Help / FAQ`.

## 2.7. Where to put the configuration files?

Starting with V0.1.2 there is a configuration file for the program. On startup the program searches and reads the configuration file in the following places (and in that order):

- `/etc/pi-addressrc`
- `~/pi-addressrc`

The package provides an example configuration file with the program's default values. It's fairly well documented so the meanings of the key/value pairs should be obvious.

## 3. Using the program

### 3.1. Can I specify a default database to load on startup?

Just give the pathname of the database file to load on startup on the command line, e.g. `pi-address /path/to/AddressDB.pdb`.

Create an alias like `alias pi-address="pi-address/path/to/AddressDB.pdb"` if you want to load the program the default database any time you start the program.

Another possibility is to specify the default database in the configuration file with an entry like:

```
DefaultDB = /path/to/AddressDB.pdb
```

### 3.2. Can I reread the currently loaded database?

As of V0.3.2 there is a menu entry File / Reread database which rereads the currently loaded database. This is useful if you make regular backups of your PalmPilot data using e.g. `pilot-xfer` and want to easily update the database inside `pi-address`.

### 3.3. Where does pi-address look for the database files?

If you try to open a database file using File / Open `pi-address` will start searching in the following directories (in the shown order):

- `$PILOT`
- `$HOME`

Of course you can change directories at your will in the file selection dialog.

### 3.4. How can I import existing data?

Importing records is done by selecting File / Import / Import CSV. Select a file in the file selection dialog. The records in this file will be *merged* into the currently opened database, if any. The imported records will be assigned to the category which currently is selected.

The format of a CSV-file is the same like the one of `pilot-addresses` from the `pilot-link` package. To see an example create a new database (File / New), add a new record and specify a unique entry for every field. Export this database as a CSV-file (selecting File / Export / Export as CSV ) and look at the file with your favorite text editor.

If you currently maintain your address records with another program, export the records from this program as a text file, write a small converter with your favorite scripting language which converts this text file to CSV format. Import the converted file into `pi-address`, that's it.

### 3.5. How can I import data from Alan Harder's Pilot Manager?

Alan Harder provided diff's which make it possible to read existing CSV-files of his famous `PilotManager`! I included these patches in V0.3.0.

You can select the pathname to the actual `PilotManager` data file using the usual file selection dialog. Preselected is the default pathname of `PilotManager` to the data file (`$HOME/.csvAddr`).

`PilotManager` uses a separate file for the application info of the Address Database of the PalmPilot. The default value (`/home/user/.pilotmgr/SyncAB/pilot.appinfo`) is used by `pi-address` without any user intervention.

You can specify a different pathname in the configuration file with an entry like:

```
PilotManagerAppInfo = /absolute/path/name
```

Don't use the environment variable `$HOME` because the underlying QT-functions cannot handle this!

This handling can be changed in a future version. If you use this feature, please tell me what you think of it and how it can be improved.

## 3.6. How can I export existing data?

Currently (as of V0.3.5) pi-address supports four different export formats.

In selecting one of the four export methods all currently displayed (selected through the chosen category) records will be exported.

### 3.6.1. CSV (Comma Separated Value)

The first is the same like the one of pilot-addresses from the pilot-link package. Select File / Export / Export as CSV... and choose an appropriate filename.

### 3.6.2. LDIF (LDAP Data Interchange Format)

The second is the format used by Netscape's Communicator Address Book (LDIF=LDAP Data Interchange Format). Select File / Export / Export as LDIF... and choose a filename. You can import this file to your Netscape Address Book. *Beware:* The Communicator 4.5 Release Notes states, that LDIF-files which contain 8-bit data (like e.g. German-Umlaut characters) must have *.ld* as filename extension!

Which phone labels are to be used as LDIF attribute values can be configured in the configuration file with the following entries:

```
# Variables for LDIF export function:
# which phone label (1-5) to be used as attribute value
# (0 means not used)
# LDIFtelephonenumber = 1
# LDIFhomephone = 2
# LDIFfacsimiletelephonenumber = 3
# LDIFmail = 5
# LDIFpagerphone = 0
# LDIFcellphone = 0
```

### 3.6.3. vCard

The third format is in vCard V2.1 format which was specified by the IMC group (see <http://www.imc.org/pdi/>). Select File / Export / Export as vCard... and choose a filename.

Which phone labels are to be used as vCard properties values can be configured in the same way as for the LDIF attributes.

**Note:** The vCard specification is in my opinion clear about how to handle non-ASCII characters and allows Base64 or Quoted-Printable encoding of such properties. But after looking at the vCard implementation of other applications I came to the conclusion that it is better to write 8-bit values and to encode only embedded newlines. It looks like many implementations of the vCard format (including the reference source code of IMC!) is buggy at this point.

### **3.6.4. XML (Extensible Markup Language)**

The fourth format is in XML format. For the experienced user the specification of this format is included as a DTD (Document Type Defintion) file (`pilot-addresses.dtd`).

Select File / Export / Export as XML... and choose an appropriate filename. This format allows easy postprocessing using selfwritten scripts or programs. If anybody creates scripts for postprocessing (e.g. stylesheets for print or HTML output) I would like to hear about it and will include such scripts in the distribution in a separate `contrib` directory.

## **3.7. How can I clone an existing record?**

As of V0.2.12 there is a `Clone` button to clone an existing address record. This is useful if you have many records which contain quite a few identical record fields (e.g. company contact records).

To use it *select* the record which you want to clone, press the `Clone` button (or use right mouse click and select *Clone*) then edit the record in the normal edit dialog. If you finish editing the record with *OK* this record will be inserted into the database.

## **3.8. How can I specify the device used for the Pilot?**

The default device name for communication with the Palm Pilot is `/dev/pilot`. If you have a symbolic link to the actual device used, you are done.

You can specify a different device name in the configuration file with an entry like:

```
DeviceName = /dev/name
```

## **3.9. How can I delete all records of a specific category?**

Select the category in the combobox and press right mouse button. A popup menu appears with an entry named `Delete addresses`. If you select this entry you will be asked for confirmation and if you answer *yes* all records belonging to this category will be deleted.

You can find the same functionality in the menuitem `Record / Delete Addresses...` (on some systems the right mouse button seems not to work :-).

### 3.10. How can I edit the categories?

As of V0.3.3 there is pushbutton to the right of the category combobox labeled *Edit cat.*. Press this button if you wish to edit your categories. A dialog will pop up which lets you *add*, *delete*, or *change* the categories.

If you *delete* a category all records which are assigned to this category will be moved to category *Unfiled*.

### 3.11. How can I disable all functions which access the Pilot?

As of V0.2.8 you can disable all functions which access the Pilot using the following entry in the configuration file:

```
DisablePilotFunctions = 1
```

This will disable the corresponding menu items and toolbar buttons for accessing the Pilot. The describing text for the used device in the statusbar will be changed to *disabled*.

### 3.12. How can I disable the confirmation messages of some operations?

As of V0.3.3 you can disable the confirmation messages for certain *dangerous* operations using the following entry in the configuration file:

```
ConfirmOperations = 0
```

### 3.13. What to do if the program hangs after trying to access the Pilot?

Some users reported problems if they try to access the Pilot. The reason for this is not known up to know. As a workaround there is a new configuration variable as of V0.3.2 which disables the test for accessing the device before actually using it. This should help in most cases.

```
CheckDevice = 0
```

This entry will disable the access test.

### 3.14. Can I change the configuration file at runtime?

As of V0.2.1 there is a new entry in the menubar *File / Reread configuration file*. If selected, the *user configuration file* will be reread and evaluated, changing the corresponding values in the program.

### 3.15. Why are the button W in the toolbar and the menu entry "Pilot / Write to Pilot" sometimes disabled?

Both the button W in the toolbar and the menu entry Pilot / Write to Pilot will be enabled *after* the entered data records are saved to a file.

### 3.16. Can I change the fonts used in the various windows?

As of V0.2.2 the user can configure the fonts used in the various windows through variables in the configuration file. The following variables are recognized:

ListFont

Font used for listing of all records in left window (Default: fixed).

RecordFont

Font used for display of a single record in right window (Default: Helvetica).

EditFont

Font used for displaying fields in edit dialog (Default: fixed).

The main purpose of this is to provide the user a possibility to display address databases with non ISO8859-1 character sets. There is still a lot of work to do for this, but it's a beginning.

### 3.17. Printing

#### 3.17.1. Can I print my records?

Yes, as of V0.1.2 there is rudimentary support for printing address records.

Just select the category for which you want to print the records and choose File / Print from the menu bar. This will print all records selected through the *category* using a default value for formatting each record.

As of V0.1.3 there is also a toolbar button for printing the selected address records. Pressing this button activates the same function like choosing File / Print from the menubar.

You can modify the way the records are printed in changing the following values in the program's configuration file:

PrintingFontName

The font to use for printing (Default: Helvetica, valid font names: Helvetica, Times, Courier)

PrintingPointSize

The point size for printing (Default: 8)

#### PrintingFormat

Which fields to print (Default: %l %f %p1 %p2 %p3 %c1, see the following explanations for the encoding)

#### PrintTo

Where to print to (Default: Printer, valid entries: Printer, File)

#### PrintFileName

The default print filename if printing to a file (Default: `pi-address.ps`)

### 3.17.2. How is the encoding for the field names for printing?

The key `PrintingFormat` in the configuration file defines which fields will be printed for each record. The encoding of the fields follows:

- %l Last name
- %f First name
- %i Title
- %o Company
- %p1 - 5 Phone fields no. 1 - 5
- %a Address
- %z ZIP code
- %t Town
- %s State
- %n Country
- %c1 - 4 Customer fields no. 1 - 4
- %N Newline (start new line at x position 0)
- %T Tab (advance x position to next third of the page width)

Beginning with V0.1.3 the user can specify an optional `width` for each column (e.g. %20l).

When specified it is used to calculate the width of the column by multiplying the specified width (= no. of characters to print for this column) by the no. of pixels of the widest character for the font in use. So there is always enough room to print `width` characters though in most cases there can be printed one or two characters more as specified.

### 3.17.3. Restrictions and known bugs on printing

- Characters > 0x7F (e.g. german Umlaut-characters) will not be printed if using Qt < 1.40.
- No header line on each printed page.

Expect these restrictions to be solved in future versions.

#### 3.17.4. Can I print to a file?

If you want to print to a file instead directly to a printer, choose **File / Print** from the menu bar and make the corresponding entries. You only have to set the **Combobox Print to:** to `file`, a default filename `pi-address.ps` in the current directory will be used if none is given in the setup dialog.

You can specify the default destination for printing in your configuration file. Set the following if you want your default to be printing to a file:

```
PrintTo = File
```

You can change the default printing filename from `pi-address.ps` by setting:

```
PrintFileName = /path/to/file-name
```

### 3.18. Can I execute a user defined application?

As of V0.3.2 there is a new menu item **Records / Exec. User Progr. #1** (the same functionality is also accessible through the right mouse button popup menu). This executes a user defined external program which can be configured in the configuration file:

```
UserApplication1 = /path/to/external/program param1 param2 ...
```

If this variable is not defined (which is the default), the menu item will be disabled.

You can reference any record field using the same syntax as in `PrintingFormat`. E.g. if you want to start your mail program use a configuration like:

```
UserApplication1 = mail-prog %p3
```

Change `%p3` to the phone entry which corresponds in your `AddressDB` with the email address.

Another possible use is writing a script using your favorite script language which dials a telephone number through an attached modem, so you only have to select the record, select **Records / Exec. User Progr. #1**, let the script dial the number and pickup the handset.

As of V0.3.3 the name of the menu item is configurable with an entry like:

```
ApplicationName1 = Invoke Mailer...
```

If there is additional need for more user defined applications, I will extend this functionality in a future version. Please let me know if you find this useful.

### 3.19. Why are there sometimes mixed languages in the menus/dialogs?

People using a german version of the Palm Pilot OS will see mixed german/english text entries in some menus/dialogs. This is because the label names for the record fields are stored in the database file. If you open such a database file, the corresponding field names (e.g. `Category`, `Last name`, etc.) will be updated and will be shown in the language the database was created with.

## **4. Miscellaneous**

### **4.1. Is this FAQ accessible via WWW?**

There is a homepage at <http://www.in-berlin.de/User/miwie/pia/> with links to the online version of this FAQ (HTML, ASCII and PS format) and some screenshots.

A copy of this FAQ is part of the archive in the `doc` directory.

### **4.2. Is there a users mailinglist?**

There is an experimental users mailinglist hosted at <http://www.egroups.com/group/pi-address/>. Subscribe yourself at this webpage and join the discussion!

Alternatively you can send an email message to `pi-address-subscribe@egroups.com`.

### **4.3. Is there an announcement mailing list?**

This may change without notice:

Currently the author is maintaining an announcement mailing list. This is a closed mailing list used only for announcing new versions of `pi-address`. If you want to be put on this list by the maintainer send mail to `majordomo@miwie.in-berlin.de` with `subscribe pia-announce` in the message body.

### **4.4. How can I contact the author of pi-address?**

You can reach him via email at `mw@miwie.in-berlin.de`. I will try to answer all email quickly.

Any suggestions, hints, tips, questions, bug reports are always welcome.

### **4.5. Which platforms are supported?**

`pi-address` is known to work on the following platforms:

- Linux, 2.x.x, i386
- Linux, arm
- Solaris, 2.5.x/2.6/2.7, Sparc
- Solaris, 2.7, x86
- NetBSD, Amiga
- FreeBSD, 2.2.5R, i486
- OpenBSD

- SGI, Irix 6.2, 6.3, 6.5
- HP-UX, 10.20
- Compaq Tru64 UNIX (formerly DEC OSF/1)
- email the author if you run the program successfully on another platform ...

## 4.6. How can I contribute to this FAQ?

Send mail to the author of this FAQ with complete information about the question and a suggested answer which you want to be included in this FAQ.

## 5. Credits

Thanks to Florian Cramer, Rainer Doemer, Philipp W. Grau, Alan Harder, Matthias Kranz, Jon Lasser, Frank Ronneburg, Peter Schwenke, Till Siering, David Wang, Johannes Walther, Carsten Wartmann and Peter Weyers for giving me bug reports, hints, suggestions, ...

Thanks to Matthias Kranz for maintaining the RPM package.

Thanks to Frank Ronneburg and our local Linux User Group (BeLUG) for providing ftp space to distribute the software.

## 6. License

### 6.1. How is pi-address licensed?

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2, or (at your option) any later version.

**Note:** Additionally, you are granted permission to assume, for the purposes of distributing this program in object code or executable form under Section 3 of the GNU Public License, that the QT library is normally distributed with the major components of the operating system on which the executable or object code runs.

This program is distributed in the hope that it will be useful, but **WITHOUT ANY WARRANTY**; without even the implied warranty of **MERCHANTABILITY** or **FITNESS FOR A PARTICULAR PURPOSE**. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

## 7. Links

pi-address

<ftp://ftp.belug.org/pub/user/mw/pilot/>

pi-address FAQ

<http://www.in-berlin.de/User/miwie/pia/>

pilot-link

<ftp://ryeham.ee.ryerson.ca/pub/PalmOS/>

PilotManager

<http://www.moshpit.org/pilotmgr/>

Qt

<http://www.troll.no/>

## Appendix A. GNU Free Documentation License

Copyright (C) 2000 Free Software Foundation, Inc. 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

### Appendix A.1. 0. PREAMBLE

The purpose of this License is to make a manual, textbook, or other written document "free" in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondly, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

## **Appendix A.2. 1. APPLICABILITY AND DEFINITIONS**

This License applies to any manual or other work that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. The "Document", below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as "you".

A "Modified Version" of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A "Secondary Section" is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (For example, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The "Invariant Sections" are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License.

The "Cover Texts" are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License.

A "Transparent" copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, whose contents can be viewed and edited directly and straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup has been designed to thwart or discourage subsequent modification by readers is not Transparent. A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, LaTeX input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML designed for human modification. Opaque formats include PostScript, PDF, proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML produced by some word processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, "Title Page" means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

## **Appendix A.3. 2. VERBATIM COPYING**

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange

for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

## **Appendix A.4. 3. COPYING IN QUANTITY**

If you publish printed copies of the Document numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a publicly-accessible computer-network location containing a complete Transparent copy of the Document, free of added material, which the general network-using public has access to download anonymously at no charge using public-standard network protocols. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

## **Appendix A.5. 4. MODIFICATIONS**

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

- A. Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.

- B. List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has less than five).
- C. State on the Title page the name of the publisher of the Modified Version, as the publisher.
- D. Preserve all the copyright notices of the Document.
- E. Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.
- F. Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the terms of this License, in the form shown in the Addendum below.
- G. Preserve in that license notice the full lists of Invariant Sections and required Cover Texts given in the Document's license notice.
- H. Include an unaltered copy of this License.
- I. Preserve the section entitled "History", and its title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section entitled "History" in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.
- J. Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the "History" section. You may omit a network location for a work that was published at least four years before the Document itself, or if the original publisher of the version it refers to gives permission.
- K. In any section entitled "Acknowledgements" or "Dedications", preserve the section's title, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein.
- L. Preserve all the Invariant Sections of the Document, unaltered in their text and in their titles. Section numbers or the equivalent are not considered part of the section titles.
- M. Delete any section entitled "Endorsements". Such a section may not be included in the Modified Version.
- N. Do not retitle any existing section as "Endorsements" or to conflict in title with any Invariant Section.

If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material copied from the Document, you may at your option designate some or all of these sections as invariant. To do this, add their titles to the list of Invariant Sections in the Modified Version's license notice. These titles must be distinct from any other section titles.

You may add a section entitled "Endorsements", provided it contains nothing but endorsements of your Modified Version by various parties--for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by)

any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

## **Appendix A.6. 5. COMBINING DOCUMENTS**

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections entitled "History" in the various original documents, forming one section entitled "History"; likewise combine any sections entitled "Acknowledgements", and any sections entitled "Dedications". You must delete all sections entitled "Endorsements."

## **Appendix A.7. 6. COLLECTIONS OF DOCUMENTS**

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

## **Appendix A.8. 7. AGGREGATION WITH INDEPENDENT WORKS**

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, does not as a whole count as a Modified Version of the Document, provided no compilation copyright is claimed for the compilation. Such a compilation is called an "aggregate", and this License does not apply to the other self-contained works

thus compiled with the Document, on account of their being thus compiled, if they are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one quarter of the entire aggregate, the Document's Cover Texts may be placed on covers that surround only the Document within the aggregate. Otherwise they must appear on covers around the whole aggregate.

## **Appendix A.9. 8. TRANSLATION**

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License provided that you also include the original English version of this License. In case of a disagreement between the translation and the original English version of this License, the original English version will prevail.

## **Appendix A.10. 9. TERMINATION**

You may not copy, modify, sublicense, or distribute the Document except as expressly provided for under this License. Any other attempt to copy, modify, sublicense or distribute the Document is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

## **Appendix A.11. 10. FUTURE REVISIONS OF THIS LICENSE**

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See <http://www.gnu.org/copyleft/>.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License "or any later version" applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation.

## **Appendix A.12. ADDENDUM: How to use this License**

## for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

```
Copyright (c) YEAR YOUR NAME.  
Permission is granted to copy, distribute and/or modify this document  
under the terms of the GNU Free Documentation License, Version 1.1  
or any later version published by the Free Software Foundation;  
with the Invariant Sections being LIST THEIR TITLES, with the  
Front-Cover Texts being LIST, and with the Back-Cover Texts being LIST.  
A copy of the license is included in the section entitled "GNU  
Free Documentation License".
```

If you have no Invariant Sections, write "with no Invariant Sections" instead of saying which ones are invariant. If you have no Front-Cover Texts, write "no Front-Cover Texts" instead of "Front-Cover Texts being LIST"; likewise for Back-Cover Texts.

If your document contains nontrivial examples of program code, we recommend releasing these examples in parallel under your choice of free software license, such as the GNU General Public License, to permit their use in free software.

