

# Installation

Klaus Braune

klaus.braune@kit.edu

Karlsruher Institut für Technologie (KIT)

Steinbuch Computing Centre

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## KIT packages

KIT packages for T<sub>E</sub>X are distributed as zip archives containing installation instructions, the user documentation, a zip archive containing files common to all KIT packages and two zip archives for every supported document type - one containing the installation data, the second containing examples. The distributed zip archives – up to now `KIT-Vorlagen-Briefe.zip` and `KIT-Vorlagen-Folien.zip` – should be extracted at a temporary directory which can be removed completely as soon as the installation task is completed. This temporary directory, where the distributed zip archive is extracted, is called `<temp>` in the following.

## Installation directories

The installation directories differ for different T<sub>E</sub>X distributions. Here, the installation directories of MiK<sub>T</sub>E<sub>X</sub> and Linux are discussed.

The Linux distribution treats installation directories of the distribution itself and local installation directories differently: installation directories of the distribution are replaced in case of a new installation or occasionally even in case of an upgrade, whereas local installation directories are not changed.

Thus, under Linux packages belonging to the distribution should be installed at the installation directories of the distribution in the usual way additional packages are installed. On the other hand, packages like the KIT packages should be installed at a local installation directory.

In the following the chosen installation directory – in case of MiK<sub>T</sub>E<sub>X</sub> as well as in case of Linux – will be called `<texmf-local>`.

## MiK<sub>T</sub>E<sub>X</sub>

In case of MiK<sub>T</sub>E<sub>X</sub> a list of all known installation directories is available by opening *Start* → *Programs* → *MiKTeX* → *Settings* and changing to the tab *Roots*. The installation directory of the distribution is marked “Install”, and under MiK<sub>T</sub>E<sub>X</sub> the installation of all additional packages usually is done to this directory. However, additionally installed packages mostly need to be installed again following a new installation or even an upgrade.

## Linux

Modern T<sub>E</sub>X installations under Linux, especially the suggested T<sub>E</sub>X Live Distribution, use multiple texmf directories. The usual texmf directories may be recreated when the T<sub>E</sub>X system is upgraded. Thus, they should not be used by packages which are not part of the T<sub>E</sub>X distribution. Instead there is a *local* texmf directory defined for specific extensions of the T<sub>E</sub>X system which is not changed by upgrades or reinstallations. The suggested T<sub>E</sub>X Live distribution calls this

local directory `texmf-local`. The complete name of this directory can be found with help of the command

```
kpsewhich --var-value TEXMFLOCAL
```

In general, this directory should be chosen as installation directory `<texmf-local>`.

## Required Packages

The “Gestaltungsrichtlinien” of the KIT require to use the font “Arial”. Thus, the KIT document classes do load the package `uarial` using the command `\RequirePackage{uarial}`. For formulas, in addition the package `mathpazo` is loaded.

To format letters and faxes using the  $\text{\LaTeX}$  classes `KITbrief` and `KITfax` some more  $\text{\LaTeX}$  packages and classes must be installed. The following list names all packages needed:

```
bophook
calc
dinbrief
fontenc
graphicx
hyperref
mathpazo
rcs
refcount
tikz          (pgf)
uarial        (arial, urw-arial)
xcolor
```

If a  $\text{\LaTeX}$  package is part of a package with differing name, the names used by  $\text{\MiKTeX}$  or the  $\text{\TeX}$  Catalogue are given in addition. In case some of these packages are missing, please install them using the  $\text{\TeX}$  installer of your  $\text{\TeX}$  installation (the “Package manager” in case of  $\text{\MiKTeX}$  and ‘`tlmgr`’ in case of a  $\text{\TeX}$  Live distribution). In case an installation using the  $\text{\TeX}$  installer is not possible, please install the package(s) as specified by the package description.

## Installation des Fonts “Arial”

According to the “Gestaltungsrichtlinien” of the KIT the font “Arial” is to be used. However, this font in general is not made available to  $\text{\TeX}$ , even under Windows. Thus, to use this font it must be installed additionally. How the installation is done depends on the  $\text{\TeX}$  installation in use.

### $\text{\MiKTeX}$

The installation for  $\text{\MiKTeX}$  ist straight forward by using the default mechanism for installation of additional packages, since the package needed is part of the  $\text{\MiKTeX}$  distribution:

Opening *Start* → *Programs* → *MiKTeX* → *Browse Packages* shows the packages supported by  $\text{\MiKTeX}$ . Look there for the package **arial**. Alternatively, you can restrict the display to the searched package by entering `arial` into the field *Name:* and hitting the Filter button. In case the package already is installed the installation date is shown. Otherwise select the package `arial` and press the entry + or select the menu entry *Task* → *Install...* to install the package. Please be sure to have access to the internet since in general a network is needed to install packages. As soon as the installation is finished,  $\text{\TeX}$  should be able to use the font “Arial”. The package `uarial` requires to use the font “Arial” as sans serif family.

### Linux

A bit more complicated is the installation of the font “Arial” under Linux. This is caused by the fact that the font itself is not integrated into the  $\text{\TeX}$  system automatically. To install it, you can proceed as follows:

1. Load the zip archive of the Arial font:  
`wget ftp://ftp.dante.de/tex-archive/fonts/urw/arial.zip`
2. Unpack the archive to a temporary directory called <temp> in the following
3. Change to the texmf directory <texmf-local> choosen above
4. Unpack at this directory the zip archive ua1.zip of the distribution:  
`unzip <temp>/arial/ua1.zip`
5. Create the directories for the Type1 fonts and the afm files:  
`mkdir -p fonts/type1/urw/arial fonts/afm/urw/arial`
6. Copy or move the font files to the Type1 directory:  
`mv <temp>/arial/*.pfb <temp>/arial/*.pfm fonts/type1/urw/arial`
7. Copy or move the afm files to their directory:  
`mv <temp>/arial/*.afm fonts/afm/urw/arial`
8. Update the list of available T<sub>E</sub>X files of this texmf directory:  
`mktexlsr <texmf-local>`
9. Integrate the new fonts into the T<sub>E</sub>X system (often root privileges are required to do this):  
`updmap-sys --enable Map ua1.map`
10. Finally, update the list of available T<sub>E</sub>X files again - for all texmf directories (again, often root privileges are required):  
`mktexlsr`

In case no errors occurred during the installation, now the Arial font can be used by T<sub>E</sub>X.

## Installing KIT Packages

With these packages installed, the wanted KIT packages can be installed. A KIT package consists – as mentioned above – out of the base package KITbase.zip containing data needed by all KIT packages and the packages itself, up to now KITbrief.zip for letters and faxes and KITbeamer.zip for presentations created using the beamer class.

The base package should be current as far as possible – anyways at least the version distributed with the current KIT packages. Software on Web pages of the PKM department are not updated soon after new versions are available. Thus, versions not already available on PKM pages are distributed along with packages other KIT packages. The names of the packages available up to now are mentioned above. Hence, everybody can decide whether additional packages are to be installed or not.

The base package KITbase.zip as well as the wanted zip archives KITbrief.zip and/or KITbeamer.zip should be extracted at the root of the texmf directory tree <texmf-local>. Finally, the 'data base' used by the T<sub>E</sub>X programs must be refreshed (according to your T<sub>E</sub>X installation).

## MiK<sub>T</sub>E<sub>X</sub>

Change to the installation directory <texmf-local> choosen above and unpack there the file <temp>/KITbrief.zip.

Now, the list of files within this directory (the 'database') must be updated. To run the refresh, follow *Start* → *Programs* → *MiK<sub>T</sub>E<sub>X</sub>* → *Settings* and select the tab *General*. Click there on the button Refresh FNDB. Finally, close the window *MiK<sub>T</sub>E<sub>X</sub> Options* by clicking on OK.

## Linux

Change to the directory `<texmf-local>` and unpack there the archive `<temp>/KITbrief.zip`.

To refresh the 'data bases' for all texmf trees, run

```
mktextlsr
```

In general, you will need root privileges to do this. Alternatively, you can run

```
mktextlsr <texmf-local>
```

to refresh the 'data base' of a single texmf tree `<texmf-local>`, where `<texmf-local>` is the directory the archive `KITbrief.zip` was unpacked to.

## Examples

To all KIT packages the distribution contains an archive with at least one example whose name is build from the name of the KIT archive by appending `Xmpl`. Thus, to the letter and fax archive `KITbrief.zip` belongs the example archive `KITbriefXmpl.zip` and to `KITbeamer.zip` the example archive `KITbeamerXmpl.zip`. All examples consist of the  $\text{\LaTeX}$  source code together with all files needed in addition to the KIT package when formatting the example and the formatted PDF file.

Archives containing examples can be unpacked to any – possibly temporary – directory. Alternatively, examples can be put to the directory `<texmf-local>/doc/latex/KIT`, but in this case be sure that additional packages like `blindtext.sty` and `lipsum.sty` – both used to generate pseudo text – do not collide with a previously installed version. Thus, any additional packages from the example archive should be placed at a directory outside the texmf tree. In case you want to use some of these additional packages yourself you should install it separately (since the KIT distributions e.g. do not contain documentation).

### Letters and Faxes

The example for KIT letters is `KITbrfXmpl.tex` and generates some letters of one and more pages. The corresponding example for faxes is `KITfaxXmpl.tex`.

### Presentations

For presentations three examples are offered: The PowerPoint example is available at `KIT-Folien-de.tex` and its English version at `KIT-Folien-en.tex`. The integration of mathematical formulas as well as different font sizes are shown by the example `KITfolXmpl.tex`.