

# The grffile package

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## Abstract

The package extends the file name processing of package `graphics` to support a larger range of file names. For example, the file name may contain several dots. Or in case of pdfTeX in PDF mode the file name may contain spaces.

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## 1 Usage

### 1.1 Option `multidot`

The file name parsing of package `graphics` is changed, in order to detect known extensions. This allows both the use of dots inside the base file name and extensions with several dots.

Assume there are two files in the current directory: `Hello.World.eps` and `Hello.World.pdf`. `\includegraphics{Hello.World}` will find `Hello.World.pdf` with driver `pdftex` or `Hello.World.eps` with driver `dvips`.

**Limitations:** Problem could occur on systems, which don't use the dot as extension delimiter. These systems needs an own `texsys.cfg` containing definitions for `\filename@parse`. The author could not test that, due to a missing example.

## 1.2 Option `babel`

This option allows the use of shorthand characters of package `babel` inside the graphics file name. Additionally the tilde '~' is supported. The option is turned on as default. (In version v1.1 or below of this package, the features of this option were part of option `extendedchars`.)

Example:

```
\usepackage[frenchb]{babel}
\usepackage{grffile}
Image: \includegraphics{C:/path/image}
```

## 1.3 Option `extendedchars`

If the input encoding is the same encoding as the encoding that is used for file names and the driver allows non-ascii characters, then this option can be used to use file names with such characters.

Example:

```
\usepackage[latin1]{inputenc}
\usepackage[extendedchars]{grffile}
\includegraphics{Bäckerstraße}
```

If the `draft` option of the graphics package is enabled, the file name is printed with the current font encoding for `\ttfamily`. Thus it is possible, that such characters are omitted or the wrong characters are displayed, if the font encoding is not the same as the file name encoding.

**Limitations:** As mentioned above. The `inputenc` package is used to determine the encoding of the special characters in the file name. What if the document uses utf-8 inputenc, but the system use latin1 encoding to create files? The option "extendedchar" will work anyway, but the file name has to be handed over to `\includegraphics` using latin1 encoding.

## 1.4 Option `space`

This option allows graphics file names that contain spaces if possible.

In general it is not possible to use space inside file names, because  $\text{\TeX}$  considers the space character as termination in its syntax for commands that expect a file name.

Regarding graphics inclusion with the package `graphics` file names are used in two or three contexts:

1. The basic `\special` statement or primitive command for graphics inclusion. The `\special` statements for drivers `dvips` or `dvipdfm` do not allow spaces. However pdf $\text{\TeX}$ 's primitive `\pdfximage` uses curly braces to delimit the file name and allows spaces.
2. `\includegraphics` checks the existence of the file. Also it looks for the right extension if the extension is not given. If pdf $\text{\TeX}$  1.30 is given, the file existence test can be rewritten using a new primitive that allows spaces. This works in both modes DVI and PDF.
3. Sometimes files are read as  $\text{\TeX}$  input files. For example, `.bb` files or MPS files.

If pdfTeX 1.30 or greater is used in PDF mode then the graphics file names may contain spaces except for MPS files. Therefore option `space` is only enabled by default, if the supported pdfTeX in PDF mode is detected. You can enable the option manually, if you know, your DVI driver supports spaces in its `\special` syntax and if there is no need to read the image file as TeX input file (third context).

## 1.5 General use

The options can be given at many places:

1. As package options:  
`\usepackage[<options>]{grffile}`
2. Setup command of package grffile:  
`\grffilesetup{<options>}`
3. The options are also available as options for package `graphicx`:  
`\setkeys{Gin}{<options>}`
4. If package `graphicx` is loaded the options can also be applied for a single image:  
`\includegraphics[<options>]{...}`

## 1.6 Default settings

<code>multidot</code>	<code>true</code>	
<code>babel</code>	<code>true</code>	
<code>extendedchars</code>	<code>false</code>	
<code>space</code>	<code>true</code>	if pdfTeX 1.30 or greater is used in PDF mode
	<code>false</code>	otherwise

# 2 Implementation

## 2.1 Identification

```

1 (*package)
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{grffile}%
4 [2006/11/30 v1.2 Extended file name support for graphics (H0)]

```

## 2.2 Catcode stuff

```

5 \edef\grffile@RestoreCatcodes{%
6   \catcode'\noexpand\=\the\catcode'\=\relax
7   \catcode'\noexpand\:\the\catcode'\:\relax
8   \catcode'\noexpand\.\the\catcode'\.\relax
9   \catcode'\noexpand\' \the\catcode'\'\relax
10  \catcode'\noexpand\<\the\catcode'\<\relax
11  \catcode'\noexpand\>\the\catcode'\>\relax
12  \catcode'\noexpand*\the\catcode'\*\relax
13  \catcode'\noexpand^\the\catcode'\^\relax
14  \catcode'\noexpand~\the\catcode'\~\relax
15 }
16 \@makeother\=
17 \@makeother\:
18 \@makeother\.
19 \@makeother\'
20 \@makeother\<
21 \@makeother\>
22 \@makeother\*
23 \catcode'\^=7 %

```

```
24 \catcode'\~=\active
```

## 2.3 Options

```
25 \RequirePackage{ifpdf}
26 \RequirePackage{kvoptions}[2006/08/17]
27 \SetupKeyvalOptions{
28   family=Gin,
29   prefix=grffile@
30 }
31 \DeclareBoolOption[true]{multidot}
32 \DeclareBoolOption[true]{babel}
33 \DeclareBoolOption[false]{extendedchars}
34 \DeclareBoolOption{space}
35 \DeclareDefaultOption{%
36   \PassOptionsToPackage\CurrentOption{graphics}%
37 }
```

Default setting for option space.

```
38 \begingroup\expandafter\expandafter\expandafter\endgroup
39 \expandafter\ifx\csname pdffilesize\endcsname\relax
40   \grffile@spacefalse
41   \let\grffile@space@disabled\@empty
42   \def\grffile@spacetrue{%
43     \PackageWarning{grffile}{%
44       Option 'space' is not available,\MessageBreak
45       because it needs pdfTeX >= 1.30%
46     }%
47   }%
48 \else
49   \ifpdf
50     \grffile@spacetrue
51   \else
52     \grffile@spacefalse
53   \fi
54 \fi
55 \ProcessKeyvalOptions*
56 \RequirePackage{graphics}

\grffilesetup

57 \newcommand*{\grffilesetup}{%
58   \setkeys{Gin}%
59 }

60 \let\grffile@org@Gininclude@graphics\Gininclude@graphics
61 \renewcommand*{\Gininclude@graphics}{%
62   \ifnum0\ifgrffile@babel 1\fi\ifgrffile@extendedchars 1\fi>\z@
63   \begingroup
```

Support of babel's shorthand characters.

```
64   \ifgrffile@babel
65     \csname @safe@activetrue\endcsname
```

Support of active tilde.

```
66   \edef~{\string~}%
```

Support of characters controlled by package inputenc.

```
67   \fi
68   \ifgrffile@extendedchars
69     \grffile@inputenc@loop\^^A\^^H%
70     \grffile@inputenc@loop\^^K\^^K%
71     \grffile@inputenc@loop\^^N\^^_%
72     \grffile@inputenc@loop\^^?\^^f%
73   \fi
74   \expandafter\grffile@extchar\Gininclude@graphics
```

```

75 \else
76   \expandafter\grffile@Ginclude@graphics
77 \fi
78 }
79 \def\grffile@extchar@Ginclude@graphics#1{%
80   \edef\x{\endgroup
81     \noexpand\grffile@Ginclude@graphics{#1}%
82   }%
83   \x
84 }
85 \def\grffile@inputenc@loop#1#2{%
86   \count@=#1\relax
87   \loop
88     \begingroup
89       \uccode'\~=\count@
90       \uppercase{%
91         \endgroup
92         \edef~{\string~}%
93       }%
94   \ifnum\count@<#2\relax
95     \advance\count@\@ne
96   \repeat
97 }

```

Support for option space

```

98 \def\grffile@space@getbase#1{%
99   \edef\grffile@tempa{%
100     \def\noexpand\@tempa####1#1\noexpand\@nil{%
101       \def\noexpand\Gin@base{####1}%
102     }%
103   }%
104   \grffile@ifFileExists{\filename@area\filename@base#1}{%
105     \grffile@tempa
106     \expandafter\@tempa\grffile@file@found\@nil
107     \edef\Gin@ext{#1}%
108   }{%
109     }%
110 }
111 \def\grffile@ifFileExists#1{%
112   \expandafter\ifx\expandafter\\\pdffilesize{#1}\\\%
113     \let\reserved@a\@secondoftwo
114     \ifx\input@path\@undefined
115     \else
116       \expandafter\@tfor\expandafter\reserved@b\expandafter
117         :\expandafter=\input@path\do{%
118         \expandafter\ifx\expandafter\\\pdffilesize{\reserved@b#1}\\\%
119         \else
120           \edef\grffile@file@found{\reserved@b#1}%
121           \let\reserved@a\@firstoftwo
122           \@break@tfor
123         \fi
124       }%
125     \fi
126     \expandafter\reserved@a
127   \else
128     \edef\grffile@file@found{#1}%
129     \expandafter\@firstoftwo
130   \fi
131 }
132
133 \def\grffile@Ginclude@graphics#1{%
134   \begingroup
135   \ifgrffile@space

```

```

136     \let\Gin@getbase\grffile@space@getbase
137     \fi
138     \ifgrffile@multidot
139         \let\filename@base\@empty
140         \let\filename@simple\grffile@filename@simple
141     \fi
142     \grffile@org@Gininclude@graphics{#1}%
143 \endgroup
144 }%
145
146 \def\grffile@filename@simple#1.#2\\{%
147     \ifx\\#2\\%
148         \let\filename@ext\relax
149     \else
150         \expandafter\ifx\csname
151             Gin@rule@.\filename@dot #2\\endcsname\relax
152         \edef\filename@base{\filename@base #1}%
153         \grffile@ReturnAfterFiFiBase{\grffile@filename@simple #2\\}%
154     \else
155         \edef\filename@ext{\filename@dot #2\\}%
156     \fi
157 \fi
158 \edef\filename@base{\filename@base #1}%
159 }
160 \def\grffile@ReturnAfterFiFiBase#1#2\filename@base#3{\fi\fi#1}
161
162     Print current option setting
163
164 \def\grffile@option@status#1{%
165     \begingroup
166     \let\on@line\@empty
167     \PackageInfo{grffile}{%
168         Option ‘#1’ is %
169         \expandafter\ifx\csname ifgrffile@#1\expandafter\endcsname
170             \csname iftrue\endcsname
171             set to ‘true’%
172         \else
173             \expandafter\ifx\csname grffile@#1@disabled\endcsname\@empty
174             not available%
175         \else
176             set to ‘false’%
177         \fi
178     }%
179 \endgroup
180 }
181 \grffile@option@status{multidot}
182 \grffile@option@status{extendedchars}
183 \grffile@option@status{space}
184 \grffile@RestoreCatcodes
185
186 \end{package}

```

### 3 Installation

**CTAN.** This package is available on CTAN<sup>1</sup>:

[CTAN:macros/latex/contrib/oberdiek/grffile.dtx](#) The source file.

[CTAN:macros/latex/contrib/oberdiek/grffile.pdf](#) Documentation.

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<sup>1</sup><http://ftp.ctan.org/tex-archive/>

**Unpacking.** The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain- $\text{\TeX}$ :

```
tex grffile.dtx
```

**TDS.** Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

```
grffile.sty → tex/latex/oberdiek/grffile.sty
grffile.pdf → doc/latex/oberdiek/grffile.pdf
grffile.dtx → source/latex/oberdiek/grffile.dtx
```

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`.

**Refresh file databases.** If your  $\text{\TeX}$  distribution (`te $\text{\TeX}$` , `mik $\text{\TeX}$` , ...) rely on file databases, you must refresh these. For example, `te $\text{\TeX}$`  users run `texhash` or `mktextlsr`.

### 3.1 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 grffile.pdf unpack_files output .
```

**Unpacking with  $\text{\LaTeX}$ .** The `.dtx` chooses its action depending on the format:

**plain- $\text{\TeX}$ :** Run `docstrip` and extract the files.

**$\text{\LaTeX}$ :** Generate the documentation.

If you insist on using  $\text{\LaTeX}$  for `docstrip` (really, `docstrip` does not need  $\text{\LaTeX}$ ), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{grffile.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 `pdf $\text{\LaTeX}$` :

```
pdflatex grffile.dtx
makeindex -s gind.ist grffile.idx
pdflatex grffile.dtx
makeindex -s gind.ist grffile.idx
pdflatex grffile.dtx
```

## 4 References

- [1] David Carlisle, Sebastian Rahtz: *The graphics package*; 2006/02/20 v1.0o;  
[CTAN:macros/latex/required/graphics/graphics.dtx](#).
- [2] Sebastian Rahtz, Heiko Oberdiek: *The graphicx package*; 1999/02/16 v1.0f;  
[CTAN:macros/latex/required/graphics/graphicx.dtx](#).

## 5 History

[2004/07/18 v0.5]

- First version.

[2006/08/15 v1.0]

- File existence check by new primitives of pdfTeX 1.30.
- Implementation partly rewritten.
- New DTX framework.

[2006/08/17 v1.1]

- Adaptation to version 2.3 of package kvoptions.

[2006/11/30 v1.2]

- New option `babel`. Before this feature was part of option `extendedchars`.

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