

# Support for the DejaVu TrueType fonts and Math OpenType font

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## 1 Introduction

The DejaVu fonts are modifications of the Bitstream Vera fonts designed for greater coverage of Unicode, as well as providing more styles. The Bitstream Vera family was limited mainly to the characters in the Basic Latin and Latin-1 Supplement portions of Unicode, roughly equivalent to ISO/IEC 8859-15, but was released with a license that permitted changes. The DejaVu fonts project was started with the aim to “provide a wider range of characters ... while maintaining the original look and feel through the process of collaborative development”. The development of the fonts is done by many contributors, and is organized through a wiki and a mailing list. [2]

A brief overview:

- Math fonts: TeXGyre DejaVu Math Regular, created by the Polish T<sub>E</sub>X User group GUST.
- Three text families (regular, italic, bold, bold italic) coming from the original Bitstream Vera.

The package `dejavu-otf` supports all families with specific optional arguments:

<i>name</i>	<i>value</i>	<i>meaning</i>
mono	true/false	use only the DejaVu Sans Mono
serif	true/false	use only the DejaVu Serif
sans	true/false	use only the DejaVu Sans
math	true/false	use only the TeX Gyre DejaVu Math
RM	code	options for DejaVu Serif
SS	code	options for DejaVu Sans
TT	code	options for DejaVu Sans Mono
MM	code	options for TeXGyre DejaVu Math
DefaultFeatures	code	for all font styles

Except math all fonts are preset with `Scale=0.92`. For this documentation we use instead:

```
\usepackage[TT={Scale=0.88,FakeStretch=0.9},
             SS={Scale=0.9},
             RM={Scale=0.9},
             DefaultFeatures={Ligatures=TeX}]{dejavu-otf} % support opentype DejaVu fonts
```

The standard font families `rm`, `sf`, and `tt` can be used as usual for any L<sup>A</sup>T<sub>E</sub>X engine. By default the fonts are defined by their symbolic name. As an alternative you can load the package with the option `usefilenames`.

```
\usepackage[usefilenames=true,
             TT={Scale=0.88,FakeStretch=0.9},
             SS={Scale=0.9},
             RM={Scale=0.9},
             DefaultFeatures={Ligatures=TeX}]{dejavu-otf} % supports also opentype math fonts
```

Then all definitions uses the extension `.ttf` (roman, sans serif, mono) and `.otf` (math) for the filenames of the fonts:

```
DejaVuSans-BoldOblique.ttf
DejaVuSans-Bold.ttf
DejaVuSansCondensed-BoldOblique.ttf
DejaVuSansCondensed-Bold.ttf
DejaVuSansCondensed-Oblique.ttf
DejaVuSansCondensed.ttf
DejaVuSans-ExtraLight.ttf
DejaVuSansMono-BoldOblique.ttf
```

DejaVuSansMono-Bold.ttf  
 DejaVuSansMono-Oblique.ttf  
 DejaVuSansMono.ttf  
 DejaVuSans-Oblique.ttf  
 DejaVuSans.ttf  
 DejaVuSerif-BoldItalic.ttf  
 DejaVuSerif-Bold.ttf  
 DejaVuSerifCondensed-BoldItalic.ttf  
 DejaVuSerifCondensed-Bold.ttf  
 DejaVuSerifCondensed-Italic.ttf  
 DejaVuSerifCondensed.ttf  
 DejaVuSerif-Italic.ttf  
 DejaVuSerif.ttf  
 texgyredejavu-math.otf

The condensed and extra-light versions are defined by `\newfontfamily` and can be accessed by the macros:

```

\DejaVuSerifCondensed
\DejaVuSansCondensed
\DejaVuSansLight
  
```

## 2 Text examples

The DejaVu fonts have no Small Caps and no oldstyle figures!

The basic text family is `DejaVuSerif`, with the usual four variants—regular, italic, bold, and bold italic.

For £45, almost anything can be found floating in fields.  
 ;THE DAZED BROWN FOX QUICKLY GAVE 12345-67890  
 JUMPS! — ¿But aren't Kafka's Schloß and Æsop's Œuvres  
 often naïve vis-à-vis the dæmonic phœnix's official rôle in  
 fluffy soufflés? Sphinx of black quartz, judge my vow.

DejaVu Serif

*For £45, almost anything can be found floating in fields.*  
*;THE DAZED BROWN FOX QUICKLY GAVE 12345-67890*  
*JUMPS! — ¿But aren't Kafka's Schloß and Æsop's Œuvres*  
*often naïve vis-à-vis the dæmonic phœnix's official rôle in*  
*fluffy soufflés?*

DejaVu Serif Italic

**For £45, almost anything can be found floating in fields. ¡THE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?**

DejaVu Serif Bold

***For £45, almost anything can be found floating in fields. ¡THE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?***

DejaVu Serif BoldItalic

For £45, almost anything can be found floating in fields.  
¡THE DAZED BROWN FOX QUICKLY GAVE 12345-67890  
JUMPS! — ¿But aren't Kafka's Schloß and Æsop's Œuvres  
often naïve vis-à-vis the dæmonic phœnix's official rôle in  
fluffy soufflés?

DejaVu Sans

*For £45, almost anything can be found floating in fields.  
¡THE DAZED BROWN FOX QUICKLY GAVE 12345-67890  
JUMPS! — ¿But aren't Kafka's Schloß and Æsop's Œuvres  
often naïve vis-à-vis the dæmonic phœnix's official rôle in  
fluffy soufflés?*

DejaVu Sans Italic

**For £45, almost anything can be found floating in fields. ¡THE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?**

DejaVu Sans Bold

***For £45, almost anything can be found floating in fields. ¡THE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?***

DejaVu Sans BoldItalic

For £45, almost anything can be found floating in fields.  
¡THE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! —  
¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve  
vis-à-vis the dæmonic phœnix's official rôle in fluffy  
soufflés?

DejaVu Sans Mono

*For £45, almost anything can be found floating in fields. ;THE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! – ;But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?* DeJaVu Sans Mono Italic

**For £45, almost anything can be found floating in fields. iTHE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! – ;But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?** DeJaVu Sans Mono Bold

***For £45, almost anything can be found floating in fields. iTHE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! – ;But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?*** DeJaVu Sans Mono Bold Italic

For £45, almost anything can be found floating in fields. iTHE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! — ;But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés? DeJaVu Serif Condensed

*For £45, almost anything can be found floating in fields. iTHE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! — ;But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?* DeJaVu Serif Condensed Italic

**For £45, almost anything can be found floating in fields. ;THE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! — ;But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?** DeJaVu Serif Condensed Bold

***For £45, almost anything can be found floating in fields. ;THE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! — ;But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?*** DeJaVu Serif Condensed Bold Italic

For £45, almost anything can be found floating in fields. ;THE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! — ;But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés? DeJaVu Sans Condensed

*For £45, almost anything can be found floating in fields. ;THE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! — ;But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?*

DejaVu Sans Condensed Italic

**For £45, almost anything can be found floating in fields. ;THE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! — ;But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?**

DejaVu Sans Condensed Bold

***For £45, almost anything can be found floating in fields. ;THE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! — ;But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?***

DejaVu Sans Condensed Bold Italic

For £45, almost anything can be found floating in fields. ;THE DAZED BROWN FOX QUICKLY GAVE 12345-67890 JUMPS! — ;But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?

DejaVu Sans Light

### 3 Math examples

There is only the regular version of the math font `\mathnormal`. With running  $X_{\text{L}}\text{A}_{\text{T}}\text{E}_{\text{X}}$  it is possible to fake the fonts for a bold version:

```
\setmathfont{texgyredejavu-math.otf}[AutoFakeBold=1.6,\DejaVuMM@features,version=normal]
```

Here's some text. And here's some math:

```
\[
  \phi(x)=\int_{-\infty}^x e^{-x^2/2}
\]
```

And now bold math:

```
\boldmath % works only for xelatex
\[
  \phi(x)=\int_{-\infty}^x e^{-x^2/2}
\]
```

```
\unboldmath
```

Euro and copyright symbols are available: `\texteuro` `\textcopyright`.

Here's some text. And here's some math:

$$\phi(x) = \int_{-\infty}^x e^{-x^2/2}$$

And now bold math:

$$\boldsymbol{\phi}(x) = \int_{-\infty}^x \boldsymbol{e^{-x^2/2}}$$

Euro and copyright symbols are available: € ©.

$$f(x) = 13 \int f(x) = 13 \int$$

## 4 Closing

The font list of this documentation is:

name	type	encoding	emb	sub	uni	object	ID
PHCXB+DejaVuSerif	CID TrueType	Identity-H	yes	yes	yes	5	0
XUUZPS+DejaVuSerif-Bold	CID TrueType	Identity-H	yes	yes	yes	7	0
QCVSBY+DejaVuSansMono	CID TrueType	Identity-H	yes	yes	yes	15	0
GSZWLZ+DejaVuSerif-Italic	CID TrueType	Identity-H	yes	yes	yes	20	0
PLVLM+DejaVuSansMono-Oblique	CID TrueType	Identity-H	yes	yes	yes	22	0
TTNWT+DejaVuSerif-BoldItalic	CID TrueType	Identity-H	yes	yes	yes	30	0
KJGIBH+DejaVuSans	CID TrueType	Identity-H	yes	yes	yes	32	0
GIZFGM+DejaVuSans-Oblique	CID TrueType	Identity-H	yes	yes	yes	34	0
EXZCJM+DejaVuSans-Bold	CID TrueType	Identity-H	yes	yes	yes	36	0
OPPMI+DejaVuSans-BoldOblique	CID TrueType	Identity-H	yes	yes	yes	38	0
SHDGF+DejaVuSansMono-Bold	CID TrueType	Identity-H	yes	yes	yes	43	0
KPFQZH+DejaVuSansMono-BoldOblique	CID TrueType	Identity-H	yes	yes	yes	45	0
ZGPALX+DejaVuSerifCondensed	CID TrueType	Identity-H	yes	yes	yes	47	0
MSVOUE+DejaVuSerifCondensed-Italic	CID TrueType	Identity-H	yes	yes	yes	49	0
AIVRXJ+DejaVuSerifCondensed-Bold	CID TrueType	Identity-H	yes	yes	yes	51	0
ZPQEXV+DejaVuSerifCondensed-BoldItalic	CID TrueType	Identity-H	yes	yes	yes	53	0
BJMGZM+DejaVuSansCondensed	CID TrueType	Identity-H	yes	yes	yes	55	0
PAUGAH+DejaVuSansCondensed-Oblique	CID TrueType	Identity-H	yes	yes	yes	60	0
EPZZDV+DejaVuSansCondensed-Bold	CID TrueType	Identity-H	yes	yes	yes	62	0
FFGAWD+DejaVuSansCondensed-BoldOblique	CID TrueType	Identity-H	yes	yes	yes	64	0
JXUZBU+DejaVuSans-ExtraLight	CID TrueType	Identity-H	yes	yes	yes	66	0
WCDILF+TeXGyreDejaVuMath-Regular-Identity-H	CID Type 0C	Identity-H	yes	yes	yes	71	0
ALXZMC+LinLibertine0-Identity-H	CID Type 0C	Identity-H	yes	yes	yes	80	0

## References

- [1] freedesktop.org. *Fontconfig. A library for configuring and customizing font access.* June 15, 2016. url: <https://www.freedesktop.org/wiki/Software/fontconfig/> (visited on 03/18/2017).
- [2] Štěpán Roh and other. *DejaVu Fonts.* Sept. 29, 2017. url: [https://en.wikipedia.org/wiki/DejaVu\\_fonts](https://en.wikipedia.org/wiki/DejaVu_fonts).

- [3] unknown. *DejaVu Fonts*. Sept. 29, 2017. url: <https://dejavu-fonts.github.io>.
- [4] WIKIPEDIA. *DejaVu*. Oct. 19, 2016. url: <https://en.wikipedia.org/wiki/Lucida> (visited on 04/03/2017).
- [5] WIKIPEDIA. *List of typographic features*. Feb. 21, 2017. url: [https://en.wikipedia.org/wiki/List\\_of\\_typographic\\_features](https://en.wikipedia.org/wiki/List_of_typographic_features) (visited on 03/24/2017).