

# Using the Lucida Type 1 fonts with $\LaTeX$

$\TeX$  Users Group  
<http://tug.org/lucida>

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## 1 Introduction

This document contains examples of the Lucida fonts in Type 1 format available from TUG. TUG also offers a (slightly different) set of Lucida fonts in OpenType format. For more information and an order form for any of the fonts, please see <http://tug.org/lucida>.

## 2 $\LaTeX$ macro support for Lucida Type 1

The Lucida support primarily consists of two packages: `lucidabr` and `lucbmath`. The former changes both running text and math to use Lucida, whereas the latter only changes the math font setup, in case you want to use a different text font with the Lucida math fonts.

Naturally, the packages are included in the TUG distribution you receive when you order the fonts. They are also available from CTAN, in the directory <http://mirror.ctan.org/macros/latex/contrib/psnfssx/lucidabr>. If you run the example below and it complains that `lucidabr.sty` is not found, you must install the packages.

### 2.1 Basic example

The packages do *not* support  $\LaTeX$ 's (and  $\TeX$ 's) default encoding (OT1). Supported text encodings are T1 and LY1, and the text companion encoding TS1 is partially supported. Thus, you must use the `fontenc` package (part of standard  $\LaTeX$ ) to switch from the default encoding. Here's a small example:

```
\documentclass{article}
\usepackage[T1]{fontenc} % or LY1
\usepackage{textcomp}    % unnecessary with LY1
\usepackage[altpbullet]{lucidabr}
\begin{document}
```

---

® Lucida is a trademark of Bigelow & Holmes Inc. registered in the U.S. Patent & Trademark Office and other jurisdictions.

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

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

```
\]
```

Euro, copyright, and bullet symbols are available:

```
\texteuro \textcopyright \textbullet.
```

```
\end{document}
```

This results in the following output:

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

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

Euro, copyright, and bullet symbols are available: €©•.

## 2.2 More details

If the example runs ok, but produces no output, try refreshing the “file-name database” (e.g., run `mktexlsr`). Also, of course, you must actually purchase the fonts! (The metrics and support files are on CTAN, but not the `.pfb` files containing the actual outlines.)

When the T1 encoding is used, it's best to load the `textcomp` package along with `lucidabr`, or some symbols, notably `\textcopyright`, will be synthesized instead of coming from the fonts. We don't load `textcomp` automatically since loading such fundamental packages behind the scenes can cause hard-to-debug trouble.

Furthermore, the default `\textbullet` is quite small; the more normal one above is used when the `albullet` option to the `lucidabr` package is given.

## 2.3 Old style figures

Old style figures (o123456789) are produced with the `LATEX` command `\oldstylenums{...}`. They are provided in the Lucida Bright fonts (not sans or typewriter), but unfortunately their treatment is slightly complicated and depends on the encoding you use.

**T1** When using T1 + textcomp, you can get old style figures automatically in math mode via the usual command `\oldstylenums`, e.g., `\oldstylenums{0123456789}`\$. To be able to also get them in text, you must add this line:

```
\DeclareEncodingSubset{TS1}{h1h}{1}
```

to your preamble *after* loading the textcomp package.

**LY1** For LY1, old style figures are the ordinary numbers of the small caps font; so, using `\textsc` or `\scshape` automatically yields the old style figures. This is in accordance with the long-established typographical tradition.

While the command `\oldstylenums` works automatically in math mode as in the previous case, for it to work with ordinary text, and to get the bold old style figures in bold text, its  $\TeX$  definition has to be changed, by specifying the font the figures will come from. So you must include this code in your preamble:

```
\makeatletter
\def\oldstylenums#1{\begingroup
  \spaceskip\fontdimen\tw@\font
  \usefont{OML}{h1cm}{\f@series}{it}%
  \mathgroup\symletters #1%
  \endgroup}
\makeatother
```

After making the appropriate changes, you can get old style figures as desired:

```
\oldstylenums{0123456789}          0123456789
\textit{\oldstylenums{0123456789}}  0123456789
\textbf{\oldstylenums{0123456789}}  0123456789
```

### 3 Font samples

The Lucida Type 1 font set contains math fonts (shown in the accompanying `lucida-amsmath` document), and the following text fonts:

The basic text family is Lucida Bright, with the usual four variants—regular, italic, bold, and bold italic; small caps and oldstyle figures are available in the upright shapes:

LucidaBright	For £45, almost anything can be found floating in fields. — ¿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. 0123456789.
LucidaBright-Italic	<i>For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?</i>
LucidaBright-Oblique	<i>For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?</i>
LucidaBright-Demi	<b>For £45, almost anything can be found floating in fields. — ¿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. 0123456789.</b>
LucidaBright-DemiItalic	<b><i>For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?</i></b>

The monospaced LucidaSans-Typewriter family is available in the same four variants (no small caps or oldstyle figures):

LucidaSans-Typewriter	For £45, almost anything can be found floating in fields. -- ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?
LucidaSans-Typewriter Oblique	<i>For £45, almost anything can be found floating in fields. -- ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?</i>
LucidaSans-Typewriter Bold	<b>For £45, almost anything can be found floating in fields. -- ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?</b>
LucidaSans-Typewriter BoldOblique	<b><i>For £45, almost anything can be found floating in fields. -- ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?</i></b>

The sans serif, LucidaSans, is again available in the same four variants (also with no small caps or oldstyle):

LucidaSans	For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?
LucidaSans-Italic	<i>For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?</i>
LucidaSans-Demi	<b>For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?</b>
LucidaSans- DemiItalic	<b><i>For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?</i></b>

LucidaSans also exists in an ultra bold version, which you have to select manually with `\fontseries{ub}\selectfont`.

LucidaSans-Bold	<b>For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?</b>
LucidaSans- BoldItalic	<b><i>For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?</i></b>

A second, seriffed, typewriter font is included as well. By default the `lucidabr` package selects Lucida Sans Typewriter for typewriter; you can change that by giving the option `serifftt`:

```
\usepackage[serifftt]{lucidabr}
```

Lucida Typewriter	For £45, almost anything can be found floating in fields. -- ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?
----------------------	--

Lucida  
Typewriter  
Oblique

*For £45, almost anything can be found floating in fields. -- ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?*

Lucida  
Typewriter Bold

**For £45, almost anything can be found floating in fields. -- ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?**

Lucida  
Typewriter  
BoldOblique

***For £45, almost anything can be found floating in fields. -- ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?***

Lucida Fax is an alternative text font, heavier than usual, available in the same four variants. By giving the option fax to lucidabr this becomes the default roman font. There are no small caps or oldstyle figures for this font.

LucidaFax

For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?

LucidaFax-Italic

*For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?*

LucidaFax-Bold

**For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?**

LucidaFax-  
BoldItalic

***For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?***

The Lucida Casual variant exists in two versions only: medium upright and medium italic. You can make it the default text font by giving the option casual to lucidabr.

LucidaCasual	For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?
LucidaCasual- Italic	<i>For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?</i>

Finally, three more specialized fonts are included. If you specify the calligraphic option for lucidabr, Lucida Calligraphy will be the default italic font. A similar option handwriting makes Lucida Handwriting the default italic font.

Lucida Calligraphy-Italic	<i>0123456789. For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?</i>
Lucida Handwriting- Italic	<i>For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?</i>
Lucida Blackletter	For £45, almost anything can be found floating in fields. — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés?

The above are all the Lucida Type 1 fonts available with T<sub>E</sub>X support. There are no plans to extend the selection; work now is focused on the Lucida OpenType fonts.

## 4 Closing

If you have questions or problems regarding installation or use, please email [lucida@tug.org](mailto:lucida@tug.org); this is an open and publicly archived list for Lucida discussion; you can subscribe on the web at <http://lists.tug.org/lucida>. On the other hand, questions or problems related to ordering or licensing should go to [lucida-admin@tug.org](mailto:lucida-admin@tug.org).

Finally, the home page for Lucida and T<sub>E</sub>X, with an order form for the fonts, is <http://tug.org/lucida>.