

TEX Support for Linux Libertine and Biolinum Fonts

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1 Introduction

This package provides support for use of the Linux Libertine and Linux Biolinum families of fonts in \LaTeX . Most features are usable with \LaTeX and dvips , pdf\LaTeX , x\LaTeX and lua\LaTeX ; the features in Section 5 are only usable with x\LaTeX or lua\LaTeX . This package compatibly replaces several earlier packages (`libertine-type1`, `biolinum-type1`, `libertine`) and should provide partial compatibility with the obsolete `libertineotf` and `libertine-legacy` packages.

2 Installation

To install this package on a TDS-compliant \TeX system, unzip the file

```
/install/fonts/libertine.tds.zip
```

at the root of an appropriate `texmf` tree, likely a personal or local tree. If necessary, update the file-name database (e.g., `texhash`). Update the font-map files by enabling the Map file `libertine.map`.

3 Basic Usage

For most purposes, simply add

```
\usepackage{libertine}
```

to the preamble of your document. This will activate Libertine as the main (seriffed) text font and Biolinum as the sans font. To activate LibertineMono as the monospaced font, use the `mono` (or `tt`) option. It is recommended that the font encoding be set to `T1` or `LY1` but the default `OT1` encoding is also supported. Available shapes in all series (except `tt`, which only has `it`) include:

<code>it</code>	italic
<code>sc</code>	small caps
<code>scit</code>	italic small caps

Slanted variants are not supported; the designed italic variants will be automatically substituted. The exceptions are the monospaced font and the bold series of Biolinum, for which designed italics are not currently available. Artificially slanted variants have been generated and treated as if they were italic.

To activate Libertine (without Biolinum), use the `libertine` (or `rm`) option. Similarly, to activate Biolinum (without Libertine) use the `biolinum` (or `sf` or `ss`) option. To use Biolinum as the main text font (as well as the sans font), use the option `sfdefault` (which redefines `\familydefault`, not `\rmdefault`).

4 Advanced Usage

LaTeX and XeTeX users who might prefer to use type 1 fonts or who wish to avoid fontspec may use the `type1` (or `nofontspec`) option; `libertine-type1.sty` and `biolinum-type1.sty` wrapper packages are included to provide compatibility with the older packages. For legacy documents that use only basic facilities of `libertineotf`, a similar wrapper package `libertineotf.sty` is provided. The following features of the original `libertine` or `libertineotf` packages are *not* supported:

- font-features such as `Ligatures` or `Scale` as option parameters
- the `Outline` or `Shadow` fonts
- commands `\Lnum`, `\Lpnum`, `\Lcnum`, etc.
- environments `Ltable` and `libertineenumerate`

If your documents use any of the features listed above, you may have to continue to use the `libertineotf` package (which is still available from CTAN) or access the opentype fonts directly using `fontspec`.

The following options are available in all styles (except monospaced):

<code>oldstyle (osf)</code>	old-style figures
<code>lining (nf, lf)</code>	lining figures
<code>proportional (p)</code>	varying-width figures
<code>tabular (t)</code>	fixed-width figures

The defaults are `oldstyle` and `proportional`. These apply to both `Libertine` and `Biolinum`; to change the default figure style of just the `Biolinum` (sans) fonts, use options

`sflining (sflf)` or `sfoldstyle (sfosf, osfss)`

`sftabular (sft)` or `sfproportional (sfp)`

The `semibold (sb)` option will set `\bfdefault` to `sb` to allow using the semi-bold series of `Libertine`; this has no effect on the `Biolinum` fonts, for which there is no semi-bold variant. The options `scale=<number>` (or `scaled=<number>`) will scale the `Biolinum` fonts but have no effect on the `Libertine` fonts. Similarly, the options `ttscale=<number>` (or `ttscaled=<number>`) will scale the `LibertineMono` font.

Commands `\oldstylenums{...}` and `\oldstylenumsf{...}` are defined to allow for local use of old-style figures in `Libertine` and `Biolinum`, respectively, if lining figures is the default, and similarly `\liningnums{...}` and `\liningnumsf{...}`.

Similarly, commands `\tabularnums{...}` and `\tabularnumsf{...}` are defined to allow local use of monospaced figures in `Libertine` or `Biolinum`, respectively, if proportional figures is the default, and similarly `\proportionalnums{...}` and `\proportionalnumsf{...}`.

Superior numbers (for footnote markers) are available using `\sufigures` or `\textsu{...}`.

Macros `\libertine`, `\libertineSB`, `\libertineOsF`, `\libertineLF`, `\libertineDisplay` and `\libmono` select the Libertine family, the Libertine family with the semi-bold series as the `bfdefault`, the Libertine family with OldStyle figures, the Libertine family with Lining Figures, the Libertine Display font, and the LibertineMono family, respectively.

Macros `\biolinum`, `\biolinumOsF`, and `\biolinumLF` select the Biolinum family, the Biolinum family with OldStyle figures, and the Biolinum family with Lining Figures, respectively.

5 OpenType Fonts

The features in this section are only available to `xeLaTeX` and `luaLaTeX` users.

Macros `\libertineGlyph{...}` and `\biolinumGlyph{...}` produce the glyph named in the argument in the Libertine or Biolinum font, respectively; for example, in regular-weight and upright-shape, `\libertineGlyph{seven.cap}` and `\libertineGlyph{uniE10F}` both produce a lining 7 that matches the height of capital letters, as in

K7L 3N6

Similarly, `\biolinumKeyGlyph{...}` produces the named glyph in the Biolinum Keyboard font; for example: `\biolinumKeyGlyph{seven}` produces 7. A large number of macros of the form `\LKey...` or `\LMouse...` are provided to simplify production of glyphs in the Biolinum Keyboard font; see Appendix A. Appendix B has a table of the entire Linux Biolinum Keyboard font, with corresponding glyph name and codepoint.

Macro `\libertineInitialGlyph{...}` produces a glyph in the Libertine Initial font; Appendix C has a table of some of the glyphs and an example of how these glyphs may be used.

The fonts used for the features described above are in the `/fonts/opentype/public/libertine` directory as follows:

File name	Internal name	Description
<code>LinBiolinum_RBO.otf</code>	<code>LinBiolinumOBO</code>	sans serif bold italic (oblique)
<code>LinBiolinum_RB.otf</code>	<code>LinBiolinumOB</code>	sans serif bold
<code>LinBiolinum_RI.otf</code>	<code>LinBiolinumOI</code>	sans serif italic
<code>LinBiolinum_R.otf</code>	<code>LinBiolinumO</code>	sans serif regular
<code>LinLibertine_RBI.otf</code>	<code>LinLibertineOBI</code>	bold italic
<code>LinLibertine_RB.otf</code>	<code>LinLibertineOB</code>	bold
<code>LinLibertine_RI.otf</code>	<code>LinLibertineOI</code>	italic
<code>LinLibertine_R.otf</code>	<code>LinLibertineO</code>	regular
<code>LinLibertine_RZI.otf</code>	<code>LinLibertineOZI</code>	semibold italic
<code>LinLibertine_RZ.otf</code>	<code>LinLibertineOZ</code>	semibold
<code>LinLibertine_MBO.otf</code>	<code>LinLibertineMOBO</code>	mono bold italic (oblique)
<code>LinLibertine_MB.otf</code>	<code>LinLibertineMOB</code>	mono bold
<code>LinLibertine_MO.otf</code>	<code>LinLibertineMOO</code>	mono italic (oblique)
<code>LinLibertine_M.otf</code>	<code>LinLibertineMO</code>	mono
<code>LinBiolinum_K.otf</code>	<code>LinBiolinumOKb</code>	keyboard
<code>LinLibertine_I.otf</code>	<code>LinLibertineIO</code>	decorative capitals
<code>LinLibertine_DR.otf</code>	<code>LinLibertineDisplayO</code>	a display (titling) font

6 Concluding Remarks

For compatible mathematics, it is recommended to use the `newtxmath` package with the `libertine` option.

The original opentype fonts were created by Philipp H. Poll (`gillian@linuxlibertine.org`) and are licensed under the terms of the GNU General Public License (Version 2, with font exception) and under the terms of the Open Font License. For details look into the `doc` directory of the distribution or at

`http://www.linuxlibertine.org/`

The Glyph and KeyCap support was adapted from the original `libertine` package by Michael Niedermair.

Three of the Libertine fonts were modified by Michael Sharpe (`msharpe@ucsd.edu`) using `fontforge.org` to correct minor problems, including adding three missing ligatures (***fl***, ***ffl***, ***ffi***) to the bold-italic font.

















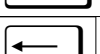







The type 1 fonts were created using `cfftot1` or `fontforge`. The internal font-family names of the type 1 fonts have been changed to `Linux Libertine T` and `Linux Biolinum T` to avoid interfering with `xe \LaTeX` users who access system fonts.





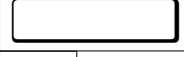





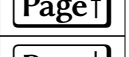
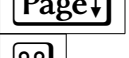















The support files were created using `autoinst`. The support files are licensed under the terms of the LaTeX Project Public License. See Appendix D for more detailed discussion of the implementation.



















Thanks to Herbert Voss, Patrick Gundlach, Silke Hofstra, Marc Penninga, Michael Sharpe, Denis Bitouzé, and Khaled Hosny for their assistance. The maintainer of this package is Bob Tennent (`rdt@cs.queensu.ca`)

A Biolinum KeyCap Macros





A.1 Special Keys

Tux	\LKeyTux	
Win	\LKeyWin	
Menu	\LKeyMenu	
Strg	\LKeyStrg	
Ctrl	\LKeyCtrl	
Alt	\LKeyAlt	
AltGr	\LKeyAltGr	
Shift	\LKeyShift	
Enter	\LKeyEnter	
Tab	\LKeyTab	
CapsLock	\LKeyCapsLock	
Pos	\LKeyPos	
Entf	\LKeyEntf	
Einf	\LKeyEinf	
Leer	\LKeyLeer	
Esc	\LKeyEsc	
Ende	\LKeyEnde	
Back	\LKeyBack	
Up	\LKeyUp	
Dwon	\LKeyDown	
Left	\LKeyLeft	
Right	\LKeyRight	
PgUp	\LKeyPgUp	
PgDown	\LKeyPgDown	

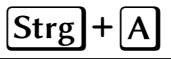
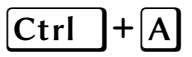

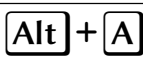
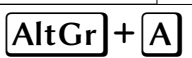







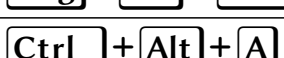

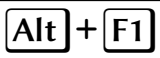
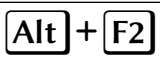
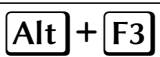
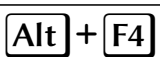
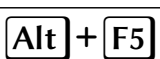
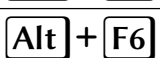
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Fn	\LKeyFn	
Home	\LKeyHome	
Del	\LKeyDel	
Space	\LKeySpace	
ScreenUp	\LKeyScreenUp	
ScreenDown	\LKeyScreenDown	
Ins	\LKeyIns	
End	\LKeyEnd	
GNU	\LKeyGNU	
PageUp	\LKeyPageUp	
PageDown	\LKeyPageDown	
Command	\LKeyCommand	
OptionKey	\LKeyOptionKey	
F1	\LKeyF{1}	
F2	\LKeyF{2}	
F3	\LKeyF{3}	
F4	\LKeyF{4}	
F5	\LKeyF{5}	
F6	\LKeyF{6}	
F7	\LKeyF{7}	
F8	\LKeyF{8}	
F9	\LKeyF{9}	
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F13	\LKeyF{13}	








































































F14	\LKeyF{14}	
F15	\LKeyF{15}	
F16	\LKeyF{16}	
PAD0	\LKeyPad{1}	
PAD1	\LKeyPad{1}	
PAD2	\LKeyPad{2}	
PAD3	\LKeyPad{3}	
PAD4	\LKeyPad{4}	
PAD5	\LKeyPad{5}	
PAD6	\LKeyPad{6}	
PAD7	\LKeyPad{7}	
PAD8	\LKeyPad{8}	
PAD9	\LKeyPad{9}	
PAD10	\LKeyPad{10}	
PAD11	\LKeyPad{11}	
PAD12	\LKeyPad{12}	
PAD13	\LKeyPad{13}	
PAD14	\LKeyPad{14}	





























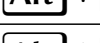


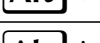


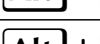





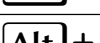




A.2 General Keyboard

0	\LKey{zero},\LKey{0}	
9	\LKey{nine},\LKey{9}	
A	\LKey{A}	
Z	\LKey{Z}	







A.3 Keyboard Shortcuts

Strg-A	\LKeyStrgX{A}	
Ctrl-A	\LKeyCtrlX{A}	
Shift-A	\LKeyShiftX{A}	
Alt-A	\LKeyAltX{A}	
AltGr-A	\LKeyAltGrX{A}	
Shift-Strg-A	\LKeyShiftStrgX{A}	
Shift-Ctrl-A	\LKeyShiftCtrlX{A}	
Shift-Alt-A	\LKeyShiftAltX{A}	
Shift-AltGr-A	\LKeyShiftAltGrX{A}	
Strg-Alt-A	\LKeyStrgAltX{A}	
Strg-Alt-Entf	\LKeyStrgAltEnt	
Strg-Alt-Entf	\LKeyReset	
Ctrl-Alt-A	\LKeyCtrlAltX{A}	
Ctrl-Alt-Entf	\LKeyCtrlAltEnt	
Alt-F1	\LKeyAltF{1}	
Alt-F2	\LKeyAltF{2}	
Alt-F3	\LKeyAltF{3}	
Alt-F4	\LKeyAltF{4}	
Alt-F5	\LKeyAltF{5}	
Alt-F6	\LKeyAltF{6}	






Alt-F7	\LKeyAltF{7}	 + 
Alt-F8	\LKeyAltF{8}	 + 
Alt-F9	\LKeyAltF{9}	 + 
Alt-F10	\LKeyAltF{10}	 + 
Alt-F11	\LKeyAltF{11}	 + 
Alt-F12	\LKeyAltF{12}	 + 
Alt-F13	\LKeyAltF{13}	 + 
Alt-F14	\LKeyAltF{14}	 + 
Alt-F15	\LKeyAltF{15}	 + 
Alt-F16	\LKeyAltF{16}	 + 
Strg-Alt-F1	\LKeyStrgAltF{1}	 +  + 
Strg-Alt-F2	\LKeyStrgAltF{2}	 +  + 
Strg-Alt-F3	\LKeyStrgAltF{3}	 +  + 
Strg-Alt-F4	\LKeyStrgAltF{4}	 +  + 
Strg-Alt-F5	\LKeyStrgAltF{5}	 +  + 
Strg-Alt-F6	\LKeyStrgAltF{6}	 +  + 
Strg-Alt-F7	\LKeyStrgAltF{7}	 +  + 
Strg-Alt-F8	\LKeyStrgAltF{8}	 +  + 
Strg-Alt-F9	\LKeyStrgAltF{9}	 +  + 
Strg-Alt-F10	\LKeyStrgAltF{10}	 +  + 
Strg-Alt-F11	\LKeyStrgAltF{11}	 +  + 
Strg-Alt-F12	\LKeyStrgAltF{12}	 +  + 
Strg-Alt-F13	\LKeyStrgAltF{13}	 +  + 
Strg-Alt-F14	\LKeyStrgAltF{14}	 +  + 
Strg-Alt-F15	\LKeyStrgAltF{15}	 +  + 
Strg-Alt-F16	\LKeyStrgAltF{16}	 +  + 
Ctrl-Alt-F1	\LKeyCtrlAltF{1}	 +  + 

Ctrl-Alt-F2	\LKeyCtrlAltF{2}	 +  + 
Ctrl-Alt-F3	\LKeyCtrlAltF{3}	 +  + 
Ctrl-Alt-F4	\LKeyCtrlAltF{4}	 +  + 
Ctrl-Alt-F5	\LKeyCtrlAltF{5}	 +  + 
Ctrl-Alt-F6	\LKeyCtrlAltF{6}	 +  + 
Ctrl-Alt-F7	\LKeyCtrlAltF{7}	 +  + 
Ctrl-Alt-F8	\LKeyCtrlAltF{8}	 +  + 
Ctrl-Alt-F9	\LKeyCtrlAltF{9}	 +  + 
Ctrl-Alt-F10	\LKeyCtrlAltF{10}	 +  + 
Ctrl-Alt-F11	\LKeyCtrlAltF{11}	 +  + 
Ctrl-Alt-F12	\LKeyCtrlAltF{12}	 +  + 
Ctrl-Alt-F13	\LKeyCtrlAltF{13}	 +  + 
Ctrl-Alt-F14	\LKeyCtrlAltF{14}	 +  + 
Ctrl-Alt-F15	\LKeyCtrlAltF{15}	 +  + 
Ctrl-Alt-F16	\LKeyCtrlAltF{16}	 +  + 

















































A.4 Mouse Buttons (Three-Button Mice)

Empty	\LMouseEmpty	
No	\LMouseN	
Left	\LMouseL	
Middle	\LMouseM	
Right	\LMouseR	
LeftRight	\LMouseLR	

A.5 Mouse Buttons (Two-Button Mice)



















































Empty	\LMouseIIEmpty	
No	\LMouseIIN	
Left	\LMouseIIL	
Right	\LMouseIIR	
LeftRight	\LMouseIILR	

B Linux Biolinum Keyboard Glyphs

	uni0020		uni002C
	space		comma
	uni0021		uni002D
	exclam		hyphen
	uni0022		uni002E
	quotedbl		period
	uni0023		uni002F
	numbersign		slash
	uni0024		uni0030
	dollar		zero
	uni0025		uni0031
	percent		one
	uni0026		uni0032
	ampersand		two
	uni0027		uni0033
	quotesingle		three
	uni0028		uni0034
	parenleft		four
	uni0029		uni0035
	parenright		five
	uni002A		uni0036
	asterisk		six
	uni002B		uni0037
	plus		seven

8	uni0038
8	eight
9	uni0039
9	nine
:	uni003A
:	colon
;	uni003B
;	semicolon
<	uni003C
<	less
=	uni003D
=	equal
>	uni003E
>	greater
?	uni003F
?	question
@	uni0040
@	at
A	uni0041
A	A
B	uni0042
B	B
C	uni0043
C	C
D	uni0044

D	D
E	uni0045
E	E
F	uni0046
F	F
G	uni0047
G	G
H	uni0048
H	H
I	uni0049
I	I
J	uni004A
J	J
K	uni004B
K	K
L	uni004C
L	L
M	uni004D
M	M
N	uni004E
N	N
O	uni004F
O	O
P	uni0050
P	P

	uni0051		bracketright
	Q		uni005E
	uni0052		asciicircum
	R		uni005F
	uni0053		underscore
	S		uni0060
	uni0054		grave
	T		uni0061
	uni0055		a
	U		uni0062
	uni0056		b
	V		uni0063
	uni0057		c
	W		uni0064
	uni0058		d
	X		uni0065
	uni0059		e
	Y		uni0066
	uni005A		f
	Z		uni0067
	uni005B		g
	bracketleft		uni0068
	uni005C		h
	backslash		uni0069
	uni005D		i

j	uni006A
j	j
k	uni006B
k	k
l	uni006C
l	l
m	uni006D
m	m
n	uni006E
n	n
o	uni006F
o	o
p	uni0070
p	p
q	uni0071
q	q
r	uni0072
r	r
s	uni0073
s	s
t	uni0074
t	t
u	uni0075
u	u
v	uni0076

v	v
w	uni0077
w	w
x	uni0078
x	x
y	uni0079
y	y
z	uni007A
z	z
{	uni007B
{	braceleft
	uni007C
	bar
}	uni007D
}	braceright
~	uni007E
~	asciitilde
i	uni00A1
i	exclamdown
¢	uni00A2
¢	cent
£	uni00A3
£	sterling
¤	uni00A4
¤	currency

¥	uni00A5
¥	yen
¡	uni00A6
¡	brokenbar
§	uni00A7
§	section
¨	uni00A8
¨	dieresis
«	uni00AB
«	guillemotleft
-	uni00AD
°	uni00B0
°	degree
±	uni00B1
±	plusminus
´	uni00B4
´	acute
μ	uni00B5
•	uni00B7
•	periodcentered
¸	uni00B8
¸	cedilla
»	uni00BB
»	guillemotright
À	uni00C0
À	Agrave

Á	uni00C1
Á	Aacute
Â	uni00C2
Â	Acircumflex
Ã	uni00C3
Ã	Atilde
Ä	uni00C4
Ä	Adieresis
Å	uni00C5
Å	Aring
Ç	uni00C7
Ç	Ccedilla
È	uni00C8
È	Egrave
É	uni00C9
É	Eacute
Ê	uni00CA
Ê	Ecircumflex
Ë	uni00CB
Ë	Edieresis
Ì	uni00CC
Ì	Igrave
Í	uni00CD
Í	Iacute
Î	uni00CE

Î	Icircumflex	Û	uni00DB
Ï	uni00CF	Ü	Ucircumflex
Ï	Idieresis	Ü	uni00DC
Ð	uni00D0	Ü	Udieresis
Ð	Eth	Ý	uni00DD
Ñ	uni00D1	Ý	Yacute
Ñ	Ntilde	Þ	uni00DE
Ò	uni00D2	Þ	Thorn
Ò	Ograve	ß	uni00DF
Ó	uni00D3	ß	germandbls
Ó	Oacute	à	uni00E0
Ô	uni00D4	à	agrave
Ô	Ocircumflex	á	uni00E1
Õ	uni00D5	á	aacute
Õ	Otilde	â	uni00E2
Ö	uni00D6	â	acircumflex
Ö	Odieresis	ã	uni00E3
×	uni00D7	ã	atilde
×	multiply	ä	uni00E4
Ø	uni00D8	ä	adieresis
Ø	Oslash	å	uni00E5
Ù	uni00D9	å	aring
Ú	Ugrave	æ	uni00E6
Ú	uni00DA	æ	ae
Ú	Uacute	ç	uni00E7

ç	ccedilla	ô	uni00F4
è	uni00E8	ô	ocircumflex
è	egrave	õ	uni00F5
é	uni00E9	õ	otilde
é	eacute	ö	uni00F6
ê	uni00EA	ö	odieresis
ê	ecircumflex	÷	uni00F7
ë	uni00EB	÷	divide
ë	edieresis	ø	uni00F8
ì	uni00EC	ø	oslash
ì	igrave	ù	uni00F9
í	uni00ED	ù	ugrave
í	iacute	ú	uni00FA
î	uni00EE	ú	uacute
î	icircumflex	û	uni00FB
ï	uni00EF	û	ucircumflex
ï	idieresis	ü	uni00FC
ő	uni00F0	ü	udieresis
ő	eth	ý	uni00FD
ñ	uni00F1	ý	yacute
ñ	ntilde	þ	uni00FE
ò	uni00F2	þ	thorn
ò	ograve	ÿ	uni00FF
ó	uni00F3	ÿ	ydieresis
ó	oacute	À	uni0100

Ā	Amacron	č	uni010D
ā	uni0101	č	ccaron
ā	amacron	Ǧ	uni010E
Ǻ	uni0102	Ǧ	Dcaron
Ǻ	Abreve	ď	uni010F
ǻ	uni0103	ď	dcaron
ǻ	abreve	Đ	uni0110
Ą	uni0104	Đ	Dcroat
Ą	Aogonek	đ	uni0111
ą	uni0105	đ	dcroat
ą	aogonek	Ē	uni0112
Ĉ	uni0106	Ē	Emacron
Ĉ	Cacute	ē	uni0113
ċ	uni0107	ē	emacron
ċ	cacute	Ě	uni0114
Ĉ	uni0108	Ě	Ebreve
Ĉ	Ccircumflex	ě	uni0115
ĉ	uni0109	ě	ebreve
ĉ	ccircumflex	Ė	uni0116
Ĉ	uni010A	Ė	Edotaccent
Ĉ	Cdotaccent	ė	uni0117
ċ	uni010B	ė	edotaccent
ċ	cdotaccent	Ę	uni0118
Ĉ	uni010C	Ę	Eogonek
Ĉ	Ccaron	ę	uni0119

ė	eogonek	Ĥ	uni0126
Ě	uni011A	Ĥ	Hbar
Ě	Ecaron	ĥ	uni0127
ė	uni011B	ĥ	hbar
ė	ecaron	Ĩ	uni0128
Ĝ	uni011C	Ĩ	Itilde
Ĝ	Gcircumflex	ĩ	uni0129
ĝ	uni011D	ĩ	itilde
ĝ	gcircumflex	Ī	uni012A
Ĝ	uni011E	Ī	Imacron
Ĝ	Gbreve	ī	uni012B
ĝ	uni011F	ī	imacron
ĝ	gbreve	Ĭ	uni012C
Ġ	uni0120	Ĭ	Ibreve
Ġ	Gdotaccent	ĭ	uni012D
ġ	uni0121	ĭ	ibreve
ġ	gdotaccent	Ĳ	uni012E
Ģ	uni0122	Ĳ	Iogonek
Ģ	Gcommaaccent	ĳ	uni012F
ģ	uni0123	ĳ	iogonek
ģ	gcommaaccent	ı	uni0130
Ĥ	uni0124	ı	Idotaccent
Ĥ	Hcircumflex	ı	uni0131
ĥ	uni0125	ı	dotlessi
ĥ	hcircumflex	Ų	uni0132

IJ	IJ	Ł	uni013F
ij	uni0133	Ł	Ldot
ij	ij	ł	uni0140
Ĵ	uni0134	ł	ldot
Ĵ	Jcircumflex	Ł	uni0141
ĵ	uni0135	Ł	Lslash
ĵ	jcircumflex	ł	uni0142
Ɔ	uni0136	ł	lslash
Ɔ	Kcommaaccent	Ń	uni0143
ķ	uni0137	Ń	Nacute
ķ	kcommaaccent	ń	uni0144
Ɔ	uni0138	ń	nacute
Ɔ	kgreenlandic	Ń	uni0145
Ĺ	uni0139	Ń	Ncommaaccent
Ĺ	Lacute	ņ	uni0146
ĺ	uni013A	ņ	ncommaaccent
ĺ	lacute	Ń	uni0147
Ł	uni013B	Ń	Ncaron
Ł	Lcommaaccent	ň	uni0148
ł	uni013C	ň	ncaron
ł	lcommaaccent	ñ	uni0149
Ľ	uni013D	ñ	napostrophe
Ľ	Lcaron	Ō	uni014C
ĺ	uni013E	Ō	Omacron
ĺ	lcaron	ō	uni014D

ō	omacron	Ŝ	uni015C
Ŏ	uni014E	Ŝ	Scircumflex
Ŏ	Obreve	ŝ	uni015D
ō	uni014F	ŝ	scircumflex
obreve		Ŝ	uni015E
Ŏ	uni0150	Ŝ	Scedilla
Ŏ	Ohungarumlaut	ŝ	uni015F
ö	uni0151	ŝ	scedilla
ö	ohungarumlaut	Š	uni0160
Ŕ	uni0154	Š	Scaron
Ŕ	Racute	š	uni0161
ŕ	uni0155	š	scaron
ŕ	racute	Ť	uni0162
Ŗ	uni0156	Ť	Tcedilla
Ŗ	Rcommaaccent	ť	uni0163
ŗ	uni0157	ť	tcedilla
ŗ	rcommaaccent	Ť	uni0164
Ř	uni0158	Ť	Tcaron
Ř	Rcaron	ť	uni0165
ř	uni0159	ť	tcaron
ř	rcaron	Ŧ	uni0166
Ŝ	uni015A	Ŧ	Tbar
Ŝ	Sacute	ŧ	uni0167
ś	uni015B	ŧ	tbar
ś	sacute	Ů	uni0168

Ũ	Utilde	Ŵ	uni0175
ũ	uni0169	ŵ	wcircumflex
utilde		Ŷ	uni0176
Ū	uni016A	ŷ	Ycircumflex
Umacron		ŷ	uni0177
ū	uni016B	ŷ	ycircumflex
umacron		ÿ	uni0178
Ŭ	uni016C	ÿ	Ydieresis
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ũ	uni016D	Ž	Zacute
ubreve		ž	uni017A
Ů	uni016E	ž	zacute
Uring		Ž	uni017B
ů	uni016F	Ž	Zdotaccent
uring		ž	uni017C
Ú	uni0170	ž	zdotaccent
Ú	Uhungarumlaut	Ž	uni017D
ú	uni0171	Ž	Zcaron
uhungarumlaut		ž	uni017E
U	uni0172	ž	zcaron
Uogonek		h	uni02B0
u	uni0173	h	h.superior
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Ŵ	uni0174	h	hhook.superior
Ŷ	Wcircumflex	j	uni02B2
		j	j.superior





















































ŕ	uni02B3	˘	uni02C5
ŕ	r.superior	ˆ	uni02C6
Ŗ	uni02B4	ˆ	circumflex
Ŗ	rturned.superior	˘	uni02C7
ŕ	uni02B5	˘	caron
ŕ	rhookturned.superior	ˆ	uni02C8
Ŗ	uni02B6	ˉ	uni02C9
Ŗ	Rsmallinverted.superior	ˆ	uni02CA
w	uni02B7	˘	uni02CB
w	w.superior	ˆ	uni02CC
y	uni02B8	ˉ	uni02CD
y	y.superior	˘	uni02CE
ˆ	uni02B9	ˆ	uni02CF
ˆ	uni02BA	ˆ	uni02D0
ˆ	uni02BB	˘	uni02D1
ˆ	uni02BC	ˆ	uni02D2
ˆ	afii57929	ˆ	uni02D3
ˆ	uni02BD	ˆ	uni02D4
ˆ	afii64937	˘	uni02D5
ˆ	uni02BE	+	uni02D6
ˆ	uni02BF	ˉ	uni02D7
ˆ	uni02C0	˘	uni02D8
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ˆ	uni02C4	ˆ	uni02DA


















































◦	ring	↵	uni0302
‘	uni02DB	↵	uni0303
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˜	uni02DC	⌞	uni0304
˘	tilde	⌞	uni0305
”	uni02DD	↵	uni0306
”	hungarumlaut	•	uni0307
˚	uni02DE	••	uni0308
×	uni02DF	’	uni0309
Ÿ	uni02E0	’	hookabovcomb
Ÿ	gammalatin.superior	◦	uni030A
l	uni02E1	↵	uni030B
l	l.superior	↵	uni030C
s	uni02E2	’	uni030D
s	s.superior	”	uni030E
x	uni02E3	↵	uni030F
x	x.superior	↵	uni0310
ɿ	uni02E4	↵	uni0311
ɿ	glottalstopreversed.superior	ˆ	uni0312
v	uni02EC	’	uni0313
=	uni02ED	ˆ	uni0314
”	uni02EE	’	uni0315
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



















































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⌈	uni031F	⌈	uni0359
⌈	uni0320	⌈	uni035A
⌈	uni0321	⌈	uni035B
⌈	uni0322	⌈	uni035C
⌈	uni0323	⌈	uni035D
⌈	dotbelowcomb	⌈	uni035E
⌈	uni0324	⌈	uni035F
⌈	uni0325	⌈	uni0360
⌈	uni0326	⌈	uni0361
⌈	uni0327	⌈	uni0362
⌈	uni0328	⌈	uni0363
⌈	uni0329	⌈	uni0374
⌈	uni032A	⌈	uni0375
⌈	uni032B	⌈	uni05B0
⌈	uni032C	⌈	afii57799
⌈	uni032D	⌈	uni05B1
⌈	uni032E	⌈	afii57801
⌈	uni032F	⌈	uni05B2
⌈	uni0330	⌈	afii57800
⌈	uni0331	⌈	uni05B3
⌈	uni0338	⌈	afii57802

□	uni05B4	□	afii57804
□	afii57793	□	uni05C2
□	uni05B5	□	afii57803
□	afii57794	□	uni05C3
□	uni05B6	□	afii57658
□	afii57795	□	uni05C6
□	uni05B7	□	uni05D0
□	afii57798	□	afii57664
□	uni05B8	□	uni05D1
□	afii57797	□	afii57665
□	uni05B9	□	uni05D2
□	afii57806	□	afii57666
□	uni05BA	□	uni05D3
□	uni05BB	□	afii57667
□	afii57796	□	uni05D4
□	uni05BC	□	afii57668
□	afii57807	□	uni05D5
□	uni05BD	□	afii57669
□	afii57839	□	uni05D6
□	uni05BE	□	afii57670
□	afii57645	□	uni05D7
□	uni05BF	□	afii57671
□	afii57841	□	uni05D8
□	uni05C0	□	afii57672
□	afii57842	□	uni05D9
□	uni05C1	□	afii57673

Ⲅ	uni05DA	Ⲛ	afii57686
Ⲅ	afii57674	Ⲛ	uni05E7
Ⲅ	uni05DB	Ⲛ	afii57687
Ⲅ	afii57675	Ⲛ	uni05E8
Ⲅ	uni05DC	Ⲛ	afii57688
Ⲅ	afii57676	Ⲛ	uni05E9
Ⲅ	uni05DD	Ⲛ	afii57689
Ⲅ	afii57677	Ⲛ	uni05EA
Ⲅ	uni05DE	Ⲛ	afii57690
Ⲅ	afii57678	Ⲛ	uni05F0
Ⲅ	uni05DF	Ⲛ	afii57716
Ⲅ	afii57679	Ⲛ	uni05F1
Ⲅ	uni05E0	Ⲛ	afii57717
Ⲅ	afii57680	Ⲛ	uni05F2
Ⲅ	uni05E1	Ⲛ	afii57718
Ⲅ	afii57681	Ⲛ	uni2190
Ⲅ	uni05E2	Ⲛ	arrowleft
Ⲅ	afii57682	Ⲛ	uni2191
Ⲅ	uni05E3	Ⲛ	arrowup
Ⲅ	afii57683	Ⲛ	uni2192
Ⲅ	uni05E4	Ⲛ	arrowright
Ⲅ	afii57684	Ⲛ	uni2193
Ⲅ	uni05E5	Ⲛ	arrowdown
Ⲅ	afii57685	Ⲛ	uni2194
Ⲅ	uni05E6	Ⲛ	arrowboth
		Ⲛ	uni2195













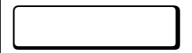





















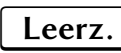

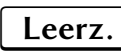














	arrowupdn		uni21D7
	uni2196		Nearrow
	uni2197		uni21D8
	uni2198		Searrow
	uni2199		uni21D9
	uni219A		Svarrow
	uni219B		uni2318
	uni21A5		uni2325
	uni21A7		uni2326
	uni21BC		uni2327
	uni21BD		uni232B
	uni21C0		uni237D
	uni21C1		uni2380
	uni21D0		uni2423
	arrowdblleft		uni25A0
	uni21D1		filledbox
	arrowdblup		uni25A1
	uni21D2		H22073
	arrowdblright		uni25B2
	uni21D3		triagup
	arrowdbldown		uni25B3
	uni21D4		uni25B6
	arrowdblboth		uni25B7
	uni21D5		uni25BC
	uni21D6		triagdn
	Nwarrow		uni25BD

	uni25C0		uni2627
	uni25C1		uni262F
	uni25C6		uni2639
	uni25C7		uni263A
	uni25C9		uni263B
	uni25CA		uni263C
	lozenge		uni263D
	uni25CB		uni263E
	circle		uni263F
	uni25CE		uni2640
	uni25CF		female
	H18533		uni2641
	uni25D0		uni2642
	uni25D1		male
	uni25D2		uni2643
	uni25D3		uni2644
	uni25D4		uni2645
	uni25D5		uni2646
	uni25D6		uni2647
	uni25D7		uni2648
	uni25E6		uni2649
	openbullet		uni264A
	uni2605		uni264B
	uni2619		uni264C
	uni261B		uni264D
	uni261E		uni264E

	uni264F		uni2779
	uni2650		uni277A
	uni2651		uni277B
	uni2652		uni277C
	uni2653		uni277D
	uni2660		uni277E
	uni2663		uni277F
	uni2665		uniE000
	uni2666		T_u_x
	uni2669		uniE104
	uni266A		uniE128
	musicalnote		uniE129
	uni266B		uniE12A
	musicalnotedbl		uniE130
	uni266C		uniE131
	uni2695		uniE132
	uni2698		uniE133
	uni26A2		uniE134
	uni26A3		uniE135
	uni26A4		uniE138
	uni26A5		uniE139
	uni26AD		uniE13A
	uni2767		uniE13C
	uni2776		uniE13D
	uni2777		uniE168
	uni2778		uniE16E

	B_a_c_k
	uniE170
	S_t_r_g
	uniE171
	A_l_t
	uniE172
	A_l_t_G_r
	uniE173
	C_t_r_l
	uniE174
	S_h_i_f_t
	uniE175
	T_a_b
	uniE176
	E_n_t_e_r
	uniE177
	C_a_p_s_l_o_c_k
	uniE178
	F_1
	uniE179
	F_2
	uniE17A
	F_3
	uniE17B
	F_4

	uniE17C
	F_5
	uniE17D
	F_6
	uniE17E
	F_7
	uniE17F
	F_8
	uniE180
	F_9
	uniE181
	F_1_0
	uniE182
	F_1_1
	uniE183
	F_1_2
	uniE184
	F_1_3
	uniE185
	F_1_4
	uniE186
	F_1_5
	uniE187
	F_1_6
	uniE188

	uniE189		uniE19A
	H_o_m_e		uniE19B
	uniE18A		uniE1A0
	D_e_l		uniE1A1
	uniE18B		uniE1A2
	I_n_s		uniE1A3
	uniE18C		uniE1A4
	uniE18E		uniE1A5
	E_n_d		uniE1A6
	uniE190		uniE1A7
	G_N_U		uniE1A8
	uniE191		uniE1A9
	P_o_s_1		uniE1AA
	uniE192		uniE1AB
	E_n_t_f		uniE1AC
	uniE193		uniE1AD
	E_i_n_f		uniE1AE
	uniE194		uniE1B0
	L_e_e_r		uniE1B1
	uniE195		uniE358
	E_s_c		grave.cap
	uniE196		uniE359
	E_n_d_e		acute.cap
	uniE198		uniE35A
	uniE199		circumflex.cap
			uniE35B

◡	caron.cap
◡	uniE35C
◡	breve.cap
◡	uniE35D
◡	hungarumlaut.cap
◡	uniE35E
◡	space_uni030F.cap
◡	uniE35F
◡	breveinvertedcmb.cap

◡	uniE360
◡	breve.cyracap
◡	uniE361
◡	breve.cyr
◡	uniE362
◡	dieresis.cap
◡	uniE363
◡	hookabovecomb.cap
◡	uniFFFD

C The Linux Libertine Initial Font

C.1 A Selection of Glyphs

0	zero	9	nine	I	I	R	R
1	one	A	A	J	J	S	S
2	two	B	B	K	K	T	T
3	three	C	C	L	L	U	U
4	four	D	D	M	M	V	V
5	five	E	E	N	N	W	W
6	six	F	F	O	O	X	X
7	seven	G	G	P	P	Y	Y
8	eight	H	H	Q	Q	Z	Z

C.2 An Example

LOREM ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

NAM dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

D Implementation Notes

D.1 Aims

Modern opentype and truetype fonts are not directly usable with traditional typesetting engines such as \LaTeX or \pdf\LaTeX . On the other hand, documents which use traditional font-selection mechanisms cannot be processed by emerging new technologies such as \XeTeX and \lua\LaTeX . One of the primary aims of the `libertine` package is, as much as possible, to allow documents to use Linux Libertine and Biolinum fonts compatibly with *all* current \LaTeX engines. Another aim is maintainability: it should be possible to update the package easily when updated fonts become available.

D.2 The Fonts

Opentype Linux Libertine and Biolinum fonts (with `otf` extensions) may be downloaded from <http://sourceforge.net/projects/linuxlibertine/files/linuxlibertine/>. There are a few problems with the current versions of the fonts (5.3.0).

- Currently, there is no bold-italic variant of the Biolinum family; an *ad hoc* solution is to use `fontforge` to generate an artificially slanted version of the bold variant.
- Slanted (oblique) variants are not available from the upstream site. These could be generated easily but we have decided not to attempt to support slanted variants for the fonts; the italic (or fake-italic) variants will be silently substituted.
- The bold-italic variant of the Libertine family is missing several ligatures; the ligatures would be taken from the regular-weight italic variant, which is unacceptable. Michael Sharpe (msharpe@ucsd.edu) has generated the missing glyphs (*fl*, *ffl*, *ffi*) and added them to the `otf` file.
- Currently, Libertine Monospaced does not have bold, italic or bold-italic variants; `fontforge` has been used to generate artificially emboldened and/or slanted variants.
- When several of the fonts are opened in `fontforge`, warning messages are generated about errors in the glyph programs. Some of these are sufficient to cause failures or even crashes when conversion to type 1 format is attempted using `cfftot1`. Michael Sharpe has corrected the most serious of these. In some cases, `fontforge` has been used to convert the format, as it is less sensitive than `cfftot1` to faulty glyph programs.

In some \TeX distributions, the opentype and type 1 fonts are installed as system fonts, and \XeTeX or \lua\LaTeX users may attempt to select the opentype fonts directly by their Postscript FontName. If type 1 versions with the *same* FontName have been installed, the latter may be selected by the system font-selection mechanism. To avoid this, it is appropriate to modify the FontNames of the `otf` fonts before converting to type 1 format (but not *distribute* these re-named `otf` fonts). The type 1 Libertine and Biolinum fonts distributed in this package have had the O (for Opentype) in their FontNames replaced by T (for Type 1) using `fontforge`. This font-renaming must be done *before* generating the \LaTeX -support files, or else `dvi2ps` will fail.

D.3 Generation of Support Files

The `otftotfm` tool of the `lcdftypetools` package and the `autoinst` script of the `fontools` package are convenient tools for generating \LaTeX support files for opentype families. To generate

a texmf tree for the libertine package on a Unix-like system, one puts all the otf files to be supported for \LaTeX or pdf \LaTeX ¹ into a directory, creates a texmf sub-directory and executes

```
autoinst -target=./texmf -encoding=OT1,T1,LY1,TS1 \
  -vendor=public -typeface=libertine -noupdmap \
  -noswash -notitling -noornaments \
  *.otf
```

Then move to the texmf directory and do

```
rm -rf fonts/pl fonts/vpl fonts/truetype fonts/type42
mv fonts/enc/dvips/public fonts/enc/dvips/libertine
mv fonts/map/dvips/public fonts/map/dvips/libertine
```

to delete irrelevant sub-directories and re-name directories as required by TeXLive.

A few additional steps are needed.

D.3.1 Renaming of the Encoding Files

otftotfm generates encoding files with filenames of the form a_XXXXXX; to avoid filename conflicts with other packages, the files have been re-named to have a distinctive prefix using the command

```
rename_enc libertine lbtn
```

executed in the texmf directory, where rename_enc is a PERL script in

```
doc/fonts/libertine
```

Then in fonts/map/dvips/libertine, the map files can be concatenated into a single file libertine.map and all instances of a_ changed to lbtn_; the original map files have been deleted.

D.3.2 Installation of the Fonts

The otf files after corrections (but before re-naming) are installed into the texmf tree in the following sub-directory:

```
fonts/opentype/public/libertine/
```

The autoinst script will normally use cfftot1 to create pfb files with appropriate internal names and filenames; but if more than one font family has been processed or if cfftot1 runs into trouble, this may not happen. In that case, one must do the conversion font-by-font using either cfftot1 or fontforge; the appropriate internal names and filenames are as specified in libertine.map. The pfb files are installed into the texmf tree in the following sub-directory:

```
fonts/type1/public/libertine/
```

D.3.3 The fd Files

The autoinst script generates a large number of files with .fd extensions in the tex/latex/libertine/ directory. Recent versions will generate “silent substitution” rules for mapping sl to it and bx to b; if not, these have to be added by hand.

¹Currently, all of the opentype fonts except the Initial and Keyboard fonts are supported for \LaTeX and pdf \LaTeX .

D.3.4 The sty Files

The autoinst script generates files with .sty extensions in the tex/latex/libertine/ directory for each of the font families; but these are useless for x_eLaTeX and luaLaTeX users and have been deleted. A libertine.sty file has been generated “by hand” and is discussed in Section D.4.

D.4 libertine.sty

This file implements the support for both type 1 and opentype usage; the choice is initially determined by the processing engine, but as some x_eLaTeX and luaLaTeX users may prefer to avoid fontspec, a type1 (or nofontspec) option is provided to change this.

The ...@scale commands are invoked in the fd files or when specifying fonts with fontspec; only the scale factors for Biolinum and Libertine Mono are adjustable using option parameters.

If the sfdefault option has been used, the \familydefault is set to the *current* value of \sfdefault (with no change to \rmdefault).

The use of \newfontfamily rather than \addfontfeatures avoids problems in the implementation of the latter for some fonts (including, unfortunately, Libertine).

For the Mono and Keyboard font families, the Ligature and SmallCap features must be turned off.

Commands to switch locally to oldstyle/lining/proportional/tabular numbers are defined; the definitions of \oldstylenums must deal with possible pre-existing definitions.

To implement the \...Glyph commands, it is necessary to, essentially, iterate through all the *defined* glyphs in the relevant opentype font. This is implemented by creating files LinLibertine_R.tex, \LinBiolinum_R.tex, LinBiolinum_K.tex and LinLibertine_I.tex which declare the glyph name (when available), unicode code point, and glyph index for every defined glyph. These files are created by using fontforge to generate a “glyph map” file (extension .g2n) for the relevant font and then the small C program doc/fonts/libertine/g2ntotex.c will convert this into the required .tex file.

The final step in libertine.sty is to remove all default font features in fontspec in case other fonts will be activated by the user.

D.5 Additional sty Files

The tex/latex/libertine/ directory also contains three “front-end” files libertineotf.sty, libertine-type1.sty, and biolinum-type1.sty, which provide partial compatibility with obsolete packages, primarily for legacy documents. Explicit options are passed on to libertine.sty.