

OpenType fonts in XeTeX

Basic Styles: regular, italic, small cap

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Standard ligatures (ff fi fl ffi ffl) and kerning (kern) are usually applied by default.

So

```
\font\rm="EB Garamond 12 Regular:mapping=tex-text" at 12pt
```

and

```
\font\rm="EB Garamond 12 Regular:+kern,+liga,mapping=tex-text" at 12pt
```

produce the same output.

If you want to turn off kerning and f-ligatures you could have a font like this:

```
\font\garaplain="EB Garamond 12 Regular:-kern,-liga,mapping=tex-text" at 12pt
```

Some OpenType features present in EB Garamond:

- Lining tabular numbers (lnum, tnum): 0123456789
2113114115
- Lining proportional numbers (lnum, pnum): 0123456789
6117118119
- Old style tabular numbers (onum, tnum): 0123456789
2113114115
- Old style proportional numbers (onum, pnum): 0123456789
(the default in this font) 6117118119
- Superscripts (sup): 2⁸ = 256
- Subscripts (sub): 1111111₂ = 255₁₀
- Ordinals (ordn): 1st, 2nd, 3rd
- Scientific inferiors (sinf): H₂O
(Scientific inferiors vs subscripts: H₂O H₂O)
- frac allows you to write arbitrary fractions: $\frac{1}{2}$ $\frac{325}{1000}$. numr and dnom do the same: $\frac{1}{72.27}$
(with a bit more work); but if you set 1/72.27 with frac it comes out funny: $\frac{1}{72.27}$. Use
U+2044 ‘fraction slash’ for the bar with numr and dnom.
- Small caps: smcp replaces lower case letters with small caps: XeTeX → XETeX. c2sc replaces
upper case letters with small caps: XETEX → XETeX.
- Historical ligatures (hlig): standard, a^ct^a s^pea^k, s^kie^s, s^tan^dard, s^ele^ct
- Contextual ligatures (clig): finalis, ligatures, humus, rosas
- Discretionary ligatures (dlig): controls the ‘Th’ ligature: The quick brown fox

- Contextual alternates (`ca1t`): this tag controls the behaviour of the ascender of ‘f’. Where f would collide with a diacritic, a version of f with a shorter ascender is used: ich fahre, du fährst. Similarly with ‘long s’ (f). This tag also controls the length of the tail of ‘Q’: Qui, Quis, Quo, IRAQ.
- Swash letters (`swsh`): *A B C D E F G H I J K L M N O P Q R S T U V W X Y Z*
- In some Renaissance printing an initial u or v was printed as ‘v’, medial and final u or v as ‘u’. `ss02` converts initial u or v to v; in other positions u or v is always u: Vt sæpe homines ægri morbo graui, cum æstu febrigue iactantur, si aquam gelidam biberunt, primo releuari videntur, deinde multo grauius vehementiusque adflctantur, sic hic morbus qui est in re publica releuatus istius pœna vehementius reliquis viuis ingrauescet.
- `cv01` seems to be clever enough to distinguish between initial and medial ‘f’ and terminal ‘s’ (cf. `hist` ‘historical forms’ in the file `pa1a.tex`): Quo usque tandem abutere, Catilina, patientia nostra? quam diu etiam furor iste tuus nos eludet? The long s fell out of use in the late eighteenth century.

OpenType fonts can also have script tags (usually four letters long) and language tags (usually three letters long), e.g. under the Latin script (`latn`), there are German (`deu`), Catalan (`cat`), Turkish (`trk`) etc language system tags. I’m not sure what they actually do though. See pages 7–11 of [xetexmain.pdf](#).

Some features specific to X₃TEX (not part of the OpenType spec):

- Colour: **red green blue yellow**, etc.
- Letterspacing: I need more space. Entering negative values for `letterspace` squeezes letters closer together.
- Emboldening (computer-generated bold): **Fatter** and **fatter** and **fatter**.
- Extending: **Stretch** and **stretch** and **stretch**.
- Slant (computer-generated slanted roman): *Falling falling falling*. If you enter a negative value for `slant`, the letters will slant to the left. You could also use a negative slant to make a non-slanted italic: *back up again*.
- `mapping=tex-text` means traditional T_EX mark-up such as `` ’`, ``` ’’`, `--`, `---` will be converted to the proper typographic glyphs: ‘ ’, “ ”, –, —. Mark up for Spanish punctuation (`!` ?` → ¡ ¿`) is also controlled by this.