

The Computer Modern Bright fonts and the LaTeX package cmbright

Walter Schmidt*

(v7.1 – 2002/05/25)

Contents

1	The CM Bright fonts	1
2	The LaTeX macro package cmbright	2
2.1	Description	2
2.2	Package options	2
2.3	Font encoding	2
2.4	Scaling of the ‘large’ math symbols	2
2.5	Known bugs and deficiencies	3
3	NFSS classification of the fonts	3

1 The CM Bright fonts

‘Computer Modern Bright’ is a family of sans serif fonts, based on Donald Knuth’s CM fonts. It includes OT1, T1 and TS1 encoded text fonts of various shapes as well as all the fonts necessary for mathematical typesetting, incl. the AMS symbols.

CM Bright has been designed as a well legible standalone font. It is ‘lighter’ and less obtrusive than CM Sans Serif, which, in contrast, is more appropriate for markup purposes within a CM Roman environment.

Together with CM Bright there comes a family of typewriter fonts, named ‘CM Typewriter Light’, which look better in combination with CM Bright than the ordinary cmtt fonts would do.

The CM Bright fonts in METAFONT format are distributed free from the CTAN archives, directory `fonts/cmbright`.

The fonts are also available in Type1 format from MicroPress Inc, see `<http://www.micropress-inc.com/fonts/brmath/brmain.htm>`.

*was@VR-Web.de

2 The LaTeX macro package cmbright

2.1 Description

The LaTeX macro package cmbright supports typesetting with the font family CM Bright. Loading the package

```
\usepackage{cmbright}
```

effects the following:

- The default sans serif font family for typesetting text and math is changed to cmbr, i.e. CM Bright.
- The sans serif font family is made the default one.
- A new mathematical alphabet `\mathbfold` provides bold slanted letters, including uppercase and lowercase Greek.
- The packages `amsfonts` or `amssymb`, when loaded additionally, will use the ‘CM Bright’ versions of the AMS symbol fonts.

Notice that you may still have to specify the option `psamsfonts` for these packages, so as to prevent them from using design sizes of the CM Math Extension and Euler Fraktur fonts, which may be unavailable within your TeX system; this works flawlessly with version 7.1 of the cmbright package now.

- The default typewriter font family is changed to `cmtl`, i.e. CM Typewriter Light.
- The line spacing (`\baselineskip`) for the font sizes 8–12 pt is increased to approx. $1.25 \times$ size.

2.2 Package options

`standard-baselineskips` This option prevents the package from enlarging the default line spacing. See the below section 2.5.

`slantedGreek` When the macro package is loaded using this option, uppercase Greek letters will, by default, be slanted. Regardless of the option the new commands `\upDelta` and `\upOmega` will *always* provide an upright Δ and Ω .

2.3 Font encoding

The package does *not* change the default output font encoding from OT1. It is, however, recommended to make use of CM Bright through the extended T1 and TS1 encodings, since doing so does not imply any drawback.

2.4 Scaling of the ‘large’ math symbols

In order to achieve proper scaling of the ‘large’ math symbols, you may load the packages `exscale`, `amsfonts` or `amssymb` additionally; they work in conjunction with cmbright, too.

2.5 Known bugs and deficiencies

- The automatic adaption of the line spacing was provided for the sake of convenience. Meanwhile it turned out that it causes many obscure problem, particularly in conjunction with other macro packages or with ‘moving arguments’. Furthermore, the need to enlarge the default line spacing depends on the line width. We recommend to disable the feature by loading the package with the option `standard-baselineskips`. and take care of the appropriate line spacing by use of the `\linespread` command, if necessary.
- There is no ‘bold’ `\mathversion` to bolden complete formulae. (See, however, the mathematical alphabet `\mathbold`.)
- The `textcomp` package, if required, must be input *after* `cmbright`, otherwise the symbol ® (`\textregistered`) is not taken from the text companion font. The same problem might occur, if (e.g. with future versions of LaTeX) the TS1 encoding is included in the LaTeX format. In both cases the symbol is typeset in roman style, instead of sans serif.
- Within the mathematical mode the symbol \$ is treated as a text symbol, so its size and the surrounding space might be wrong under some circumstances.
- The package `oldfont` cannot be used in conjunction with `cmbright`. (There should be no real need for doing so!)
- The package `newfont`, if used in conjunction with the CM Bright fonts, must be input before `cmbright`.

Table 1: NFSS classification of the Computer Modern Bright fonts

encoding	family	series	shape(s)
<i>CM Bright</i>			
OT1, T1, TS1	cmbr	m	n, sl
T1, TS1	cmbr	sb	n, sl
OT1, T1, TS1	cmbr	bx	n
<i>CM Typewriter Light</i>			
OT1, T1, TS1	cmtl	m	n, sl
<i>CM Bright Math</i>			
OML	cmbrm	m, b	it
OMS	cmbrs	m	n
<i>CM Bright AMS A, B</i>			
U	msa, msb	m	n

3 NFSS classification of the fonts

Table 1 lists the font series and shapes available in the CM Bright and CM Typewriter Light families. Notice, that

- the `bx` series of the text fonts is supported at sizes of 9 pt and above only;
- the usual font substitutions are set up so as to map OML and OMS encoded text fonts to the math fonts;
- there is no special CM Bright font for the ‘extensible math symbols’; OMX/cmex should be used instead;
- the font definitions for the AMS fonts are part of the package `cmbright`; there are no separate `.fd` files.