

The `lcyw` package

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Abstract

This package is used to provide L^AT_EX support for Cyrillic CM Type 1 fonts (`wcm*.vf`) which are presented in every T_EX distribution.

1 Definitions for the LCYW encoding

This provides Russian/Bulgarian languages support for L^AT_EX users at the base of the Type 1 copies (Cyrillic part by B. Malyshev) of classic CM fonts (OT1 part by D. E. Knuth, Cyrillic part by A. Samarin & N. Glonti) which present in all T_EX distributions. These virtual fonts are using ‘T_EX text Cyrillic’ (LCYW) encoding. They provide only support for OT1 encoding, numero sign, and Russian alphabets symbols.

However LCYW option to `fontenc` is not enough to provide copy & search features of the pdf viewers because standard `cmap` package lacks support for the virtual fonts. The LCYW encoding companion package `cmap-cyr-vf` should be used together with `cmap` package to provide such support.

The LCYW encoding is an extension of the OT1 encoding: all lower 128 positions are the same (and this part of the file `lcywenc.def` was mostly taken from `ot1enc.def`) but 67 of the upper 128 positions are used for Cyrillic glyphs and the numero sign (U+2116). The upper positions (192–255) are the same as in the most popular T2A encoding for main 64 (32 capital + 32 small) letters of Russian alphabet. The positions for other symbols are: `\CYRYO` — 168, `\cyryo` — 184, `\textnumero` — 185.

Important note: Unlike old LCY font encoding LCYW is completely *compatible* with the L^AT_EX 2_ε standards.

2 A Unicode support companion package for the LCYW encoding

Use `cmap-cyr-vf.sty` to provide copy & find features of pdf viewers. Just place `\usepackage{cmap-cyr-vf}` to the preamble of a document. This style file uses `koi7a.cmap` file. It provides support for all Cyrillic Type 1 fonts by B. Malyshev in the following virtual fonts: `kcm*.vf`, `wcm*.vf` (used by this package), `xcmr*.vf`,

and `ycmr*.vf`. These virtual fonts give the same symbols set but in the different encodings (see `cmap-cyr-vf.sty` for more details). The LCYW encoding is directly taken from `wcm*.vf`.

This style may be used separately from LCYW encoding to direct Unicode support for any of the mentioned above virtual fonts, e. g., in the MetaPost programs.

3 A PDF cmap file to support Unicode mapping of LCYW fonts

The file `koi7a.cmap` sets the following font symbol positions Unicode mapping.

19	Numero sign	U+2116
1D	Left-pointing double angle quotation	U+00AB
1E	Right-pointing double angle quotation	U+00BB
3C	Cyrillic small letter io (it is missed in some fonts)	U+0451
3E	Cyrillic capital letter io	U+0401
40–7E	KOI-7 Standard	
7F	Cyrillic capital letter hard sign	U+042A