

arsenal– \LaTeX support of Arsenal fonts by Andrij Shevchenko

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Abstract

Arsenal is the font created by Andrij Shevchenko. It won Ukrainian Type Design Competition ‘Mystetsky Arsenal’ in 2011. This package provides \LaTeX support for it and matching math fonts.

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1 User manual

1.1 Introduction

In 2011 the Ukrainian Type Design Competition “Mystetsky Arsenal” (<http://www.ukrainian-type.com/about/>) was won by the font by Andrij Shevchenko. The competition was aimed at the creation of a modern practical font based on Ukrainian traditions. The winner is remarkable for its clarity and clean shapes.

Later the font was extended by Alexei Vanyashin & cyreal.org, Nhung Nguyen, and Marc Foley (see <https://github.com/alexeiva/Arsenal>). The font now supports a large number of languages with Latin and Cyrillic alphabet, it has real small caps, historic forms, swash capitals and many other features.

This package provides \LaTeX interface for the font. The math support is provided by ArsenalMath package by Rajeesh KV [KV \[2025\]](#).

Since the font is in OTF format, you do need a Unicode engine like Xe \LaTeX or Lua \LaTeX to use it.

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1.2 Package options

<hr/> <code>default</code>	The options for the package use the key-value interface. The part <code>=true</code> for the boolean options can be dropped.
<code>sfdefault</code>	
<code>math</code>	The following options are recognized:
<code>scale</code>	
<code>Scale</code>	default whether to make Arsenal the main font of the document, either <code>true</code> (the default) or <code>false</code> .
	sfdefault whether to make Arsenal the sans serif font of your document, either <code>true</code> or <code>false</code> (the default).
	math whether to enable math support, either <code>true</code> or <code>false</code> . By default <code>true</code> if Arsenal is the main font, and <code>false</code> otherwise. Historically Arsenal provided the options to use KpSans and Iwona for math. Since Rajeesh KV wrote the package KV [2025] , they are obsolete.
	scale the scale for the font, by default 0.89. The option <code>Scale</code> is a synonym.

1.3 Font features

<hr/> <code>\arsenalfamily</code>	<code>\arsenalfamily <text></code>
<code>\textarsenal</code>	<code>\textarsenal{<text>}</code>
	The font provides the commands <code>\arsenalfamily</code> and <code>\textarsenal</code> for selecting the font. Alternatively, the NFSS commands <code>\fontfamily{arsenal}\selectfont</code> can be used to select Arsenal family.
	The font has normal and <i>italic</i> shapes, as well as bolded bold and bold italic . It has <small>SMALL CAPS</small> , <i>ITALIC SMALL CAPS</i> , BOLD SMALL CAPS and BOLD ITALIC SMALL CAPS . They are selected by the standard \TeX commands.

<hr/> <code>\swshape</code>	The font has Swash shape, selected by the commands <code>\swshape</code> and <code>\textsw</code> . There are both normal and bold versions: <i>S'WASH</i> , Bold S'WASH . Moreover, there is an italic version <i>S'WASH</i> , Bold S'WASH , and even a small caps version <small>SWASH</small> , BOLD SWASH .
<code>\textsw</code>	The font has other features, such are two alternate forms and historic style. They can be selected by the <code>fontspec</code> [Robertson and The \TeX Project Team, 2022] commands like <code>\addfontfeatures{Style=Historic}</code> or <code>\addfontfeatures{Alternate=1}</code> .

1.4 Special symbols in text

<hr/> <code>\texthryvnia</code>	The font has common currency characters, like <code>\textdollar</code> (\$), <code>\textyen</code> (¥), <code>\textsterling</code> (£), <code>\texteuro</code> (€). It also defines several less common currency characters: <code>\texthryvnia</code> (₺),
<code>\texttugrik</code>	<code>\texttugrik</code> (₸), <code>\texttenge</code> (₸), <code>\textruble</code> (₽).
<code>\texttenge</code>	
<code>\textruble</code>	
<hr/> <code>\textaldine</code>	The font has <code>\textnumero</code> sign: N ^o . It also defines some less common characters: <code>\textaldine</code> (Ꞻ),
<code>\textsmilewhite</code>	<code>\textsmilewhite</code> (☺) <code>\textsmileblack</code> (☹).
<code>\textsmileblack</code>	

2 Implementation

2.1 Setting up

First, we declare who we are:

```
1 <@@=arsenal>
2 <*package>
3 \ProvidesExplPackage {arsenal}
4 {2025-10-13} {v1.0}
5 {Arsenal font by Andrij Shevchenko}
```

2.2 Options

default We cannot define `math` to set a boolean, since we want to process the case when it is not set and look at the default options and also process obsolete options as well. Thus this option sets a token list, which happens to contain `true` and `false`.

sfdefault

math

scale

Scale

```
6 \tl_new:N \l__arsenal_math_tl
7 \keys_define:nn {arsenal}
8 {
9   default .bool_set:N = \l__arsenal_default_bool,
10  default .default:n = true,
11  sfdefault .bool_set:N = \l__arsenal_sfdefault_bool,
12  sfdefault .default:n = true,
13  math .choices:nn = {true, false, none, arsenal+kpsans, kpsans, iwona}
14  {\tl_set_eq:NN \l__arsenal_math_tl \l_keys_choice_tl },
15  scale .tl_set:N = \l__arsenal_scale_tl,
16  Scale .tl_set:N = \l__arsenal_scale_tl,
17 }
18 \keys_set:nn { arsenal }
19 {
20   default=true,
21   sfdefault = false,
22   scale = 0.89,
23 }
24 \tl_clear:N \l__arsenal_math_tl
```

(End of definition for `default` and others. These variables are documented on page 2.)

Processing options

```
25 \IfFormatAtLeastTF { 2022-06-01 }
26 { \ProcessKeyOptions [ arsenal ] }
27 {
28   \RequirePackage { l3keys2e }
29   \ProcessKeysOptions { arsenal }
30 }
```

And setting up `math`

```
31 \tl_if_empty:NT \l__arsenal_math_tl
32 {
33   \bool_if:NTF \l__arsenal_default_bool
34   {
35     \tl_set:Nn \l__arsenal_math_tl {true}
36   }
37   {
38     \tl_set:Nn \l__arsenal_math_tl {false}
```

```

39 }
40 }

```

2.3 Setting up font

```

41 \RequirePackage{fontspec}
42 \newfontfamily\arsenalfamily{Arsenal-Regular.otf}
43 [
44   NFSSFamily=arsenal,
45   Ligatures=TeX,
46   Scale=\l__arsenal_scale_tl,
47   ItalicFont = Arsenal-Italic.otf,
48   BoldFont = Arsenal-Bold.otf,
49   BoldItalicFont = Arsenal-BoldItalic.otf,
50   SwashFont = Arsenal-Regular.otf,
51   SwashFeatures={Style=Swash},
52   BoldSwashFont = Arsenal-Bold.otf,
53   BoldSwashFeatures={Style=Swash},
54   FontFace = {m}{itsw}{Font = Arsenal-Italic.otf, Style=Swash},
55   FontFace = {b}{itsw}{Font = Arsenal-BoldItalic.otf, Style=Swash},
56 ]

```

Checking whether we want the font to be default

```

57 \bool_if:NT \l__arsenal_default_bool
58 {
59   \renewcommand\rmdefault{arsenal}
60 }
61
62 \bool_if:NT \l__arsenal_sfdefault_bool
63 {
64   \renewcommand\sfddefault{arsenal}
65 }

```

\textarsenal

```

66 \DeclareTextFontCommand{\textarsenal}{\arsenalfamily}

```

(End of definition for \textarsenal. This function is documented on page 2.)

Swash changing rules

```

67 \DeclareFontShapeChangeRule {sw}{it} {itsw} {it}
68 \DeclareFontShapeChangeRule {it}{sw} {itsw} {sw}

```

Special characters, absent in the default

\texthryvnia

Currency symbols

\texttugrik

```

69 \DeclareUnicodeSymbol{\texthryvnia} {"20B4}

```

\texttenge

```

70 \DeclareUnicodeSymbol{\texttugrik} {"20AE}

```

\textruble

```

71 \DeclareUnicodeSymbol{\texttenge} {"20B8}

```

```

72 \DeclareUnicodeSymbol{\textruble} {"20BD}

```

(End of definition for \texthryvnia and others. These functions are documented on page 2.)

\textaldine

Other symbols

\textsmilewhite

```

73 \DeclareUnicodeSymbol{\textaldine} {"2767}

```

\textsmileblack

```

74 \DeclareUnicodeSymbol{\textsmilewhite} {"263A}

```

```

75 \DeclareUnicodeSymbol{\textsmileblack} {"263B}

```

(End of definition for \textaldine, \textsmilewhite, and \textsmileblack. These functions are documented on page 2.)

2.4 Math

Obsolete options produce a warning

```

76 \tl_if_eq:NnT \l__arsenal_math_tl {iwona}
77 {
78   \ClassWarningNoLine{arsenal}{Option~math=iwona ~ is~obsolete.~
79     Switching~to~the~native~Arsenal~math}
80   \tl_set:Nn \l__arsenal_math_tl {true}
81 }
82 \tl_if_eq:NnT \l__arsenal_math_tl {kpsans}
83 {
84   \ClassWarningNoLine{arsenal}{Option~math=kpsans ~ is~obsolete.~
85     Switching~to~the~native~Arsenal~math}
86   \tl_set:Nn \l__arsenal_math_tl {true}
87 }
88 \tl_if_eq:NnT \l__arsenal_math_tl {arsenal+kpsans}
89 {
90   \ClassWarningNoLine{arsenal}{Option~math=arsenal+kpsans ~ is~obsolete.~
91     Switching~to~the~native~Arsenal~math}
92   \tl_set:Nn \l__arsenal_math_tl {true}
93 }

```

We use Arsenal Math:

```

94 \tl_if_eq:NnT \l__arsenal_math_tl {true}
95 {
96   \RequirePackage{unicode-math}
97   \setmathfont[BoldFont=ArsenalMath-SansBold.otf,
98     Scale=\l__arsenal_scale_tl]{ArsenalMath-Sans.otf}
99 }
100
101 </package>

```

References

Rajeesh KV. *The ArsenalMath package. Arsenal Math OpenType fonts*, 2025. URL <https://ctan.org/pkg/arsenal-math>.

Will Robertson and The \TeX Project Team. *The fontspec package*, 2022. URL <https://ctan.org/pkg/fontspec>.

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The italic numbers denote the pages where the corresponding entry is described, numbers underlined point to the definition, all others indicate the places where it is used.

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Change History

v0.2		v1.0	
General: Added arsenal+kpsans value for math option	2	General: Made math option boolean	2
		\l__arsenal_scale_tl : Made math option pseudoboollean	3