POSTSCRIPT™
Software From Adobe

Adobe Standard Cyrillic Font Specification

Adobe Developer Support

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Contents

Adobe Standard Cyrillic Font Specification

1 Introduction

This document describes the Adobe™ Standard Cyrillic font specification and is comprised of four sections:

Glyph Names
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In addition, the Appendices contain the following tables:

Appendix A: Adobe Standard Cyrillic glyph names
Appendix B: Macintosh® Standard Cyrillic encoding.
Appendix C: Windows™ Standard Cyrillic encoding.
Appendix D: Adobe Standard Cyrillic glyph sets for regular and italic.

In this document, the terms *roman* and *regular* refer to the upright form of the alphabet, and *italic* to the cursive or obliqued form of the Cyrillic alphabet. The term *ASCII range* refers to code points x20-x7F in an encoding; *trans-ASCII range* refers to code points x80-xFF in an encoding.

2 Glyph Names

Adobe Cyrillic font programs use alphanumeric glyph ID’s as PostScript™ language glyph names rather than transliterated names. The glyph ID’s are of the form

afiinnnnn

where *afii* is an identifying acronym for the Association for Font Information Interchange (AFII), and *nnnnn* is a 1- to 10-digit decimal number glyph ID in the range 0 to (2^{32}–1), inclusive. The glyph ID is from an international glyph registry chartered by ISO 10036 (see section 2.1). Adobe will be using AFII ID numbers, whenever practical, in all non-composite fonts — with the exception of those which are already in the Standard Roman, Expert, and Symbol character sets (see the *PostScript Language Reference Manual, second edition*, pp. 596–605).

2.1 AFII and Glyph Identifiers

ISO-chartered AFII is a non-profit organization and the ISO registrar of the ISO 10036 glyph registry (entitled *Information technology – Font information interchange – Procedure for registration of glyph and glyph collection identifiers*). AFII has registered most glyphs from most living languages, including a large set of Chinese, Japanese, and Korean glyphs as well as a broad selection of mathematical symbols and dingbats. The AFII registry is an open registry, so any individual or organization can request the registration of a new glyph.

It is important to distinguish between a character encoding standard (such as ISO 10646 and Unicode) and a glyph registry, such as AFII's register. The former is concerned with textual entities, and the latter with graphic entities. The character registry is concerned with unique identification of elements in an electronic text stream (which allows lexical analysis and spell checking), the glyph registry with unique identification of the final printed form of one or more characters.

An example of the difference between characters and glyphs is the set of f-ligatures in Latin typography. The Latin ligature *ffi* is a graphic unit comprised of the three textual units *f*, *f*, and *i*. It should therefore properly be placed in a glyph registry, not in a character encoding standard. Alphabetic characters are uniquely identified in both since each character is both a textual unit and the final printed form of that character; while a swash variant of a character may be additionally identified in the glyph registry.

Inquiries about AFII membership or the Glyph Identifier Register can be addressed to:

AFII Registrar
P.O. Box 5328
Los Alamitos, CA 90720
USA

The register lists the identifiers in octal, decimal, and hexadecimal representations. Adobe's glyph names use the decimal representation of the AFII glyph identifier. Since other systems may use a hex or octal representations, any software interpreting AFII glyph identifiers in fonts other than Adobe's should check for use of an "x" or "O" in the glyph name to denote hex or octal, respectively.

2.2 Why Use AFII Glyph Identifiers?

Adopting an enumerative rather than a transliterative approach based on an existing international registry provides an efficient solution to the glyph naming problem for future fonts.

Cyrillic is an alphabet used by many languages, so transliteration alone is insufficient. Artificial constructs must be introduced to resolve phonetic ambiguity (for example, *cyrecie* v. *cyrecye*, *cyri* v. *cyrsovi*). Also, the cultural and political ramifications of using transliterated names can be a problem. These reasons beg the question of how suitable it is for English speakers to name glyphs used in non-Latin writing systems. AFII glyph id's are unambiguous, and politically and culturally neutral. Also, AFII is an ISO chartered international standard, and a glyph registry — which is appropriate for a font encoding.

Of course, transliterative names are indispensable when discussing non-Latin characters in English-only text (in a document such as this one, or in electronic mail), or when composing a document with a mark-up language such as SGML. However, transliteration schemes have already been devised by librarians and scholars, and public entity sets already exist for SGML.

3 Encodings

Adobe Cyrillic font programs are encoded according to Apple's Cyrillic encoding for the Macintosh and Microsoft's Windows Cyrillic encoding for Windows on the PC. Both encodings have the ASCII character set in common. A small change was made in the ASCII range for consistency with these encodings.

3.1 The ASCII Encoding

Originally, *quoteright* was encoded at x27 and *quoteleft* at x60, as in Adobe's StandardEncoding character set. This was changed for consistency with the Apple® and Microsoft® Cyrillic character sets: *quotesingle* is encoded at x27, and the *grave* is encoded at x60. The displaced glyphs *quoteright* and *quoteleft* are both encoded in the trans-ASCII range (see the Macintosh and Windows Cyrillic encoding charts in Appendices B and C for the respective positions of those characters in each encoding).

3.2 Microsoft's Windows Cyrillic Encoding

Microsoft's Cyrillic encoding consists of Cyrillic glyphs added to the trans-ASCII range of the Windows 3.1 enhanced ANSI encoding. The majority of these additions overlaid accented Latin characters; thus preserving most of the typesetting symbols Microsoft added for Windows 3.1 in the x80-x9F range. In addition, several other symbols and punctuation characters in positions higher than x9F were retained (see the Windows Cyrillic encoding in Appendix C). The Windows Cyrillic encoding is registered as IBM code page 1251.

3.3 Macintosh Encoding

Apple has similarly based their Cyrillic encoding on their standard Latin encoding. As a result, Apple's and Microsoft's Cyrillic encodings are not the same.

The Macintosh encoding retains the ASCII character set as well as certain symbol and punctuation characters from the Macintosh Standard Latin encoding (see the Macintosh Encoding in Appendix B).

3.4 Alternate Encodings and Unencoded Glyphs

Although Adobe's PC and Macintosh Cyrillic font products are shipped with the default encodings mentioned above, it is worth stressing that every font will contain all glyphs in the Adobe Standard Cyrillic glyph set, regardless of the encoding used. (See Appendix D).

Adobe's Cyrillic glyph set contains more glyphs than are necessary for Apple's and Microsoft's Cyrillic encodings, in the hope that future operating systems will allow user access to those glyphs. For example, because of the lack of provision for stressed vowels, neither Apple's nor Microsoft's Cyrillic encoding works well for educators or publishers of dictionaries, children's books, or poetry. The absence of pre-orthographic reform characters (*jat*', *fita*, *izhica*) makes them unsuitable for some émigré publishing as well.

4 Glyph Complement

There are 261 glyphs in the Adobe Standard Cyrillic Regular glyph set, and 265 in the Italic. Common to both are ASCII glyphs, Cyrillic glyphs, symbols and punctuation, and floating accents. The discrepancy between Regular and Italic is because of the Serbian variants of certain lowercase letters.

4.1 ASCII Glyph Set

The glyph *quotesingle* was added for consistency with the Apple and Microsoft Cyrillic character sets (see Encoding above).

4.2 Cyrillic Glyph Set

Adobe Standard Cyrillic includes all modern Slavic Cyrillic letters, as well as three early Cyrillic forms: *jat'*, *fita*, and *izhica* (both upper- and lowercase). It also includes Serbian variants of various lowercase letters: 'b' in both regular and italic, and *cyrg*, *cyrd*, *cyrp*, and *cyrt* in italic only. Adobe Standard Cyrillic does not include non-Slavic Cyrillic letters.

4.3 Symbols & Punctuation

Twenty-one symbols and punctuation marks are included beyond those in the ASCII set: *approxequal*, *brokenbar*, *dagger*, *daggerdbl*, *Delta*, *divide*, *florin*, *greaterequal*, *guilsinglleft*, *guilsinglright*, *infinity*, *lessequal*, *logicalnot*, *mu*, *partialdiff*, *periodcentered*, *perthousand*, *plusminus*, *quotesinglbase*, *radical*, and *schwa* (which, since it is cloned from the Non-Slavic Cyrillic set, is named *afii10846*). Most of these were included solely for compatibility with the Apple and Microsoft Cyrillic character sets.

Floating accents

Upper- and lowercase *caron* (*Caron, caron*) were added, for transliteration work. Uppercase versions of all accents in the set were also added (*Acute*, *Dieresis*, *DieresisAcute*, *DieresisGrave*, *Grave*, *Hungarumlaut*, *Macron*, *cyrBreve*, and *cyrFlex*) to provide for the composition of stressed vowels.

Stressed vowels are essential to slavic language texts, children's books, and dictionaries, and are also sometimes used in poetry. Until an application is available which composes composite characters using floating accents the sophisticated user may use an outline font editor or a composite character building utility to pre-build stressed vowels. Another solution is to use the accents in a re-encoded font to build stressed vowels on the fly, using kerning pairs in an application which supports them.

5 Keyboard Layouts

Both Macintosh and PC versions of Adobe's Cyrillic fonts are supplied with seven default keyboard layouts: Russian, Transliterated Russian, Ukrainian, Belorussian, Bulgarian, Serbian, and Macedonian.

Appendix A: Adobe Standard Cyrillic Glyph Names

Cyrillic Glyph Names: Uppercase

А	afii10017	Б	afii10018	В	afii10019
Г	afii10020	Д	afii10021	Е	afii10022
Ё	afii10023	Ж	afii10024	З	afii10025
И	afii10026	Й	afii10027	К	afii10028
Л	afii10029	М	afii10030	Н	afii10031
О	afii10032	П	afii10033	Р	afii10034
С	afii10035	Т	afii10036	У	afii10037
Ф	afii10038	Х	afii10039	Ц	afii10040
Ч	afii10041	Ш	afii10042	Щ	afii10043
Ъ	afii10044	Ы	afii10045	Ь	afii10046
Э	afii10047	Ю	afii10048	Я	afii10049
Ґ	afii10050	Ђ	afii10051	Ѓ	afii10052
Є	afii10053	Ѕ	afii10054	І	afii10055

Ї	afii10056	Ј	afii10057	Љ	afii10058
Њ	afii10059	Ћ	afii10060	Ќ	afii10061
Ў	afii10062	Џ	afii10145	Ѣ	afii10046
Ѳ	afii10147	Ѵ	afii10148		

Cyrillic Glyph Names: Lowercase

а	afii10065	б	afii10066	в	afii10067
г	afii10068	д	afii10069	е	afii10070
ё	afii10071	ж	afii10072	з	afii10073
и	afii10074	й	afii10075	к	afii10076
л	afii10077	м	afii10078	н	afii10079
о	afii10080	п	afii10081	р	afii10082
с	afii10083	т	afii10084	у	afii10085
ф	afii10086	х	afii10087	ц	afii10088
ч	afii10089	ш	afii10090	щ	afii10091
ъ	afii10092	ы	afii10093	ь	afii10094
э	afii10095	ю	afii10096	я	afii10097
ґ	afii10098	ђ	afii10099	ѓ	afii10100

є	afii10101	ѕ	afii10102	і	afii10103
ї	afii10104	ј	afii10105	љ	afii10106
њ	afii10107	ћ	afii10108	ќ	afii10109
ў	afii10110	џ	afii10193	ѣ	afii10194
ѳ	afii10195	ѵ	afii10196	б	afii10064
ī	afii10063	ɡ	afii10192	ū	afii10831
ш̄	afii10832				

Accent Glyph Names

´	Acute	´	acute	ˇ	Caron
ˇ	caron	˘	cyrBreve	˘	cyrbreve
⌒	cyrFlex	⌒	cyrflex	˵	dblGrave
˵	dblgrave	¨	Dieresis	¨	dieresis
΅	DieresisAcute	΅	dieresisacute	῭	DieresisGrave
῭	dieresisgrave	`	Grave	`	grave
˝	Hungarumlaut	˝	hungarumlaut	¯	Macron
¯	macron				

ASCII Glyph Names

	space	!	exclam	"	quotedbl
#	numbersign	$	dollar	%	percent
&	ampersand	'	quotesingle	(	parenleft
)	parenright	*	asterisk	+	plus
,	comma	-	hyphen	.	period
/	slash	0	zero	1	one
2	two	3	three	4	four
5	five	6	six	7	seven
8	eight	9	nine	:	colon
;	semicolon	<	less	=	equal
>	greater	?	question	@	at
A	A	B	B	C	C
D	D	E	E	F	F
G	G	H	H	I	I
J	J	K	K	L	L
M	M	N	N	O	O

ASCII Glyph Names

P	P	Q	Q	R	R
S	S	T	T	U	U
V	V	W	W	X	X
Y	Y	Z	Z	[	bracketleft
\	backslash	]	bracketright	^	asciicircum
_	underscore	`	grave	a	a
b	b	c	c	d	d
e	e	f	f	g	g
h	h	i	i	j	j
k	k	l	l	m	m
n	n	o	o	p	p
q	q	r	r	s	s
t	t	u	u	v	v
w	w	x	x	y	y
z	z	{	braceleft	|	bar
}	braceright	~	asciitilde		

Symbol and Punctuation Glyph Names

Δ	Delta	≈	approxequal	¦	brokenbar
•	bullet	¢	cent	©	copyright
¤	currency	†	dagger	‡	daggerdbl
°	degree	÷	divide	ı	dotlessi
…	ellipsis	—	emdash	–	endash
ƒ	florin	≥	greaterequal	«	guillemotleft
»	guillemotright	‹	guilsinglleft	›	guilsinglright
∞	infinity	≤	lessequal	¬	logicalnot
µ	mu	¶	paragraph	∂	partialdiff
·	periodcentered	‰	perthousand	±	plusminus
„	quotedblbase	“	quotedblleft	”	quotedblright
‘	quoteleft	’	quoteright	‚	quotesinglbase
√	radical	®	registered	§	section
£	sterling	™	trademark	¥	yen
№	afii61352				

Appendix B: Macintosh Standard Cyrillic Encoding

0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
10	11	12	13	14	15	16	17	18	19	1A	1B	1C	D	1E	1F
20	21	22	23	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F
	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/
30	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	51	52	53	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F
P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	61	62	63	64	65	66	67	68	69	6A	6B	6C	6D	6E	6F
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	71	72	73	74	75	76	77	78	79	7A	7B	7C	7D	7E	7F
p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	
80	81	82	83	84	85	86	87	88	89	8A	8B	8C	8D	8E	8F
А	Б	В	Г	Д	Е	Ж	З	И	Й	К	Л	М	Н	О	П
90	91	92	93	94	95	96	97	98	99	9A	9B	9C	9D	9E	9F
Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	AA	AB	AC	AD	AE	AF
†	°	Ґ	£	§	•	¶	І	®	©	™	Ђ	ђ	≠	Ѓ	ѓ
B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	BA	BB	BC	BD	BE	BF
∞	±	≤	≥	і	µ	ґ	Ј	Є	є	Ї	ї	Љ	љ	Њ	њ
C0	C1	C2	C3	C4	C5	C6	C7	C8	C9	CA	CB	CC	CD	CE	CF
ј	Ѕ	¬	√	ƒ	≈	∆	«	»	…		Ћ	ћ	Ќ	ќ	ѕ
D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	DA	DB	DC	DD	DE	DF
–	—	“	”	‘	’	÷	„	Ў	ў	Џ	џ	№	Ё	ё	я
E0	E1	E2	E3	E4	E5	E6	E7	E8	E9	EA	EB	EC	ED	EE	EF
а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п
F0	F2	F2	F3	F4	F5	F6	F7	F8	F9	FA	FB	FC	FD	FE	FF
р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	¤

Appendix C: Windows Standard Cyrillic Encoding

0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
10	11	12	13	14	15	16	17	18	19	1A	1B	1C	D	1E	1F
20	21	22	23	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F
	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/
30	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	51	52	53	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F
P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	61	62	63	64	65	66	67	68	69	6A	6B	6C	6D	6E	6F
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	71	72	73	74	75	76	77	78	79	7A	7B	7C	7D	7E	7F
p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	
80	81	82	83	84	85	86	87	88	89	8A	8B	8C	8D	8E	8F
Ђ	Ѓ	‚	ѓ	„	…	†	‡		‰	Љ	‹	Њ	Ќ	Ћ	Џ
90	91	92	93	94	95	96	97	98	99	9A	9B	9C	9D	9E	9F
ђ	‘	’	“	”	•	–	—		™	љ	›	њ	ќ	ћ	џ
A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	AA	AB	AC	AD	AE	AF
	Ў	ў	Ј	¤	Ґ	¦	§	Ё	©	Є	«	¬	-	®	Ї
B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	BA	BB	BC	BD	BE	BF
°	±	І	і	ґ	µ	¶	·	ё	№	є	»	ј	Ѕ	ѕ	ї
C0	C1	C2	C3	C4	C5	C6	C7	C8	C9	CA	CB	CC	CD	CE	CF
А	Б	В	Г	Д	Е	Ж	З	И	Й	К	Л	М	Н	О	П
D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	DA	DB	DC	DD	DE	DF
Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
E0	E1	E2	E3	E4	E5	E6	E7	E8	E9	EA	EB	EC	ED	EE	EF
а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п
F0	F2	F2	F3	F4	F5	F6	F7	F8	F9	FA	FB	FC	FD	FE	FF
р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я

Appendix D: Adobe Standard Cyrillic Glyph Sets for Regular and Italic

Adobe Cyrillic Regular Glyph Complement

!"#$%&'()*+,-.0123456789:;<=>?@

ABCDEFGHIJKLMNOPQRSTUVW

XYZ[\]^_`abcdefghijklmnopqrstuv

wxyz{|}~ЂЃ,ѓ„…†‡‰Љ‹ЊЌЋЏђ‘’

“”•–—™›њќћџ¯ЎўЈ¤Ґ¦§Ё©Є«¬ә®Ї°

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МНОПРСТУФХЦЧШЩЪЫЬЭЮЯ

абвгдежзийклмнопрстуфхцчшщъ

ыьэюя ´ˇΔ¨˝˝`˝¯´δѢѲѴѣѳѵә≈ˇ¢˘ˆ˘ˆ

`˵¨˝˝÷ıƒ≥″∞≤¯≠∂√£¥

Adobe Cyrillic Italic Glyph Complement

!"#$%&'()+,-.0123456789:;<=>?@*

ABCDEFGHIJKLMNOPQRSTUVW

XYZ[\]^_`abcdefghijklmnopqrstuvw

xyz{|}~ЂЃ‚ѓ„…†‡‰Љ‹ЊЌЋЏђ‘’“”

•–—™љ›њќћџ ЎўЈ¤Ґ¦§Ё©Є«¬-®Ї°±

Iiґµ¶·ё№є»јЅѕїАБВГДЕЖЗИЙКЛ

МНОПРСТУФХЦЧШЩЪЫЬЭЮЯ

абвгдежзийклмнопрстуфхцчшщъ

ыьэюя ˊˇΔ¨ ̤ ̤ ˋ˝¯ ´ īδѢѲѴǥђѳѵӣѿә

≈ˬ¢˘⁀˘⁀ ̏ ̏ ¨ ̤ ̤÷ıƒ≥″∞≤ˉ∂√£¥

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