

Universal Multiple-Octet Coded Character Set
International Organization for Standardization
Organisation Internationale de Normalisation
Международная организация по стандартизации

Doc Type: Working Group Document**Title: Revised Proposal to encode historic currency signs of Russia in the UCS****Authors: Yuri Kalashnov, Ilya Yevlampiev, Karl Pentzlin, Roman Doroshenko****Status: Individual Contribution****Action: For consideration by JTC1/SC2/WG2 and UTC****Date: 2011-10-18****Replaces: L2/11-273** (*discussion reworked; typeset examples added; proposed characters unchanged*)**Block: Currency Symbols**


U+20BB IMPERIAL RUBLE SIGN
· used in Russia from the 18th to 19th century



U+20BC IMPERIAL KOPECK SIGN
· used in Russia from the 18th to 19th century



U+20BD COMBINING MUSCOVY RUBLE SIGN
= combining imperial ruble sign
· used in Russia from the 17th to 18th century



U+20BE COMBINING MUSCOVY Denga SIGN
· used in Russia from the 17th to 18th century

Properties:

20BB;IMPERIAL RUBLE SIGN;Sc;0;ET;;;;;N;;;;;
20BC;IMPERIAL KOPECK SIGN;Sc;0;ET;;;;;N;;;;;
20BD;COMBINING MUSCOVY RUBLE SIGN;Mn;230;NSM;;;;;N;;;;;
20BE;COMBINING MUSCOVY Denga SIGN;Mn;230;NSM;;;;;N;;;;;

1. Introduction

The proposed characters are needed to digitize and cite documents like the one shown in fig. 1 to enable scientific work and publications especially by palaeographers, historians and economists, as well as to make such sources available to the general public by printed and electronic publications.

1.1 The Muscovy currency signs

The ruble (Russian: рубль) is the currency of Russia since the 13th century. Here, symbols used for the ruble and its subdivisions used in the eras of the Tsardom of Russia (1547-1721, also known as the Tsardom of Muscovy) and of the Russian Empire (1721-1917) are proposed.

In the Muscovy period, there existed subdivisions of the ruble called Altyn (алтын) and Denga (деньга, earlier денга).

Also, in this period, numbers usually were represented by Cyrillic letters using a system similar to the Greek system (see [3]; fig. 6).

The Muscovy currency signs proposed here were written above of such numerals, to mark them as currency amount (Fig. 1). Such, they were used in the same manner as the combining titlo (U+0483) marked Cyrillic letters to be a digit [2]. This notation originated from the corresponding abbreviations, however it was developed into symbols different regarding their shapes and placement from the original abbreviations.

Therefore, the Muscovy currency signs are proposed as combining characters.

(The combining symbol for the Altyn can be unified with the existing U+2DF6 COMBINING CYRILLIC LETTER A).

The ruble symbol is based on a cursive form of the first letter of its name (р), employing a swash to the right, overlaid by a vertical form of the second letter of its name (у).

The other symbols are basically ligatures of the first two letters of the names of the currency units they denote.

1.2 The Imperial currency signs

During the reign of Tsar Pyotr I (also known as Peter the Great) 1689–1725, several reforms took place in Russia. Besides of the declaration of the Russian Empire in 1721, the following ones are relevant for the characters proposed here:

- Since 1710, the ruble is subdivided into 100 kopecks (Russian: копейка).
(The Altyn and Denga were made equivalent to 3 kopecks and ½ kopeck then.)
- Decimal digits came in use, replacing the use of Cyrillic letters as numerals (like shown in fig. 6).
- A script reform took place on the Cyrillic script, introducing glyphs resembling the style of printed Latin letters used in that time (see [4]).

In consequence of this, the habit of writing currency symbols above the numbers disappeared with the Cyrillic numerals and their specific markings.

Instead, the ruble and kopeck signs started to be written right to digits and placed usually as superscript, however sometimes with single or double underlines or dashes below it.

In this respect, they show a glyph variation comparable to that of U+00BA MASCULINE ORDINAL INDICATOR (see fig. 4 and 5).

We use the forms without underlining as representative glyphs, as this are the clearest and simplest forms.

As the Muscovy and the Imperial ruble, while sharing the same basic form, are consequently placed differently (the Muscovy one combining above of Cyrillic numerals, the Imperial one as free-standing superscript right of decimal digits), they need to be encoded as different characters.

Even if the constituent letters are not ligated in any cases, we see a precedent for encoding such symbols in e.g. U+1F16B RAISED MD SIGN (WG2 N3945).

Also, we want to emphasize, that due to said underlinings in some writing styles, such signs could not be simply produced by means of text processors from already encoded characters.

While the signs were widely used predominantly in handwriting, usage of superscript ruble sign in print is found e.g. in Magnitsky's "Арифметика, сиречь наука числительная..." [1] (Fig. 2).

By the end of 19th century the usage of such signs eventually declined. Now they are a subject of paleography and historical interest.

2. References

1. [Магницкий Л. Арифметика, сиречь наука числительная с разных диалектов на славенский языкъ переведеная и во едино собрана, и на две книги разделена.](#) — СПб, 1703.
2. Синчук И. [Многоликий знак рубля](#) // Журнал «Нумизматика», ноябрь 2006 (№ 12).
3. http://en.wikipedia.org/wiki/Cyrillic_numerals (retrieved 2011-08-26).
4. Yefimov, Wladimir: Civil Type and Kis Cyrillic. In: Berry, John D.: Language Culture Type – International Type Design in the Age of Unicode. Redhill (Surrey, UK) and New York (NY, USA) 2002; ISBN 1-932026-01-0

3. Examples and Figures

Fig. 1: An example of combining Muscovy currency signs. Act of embossing copper as coins [2], early 18th century.
Right, the part of the table marked with a red frame is typeset. Below, the decimal values of the transcribed numbers are shown, according to the table shown in fig. 6.

[illegible]

ХПД^ѣ Л^а В^{де}

СҮ В

$$\psi_{MB}^{\alpha\lambda}(\vec{\pi}^a) \mathcal{D}^{\beta\mu}$$
$$aT^{\alpha} s^{\lambda} e^{\mu}$$
684^{ру} 30^а 2^{де}290^{ру} 2^{де}742^{ру} 20^а 4^{де}1309^{ру} 6^а 5^{де}

Fig. 2: An example of printed usage of the superscript Imperial ruble sign, 1703. [1]

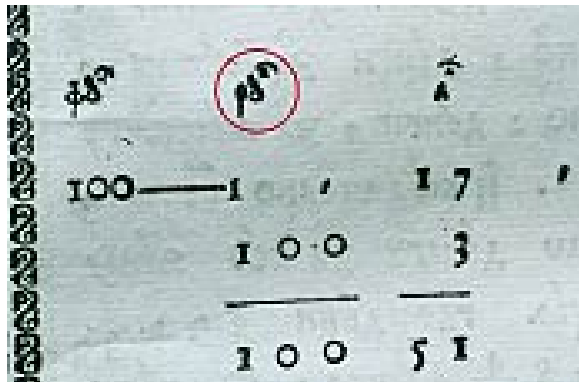


Fig. 3: An example of handwritten usage of the superscript Imperial currency signs. An inventory from 1826. Note, that here apart from being superscripts, the ruble and kopeck signs have double underlining.

The text looks typeset, using the proposed characters:

Денегъ государственнымъ ассигнаціями: 6055[₽] —
 Серебромъ: 6[₽] 65^{ко}

Списокъ принятыхъ отъ Именъ Статского полковника Раевского! 14 ^{го} Января 1826 ^{го} года	
Рубли	Копейки
Денегъ, Государственнымъ Ассигнаціямъ.	6055 [₽] —
Серебромъ.	— 6 [₽] — 65 ^{ко}

Fig. 4: The variety of ruble sign in the 19th century [2].

Прорисовки	Год	Источник	Прорисовки	Год	Источник	Прорисовки	Год	Источник
<i>Лигатура с цифрой «0»</i>			<i>Лигатура с цифрой «1»</i>			<i>Лигатура с цифрой «6»</i>		
	1824	Д. 82, Л. 2		1828	Д. 205б, Л. 39 об.		1822	Д. 302, Л. 2 об.
	1826	Д. 205а, Л. 13	<i>Лигатура с цифрой «2»</i>				1826	Д. 205а, Л. 14 об.
	1826	Д. 205а, Л. 16		1826	Д. 205а, Л. 16		1826	Д. 205а, Л. 27
	1824	Д. 205а, Л. 93 об.		1826	Д. 205а, Л. 27		1824	Д. 205а, Л. 88 об.
	1828	Д. 205б, Л. 38 об.		1827	Д. 205а, Л. 254		1828	Д. 205б, Л. 43
	1822	Д. 302, Л. 8	<i>Лигатура с цифрой «5»</i>				1828	Д. 205б, Л. 44 об.
	1822	Д. 302, Л. 37		1826	Д. 205а, Л. 16	<i>Лигатура с цифрой «8»</i>		
				1826	Д. 205а, Л. 232		1827	Д. 205а, Л. 88 об.

The examples in the right column look typeset: 5^р; 6^р (5 specimens); 28^р.

Note that the underlining in the 5 »6^р« specimens varies, showing this is glyph variation.

Fig. 5: The variety of the Imperial kopeck sign in the 19th century [2]. Note, than in some cases it is not just superscript, but has dash(es) below, which are font dependent.

Прорисовки	Год	Источник	Прорисовки	Год	Источник	Прорисовки	Год	Источник
<i>Знак копейки</i>								
	1824	НИАБГ. Ф.6, оп.1, Л.205а, Л.88 об.		1834	НИАБГ. Ф.6, оп.1, Л.453, Л.45		1835	НИАБГ. Ф.6, оп.1, Л.453, Л.66
	1828	НИАБГ. Ф.6, оп.1, Л.205а, Л.479		1834	НИАБГ. Ф.6, оп.1, Л.453, Л.46	<i>Лигатура знака копейки с цифрами «0», «2», «3», «5»</i>		
	1828	НИАБГ. Ф.6, оп.1, Л.205б, Л.10		1835	НИАБГ. Ф.6, оп.1, Л.453, Л.61		1826	НИАБГ. Ф.6, оп.1, Л.205а, Л.13
	1828	НИАБГ. Ф.6, оп.1, Л.205б, Л.10		1835	НИАБГ. Ф.6, оп.1, Л.453, Л.61		1828	НИАБГ. Ф.6, оп.1, Л.205б, Л.37 об.
	1828	НИАБГ. Ф.6, оп.1, Л.205б, Л.10		1835	НИАБГ. Ф.6, оп.1, Л.453, Л.61		1828	НИАБГ. Ф.6, оп.1, Л.205а, Л.427 об.
	1828	НИАБГ. Ф.6, оп.1, Л.205б, Л.24		1835	НИАБГ. Ф.6, оп.1, Л.453, Л.63		1835	НИАБГ. Ф.6, оп.1, Л.453, Л.65 об.
	1828	НИАБГ. Ф.6, оп.1, Л.205б, Л.24 об.		1835	НИАБГ. Ф.6, оп.1, Л.453, Л.63		1826	НИАБГ. Ф.6, оп.1, Л.205а, Л.27
	1828	НИАБГ. Ф.6, оп.1, Л.205б, Л.25		1835	НИАБГ. Ф.6, оп.1, Л.453, Л.65			

The examples in the 5 last entries of the right column look typeset:

0 ^{ко}; 2 ^{ко}; 39 1/2 ^{ко}; 93 ^{ко}; 5 ^{ко} (the glyph variation is preserved in this typesetting).

Fig. 6: The use of Cyrillic letters as Cyrillic numerals (picture retrieved 2011-08-26 from <http://en.wikipedia.org/wiki/File:Slavic-numerals.jpg>), see [3].

The combining Muscovy currency signs usually were placed above such numerals.

А	В	Г	Д	Е	З	И	Ѧ
1	2	3	4	5	6	7	8
І	К	Л	М	Н	Ѧ	О	П
10	20	30	40	50	60	70	80
Р	С	Т	У	Ф	Х	Ѧ	Ц
100	200	300	400	500	600	700	800
900							

**ISO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646¹**

Please fill all the sections A, B and C below.

Please read Principles and Procedures Document (P & P) from <http://www.dkuug.dk/JTC1/SC2/WG2/docs/principles.html> for guidelines and details before filling this form.

Please ensure you are using the latest Form from <http://www.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html>.

See also <http://www.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html> for latest Roadmaps.

A. Administrative

1. Title: **Revised proposal to encode historic currency signs of Russia in the UCS**
2. Requester's name: **Yuri Kalashnov, Ilya Yevlampiev, Karl Pentzlin, Roman Doroshenko**
3. Requester type (Member body/Liaison/Individual contribution): **Individual contribution**
4. Submission date: **2011-10-18**
5. Requester's reference (if applicable):
6. Choose one of the following:

This is a complete proposal:	Yes
(or) More information will be provided later:	

B. Technical – General

1. Choose one of the following:

a. This proposal is for a new script (set of characters):	No
Proposed name of script:	
b. The proposal is for addition of character(s) to an existing block:	Yes
Name of the existing block:	Currency Symbols
2. Number of characters in proposal: **4**
3. Proposed category (select one from below - see section 2.2 of P&P document):

A-Contemporary	B.1-Specialized (small collection)	X	B.2-Specialized (large collection)
C-Major extinct	D-Attested extinct		E-Minor extinct
F-Archaic Hieroglyphic or Ideographic	G-Obscure or questionable usage symbols		
4. Is a repertoire including character names provided? **Yes**
 - a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document? **Yes**
 - b. Are the character shapes attached in a legible form suitable for review? **Yes**
5. Fonts related:
 - a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?
The authors: glyph design by Roman Doroshenko, font file by Karl Pentzlin
 - b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):
The authors
6. References:
 - a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? **Yes**
 - b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached? **Yes**
7. Special encoding issues:

Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)? **No**

8. Additional Information:

Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at <http://www.unicode.org> for such information on other scripts. Also see <http://www.unicode.org/Public/UNIDATA/UCD.html> and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

¹ Form number: N3702-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11)

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before?	No
If YES explain	
2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?	Yes
If YES, with whom?	Some of the authors are members of the user community themselves
If YES, available relevant documents:	See text
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?	Yes
Reference:	See text
4. The context of use for the proposed characters (type of use; common or rare)	Specialized
Reference:	See text
5. Are the proposed characters in current use by the user community?	Yes
If YES, where? Reference:	See text
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?	Yes
If YES, is a rationale provided?	Yes
If YES, reference:	To keep them in line with related characters
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?	Yes
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?	No
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?	No
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character?	No
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
11. Does the proposal include use of combining characters and/or use of composite sequences?	Yes
If YES, is a rationale for such use provided?	Yes
If YES, reference:	See text
Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?	n/a
If YES, reference:	See text
12. Does the proposal contain characters with any special properties such as control function or similar semantics?	No
If YES, describe in detail (include attachment if necessary)	
13. Does the proposal contain any Ideographic compatibility character(s)?	No
If YES, is the equivalent corresponding unified ideographic character(s) identified?	
If YES, reference:	