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

Doc Type: Working Group Document
Title: Proposal to add four arrows to get a consistent mapping from ISO/IEC 9995-7
symbols to Unicode
Author: Karl Pentzlin
Status: Expert Contribution, Amendment to SC2/WG2 N4317
Action: For consideration by JTC1/SC2/WG2 and UTC
Date: 2012-09-10

1. Introduction

In SC2/WG2 N4317, the symbols contained in ISO/IEC 9995-7 *" Information technology — Keyboard layouts for text and office systems — Part 7: Symbols used to represent functions"* and not yet contained in Unicode are proposed as Unicode characters, to yield an 1:1 correspondence of all ISO/IEC 9995-7 symbols and the appropriate subset of Unicode characters.

All ISO/IEC 9995-7 symbols which essentially are non-white arrows are triangle-headed.

By DAM1 of ISO/IEC 10646 (SC2/WG2 N4244, including several arrow forms from the Wingding set), "normal-headed" arrows and triangle-headed arrows are disunified.
Accordingly, the mapping of ISO/IEC arrow symbols is to be changed to triangle-headed arrows as far as possible.
Therefore, all arrow-like characters proposed in SC2/WG2 N4317 are appropriately named "triangle-headed", and the mapping given in that document considers the triangle-headed arrows contained in DAM1.

Only the four double-headed arrows contained in ISO/IEC 9995-7 find no triangle-headed counterparts in DAM1.

This situation was recognized by the editor of N4317 (also the author of this proposal) when he did the editing of N4317 only after the Paris meeting of SC35, August 27 to 31, 2012, according to resolution 2012.63 adopted there. Thus, this proposal is (unlike N4317 itself), not formally backed by a SC35 resolution, but is a straightforward amendment of it.

By encoding the characters proposed in N4317 and this proposal, a uniform mapping of arrow-like ISO/IEC 9995-7 symbols to triangle-headed arrow-like Unicode characters is accomplished.

2. Proposed Characters

Block: Miscellaneous Symbols and Arrows

Keyboard symbols from ISO/IEC 9995-7

◀◀   U+2BEC   LEFTWARDS TWO-TRIANGLE-HEADED ARROW
= fast cursor left

▲   U+2BED   UPWARDS TWO-TRIANGLE-HEADED ARROW
= fast cursor up

⏩ U+2BEE RIGHTWARDS TWO-TRIANGLE-HEADED ARROW
= fast cursor right

⏬ U+2BEF DOWNWARDS TWO-TRIANGLE-HEADED ARROW
= fast cursor down

Properties:
```
2BEC;LEFTWARDS TWO-TRIANGLE-HEADED ARROW;So;0;ON;;;;;N;;;;;
2BED;UPWARDS TWO-TRIANGLE-HEADED ARROW;So;0;ON;;;;;N;;;;;
2BEE;RIGHTWARDS TWO-TRIANGLE-HEADED ARROW;So;0;ON;;;;;N;;;;;
2BEF;DOWNWARDS TWO-TRIANGLE-HEADED ARROW;So;0;ON;;;;;N;;;;;
```

3. Annotations to be changed for existing characters

↞ U+219E LEFTWARDS TWO HEADED ARROW
Delete: = fast cursor left

↟ U+219F UPWARDS TWO HEADED ARROW
Delete: = fast cursor up

↠ U+21A0 RIGHTWARDS TWO HEADED ARROW
Delete: = fast cursor right

↡ U+21A1 DOWNWARDS TWO HEADED ARROW
Delete: = fast cursor down

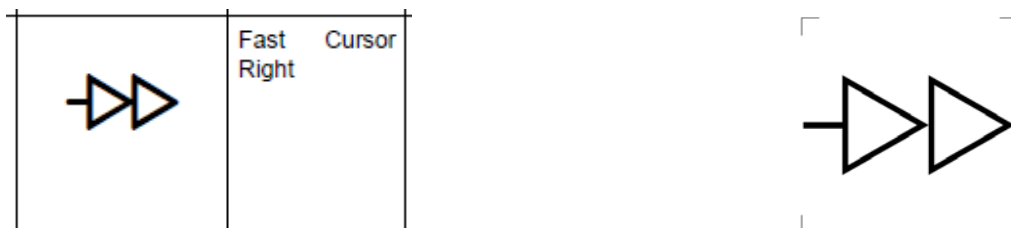# 4. Appendix: Mapping of ISO/IEC 9995-7 symbols into Unicode

(Excerpt of SC2/WG2 N4317. Only the mappings affected by this proposal are shown.)

(alternatives, shown in parentheses in italics: appropriate after acceptance of this proposal)

```
35 ;  219F # UPWARDS TWO HEADED ARROW      (2BED UPWARDS TWO-TRIANGLE-HEADED ARROW)
36 ;  21A1 # DOWNWARDS TWO HEADED ARROW    (2BEF DOWNWARDS TWO-TRIANGLE-HEADED ARROW)
37 ;  219E # LEFTWARDS TWO HEADED ARROW    (2BEC LEFTWARDS TWO-TRIANGLE-HEADED ARROW)
38 ;  21A0 # RIGHTWARDS TWO HEADED ARROW   (2BEE RIGHTWARDS TWO-TRIANGLE-HEADED ARROW)
```

5. Figures

Fig. 1: Symbol 38 from ISO/IEC 9995-7:2009 (left), and symbol 5108A "Fast run; fast speed" from IEC 60417 (right). It is a standing convention that the triangle heads in such drawings are shown white (hollow), while in actual keyboard symbols (and subsequently in Unicode reference glyphs) they shall appear black (solid).

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ISO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646[1]
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*.**

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A. Administrative

1. **Title:**	***Proposal to add four arrows to get a consistent mapping from ISO/IEC 9995-7 symbols to Unicode***
2. Requester's name:	*Karl Pentzlin*
3. Requester type (Member body/Liaison/Individual contribution):	*Expert Contribution*
4. Submission date:	*2012-09-10*
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:	*Miscellaneous Symbols and Arrows*
2. Number of characters in proposal:	*4*

3. Proposed category (select one from below - see section 2.2 of P&P document):

A-Contemporary	**X**	B.1-Specialized (small collection)	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 co-editor of ISO/IEC 9995-7 Amd1 (Karl Pentzlin), on request	
b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):	
The font will be in the Public Domain according to SC35 resolution 2010.48	
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?	*By reference to SC2/WG2 N4317*
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.

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[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? _Members of SC35_
   If YES, available relevant documents: _ISO/IEC 9995-7:2009 + Amd1 (2012)_

3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? _Yes_
   Reference: _All users of keyboards compliant to the ISO/IEC 9995 series_

4. The context of use for the proposed characters (type of use; common or rare) _common_
   Reference: _see above_

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 similar characters_

7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?

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? _No_
    If YES, is a rationale for such use provided?
    If YES, reference:
    Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?
    If YES, reference:

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: