1. Introduction

This proposal is based on the ISO/IEC JTC1/SC35 resolutions 2012.53 (done 2012-08-31 at the Paris meeting of ISO/IEC JTC1/SC35) and 2017.08 (done 2017-02-09 at the Berlin meeting).


The symbols devised in ISO/IEC 9995-7:2009 and its recent Amendment 1 (2012) are to be used not only as engraving on physical keyboards, but in the light of current technical developments also on on-screen keyboards.

Also, they are intended for use in plain text, especially instructions how to use a keyboard, or how to enter specific texts.

Therefore, software must have access to all these symbols. Thus, it is advisable to have all these symbols encoded in Unicode.

This was already done for the 1994 version of ISO/IEC 9995-7.

Since then, ISO/IEC 9995-7 was developed further. The last version of the complete standard dates from 2009. Thereafter, an amendment was released in 2012 with several new symbols reflecting the need of multilingual keyboards in support of the cultural diversity. Such keyboards are easily accessible especially when not being confined to physical keyboards with fixed engravings.

Therefore, all ISO/IEC 9995-7 symbols not encoded yet and not obviously unifiable with already encoded symbols are proposed here for encoding in Unicode.

1.2 Introduction of the symbols from ISO/IEC 9995-10:2013

There are two parts of the ISO/IEC 9995 international standard series which devise keyboard symbols. While ISO/IEC 9995-7 devises symbols for keyboard functions, ISO/IEC 9995-10 devises symbols for characters which cannot be identified by their shape only. E.g., an engraving of a dash on a keyboard does not indicate its character identity by its length, which is to be regarded in relation to similar characters, or its height relative to the baseline, as the engraving is done on an area which does not necessarily present any clues about this.
ISO/IEC 9995-10 resolves this issue by defining symbols for some common characters which consist of a representation of the character itself, augmented by special symbol parts which give a unique optical hint for the identity of the character.

Moreover, ISO/IEC 9995-10 provides placeholders for base characters. By these, diacritical marks can be shown in the relative position to their base character. These placeholders also indicate in which way the diacritical mark has to be entered: A dotted circle (known from the Unicode code tables) indicates that the diacritical mark has to be entered after the base character, while a flat rectangle indicates that the diacritical mark has to be entered before the character. The latter method, inherited from the mechanical typewriters and older encoding standards like ISO/IEC 6937, is called the "dead key" method and is part of the keyboard standards of several European countries (e.g. Germany).

Additional to the dotted circle, dotted half circles are provided which allow more room for a clearer representation of the diacritical mark itself when keytop place is limited.

The symbols devised in ISO/IEC 9995-10:2013 are to be used not only as engraving on physical keyboards, but in the light of current technical developments also on on-screen keyboards. Also, they are intended for use in plain text, especially instructions how to use a keyboard, or how to enter specific texts. Therefore, software must have access to all these symbols. Thus, it is advisable to have all these symbols encoded in Unicode.

**Fig. 1:** Detail of a German standard keyboard according to DIN 2137-1:2012-06, showing some of the ISO/IEC 9995-7 and 9995-10 symbols proposed here as Unicode characters.

**Fig. 2:** Excerpts from p.9 and p.10 of the printed edition of the German standard DIN 2137-1:2012-06, showing the use of some of the proposed characters in print.
1.3 The SC35/WG1 Public Domain font project

By resolutions 2010.47 and 2010.48 adopted at the Venice meeting in August 2010, SC35 decided to make all ISO/IEC 9995-7 symbols public by providing a publicly accessible document and a font released into the Public Domain (or equipped with an equivalent license), to enable everybody to freely use all these symbols (e.g. in keyboard descriptions).

To complete this project, and to avoid to have to resort to PUA codepoints in a public document issued by an ISO workgroup, it is necessary to have Unicode codepoints for all ISO/IEC 9995-7 symbols. This would be accomplished by encoding the characters included in this proposal.

2. Encoding Considerations

Until now, ISO/IEC 9995-7 symbols, which are not explicitly arrows, are contained in the "Miscellaneous Technical" block of Unicode. As this block is full now, this cannot be accomplished for symbols new to Unicode proposed here.

All symbols, which are keyboard symbols for (and thus visualizations of) invisible characters (including spaces; or special uses or variants of visible characters) are placed in the "control pictures" block.

Symbols which are enclosed alphanumerics are consequently placed in the "Enclosed Alphanumeric Supplement" block.

The generic symbols which represent selections of specific groups and modes, which have to be augmented by a letter or character denoting that specific group or mode, are given as "enclosing diacritics".

Symbols which are mainly arrows are placed in the “Supplemental Arrows-C” block. Groups of “left/up/right/down arrows” are completed where appropriate if single arrows of such a group are not used in ISO/IEC 9995-7.

All other symbols are placed in a new group “Miscellaneous Technical Supplement” which is proposed at 1FA80–1FAFF (the first block place following the “Pictographic Sets” area in the SMP roadmap which is currently not mentioned in other proposals).

Two symbols, which can be given as combinations of existing Unicode characters (employing the "combining enclosing screen"), are proposed that way, employing the Unicode mechanism of "named sequences".

Thus, it is possible to give a 1:1 correspondence between ISO/IEC 9995-7 and 9995-10 symbols and Unicode codepoints/sequences (see appendix).

Regarding the representative glyphs, they are derived from the original depictions contained in the ISO/IEC 9995-7 and 9995-10 documents. According to principles devised when the original symbols of 1994 were encoded into Unicode, small arrowheads, which are hollow in ISO/IEC 9995-7, are shown filled in the representative glyphs for Unicode (and as it was decided for similar arrows from the Wingdings set, such arrows are named "triangle-headed" here).
3. Proposed Characters

**Block: Combining Diacritical Marks for Symbols**

**Enclosing Keyboard symbols from ISO/IEC 9995-7**

The specific group or mode addressed is denoted by a character enclosed in the symbol.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
</table>
| U+20F1 | COMBINING ENCLOSING SQUARE WITH ROUNDED CORNERS  
  = ISO/IEC 9995-7 symbol 105, IEC 60417 symbol 6086  
  = switch to specific group according to the enclosed letter  
  → 25A2 white square with rounded corners |
| U+20F2 | COMBINING ENCLOSING RIGHTWARDS WHITE SHORT ARROW  
  = ISO/IEC 9995-7 symbol 106, IEC 60417 symbol 6087  
  = latch to specific group according to the enclosed letter  
  → 21E8 rightwards white arrow |
| U+20F3 | COMBINING ENCLOSING DOUBLE SQUARE WITH ROUNDED CORNERS  
  = ISO/IEC 9995-7 symbol 107, IEC 60417 symbol 6088  
  = switch to specific mode according to the enclosed letter |

**Block: Control Pictures**

**Keyboard symbols from ISO/IEC 9995-7**

Also intended for display of the symbolized characters in "controls visible mode", and for use in instruction texts.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
</table>
| ␧ | SYMBOL FOR EN SPACE  
  = ISO/IEC 9995-7 symbol 63, IEC 60417 symbol 6072-1  
  → 2002 en space |
| ␨ | SYMBOL FOR EM SPACE  
  = ISO/IEC 9995-7 symbol 64, IEC 60417 symbol 6072-2  
  → 2003 em space |
| ␩ | SYMBOL FOR THREE-PER-EM SPACE  
  = ISO/IEC 9995-7 symbol 65, IEC 60417 symbol 6072-3  
  → 2004 three-per-em space  
  → 1FA8A space select symbol |
| ␪ | SYMBOL FOR FOUR-PER-EM SPACE  
  = ISO/IEC 9995-7 symbol 66, IEC 60417 symbol 6072-4  
  → 2005 four-per-em space |
| ␫ | SYMBOL FOR SIX-PER-EM SPACE  
  = ISO/IEC 9995-7 symbol 67, IEC 60417 symbol 6072-5  
  → 2006 six-per-em space |
| ␬ | SYMBOL FOR FIGURE SPACE |
U+242D SYMBOL FOR PUNCTUATION SPACE
= ISO/IEC 9995-7 symbol 68, IEC 60417 symbol 6072-6
→ 2007 figure space

U+242E SYMBOL FOR THIN OR NARROW SPACE
= ISO/IEC 9995-7 symbol 69, IEC 60417 symbol 6072-7
→ 2008 punctuation space

U+242F SYMBOL FOR HAIR SPACE
= ISO/IEC 9995-7 symbol 70, IEC 60417 symbol 6072-8
→ 2009 thin space

U+2430 SYMBOL FOR ZERO WIDTH SPACE
= ISO/IEC 9995-7 symbol 72, IEC 60417 symbol 6072-10
→ 200A zero width space

U+2431 SYMBOL FOR MEDIUM MATHEMATICAL SPACE
= ISO/IEC 9995-7 symbol 73, IEC 60417 symbol 6072-11
→ 205F medium mathematical space

U+2432 SYMBOL FOR NARROW NO-BREAK SPACE
= ISO/IEC 9995-7 symbol 74, IEC 60417 symbol 6072-12
→ 202F narrow no-break space
→ 237D shouldered open box

U+2433 SYMBOL FOR SOFT HYPHEN
= ISO/IEC 9995-7 symbol 76, IEC 60417 symbol 6073
• hyphen surrounded by very small parentheses
→ 00AD soft hyphen

U+2434 SYMBOL FOR NON-BREAKING HYPHEN
= ISO/IEC 9995-7 symbol 77, IEC 60417 symbol 6074
• hyphen surrounded by very small inverted brackets
→ 2011 non-breaking hyphen

U+2435 SYMBOL FOR NON-STOPPING PERIOD
= ISO/IEC 9995-7 symbol 78, IEC 60417 symbol 6075
→ 002E full stop
• entering U+002E FULL STOP by a key marked such prevents automatic capitalization of the next letter entered

U+2436 SYMBOL FOR LINE SEPARATOR
= ISO/IEC 9995-7 symbol 79, IEC 60417 symbol 6076-1
→ 2028 line separator

U+2437 SYMBOL FOR PARAGRAPH SEPARATOR
= ISO/IEC 9995-7 symbol 80, IEC 60417 symbol 6076-2
→ 2029 paragraph separator

.Symbol for Zero Width Non-Joiner Joiner
= ISO/IEC 9995-7 symbol 81, IEC 60417 symbol 6077-1
= nail
→ 200C zero width non-joiner

.Symbol for Zero Width Joiner
= ISO/IEC 9995-7 symbol 82, IEC 60417 symbol 6077-2
→ 200D zero width joiner

.Symbol for Word Joiner
= ISO/IEC 9995-7 symbol 83, IEC 60417 symbol 6077-3
→ 2060 word joiner

.Symbol for Combining Grapheme Joiner
= ISO/IEC 9995-7 symbol 84, IEC 60417 symbol 6077-4
→ 034F combining grapheme joiner

.Symbol for Left-to-Right Mark
= ISO/IEC 9995-7 symbol 85, IEC 60417 symbol 6078
→ 200E left-to-right mark

.Symbol for Right-to-Left Mark
= ISO/IEC 9995-7 symbol 86, IEC 60417 symbol 6078
→ 200F right-to-left mark

Block: Miscellaneous Symbols and Arrows

Keyboard symbols from ISO/IEC 9995-10:2013

.Symbol for White Horizontal Narrow Rectangle
= ISO/IEC 9995-10 symbol 44, IEC 60417 symbol 6140
= dead key base mark
• has the width of an em dash

.Symbol for White Vertical Narrow Rectangle
= ISO/IEC 9995-10 symbol 45, IEC 60417 symbol 6141
= cap height marker
• identifies modifier letters on keytops
• has the height of a capital Latin letter

Keyboard symbols from ISO/IEC 9995-10:2013
Proposal to incorporate the symbols of ISO/IEC 9995-7 and 9995-10

Keyboard symbol from ISO/IEC 9995-7

U+2B96 DOTTED UPPER HALF CIRCLE
= ISO/IEC 9995-10 symbol 42, IEC 60417 symbol 6138
→ 25CC dotted circle

U+2B97 DOTTED LOWER HALF CIRCLE
= ISO/IEC 9995-10 symbol 43, IEC 60417 symbol 6139

Block: Enclosed Alphanumeric Supplement

U+2BC9 MENU INVOCATION
= ISO/IEC 9995-7 symbol 89, IEC 60417 symbol 6089

Keyboard symbols from ISO/IEC 9995-7

U+1F1AD SQUARED FN
= ISO/IEC 9995-7 symbol 97, IEC 60417 symbol 6081
= function key

U+1F1AE SANS-SERIF CAPITAL U ENCLOSING ZERO-NINE
= ISO/IEC 9995-7 symbol 103, IEC 60417 symbol 6085-1
= switch to decimal Unicode mode

U+1F1AF SANS-SERIF CAPITAL U ENCLOSING ZERO-F
= ISO/IEC 9995-7 symbol 104, IEC 60417 symbol 6085-2
= switch to hexadecimal Unicode mode

Block: Supplemental Arrows-C

Keyboard symbols from ISO/IEC 9995-7

U+1F8B0 LEFTWARDS TRIANGLE-HEADED ARROW FROM BAR TO BRACKET
= ISO/IEC 9995-7 symbol 52, ISO 7000 symbol 2042
= set margin left

U+1F8B1 RIGHTWARDS TRIANGLE-HEADED ARROW FROM BAR TO BRACKET
= ISO/IEC 9995-7 symbol 53, ISO 7000 symbol 2042
= set margin right

U+1F8B2 LEFTWARDS TRIANGLE-HEADED ARROW THROUGH LEFT BRACKET
= ISO/IEC 9995-7 symbol 54, ISO 7000 symbol 2044
= release margin left

U+1F8B3 RIGHTWARDS TRIANGLE-HEADED ARROW THROUGH RIGHT BRACKET
Proposal to incorporate the symbols of ISO/IEC 9995-7 and 9995-10

New Block: Miscellaneous Technical Supplement (1FA80–1FAFF)

Keyboard symbols from ISO/IEC 9995-7

2017-02-28
Proposal to incorporate the symbols of ISO/IEC 9995-7 and 9995-10

2017-02-28
Keyboard symbols from ISO/IEC 9995-10:2013

<table>
<thead>
<tr>
<th>Unicode</th>
<th>Description</th>
<th>ISO/IEC 9995-10 Symbol</th>
<th>IEC 60417 Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>U+1FA90</td>
<td>SYMBOL FOR HYPHEN</td>
<td>1</td>
<td>6097</td>
<td>2010 hyphen</td>
</tr>
<tr>
<td>U+1FA91</td>
<td>SYMBOL FOR HYPHENATION POINT</td>
<td>2</td>
<td>6099</td>
<td>2027 hyphenation point</td>
</tr>
<tr>
<td>U+1FA92</td>
<td>SYMBOL FOR FIGURE DASH</td>
<td>3</td>
<td>6100</td>
<td>2013 figure dash</td>
</tr>
<tr>
<td>U+1FA93</td>
<td>SYMBOL FOR EN DASH</td>
<td>4</td>
<td>6101</td>
<td>2013 en dash</td>
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<tr>
<td>U+1FA94</td>
<td>SYMBOL FOR EM DASH</td>
<td>5</td>
<td>6102</td>
<td>2014 em dash</td>
</tr>
<tr>
<td>U+1FA95</td>
<td>SYMBOL FOR TWO-EM DASH</td>
<td>6</td>
<td>6103</td>
<td>23EA two-em dash</td>
</tr>
<tr>
<td>U+1FA96</td>
<td>SYMBOL FOR THREE-EM DASH</td>
<td>7</td>
<td>6104</td>
<td>23EB three-em dash</td>
</tr>
<tr>
<td>U+1FA97</td>
<td>SYMBOL FOR HORIZONTAL BAR</td>
<td>8</td>
<td>6105</td>
<td>6105 horizontal bar</td>
</tr>
<tr>
<td>U+1FA98</td>
<td>SYMBOL FOR MINUS SIGN</td>
<td>9</td>
<td>6106</td>
<td>2212 minus sign</td>
</tr>
<tr>
<td>U+1FA99</td>
<td>SYMBOL FOR MACRON</td>
<td>10</td>
<td>6107</td>
<td>00AF macron</td>
</tr>
<tr>
<td>U+1FA9A</td>
<td>SYMBOL FOR OVERLINE</td>
<td>11</td>
<td>6108</td>
<td>203E overline</td>
</tr>
<tr>
<td>U+1FA9B</td>
<td>SYMBOL FOR LOW LINE</td>
<td>12</td>
<td>6109</td>
<td>005F low line</td>
</tr>
<tr>
<td>Symbol Code</td>
<td>Description</td>
<td>ISO/IEC 9995-10 Symbol</td>
<td>IEC 60417 Symbol</td>
<td>Equivalent</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td>------------------------</td>
<td>-----------------</td>
<td>------------</td>
</tr>
<tr>
<td>U+1FA9C</td>
<td>SYMBOL FOR DOUBLE HYPHEN</td>
<td>13</td>
<td>6098</td>
<td>2E40 double hyphen</td>
</tr>
<tr>
<td>U+1FA9D</td>
<td>SYMBOL FOR SWUNG DASH</td>
<td>14</td>
<td>6110</td>
<td>2053 swung dash</td>
</tr>
<tr>
<td>U+1FA9E</td>
<td>SYMBOL FOR TILDE OPERATOR</td>
<td>15</td>
<td>6111</td>
<td>223C tilde operator</td>
</tr>
<tr>
<td>U+1FA9F</td>
<td>SYMBOL FOR LARGE ASTERISK</td>
<td>16</td>
<td>6112</td>
<td>00B7 middle dot</td>
</tr>
<tr>
<td>U+1FAA0</td>
<td>SYMBOL FOR MIDDLE DOT</td>
<td>17</td>
<td>6113</td>
<td>2022 bullet</td>
</tr>
<tr>
<td>U+1FAA1</td>
<td>SYMBOL FOR BULLET</td>
<td>18</td>
<td>6114</td>
<td>201C left double quotation mark</td>
</tr>
<tr>
<td>U+1FAA2</td>
<td>SYMBOL FOR LEFT SINGLE QUOTATION MARK</td>
<td>19</td>
<td>6115</td>
<td>2019 right single quotation mark</td>
</tr>
<tr>
<td>U+1FAA3</td>
<td>SYMBOL FOR RIGHT SINGLE QUOTATION MARK</td>
<td>20</td>
<td>6116</td>
<td>201D right double quotation mark</td>
</tr>
<tr>
<td>U+1FAA4</td>
<td>SYMBOL FOR COMMA-SHAPED APOSTROPHE</td>
<td>21</td>
<td>6117</td>
<td>2018 left single quotation mark</td>
</tr>
<tr>
<td>U+1FAA5</td>
<td>SYMBOL FOR SINGLE LOW-9 QUOTATION MARK</td>
<td>22</td>
<td>6118</td>
<td>2019 right single quotation mark</td>
</tr>
<tr>
<td>U+1FAA6</td>
<td>SYMBOL FOR LEFT DOUBLE QUOTATION MARK</td>
<td>23</td>
<td>6119</td>
<td>201A single low-9 quotation mark</td>
</tr>
<tr>
<td>U+1FAA7</td>
<td>SYMBOL FOR RIGHT DOUBLE QUOTATION MARK</td>
<td>24</td>
<td>6120</td>
<td>201D right double quotation mark</td>
</tr>
</tbody>
</table>
 Proposal to incorporate the symbols of ISO/IEC 9995-7 and 9995-10

2017-02-28
U+1FAB4 SYMBO FOR REVERSED DOUBLE PRIME  
= ISO/IEC 9995-10 symbol 37, IEC 60417 symbol 6133  
→ 2036 reversed double prime

U+1FAB5 SYMBO FOR DITTO MARK  
= ISO/IEC 9995-10 symbol 38, IEC 60417 symbol 6134  
→ 3033 ditto mark

U+1FAB6 SYMBO FOR FRACTION SLASH  
= ISO/IEC 9995-10 symbol 39, IEC 60417 symbol 6135  
→ 2044 fraction slash

U+1FAB7 SYMBO FOR DIVISION SLASH  
= ISO/IEC 9995-10 symbol 40, IEC 60417 symbol 6136  
→ 2215 division slash

U+1FAB8 SYMBO FOR COMBINING TILDE OVERLAY  
= ISO/IEC 9995-10 symbol 46, IEC 60417 symbol 6142  
→ 0334 combining tilde overlay  
→ 2B75 white vertical narrow rectangle

U+1FAB9 SYMBO FOR COMBINING SHORT STROKE OVERLAY  
= ISO/IEC 9995-10 symbol 47, IEC 60417 symbol 6143  
→ 0335 combining short stroke overlay

U+1FABA SYMBO FOR COMBINING LONG STROKE OVERLAY  
= ISO/IEC 9995-10 symbol 48, IEC 60417 symbol 6144  
→ 0336 combining long stroke overlay

U+1FABB SYMBO FOR COMBINING SHORT SOLIDUS OVERLAY  
= ISO/IEC 9995-10 symbol 49, IEC 60417 symbol 6145  
→ 0337 combining short solidus overlay

U+1FABC SYMBO FOR COMBINING LONG SOLIDUS OVERLAY  
= ISO/IEC 9995-10 symbol 50, IEC 60417 symbol 6146  
→ 0338 combining long solidus overlay
Proposal to incorporate the symbols of ISO/IEC 9995-7 and 9995-10

20F1; COMBINING ENCLOSING SQUARE WITH ROUNDED CORNERS; Me; 0; NSM; ; ; ; ; ; ; ; ; ; ;
20F2; COMBINING ENCLOSING RIGHTWARDS WHITE SHORT ARROW; Me; 0; NSM; ; ; ; ; ; ; ; ; ; ;
20F3; COMBINING ENCLOSING DOUBLE SQUARE WITH ROUNDED CORNERS; Me; 0; NSM; ; ; ; ; ; ; ; ; ; ;
2427; SYMBOL FOR EN SPACE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
2428; SYMBOL FOR EM SPACE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
2429; SYMBOL FOR THREE-PER-EM SPACE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
242A; SYMBOL FOR FOUR-PER-EM SPACE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
242B; SYMBOL FOR SIX-PER-EM SPACE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
242C; SYMBOL FOR FIGURE SPACE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
242D; SYMBOL FOR PUNCTUATION SPACE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
242E; SYMBOL FOR THIN OR NARROW SPACE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
242F; SYMBOL FOR HAIR SPACE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
2430; SYMBOL FOR ZERO WIDTH SPACE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
2431; SYMBOL FOR MEDIUM MATHEMATICAL SPACE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
2432; SYMBOL FOR NON-BREAK SPACE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
2433; SYMBOL FOR SOFT HYPHEN; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
2434; SYMBOL FOR NON-STOPPING HYPHEN; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
2435; SYMBOL FOR NON-STOPPING PERIOD; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
2436; SYMBOL FOR LINE SEPARATOR; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
2437; SYMBOL FOR PARAGRAPH SEPARATOR; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
2438; SYMBOL FOR SPACE JOINER; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
2439; SYMBOL FOR ZERO WIDTH JOINER; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
243A; SYMBOL FOR LEFT-TO-RIGHT MARK; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
243B; SYMBOL FOR RIGHT-TO-LEFT MARK; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
2B74; WHITE HORIZONTAL NARROW RECTANGLE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
2B75; WHITE VERTICAL NARROW RECTANGLE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F1AD; SQUARED FN; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F1AE; SANS-SERIF CAPITAL U ENCLOSING ZERO-NINE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F1AF; SANS-SERIF CAPITAL U ENCLOSING ZERO-F; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8B0; LEFTWARDS TRIANGLE-HEADED ARROW FROM BAR TO BRACKET; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8B1; RIGHTWARDS TRIANGLE-HEADED ARROW FROM BAR TO BRACKET; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8B2; LEFTWARDS TRIANGLE-HEADED ARROW THROUGH LEFT BRACKET; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8B3; RIGHTWARDS TRIANGLE-HEADED ARROW THROUGH RIGHT BRACKET; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8B4; LEFTWARDS WHITE DOUBLE ARROW; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8B5; RIGHTWARDS WHITE DOUBLE ARROW; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8B6; UPWARDS WHITE DOUBLE ARROW; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8B7; DOWNWARDS WHITE DOUBLE ARROW; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8B8; LEFTWARDS TRIANGLE-HEADED ARROW FROM BAR TO BAR; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8B9; RIGHTWARDS TRIANGLE-HEADED ARROW FROM BAR TO BAR; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8BA; LEFTWARDS TRIANGLE-HEADED ARROW FROM BAR TO BAR; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8BB; RIGHTWARDS TRIANGLE-HEADED ARROW FROM BAR TO BAR; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8BC; LEFTWARDS SHORT TRIANGLE-HEADED ARROW FROM LONG BAR TO SHORT AND LONG BAR; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8BD; RIGHTWARDS SHORT TRIANGLE-HEADED ARROW FROM LONG BAR TO SHORT AND LONG BAR; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8BE; UPPERSHORT TRIANGLE-HEADED ARROW FROM LONG BAR TO SHORT AND LONG BAR; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1F8BF; DOWNWARDS SHORT TRIANGLE-HEADED ARROW FROM LONG BAR TO SHORT AND LONG BAR; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1FA00; HORIZONTAL STROKE APPLICATOR SYMBOL; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1FA01; DIAGONAL SLASH APPLICATOR SYMBOL; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1FA02; OVERLAPPED TILDE APPLICATOR SYMBOL; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1FA03; HOOK BELOW APPLICATOR SYMBOL; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1FA04; HOOK ABOVE APPLICATOR SYMBOL; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1FA05; HOOK APPLICATOR SYMBOL; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1FA06; SUPERSCRIPT APPLICATOR SYMBOL; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1FA07; SUBSCRIPT APPLICATOR SYMBOL; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1FA08; SUPERSCRIPT AND SUBSCRIPT APPLICATOR SYMBOL; So; 0; ON; ; ; ; ; ; ; ; ; ; ;
1FA09; PARTIAL BACKWARD DELETE; So; 0; ON; ; ; ; ; ; ; ; ; ; ;

Proposal to incorporate the symbols of ISO/IEC 9995-7 and 9995-10

2017-02-28
4. Named Sequences (composed of already encoded characters)

Keyboard symbols from ISO/IEC 9995-7

- **U+21F3** U+20E2 KEYBOARD SYMBOL SCROLLING
  = ISO/IEC 9995-7 symbol 20, ISO 7000 symbol 2025

- **U+2139** U+20E2 KEYBOARD SYMBOL HELP
  = ISO/IEC 9995-7 symbol 21, ISO 7000 symbol 2026
5. Annotations to be changed for existing characters

Block: Arrows

 inland U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS
  ADD: → 2BA0 DOWNWARDS TRIANGLE-HEADED ARROW WITH LONG TIP LEFTWARDS

 bevel U+21E9 DOWNWARDS WHITE ARROW
  ADD: • caps (capitals) lock (on some keyboards)
  ADD: • ISO/IEC 9995-7 uses U+21EC for capitals lock

 U+21EA UPWARDS WHITE ARROW FROM BAR
  ~ delete: caps lock
  ADD: • caps (capitals) lock (on some keyboards)
  ADD: • ISO/IEC 9995-7 uses U+21EC for capitals lock

 inland U+21EE UPWARDS WHITE DOUBLE ARROW
  = level 3 select
  ADD: → 1F8B4 leftwards white double arrow

 inland U+23CE RETURN SYMBOL
  ADD: → 2BA0 DOWNWARDS TRIANGLE-HEADED ARROW WITH LONG TIP LEFTWARDS

Block: Geometric Shapes

 inland U+25CC DOTTED CIRCLE
  (ADD:) = ISO/IEC 9995-10 symbol 41, IEC 60417 symbol 6137
  ADD: → 2B96 dotted upper half circle
  ADD: • when used as a keyboard symbol together with a diacritical mark,
        it denotes that the diacritical mark is to be input after the base character

Block: Miscellaneous Symbols and Arrows

 inland U+2BA0 DOWNWARDS TRIANGLE-HEADED ARROW WITH LONG TIP LEFTWARDS
  (ADD:) = ISO/IEC 9995-10 symbol 23, ISO 7000 symbol 651
        = return (new line) (ISO/IEC 9995-7)
  ADD: → 21B2 downwards arrow with tip leftwards
  ADD: → 21B5 downwards arrow with corner leftwards
  ADD: → 23CE return symbol
6. Appendix:
Mapping of ISO/IEC 9995-7 and 9995-10 symbols into Unicode

Unprefixed numbers from 1 to 62 refer to ISO/IEC 9995-7:2009.
Unprefixed numbers from 63 to 107 refer to ISO/IEC 9995-7:2009 Amendment 1.
Number prefixed with “&” refer to ISO/IEC 9995-10_2013.
“*” marks a character proposed in this document.
“+” marks a named sequence proposed in this document.

<table>
<thead>
<tr>
<th>Unprefixed Number</th>
<th>Character Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ; 21E7</td>
<td>UPWARDS WHITE ARROW</td>
</tr>
<tr>
<td>2 ; 21EB</td>
<td>UPWARDS WHITE ARROW ON PEDESTAL</td>
</tr>
<tr>
<td>3 ; 21EC</td>
<td>UPWARDS WHITE ARROW ON PEDESTAL WITH HORIZONTAL BAR</td>
</tr>
<tr>
<td>4 ; 21ED</td>
<td>UPWARDS WHITE ARROW ON PEDESTAL WITH VERTICAL BAR</td>
</tr>
<tr>
<td>5 ; 21EE</td>
<td>UPWARDS WHITE DOUBLE ARROW</td>
</tr>
<tr>
<td>6 ; 21EF</td>
<td>UPWARDS WHITE DOUBLE ARROW ON PEDESTAL</td>
</tr>
<tr>
<td>7 ; 21EB</td>
<td>RIGHTWARDS WHITE ARROW</td>
</tr>
<tr>
<td>8 ; 21F0</td>
<td>RIGHTWARDS WHITE ARROW FROM WALL</td>
</tr>
<tr>
<td>9 ; 2423</td>
<td>OPEN BOX</td>
</tr>
<tr>
<td>10 ; 237D</td>
<td>SHOULDERED OPEN BOX</td>
</tr>
<tr>
<td>11 ; 2380</td>
<td>INSERTION SYMBOL</td>
</tr>
<tr>
<td>12 ; 2381</td>
<td>CONTINUOUS UNDERLINE SYMBOL</td>
</tr>
<tr>
<td>13 ; 2382</td>
<td>DISCONTINUOUS UNDERLINE SYMBOL</td>
</tr>
<tr>
<td>14 ; 2383</td>
<td>EMPHASIS SYMBOL</td>
</tr>
<tr>
<td>15 ; 2384</td>
<td>COMPOSITION SYMBOL</td>
</tr>
<tr>
<td>16 ; 2385</td>
<td>WHITE SQUARE WITH CENTRE VERTICAL LINE</td>
</tr>
<tr>
<td>17 ; 232B</td>
<td>ERASE TO THE LEFT</td>
</tr>
<tr>
<td>18 ; 2425</td>
<td>SYMBOL FOR DELETE FORM TWO</td>
</tr>
<tr>
<td>19 ; 239A</td>
<td>CLEAR SCREEN SYMBOL</td>
</tr>
<tr>
<td>20 ; + 21F3</td>
<td>KEYBOARD SYMBOL SCROLLING</td>
</tr>
<tr>
<td>21 ; + 2139</td>
<td>KEYBOARD SYMBOL HELP</td>
</tr>
<tr>
<td>22 ; 2399</td>
<td>PRINT SCREEN SYMBOL</td>
</tr>
<tr>
<td>23 ; 2B8A</td>
<td>DOWNWARDS TRIANGLE-HEADED ARROW WITH LONG TIP LEFTWARDS</td>
</tr>
<tr>
<td>24 ; 2386</td>
<td>ENTER SYMBOL</td>
</tr>
<tr>
<td>25 ; 2387</td>
<td>ALTERNATIVE KEY SYMBOL</td>
</tr>
<tr>
<td>26 ; 2388</td>
<td>HELM SYMBOL</td>
</tr>
<tr>
<td>27 ; 2389</td>
<td>CIRCLED HORIZONTAL BAR WITH NOTCH</td>
</tr>
<tr>
<td>28 ; 238A</td>
<td>CIRCLED TRIANGLE DOWN</td>
</tr>
<tr>
<td>29 ; 238B</td>
<td>BROKEN CIRCLE WITH NORTHWEST ARROW</td>
</tr>
<tr>
<td>30 ; 238C</td>
<td>UNDO SYMBOL</td>
</tr>
<tr>
<td>31 ; 2861</td>
<td>UPWARDS TRIANGLE-HEADED ARROW</td>
</tr>
<tr>
<td>32 ; 2863</td>
<td>DOWNWARDS TRIANGLE-HEADED ARROW</td>
</tr>
<tr>
<td>33 ; 2860</td>
<td>LEFTWARDS TRIANGLE-HEADED ARROW</td>
</tr>
<tr>
<td>34 ; 2862</td>
<td>RIGHTWARDS TRIANGLE-HEADED ARROW</td>
</tr>
<tr>
<td>35 ; 28ED</td>
<td>UPWARDS TWO-HEADED ARROW WITH TRIANGLE ARROWHEADS</td>
</tr>
<tr>
<td>36 ; 28EF</td>
<td>DOWNWARDS TWO-HEADED ARROW WITH TRIANGLE ARROWHEADS</td>
</tr>
<tr>
<td>37 ; 28EC</td>
<td>LEFTWARDS TWO-HEADED ARROW WITH TRIANGLE ARROWHEADS</td>
</tr>
<tr>
<td>38 ; 28EE</td>
<td>RIGHTWARDS TWO-HEADED ARROW WITH TRIANGLE ARROWHEADS</td>
</tr>
<tr>
<td>39 ; 21F1</td>
<td>NORTH WEST ARROW TO CORNER</td>
</tr>
<tr>
<td>40 ; 21F2</td>
<td>SOUTH EAST ARROW TO CORNER</td>
</tr>
<tr>
<td>41 ; 2397</td>
<td>PREVIOUS PAGE</td>
</tr>
<tr>
<td>42 ; 2398</td>
<td>NEXT PAGE</td>
</tr>
<tr>
<td>43 ; 2870</td>
<td>LEFTWARDS TRIANGLE-HEADED ARROW TO BAR</td>
</tr>
<tr>
<td>44 ; 2872</td>
<td>RIGHTWORDS TRIANGLE-HEADED ARROW TO BAR</td>
</tr>
<tr>
<td>45 ; * 1F8B9</td>
<td>UPWARDS TRIANGLE-HEADED ARROW FROM BAR TO BAR</td>
</tr>
<tr>
<td>46 ; * 1F8BB</td>
<td>DOWNWARDS TRIANGLE-HEADED ARROW FROM BAR TO BAR</td>
</tr>
<tr>
<td>47 ; * 1F8B8</td>
<td>LEFTWARDS TRIANGLE-HEADED ARROW FROM BAR TO BAR</td>
</tr>
<tr>
<td>48 ; * 1F8BD</td>
<td>UPWARDS SHORT TRIANGLE-HEADED ARROW FROM LONG BAR TO SHORT AND LONG BAR</td>
</tr>
</tbody>
</table>
Proposal to incorporate the symbols of ISO/IEC 9995-7 and 9995-10

2017-02-28
Proposal to incorporate the symbols of ISO/IEC 9995-7 and 9995-10
A. Administrative

1. Title: Proposal to incorporate the symbols of ISO/IEC 9995-7:2009 and its Amendment 1 and of ISO/IEC 9995-10:2013 into the UCS

ISO/IEC JTC1/SC35

2. Requester's name: ISO/IEC JTC1/SC2/WG2

Liaison Contribution

3. Requester type (Member body/Liaison/Individual contribution): Liaison Contribution

4. Submission date: 2017-02-28

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: Several, including a new block "Miscellaneous Technical Supplement"

2. Number of characters in proposal: 108 + 2 Named Sequences

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 and 9995-10 (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? 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.
#### C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before?  
   **Partially**  
   If YES explain: 
   The symbols from ISO/IEC 9995-7 and its Amd1 were proposed originally in L2/12-302 = ISO/IEC JTC1/SC2/WG2 N4317 and its predecessors, which are replaced by this document.

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:  

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**
   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?  
   **Partially**
   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)?  
   **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?  
   No
   If YES, reference:  
   see text

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?  
   No
   If YES, reference:  
   (Two such characters are proposed as Named Sequences, using the composed character sequences constituting them)

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?  
    No
    If YES, reference:  
    see text

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?  
    Yes
    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?  
    No
    If YES, reference:  
    see text