

ISO
INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ORGANISATION INTERNATIONALE DE NORMALISATION

ISO-IEC JTC1/SC2/WG2

ISO-IEC JTC1/SC2/WG2 N 1941
December 7, 1998

Title: Request for Addition of Triangular Overlay Character
Source: Rick McGowan, on behalf of UTC
Status: UTC Contribution
Requested Action: Consideration by WG2

To Members of WG2:

Attached please find a proposal summary form and associated documentation pursuant to the encoding of a Triangular Overlay Character. This encoding request has been previously accepted both by the Unicode Technical Committee and the U. S. National Body, but was never forwarded to WG2 for consideration. It is now being submitted for your consideration.

Sincerely,
Rick McGowan
Technical Director,
Unicode, Inc.

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

Please fill Sections A, B and C below. Section D will be filled by SC 2/WG 2.
For instructions and guidance for filling in the form please see the document " Principles and Procedures for Allocation of New Characters and Scripts" (<http://www.dkuug.dk/JTC1/SC2/WG2/prot>)

A. Administrative

1. Title: **Triangular Overlay Character**

2. Requester's name: **Rick McGowan, on behalf of Unicode Technical Committee**

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

4. Submission date: **07 December 1998.**

5. Requester's reference (if applicable):

6. (Choose one of the following:)

This is a complete proposal.

B. Technical - General

1. (Choose one of the following:)

b. The proposal is for addition of character(s) to an existing block:

Name of the existing block: **Combining Diacritical Marks for Symbols.**

2. Number of characters in proposal: **1**

3. Proposed category (see section II, Character Categories):

Category A.

4. Proposed Level of Implementation (see clause 15, ISO/IEC 10646-1): **2**

Is a rationale provided for the choice? Yes. Is a combining mark.

5. Is a repertoire including character names provided?:

COMBINING UPWARD POINTING TRIANGLE OVERLAY

a. If YES, are the names in accordance with the 'character naming guidelines' in Annex K of ISO/IEC 10646-1? **Yes.**

b. Are the character shapes attached in a reviewable form? **Yes, see attached.**

6. Who will provide the appropriate computerized font (ordered preference: True Type, PostScript or 96x96 bit-mapped format) for publishing the standard? **Apple Computer Inc.**

7. References:

a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? **Yes, see attached.**

b. Are published examples (such as samples from newspapers, magazines, or other sources) of use of proposed characters attached? **Yes, see attached.**

8. 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): **Yes. The sorting order is immaterial, but follows the other overlay characters in terms of "combining priority". It is a combining mark of level 0. It should have the character properties of "Me;0;L" in the data file.**

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before? **Has not been submitted to WG2. Was submitted and "accepted for encoding" by Unicode Technical Committee, document number L2/98-056.**

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? **Geoffrey Sampson, Apple Computer, Inc.**

If YES, available relevant documents? **See attached.**

3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?

Yes, see attached.

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

Common.

5. Are the proposed characters in current use by the user community? **Yes.**

If YES, where? Reference: **See attached. The character is in common international use.**

6. After giving due considerations to the principles in N 1352 must the proposed characters be entirely in the BMP? **Yes.**

If YES, is a rationale provided? **Yes.**

If YES, reference: **Should be included in the sparsely-populated block with other combining characters of similar ilk, e.g., at U+20E2.**

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.**

9. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character? **Yes.**

If YES, is a rationale for its inclusion provided? **Yes. See other overlay characters, and see attached.**

10. Does the proposal include use of combining characters and/or use of composite sequences (see clause 4.11 and 4.13 in ISO/IEC 10646-1)? **Yes.**

If YES, is a rationale for such use provided? **Yes, see attached.**

Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided? **None required.**

11. Does the proposal contain characters with any special properties such as control function or similar semantics? **Yes. See attached; is a combining character.**

D. SC 2/WG 2 Administrative (To be completed by SC 2/WG 2)

1. Relevant SC 2/WG 2 document numbers:

2. Status (list of meeting number and corresponding action or disposition):

3. Additional contact to user communities, liaison organizations etc:

4. Assigned category and assigned priority/time frame:

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

A. Administrative

- 1. Title: Triangular Overlay Character
- 2. Requester's name: Rick McGowan & Geoffrey Sampson
- 3. Requester type (Member body/Relation/Individual contribution):
Individual contribution
- 4. Submission date: 23 Feb 1998
- 5. Requester's reference (if applicable):
- 6. This is a complete proposal.

B. Technical - General

- 1. (Choose one of the following:)
- a. The proposal is for addition of character(s) to an existing block:
Name of the existing block: Combining Diacritical Marks for Symbols
- 2. Number of characters in proposal: 1
- 3. Proposed category (see section II, Character Categories):
Category A.
- 4. Proposed level of implementation (see clause 15, ISO/IEC 10646-1): 2
Is a rationale provided for the choice? Is a combining mark.
- 5. Is a repertoire including character names provided?:
COMBINING UPWARD POINTING TRIANGLE OVERLAY
- a. If YES, are the names in accordance with the 'character naming guidelines' in Annex K of ISO/IEC 10646-1? Yes.
- b. Are the character shapes attached in a reviewable form? Yes, see attached.
- 6. Who will provide the appropriate computerized font (ordered preference: True Type, PostScript or 96x96 bit-mapped format) for publishing the standard? Apple Computer Inc.

7. References:

- a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? Yes, see attached.
- b. Are published examples (such as samples from newspapers, magazines, or other sources) of use of proposed characters attached? Yes, see attached.

B. 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): Yes. The sorting order is immaterial, but follows the other overlay characters in terms of 'combining priority'. It is a combining mark of level 0. It should have the character properties of 'He/0/L' in the data file.

C. Technical - Justification

- 1. Has this proposal for addition of character(s) been submitted before? No.
- 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? Geoffrey Sampson, Apple Computer Inc.
If YES, available relevant documents? See attached.
- 3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? Yes, see attached.
- 4. The context of use for the proposed characters (type of use; common or rare): common.
- 5. Are the proposed characters in current use by the user community? If YES, where? Reference: See attached. The character is in common international use.
- 6. After giving due considerations to the principles in N 1352 must the proposed characters be entirely in the BMP? Yes.
If YES, is a rationale provided? Should be included in the sparsely-populated block with other combining characters of similar 1X, e.g., at U+20E2.
If YES, reference: Unicode 2.0.

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.
 9. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character? Yes. See other overlay characters, and see attached.
 10. Does the proposal include use of combining characters and/or use of composite sequences (see clause 4.11 and 4.13 in ISO/IEC 10646-1)? Yes. If YES, is a rationale for such use provided? Yes, see attached.
Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided? None required.
 11. Does the proposal contain characters with any special properties such as control function or similar semantics? Yes. See attached; is a combining character.
- D. SC 2/WG 2 Administrative (To be completed by SC 2/WG 2)
1. Relevant SC 2/WG 2 document numbers:
 2. Status (list of meeting number and corresponding action or disposition):
 3. Additional contact to user communities, liaison organizations etc:
 4. Assigned category and assigned priority/time frame:

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I propose that the Unicode codings should be expanded to allow the representation of a symbol consisting of an exclamation mark within a triangular frame, meaning "danger, pay attention, special care needed", or the like.

This symbol originated as an element of the European road-sign system, but has come into use in printed documents, for instance in order to draw attention to safety considerations in product manuals and similar.

There are several ways in which this symbol could be incorporated into the Unicode system:

- 1 the symbol could be assigned a code of its own, probably in the "Miscellaneous Dingbats" area;
- 2 the symbol might be unified with U+2621, CAUTION SIGN, since the latter symbol seems from its name to be used for roughly the same purpose (I myself have never encountered U+2621 and would not have guessed what it meant — a colleague has now told me that an American computer scientist, Donald Knuth I think, uses it in his publications);
- 3 it could be treated as a composite symbol, if a new enclosing diacritic "upward-pointing triangle" were added to the set at U+20DD and following.

Solution 2 is unattractive to my mind. U+2621 appears to derive from a different road sign, meaning "dangerous bends". As a road sign, the symbol with which this proposal is concerned means "attention needed to something unspecified, not having a more specific conventional symbol". At an earlier stage of the European road sign system this concept was expressed variously by an empty triangle, a triangle containing a vertical bar, or a triangle containing an exclamation mark (the last of these alternative/ seems now to have become standard); these equivalent signs contrasted with the symbol shown at U+2621, which represents a specific danger. Even if the signs are not used contrastively as characters in written documents, it would seem odd to unify symbols which contrast in meaning in their original use.

If a decision *were* made in favour of solution 2, it would be desirable for future editions of the Unicode documentation to show both glyphs explicitly: I feel confident that far more people know the exclamation-mark than know the bend symbol for "caution".

Either solution 1 or solution 3 would be reasonable, I believe. I lean towards 3 rather than 1. As a road sign, the symbol is semantically composite. In the international road

S/h

sign system (which was adopted in Britain only in about 1965, but had been standard in Continental Europe much earlier, I think since before the Second World War), the meaning of a sign derives jointly from frame-shape and the glyph within the frame. Omitting a handful of special cases, circular frames represent commands (red for negative, blue for positive), triangular frames represent warnings, and rectangular frames represent information. The pre-1960s British road-sign system (dating back at least to the First World War) had a related structure: warnings v. instructions were represented by hollow triangles v. hollow or solid discs, with the specific nature of the warning or command shown on a separate rectangular plate below the triangle or disc. In fact I think British and Continental systems were originally similar, and historically the triangle v. circle/disc was perceived as the primary element and the other part of the sign as secondary material added for clarification; on the Continent the secondary material became incorporated within the primary shape at an early stage, in Britain for many decades the two elements were kept separate although the size of the specific element increased relative to the size of the triangle or circle above it.

This background means that, for instance, if a European publication chose to use the "bends" glyph U+2621 to represent "caution" in a document, it would almost certainly enclose it in a triangular frame; to European eyes such a sign looks incomplete without its warning triangle. Since U+20DD and following provide the other necessary enclosing shapes, it seems illogical not to include the upward-pointing triangle (which is almost certainly the commonest single frame-shape in the road-sign system). It is not unlikely that other combinations of enclosing triangle with enclosed specific element will move or already have moved out of the road-sign domain into that of printed documentation.

My specific proposal, then, is that a new character called ENCLOSING UP POINTING TRIANGLE be added under "Diacritical Marks for Symbols". "Up pointing" needs to be specified; again in the European road-sign system, upward v. downward triangular frames form a significant contrast, the downward triangle (empty or enclosing an appropriate word) being a unique sign used in some countries to show a major road crossing (this sign is not used in Britain). I doubt that this latter sign is destined to turn into a text character.

To demonstrate usage in written documents, I attach:

Sheets A and B, pages photocopied from A.S. Hornby, ed., *Oxford Advanced Learner's Dictionary of Current English*, 3rd ed., Oxford University Press, London, 1974, showing exclamation-mark-in-triangle as a conventional marker for taboo words. Sheet A shows the endpapers, listing the abbreviations and symbols used in the dictionary: it can be seen that this publication uses few symbols other than alphabetic abbreviations (it is certainly not given to multiplying ad hoc pictorial marks), which suggests that this particular symbol is well integrated into conventional usage. (It continues to be used in the 1989 4th edition of the same dictionary.) Sheet B includes an example of the sign in use.

Sheet C is a photocopy of p. 32 of *Think's LightspeedC User's Manual*, Symantec Corporation, Bedford (Mass.), 1988, showing the symbol used in an Apple Macintosh dialogue box. This establishes that, even if the symbol is European in origin, it has by now come into currency meaning "pay attention" also in an American context.

For the delectation of Consortium members, sheet D reproduces p. 199 of D. Keir & B. Morgan, eds., *Golden Milestone: 50 Years of the AA*, Automobile Association, London, 1955; the cartoon illustrates a situation I well remember from childhood motoring holidays at a time when the symbol was already established on the Continent but looked bizarre to Britons, who were unaccustomed in those days to seeing punctuation marks anywhere but on paper.

ons used in the text

ation	imper	imperative	preps	prepositions
e/s	impers	impersonal	pres t	present tense
s	ind	indirect	pron	pronoun
sl particle	indef art	indefinite article	pt	past tense
ive/ly	inf	infinitive	reflex	reflexive
us finite	int	interjection	rel	relative
ve/ly	interr	interrogative	rhet	rhetorical
le noun	intrans	intransitive	sb	somebody
ve/ly	(Lat)	Latin	Scot	Scottish
itive	Lc	length about	sing	singular
ion	masc	masculine	sth	something
article	n, nn	noun/s	suff	suffix
trative	neg	negative	superl	superlative
trative	(P)	proprietary name	trans	transitive
ly	part adj	participial adjective	[U]	uncountable
:	pers	person	US	American
:	pers pron	personal pronoun	usu	usually
:	phr	phrase	v, vv	verb/s
:	pl	plural	[VP]	Verb Pattern
about	poss	possessive	vi	verb intransitive
on	pp	past participle	vt	verb transitive
	pred	predicative/ly	⊞	look at
	pref	prefix	♂	male
	prep	preposition/al	♀	female

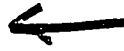
English registers

ns used

history (hist)
 journalism
 legal
 mathematics (maths)
 mechanics (mech)
 medical (med)
 meteorology (met)
 military (mil)
 music
 mythology (myth)
 nautical (naut)
 naval
 pathology (path)
 philosophy (phil)
 phonetics (phon)
 photography (photo)
 physics (phys)
 physiology (physiol)
 politics (pol)
 psychology (psych)
 racing
 radio telegraphy
 Rugby
 science
 sport
 tennis
 theatre
 trigonometry (trig)
 zoology (zool)

Stylistic values

archaic
 colloquial (colloq)
 dated
 derogatory (derog)
 dialect (dial)
 emotive (emot)
 emphatic (emph)
 euphemistic (euphem)
 facetious (facet)
 figurative (fig)
 formal
 historical (hist)
 humorous (hum)
 ironical (ironic)
 jocular (joc)
 laudatory (laud)
 literary (liter)
 literally (lit)
 modern use (mod use)
 old use
 pejorative (pej)
 poetic (poet)
 proverb (prov)
 rare
 slang (sl)
 ⚠ taboo
 vulgar (vulg)

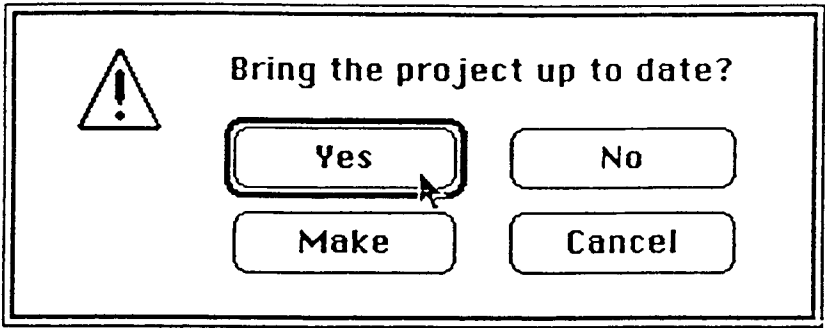


Compiling and Running the Project

Before you can run your project, you need to compile the source files and load the MacTraps library. You can use the **Compile** and **Load Library** commands in the **Source** menu, or you can let THINK C take care of everything for you.

THINK C uses the project document to keep track of which files need to be compiled, so you can go ahead and run your project. Choose the **Run** command from the **Project** menu.

None of the files in the project have been compiled, so THINK C asks you if you want to bring the project up to date:



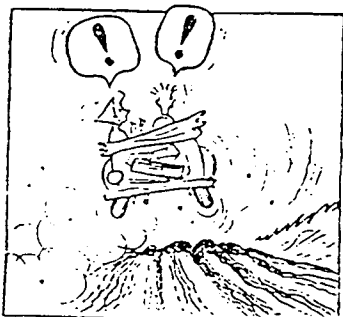
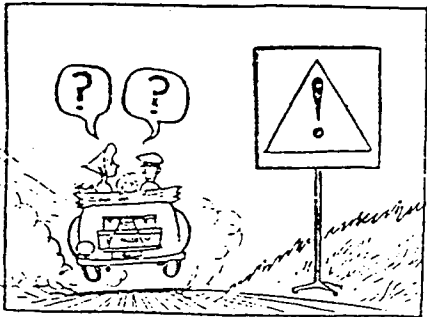
Click on the Yes button.

THINK C starts compiling the first file in the project. It displays a dialog box that shows how many lines have been compiled. (THINK C adds the number of lines in #includes files in the line count.)

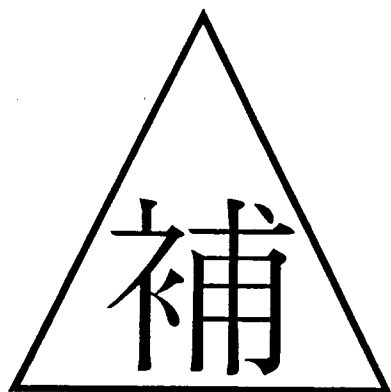
In this example, THINK C doesn't get very far because BuggyEdit.c has a small intentional

publicising, in association
 , a motoring holiday 300
 o undertake the journey,
 ve a special badge, incor-
 ives included a view of the
 thernmost Lapland. More
 as prepared an absorbing
 iddle East, India and Aus-
 tad, Kandahar, Kabul - the
 ing them on a map with a
 ..
 l be possible in these days
 : frontiers? Apparently it
 nfinned to a single sheet of
 nsured tones of a man who
 ells us, though 'often of a

repaired locally owing to lack of a particular replacement, are like-
 wise tackled with speed and efficiency: a telegram to Fanum House
 will in nearly all cases bring the necessary part by air. Within the
 past twelve months - to select examples almost at random - a doctor
 in Kenya has been sent the spares which he had failed to find anywhere
 in the territory, special kinds of weather strip for keeping out sand



Example of where a combining enclosing triangle would be helpful (a legacy character in Mac OS Korean):



Japanese double prime quotation marks in Mac OS fonts -

like U+301D:



like a rotated U+301E:

