

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

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:** Proposal to Encode Modifier Letter Low Circumflex Accent

2. Requester's name: Lorna A. Priest

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

4. Submission date: 20 July 2006

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: No

**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: Spacing Modifier Letters

2. Number of characters in proposal: 1

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. Proposed Level of Implementation (1, 2 or 3) (see Annex K in P&P document): 1  
Is a rationale provided for the choice? No  
If Yes, reference: \_\_\_\_\_

5. Is a repertoire including character names provided? Yes

a. If YES, are the names in accordance with the "character naming guidelines" Yes  
in Annex L of P&P document?

b. Are the character shapes attached in a legible form suitable for review? Yes

6. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard? SIL International  
If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used: <http://scripts.sil.org/DoulosSILfont> (Modifier Letter Low Circumflex Accent is currently at U+F1E7)

7. 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

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)?  
Suggested character properties, annotations and cross-referencing are included.

9. 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.

<sup>1</sup> Form number: N2652-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11)

### C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before? If YES explain _____	<u>No</u>
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.)? If YES, with whom? <u>via Martin Hosken</u> If YES, available relevant documents: _____	<u>Yes</u>
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? Reference: <u>See comments in Section E</u>	<u>Yes</u>
4. The context of use for the proposed characters (type of use; common or rare) Reference: <u>This orthographic character is used in dictionaries, liturgical books and general literature.</u>	<u>Common</u>
5. Are the proposed characters in current use by the user community? If YES, where? Reference: <u>See comments in Section E</u>	<u>Yes</u>
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP? If YES, is a rationale provided? _____ If YES, reference: <u>If possible, should be kept with other related blocks in the BMP.</u>	<u>Preferably</u>
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)? <u>Preferably with other related blocks</u>	
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence? If YES, is a rationale for its inclusion provided? _____ If YES, reference: _____	<u>No</u>
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters? If YES, is a rationale for its inclusion provided? _____ If YES, reference: _____	<u>No</u>
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character? If YES, is a rationale for its inclusion provided? _____ If YES, reference: <u>See comments in Section E</u>	<u>Possibly</u> <u>Yes</u>
11. Does the proposal include use of combining characters and/or use of composite sequences? 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: _____	<u>No</u>
12. Does the proposal contain characters with any special properties such as control function or similar semantics? If YES, describe in detail (include attachment if necessary) _____	<u>No</u>
13. Does the proposal contain any Ideographic compatibility character(s)? If YES, is the equivalent corresponding unified ideographic character(s) identified? _____ If YES, reference: _____	<u>No</u>

### D. Proposed Characters

A code chart and list of character names are shown on a new page.

**D.1. Proposed Characters**

	xx00
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1	
2	
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7	
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A	
B	
C	
D	
E	
F	

**D.2. Character Names**

xx00 MODIFIER LETTER LOW CIRCUMFLEX ACCENT

- tone marker for Lahu and Akha
- 02C6 ^ modifier letter circumflex accent
- 02C7 ˇ caron
- 02EC ˘ modifier letter voicing

**D.3. Annotation and cross referencing**

02C6 MODIFIER LETTER CIRCUMFLEX ACCENT

- 02C7 ˇ caron
- 02EC ˘ modifier letter voicing
- xx00 ˆ modifier letter low circumflex accent

02C7 CARON

- 02C6 ^ modifier letter circumflex accent
- 02EC ˘ modifier letter voicing
- xx00 ˆ modifier letter low circumflex accent

02EC MODIFIER LETTER VOICING

- tone marker for Lahu and Akha
- 02C6 ^ modifier letter circumflex accent
- 02C7 ˇ caron
- xx00 ˆ modifier letter low circumflex accent

#### D.4. Unicode Character Properties

xx00 should have a general category of Lm. Other properties should match those of similar characters, such as U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT.

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xx00;MODIFIER LETTER LOW CIRCUMFLEX ACCENT;Lm;0;ON;;;;;N;;;;;
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#### E. Other Information

Akha is a language spoken by close to half a million people in Myanmar, China, Laos, Thailand and Viet Nam<sup>2</sup>. Akha has oral vowels occurring on three level tones<sup>3</sup>:

/ ˜ / high	U+02C7 CARON
/ / mid (not marked)	
/ ˇ / low	U+02EC MODIFIER LETTER VOICING

and laryngealized vowels occur on two level tones:

/ ˆ / mid	U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT
/ ˘ / low	

Lahu is spoken by over half a million people in China, Laos, Myanmar, Thailand and Vietnam.<sup>4</sup> There are several orthographies in use. The Protestant orthography uses<sup>5</sup>:

/ ˊ / high rising	U+02C9 MODIFIER LETTER MACRON
/ ˋ / high falling	U+02C7 CARON
/ / mid (not marked)	
/ ˇ / low falling	U+02EC MODIFIER LETTER VOICING
/ ˘ / very low	U+02CD MODIFIER LETTER LOW MACRON
/ ˆ / high checked	U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT
/ ˘ / low checked	

We are proposing the addition of MODIFIER LETTER LOW CIRCUMFLEX ACCENT. We considered requesting the addition of MODIFIER LETTER LOW CARON but decided that U+02EC MODIFIER LETTER VOICING would be suitable for the Lahu and Akha needs and would cause less confusion for the identity of U+02EC. We also considered using U+02EF MODIFIER LETTER LOW DOWN ARROWHEAD and U+02F0 MODIFIER LETTER LOW UP ARROWHEAD for both characters. However, they are based on arrowheads and Lahu and Akha needs tone marks based on the circumflex/caron design.

If MODIFIER LETTER LOW CIRCUMFLEX ACCENT is approved, we would request U+02EC be annotated as also having the function as a tone mark for Lahu and Akha. We also request the cross-referencing of MODIFIER LETTER LOW CIRCUMFLEX ACCENT, U+02C6, U+02C7 and U+02EC to establish the intended tying together of all 4 as a family of “wedges” that should have similar shape in font design (see D.3).

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<sup>2</sup> <http://www.ethnologue.com>

<sup>3</sup> Lewis, 1968, p. xii.

<sup>4</sup> <http://www.ethnologue.com>

<sup>5</sup> Matisoff, 2006, p. xx.

<i>bamboo shoot</i> (296)	a <sup>˘</sup> bye <sup>˘</sup> /a <sup>˘</sup> bye˘/	*(s)myet <sup>L</sup>
<i>blow</i> (690)	baw-eu /bo <sup>˘</sup> ɽɽ/	*smut <sup>H</sup>

Some forms show interesting prefix fusions in all Akha dialects.

<i>lightning</i> (328)	mya <sup>˘</sup> eu /mjɔ <sup>˘</sup> ɽ/	*b-lyap <sup>L</sup>
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which may imply reanalysis as *fire* (329) \*Cmi<sup>2</sup> + *needle* (382) \*rap<sup>L</sup>.

<i>lick</i> (630)	mye <sup>˘</sup> eu /mjɛ <sup>˘</sup> ɽ/	*m-lyak <sup>L</sup>
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again, fusion which differs from that seen in other Loloish languages.

<i>star</i> (319)	a <sup>˘</sup> gui <sup>˘</sup> /?a <sup>˘</sup> ɽɽ/	*bkray <sup>L</sup>
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Figure 1. MODIFIER LETTER LOW CIRCUMFLEX ACCENT in Akha examples (Bradley, 1977. p. 37).

62 Akha

**Accommodation & Meals**

Have (you) eaten rice yet?	<i>Haw<sup>˘</sup> dza<sup>˘</sup> g'a<sup>˘</sup> ma<sup>˘</sup> lo<sup>˘</sup>?</i>
(I) have eaten.	<i>Dza<sup>˘</sup> g'a<sup>˘</sup> ma<sup>˘</sup>.</i>
(I) have eaten morning rice.	<i>Shaw<sup>˘</sup> haw<sup>˘</sup> dza<sup>˘</sup> g'a<sup>˘</sup> ma<sup>˘</sup>.</i>
(I) have eaten noon rice.	<i>G'ah<sup>˘</sup> haw<sup>˘</sup> dza<sup>˘</sup> g'a<sup>˘</sup> ma<sup>˘</sup>.</i>
(I) have not eaten evening rice yet.	<i>Ci<sup>˘</sup> haw<sup>˘</sup> ma<sup>˘</sup> dza<sup>˘</sup> -a<sup>˘</sup> si<sup>˘</sup>.</i>

  

Are you hungry?	<i>Naw<sup>˘</sup> haw<sup>˘</sup> meh<sup>˘</sup> nya<sup>˘</sup> lo<sup>˘</sup>?</i>
I am hungry.	<i>Nga<sup>˘</sup> -ah<sup>˘</sup> haw<sup>˘</sup> meh<sup>˘</sup> nya<sup>˘</sup>.</i>
(I) am not hungry yet.	<i>Ma<sup>˘</sup> meh<sup>˘</sup> nya<sup>˘</sup> si<sup>˘</sup>.</i>
(I) have not become hungry yet.	<i>Ma<sup>˘</sup> meh<sup>˘</sup> -a<sup>˘</sup> nya<sup>˘</sup> si<sup>˘</sup>.</i>
I am not hungry yet.	<i>Nga<sup>˘</sup> -ah<sup>˘</sup> haw<sup>˘</sup> ma<sup>˘</sup> meh<sup>˘</sup> nya<sup>˘</sup> si<sup>˘</sup>.</i>

Figure 2. MODIFIER LETTER LOW CIRCUMFLEX ACCENT in Akha phrasebook (Bradley, 1991. p. 62).

da <sup>˘</sup> tsi tsi-eu	to fish without a hook, but with bait on the string. When the fish, eel, crab, turtle, etc. bites down on the bait, one must pull it out real fast (it will not work for every kind of fish)
da <sup>˘</sup> tsui <sup>˘</sup>	a person's back
da <sup>˘</sup> tsui <sup>˘</sup> g'ah-eu	for one's back to be stiff from sitting in one place too long, or doing some type work
da <sup>˘</sup> tsui <sup>˘</sup> sha <sup>˘</sup> yoe <sup>˘</sup>	a person's spine
da <sup>˘</sup> yeh <sup>˘</sup> (yeh <sup>˘</sup> )	a thin bamboo strip
da (FP)	(see ta)
- da-eu, pa <sup>˘</sup> zaw <sup>˘</sup> -	(see full)
da-m <sup>˘</sup> da	a type of bird that they cannot see (aw-m <sup>˘</sup> aw)
da <sup>˘</sup> (WM)	1. a load of something carried by animals (k'a <sup>˘</sup> da <sup>˘</sup> ti <sup>˘</sup> da <sup>˘</sup> )
	2. the width of one's thumb (la <sup>˘</sup> ma <sup>˘</sup> ti <sup>˘</sup> da <sup>˘</sup> )
da <sup>˘</sup> (FP)	(see ta <sup>˘</sup> )

Figure 3. MODIFIER LETTER LOW CIRCUMFLEX ACCENT in Akha dictionary (Lewis, 1968. p. 71).



36 Jaw<sup>v</sup> maw<sup>v</sup>-o<sup>v</sup>, yaw<sup>v</sup> hta<sup>^</sup> nga<sup>v</sup> g'a yon<sup>v</sup>  
 tu<sup>v</sup>, chaw ya<sup>v</sup> ve Ya<sup>v</sup> hpu a shu le teh<sup>^</sup> na nyi  
 ve yo<sup>v</sup>.

37 Ye<sup>v</sup> su<sup>^</sup> k'o<sup>^</sup> ve. Naw<sup>v</sup> yaw<sup>v</sup> hta<sup>^</sup> g'a  
 maw<sup>v</sup> peu<sup>v</sup> ve aw<sup>v</sup> hk'o<sup>^</sup>, chi beu<sup>^</sup> naw<sup>v</sup> hta<sup>^</sup>  
 taw<sup>v</sup> yaw cheh<sup>v</sup> ve leh<sup>v</sup> yaw<sup>v</sup> yo<sup>v</sup> teh<sup>^</sup>, yaw<sup>v</sup>  
 hta<sup>^</sup> k'o<sup>^</sup> pi<sup>v</sup> ve yo<sup>v</sup>.

Figure 4. MODIFIER LETTER LOW CIRCUMFLEX ACCENT in Lahu New Testament (TBS, 2003. p. 194).

A<sup>v</sup> yaw<sup>^</sup> a<sup>v</sup>, a<sup>v</sup> yaw<sup>^</sup>-eu<sup>v</sup> yaw<sup>v</sup> deu<sup>v</sup>-eu<sup>v</sup> tsaw<sup>v</sup> myah<sup>v</sup> ku<sup>v</sup>-aw<sup>v</sup>,  
 4 yaw<sup>v</sup> k'oe<sup>v</sup> deu<sup>v</sup>-ah<sup>v</sup> sheu<sup>v</sup> do<sup>^</sup> g'eh-eu meh. A<sup>v</sup> yaw<sup>^</sup>-eu<sup>v</sup>  
 yaw<sup>v</sup> daw<sup>v</sup> taw<sup>^</sup> lu<sup>^</sup>-ah<sup>v</sup> sheu<sup>v</sup> do<sup>^</sup> ji<sup>v</sup> na<sup>v</sup>, yaw<sup>v</sup> deu<sup>v</sup>-eu<sup>v</sup> meh<sup>v</sup>  
 hu a<sup>v</sup> yaw<sup>^</sup> i<sup>v</sup>-eu meh. Yaw<sup>v</sup> deu<sup>v</sup> k'aw<sup>^</sup> a<sup>v</sup> yaw<sup>^</sup>-eu<sup>v</sup> daw<sup>v</sup>  
 si<sup>v</sup> nya-eu mi<sup>v</sup> neh, a<sup>v</sup> yaw<sup>^</sup>-eu<sup>v</sup> meh<sup>v</sup> nah<sup>^</sup> caw teh g'eh-eu meh.  
 5 Yaw<sup>v</sup> k'oe<sup>v</sup> deu<sup>v</sup>-a<sup>v</sup>, a<sup>v</sup> yaw<sup>^</sup> ma<sup>^</sup> ma<sup>v</sup> si<sup>v</sup> nya-eu tsaw<sup>v</sup> ha<sup>v</sup>-  
 eu<sup>v</sup> meh<sup>v</sup> nah<sup>^</sup> ma<sup>v</sup> caw teh-a. A<sup>v</sup> yaw<sup>^</sup> ma<sup>^</sup> ma<sup>v</sup> si<sup>v</sup> nya-eu  
 tsaw<sup>v</sup> ha<sup>v</sup>-eu<sup>v</sup> daw<sup>v</sup> ma<sup>v</sup> si<sup>v</sup> nya-eu mi<sup>v</sup> neh, ceh<sup>^</sup>-eu meh leh<sup>v</sup>,

Figure 5. MODIFIER LETTER LOW CIRCUMFLEX ACCENT in Akha New Testament (BST, nd. p. 296).

**F. References**

Bradley, David. 1977. "Akha and Southern Loloish." Papers in South-East Asian Linguistics No. 5. Pacific Linguistics. Series A – No. 49. Department of Linguistics, Research School of Pacific Studies. The Australian National University.

Bradley, David. 1991. *Thai Hill Tribes phrasebook*. Lonely Planet Publications. Colorcraft Ltd., Hong Kong.

Lewis, Paul (compiled). 1968. *Akha-English Dictionary*. Data Paper: Number 70. Southeast Asia Program. Department of Asian Studies. Cornell University, Ithaca, New York.

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