ISO/IEC JTC1/SC2/WG2 N4xxx L2/12-222 2012-07-02

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 the Ahom Script in the SMP of the UCS

Source: Martin Hosken, Stephen Morey

Action: For consideration by JTC1/SC2/WG2

Date: 2012-07-02

1. Introduction: This document is a finalisation of the preliminary proposal presented as ISO/IEC JTC1/SG2/WG2 N3928, Unicode L2/10-359 and replaces those documents.

The Ahom script is used in North East India for the Tai Ahom language [AHO] and there are also some bilingual manuscripts from the 18th century that are partially in Assamese [ASM]. The Ahom Kingdom was set up (traditional date 1228) by a prince of Mau Long (now in the Dehong Dai prefecture of Yunnan province China). There are stone inscriptions in Yunnan very similar to Tai Ahom, and it is possible that the Ahoms brought their script from Mau Long when they arrived in Assam. The oldest surviving Ahom text, however, is the 'Snake Pillar' now in the State Museum of Assam, Guwahati, inscribed for King Siuw Hum Miung (1497-1539). In addition to this stone inscription and a few others, there are coins, brass plates and a large corpus of manuscripts. Until the early 19th century, manuscripts were written either on cloth, or more usually on the bark of the Sasi tree (Aquillaria Agallocha). Many thousands of such bark manuscripts have survived, often multiple copies of the same texts. Very few have been translated because knowledge of the language by the Ahom community is partial at best.

The Tai Ahom language went into decline from the late 17th century, and by 1800 was probably not spoken at all as mother tongue in Assam. However, the traditional priests, custodians of the manuscripts, kept up some religious practice throughout the 19th century and a revival of Ahom culture and language has been under way since at least 1920 (see Terwiel 1996 for a critique of this revival, also Morey 2002). Even before this, the revival of Ahom may be said to have begun in the late 18th century, with the compilation of two bilingual texts, the Bar Amra, an Ahom to Assamese lexicon, and the Loti Amra (see Barua and Phukon 1964, Tabassum and Morey 2010).

The modern period of use of the Ahom script commences with the publication of the Ahom-Assamese-English Dictionary (G. Barua 1920). Many dictionaries, word lists and primers have followed, first printed with a font style that was significantly different from the 18th century manuscripts. Since the 1997 development of an Ahom computer font (by Stephen Morey) the publication of Ahom texts has proceeded much more rapidly and there are now large numbers of books in Assam printed with at least some Ahom content.

2. Structure: Ahom is of the Brahmic type with an inherent vowel, medial consonants clustered with the initial consonant and a visible virama killer character, which has only become obligatory in modern Ahom. Ahom has no independent vowels, instead they are represented by AHOM LETTER A (U+112D1) followed by the corresponding dependent vowel sign. Dependent vowel signs are stored following the initial consonant cluster.

There are various irregular vowel sequences used in archaic Ahom, for example \mathfrak{R}° AHOM LETTER NA (U+112C3) AHOM VOWEL SIGN 0 (U+112E8) AHOM VOWEL SIGN AW (U+112E7) AHOM LETTER BA (U+112C7) HOM SIGN VIRAMA (U+112EB) AHOM VOWEL SIGN U (U+112E4) `star`.

Ahom uses the repeating of the final vowel, vowel sequence or consonant plus virama, as a way of indicating that the word should be reduplicated. Vowels that may be so repeated are: AHOM VOWEL SIGN AA (U+112E1), AHOM VOWEL SIGN II (U+112E3), AHOM VOWEL SIGN AW (U+112E7), AHOM VOWEL SIGN AI (U+112E9), AHOM VOWEL SIGN AI (U+112E4), AHOM SIGN VIRAMA (U+112EB), and the sequence AHOM LETTER BA (U+112C7) AHOM SIGN VIRAMA (U+112EB). AHOM VOWEL SIGN U (U+112E4) can be used at the end of an Ahom syllable to indicate vowel length or vowel quality.

3. Digits: Knowledge of Ahom digits is incomplete with Ahom specific shapes only being known for 1, 7 8 and 10. Some other digit shapes are borrowed and then localised, from Burmese: 6 and 9 and the remaining digits: 2, 3 4 and 20 are merely the words for those numbers in Ahom spelled out. Lack of knowledge of digits is exacerbated by the common mixing of digits between systems (particularly with Burmese digits) in a number. A specific digit block has been included because some modern manuscripts do use specifically Ahom numbers. Full details of what should be used specifically for 2, 3 and 4 are an open issue.

In manuscript usage of Ahom, the digit 20 does get used as a digit. Numbers above 100 are typically fully spelled out as words since they occur within text. In manuscript usage numbers above 10 tend only to be used for page numbers, and no 100 page books have been found yet. The following is an example of a page number:

ა (AHOM DIGIT 2 U+112F2) w (AHOM DIGIT 20 U+112FB) 101 (AHOM DIGIT 10 U+112FA) ათ (AHOM DIGIT 8 U+112F8) meaning '58'.

- **4. Punctuation**: There are three punctuation marks. The two dandas are local to this script and not shared from any other script block. The AHOM SIGN RULAI (U+112FE) is used as a paragraph mark. AHOM SYMBOL VI (U+112FF) corresponds to MYANMAR SYMBOL AITON EXCLAMATION (U+AA77).
- **5. Word spacing**: Modern Ahom and some manuscripts have word spaces. Other manuscripts have no word spaces.
- **6. Variant Forms**: Ahom has a number of variant and ligature glyphs that are worthy of attention.
 - This is a contextual ligature of AHOM VOWEL SIGN I (U+112E2) AHOM VOWEL SIGN U (U+112E4). It is only used if there is no ambiguity that closing the right hand side of the initial consonant will make it look like another consonant. For example, one would not render AHOM LETTER NGA (U+112C2) AHOM VOWEL SIGN I (U+112E2) AHOM VOWEL SIGN U (U+112E4) using this ligature (U) because it would look too much like AHOM LETTER MA (U+112C8) AHOM VOWEL SIGN I (U+112E2) AHOM VOWEL SIGN U (U+112E4) (U) which can safely use this ligature.
 - These consonants may not take the ligature: $\mathcal V$ AHOM LETTER NGA (U+112C2) $\mathcal V$ AHOM LETTER NA (U+112C3) $\mathcal V$ AHOM LETTER DA (U+112D2) $\mathcal W$ AHOM LETTER NYA (U+112CF)
 - This is a ligature of AHOM VOWEL SIGN 0 (U+112E8) AHOM VOWEL SIGN A (U+112E1). It is believed to convey the glide-vowel combination /wa/, as THE AHOM LETTER KA (U+112C0) AHOM VOWEL SIGN 0 (U+112E8) AHOM VOWEL SIGN AA (U+112E1) AHOM LETTER NGA (U+112C2) AHOM SIGN VIRAMA (U+112EB), pronounced /kwaang/.
 - This is a font variant of AHOM LETTER JHA (U+112D7) in the form found in older manuscripts. The main form AHOM LETTER JHA (U+112D7) is that adopted for use at the beginning of the Ahom revival in the 1920s.

In manuscript Ahom there are a number of variations, not found in modern Ahom, that are being analysed. The following is a discussion of such variations. Some of that discussion is based around the use of a variation selector VARIATION SELECTOR-1 U+FE00. The variation selector is only used in ancient texts for the

purposes of analysis where it is yet unknown whether glyph variation is orthographically contrastive. Variation selectors never occur in modern text.

- This is a variant ligature AHOM LETTER KHA (U+112C1) AHOM MEDIAL RA (U+112DF) VARIATION SELECTOR-1 (U+FE00).
- This is a variant ligature AHOM LETTER PHA (U+112C6) AHOM MEDIAL RA (U+112DF) VARIATION SELECTOR-1 (U+FE00).
- This is a font variant of AHOM LETTER GA (U+112D4) but it may also occur along with AHOM LETTER GA (U+112D4) in some rare manuscripts. The variation selector may be used where both need to be separated for analysis purposes, in which case the default form is used and this form is the variation form. Thus the spelling AHOM LETTER GA (U+112D4) VARIATION SELECTOR-1 (U+FE00).
- This is a font variant of AHOM LETTER GA (U+112D4).
- This ligature is actually two characters AHOM LETTER TA (U+112C4) AHOM LETTER JA (U+112C9) conjoined. But the TA has been shortened. This is an example of where a variation of TA is used. Thus this sequence is stored AHOM LETTER TA (U+112C4) VARIATION SELECTOR-1 (U+FE00) AHOM LETTER JA (U+112C9).

The sequence AHOM VOWEL SIGN AW (U+112E7) AHOM VOWEL SIGN AM (U+112EA) ligates such that the AHOM VOWEL SIGN AM (U+112EA) renders before the AHOM VOWEL SIGN AW (U+112E7). This can occur rarely with the sequences AHOM VOWEL SIGN I (U+112E2) AHOM VOWEL SIGN AM (U+112EA).

- **7.** Character Naming: Character names follow the phonetics of the characters. AHOM LETTER JA (U+112C9) acts like a YA but is pronounced in modern Ahom as JA. Likewise AHOM LETTER BA (U+112C7) acts like a WA but is pronounced in modern Ahom as BA.
- **8. Sort order**: A standard sort order for Ahom has not been agreed. There are various in existence. Sorting Ahom gives higher priority to the final consonant than to the vowel. In fact, early sorting gave higher priority to the final consonant than to the initial consonant! But nobody is recommending this for a modern sorting. For DUCET the ordering is not expected to give precedence to the final consonant, although it would be expected for language specific tailoring(s).

Initial Consonant: Several orders exist. The proposed ordering, as approved by a meeting of Ahom community leaders held in Moran, Sibsagar District, Assam, in October 2011, is based on Barua (1920):

Another order, as given in the Bar Amra and other older Ahom manuscripts (as analysed by Stephen Morey), is:

This order is found in some writing practice books of the Tai Ahom from the 18th century. However an ongoing study of the 18th century practice books and other sources suggest that there was no one ordering standard.

Final Consonants: In modern usage, and for default collation, final consonants follow the initial consonant order, but there are historic orders for these that differ from the orders for initial consonants. The most authoritative order, from Bar Amra, is:

and the most common, from Barua and Phukan is:

Vowels: Vowels fall into two sequences: open and closed syllables. The open vowel sequence is (shown with an initial k):

Then follows the closed syllables, here shown with initial and final k:

Finally there are two extra open syllables:

For the purposes of default collation, vowels are ordered according to their codepoint value, likewise for the two medials. The relative block order is: Consonants, Vowels, Medials.

	112C	112D	112E	112F
0	m	Я	\mathbb{C}	0
1	ಬ	Υ'n	Ĵ	抓
2	४	ડ્ય	(<u>`</u>)	ಇ
3	ri	æ	φ-	พื
4	ON	C	(_)	w
5	υ	જ	(_, (_,	স্
6	w	\$	40	G
7	v	¥	<u>(_)</u>	প্
8	ਖ		(_)	જા
9	w		()	6
Α	100		0/-	101
В	æ		(_)	W
C	£			1
D	w			11
E	W	(<u>`</u>)		(B)
F	rb	(X

Consonants Vowels 112C0 m AHOM LETTER KA 112E0 C: AHOM VOWEL SIGN A 112C1 ю AHOM LETTER KHA 112E1 ○↑ AHOM VOWEL SIGN AA 112C2 ช AHOM LETTER NGA AHOM VOWEL SIGN I 112E2 ○ AHOM VOWEL SIGN II 112C3 я AHOM LETTER NA 112E3 112C4 M AHOM LETTER TA \bigcirc AHOM VOWEL SIGN U 112E4 112C5 υ AHOM LETTER PA ○ AHOM VOWEL SIGN UU 112E5 112C6 w AHOM LETTER PHA 112E6 **√()** AHOM VOWEL SIGN E 112C7 υ AHOM LETTER BA OF AHOM VOWEL SIGN AW 112E7 112C8 ъ AHOM LETTER MA 112E8 AHOM VOWEL SIGN O 112C9 w AHOM LETTER JA 112E9 () AHOM VOWEL SIGN AI 112CA w AHOM LETTER CHA () AHOM VOWEL SIGN AM 112EA 112CB **∞** AHOM LETTER THA 112EB O AHOM SIGN VIRAMA 112CC & AHOM LETTER RA **Digits** 112CD w AHOM LETTER LA 112F0 AHOM DIGIT 0 112CE w AHOM LETTER SA 112F1 AHOM DIGIT 1 112CF พ AHOM LETTER NYA 112F2 **AHOM DIGIT 2** 112D0 и AHOM LETTER HA **AHOM DIGIT 3** 112F3 w 112D1 m AHOM LETTER A 112F4 w **AHOM DIGIT 4** 112D2 ъ AHOM LETTER DA 112F5 AHOM DIGIT 5 112D3 ₩ AHOM LETTER DHA иĮ 112F6 (K AHOM DIGIT 6 112D4 ο AHOM LETTER GA AHOM DIGIT 7 112F7 112D5 & AHOM LETTER GHA প **AHOM DIGIT 8** Ψ AHOM LETTER BHA 112F8 112D6 **AHOM DIGIT 9** 112F9 9 112D7 **ψ** AHOM LETTER JHA 112FA **AHOM DIGIT 10 Medials** 112FB w **AHOM DIGIT 20** AHOM CONSONANT SIGN MEDIAL LA 112DE **Punctuation** © AHOM CONSONANT SIGN MEDIAL RA 112DF 112FC 1 AHOM SIGN SMALL SECTION 112FD n AHOM SIGN SECTION

112FE **6** AHOM SIGN RULAI √ AHOM SYMBOL VI 112FF

Unicode Properties

```
112C0; AHOM LETTER KA; Lo; 0; L;;;;; N;;;;
112C1;AHOM LETTER KHA;Lo;0;L;;;;;N;;;;
112C2; AHOM LETTER NGA; Lo; 0; L;;;;; N;;;;
112C3;AHOM LETTER NA;Lo;0;L;;;;;N;;;;
112C4;AHOM LETTER TA;Lo;0;L;;;;;N;;;;
112C5;AHOM LETTER PA;Lo;0;L;;;;;N;;;;
112C6; AHOM LETTER PHA; Lo; 0; L;;;;; N;;;;
112C7; AHOM LETTER BA; Lo; 0; L;;;;; N;;;;
112C8;AHOM LETTER MA;Lo;0;L;;;;;N;;;;
112C9;AHOM LETTER JA;Lo;0;L;;;;N;;;;
112CA;AHOM LETTER CHA;Lo;0;L;;;;N;;;;
112CB;AHOM LETTER THA;Lo;0;L;;;;;N;;;;
112CC; AHOM LETTER RA; Lo; 0; L;;;;; N;;;;
112CD; AHOM LETTER LA; Lo; 0; L;;;;; N;;;;
112CE; AHOM LETTER SA; Lo; 0; L;;;;; N;;;;
112CF; AHOM LETTER NYA; Lo; 0; L;;;;; N;;;;;
112D0; AHOM LETTER HA; Lo; 0; L;;;;; N;;;;
112D1;AHOM LETTER A;Lo;0;L;;;;N;;;;
112D2; AHOM LETTER DA; Lo; 0; L;;;;; N;;;;
112D3;AHOM LETTER DHA;Lo;0;L;;;;N;;;;
112D4;AHOM LETTER GA;Lo;0;L;;;;N;;;;
112D5;AHOM LETTER GHA;Lo;0;L;;;;;N;;;;
112D6; AHOM LETTER BHA; Lo; 0; L;;;;; N;;;;
112D7;AHOM LETTER JHA;Lo;0;L;;;;;N;;;;
112DE; AHOM CONSONANT SIGN MEDIAL LA; Mn; 0; NSM;;;;; N;;;;
112DF; AHOM CONSONANT SIGN MEDIAL RA; Mn; 0; NSM; ;; ;; ;N; ;; ;;
112E0; AHOM VOWEL SIGN A; Lo; 0; L;;;;; N;;;;
112E1;AHOM VOWEL SIGN AA;Lo;0;L;;;;N;;;;
112E2;AHOM VOWEL SIGN I;Mn;0;NSM;;;;N;;;;
112E3; AHOM VOWEL SIGN II; Mn; 0; NSM; ;; ;; N; ;; ;;
112E4;AHOM VOWEL SIGN U;Mc;0;L;;;;N;;;;
112E5;AHOM VOWEL SIGN UU;Mn;0;NSM;;;;N;;;;
112E6; AHOM VOWEL SIGN E; Mn; 0; NSM; ; ; ; ; N; ; ; ;
112E7;AHOM VOWEL SIGN AW;Mn;0;NSM;;;;N;;;;
112E8;AHOM VOWEL SIGN 0;Mn;0;NSM;;;;N;;;;
112E9; AHOM VOWEL SIGN AI; Mn; 0; NSM;;;;; N;;;;
112EA; AHOM VOWEL SIGN AM; Mn; 0; NSM; ;; ;; N; ;; ;;
112EB; AHOM SIGN VIRAMA; Mn; 0; NSM;;;;; N;;;;;
112F0; AHOM DIGIT 0; Nd; 0; L;; 0; 0; 0; N;;;;;
112F1;AHOM DIGIT 1;Nd;0;L;;1;1;1;N;;;;;
112F2;AHOM DIGIT 2;Nd;0;L;;2;2;2;N;;;;;
112F3;AHOM DIGIT 3;Nd;0;L;;3;3;3;N;;;;;
112F4;AHOM DIGIT 4;Nd;0;L;;4;4;4;N;;;;
112F5;AHOM DIGIT 5;Nd;0;L;;5;5;5;N;;;;;
112F6;AHOM DIGIT 6;Nd;0;L;;6;6;6;N;;;;;
112F7;AHOM DIGIT 7;Nd;0;L;;7;7;7;N;;;;
112F8;AHOM DIGIT 8;Nd;0;L;;8;8;8;N;;;;
112F9;AHOM DIGIT 9;Nd;0;L;;9;9;9;N;;;;
112FA;AHOM DIGIT 10;Nd;0;L;;10;10;N;;;;;
112FB;AHOM DIGIT 20;Nd;0;L;;20;20;20;N;;;;;
112FC; AHOM SIGN SMALL SECTION; Po; 0; L;;;;; N;;;;
112FD; AHOM SIGN SECTION; Po; 0; L;;;;; N;;;;;
112FE;AHOM SIGN RULAI;Po;0;L;;;;;N;;;;
112FF; AHOM SYMBOL VI; Lo; 0; L;;;;; N;;;;
```

Examples

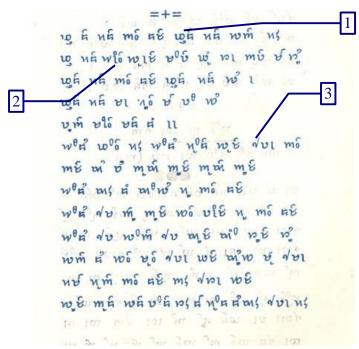


Figure 1: Lik Tai Khwam Tai page 7

This modern text was printed before the advent of computer fonts.

- 1. Sample of AHOM CONSONANT SIGN MEDIAL LA (U+112DE).
- 2. AHOM VOWEL SIGN I (U+112E2) AHOM VOWEL SIGN U (U+112E4) ligature.
- 3. Alternate, modern glyph, for AHOM VOWEL SIGN E (U+112E6).

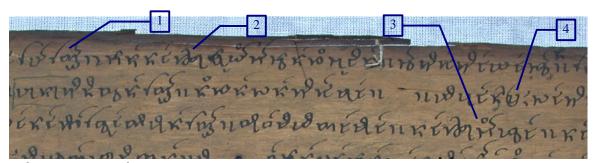


Figure 2: NemiMang p2v

- 1. This shows an example of a typographical insertion. The BA is to be inserted after the TA it is written below. This relation does not need to be encoded in plain text.
- 2. An example of a variant form of PHA, attached to the KHA, which would be encoded using VARIATION SELECTOR-1 (U+FE00). Notice here that it is the second consonant that is modified (the PHA).
- 3. Example of AHOM VOWEL SIGN AW (U+112E7) AHOM VOWEL SIGN AM (U+112EA) ligature
- 4. Example of AHOM CONSONANT SIGN MEDIAL RA (U+112DF).



Figure 3: NemiMang p58v

- 1. '58' in Ahom and also in Burmese script
- 2. Example of reduplication through repeated AHOM SIGN VIRAMA (U+112EB).

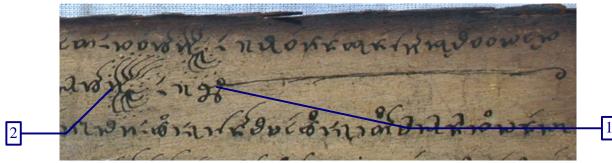


Figure 4: NemiMang p66r showing [1] text final embellishment, perhaps a character akin to TAI THAM SIGN KEOW (U+1AA3). This only occurs in the one text, so there is no intent to encode this within the Ahom block. Notice [2] the highly embellished /vi/ AHOM SYMBOL VI (U+112FF).

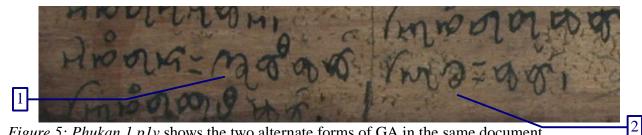


Figure 5: Phukan 1 plv shows the two alternate forms of GA in the same document.

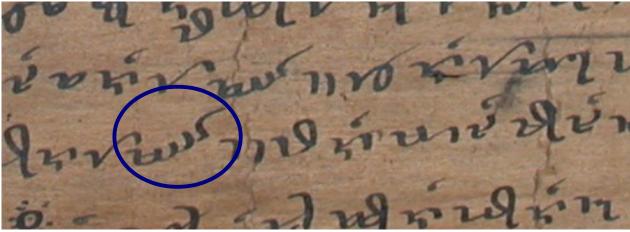


Figure 6: Mohan 9 p2r showing ahom letter ta (U+112C5) variation selector-1 (U+FE00) ahom letter JA (U+112CD) AHOM VOWEL SIGN AW (U+112E5).

Bibliography

- Barua, Bimala Kanta and N.N. Deodhari Phukan. 1964. Ahom Lexicons, Based on Original Tai Manuscripts. Guwahati: Department of Historical and Antiquarian Studies
- Barua, Golap Chandra, 1920, Ahom-Assamese-English Dictionary. Calcutta: Baptist Mission Press (printed under the authority of the Assam Administration).
- Hazarika, Nagen (ed). 1990 Lik Tai Khwam Tai (Tai letters and Tai words) Souvenir of the 8th Annual conference of Ban Ok Pup Lik Mioung Tai (Eastern Tai Literary Association)
- Kar, Babul. 2005. Tai Ahom Alphabet Book. Sepon, Assam: Tai Literature Associate
- Morey, Stephen D. 2002a. Tai languages of Assam, a progress report Does anything remain of the Tai Ahom language? in David and Maya Bradley, (eds). Language Maintenance for Endangered Languages: An Active Approach. London: Curzon Press. 98-113.
- Tabassum, Zeenat and S.D. Morey. 2010. 'Linguistic features of the Ahom Bar Amra,', in S. Morey and M. Post (eds) North East Indian Linguistics II. Delhi: Cambridge University Press, India. 70-89
- Terwiel, B.J. 1996. 'Recreating the Past: Revivalism in Northeastern India' in Bijdragen Journal of the Royal Institute of Linguistics and Anthropology, (Leiden) No. 152, p.275-292.

Acknowledgements

Thanks go to Payap University Linguistics Institute, Chiang Mai, Thailand, under whose auspices this work is done. The work on Tai Ahom has been funded by a grant from the Volkswagen Stiftung (DoBeS program) for the project The Traditional Songs and Poetry of Upper Assam, (http://www.mpi.nl/DoBeS), and also the Centre for Research into Computational Linguistics, Bangkok who also maintain the on-line Ahom Dictionary (http://sealang.net/ahom). The translation of Ahom manuscripts has been done by Stephen Morey and Chaichuen Khamdaengyodtai (Rajabhat University, Chiang Mai), with transcriptions done by Zeenat Tabassum (Gauhati University, Assam). The traditional Ahom priests who have given great assistance include Chaw Junaram Sangbun Phukan, Chaw Tileswar Mohan and Chaw Medini Mohan. The Institute for Tai Studies and Research, especially the Director, Prof Girin Phukon, have also assisted a great deal. This proposal is the culmination of work since 1997 on the Ahom texts and script, work that commenced with the Ahom computer font made by Stephen Morey and widely used in Assam ever since.

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 all the sections A, B and C below.

Please read Principles and Procedures Document (P & P) from $\underline{\text{http://www.dkuug.dk/JTC1/SC2/WG2/docs/principles.html}}$ for guidelines and details before filling this form.

Please ensure you are using the latest Form from $\underline{\text{http://www.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html}}$. See also $\underline{\text{http://www.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html}}$ for latest Roadmaps.

A. Administrative

inclusion in the Unicode Standard.

1. Title:	Ahom					
2. Requester's name: Martin Hosken						
3. Requester type (Member body/Liaison/Individual contribution): Individual contribution			ion		
4. Submission date						
5. Requester's refer	rence (if applicable):					
6. Choose one of the	he following:					
	complete proposal:			X		
(or) More	information will be pro	vided later:				
B. Technical – Ge	neral					
1. Choose one of the	ne following:					
a. This prop	osal is for a new script (set of characters):		X		
	osed name of script:		Ahom			
b. The propo	osal is for addition of ch	aracter(s) to an existing block:				
Nam	e of the existing block:					
2. Number of chara	acters in proposal:			54		
3. Proposed catego	ory (select one from belo	ow - see section 2.2 of P&P do	cument):			
A-Contemporar		lized (small collection)	B.2-Specialized (large collecti	on)		
C-Major extinc	t D-Attested	extinct	E-Minor extinct			
F-Archaic Hier	oglyphic or Ideographic		G-Obscure or questionable usage syml	ools		
4. Is a repertoire in	cluding character name	s provided?		yes		
a. If YES, at	re the names in accordar	nce with the "character naming	guidelines"			
in Ar	nnex L of P&P documer	nt?		yes		
b. Are the ch	naracter shapes attached	in a legible form suitable for i	review?	yes		
5. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for						
	the standard? Stephen Morey					
If available i	now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools					
used:						
6. References:						
		sets, dictionaries, descriptive		yes		
		uch as samples from newspape	rs, magazines, or other sources)			
	characters attached?		yes			
7. Special encoding						
			ng (if applicable) such as input,			
presentation	, sorting, searching, inde		s please enclose information)?	yes		
		sorting				
8. Additional Infor						
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						
1 1				DATA/UCD html		
<u>http://www.unicode.org/Public/UNIDATA/UCD.html.</u> and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for						

^{1 -} Form number: N3102-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)

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before?						
If YES explain This finalises N3928 L2/10-359						
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? Stephen Morey						
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: this document						
4. The context of use for the proposed characters (type of use; common or rare) Reference:	common					
5. Are the proposed characters in current use by the user community?	yes					
If YES, where? Reference:						
6. After giving due considerations to the principles in the P&P document must the proposed characters be entire	ly					
in the BMP?	no					
If YES, is a rationale provided?						
If YES, reference:						
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?	yes					
If YES, is a rationale for its inclusion provided?	yes					
If YES, reference: this document						
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: this document						
Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?	no					
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)?						
If YES, is the equivalent corresponding unified ideographic character(s) identified?						
If YES, reference:						