

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

Doc Type: Working Group Document

Title: Final proposal to encode the Marchen script in the SMP of the UCS

Source: Andrew West

Status: Individual Contribution

Action: For consideration by JTC1/SC2/WG2 and UTC

Date: 2013-10-22

Replaces: N4032

1. Background

This document is a proposal to encode the Marchen script (Tibetan *sMar-chen* མཚར་ཇེན་). This is a Brahmic script used in the Tibetan Bön tradition to write the extinct Zhang-zhung language used in some Bön texts. In modern use it is also used to write the Tibetan language. The Marchen script reputedly originated in the ancient kingdom of Zhang-zhung that flourished in the western and northern parts of Tibet before the introduction of Buddhism into the country during the 7th century, but no early texts in the Marchen script are known, and the script is likely to be a much more recent innovation.

There are few known examples of the Marchen script used in pre-modern texts, but the script is quite widely used in modern Bön literature (see Figs. 7–9) and in architectural inscriptions (see Figs. 5–6). One of the earliest known examples of the Marchen script is an inscription in the Zhang-zhung language on a bronze seal held at the Menri Monastery (see Fig. 4).

Four other scripts used in the Bön tradition are also attested (Marchung, Pungchen, Pungchung and Drusha), but they have very little usage, and are not proposed for encoding. As there are no characters in these four other scripts that are could be considered unifiable with characters in the proposed Marchen script, the encoding of Marchen would not impact upon the repertoire of these other scripts if they were to be encoded at a future date. For details of these other scripts, which are not further discussed in this document, see N4032.

2. Description





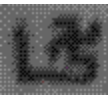









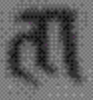
The Marchen script comprises thirty consonant letters, four vowel signs ("e", "i", "u" and "o"), a vowel lengthener sign (*a-chung*), a candrabindu sign, and an anusvara sign. Two or more consonants may stack vertically in the same way as the Tibetan script. Vowel signs are placed above, below or to the side of a stack of one or more consonants. As with the Tibetan script, the main consonant in a syllable has an inherent /a/ vowel in the absence of an explicit vowel sign.

Only two punctuation marks are used with the Marchen script: a head mark corresponding to U+0F04 TIBETAN MARK INITIAL YIG MGO MDUN MA (only a discrete single head mark is used, so a closing head mark equivalent to U+0F05 TIBETAN MARK CLOSING YIG MGO SGAB MA is not required to be encoded); and a sentence-final *shad* mark corresponding to U+0F0D TIBETAN MARK SHAD. Unlike the Tibetan script, a *tsheg* mark is not used to separate syllables. This means that in running text syllable boundaries may be ambiguous. It is suggested that U+200B (Zero Width Space) be used to separate syllables if it is required to make the syllable boundaries explicit.

There are two calligraphic styles of the Marchen script, one style with thick, angular strokes (e.g. as shown in Fig. 5), and one style with thinner, more rounded strokes (e.g. as shown in Fig. 6). There are some minor differences in glyph shape between these two calligraphic styles, but these can be dealt with at the font level.

The table below shows the glyph forms of individual characters and example syllables as given in three different sources. Source A is in the thick, angular calligraphic style, whereas Sources B and C are in the more rounded calligraphic style. The proposed code chart font is based on Source A, and is shown for comparison.

Comparative Table of Marchen Characters

| | Tibetan | Code Chart Font | Marchen | | |
|----------|---|---|---|---|---|
| | | | A | B | C |
| headmark |  |  |  |  |  |
| shad |  |  |  |  |  |
| ka |  |  |  |  |  |










| | Tibetan | Code Chart Font | Marchen | | |
|-----|---------|--------------------|---------|---|---|
| | | | A | B | C |
| kha | ཁ | ཁ | ཁ | ཁ | ཁ |
| ga | ག | ག | ག | ག | ག |
| nga | ང | ང | ང | ང | ང |
| ca | ཅ | ཅ | ཅ | ཅ | ཅ |
| cha | ཆ | ཆ | ཆ | ཆ | ཆ |
| ja | ཇ | ཇ | ཇ | ཇ | ཇ |
| nya | ཉ | ཉ | ཉ | ཉ | ཉ |
| ta | ཏ | ཏ | ཏ | ཏ | ཏ |

| | Tibetan | Code Chart Font | Marchen | | |
|------|---------|--------------------|---------|---|---|
| | | | A | B | C |
| tha | ཐ | ཐ | ཐ | ཐ | ཐ |
| da | ད | ད | ད | ད | ད |
| na | ན | ན | ན | ན | ན |
| pa | པ | པ | པ | པ | པ |
| pha | ཕ | ཕ | ཕ | ཕ | ཕ |
| ba | བ | བ | བ | བ | བ |
| ma | མ | མ | མ | མ | མ |
| tsha | ཅ | ཅ | ཅ | ཅ | ཅ |

| | Tibetan | Code Chart Font | Marchen | | |
|------|---------|--------------------|---------|---|---|
| | | | A | B | C |
| tsha | མ | 𑄧 | 𑄧 | 𑄧 | 𑄧 |
| dza | ཛ | 𑄨 | 𑄨 | 𑄨 | 𑄨 |
| wa | ཡ | 𑄩 | 𑄩 | 𑄩 | 𑄩 |
| zha | ཟ | 𑄪 | 𑄪 | 𑄪 | 𑄪 |
| za | ཞ | 𑄫 | 𑄫 | 𑄫 | 𑄫 |
| 'a | འ | 𑄬 | 𑄬 | 𑄬 | 𑄬 |
| ya | ཡ | 𑄭 | 𑄭 | 𑄭 | 𑄭 |
| ra | ར | 𑄮 | 𑄮 | 𑄮 | 𑄮 |

| | Tibetan | Code Chart Font | Marchen | | |
|-----|---------|--------------------|---------|---|---|
| | | | A | B | C |
| la | ལ | 𑄎 | 𑄎 | 𑄎 | 𑄎 |
| sha | ཤ | 𑄎 | 𑄎 | 𑄎 | 𑄎 |
| sa | ས | 𑄎 | 𑄎 | 𑄎 | 𑄎 |
| ha | ཧ | 𑄎 | 𑄎 | 𑄎 | 𑄎 |
| a | ཨ | 𑄎 | 𑄎 | 𑄎 | 𑄎 |
| ki | ཀ | 𑄎 | 𑄎 | 𑄎 | 𑄎 |
| ku | ཀུ | 𑄎 | 𑄎 | 𑄎 | 𑄎 |
| ke | ཀེ | 𑄎 | 𑄎 | 𑄎 | |

| | Tibetan | Code Chart Font | Marchen | | |
|------|---------|--------------------|---------|---|---|
| | | | A | B | C |
| ko | ཀོ | 𑄀 | 𑄁 | 𑄂 | |
| rka | རྐ | 𑄃 | 𑄄 | | |
| lka | ལྐ | 𑄅 | 𑄆 | | |
| ska | སྐ | 𑄇 | 𑄈 | | |
| kya | ཀྱ | 𑄉 | | 𑄊 | |
| kra | རྐ | 𑄋 | | 𑄌 | |
| kla | ལྐ | 𑄍 | 𑄎 | | |
| kwa | ལྐ | 𑄏 | 𑄐 | | |
| skya | སྐྱ | 𑄑 | 𑄒 | | |

| | Tibetan | Code Chart Font | Marchen | | |
|------|---|---|---|---|---|
| | | | A | B | C |
| skra |  |  |  | | |
| om |  |  | | |  |
| aum |  |  |  | | |

Sources

- A : Chaphur Namkha Gyaltsen 1994 pages 7–9 (see Fig. 1).
- B : Lokesh Chandra 1982 page 60 (see Fig. 2).
- C : Zhuton Nyima Dragpa 1965 (see Fig. 3).

3. Encoding Model





















It is proposed to use the Tibetan encoding model for the Marchen script, with a set of thirty base consonants and a set of thirty subjoined consonants that can be used to form vertical stacks of two or more consonants. The reversed consonants used for representing Sanskrit in Tibetan (Tibetan letters TTA, TTHA, DDA, NNA and SSA) are not attested in the Marchen script, and are therefore not proposed for encoding. Although not all thirty subjoined consonants are attested, or required for writing Zhang-zhung or ordinary Tibetan, it is thought prudent to encode corresponding subjoined letters for all encoded base consonants so that any possible stack can be represented. As is the case with the Tibetan script, the subjoined forms of the letters Wa, Ya and Ra have simplified forms compared with the corresponding base letters, although there is no special form of the letter Ra when used as a head letter. Fixed forms of the letters Wa, Ya and Ra are not required for encoding.

4. Proposed Characters

69 characters are proposed for encoding, as shown below.

| Code Point | Glyph | Character Name | Annotation |
|------------|-------|--------------------|------------------------------------|
| 11C70 | 𑌒 | MARCHEN HEAD MARK | x (left-facing svasti sign - 0FD6) |
| 11C71 | 𑌓 | MARCHEN MARK SHAD | |
| 11C72 | 𑌔 | MARCHEN LETTER KA | |
| 11C73 | 𑌕 | MARCHEN LETTER KHA | |
| 11C74 | 𑌖 | MARCHEN LETTER GA | |
| 11C75 | 𑌗 | MARCHEN LETTER NGA | |
| 11C76 | 𑌘 | MARCHEN LETTER CA | |
| 11C77 | 𑌙 | MARCHEN LETTER CHA | |
| 11C78 | 𑌚 | MARCHEN LETTER JA | |
| 11C79 | 𑌛 | MARCHEN LETTER NYA | |
| 11C7A | 𑌜 | MARCHEN LETTER TA | |
| 11C7B | 𑌝 | MARCHEN LETTER THA | |
| 11C7C | 𑌞 | MARCHEN LETTER DA | |
| 11C7D | 𑌟 | MARCHEN LETTER NA | |
| 11C7E | 𑌠 | MARCHEN LETTER PA | |
| 11C7F | 𑌡 | MARCHEN LETTER PHA | |
| 11C80 | 𑌢 | MARCHEN LETTER BA | |
| 11C81 | 𑌣 | MARCHEN LETTER MA | |
| 11C82 | 𑌤 | MARCHEN LETTER TSA | |

| Code Point | Glyph | Character Name | Annotation |
|------------|-------|------------------------------|------------|
| 11C83 | 𑌒 | MARCHEN LETTER TSHA | |
| 11C84 | 𑌓 | MARCHEN LETTER DZA | |
| 11C85 | 𑌔 | MARCHEN LETTER WA | |
| 11C86 | 𑌕 | MARCHEN LETTER ZHA | |
| 11C87 | 𑌖 | MARCHEN LETTER ZA | |
| 11C88 | 𑌗 | MARCHEN LETTER -A | |
| 11C89 | 𑌘 | MARCHEN LETTER YA | |
| 11C8A | 𑌙 | MARCHEN LETTER RA | |
| 11C8B | 𑌚 | MARCHEN LETTER LA | |
| 11C8C | 𑌛 | MARCHEN LETTER SHA | |
| 11C8D | 𑌜 | MARCHEN LETTER SA | |
| 11C8E | 𑌝 | MARCHEN LETTER HA | |
| 11C8F | 𑌞 | MARCHEN LETTER A | |
| 11C92 | 𑌠 | MARCHEN SUBJOINED LETTER KA | |
| 11C93 | 𑌡 | MARCHEN SUBJOINED LETTER KHA | |
| 11C94 | 𑌢 | MARCHEN SUBJOINED LETTER GA | |
| 11C95 | 𑌣 | MARCHEN SUBJOINED LETTER NGA | |
| 11C96 | 𑌤 | MARCHEN SUBJOINED LETTER CA | |
| 11C97 | 𑌥 | MARCHEN SUBJOINED LETTER CHA | |
| 11C98 | 𑌦 | MARCHEN SUBJOINED LETTER JA | |

| Code Point | Glyph | Character Name | Annotation |
|------------|---|-------------------------------|------------|
| 11C99 |  | MARCHEN SUBJOINED LETTER NYA | |
| 11C9A |  | MARCHEN SUBJOINED LETTER TA | |
| 11C9B |  | MARCHEN SUBJOINED LETTER THA | |
| 11C9C |  | MARCHEN SUBJOINED LETTER DA | |
| 11C9D |  | MARCHEN SUBJOINED LETTER NA | |
| 11C9E |  | MARCHEN SUBJOINED LETTER PA | |
| 11C9F |  | MARCHEN SUBJOINED LETTER PHA | |
| 11CA0 |  | MARCHEN SUBJOINED LETTER BA | |
| 11CA1 |  | MARCHEN SUBJOINED LETTER MA | |
| 11CA2 |  | MARCHEN SUBJOINED LETTER TSA | |
| 11CA3 |  | MARCHEN SUBJOINED LETTER TSHA | |
| 11CA4 |  | MARCHEN SUBJOINED LETTER DZA | |
| 11CA5 |  | MARCHEN SUBJOINED LETTER WA | |
| 11CA6 |  | MARCHEN SUBJOINED LETTER ZHA | |
| 11CA7 |  | MARCHEN SUBJOINED LETTER ZA | |
| 11CA8 |  | MARCHEN SUBJOINED LETTER -A | |
| 11CA9 |  | MARCHEN SUBJOINED LETTER YA | |
| 11CAA |  | MARCHEN SUBJOINED LETTER RA | |
| 11CAB |  | MARCHEN SUBJOINED LETTER LA | |
| 11CAC |  | MARCHEN SUBJOINED LETTER SHA | |

| Code Point | Glyph | Character Name | Annotation |
|------------|-------|-----------------------------|------------|
| 11CAD | 𑌆 | MARCHEN SUBJOINED LETTER SA | |
| 11CAE | 𑌇 | MARCHEN SUBJOINED LETTER HA | |
| 11CAF | 𑌈 | MARCHEN SUBJOINED LETTER A | |
| 11CB0 | 𑌉 | MARCHEN VOWEL SIGN AA | |
| 11CB1 | 𑌊 | MARCHEN VOWEL SIGN I | |
| 11CB2 | 𑌋 | MARCHEN VOWEL SIGN U | |
| 11CB3 | 𑌌 | MARCHEN VOWEL SIGN E | |
| 11CB4 | 𑌍 | MARCHEN VOWEL SIGN O | |
| 11CB5 | 𑌎 | MARCHEN SIGN ANUSVARA | |
| 11CB6 | 𑌏 | MARCHEN SIGN CANDRABINDU | |

5. Unicode Character Properties

11C70;MARCHEN HEAD MARK;Po;0;L;;;;;N;;;;;
 11C71;MARCHEN MARK SHAD;Po;0;L;;;;;N;;;;;
 11C72;MARCHEN LETTER KA;Lo;0;L;;;;;N;;;;;
 11C73;MARCHEN LETTER KHA;Lo;0;L;;;;;N;;;;;
 11C74;MARCHEN LETTER GA;Lo;0;L;;;;;N;;;;;
 11C75;MARCHEN LETTER NGA;Lo;0;L;;;;;N;;;;;
 11C76;MARCHEN LETTER CA;Lo;0;L;;;;;N;;;;;
 11C77;MARCHEN LETTER CHA;Lo;0;L;;;;;N;;;;;
 11C78;MARCHEN LETTER JA;Lo;0;L;;;;;N;;;;;
 11C79;MARCHEN LETTER NYA;Lo;0;L;;;;;N;;;;;
 11C7A;MARCHEN LETTER TA;Lo;0;L;;;;;N;;;;;
 11C7B;MARCHEN LETTER THA;Lo;0;L;;;;;N;;;;;
 11C7C;MARCHEN LETTER DA;Lo;0;L;;;;;N;;;;;
 11C7D;MARCHEN LETTER NA;Lo;0;L;;;;;N;;;;;
 11C7E;MARCHEN LETTER PA;Lo;0;L;;;;;N;;;;;
 11C7F;MARCHEN LETTER PHA;Lo;0;L;;;;;N;;;;;
 11C80;MARCHEN LETTER BA;Lo;0;L;;;;;N;;;;;
 11C81;MARCHEN LETTER MA;Lo;0;L;;;;;N;;;;;
 11C82;MARCHEN LETTER TSA;Lo;0;L;;;;;N;;;;;
 11C83;MARCHEN LETTER TSHA;Lo;0;L;;;;;N;;;;;
 11C84;MARCHEN LETTER DZA;Lo;0;L;;;;;N;;;;;
 11C85;MARCHEN LETTER WA;Lo;0;L;;;;;N;;;;;
 11C86;MARCHEN LETTER ZHA;Lo;0;L;;;;;N;;;;;
 11C87;MARCHEN LETTER ZA;Lo;0;L;;;;;N;;;;;
 11C88;MARCHEN LETTER -A;Lo;0;L;;;;;N;;;;;
 11C89;MARCHEN LETTER YA;Lo;0;L;;;;;N;;;;;

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11C8A;MARCHEN LETTER RA;Lo;0;L;;;;;N;;;;;
11C8B;MARCHEN LETTER LA;Lo;0;L;;;;;N;;;;;
11C8C;MARCHEN LETTER SHA;Lo;0;L;;;;;N;;;;;
11C8D;MARCHEN LETTER SA;Lo;0;L;;;;;N;;;;;
11C8E;MARCHEN LETTER HA;Lo;0;L;;;;;N;;;;;
11C8F;MARCHEN LETTER A;Lo;0;L;;;;;N;;;;;
11C92;MARCHEN SUBJOINED LETTER KA;Mn;0;NSM;;;;;N;;;;;
11C93;MARCHEN SUBJOINED LETTER KHA;Mn;0;NSM;;;;;N;;;;;
11C94;MARCHEN SUBJOINED LETTER GA;Mn;0;NSM;;;;;N;;;;;
11C95;MARCHEN SUBJOINED LETTER NGA;Mn;0;NSM;;;;;N;;;;;
11C96;MARCHEN SUBJOINED LETTER CA;Mn;0;NSM;;;;;N;;;;;
11C97;MARCHEN SUBJOINED LETTER CHA;Mn;0;NSM;;;;;N;;;;;
11C98;MARCHEN SUBJOINED LETTER JA;Mn;0;NSM;;;;;N;;;;;
11C99;MARCHEN SUBJOINED LETTER NYA;Mn;0;NSM;;;;;N;;;;;
11C9A;MARCHEN SUBJOINED LETTER TA;Mn;0;NSM;;;;;N;;;;;
11C9B;MARCHEN SUBJOINED LETTER THA;Mn;0;NSM;;;;;N;;;;;
11C9C;MARCHEN SUBJOINED LETTER DA;Mn;0;NSM;;;;;N;;;;;
11C9D;MARCHEN SUBJOINED LETTER NA;Mn;0;NSM;;;;;N;;;;;
11C9E;MARCHEN SUBJOINED LETTER PA;Mn;0;NSM;;;;;N;;;;;
11C9F;MARCHEN SUBJOINED LETTER PHA;Mn;0;NSM;;;;;N;;;;;
11CA0;MARCHEN SUBJOINED LETTER BA;Mn;0;NSM;;;;;N;;;;;
11CA1;MARCHEN SUBJOINED LETTER MA;Mn;0;NSM;;;;;N;;;;;
11CA2;MARCHEN SUBJOINED LETTER TSA;Mn;0;NSM;;;;;N;;;;;
11CA3;MARCHEN SUBJOINED LETTER TSHA;Mn;0;NSM;;;;;N;;;;;
11CA4;MARCHEN SUBJOINED LETTER DZA;Mn;0;NSM;;;;;N;;;;;
11CA5;MARCHEN SUBJOINED LETTER WA;Mn;0;NSM;;;;;N;;;;;
11CA6;MARCHEN SUBJOINED LETTER ZHA;Mn;0;NSM;;;;;N;;;;;
11CA7;MARCHEN SUBJOINED LETTER ZA;Mn;0;NSM;;;;;N;;;;;
11CA8;MARCHEN SUBJOINED LETTER -A;Mn;0;NSM;;;;;N;;;;;
11CA9;MARCHEN SUBJOINED LETTER YA;Mc;0;NSM;;;;;N;;;;;
11CAA;MARCHEN SUBJOINED LETTER RA;Mn;0;NSM;;;;;N;;;;;
11CAB;MARCHEN SUBJOINED LETTER LA;Mn;0;NSM;;;;;N;;;;;
11CAC;MARCHEN SUBJOINED LETTER SHA;Mn;0;NSM;;;;;N;;;;;
11CAD;MARCHEN SUBJOINED LETTER SA;Mn;0;NSM;;;;;N;;;;;
11CAE;MARCHEN SUBJOINED LETTER HA;Mn;0;NSM;;;;;N;;;;;
11CAF;MARCHEN SUBJOINED LETTER A;Mn;0;NSM;;;;;N;;;;;
11CB0;MARCHEN VOWEL SIGN AA;Mn;0;NSM;;;;;N;;;;;
11CB1;MARCHEN VOWEL SIGN I;Mc;0;NSM;;;;;N;;;;;
11CB2;MARCHEN VOWEL SIGN U;Mn;0;NSM;;;;;N;;;;;
11CB3;MARCHEN VOWEL SIGN E;Mn;0;NSM;;;;;N;;;;;
11CB4;MARCHEN VOWEL SIGN O;Mc;0;NSM;;;;;N;;;;;
11CB5;MARCHEN SIGN ANUSVARA;Mn;0;NSM;;;;;N;;;;;
11CB6;MARCHEN SIGN CANDRABINDU;Mn;0;NSM;;;;;N;;;;;

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The suggested general category and canonical combining class values are as for the corresponding characters in the Tibetan script, except that:

1. the general category for the subjoined letter YA is given as Mc because in the style of calligraphy used for the code chart font it is attached to the righthand side of a base consonant, not underneath it;
2. the general category for the vowel signs I and O are given as Mc because these signs extend to the left or right of a consonant stack;
3. the canonical combining class values for the signs 11CAE..11CB4 are given as zero.

Fig. 5: Marchen Inscription on Temple at the Yungdrung Bön Monastery in Dolanji



Picture courtesy of Chris Hatchell.

ཡུལ་ ལྷོ་མཚན་མཚན་མཚན་མཚན་...

Fig. 6: Marchen Inscription on Library at the Yungdrung Bön Monastery in Dolanji



Picture courtesy of Chris Hatchell.

10. Proposal Summary Form

**SO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646¹.**

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: | <i>Final proposal to encode the Marchen script in the SMP of the UCS</i> |
| 2. Requester's name: | <i>Andrew West</i> |
| 3. Requester type (Member body/Liaison/Individual contribution): | <i>Individual contribution</i> |
| 4. Submission date: | <i>2013-10-22</i> |
| 5. Requester's reference (if applicable): | |
| 6. Choose one of the following: | |
| This is a complete proposal: | <i>YES</i> |
| (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): | <i>YES</i> | | | | |
| Proposed name of script: | <i>MARCHEN</i> | | | | |
| b. The proposal is for addition of character(s) to an existing block: | <i>NO</i> | | | | |
| Name of the existing block: | | | | | |
| 2. Number of characters in proposal: | <i>69</i> | | | | |
| 3. Proposed category (select one from below - see section 2.2 of P&P document): | | | | | |
| A-Contemporary | <input type="checkbox"/> | B.1-Specialized (small collection) | <input checked="" type="checkbox"/> | B.2-Specialized (large collection) | <input type="checkbox"/> |
| C-Major extinct | <input type="checkbox"/> | D-Attested extinct | <input type="checkbox"/> | E-Minor extinct | <input type="checkbox"/> |
| F-Archaic Hieroglyphic or Ideographic | <input type="checkbox"/> | G-Obscure or questionable usage symbols | <input type="checkbox"/> | | |
| 4. Is a repertoire including character names provided? | <i>YES</i> | | | | |
| a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document? | <i>YES</i> | | | | |
| b. Are the character shapes attached in a legible form suitable for review? | <i>YES</i> | | | | |
| 5. Fonts related: | | | | | |
| a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard? | <i>Andrew West</i> | | | | |
| b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.): | <i>Andrew West</i> | | | | |
| 6. References: | | | | | |
| a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? | <i>YES</i> | | | | |
| b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached? | <i>YES</i> | | | | |
| 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)? | <i>NO</i> | | | | |

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 Unicode Character Database (<http://www.unicode.org/reports/tr44/>) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

¹ Form number: N4102-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01)

C. Technical - Justification

| | | |
|--|--|------|
| 1. Has this proposal for addition of character(s) been submitted before? If YES explain | <i>Replaces N4032</i> | YES |
| 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? If YES, available relevant documents: | | YES |
| 3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? Reference: | | No |
| 4. The context of use for the proposed characters (type of use; common or rare) Reference: | | rare |
| 5. Are the proposed characters in current use by the user community? If YES, where? Reference: | <i>In academic publications and on web pages</i> | YES |
| 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: | | NO |
| 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? If YES, is a rationale for its inclusion provided? If YES, reference: | | NO |
| 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: | | NO |
| 10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to, or could be confused with, an existing character? If YES, is a rationale for its inclusion provided? If YES, reference: | | NO |
| 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: | | NO |
| 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) | | NO |
| 13. Does the proposal contain any Ideographic compatibility characters? If YES, are the equivalent corresponding unified ideographic characters identified? If YES, reference: | | NO |