

Universal Multiple-Octet Coded Character Set
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Source: UC Berkeley Script Encoding Initiative (Universal Scripts Project)

Author: Michael Everson

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1.0 Introduction. Pahawh Hmong is a script devised for writing the Hmong language by Shong Lue Yang (*Soob Lwj Yaj* ຄູ່ ຫຼື ຫຼື ຫຼື [ʃóŋ lɤ̌ jâ]). Shong Lue Yang was a charismatic figure among the Hmong in Laos, and was considered by many to be a kind of messiah. It is said that in 1959 the writing system was revealed to him by two supernatural messengers who appeared to him over a period of months. A full account of this is given in Smalley, Vang, and Yang 1990. Devised in Laos, Pahawh Hmong was taken to northern Thailand refugee camps, and then moved with waves of immigrants to Minnesota and California in the United States, and to Australia. The writing system itself has had four Stages of development. In this document, the Romanized Popular Alphabet orthography (widely used by the Hmong in North America) is given alongside example text in Pahawh Hmong. Two features of the RPA are of note. Double vowels *ee* and *oo* indicate [ɛŋ] and [oŋ] respectively; final letters indicate tones thus:

RPA		
-b	ɿ	ɿ high-level
-m	ɿ	ɿ low-glottalized
-d	ɿ	ɿ low-rising
-j	ɿ	ɿ high-falling
-v	ɿ	ɿ mid-rising
-Ø	ɿ	ɿ mid-level
-s	ɿ	ɿ low-level
-g	ɿ	ɿ falling-breathy

1.1 The Source Version, Pahawh Pa (*Phajhauj Paj* ຫຼື ຫຼື ຫຼື [p^hâ hâu pâ]), is not in current use. While containing the seeds of the system, in its structure and glyphs it is distinct from the later Stage Versions, and had little use as a practical system for writing Hmong. It is considered a separate but related script, and is not supported by this encoding.

1.2 The Second Stage Reduced Version, Pahawh Njia Dua O (*Phajhauj Ntsiab Duas Ob* ຫຼື ຫຼື ຫຼື [p^hâ hâu ndzɿa dùa ʔó]), is in current use. It was taught by Shong Lue Yang in April 1965, and is supported by the Australian Hmong Language Institute and by Hmong Script Software's ຫຼື ຫຼື ຫຼື *Cwjmem* [ɿ mɛ] font; fonts are also available from the Hmong Language Institute in Minnesota. The Hmong user community in Australia uses the Second Stage Reduced Version.

1.3 The Third Stage Reduced Version, Pahawh Njia Dua Pe (*Phajhauj Ntsiab Duas Peb* ຫຼື ຫຼື ຫຼື [p^hâ hâu ndzɿa dùa pé]), is in current use. It rationalizes some features of the Second Stage Reduced Version, and is said by Chia Koua Vang to have been introduced by Shong Lue Yang in August

1970. Some members of the Hmong user community in Minnesota use the Third Stage Reduced Version. A Third Stage font is available from Hmongwriting.com.

1.4 The Final Version, Pahawh Tsa (*Phajhauj Txha* ເັ້ ເັ້ ເັ້ ເັ້ [p^hâ hâu ts^ha]), is not in regular use. It is a radical simplification of the Third Stage Reduced Version and is said by Chia Koua Vang to have been introduced in January 1971 by Shong Lue Yang about a month before his assassination. Smalley *et al.* 1990 state that it is not in use as a practical system, though some people who knew it use it as a kind of shorthand (and called it “shorthand” in English). In meetings in St Paul 2011 all of the users of Pahawh Hmong agreed that no one was using this version of the script. Nevertheless, the encoding proposed here can represent text written in all three of the Revisions.

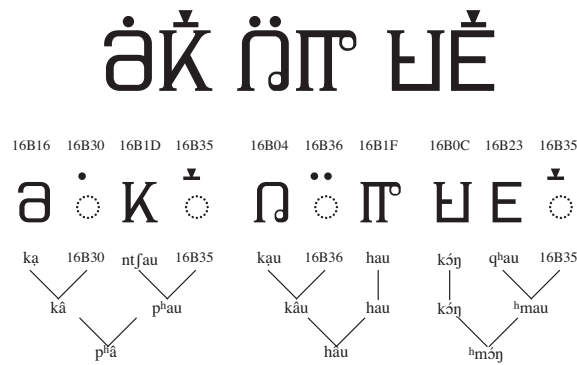
The fact that Stage Two and Stage Three orthographies are both used makes character naming and placement of characters in the code table slightly problematic. In the Third Stage Reduced Version, base characters without diacritics end in *-b* (v̄ or high-level) or *-v* (v̌ mid-rising) tones; these tones are represented by a more complex alternation of diacritics (*-b*, *-v*, *-Ø*, *-g*, *-m*) in the Second Stage Reduced Version. The easier Third Stage Reduced Version names have been used here—this does not imply a preference for either Stage, as UCS names are arbitrary. In the code charts, the vowel rimes follow the order taught by both Second Stage Reduced Version and Third Stage Reduced Version users, and the consonant onsets follow—by agreement with both groups—the order taught in the Source Version, since the later versions differed from both the Source Version and from each other. (The later versions both taught an order said to have been given to them by Shong Lue Yang, but as they were incompatible both groups chose to revert to the first order Shong Lue Yang taught.)

1.5 Sociolinguistic considerations. Users of Pahawh Hmong script respect the inventor, Shong Lue Yang, greatly. All users of the script know that it underwent modification from its original version in order to reduce the number of characters required. Users of the Second Stage Reduced Version have said that Shong Lue Yang told them that they should use that version until such time as the Hmong people were re-united. What such re-unification might mean is a matter of interpretation. Chia Koua Vang has said that Shong Lue Yang revealed the Third Stage Reduced Version to him in response to the difficulties he had implementing the Second Stage Reduced Version on a mechanical Laotian typewriter (a task given him by Shong Lue Yang). Users of the Second Stage Reduced Version say that they simply cannot verify whether this is true or not.

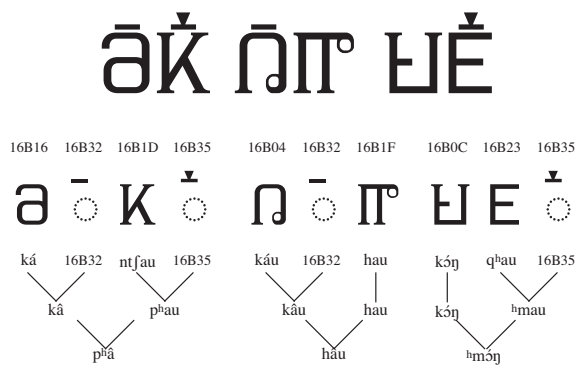
From the point of view of the UCS, this doesn't matter, as the proposed encoding supports both Second and Third Stages. Sociolinguistically, perhaps all that can be said is that users of the Third Stage Reduced Version are content to use that version, and that users of the Second Stage Reduced Version users will probably continue to use that orthography until they feel that Shong Lue Yang's prophecy of the re-unification of the Hmong has come to pass. Will UCS encoding and the use of Pahawh Hmong on the internet be interpreted as re-unification? Only time will tell. In my own view, I would venture to guess that most users of the Romanized Popular Alphabet who choose to take up Pahawh Hmong will find the Third Stage Reduced Version more congenial, because there is a one-to-one mapping between RPA tone mark letters and Third Stage tone diacritics. But most of them are satisfied to use RPA at present in any case.

2.0 Processing. Pahawh Hmong syllables are separated by spaces in text, and may contain one to four characters: base, base with diacritic, base + base, base with diacritic + base, base + base with diacritic, and base with diacritic + base with diacritic. Structurally, Pahawh Hmong is unique among the world's writing systems in that the vowel rime of a syllable (its vowel with or without tone diacritic) is written before the consonant onset of the syllable (its consonant with or without consonant-identifier diacritic). In the Examples 1 and 2, the structure of the words “Pahawh Hmong” (*Phajhauj Hmoob* [p^hâ hâu ^hmóŋ]) is

analyzed, given in Second and Third Stage Reduced Version (Final Version happens to be identical to Third Stage Reduced Version in this example).



Example 1. Second Stage Reduced Version



Example 2. Third Stage Reduced Version

2.1 Vowel rimes. Characters from 16B00..16B1B are vowel codas. Adding diacritics to these alters the tone. 16B1A..16B1B are long vowels. In Shong Lue Yang’s system, Hmong Daw dialect syllables KIAV 𐌀, KAB 𐌁, and KAV 𐌂 are used for Hmong Leng dialect *kab*, *kav*, *kaab* or *kaav* respectively. A revision of the script by Jay Kue of Hmong Script Software includes special characters for *kaab* 𐌃 and *kaav* 𐌄 (in Second Stage Reduced Version *kaam* and *kaav*). These are atomic characters with no decomposition. In the first place, decomposition would break the one-to-four character convention for representing Hmong syllables. In the second, the addition of a (non-productive) character I would be problematic as 16B50 I PAHAWH HMONG NUMBER ZERO looks quite like it.

2.2 Consonant onsets. Characters from 16B1C..16B2F are consonant heads. Adding diacritics to these changes the base consonant to a different, usually unrelated, consonant. Use of diacritics to affect various changes is unsystematic for the consonants. For the vowels, Stage Two Reduced Version, Stage Three Reduced Version, and Final Stage Pahawh Hmong offer an increasing rationalization of relationships, which in Final Stage Pahawh Hmong is quite systematic. The differences are orthographic, however, and do not affect the encoding. As stated above, the Stage Three Reduced Version was chosen as the basis for the character names in the encoding because it is more systematic than the Stage Two Reduced Version, and because the Final Stage is a subset of the Stage Three Reduced Version.

2.3 Combining diacritics are found at 16B30..16B36 and function in the usual way. Note that 16B34 and 16B35 could be composed (16B32 + 16B30 and 16B32 + 16B31 respectively). Such an encoding is not recommended (because decomposition would break the one-to-four character convention for representing Hmong syllables) and no canonical decomposition is given in the character properties. See Figure 3 for further discussion of grounds for encoding these as script-specific characters.

2.4 Encoding order. Visual-order encoding should be preferred for Pahawh Hmong because it will make implementation less expensive and it is what users expect. The logical “reversal” of coda and head from the pronounced syllable does not affect the sorting algorithm, which follows visual order as well. Inputting and display are also done according to visual order. Unlike Devanagari, where *a few* vowel signs appear before the base consonant but should be represented phonetically in the backing store, *all* Pahawh Hmong syllables are uniformly represented as V^tC even though the pronunciation is CV^t. All current implementations employ this method of encoding.

3.0 Non-alphabetic characters are used in Pahawh Hmong.

3.1.0 Punctuation marks similar in function to generic punctuation are found at ASCII 16B37..16B3F. Ordinary generic punctuation marks like ? () . , ; : < > - — are used in Pahawh Hmong and can be represented by existing UCS characters.

3.1.1 Question mark 16B37 𐄂 PAWAWH HMONG SIGN VOS THOM is used as a question mark by users of the Second Stage Revised Version. Users of the Third Stage Reduced Version employ the generic question mark U+003F “?”. (See Figures 5B, 9.)

3.1.2 Exclamation mark 16B38 𐄃 PAWAWH HMONG SIGN VOS TSHAB CEEB was devised by Pa Kao Her (*Paj Kaub Hawj* 𐄃𐄄 𐄅 𐄆 [pâ káu hâw]) in 1985; Smalley and the Naadaa font retain a special glyph for this but the Cwjmem font either does not include it or prefers the generic exclamation mark. Shong Lue Yang also used U+0021 “!”. (See Figure 17.)

3.1.3 Comma 16B39 𐄇 PAWAWH HMONG SIGN CIM CHEEM is used as a comma in mathematical texts written in the Second Stage Reduced Version. (See Figures 9, 11.)

3.1.4 Ampersand 16B3A 𐄈 is derived from the ampersand and was also invented by Pa Kao Her. Smalley’s font and the Naadaa font have a special glyph for this but in the Cwjmem font it faces the same direction as the generic ampersand. (See Figure 5B, 18.)

3.1.5 Percent sign 16B3B 𐄉 is the percent sign. Smalley and the Naadaa font use a different glyph 𐄉 for this but the Cwjmem font appears to modify the regular percent sign by having dots instead of rings. (See Figures 5B, 9, 18.)

3.1.6 Arithmetic operators are 16B3C 𐄊 PAWAWH HMONG XYEEM NTXIV (the plus sign), 16B3D 𐄋 PAWAWH HMONG XYEEM RHO (the minus sign), 16B3E 𐄌 PAWAWH HMONG XYEEM TOV (the multiplication sign), and 16B3F 𐄍 PAWAWH HMONG XYEEM FAIB (the division sign). Smalley *et al.* 1990 give them, with slightly different glyphs: 𐄊 𐄋 𐄌 𐄍. (See Figures 11, 13, 14.)

3.1.7 Intonation mark 16B40 𐄎 PAWAWH HMONG SIGN VOS SEEV indicates the sung or chanted nature of the text. It was also used by some Second Stage Reduced Version users to mark the *-d* tone. (See Figures 5A, 5B, 9, 17.)

3.1.8 Foreign pronunciation mark 16B41 𐄏 PAWAWH HMONG SIGN MEEJ SUAB indicates a non-Hmong pronunciation of the syllable following: the syllable 𐄏𐄐 *mam* [ma], when written 𐄏𐄐, is pronounced [man], a Lao loanword meaning ‘to prepare to do’. The character has no inherent pronunciation and is used rarely. (See Figure 5B.)

3.1.9 Reduplication mark 16B42 𐄑 PAWAWH HMONG SIGN VOS NRUA indicates reduplication of the syllable preceding: 𐄑𐄒 = 𐄒𐄒. *tsuag tsuag* [tʃua tʃua] ‘hurry hurry’. (See Figures 5A, 5B, 9, 17.)

3.1.10 Replication mark 16B43 𐄢 PAHAWH HMONG SIGN IB YAM indicates that what precedes it is to be repeated, like “ditto” is in English. (See Figure 5B.)

3.1.11 Section mark 16B44 𐄣 PAHAWH HMONG SIGN XAUS is used to indicate the end of a section. (See Figures 5B, 13.)

3.1.12 Military mark 16B45 𐄤 PAHAWH HMONG SIGN CIM TSOV ROG is used to indicate that a text has military content. (See Figure 12.)

3.2.1 Digits. 16B50..16B59 are the decimal digits 0–9. Third Stage Reduced Version users employ 16B5A 𐄥 PAHAWH HMONG DIGIT THIRD-STAGE ZERO while the Second Stage Reduced Version users make use of 16B50 𐄦 PAHAWH HMONG DIGIT ZERO, derived from the non-decimal tens number (see below). Both user groups agreed that it was not possible to unify these to characters. This is similar to the two digits 1 used in New Tai Lue.

3.2.2 Numbers. A nondecimal numeric system also exists, given at 16B5B..16B62. It is not in current use for arithmetic calculation, though it is still taught. Third Stage Reduced Version users employ 16B62 𐄧 PAHAWH HMONG NUMBER THIRD-STAGE TENS while the Second Stage Reduced Version users make use of 16B5B 𐄨 PAHAWH HMONG NUMBER TENS, derived from the Source Version tens number. Both user groups agreed that it was not possible to unify these two characters. Good fonts should make some distinction between 16B50 𐄦 and 16B62 𐄧.

3.3 Logographs. Characters encoded at 16B63..16B77 are logographs.

3.3.1 Grammatical classifier. 16B63 𐄩 PAHAWH HMONG SIGN VOS LUB represents the syllable *lub* 𐄩𐄩 [lú], the most common grammatical classifier in the Hmong language. Smalley *et al.* 1990 give the example 𐄩 𐄩𐄩 *lub npe* [lú mbe] ‘a name’. Shong Lue Yang created a sign for this because of the high frequency of the word in the language. Considering the similarity of the two glyphs used to write it, it seems that in devising the character Shong Lue Yang was being very practical indeed. (See Figures 5B, 15, 18.)

3.3.2 Logographs for periods of time. 16B64..16B6C are logographs naming periods of time: *xyoo* 𐄪 ‘year’, *hli* 𐄫 ‘month’, *zwj thaj* 𐄬 ‘date’, *hnub* 𐄭 ‘day’ respectively. Third Stage Reduced Version users employ 16B66 𐄮 PAHAWH HMONG SIGN THIRD-STAGE HLI while the Second Stage Reduced Version users make use of 16B65 𐄯 PAHAWH HMONG SIGN HLI; the two signs evidently have different origins. Other logographs in this category are *nqig* 𐄰 ‘waning moon’, *xiab* 𐄱 ‘waxing moon’, *ntuj* 𐄲 ‘season’, and *av* 𐄳 ‘earth’. (It is not certain what the temporal use of *av* is, but it is clearly related to *nqig*, *xiab*, and *ntuj*.) (See Figure 5B.)

3.3.3 Logographs for correspondence. 16B6D..16B77 are logographs used in correspondance in various ways: *txheej ceev* 𐄴 ‘urgent’, *meej tseeb* 𐄵 ‘facts’, *tau* 𐄶 ‘received’, *los* 𐄷 ‘come’, *mus* 𐄸 ‘go’, *cim hais lus ntog ntog* 𐄹 ‘smooth’, *cim cuam tshooj* 𐄺 ‘fraction’, *cim txwv* 𐄻 ‘do not open’, *cim txwv chwv* 𐄼 ‘do not touch’, *cim pub dawb* 𐄽 ‘give freely’, and *cim nres tos* 𐄾 ‘stop’. (See Figures 5B, 9.)

3.3.4 Logographs for clan names. 16B7E..16B8F are logographs for clan names. 16B7E..16B8B were devised by Shong Lue Yang, and 16B8C..16B8F were added by Chia Koua Vang (*Txiaj Kuam Vaj* 𐄿 𐅀 𐅁 𐅂 [tsâ kua vâ]). (See Figure 16.)

According to Hmong custom, men and women from the same clan cannot marry each other, and are restricted in their behavior in each other’s presence. They are perceived to be like brothers and sisters so far as the

appropriateness of sexual contact is concerned, with considerably more restrictions than exist in a sibling relationship in the West. For example, men and women of the same clan should not throw the ball to each other at the Hmong New Year, a custom potentially leading to courtship; neither should they spend time alone together....

Shong Lue Yang designed the clan logographs to be sewn into garments or worn as badges, or posted on desks or doors to identify a person's clan. This would enable people to behave appropriately. Such identification was needed in the resettlement camps in Laos to which many Hmong people had fled for protection from the communists. In those surroundings they did not know all of their neighbors, much less other people they met.

It is also sometimes hard to identify a person's clan even if you have heard the person's name. Order of given name and clan name is not fixed. Somebody called *Vaj Yaj* ວັຈ ວັງ 'Vang Yang' might belong either to the *Vang* clan or the *Yang* clan, depending on which order is being used. Under conditions where strangers are regularly encountered, it is awkward to have to ask constantly what the other person's clan is.... (Smalley *et al.* 1990:83–84)

These characters are not in widespread current use, but are encoded for historical reasons. At least one font contains them. They are not “logos” or analogous to the character used by the artist formerly known as the Artist Formerly Known as Prince; they are more like Han characters used for family names.

4.0 Ordering. The ordering given in Lee Nao Long *et al.* 2001, which uses the Second Stage Reduced Version orthography, follows the relative order of the tones, namely $-b < -m < -d < -j < -v < -\emptyset < -s < -g$ ($\acute{v} < \check{v} < \grave{v} < \hat{v} < \check{v} < \grave{v} < \hat{v} < \check{v}$). All stages use this tone-based ordering—where they differ is in which *characters* they use to represent the tones. This causes difficulties, in particular for a generic ordering based on the Second Stage Reduced Version.

In the presentation below, base characters are black, letters with CIM TUB are (using Web-named colours) **dark slate blue**, letters with CIM SO are **dark goldenrod**, letters with CIM KES are **dark orange**, letters with CIM KHAV are **dark green**, letters with CIM SUAM are **crimson**, letters with CIM HOM are **dark magenta**, and letters with CIM TAUM are **dark cyan**.

That is, while the Second Stage Reduced Version orthography begins:

$\grave{v} \acute{k}é < \grave{v} \acute{k}e < \hat{v} \acute{k}e < \hat{v} \acute{k}ê < \grave{v} \acute{k}ě < \grave{v} \acute{k}e < \grave{v} \acute{k}è < \grave{v} \acute{k}e$
 $keb < kem < ked < kej < kev < ke < kes < keg$

The Third Stage Reduced Version orthography begins:

$\grave{v} \acute{k}é < \hat{v} \acute{k}e < \hat{v} \acute{k}e < \hat{v} \acute{k}ê < \grave{v} \acute{k}ě < \grave{v} \acute{k}e < \grave{v} \acute{k}è < \grave{v} \acute{k}e$
 $keb < kem < ked < kej < kev < ke < kes < keg$

The Final Version orthography begins:

$\grave{v} \acute{k}é < \hat{v} \acute{k}e < \hat{v} \acute{k}e < \hat{v} \acute{k}ê < \hat{v} \acute{k}ě < \hat{v} \acute{k}e < \hat{v} \acute{k}è < \hat{v} \acute{k}e$
 $keb < kem < ked < kej < kev < ke < kes < keg$

For the purposes of a default ordering that easily supports both Third Stage Reduced Version and Final Version orthographies, each of the consonants and each of the vowels can be given a primary weight. This applies diacritical marks used only in the Final Version orthography to vowel rimes which do not appear in that Version, but it does form a complete specification. Since the consonant onsets are uniform in all stages, the list below gives only those forms which occur.

This regular ordering accounts for all base letters and diacritic combinations—even those which are never used (unused combinations are underscored). Although CIM SO, CIM KES, CIM KHAV, CIM SUAM, and CIM TAUM are never used with consonant onsets (which is why they are not shown in here), this scheme could just as easily accommodate the sequences $\grave{v} < \grave{v} < \grave{v} < \grave{v} < \grave{v} < \grave{v} < \grave{v} < \grave{v}$, etc.

6.0 Character names. The chief problem in encoding Pahawh Hmong involves what to name the vowel rimes, because the values given to the base letters in the Second Stage Reduced Version and the Third Stage Reduced Version are not compatible. The table to the right here shows the problem: the expected order is the order of the tones (left to right then top to bottom), regardless of the shape of the glyphs. The black glyphs in the table here (without diacritics) should be the source names for the characters.

In the code chart below, the names used are Third Stage Reduced Version names based on the regular paradigm.

Second Stage Reduced Version vowel rimes:

-b	-m	-d	-j	-v	-Ø	-s	-g
ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj
ᶇ kí	ᶇ kị	ᶇ kị	ᶇ kị	ᶇ kị	ᶇ ki	ᶇ kị	ᶇ kị
ᶇ káu	ᶇ kàu	ᶇ kàu	ᶇ kàu	ᶇ kàu	ᶇ kau	ᶇ kàu	ᶇ kàu
ᶇ kú	ᶇ kụ	ᶇ kụ	ᶇ kụ	ᶇ kụ	ᶇ ku	ᶇ kù	ᶇ kụ
ᶇ ké	ᶇ kẹ	ᶇ kẹ	ᶇ kẹ	ᶇ kẹ	ᶇ ke	ᶇ kẹ	ᶇ kẹ
ᶇ kái	ᶇ kại	ᶇ kại	ᶇ kại	ᶇ kại	ᶇ kai	ᶇ kài	ᶇ kại
ᶇ kónj	ᶇ kոյ	ᶇ kոյ	ᶇ kոյ	ᶇ kոյ	ᶇ koյ	ᶇ kոյ	ᶇ kոյ
ᶇ káw	ᶇ kաւ	ᶇ kաւ	ᶇ kաւ	ᶇ kաւ	ᶇ kaw	ᶇ kàw	ᶇ kաւ
ᶇ kúa	ᶇ kua	ᶇ kua	ᶇ kua	ᶇ kua	ᶇ kua	ᶇ kùa	ᶇ kua
ᶇ kó	ᶇ kọ	ᶇ kọ	ᶇ kọ	ᶇ kọ	ᶇ ko	ᶇ kò	ᶇ kọ
ᶇ kía	ᶇ kịa	ᶇ kịa	ᶇ kịa	ᶇ kịa	ᶇ kia	ᶇ kìa	ᶇ kịa
ᶇ ká	ᶇ kạ	ᶇ kạ	ᶇ kạ	ᶇ kạ	ᶇ ka	ᶇ kà	ᶇ kạ
ᶇ kw	ᶇ kᵛ	ᶇ kᵛ	ᶇ kᵛ	ᶇ kᵛ	ᶇ kw	ᶇ kᵛ	ᶇ kᵛ
ᶇ káa	ᶇ kạa	ᶇ kạa	ᶇ kạa	ᶇ kạa	ᶇ kaa	ᶇ kàa	ᶇ kạa

Third Stage Reduced Version vowel rimes:

-b	-m	-d	-j	-v	-Ø	-s	-g
ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj
ᶇ kí	ᶇ kị	ᶇ kị	ᶇ kị	ᶇ kị	ᶇ ki	ᶇ kị	ᶇ kị
ᶇ káu	ᶇ kàu	ᶇ kàu	ᶇ kàu	ᶇ kàu	ᶇ kau	ᶇ kàu	ᶇ kàu
ᶇ kú	ᶇ kụ	ᶇ kụ	ᶇ kụ	ᶇ kụ	ᶇ ku	ᶇ kù	ᶇ kụ
ᶇ ké	ᶇ kẹ	ᶇ kẹ	ᶇ kẹ	ᶇ kẹ	ᶇ ke	ᶇ kẹ	ᶇ kẹ
ᶇ kái	ᶇ kại	ᶇ kại	ᶇ kại	ᶇ kại	ᶇ kai	ᶇ kài	ᶇ kại
ᶇ kónj	ᶇ kոյ	ᶇ kոյ	ᶇ kոյ	ᶇ kոյ	ᶇ koյ	ᶇ kոյ	ᶇ kոյ
ᶇ káw	ᶇ kաւ	ᶇ kաւ	ᶇ kաւ	ᶇ kաւ	ᶇ kaw	ᶇ kàw	ᶇ kաւ
ᶇ kúa	ᶇ kua	ᶇ kua	ᶇ kua	ᶇ kua	ᶇ kua	ᶇ kùa	ᶇ kua
ᶇ kó	ᶇ kọ	ᶇ kọ	ᶇ kọ	ᶇ kọ	ᶇ ko	ᶇ kò	ᶇ kọ
ᶇ kía	ᶇ kịa	ᶇ kịa	ᶇ kịa	ᶇ kịa	ᶇ kia	ᶇ kìa	ᶇ kịa
ᶇ ká	ᶇ kạ	ᶇ kạ	ᶇ kạ	ᶇ kạ	ᶇ ka	ᶇ kà	ᶇ kạ
ᶇ kw	ᶇ kᵛ	ᶇ kᵛ	ᶇ kᵛ	ᶇ kᵛ	ᶇ kw	ᶇ kᵛ	ᶇ kᵛ
ᶇ káa	ᶇ kạa	ᶇ kạa	ᶇ kạa	ᶇ kạa	ᶇ kaa	ᶇ kàa	ᶇ kạa

Final Version vowel rimes:

-b	-m	-d	-j	-v	-Ø	-s	-g
ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj	ᶇ kėj
ᶇ kí	ᶇ kị	ᶇ kị	ᶇ kị	ᶇ kị	ᶇ ki	ᶇ kị	ᶇ kị
ᶇ káu	ᶇ kàu	ᶇ kàu	ᶇ kàu	ᶇ kàu	ᶇ kau	ᶇ kàu	ᶇ kàu
ᶇ kú	ᶇ kụ	ᶇ kụ	ᶇ kụ	ᶇ kụ	ᶇ ku	ᶇ kù	ᶇ kụ
ᶇ ké	ᶇ kẹ	ᶇ kẹ	ᶇ kẹ	ᶇ kẹ	ᶇ ke	ᶇ kẹ	ᶇ kẹ
ᶇ kái	ᶇ kại	ᶇ kại	ᶇ kại	ᶇ kại	ᶇ kai	ᶇ kài	ᶇ kại
ᶇ kónj	ᶇ kոյ	ᶇ kոյ	ᶇ kոյ	ᶇ kոյ	ᶇ koյ	ᶇ kոյ	ᶇ kոյ
ᶇ káw	ᶇ kաւ	ᶇ kաւ	ᶇ kաւ	ᶇ kաւ	ᶇ kaw	ᶇ kàw	ᶇ kաւ
ᶇ kúa	ᶇ kua	ᶇ kua	ᶇ kua	ᶇ kua	ᶇ kua	ᶇ kùa	ᶇ kua
ᶇ kó	ᶇ kọ	ᶇ kọ	ᶇ kọ	ᶇ kọ	ᶇ ko	ᶇ kò	ᶇ kọ
ᶇ kía	ᶇ kịa	ᶇ kịa	ᶇ kịa	ᶇ kịa	ᶇ kia	ᶇ kìa	ᶇ kịa
ᶇ ká	ᶇ kạ	ᶇ kạ	ᶇ kạ	ᶇ kạ	ᶇ ka	ᶇ kà	ᶇ kạ
ᶇ kw	ᶇ kᵛ	ᶇ kᵛ	ᶇ kᵛ	ᶇ kᵛ	ᶇ kw	ᶇ kᵛ	ᶇ kᵛ
ᶇ káa	ᶇ kạa	ᶇ kạa	ᶇ kạa	ᶇ kạa	ᶇ kaa	ᶇ kàa	ᶇ kạa

6.1 Resolving the Vowel Rime Names

For the Second Stage Reduced Version and Third State Reduced Version vowel rimes, whose names would be most accepted and used by the communities, the vowel rime names derived from the tables shown above would be:

<i>Glyph</i>	<i>Second</i>	<i>Third</i>
∅	keem	keeb
ᵊ	kee	keev
ʌ	kim	kib
ɪ	ki	kiv
ɔ	kaum	kaub
ø	kau	kauv
ʊ	kum	kub
ɛ	ke	kuv
ɛ	kem	keb
ɥ	<i>kev</i>	<i>kev</i>
ɥ	kaim	kaib
ɥ	kai	kaiv
ɥ	<i>koob</i>	<i>koob</i>
ɥ	<i>koov</i>	<i>koov</i>
ɥ	<i>kawb</i>	<i>kawb</i>
ɥ	kaw	kawv
ɥ	kuam	kuab
ɥ	kua	kuav
ɔ	kom	kob
ʊɪ	kog	kov
ɪ	<i>kiab</i>	<i>kiab</i>
ɪ	kia	kiav
ᵊ	kam	kab
ʊ	<i>kav</i>	<i>kav</i>
ɥ	kwm	kwb
ɪ	<i>kwv</i>	<i>kwv</i>
ɪᵊ	kaam	kaab
ɪʊ	<i>kaav</i>	<i>kaav</i>

Where these vowel rime names are identical, they are simply used as the name for the corresponding character in the code chart. Where they are not identical (identical ones are *italicized* above), a choice has to be made for the encoded character name, and the proposed choice is to use the Third Stage Reduced Version names in those cases, for consistency. In all cases, where the Second Stage and Third Stage names differ, the Second Stage name is added to the code chart as an alias, so that users of either system can easily find names appropriate to their usage.

Note that while the spellings of these vowel rimes in Latin letters is rather different, the differences are in the final letters, which transcribe the tones for the syllables. So the actual difference in the syllables used to represent the names is just in the tones used for them.

	16B0	16B1	16B2	16B3	16B4	16B5	16B6	16B7	16B8
0	𐞀 16B00	𐞁 16B10	𐞂 16B20	𐞃 16B30	𐞄 16B40	𐞅 16B50	𐞆 16B60	𐞇 16B70	𐞈 16B80
1	𐞉 16B01	𐞊 16B11	𐞋 16B21	𐞌 16B31	𐞍 16B41	𐞎 16B51	𐞏 16B61	𐞐 16B71	𐞑 16B81
2	𐞒 16B02	𐞓 16B12	𐞔 16B22	𐞕 16B32	𐞖 16B42	𐞗 16B52	𐞘 16B62	𐞙 16B72	𐞚 16B82
3	𐞛 16B03	𐞜 16B13	𐞝 16B23	𐞞 16B33	𐞟 16B43	𐞠 16B53	𐞡 16B63	𐞢 16B73	𐞣 16B83
4	𐞤 16B04	𐞥 16B14	𐞦 16B24	𐞧 16B34	𐞨 16B44	𐞩 16B54	𐞪 16B64	𐞫 16B74	𐞬 16B84
5	𐞭 16B05	𐞮 16B15	𐞯 16B25	𐞰 16B35	𐞱 16B45	𐞲 16B55	𐞳 16B65	𐞴 16B75	𐞵 16B85
6	𐞶 16B06	𐞷 16B16	𐞸 16B26	𐞹 16B36		𐞺 16B56	𐞻 16B66	𐞼 16B76	𐞽 16B86
7	𐞿 16B07	𐟀 16B17	𐟁 16B27	𐟂 16B37		𐟃 16B57	𐟄 16B67	𐟅 16B77	𐟆 16B87
8	𐟇 16B08	𐟈 16B18	𐟉 16B28	𐟊 16B38		𐟋 16B58	𐟌 16B68		𐟍 16B88
9	𐟎 16B09	𐟏 16B19	𐟐 16B29	𐟑 16B39		𐟒 16B59	𐟓 16B69		𐟔 16B89
A	𐟕 16B0A	𐟖 16B1A	𐟗 16B2A	𐟘 16B3A		𐟙 16B5A	𐟚 16B6A		𐟛 16B8A
B	𐟜 16B0B	𐟝 16B1B	𐟞 16B2B	𐟟 16B3B		𐟠 16B5B	𐟡 16B6B		𐟢 16B8B
C	𐟣 16B0C	𐟤 16B1C	𐟥 16B2C	𐟦 16B3C		𐟧 16B5C	𐟨 16B6C		𐟩 16B8C
D	𐟪 16B0D	𐟫 16B1D	𐟬 16B2D	𐟭 16B3D		𐟮 16B5D	𐟯 16B6D		𐟰 16B8D
E	𐟱 16B0E	𐟲 16B1E	𐟳 16B2E	𐟴 16B3E		𐟵 16B5E	𐟶 16B6E	𐟷 16B7E	𐟸 16B8E
F	𐟹 16B0F	𐟺 16B1F	𐟻 16B2F	𐟼 16B3F		𐟽 16B5F	𐟾 16B6F	𐟿 16B7F	𐠀 16B8F

The character names used for Pahawh Hmong follow the Third Stage Reduced Version orthography. Annotations give the character names in the Second Stage Reduced Version orthography.

Vowel rimes

16B00	ᵛ	PAHAWH HMONG VOWEL KEEB = keem
16B01	ᵛ	PAHAWH HMONG VOWEL KEEV = kee
16B02	ᵛ	PAHAWH HMONG VOWEL KIB = kim
16B03	ᵛ	PAHAWH HMONG VOWEL KIV = ki
16B04	ᵛ	PAHAWH HMONG VOWEL KAUB = kaum
16B05	ᵛ	PAHAWH HMONG VOWEL KAUV = kau
16B06	ᵛ	PAHAWH HMONG VOWEL KUB = kum
16B07	ᵛ	PAHAWH HMONG VOWEL KUV = ke
16B08	ᵛ	PAHAWH HMONG VOWEL KEB = kem
16B09	ᵛ	PAHAWH HMONG VOWEL KEV = keem
16B0A	ᵛ	PAHAWH HMONG VOWEL KAIB = kaim
16B0B	ᵛ	PAHAWH HMONG VOWEL KAIV = kai
16B0C	ᵛ	PAHAWH HMONG VOWEL KOOB
16B0D	ᵛ	PAHAWH HMONG VOWEL KOOV
16B0E	ᵛ	PAHAWH HMONG VOWEL KAWB
16B0F	ᵛ	PAHAWH HMONG VOWEL KAWV = kaw
16B10	ᵛ	PAHAWH HMONG VOWEL KUAB = kuam
16B11	ᵛ	PAHAWH HMONG VOWEL KUAV = kua
16B12	ᵛ	PAHAWH HMONG VOWEL KOB = kom
16B13	ᵛ	PAHAWH HMONG VOWEL KOV = kog
16B14	ᵛ	PAHAWH HMONG VOWEL KIAB
16B15	ᵛ	PAHAWH HMONG VOWEL KIAV = kia
16B16	ᵛ	PAHAWH HMONG VOWEL KAB = kam
16B17	ᵛ	PAHAWH HMONG VOWEL KAV
16B18	ᵛ	PAHAWH HMONG VOWEL KWB = kwm
16B19	ᵛ	PAHAWH HMONG VOWEL KWV
16B1A	ᵛ	PAHAWH HMONG VOWEL KAAB = kaam
16B1B	ᵛ	PAHAWH HMONG VOWEL KAAV

Consonant onsets

16B1C	ᵛ	PAHAWH HMONG CONSONANT VAU
16B1D	ᵛ	PAHAWH HMONG CONSONANT N TSAU
16B1E	ᵛ	PAHAWH HMONG CONSONANT LAU
16B1F	ᵛ	PAHAWH HMONG CONSONANT HAU
16B20	ᵛ	PAHAWH HMONG CONSONANT N LAU
16B21	ᵛ	PAHAWH HMONG CONSONANT RAU
16B22	ᵛ	PAHAWH HMONG CONSONANT N KAU
16B23	ᵛ	PAHAWH HMONG CONSONANT QAU
16B24	ᵛ	PAHAWH HMONG CONSONANT YAU
16B25	ᵛ	PAHAWH HMONG CONSONANT H LAU
16B26	ᵛ	PAHAWH HMONG CONSONANT MAU

16B27	ᵛ	PAHAWH HMONG CONSONANT CHAU
16B28	ᵛ	PAHAWH HMONG CONSONANT N CHAU
16B29	ᵛ	PAHAWH HMONG CONSONANT HNAU
16B2A	ᵛ	PAHAWH HMONG CONSONANT PLHAU
16B2B	ᵛ	PAHAWH HMONG CONSONANT NTHAU
16B2C	ᵛ	PAHAWH HMONG CONSONANT NAU
16B2D	ᵛ	PAHAWH HMONG CONSONANT AU
16B2E	ᵛ	PAHAWH HMONG CONSONANT XAU
16B2F	ᵛ	PAHAWH HMONG CONSONANT CAU

Combining diacritical marks

16B30	ᵛ	PAHAWH HMONG MARK CIM TUB
16B31	ᵛ	PAHAWH HMONG MARK CIM SO
16B32	ᵛ	PAHAWH HMONG MARK CIM KES
16B33	ᵛ	PAHAWH HMONG MARK CIM KHAV
16B34	ᵛ	PAHAWH HMONG MARK CIM SUAM
16B35	ᵛ	PAHAWH HMONG MARK CIM HOM
16B36	ᵛ	PAHAWH HMONG MARK CIM TAUM

Punctuation

16B37	ᵛ	PAHAWH HMONG SIGN VOS THOM = question mark
16B38	ᵛ	PAHAWH HMONG SIGN VOS TSHAB CEEB = exclamation mark
16B39	ᵛ	PAHAWH HMONG SIGN CIM CHEEM = comma
16B3A	ᵛ	PAHAWH HMONG SIGN VOS THIAB = ampersand
16B3B	ᵛ	PAHAWH HMONG SIGN VOS FEEM = percent sign
16B3C	ᵛ	PAHAWH HMONG SIGN XYEEM NTXIV = plus sign
16B3D	ᵛ	PAHAWH HMONG SIGN XYEEM RHO = minus sign
16B3E	ᵛ	PAHAWH HMONG SIGN XYEEM TOV = multiplication sign
16B3F	ᵛ	PAHAWH HMONG SIGN XYEEM FAIB = division sign
16B40	ᵛ	PAHAWH HMONG SIGN VOS SEEV = chanting intonation
16B41	ᵛ	PAHAWH HMONG SIGN MEEJ SUAB = foreign pronunciation
16B42	ᵛ	PAHAWH HMONG SIGN VOS NRUA = reduplication
16B43	ᵛ	PAHAWH HMONG SIGN IB YAM = replication, ditto
16B44	ᵛ	PAHAWH HMONG SIGN XAUS • used to complete a section
16B45	ᵛ	PAHAWH HMONG SIGN CIM TSOV ROG • used to indicate military topics

Digits

16B50	ᵛ	PAHAWH HMONG DIGIT ZERO
16B51	ᵛ	PAHAWH HMONG DIGIT ONE
16B52	ᵛ	PAHAWH HMONG DIGIT TWO
16B53	ᵛ	PAHAWH HMONG DIGIT THREE
16B54	ᵛ	PAHAWH HMONG DIGIT FOUR
16B55	ᵛ	PAHAWH HMONG DIGIT FIVE
16B56	ᵛ	PAHAWH HMONG DIGIT SIX
16B57	ᵛ	PAHAWH HMONG DIGIT SEVEN
16B58	ᵛ	PAHAWH HMONG DIGIT EIGHT
16B59	ᵛ	PAHAWH HMONG DIGIT NINE
16B5A	ᵛ	PAHAWH HMONG DIGIT THIRD-STAGE ZERO

Numbers

16B5B	ᵛ	PAHAWH HMONG NUMBER TENS = caum
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16B5C	𐄂	PAHAWH HMONG NUMBER HUNDREDS = pua
16B5D	𐄃	PAHAWH HMONG NUMBER TEN THOUSANDS = vam
16B5E	𐄄	PAHAWH HMONG NUMBER MILLIONS = neev
16B5F	𐄅	PAHAWH HMONG NUMBER HUNDRED MILLIONS = billions = taw
16B60	𐄆	PAHAWH HMONG NUMBER TEN THOUSAND MILLIONS = ten billions = ruav
16B61	𐄇	PAHAWH HMONG NUMBER BILLIONS = trillions = tas
16B62	𐄈	PAHAWH HMONG NUMBER THIRD-STAGE TENS = caum

Logographs

16B63	𐄉	PAHAWH HMONG SIGN VOS LUB = classifier
16B64	𐄊	PAHAWH HMONG SIGN XYOO = year
16B65	𐄋	PAHAWH HMONG SIGN HLI = month
16B66	𐄌	PAHAWH HMONG SIGN THIRD-STAGE HLI = month
16B67	𐄍	PAHAWH HMONG SIGN ZWJ THAJ = date
16B68	𐄎	PAHAWH HMONG SIGN HNUB = day
16B69	𐄏	PAHAWH HMONG SIGN NQIG = waning moon
16B6A	𐄐	PAHAWH HMONG SIGN XIAB = waxing moon
16B6B	𐄑	PAHAWH HMONG SIGN NTUJ = season
16B6C	𐄒	PAHAWH HMONG SIGN AV = earth
16B6D	𐄓	PAHAWH HMONG SIGN TXHEEJ CEEV = urgent
16B6E	𐄔	PAHAWH HMONG SIGN MEEJ TSEEB = facts
16B6F	𐄕	PAHAWH HMONG SIGN TAU = received
16B70	𐄖	PAHAWH HMONG SIGN LOS = come
16B71	𐄗	PAHAWH HMONG SIGN MUS = go
16B72	𐄘	PAHAWH HMONG SIGN CIM HAIS LUS NTOG NTOG = smooth
16B73	𐄙	PAHAWH HMONG SIGN CIM CUAM TSHOOJ = fraction
16B74	𐄚	PAHAWH HMONG SIGN CIM TXWV = do not open
16B75	𐄛	PAHAWH HMONG SIGN CIM TXWV CHWV = do not touch
16B76	𐄜	PAHAWH HMONG SIGN CIM PUB DAWB = give freely
16B77	𐄝	PAHAWH HMONG SIGN CIM NRES TOS = stop

Logographs for clan names

16B7E	𐄞	PAHAWH HMONG CLAN SIGN YEEG = Yeng
16B7F	𐄟	PAHAWH HMONG CLAN SIGN LIS = Lee
16B80	𐄠	PAHAWH HMONG CLAN SIGN LAUJ = Lor
16B81	𐄡	PAHAWH HMONG CLAN SIGN XYOOJ = Xiong
16B82	𐄢	PAHAWH HMONG CLAN SIGN HAWJ = Her
16B83	𐄣	PAHAWH HMONG CLAN SIGN MUAS = Moua
16B84	𐄤	PAHAWH HMONG CLAN SIGN THOJ = Thao
16B85	𐄥	PAHAWH HMONG CLAN SIGN TSAB = Chang
16B86	𐄦	PAHAWH HMONG CLAN SIGN KHAB = Khang
16B87	𐄧	PAHAWH HMONG CLAN SIGN HAM = Hang
16B88	𐄨	PAHAWH HMONG CLAN SIGN VAJ = Vang
16B89	𐄩	PAHAWH HMONG CLAN SIGN YAJ = Yang
16B8A	𐄪	PAHAWH HMONG CLAN SIGN KWM = Kw
16B8B	𐄫	PAHAWH HMONG CLAN SIGN VWJ = Vue
16B8C	𐄬	PAHAWH HMONG CLAN SIGN TSHEEJ = Cheng
16B8D	𐄭	PAHAWH HMONG CLAN SIGN KOO = Kong
16B8E	𐄮	PAHAWH HMONG CLAN SIGN FAJ = Fang
16B8F	𐄯	PAHAWH HMONG CLAN SIGN TSWB = Chue