Representing Miao in Unicode - Unicode Technical Note (proposed draft)

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This is a work in progress. Additional information is most welcome.

Overview

This document provides an introduction and overview on how to encode Miao/Pollard script text. It also gives information on the languages using the script and resources which are available.

Character storage

Each syllable is divided into an initial and a final. The initial is the initial consonant and the final consists of the vowel cluster and the tone. The positioning of the vowels indicates the tone of a syllable. Nasalization and voicing are considered as initial rather than final.

The syllable structure is: (N)C(M)V(V(V))(S/T), where N is the nasalizer (U+16F50), C is the obligatory consonant (U+16F00..U+16F4A), M is a modifier (U+16F51 is an aspiration mark in current use and U+16F52..U+16F53 are two archaic voicing marks), V is one obligatory vowel mark which may be followed by two more (U+16F54..U+16F87), S is a “shifting” character which controls the height of the vowel (U+16F8F..U+16F92), and T (U+16F93..U+16F9F) is a tone mark; **S and T do not co-occur on a syllable.**

Rendering Example

Setting	Sample
default	[illegible]
USV	

Setting	Sample
	U+16F10 U+16F4F U+16F7B U+16F91 U+16F50 U+16F2E U+16F54 U+16F91 U+16F07 U+16F79 U+16F26 U+16F58 U+16F8F U+16F28 U+16F51 U+16F7B U+16F43 U+16F66 U+16F91 U+16F3B U+16F7A U+16F90 U+16F1E U+16F59 U+16F7E U+16F91 U+16F21 U+16F60 U+16F1A U+16F5C U+16F91 U+16F16 U+16F73 U+16F90 U+16F18 U+16F61 U+16F90 U+16F04 U+16F77 U+16F10 U+16F75 U+16F91 U+16F23 U+16F71 U+16F90 U+16F00 U+16F6A U+16F8F U+16F35 U+16F62 U+16F91 U+16F3A U+16F6B U+16F90 U+16F33 U+16F68 U+16F0A U+16F6A U+16F57 U+16F91 U+16F0E U+16F5E U+16F8F U+16F37 U+16F5F U+16F42 U+16F61 U+16F79 U+16F91 U+16F08 U+16F64; U+16F3D U+16F61 U+16F7B U+16F91 U+16F2F U+16F61 U+16F5D U+16F8F U+16F1F U+16F61 U+16F73 U+16F91 U+16F01 U+16F6A U+16F90 U+16F0B U+16F6A U+16F58 U+16F91 U+16F38 U+16F6A U+16F5E

Punctuation and Digits

Users of the Miao script freely use the same punctuation marks as Chinese and Latin.

All languages use this punctuation: . , / " = + - ( )

Additionally, most Miao script users seem to follow the Chinese convention for indicating proper nouns:

- names of people -- single underline
- names of places -- double underline
- book titles -- wavy underline

Miao script users use Western-style digits 0-9.

Line breaking and word breaking

Word breaking occurs only before an initial consonant. Syllables of consonant, vowels and tone are never split. Line breaks at spaces or after punctuation. A line break may not be inserted between any syllable, or before punctuation.

When the Big Flowery Miao [hmd] Bible was typeset, the translation team introduced word breaks. Earlier texts were written without word breaks, and this caused problems in typesetting. Word breaks were introduced in trial editions and were well accepted. Based on this positive feedback, the team included word breaks in the Miao Bible (YU SUEE YAN).

Rendering

Tone mark positioning

Four positioning tone marks are encoded. The default position for the vowels and finals is on the baseline. If another position is required a tone positioning mark is required.

Setting	Sample
default	𖬀𖬵𖬲
U+16F8F MIAO TONE RIGHT	𖬀𖬵𖬲
U+16F90 MIAO TONE TOP RIGHT	𖬀𖬵𖬲
U+16F91 MIAO TONE ABOVE	𖬀𖬲
U+16F92 MIAO TONE BELOW	𖬀𖬲

However, for Xiaohua Miao / Small Flowery Miao [sfm] the four tone positions are used right of initial.

USV	default	sfm variant
U+16F90, U+16F8F, U+16F92, none	┘ᵕ ┘ᵕ ┘ ┘ᵤ	┘ᵕ ┘ᵕ ┘ᵤ ┘ᵤ

Ligatures

Sinicized Miao [hmz], Xiaohua Miao / Small Flowery Miao [sfm], and sometimes Large Flowery Miao / Dahua Miao / A-Hmao [hmd], puts the aspiration mark (U+16F51) in front of the consonant rather than the default position of after. It is possible other languages would also do this.

Setting	default	hmz, sfm, hmd
U+16F04 U+16F51	𖼄𖽑	𖼄𖽑
U+16F10 U+16F51	𖼐𖽑	𖼐𖽑
U+16F23 U+16F51	𖼣𖽑	𖼣𖽑

Kerning

In general, aspiration and finals are kerned into the initial. Additionally, finals are usually kerned under aspiration. There are some languages which do not follow this behavior. These are listed in the table below.

Setting	default	variant	language
Final not kerned into initial	Ꮷ Ɪᵕ Ɪ Γ~ ƚᵤ Tɔ Vᵢᵢ Yₙ	Ꮷ Ɪᵕ Ɪᵕ Γ~ ƚᵤ Tɔ Vᵢᵢ Yₙ	hmd normalised, sfm, ygp
Final not kerned into aspiration	Ⲥ'ₒ Ɪ'ε	Ⲥ' ₒ Ɪ'ε	sfm, ygp
Aspiration not kerned into initial	L' Ꮟ' Λ' Δ' L' Ꮟ' Λ' Δ'	L' Ꮟ' Λ' Δ' L' Ꮟ' Λ' Δ'	hmd normalised
Single final at foot position right-aligned with aspiration if enough space	ƚ'ᵤ T'ɔ	ƚ'ᵤ T'ɔ	hmd, yna

Glyph variants

“wart” vs “dot” variants are listed below this table.

Setting	default	variant	language
U+3001	、	、	lpo
U+16F02	𖼂	𖼂	ygp
U+16F04	𖼄	𖼄	hmd normalised
U+16F04	𖼄	𖼄	lpo
U+16F04	𖼄	𖼄	ygp, ywq normalized
U+16F05	𖼅	𖼄̇	hmd normalised
U+16F10	𖼐	𖼐	hmd normalised
U+16F10	𖼐	𖼐	lpo
U+16F10	𖼐	𖼐	ygp, ywq normalized
U+16F11	𖼑	𖼐̇	hmd normalised
U+16F14	𖼔	𖼕	hmd normalised
U+16F14	𖼔	𖼔	ygp
U+16F15	𖼕	𖼕̇	hmd normalised
U+16F23	𖼣	𖼦	hmd normalised
U+16F23	𖼣	𖼣	lpo
U+16F23	𖼣	𖼣	ygp
U+16F24	𖼤	𖼦̇	hmd normalised
U+16F2F	𖼯	𖼯̇	ywq normalized
U+16F33	𖼳	𖼳	lpo
U+16F35	R	𖼵	ywq normalized

*Currently there is a question of whether the default glyph in the codecharts should be the one in the **default** column here. It is the author's belief that this should be changed as most languages use that form.*

*There is a request to encode the glyph found in the **variant** column for U+16F35. Although both glyphs represent the same character, this is a significant variant, and that request should at least be considered.*

Setting	default	variant	language
U+16F57	◌𖼷	◌𖼷 (flat bottom)	hmd traditional, hmd normalized, hmz, lpo
U+16F58	◌𖼸	◌𖼸	lpo
U+16F5C	◌𖼵	◌𖼵 (near-centre stem)	ygp
U+16F5E	◌𖼾	◌𖼾 (flat top)	hmd normalised
U+16F5F	◌𖼿	◌𖼿 (flat top)	hmd normalised
U+16F60	◌𖽀	◌𖽀 (near-centre stem)	ygp
U+16F73	◌𖽐	◌𖽐 (near-centre stem)	ygp
U+16F7A	◌𖽺	◌𖽺 (pointed hook)	hmd traditional, hmd normalized, hmz, sfm

“wart” vs “dot”

Some Miao consonants appear in the code charts with a “wart” attached to the glyph, usually on the left-hand side. In the Chuxiong orthography, a dot appears instead of the wart on these consonants. Because the user communities consider the appearance of the wart or dot to be a different way to write the same characters and not a difference of the character’s identity, the differences in appearance are a matter of font style.

Affects: U+16F01 U+16F05 U+16F09 U+16F0B U+16F0F U+16F11 U+16F15 U+16F17 U+16F19 U+16F1B U+16F1D U+16F1F U+16F22 U+16F24 U+16F29 U+16F2B U+16F2D U+16F2F U+16F36 U+16F38 U+16F3C U+16F3E U+16F41 U+16F44 U+16F45 U+16F46 U+16F47

Setting	Sample
default (wart)	𖼁𖼃𖼅𖼇𖼉𖼋𖼍𖼏𖼑𖼓𖼕𖼗𖼙𖼛𖼝𖼟𖼡𖼣𖼥𖼧𖼩𖼫𖼭𖼯
alternate (dot)	𖼁𖼃𖼅𖼇𖼉𖼋𖼍𖼏𖼑𖼓𖼕𖼗𖼙𖼛𖼝𖼟𖼡𖼣𖼥𖼧𖼩𖼫𖼭𖼯

Languages currently using Miao/Pollard script

Large Flowery Miao / Dahua Miao / A-Hmao [hmd]

The Large Flowery Miao / Dahua Miao / A-Hmao language is the primary language that uses the Miao script.

Resources

Language tag: `hmd`

Opentype language system tag: `HMD`

SLDR: hmd

Keyman keyboard: hmd

Picker: A-Hmao picker

Font: Sapushan - traditional orthography

Font: Shimenkan Guifan - normalised orthography

Generic Miao fonts: Noto Miao and Miao Unicode

Character set

Consonant onsets									
𖼀	𖼁	𖼄	𖼅	𖼇	𖼈	𖼉	𖼊	𖼋	𖼎
16F00	16F01	16F04	16F05	16F07	16F08	16F09	16F0A	16F0B	16F0E
𖼏	𖼐	𖼑	𖼔	𖼕	𖼖	𖼗	𖼘	𖼙	𖼚
16F0F	16F10	16F11	16F14	16F15	16F16	16F17	16F18	16F19	16F1A
𖼛	𖼜	𖼝	𖼞	𖼟	𖼠	𖼡	𖼢	𖼣	𖼤
16F1B	16F1C	16F1D	16F1E	16F1F	16F21	16F22	16F23	16F24	16F26
𖼨	𖼩	𖼪	𖼫	𖼬	𖼭	𖼮	𖼯	𖼰	𖼱
16F28	16F29	16F2A	16F2B	16F2C	16F2D	16F2E	16F2F	16F33	16F34
𖼲	𖼳	𖼴	𖼵	𖼶	𖼷	𖼸	𖼹	𖼺	𖼻
16F35	16F37	16F38	16F3A	16F3B	16F3C	16F3D	16F3E	16F40	16F41
𖼼	𖼽	𖼾							
16F42	16F43	16F44							

Modifiers	**Nasalization**	**Aspiration**
	◌𖼿	◌𖽀
	16F50	16F51

The keyboard includes U+16F5D ◌𖽝 and U+16F74 ◌𖽴 although they are not in Figure 1 L2/10-093.

Vowels and finals									
◌𖽐	◌𖽗	◌𖽘	◌𖽙	◌𖽜	◌𖽞	◌𖽟	◌𖽠	◌𖽡	◌𖽢
16F54	16F57	16F58	16F59	16F5C	16F5E	16F5F	16F60	16F61	16F62
◌𖽥	◌𖽨	◌𖽪	◌𖽫	◌𖽱	◌𖽳	◌𖽵	◌𖽷	◌𖽹	◌𖽺
16F66	16F68	16F6A	16F6B	16F71	16F73	16F75	16F77	16F79	16F7A
◌𖽻									
16F7B									

Positioning tone marks		
MIAO TONE RIGHT	MIAO TONE TOP RIGHT	MIAO TONE ABOVE
16F8F	16F90	16F91

Punctuation

See also Punctuation and Digits.

Additional punctuation: : ; ? [ ] _ __

Sorting (China, Ireland, and UK. Figure 1)

&⅃ < ⅃̣ << ⅃’ << (⅃ << (⅃̣ << (⅃’

&T < Ṭ << T’ << (T << (Ṭ << (T’

&ℶ < ℶ̣ << ℶ’ << (ℶ << (ℶ̣ << (ℶ’

&Ꮯ < Ꮯ̣ << Ꮯ’ << (Ꮯ << (Ꮯ̣ << (Ꮯ’

&ꞁ < ꞁ̣ << ꞁ’ << (ꞁ << (ꞁ̣ << (ꞁ’

&Δ < Δ̣ << Δ’ << (Δ << (Δ̣ << (Δ’

&A < Ạ << A’ << (A << (Ạ << (A’

&† < †̣ << †’ << († << (†̣ << (†’

&Ⲧ < Ⲧ̣ << Ⲧ’ << (Ⲧ << (Ⲧ̣ << (Ⲧ’

&J < J̣ << J’ << (J << (J̣ << (J’

&Y < Ỵ << Y’ << (Y << (Ỵ << (Y’

&V < Ṿ << V’

&Λ < Λ̣ << Λ’

&A < Ạ << A’

&L < Ḷ << L’

&Lo < Ḷo << L’o

&Ↄ < Ↄ̣ << Ↄ’

&C < C̣ << ’C

&Ʒ < Ʒ̣ << Ʒ’

&Ɛ < Ɛ̣ << Ɛ’

&Ꞓ < Ꞓ̣ << Ꞓ’

&Ꮆ < Ꮆ̣ << Ꮆ’

&l < ḷ << l’

&ᒍ < Ꞁ < S < Γ < ꞁ < R < U

&◌_ < ◌o < ◌ʔ < ◌n < ◌u < ◌ↄ < ◌ı < ◌ᵥ < ◌ıı < ◌ς < ◌ƅ < ◌ƶ < ◌ɓ < ◌= < ◌ɲ < ◌ᒣ < ◌ɾ < ◌ɲ < ◌ʊ < ◌ɛ <

◌ɛ̥

Rendering

See also “wart” vs “dot” for special behavior. The traditional orthography uses the “wart” and the normalised orthography uses the “dot”.

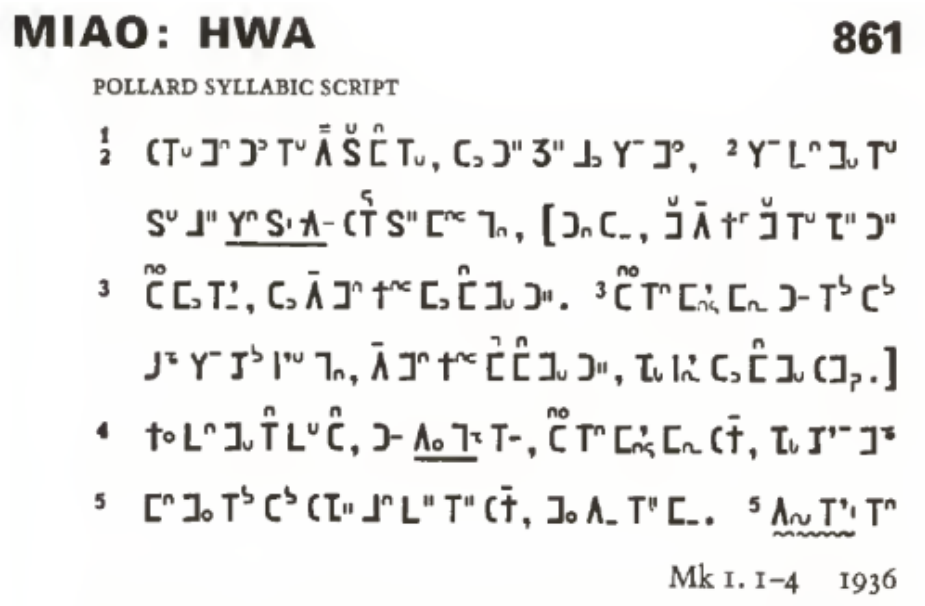
See also Kerning for special behavior.

See also Ligatures for special behavior.

Glyph variants

Setting	Sample
default	𖬀𖬁𖬂𖬃𖬄𖬅𖬆𖬇𖬈𖬉𖬊𖬋
hmd alternates	𖬀𖬁𖬂𖬃𖬄𖬅𖬆𖬇𖬈𖬉𖬌
normalized orthography alternates	𖬀𖬁𖬂𖬃𖬄𖬅𖬆𖬇𖬈𖬉𖬌

Sample graphic



Mark 1:1-4 (UBS).

Sinicized Miao / Waishu Miao / Hmong Shua [hmz]

Language tag: `hmz-Plrd`

Opentype language system tag: `HMZ`

SLDR: none

Keyboard: none

Font: Shimenkan MGS

Character set

Unknown

Rendering

See also Ligatures for special behavior.

Glyph variants

Setting	Sample
default	◌𖬈𖬋
alternate	◌𖬈𖬌

Lipo / Dong Lisu / Eastern Lisu [lpo]

Language tag: `lpo`

Opentype language system tag: `LPO`

SLDR: lpo

Keyman keyboard: lpo

Font: Taogu

Character set

Consonant onsets									
ꓖ	ꓛ	ꓟ	ꓡ	ꓥ	ꓬ	ꓭ	ꓮ	ꓯ	ꓵ
16F00	16F02	16F04	16F07	16F08	16F0A	16F0D	16F0E	16F10	16F13
ꓶ	ꓷ	ꓸ	ꓹ	ꓺ	ꓼ	ꓽ	꓾	꓿	ꔂ
16F16	16F18	16F1E	16F21	16F23	16F26	16F28	16F2F	16F30	16F33
ꔅ	ꔇ	ꔈ	ꔉ	ꔊ	ꔋ	ꔌ	ꔍ	ꔎ	ꔏ
16F35	16F37	16F39	16F3A	16F3B	16F3D	16F43			

Modifiers	Aspiration
	◌’
	16F51

Vowels and finals									
◌ꔰ	◌ꔱ	◌ꔲ	◌ꔳ	◌ꔴ	◌ꔵ	◌ꔶ	◌ꔷ	◌ꔸ	◌ꔹ
16F54	16F55	16F57	16F58	16F59	16F5A	16F5C	16F5D	16F61	16F62
◌ꔺ	◌ꔻ	◌ꔼ	◌ꔽ	◌ꔾ	◌ꔿ	◌ꕀ	◌ꕁ	◌ꕂ	◌ꕃ
16F67	16F68	16F6A	16F6B	16F6E	16F71	16F73	16F74	16F76	16F78
◌ꕄ	◌ꕅ	◌ꕆ	◌ꕇ	◌ꕈ					
16F79	16F7A	16F7B	16F7C	16F7E					

Positioning tone marks	
MIAO TONE TOP RIGHT	MIAO TONE ABOVE
16F90	16F91

Punctuation

See also Punctuation and Digits.

Additional punctuation: '-:;=?

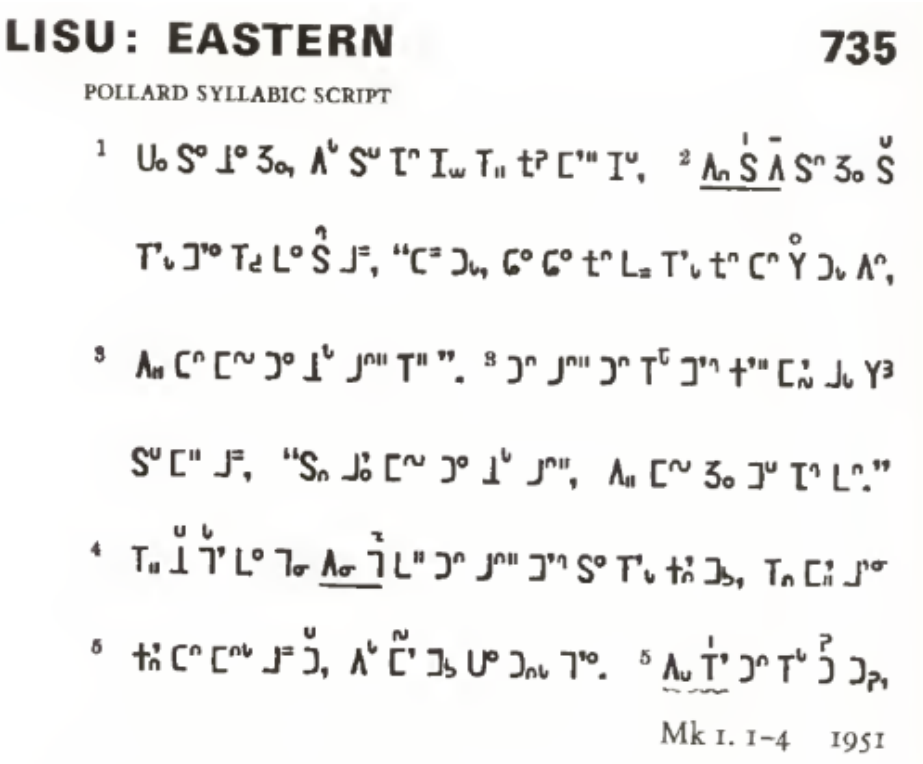
、 (U+3001 IDEOGRAPHIC COMMA)

Rendering

Glyph variants

Setting	Sample
default	ꓷꓚꓖꓙꓲꓸ、
alternate	ꓷꓚꓖꓙꓲꓸ、

Sample graphic



Mark 1:1-4 (UBS).

Bai Yi / Gepo [ygp]

Language tag: ygp

Opentype language system tag: YGP

SLDR: none

Keyman keyboard: ygp

Font: Shimenkan GSM

Character set

The keyboard includes U+16F0B 𖼋, U+16F0F 𖼏, U+16F2F 𖼯, and U+16F38 𖼸 although they are not in Figure 2 L2/17-345. These are warted characters, and it may make sense to include them.

Consonant onsets									
𖼀	𖼂	𖼄	𖼇	𖼈	𖼊	𖼎	𖼐	𖼒	𖼔
16F00	16F02	16F04	16F07	16F08	16F0A	16F0E	16F10	16F12	16F14
𖼖	𖼘	𖼞	𖼣	𖼦	𖼨	𖼪	𖼮	𖼲	𖼳
16F16	16F18	16F1E	16F23	16F26	16F28	16F2A	16F2E	16F32	16F33
𖼵	𖼷	𖼹	𖼻	𖼽	𖼾	𖼿	𖽁	𖽇	𖽈
16F35	16F37	16F3A	16F3B	16F3D	16F42	16F43	16F48	16F49	16F4A

Modifiers	Nasalization	Aspiration
	𖽐	𖽑
	16F50	16F51

The keyboard includes U+16F5B 𖽛, U+16F5E 𖽞, U+16F5F 𖽟, U+16F62 𖽢, and U+16F63 𖽣 although they are not in Figure 2 L2/17-345.

Vowels and finals								
𖽀	𖽂	𖽃	𖽄	𖽅	𖽆	𖽇	𖽈	𖽉
16F54	16F57	16F58	16F59	16F5C	16F5D	16F60	16F61	16F66
𖽊	𖽋	𖽌	𖽍	𖽎	𖽏	𖽐	𖽑	𖽒
16F68	16F6A	16F71	16F73	16F75	16F76	16F77	16F79	16F7A
𖽓	𖽔	𖽕	𖽖	𖽗	𖽘	𖽙	𖽚	
16F7B	16F7E	16F81	16F83	16F84	16F85	16F86	16F87	

Positioning tone marks		
MIAO TONE RIGHT	MIAO TONE TOP RIGHT	MIAO TONE ABOVE
16F8F	16F90	16F91

Punctuation

See also Punctuation and Digits.

Additional punctuation: ' ; : - *

Sorting (Cheuk, figure 2)

&𖼵 < 𖼀

&𖼄 << 𖼄’ << 𖽐𖼄

&𖼂 < 𖼈

&T << T’ << (T

&Ꞁ

&ϯ << ϯ’ << (ϯ

&Γ < Ꮭ < Ɪ

&Ⲉ << Ⲉ’ << (Ⲉ

&Ɪ

&Ɔ << Ɔ’ << (Ɔ

&Ꞁ

&Ɪ << Ɪ’ << (Ɪ

&V < Λ < U < Ɔ < (< Ꮳ < Ꮓ < Ʒ < S < ᒍ

&ꓶ << ꓶ’

&ꟾ < Ꮾ < R &◌̱ < ◌ᶸ

&◌ᶯ << ◌ᶯ̱ << ◌ᶯᶸ << ◌ᶯᶦ << ◌ᶯᵒ << ◌ᶯᶦᶦ << ◌ᶯ₌ << ◌ᶯᵗ << ◌ᶯᵇ << ◌ᶯ⁶

&◌ᶦ

&◌ₒ << ◌ₒ₆

&◌ᵤ << ◌ᵤ̱ << ◌ᵤᶸ << ◌ᵤᶦ << ◌ᵤₒ << ◌ᵤᶦᶦ << ◌ᵤ₌ << ◌ᵤᵗ << ◌ᵤᵇ << ◌ᵤ₆

&◌ↄ < ◌c

&◌ₛ << ◌ₛc

&◌ʔ < ◌ʕ < ◌ч < ◌ь < ◌ŋ < ◌ıı < ◌₌ < ◌ʌ < ◌v < ◌r < ◌˥ < ◌e < ◌ʈ < ◌ъ < ◌ɴ < ◌ɴ

Rendering

See also Kerning for special behavior.

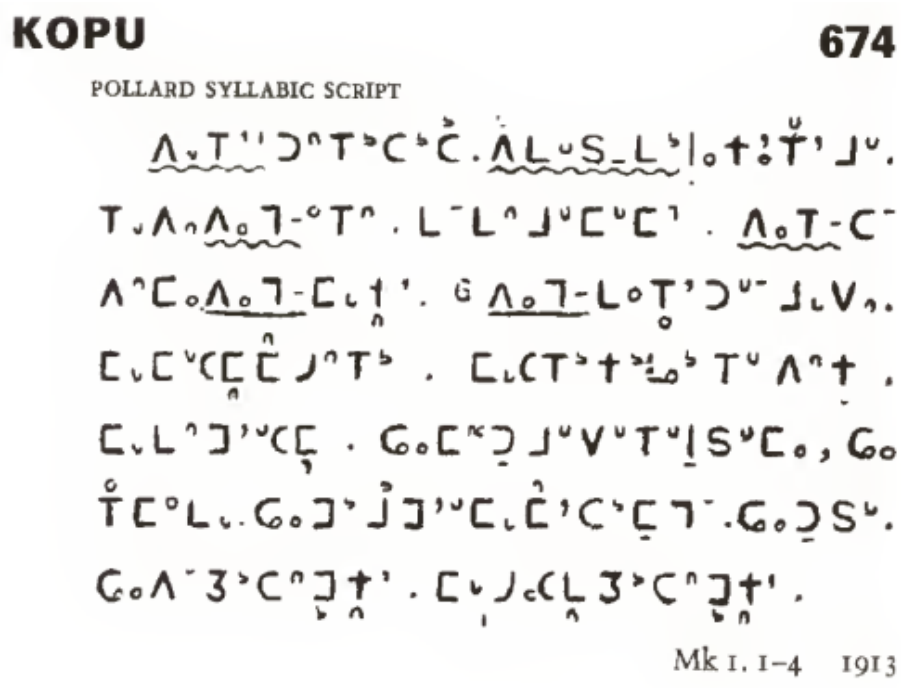
Glyph variants

Setting	Sample
default	⊥ↃCᏋᏳₛʕʔ
alternate	⊥ↃCᏋᏳₛʕʔ

Sample text taken from Figure 1 of Cheuk.

Setting	Sample	USV
ygp	𖽈𖽦𖾐 𖼪𖽜𖾑 𖽈𖾅 𖼮𖽑𖽜𖾑 𖼲𖽡𖽻𖾐	U+16F48 U+16F66 U+16F90 U+0020 U+16F2A U+16F5C U+16F91 U+0020 U+16F48 U+16F85 U+0020 U+16F2E U+16F51 U+16F5C U+16F91 U+0020 U+16F32 U+16F61 U+16F7B U+16F90

Sample graphic



Mark 1:1-4 (UBS).

Hei Yi / Wuding-Luquan Yi / Nasu [ywq]

Resources

Language tag: `ywq`

Opentype language system tag: `YWQ`

SLDR: none

Keyman keyboard: ywq

Font: Salaowu - normalised orthography

Character set

The keyboard includes U+16F05 𖼅, U+16F13 𖼓, U+16F1A 𖼚,U+16F1C 𖼜, U+16F2A 𖼪, and U+16F2D 𖼭 although they are not in Figure 5 L2/17-345.

Consonant onsets									
𖼀	𖼂	𖼄	𖼇	𖼈	𖼊	𖼌	𖼍	𖼎	𖼐
16F00	16F02	16F04	16F07	16F08	16F0A	16F0C	16F0D	16F0E	16F10
𖼒	𖼔	𖼖	𖼘	𖼛	𖼝	𖼣	𖼦	𖼨	𖼯
16F12	16F14	16F16	16F18	16F1E	16F21	16F23	16F26	16F28	16F2E
𖼯	𖼰	𖼱	𖼳	𖼴	R	𖼷	𖼹	S	𖼻
16F2F	16F30	16F31	16F33	16F34	16F35	16F37	16F39	16F3A	16F3B
𖼽	U	Y							
16F3D	16F42	16F43							

Modifiers	**Nasalization**	**Aspiration**
	𖽐	𖽑
	16F50	16F51

The keyboard includes U+16F57 𖽗, U+16F5F 𖽟, and U+16F7E 𖽾 although they are not in Figure 5 L2/17-345.

Vowels and finals									
𖽔	𖽘	𖽙	𖽛	𖽜	𖽝	𖽡	𖽢	𖽦	𖽨
16F54	16F58	16F59	16F5B	16F5C	16F5D	16F61	16F62	16F66	16F68
𖽪	𖽫	𖽮	𖽱	𖽳	𖽶	𖽸	𖽹	𖽺	𖽻
16F6A	16F6B	16F6E	16F71	16F73	16F76	16F78	16F79	16F7A	16F7B
𖽿	𖾀								
16F7F	16F80								

Positioning tone marks		
MIAO TONE RIGHT	MIAO TONE TOP RIGHT	MIAO TONE ABOVE
16F8F	16F90	16F91

Punctuation

See also Punctuation and Digits.

Sorting (Cheuk, figure 5)

Red signifies unsure of sorting as it seems to be a digraph and should sort elsewhere. Some of the vowel "digraphs" are what made sense to the author, not as the chart listed them.

&Y < I

&J < ⊥ << CJ << J’

&Γ < ꓶ << ꓶ’

&L < Lo

&[<< C[<< [’

&] << C] <<]’

&J < Ⅰ

&[<< [’

&Ⅰ << CⅠ << Ⅰ’

&ŧ

&† << C† << †’

&T << CT << T’

&Ⅰ < T < Ɫ < ζ[< Ↄ < C < ζ < Ҽ < J < Ј < Ꮐ < S < U < V < Λ < Ʒ < R

&◌_ < ◌ı < ◌= < ◌ıı < ◌5

&◌o << ◌o5

&◌6 < ◌p < ◌r < ◌ɿ

&◌n << ◌nıı << ◌no << ◌nu << ◌n= << ◌n6 << ◌nƨ

&◌u << ◌u5 << ◌uu << ◌uo << ◌uc << ◌u= << ◌uƨ

&◌ü < ◌ɂ < ◌ɩ < ◌ↄ

&◌c << ◌c5

&◌ռ < ◌ʋ < ◌ɲ < ◌ω < ◌ƨ

Rendering

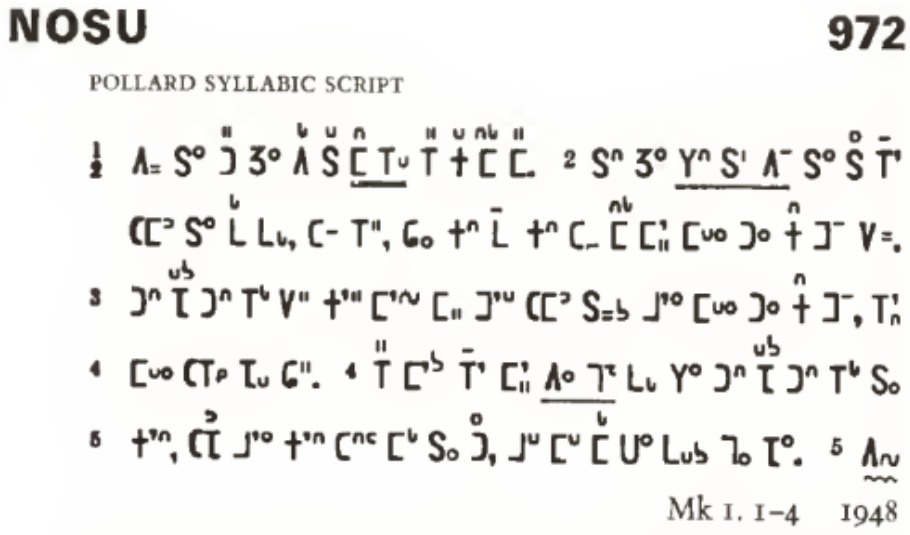
Glyph variants

Setting	Sample
default	ↄCⱢR
traditional	ↄCⱢR
normalized	ↄC[Ʒ

Sample text taken from Figure 7 of Cheuk.

Setting	Sample	USV
ywq	𖼍𖽳𖾐 𖼡𖽘 𖼒𖽻𖾑 𖼰𖽙𖽜𖾑	U+16F0D U+16F73 U+16F90 U+0020 U+16F21 U+16F58 U+0020 U+16F12 U+16F7B U+16F91 U+0020 U+16F30 U+16F59 U+16F5C U+16F91

Sample graphic



Mark 1:1-4 (UBS).

Languages formerly using Miao/Pollard script

Chuanqiandian Cluster Miao [cqd]

Resources

Language tag: `cqd-Plrd`

Character set

Consonant onsets

Not listed

Modifiers	Nasalization	Aspiration
	◌	◌ʼ
	16F50	16F51

Vowels and finals

Not listed

Positioning tone marks		
MIAO TONE RIGHT	MIAO TONE TOP RIGHT	MIAO TONE ABOVE
16F8F	16F90	16F91

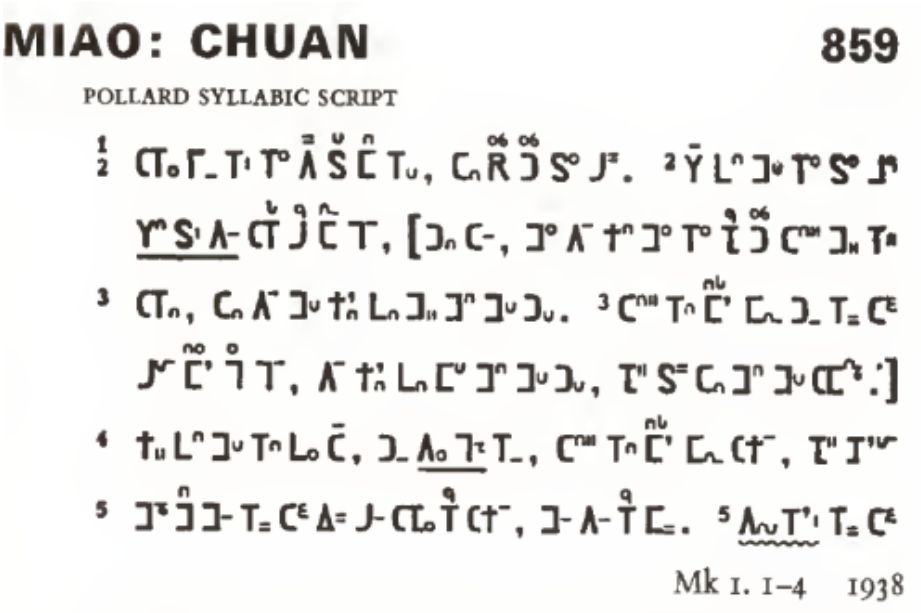
Punctuation

See also Punctuation and Digits.

Additional punctuation: [ ]

Rendering

Sample graphic



Mark 1:1-4 (UBS).

Kaduo / Kado [ktp]

Resources

Language tag: `ktp`

Character set

Consonant onsets

Not listed

Modifiers	Nasalization	Aspiration
	◌	◌ʼ
	16F50	16F51

Vowels and finals

Not listed

Positioning tone marks	
MIAO TONE TOP RIGHT	MIAO TONE ABOVE
16F90	16F91

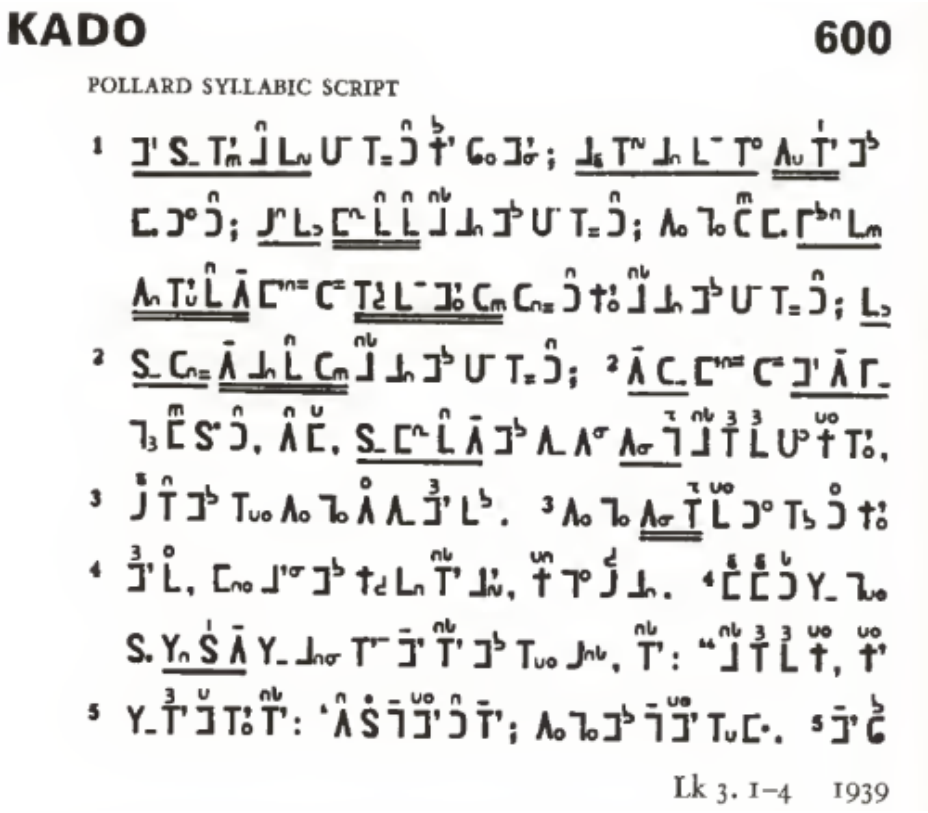
Punctuation

See also Punctuation and Digits.

Additional punctuation: ⁚ ;

Rendering

Sample graphic



Luke 3:1-4 (UBS).

Lakkia [lbc]

Resources

Language tag: `lbc`

Character set

Consonant onsets

Not listed

Vowels and finals

Not listed

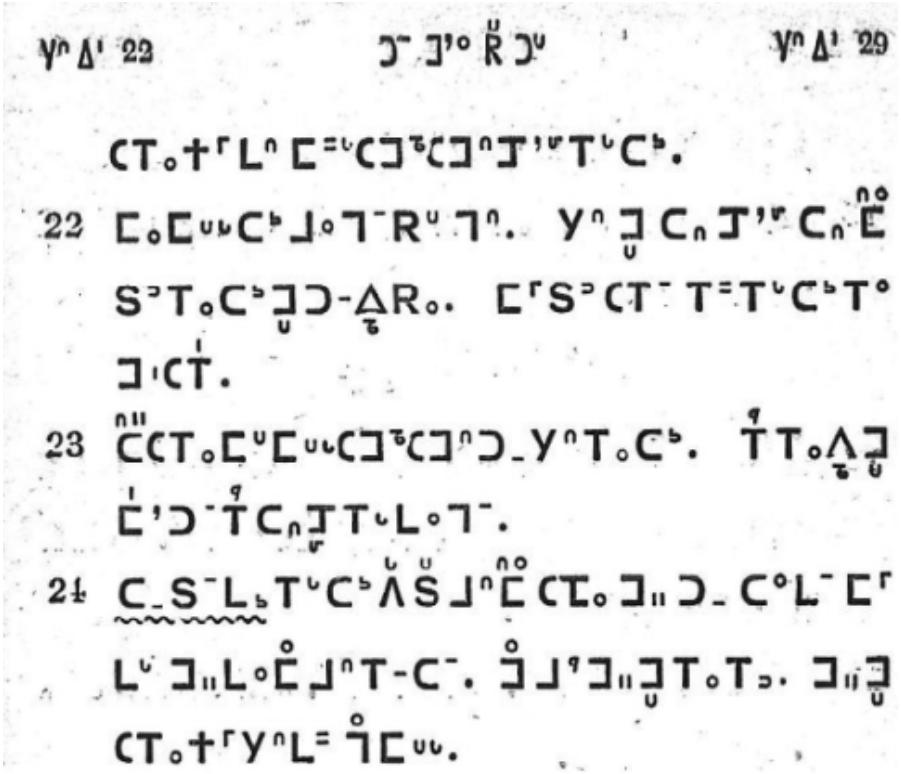
Positioning tone marks			
MIAO TONE RIGHT	MIAO TONE TOP RIGHT	MIAO TONE ABOVE	MIAO TONE BELOW
16F8F	16F90	16F91	16F92

Punctuation

See also Punctuation and Digits.

Rendering

Sample graphic



John (Illustration 5, China 2009).

Hmong Daw [mww]

Resources

Language tag: `mww-Plrd`

Opentype language system tag: `MWW`

No further information

Xiaohua Miao / Small Flowery Miao [sfm]

Resources

Language tag: `sfm`

Opentype language system tag: `SFM`

SLDR: none

Keyman keyboard: none

Font: Shimenkan MAS

Character set

Consonant onsets									
𖼀	𖼁	𖼃	𖼄	𖼇	𖼈	𖼊	𖼋	𖼎	𖼏
16F00	16F01	16F03	16F04	16F07	16F08	16F0A	16F0B	16F0E	16F0F
𖼐	𖼑	𖼖	𖼗	𖼘	𖼙	𖼚	𖼛	𖼜	𖼝
16F10	16F11	16F16	16F17	16F18	16F19	16F1E	16F1F	16F21	16F22
𖼣	𖼦	𖼨	𖼩	𖼮	𖼯	𖼲	𖼳	R	𖼷
16F23	16F26	16F28	16F29	16F2E	16F2F	16F32	16F33	16F35	16F37
𖼸	S	Λ	U	Y	𖼽	𖼾	𖼿		
16F38	16F3A	16F3D	16F42	16F43	16F45	16F46	16F47		

Modifiers	Nasalization	Aspiration
	◌𖽐	◌𖽑
	16F50	16F51

Vowels and finals									
◌𖽒	◌𖽕	◌𖽖	◌𖽗	◌𖽜	◌𖽝	◌𖽞	◌𖽟	◌𖽠	◌𖽡
16F54	16F57	16F58	16F59	16F5C	16F5D	16F5E	16F5F	16F61	16F62
◌𖽣	◌𖽦	◌𖽧	◌𖽨	◌𖽩	◌𖽪	◌𖽫	◌𖽬	◌𖽭	◌𖽮
16F63	16F64	16F66	16F68	16F69	16F6A	16F6B	16F6C	16F6D	16F70
◌𖽵	◌𖽷	◌𖽹	◌𖽺	◌𖽻	◌𖽼	◌𖽽	◌𖽾	◌𖽿	◌𖾀
16F71	16F75	16F77	16F78	16F79	16F7A	16F7B	16F7E	16F82	16F83

Positioning tone marks		
MIAO TONE RIGHT	MIAO TONE TOP RIGHT	MIAO TONE ABOVE
16F8F	16F90	16F91

Punctuation

See also Punctuation and Digits.

Sorting (Cheuk, figure 11)

Ordering of vowel digraphs is not the same as the chart, but it seemed to make the most sense to the author.

&𖼏 <<𖼎 << 𖼋 <<𖼇𖼏 << 𖼇𖼎 << 𖼇𖼋

&𖼇

&𖼊 << 𖼊

&𖼈 <<𖼈 << 𖼉 << 𖼇𖼈

&Y < R

&⊐ << ⊐’ << Ǝ << C⊐ << C⊐’ << CƎ

&Ɉ << Ɉ’ << CɈ << CɈ’ << CȜ

&ᓗ << ᓗ’ << ᓘ << Cᓗ << Cᓗ’ << Cᓘ

&L << Ŀ << ꝗL << ꝗŀ

&Ɔ << ’Ɔ

&C << ’C << ꞇC

&G << G’

&⅃ << ⅃’ << ⅃̈ << C⅃ << C⅃’ << C⅃̈

&ᒍ << ᒍ̈

&S

&T << T’ << Ŧ << CT << CT’ << CŦ

&Ꞁ << Ꞁ’ << Ⱡ << CꞀ << CꞀ’ << CⱠ

&Ϯ << Ϯ’ << ⱡ << CϮ << CϮ’ << Cⱡ

&U < V < Λ

&⊥ << ⊥’ << ⫫ << C⊥ << C⊥’ << C⫫

&◌_ < ◌ı < ◌ıı

&◌c=

&◌ʋ < ◌ҕ

&◌ɴ << ◌ɴ̥ (◌ɴƨ) << ◌ɴ̦ (◌ɴʑ) << ◌ɴı << ◌ɴıı << ◌ɴc << ◌ɴҕ << ◌ɴ̨(◌ɴo) << ◌ɴv << ◌ɴʋ << ◌ɴ6 << ◌ɴɛ << ◌ɴɛ̥

&◌ɾ < ◌ᴦ < ◌ꓶ

&◌o << ◌oᴜ

&◌ᴜ << ◌ᴜɛ << ◌ᴜɛ̥ << ◌ᴜ6 << ◌ɯ

&◌v << ◌v6

&◌ɔ << ◌ɔc << ◌ɔʋ << ◌ɔ6 << ◌ɔɛ

&◌ʟ < ◌ɴ̲ < ◌ɴ̃ < ◌ʑ < ◌ƨ < ◌ɛ < ◌ɛ̥

&◌ᴜ̄ << ◌ᴜʑ << ◌ᴜƨ

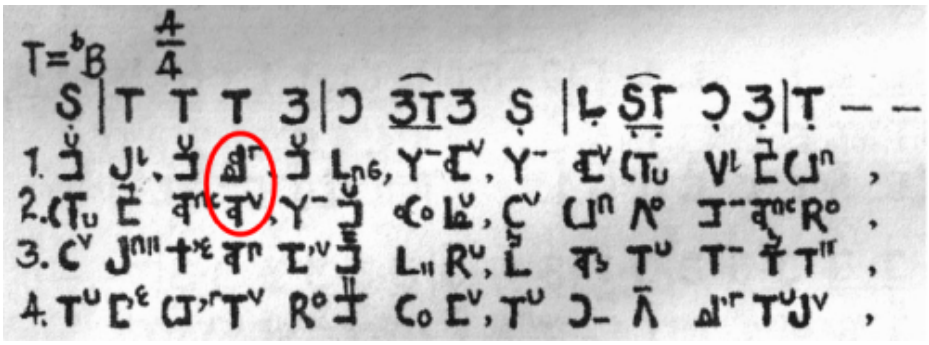
Rendering

See also Tone mark positioning for unusual positioning in this language.

See also Kerning for special behavior.

See also Ligatures for special behavior.

Sample graphic



John (Figure 14, Cheuk).

Gan Yi / Aluo [yna]

Resources

Language tag: `yna`

Opentype language system tag: `YNA`

SLDR: none

Keyman keyboard: yna

Font: Shimenkan Zonghe

Character set

The keyboard includes U+16F13 𖼓 (instead of U+16F42 𖽂), and U+16F2F 𖼯 although they are not in Figure 10 L2/17-345.

Consonant onsets									
𖼀	𖼂	𖼄	𖼇	𖼈	𖼊	𖼍	𖼎	𖼐	𖼖
16F00	16F02	16F04	16F07	16F08	16F0A	16F0D	16F0E	16F10	16F16
𖼘	𖼞	𖼤	𖼣	𖼦	𖼨	𖼮	𖼱	𖼵	𖼷
16F18	16F1E	16F20	16F23	16F26	16F28	16F2E	16F33	16F35	16F37
𖼹	𖼺	𖼻	𖼽	𖽂	𖽃				
16F39	16F3A	16F3B	16F3D	16F42	16F43				

Modifiers	Consonant modifier bar	Nasalization	Aspiration
	◌𖽑	𖽐	◌𖽒
	16F4F	16F50	16F51

The keyboard includes U+16F56 ◌𖽖, U+16F59 ◌𖽙, U+16F5B ◌𖽛, U+16F5F ◌𖽟, U+16F69 ◌𖽩, U+16F78 ◌𖾸, U+16F7A ◌𖾺, and U+16F7C ◌𖾼 although they are not in Figure 10 L2/17-345.

Vowels and finals									
◌𖼔	◌𖽘	◌𖽙	◌𖽜	◌𖽝	◌𖽞	◌𖽡	◌𖽢	◌𖽦	◌𖽧
16F54	16F58	16F59	16F5C	16F5D	16F5E	16F61	16F62	16F66	16F67
◌𖽨	◌𖽪	◌𖽫	◌𖽮	◌𖽱	◌𖽳	◌𖽴	◌𖽷	◌𖽸	◌𖽹
16F68	16F6A	16F6B	16F6E	16F71	16F73	16F74	16F75	16F76	16F77
◌𖽺	◌𖽻	◌𖽾	◌𖽿	◌𖾀					
16F79	16F7B	16F7E	16F81	16F82					

Positioning tone marks		
MIAO TONE RIGHT	MIAO TONE TOP RIGHT	MIAO TONE ABOVE
16F8F	16F90	16F91

Punctuation

See also Punctuation and Digits.

Additional punctuation: : ; _ ' ? ! *

、 (U+3001 IDEOGRAPHIC COMMA) 。 (U+3002 IDEOGRAPHIC FULL STOP)

Sorting (Cheuk, figure 10)

&𖽙 << 𖽜 << 𖽙’

&𖽘 << 𖽜 << 𖽘’

&𖽙 << 𖽙 << 𖽙’

&𖽝 << 𖽝 << 𖽝’

&𖽞 << 𖽞 << 𖽞’

&𖽡

&𖽢

&𖽢 << 𖽢’

&𖽦

&𖽧 < 𖽧 < 𖽧 < 𖽧 < 𖽧 < 𖽧 < 𖽧 < 𖽧 < 𖽧 < 𖽧

&𖽧 << 𖽧 << 𖽧 << 𖽧

&𖽧 << 𖽧 << 𖽧 << 𖽧 << 𖽧 << 𖽧 << 𖽧 << 𖽧 << 𖽧 << 𖽧 << 𖽧 << 𖽧

&𖽧 << 𖽧 << 𖽧 << 𖽧

&◌ʟ < ◌˥ < ◌ᒥ

&◌o << ◌oɔ

&◌ɴ < ◌ʋ < ◌ƨ < ◌ɿ < ◌6 < ◌e < ◌ɯ < ◌m < ◌ɛ < ◌ı < ◌=

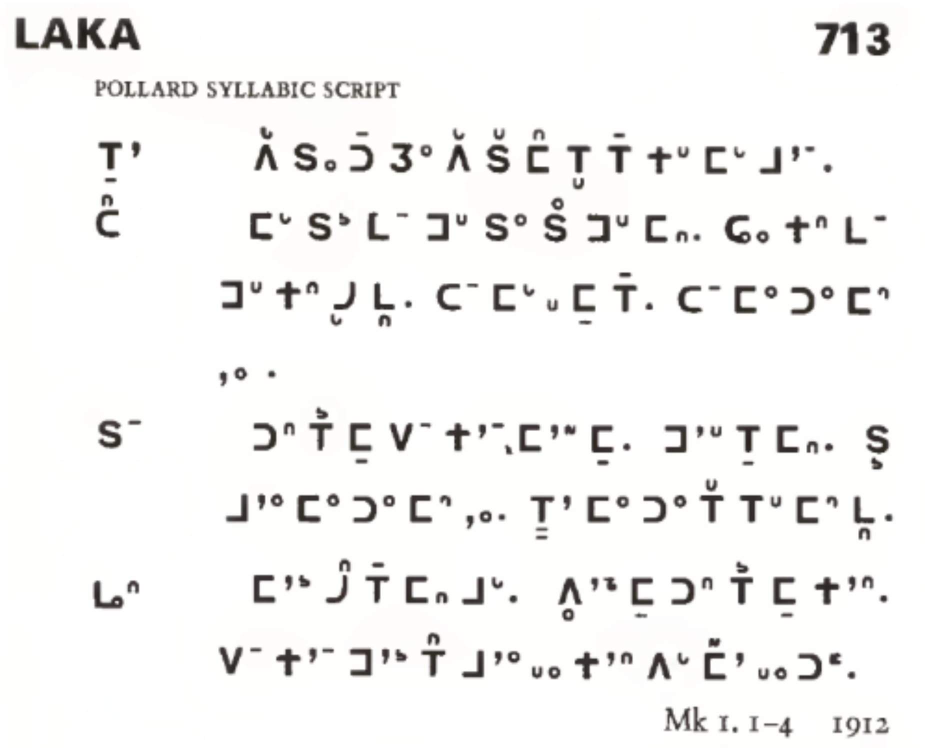
Rendering

See also Kerning for special behavior.

Sample text taken from Figure 8 of Cheuk.

Setting	Sample	USV
yna	𖼐𖽏𖽻𖾑 𖼮𖽑𖽜𖾐 𖼮𖽡𖽙	U+16F10 U+16F4F U+16F7B U+16F91 U+0020 U+16F2E U+16F51 U+16F5C U+16F90 U+0020 U+16F2E U+16F61 U+16F59

Sample graphic



Mark 1:1-4 (UBS).

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