

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

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## Overview

## 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	,İĆĈĒΓ◌ı̇ȲZ˘JṪΔLʔǬɁrĊGƵJυRŠƯЈνTŁεtₑŨVɴΛⁱCncđ³dʲq̃t_u€
USV	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

Setting	Sample
	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 these: . , / " = + - ( )

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	ᄡᄢᄣ
U+16F8F MIAO TONE RIGHT	ᄡᄢᄣ
U+16F90 MIAO TONE TOP RIGHT	ᄡᄢᄣ
U+16F91 MIAO TONE ABOVE	ᄡᄢᄣ
U+16F92 MIAO TONE BELOW	ᄡᄢᄣ

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	ᄡᄢᄣᄤ	ᄡᄢᄣᄤ

### Ligatures

Sinicized Miao [hmz], Xiaohua Miao / Small Flowery Miao [sfm], and sometimes Large Flowery Miao / Dahua Miao / A-Hmiao [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	ᵯ	ᵯ
U+16F10 U+16F51	ᵮ	ᵮ
U+16F23 U+16F51	ᵯ	ᵯ

## 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	ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ	ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ	hmd normalised, sfm, ygp
Final not kerned into aspiration	ᄒᄒ ᄒᄒ	ᄒᄒ ᄒᄒ	sfm, ygp
Aspiration not kerned into initial	ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ	ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ ᄒᄒ	hmd normalised
Single final at foot position right-aligned with aspiration if enough space	ᄒᄒ ᄒᄒ	ᄒᄒ ᄒᄒ	hmd, yna

## Glyph variants

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

Setting	default	variant	language
U+3001	、	、	lpo
U+16F02	⊥	⊥	ygp
U+16F04	ᳵ	ᳵ	hmd normalised
U+16F04	ᳵ	ᳵ	lpo
U+16F04	ᳵ	ᳵ	ygp, ywq normalized
U+16F05	ᳶ	ᳶ̇	hmd normalised
U+16F10	ᳺ	ᳺ	hmd normalised
U+16F10	ᳺ	ᳺ	lpo
U+16F10	ᳺ	ᳺ	ygp, ywq normalized
U+16F11	᳻	᳻̇	hmd normalised
U+16F14	᳼	᳼	hmd normalised
U+16F14	᳼	᳼	ygp
U+16F15	᳽	᳽̇	hmd normalised
U+16F23	᳾	᳾	hmd normalised
U+16F23	᳾	᳾	lpo
U+16F23	᳾	᳾	ygp
U+16F24	᳿	᳿̇	hmd normalised
U+16F2F	᳼	᳼	ywq normalized
U+16F33	᳼	᳼	lpo
U+16F35	R	᳼	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	ꨀ	ꨀ (flat bottom)	hmd traditional, hmd normalized, hmz, lpo
U+16F58	ꨁ	ꨁ	lpo
U+16F5C	ꨂ	ꨂ (near-centre stem)	ygp
U+16F5E	ꨃ	ꨃ (flat top)	hmd normalised
U+16F5F	ꨄ	ꨄ (flat top)	hmd normalised
U+16F60	ꨅ	ꨅ (near-centre stem)	ygp
U+16F73	ꨆ	ꨆ (near-centre stem)	ygp
U+16F7A	ꨇ	ꨇ (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)	ꨀꨁꨂꨃꨄꨅꨆꨇꨈꨉꨊꨋꨌꨍꨎꨏꨐꨑꨒꨓꨔꨕꨖꨗꨘꨙꨚꨛꨜꨝꨞꨟꨠꨡꨢꨣꨤꨥꨦꨧꨨꨩꨪꨫꨬꨭꨮꨯꨰꨱꨲꨳꨴꨵꨶ꨷꨸꨹꨺꨻꨼꨽꨾꨿ꩀꩁꩂꩃꩄꩅꩆꩇꩈꩉꩊꩋꩌꩍ꩎꩏꩐꩑꩒꩓꩔꩕꩖꩗꩘꩙꩚꩛꩜꩝꩞꩟ꩠꩡꩢꩣꩤꩥꩦꩧꩨꩩꩪꩫꩬꩭꩮꩯꩰꩱꩲꩳꩴꩵꩶ꩷꩸꩹ꩺꩻꩼꩽꩾꩿꪀꪁꪂꪃꪄꪅꪆꪇꪈꪉꪊꪋꪌꪍꪎꪏꪐꪑꪒꪓꪔꪕꪖꪗꪘꪙꪚꪛꪜꪝꪞꪟꪠꪡꪢꪣꪤꪥꪦꪧꪨꪩꪪꪫꪬꪭꪮꪯꪰꪱꪴꪲꪳꪵꪶꪷꪸꪹꪺꪻꪼꪽꪾ꪿ꫀ꫁ꫂ꫃꫄꫅꫆꫇꫈꫉꫊꫋꫌꫍꫎꫏꫐꫑꫒꫓꫔꫕꫖꫗꫘꫙꫚ꫛꫜꫝ꫞꫟ꫠꫡꫢꫣꫤꫥꫦꫧꫨꫩꫪꫫꫬꫭꫮꫯ꫰꫱ꫲꫳꫴꫵ꫶꫷꫸꫹꫺꫻꫼꫽꫾꫿꬀ꬁꬂꬃꬄꬅꬆ꬇꬈ꬉꬊꬋꬌꬍꬎ꬏꬐ꬑꬒꬓꬔꬕꬖ꬗꬘꬙꬚꬛꬜꬝꬞꬟ꬠꬡꬢꬣꬤꬥꬦ꬧ꬨꬩꬪꬫꬬꬭꬮ꬯ꬰꬱꬲꬳꬴꬵꬶꬷꬸꬹꬺꬻꬼꬽꬾꬿꭀꭁꭂꭃꭄꭅꭆꭇꭈꭉꭊꭋꭌꭍꭎꭏꭐꭑꭒꭓꭔꭕꭖꭗꭘꭙꭚ꭛ꭜꭝꭞꭟꭠꭡꭢꭣꭤꭥꭦꭧꭨꭩ꭪꭫꭬꭭꭮꭯ꭰꭱꭲꭳꭴꭵꭶꭷꭸꭹꭺꭻꭼꭽꭾꭿꮀꮁꮂꮃꮄꮅꮆꮇꮈꮉꮊꮋꮌꮍꮎꮏꮐꮑꮒꮓꮔꮕꮖꮗꮘꮙꮚꮛꮜꮝꮞꮟꮠꮡꮢꮣꮤꮥꮦꮧꮨꮩꮪꮫꮬꮭꮮꮯꮰꮱꮲꮳꮴꮵꮶꮷꮸꮹꮺꮻꮼꮽꮾꮿꯀꯁꯂꯃꯄꯅꯆꯇꯈꯉꯊꯋꯌꯍꯎꯏꯐꯑꯒꯓꯔꯕꯖꯗꯘꯙꯚꯛꯜꯝꯞꯟꯠꯡꯢꯣꯤꯥꯦꯧꯨꯩꯪ꯫꯬꯭꯮꯯꯰꯱꯲꯳꯴꯵꯶꯷꯸꯹꯺꯻꯼꯽꯾꯿가각갂갃간갅갆갇갈갉갊갋갌갍갎갏감갑값갓갔강갖갗갘같갚갛개객갞갟갠갡갢갣갤갥갦갧갨갩갪갫갬갭갮갯갰갱갲갳갴갵갶갷갸갹갺갻갼갽갾갿걀걁걂걃걄걅걆걇걈걉걊걋걌걍걎걏걐걑걒걓걔걕걖걗걘걙걚걛걜걝걞걟걠걡걢걣걤걥걦걧걨걩걪걫걬걭걮걯거걱걲걳건걵걶걷걸걹걺걻걼걽걾걿검겁겂것겄겅겆겇겈겉겊겋게겍겎겏겐겑겒겓겔겕겖겗겘겙겚겛겜겝겞겟겠겡겢겣겤겥겦겧겨격겪겫견겭겮겯결겱겲겳겴겵겶겷겸겹겺겻겼경겾겿곀곁곂곃계곅곆곇곈곉곊곋곌곍곎곏곐곑곒곓곔곕곖곗곘곙곚곛곜곝곞곟고곡곢곣곤곥곦곧골곩곪곫곬곭곮곯곰곱곲곳곴공곶곷곸곹곺곻과곽곾곿관괁괂괃괄괅괆괇괈괉괊괋괌괍괎괏괐광괒괓괔괕괖괗괘괙괚괛괜괝괞괟괠괡괢괣괤괥괦괧괨괩괪괫괬괭괮괯괰괱괲괳괴괵괶괷괸괹괺괻괼괽괾괿굀굁굂굃굄굅굆굇굈굉굊굋굌굍굎굏교굑굒굓굔굕굖굗굘굙굚굛굜굝굞굟굠굡굢굣굤굥굦굧굨굩굪굫구국굮굯군굱굲굳굴굵굶굷굸굹굺굻굼굽굾굿궀궁궂궃궄궅궆궇궈궉궊궋권궍궎궏궐궑궒궓궔궕궖궗궘궙궚궛궜궝궞궟궠궡궢궣궤궥궦궧궨궩궪궫궬궭궮궯궰궱궲궳궴궵궶궷궸궹궺궻궼궽궾궿귀귁귂귃귄귅귆귇귈귉귊귋귌귍귎귏귐귑귒귓귔귕귖귗귘귙귚귛규귝귞귟균귡귢귣귤귥귦귧귨귩귪귫귬귭귮귯귰귱귲귳귴귵귶귷그극귺귻근귽귾귿글긁긂긃긄긅긆긇금급긊긋긌긍긎긏긐긑긒긓긔긕긖긗긘긙긚긛긜긝긞긟긠긡긢긣긤긥긦긧긨긩긪긫긬긭긮긯기긱긲긳긴긵긶긷길긹긺긻긼긽긾긿김깁깂깃깄깅깆깇깈깉깊깋까깍깎깏깐깑깒깓깔깕깖깗깘깙깚깛깜깝깞깟깠깡깢깣깤깥깦깧깨깩깪깫깬깭깮깯깰깱깲깳깴깵깶깷깸깹깺깻깼깽깾깿꺀꺁꺂꺃꺄꺅꺆꺇꺈꺉꺊꺋꺌꺍꺎꺏꺐꺑꺒꺓꺔꺕꺖꺗꺘꺙꺚꺛꺜꺝꺞꺟꺠꺡꺢꺣꺤꺥꺦꺧꺨꺩꺪꺫꺬꺭꺮꺯꺰꺱꺲꺳꺴꺵꺶꺷꺸꺹꺺꺻꺼꺽꺾꺿껀껁껂껃껄껅껆껇껈껉껊껋껌껍껎껏껐껑껒껓껔껕껖껗께껙껚껛껜껝껞껟껠껡껢껣껤껥껦껧껨껩껪껫껬껭껮껯껰껱껲껳껴껵껶껷껸껹껺껻껼껽껾껿꼀꼁꼂꼃꼄꼅꼆꼇꼈꼉꼊꼋꼌꼍꼎꼏꼐꼑꼒꼓꼔꼕꼖꼗꼘꼙꼚꼛꼜꼝꼞꼟꼠꼡꼢꼣꼤꼥꼦꼧꼨꼩꼪꼫꼬꼭꼮꼯꼰꼱꼲꼳꼴꼵꼶꼷꼸꼹꼺꼻꼼꼽꼾꼿꽀꽁꽂꽃꽄꽅꽆꽇꽈꽉꽊꽋꽌꽍꽎꽏꽐꽑꽒꽓꽔꽕꽖꽗꽘꽙꽚꽛꽜꽝꽞꽟꽠꽡꽢꽣꽤꽥꽦꽧꽨꽩꽪꽫꽬꽭꽮꽯꽰꽱꽲꽳꽴꽵꽶꽷꽸꽹꽺꽻꽼꽽꽾꽿꾀꾁꾂꾃꾄꾅꾆꾇꾈꾉꾊꾋꾌꾍꾎꾏꾐꾑꾒꾓꾔꾕꾖꾗꾘꾙꾚꾛꾜꾝꾞꾟꾠꾡꾢꾣꾤꾥꾦꾧꾨꾩꾪꾫꾬꾭꾮꾯꾰꾱꾲꾳꾴꾵꾶꾷꾸꾹꾺꾻꾼꾽꾾꾿꿀꿁꿂꿃꿄꿅꿆꿇꿈꿉꿊꿋꿌꿍꿎꿏꿐꿑꿒꿓꿔꿕꿖꿗꿘꿙꿚꿛꿜꿝꿞꿟꿠꿡꿢꿣꿤꿥꿦꿧꿨꿩꿪꿫꿬꿭꿮꿯꿰꿱꿲꿳꿴꿵꿶꿷꿸꿹꿺꿻꿼꿽꿾꿿
alternate (dot)	ꨀꨁꨂꨃꨄꨅꨆꨇꨈꨉꨊꨋꨌꨍꨎꨏꨐꨑꨒꨓꨔꨕꨖꨗꨘꨙꨚꨛꨜꨝꨞꨟꨠꨡꨢꨣꨤꨥꨦꨧꨨꨩꨪꨫꨬꨭꨮꨯꨰꨱꨲꨳꨴꨵꨶ꨷꨸꨹꨺꨻꨼꨽꨾꨿ꩀꩁꩂꩃꩄꩅꩆꩇꩈꩉꩊꩋꩌꩍ꩎꩏꩐꩑꩒꩓꩔꩕꩖꩗꩘꩙꩚꩛꩜꩝꩞꩟ꩠꩡꩢꩣꩤꩥꩦꩧꩨꩩꩪꩫꩬꩭꩮꩯꩰꩱꩲꩳꩴꩵꩶ꩷꩸꩹ꩺꩻꩼꩽꩾꩿꪀꪁꪂꪃꪄꪅꪆꪇꪈꪉꪊꪋꪌꪍꪎꪏꪐꪑꪒꪓꪔꪕꪖꪗꪘꪙꪚꪛꪜꪝꪞꪟꪠꪡꪢꪣꪤꪥꪦꪧꪨꪩꪪꪫꪬꪭꪮꪯꪰꪱꪴꪲꪳꪵꪶꪷꪸꪹꪺꪻꪼꪽꪾ꪿ꫀ꫁ꫂ꫃꫄꫅꫆꫇꫈꫉꫊꫋꫌꫍꫎꫏꫐꫑꫒꫓꫔꫕꫖꫗꫘꫙꫚ꫛꫜꫝ꫞꫟ꫠꫡꫢꫣꫤꫥꫦꫧꫨꫩꫪꫫꫬꫭꫮꫯ꫰꫱ꫲꫳꫴꫵ꫶꫷꫸꫹꫺꫻꫼꫽꫾꫿꬀ꬁꬂꬃꬄꬅꬆ꬇꬈ꬉꬊꬋꬌꬍꬎ꬏꬐ꬑꬒꬓꬔꬕꬖ꬗꬘꬙꬚꬛꬜꬝꬞꬟ꬠꬡꬢꬣꬤꬥꬦ꬧ꬨꬩꬪꬫꬬꬭꬮ꬯ꬰꬱꬲꬳꬴꬵꬶꬷꬸꬹꬺꬻꬼꬽꬾꬿꭀꭁꭂꭃꭄꭅꭆꭇꭈꭉꭊꭋꭌꭍꭎꭏꭐꭑꭒꭓꭔꭕꭖꭗꭘꭙꭚ꭛ꭜꭝꭞꭟꭠꭡꭢꭣꭤꭥꭦꭧꭨꭩ꭪꭫꭬꭭꭮꭯ꭰꭱꭲꭳꭴꭵꭶꭷꭸꭹꭺꭻꭼꭽꭾꭿꮀꮁꮂꮃꮄꮅꮆꮇꮈꮉꮊꮋꮌꮍꮎꮏꮐꮑꮒꮓꮔꮕꮖꮗꮘꮙꮚꮛꮜꮝꮞꮟꮠꮡꮢꮣꮤꮥꮦꮧꮨꮩꮪꮫꮬꮭꮮꮯꮰꮱꮲꮳꮴꮵꮶꮷꮸꮹꮺꮻꮼꮽꮾꮿꯀꯁꯂꯃꯄꯅꯆꯇꯈꯉꯊꯋꯌꯍꯎꯏꯐꯑꯒꯓꯔꯕꯖꯗꯘꯙꯚꯛꯜꯝꯞꯟꯠꯡꯢꯣꯤꯥꯦꯧꯨꯩꯪ꯫꯬꯭꯮꯯꯰꯱꯲꯳꯴꯵꯶꯷꯸꯹꯺꯻꯼꯽꯾꯿가각갂갃간갅갆갇갈갉갊갋갌갍갎갏감갑값갓갔강갖갗갘같갚갛개객갞갟갠갡갢갣갤갥갦갧갨갩갪갫갬갭갮갯갰갱갲갳갴갵갶갷갸갹갺갻갼갽갾갿걀걁걂걃걄걅걆걇걈걉걊걋걌걍걎걏걐걑걒걓걔걕걖걗걘걙걚걛걜걝걞걟걠걡걢걣걤걥걦걧걨걩걪걫걬걭걮걯거걱걲걳건걵걶걷걸걹걺걻걼걽걾걿검겁겂것겄겅겆겇겈겉겊겋게겍겎겏겐겑겒겓겔겕겖겗겘겙겚겛겜겝겞겟겠겡겢겣겤겥겦겧겨격겪겫견겭겮겯결겱겲겳겴겵겶겷겸겹겺겻겼경겾겿곀곁곂곃계곅곆곇곈곉곊곋곌곍곎곏곐곑곒곓곔곕곖곗곘곙곚곛곜곝곞곟고곡곢곣곤곥곦곧골곩곪곫곬곭곮곯곰곱곲곳곴공곶곷곸곹곺곻과곽곾곿관괁괂괃괄괅괆괇괈괉괊괋괌괍괎괏괐광괒괓괔괕괖괗괘괙괚괛괜괝괞괟괠괡괢괣괤괥괦괧괨괩괪괫괬괭괮괯괰괱괲괳괴괵괶괷괸괹괺괻괼괽괾괿굀굁굂굃굄굅굆굇굈굉굊굋굌굍굎굏교굑굒굓굔굕굖굗굘굙굚굛굜굝굞굟굠굡굢굣굤굥굦굧굨굩굪굫구국굮굯군굱굲굳굴굵굶굷굸굹굺굻굼굽굾굿궀궁궂궃궄궅궆궇궈궉궊궋권궍궎궏궐궑궒궓궔궕궖궗궘궙궚궛궜궝궞궟궠궡궢궣궤궥궦궧궨궩궪궫궬궭궮궯궰궱궲궳궴궵궶궷궸궹궺궻궼궽궾궿귀귁귂귃귄귅귆귇귈귉귊귋귌귍귎귏귐귑귒귓귔귕귖귗귘귙귚귛규귝귞귟균귡귢귣귤귥귦귧귨귩귪귫귬귭귮귯귰귱귲귳귴귵귶귷그극귺귻근귽귾귿글긁긂긃긄긅긆긇금급긊긋긌긍긎긏긐긑긒긓긔긕긖긗긘긙긚긛긜긝긞긟긠긡긢긣긤긥긦긧긨긩긪긫긬긭긮긯기긱긲긳긴긵긶긷길긹긺긻긼긽긾긿김깁깂깃깄깅깆깇깈깉깊깋까깍깎깏깐깑깒깓깔깕깖깗깘깙깚깛깜깝깞깟깠깡깢깣깤깥깦깧깨깩깪깫깬깭깮깯깰깱깲깳깴깵깶깷깸깹깺깻깼깽깾깿꺀꺁꺂꺃꺄꺅꺆꺇꺈꺉꺊꺋꺌꺍꺎꺏꺐꺑꺒꺓꺔꺕꺖꺗꺘꺙꺚꺛꺜꺝꺞꺟꺠꺡꺢꺣꺤꺥꺦꺧꺨꺩꺪꺫꺬꺭꺮꺯꺰꺱꺲꺳꺴꺵꺶꺷꺸꺹꺺꺻꺼꺽꺾꺿껀껁껂껃껄껅껆껇껈껉껊껋껌껍껎껏껐껑껒껓껔껕껖껗께껙껚껛껜껝껞껟껠껡껢껣껤껥껦껧껨껩껪껫껬껭껮껯껰껱껲껳껴껵껶껷껸껹껺껻껼껽껾껿꼀꼁꼂꼃꼄꼅꼆꼇꼈꼉꼊꼋꼌꼍꼎꼏꼐꼑꼒꼓꼔꼕꼖꼗꼘꼙꼚꼛꼜꼝꼞꼟꼠꼡꼢꼣꼤꼥꼦꼧꼨꼩꼪꼫꼬꼭꼮꼯꼰꼱꼲꼳꼴꼵꼶꼷꼸꼹꼺꼻꼼꼽꼾꼿꽀꽁꽂꽃꽄꽅꽆꽇꽈꽉꽊꽋꽌꽍꽎꽏꽐꽑꽒꽓꽔꽕꽖꽗꽘꽙꽚꽛꽜꽝꽞꽟꽠꽡꽢꽣꽤꽥꽦꽧꽨꽩꽪꽫꽬꽭꽮꽯꽰꽱꽲꽳꽴꽵꽶꽷꽸꽹꽺꽻꽼꽽꽾꽿꾀꾁꾂꾃꾄꾅꾆꾇꾈꾉꾊꾋꾌꾍꾎꾏꾐꾑꾒꾓꾔꾕꾖꾗꾘꾙꾚꾛꾜꾝꾞꾟꾠꾡꾢꾣꾤꾥꾦꾧꾨꾩꾪꾫꾬꾭꾮꾯꾰꾱꾲꾳꾴꾵꾶꾷꾸꾹꾺꾻꾼꾽꾾꾿꿀꿁꿂꿃꿄꿅꿆꿇꿈꿉꿊꿋꿌꿍꿎꿏꿐꿑꿒꿓꿔꿕꿖꿗꿘꿙꿚꿛꿜꿝꿞꿟꿠꿡꿢꿣꿤꿥꿦꿧꿨꿩꿪꿫꿬꿭꿮꿯꿰꿱꿲꿳꿴꿵꿶꿷꿸꿹꿺꿻꿼꿽꿾꿿

## 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](#)

Font: [Sapushan](#) - traditional orthography

Font: [Shimenkan Guifan](#) - normalised orthography

Character set

Consonant onsets									
ᳵ	ᳶ	᳷	᳸	᳹	ᳺ	᳻	᳼	᳽	᳾
16F00	16F01	16F04	16F05	16F07	16F08	16F09	16F0A	16F0B	16F0E
᳿	᳠	᳡	᳢	᳣	᳤	᳥	᳦	᳧	᳨
16F0F	16F10	16F11	16F14	16F15	16F16	16F17	16F18	16F19	16F1A
ᳩ	ᳪ	ᳫ	ᳬ	᳭	ᳮ	ᳯ	ᳰ	ᳱ	ᳲ
16F1B	16F1C	16F1D	16F1E	16F1F	16F21	16F22	16F23	16F24	16F26
ᳳ	᳴	ᳵ	ᳶ	᳷	᳸	᳹	ᳺ	᳻	᳼
16F28	16F29	16F2A	16F2B	16F2C	16F2D	16F2E	16F2F	16F33	16F34
᳽	᳾	᳿	᳠	᳡	᳢	᳣	᳤	᳥	᳦
16F35	16F37	16F38	16F3A	16F3B	16F3C	16F3D	16F3E	16F40	16F41
᳧	᳨	ᳩ							
16F42	16F43	16F44							

Modifiers	Nasalization	Aspiration
	᳠	᳡
	16F50	16F51

The keyboard includes U+16F5D ᳡᳠ and U+16F74 ᳡᳴ although they are not in Figure 1 [L2/10-093](#).

Vowels and finals									
ᳵᳵ	ᳵᳶ	ᳵ᳷	ᳵ᳸	ᳵ᳹	ᳵᳺ	ᳵ᳻	ᳵ᳼	ᳵ᳽	ᳵ᳾
16F54	16F57	16F58	16F59	16F5C	16F5E	16F5F	16F60	16F61	16F62
ᳵ᳿	ᳶᳵ	ᳶᳶ	ᳶ᳷	ᳶ᳸	ᳶ᳹	ᳶᳺ	ᳶ᳻	ᳶ᳼	ᳶ᳽
16F66	16F68	16F6A	16F6B	16F71	16F73	16F75	16F77	16F79	16F7A
ᳶ᳾									
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)**

$$\&\lrcorner < \lrcorner < \lrcorner \lrcorner < \lrcorner \lrcorner \lrcorner < \lrcorner \lrcorner \lrcorner \lrcorner < \lrcorner \lrcorner \lrcorner \lrcorner$$
$$T < \bar{v} \ll T' \ll CT \ll C\bar{v} \ll CT'$$
$$\&\square < \beth << \beth' << \beth << \beth << \beth'$$
$$\&\ulcorner < \ulcorner < \ulcorner' < \lrcorner < \lrcorner < \ulcorner'$$
$$1 < \bar{1} \ll 1' \ll C1 \ll C\bar{1} \ll C1'$$
$$\Delta < \Delta' < \Delta' < C\Delta < C\Delta' < C\Delta'$$
$$A < A' < CA < CA'$$
$$\&t < \dagger \ll t' \ll \mathbb{C}t \ll \mathbb{C}\dagger \ll \mathbb{C}t'$$
$$\& \mathbb{I} < \mathbb{d} \ll \mathbb{I}' \ll \mathbb{C}\mathbb{I} \ll \mathbb{C}\mathbb{d} \ll \mathbb{C}\mathbb{I}'$$
$$\mathbb{J} < \mathbb{J} < \mathbb{J}' < \mathbb{C}\mathbb{J} < \mathbb{C}\mathbb{J} < \mathbb{C}\mathbb{J}'$$
$$Y < Y' < CY < CY'$$
$$\&V < \forall V \ll V'$$
$$\Lambda < \Lambda' < \Lambda''$$
$$A \ll A' \ll A''$$
$$\&L < \mathfrak{d}_L \ll L'$$
$$l_0 < d_0 \ll l'_0$$
$$\&\mathcal{D} < \mathfrak{D} < \mathcal{D}'$$
$$\&C < \mathcal{C} < \mathcal{C}'$$
$${}_3\mathbb{Z} < \mathbb{Z} < \mathbb{Z}'$$
$$\Sigma < \Xi < \Sigma'$$
$$\&\mathcal{C} < \mathcal{C} < \mathcal{C}'$$
$$\mathfrak{G} < \mathfrak{G}' < \mathfrak{G}''$$
$$|l| < |d| \ll |l'|$$

& J < J < S < Γ < 7 < R < U

$$\&\textcircled{_-} < \textcircled{0} < \textcircled{p} < \textcircled{n} < \textcircled{u} < \textcircled{3} < \textcircled{l} < \textcircled{v} < \textcircled{ll} < \textcircled{q} < \textcircled{b} < \textcircled{z} < \textcircled{6} < \textcircled{=} < \textcircled{2} < \textcircled{7} < \textcircled{r} < \textcircled{u} < \textcircled{5} < \textcircled{\epsilon} <$$

ॐ

## 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	ᠳᠤᠴᠡᠳᠦᠭᠦ ᠰᠤᠶ᠋ᠢᠨ ᠵᠣᠯᠤᠮᠤ
hmd alternates	ᠳᠤᠴᠡᠳᠦᠭᠦ ᠰᠤᠶ᠋ᠢᠨ ᠵᠣᠯᠤᠮᠤ
normalized orthography alternates	ᠳᠤᠴᠡᠳᠦᠭᠦ ᠰᠤᠶ᠋ᠢᠨ ᠵᠣᠯᠤᠮᠤ

*Sample graphic*

**MIAO: HWA**

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## POLLARD SYLLABIC SCRIPT

[illegible]

Mk I. I-4 1936

Mark 1:1-4 (UBS).

## Sinicized Miao / Waishu Miao / Hmong Shua [hmz]

Language tag: hmz-Pɭrd

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	
alternate	



Lipo / Dong Lisu / Eastern Lisu [lpo]

Language tag: lpo

Opentype language system tag: LP0

SLDR: lpo

Keyman keyboard: lpo

Font: Taogu

Character set

Consonant onsets									
ᳵ	ᳶ	᳷	᳸	᳹	ᳺ	᳻	᳼	᳽	᳾
16F00	16F02	16F04	16F07	16F08	16F0A	16F0D	16F0E	16F10	16F13
᳡	᳢	᳣	᳤	᳥	᳦	᳧	᳨	ᳩ	ᳪ
16F16	16F18	16F1E	16F21	16F23	16F26	16F28	16F2F	16F30	16F33
ᳬ	᳭	ᳮ	ᳯ	ᳰ	ᳱ	ᳲ			
16F35	16F37	16F39	16F3A	16F3B	16F3D	16F43			

Modifiers	Aspiration
ᳶ'	
16F51	

Vowels and finals									
ᳵᳵ	ᳵᳶ	ᳵ᳷	ᳵ᳸	ᳵ᳹	ᳵᳺ	ᳵ᳻	ᳵ᳼	ᳵ᳽	ᳵ᳾
16F54	16F55	16F57	16F58	16F59	16F5A	16F5C	16F5D	16F61	16F62
ᳵ᳡	ᳵ᳢	ᳵ᳣	ᳵ᳤	ᳵ᳥	ᳵ᳦	ᳵ᳧	ᳵ᳨	ᳵᳩ	ᳵᳪ
16F67	16F68	16F6A	16F6B	16F6E	16F71	16F73	16F74	16F76	16F78
ᳵᳬ	ᳵ᳭	ᳵᳮ	ᳵᳯ	ᳵᳰ					
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: ' - : ; = ?

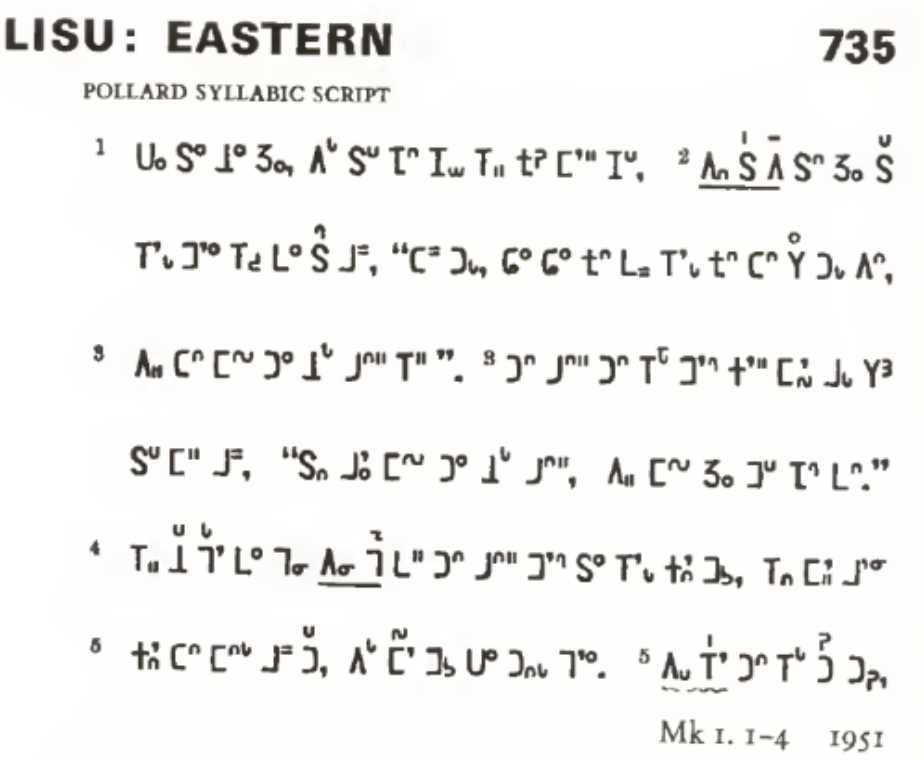
、 (U+3001 IDEOGRAPHIC COMMA)

Rendering

Glyph variants

Setting	Sample
default	ㄅㄅㄅㄅㄅ、
alternate	ㄅㄅㄅㄅㄅ、

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 𐍪, U+16F0F 𐍫, U+16F2F 𐍽, and U+16F38 𐍨 although they are not in Figure 2 L2/17-345. These are wanted characters, and it may make sense to include them.

Consonant onsets									
𐍪	𐍫	𐍬	𐍭	𐍮	𐍯	𐍰	𐍱	𐍲	𐍳
16F00	16F02	16F04	16F07	16F08	16F0A	16F0E	16F10	16F12	16F14
𐍴	𐍵	𐍶	𐍷	𐍸	𐍹	𐍺	𐍻	𐍼	𐍽
16F16	16F18	16F1E	16F23	16F26	16F28	16F2A	16F2E	16F32	16F33
𐍾	𐍿	𐎀	𐎁	𐎂	𐎃	𐎄	𐎅	𐎆	𐎇
16F35	16F37	16F3A	16F3B	16F3D	16F42	16F43	16F48	16F49	16F4A

Modifiers	Nasalization	Aspiration
	𐎈	𐎉
	16F50	16F51

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

Vowels and finals								
𐎏	𐎐	𐎑	𐎒	𐎓	𐎔	𐎕	𐎖	𐎗
16F54	16F57	16F58	16F59	16F5C	16F5D	16F60	16F61	16F66
𐎘	𐎙	𐎚	𐎛	𐎜	𐎝	𐎞	𐎟	𐎠
16F68	16F6A	16F71	16F73	16F75	16F76	16F77	16F79	16F7A
𐎡	𐎢	𐎣	𐎤	𐎥	𐎦	𐎧	𐎨	
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)

&Y < L  
&𐍪 << 𐍪' << C𐍪  
&𐍫 < 𐍫'

$$T \ll T' \ll CT$$

&†

$$\hbar t \ll t' \ll Ct$$
$$\Gamma < \mathbb{L} < \mathbb{I}$$
$$\&\ulcorner \ll \ulcorner' \ll \lceil \ulcorner$$

&amp;1

$$\&\rfloor \ll \rfloor' \ll (\rfloor$$

&amp;T

$$\&\mathbb{T} \ll \mathbb{T}' \ll \mathbb{C}\mathbb{T}$$

&V<Λ<U<J<C<C<Z<3<S<J

 $\gamma \ll \gamma'$ 
$$|L| < 6 < R \text{ and } \alpha_- < \alpha_+$$
$$\&\circ_n << \circ_n_- << \circ_{n\cup} << \circ_{n\cap} << \circ_{n0} << \circ_{n\parallel} << \circ_{n=} << \circ_{n\tau} << \circ_{n\bar{6}} << \circ_{n6}$$

&\_I

$$\&\circ_0 << \circ_6$$
$$\&\circ_U < \circ_{U-} < \circ_{UU} < \circ_{UI} < \circ_{U0} < \circ_{U11} < \circ_{U=} < \circ_{U?} < \circ_{U\bar{6}} < \circ_{U6}$$
$$\&\circ_{\supset} < \circ_{\subset}$$
$$\&\odot_b \ll \odot_{bc}$$
$$\&\circ_{\gamma} < \circ_{\varsigma} < \circ_{\mathfrak{y}} < \circ_{\mathfrak{b}} < \circ_{\eta} < \circ_{\parallel} < \circ_{=} < \circ_{\wedge} < \circ_{\vee} < \circ_{\Gamma} < \circ_{\daleth} < \circ_{\mathfrak{e}} < \circ_{\tau} < \circ_{\mathfrak{d}} < \circ_{\mathfrak{N}} < \circ_{\mathfrak{U}}$$

## Rendering

See also [Kerning](#) for special behavior.

### Glyph variants

Setting	Sample
default	⌞⏶⏷⏸⏹⏺⏻⏼
alternate	⌞⏶⏷⏸⏹⏺⏻⏼

Sample text taken from Figure 1 of [Cheuk](#).

Setting	Sample	USV
ygp	$\tau = \tau_b \tau_c$ $\tau_{\text{III}}$	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*



The keyboard includes U+16F05 𐌵, U+16F13 𐌶, U+16F1A 𐌷, U+16F1C 𐌸, U+16F2A 𐌹, and U+16F2D 𐌺 although they are not in Figure 5 [L2/17-345](#).

Consonant onsets									
𐌴	𐌵	𐌶	𐌷	𐌸	𐌹	𐌺	𐌻	𐌼	𐌽
16F00	16F02	16F04	16F07	16F08	16F0A	16F0C	16F0D	16F0E	16F10
𐌾	𐌿	𐍀	𐍁	𐍂	𐍃	𐍄	𐍅	𐍆	𐍇
16F12	16F14	16F16	16F18	16F1E	16F21	16F23	16F26	16F28	16F2E
𐍈	𐍉	𐍊	𐍋	𐍌	𐍍	𐍎	𐍏	𐍐	𐍑
16F2F	16F30	16F31	16F33	16F34	16F35	16F37	16F39	16F3A	16F3B
𐍒	𐍓	𐍔							
16F3D	16F42	16F43							

Modifiers	Nasalization	Aspiration
	𐍇	𐍏
	16F50	16F51

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

Vowels and finals									
𐍐	𐍑	𐍒	𐍓	𐍔	𐍕	𐍖	𐍗	𐍘	𐍙
16F54	16F58	16F59	16F5B	16F5C	16F5D	16F61	16F62	16F66	16F68
𐍚	𐍛	𐍜	𐍝	𐍞	𐍟	𐍠	𐍡	𐍢	𐍣
16F6A	16F6B	16F6E	16F71	16F73	16F76	16F78	16F79	16F7A	16F7B
𐍤	𐍥								
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 < J << CJ << J'  
&F < F << F'  
&L < L  
&E < CE << E'  
&J << CJ << J'  
&J < E  
&E << E'  
&T << CE << T'  
&t  
&t << Ct << t'  
&T << CT << T'  
&I < T < E < ZE < J < C < Z < C < J < G < S < U < V < A < Z < R  
&O\_ < O\_i < O\_ = < O\_ii < O\_5  
&O\_o << O\_o5  
&O\_o < O\_p < O\_r < O\_n  
&O\_n << O\_nii << O\_no << O\_nv << O\_n= << O\_nó << O\_nõ  
&O\_u << O\_u5 << O\_uu << O\_uo << O\_uc << O\_u= << O\_uõ  
&O\_u < O\_p < O\_v < O\_5  
&O\_c << O\_c5  
&O\_n < O\_v < O\_nv < O\_w < O\_õ

Rendering

Glyph variants

Setting	Sample
default	ᳵᳶ᳷᳸
traditional	ᳵᳶ᳷᳸
normalized	ᳵᳶ᳷᳹

Sample text taken from Figure 7 of [Cheuk](#).

Setting	Sample	USV
ywq	ᳵᳶ᳷᳹	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

## POLLARD SYLLABIC SCRIPT

1  $\Lambda = S^0 \rightarrow Z^0 \Lambda \bar{S} \bar{C} \bar{T} \bar{U} \bar{T} \bar{U} \bar{C} \bar{C}$  2  $S^0 Z^0 Y^0 S^1 \Lambda^- S^0 \bar{S} \bar{T}^1$   
 $C^2 S^0 \bar{L} L_u, C^- T^0, G_0 +^0 \bar{L} +^0 C^- \bar{C} C_{II} C_{\infty} \rightarrow \bar{C} \rightarrow V =$   
3  $\rightarrow \bar{C} \rightarrow T^0 T^0 V^0 +^0 C^0 C_{II} C_{\infty} C^2 S = S^0 C_{\infty} \rightarrow \bar{C} \rightarrow T^0, T^0$   
4  $C_{\infty} C^2 T_u G^0$  4  $T^0 C^0 \bar{T}^0 C_{II} \Lambda^0 \bar{C} L_u Y^0 \rightarrow \bar{C} \rightarrow T^0 T^0 S_0$   
5  $+^0, C^2 \rightarrow C^0 +^0 C^0 C^0 S_0 \rightarrow, C^0 C^0 \bar{C} U^0 L_u \rightarrow T^0$  5  $\Lambda_{\sim}$

Mk I. I-4 1948

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
	◌̃	◌ʰ
	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*





## Lakkia [lbc]

Language tag: lbc

## Consonant onsets

Not listed

## Vowels and finals

Not listed

## Positioning tone marks

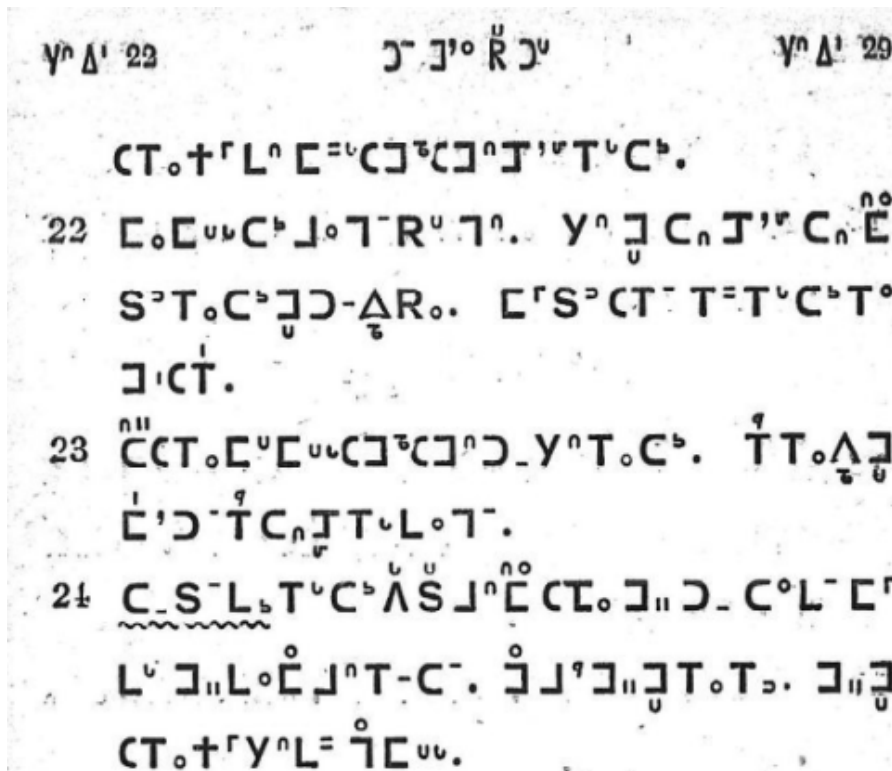
MIAO TONE RIGHT	MIAO TONE TOP RIGHT	MIAO TONE ABOVE	MIAO TONE BELOW
16F8F	16F90	16F91	16F92

### 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									
𐌰	𐌱	𐌲	𐌳	𐌴	𐌵	𐌶	𐌷	𐌸	𐌹
16F00	16F01	16F03	16F04	16F07	16F08	16F0A	16F0B	16F0E	16F0F
𐌺	𐌻	𐌼	𐌽	𐌾	𐌿	𐍀	𐍁	𐍂	𐍃
16F10	16F11	16F16	16F17	16F18	16F19	16F1E	16F1F	16F21	16F22
𐍄	𐍅	𐍆	𐍇	𐍈	𐍉	𐍊	𐍋	𐍌	𐍍
16F23	16F26	16F28	16F29	16F2E	16F2F	16F32	16F33	16F35	16F37
𐍎	𐍏	𐍐	𐍑	𐍒	𐍓	𐍔	𐍕	𐍖	𐍗
16F38	16F3A	16F3D	16F42	16F43	16F45	16F46	16F47		

Modifiers	Nasalization	Aspiration
	𐍘	𐍙
	16F50	16F51

Vowels and finals									
𐍚	𐍛	𐍜	𐍝	𐍞	𐍟	𐍠	𐍡	𐍢	𐍣
16F54	16F57	16F58	16F59	16F5C	16F5D	16F5E	16F5F	16F61	16F62
𐍤	𐍥	𐍦	𐍧	𐍨	𐍩	𐍪	𐍫	𐍬	𐍭
16F63	16F64	16F66	16F68	16F69	16F6A	16F6B	16F6C	16F6D	16F70
𐍮	𐍯	𐍰	𐍱	𐍲	𐍳	𐍴	𐍵	𐍶	𐍷
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.

&𐌰 << 𐌰' << 𐌱 << 𐌺 << 𐌺' << 𐌻

&𐌴

&𐌷 << 𐌷'

&𐌰 << 𐌰' << 𐌱 << 𐌺

$\&Y < R$ 
$$\&\square \ll \square' \ll \exists \ll \sqsubset \ll \sqsubset' \ll \sqsubset$$
$$J \ll J' \ll CJ \ll CJ' \ll C^2J$$
$$|g| \ll |g'| \ll |g''| \ll |Cg| \ll |Cg'| \ll |Cg''|$$
$$\ell_L \ll \ell_0 \ll d_L \ll d_0$$

&lt;<'>

&C << 'C << dC

 $\epsilon \ll 1$ 
$$\&J \ll J' \ll d \ll C \ll C' \ll Cd$$

&J << J

&amp;S

$$\&T \ll T' \ll \overline{v} \ll CT \ll CT' \ll C\overline{v}$$
$$\&T \ll T' \ll \overline{v} \ll CT \ll CT' \ll C\overline{v}$$
$$\&t \ll t' \ll d \ll Ct \ll Ct' \ll Cd$$
$$U < V < \Lambda$$
$$\& \Gamma \ll \Gamma' \ll \varphi \ll \zeta \Gamma \ll \zeta \Gamma' \ll \zeta \varphi$$
$$\&\circ_- < \circ_1 < \circ_1$$
 $\&\circ_c=$ 
$$\alpha_{\nu} < \alpha_5$$
$$\&\circ_n < \circ_n (\circ_{n\bar{0}}) < \circ_n (\circ_{n\bar{1}}) < \circ_{nI} < \circ_{nII} < \circ_{nC} < \circ_{n5} < \circ_n (\circ_{n0}) < \circ_{nV} < \circ_{nV} < \circ_{n6} < \circ_{nE} < \circ_{nE}.$$
$$\&\circ_r < \circ_\Gamma < \circ_{-}$$
 $\sigma_o \ll \sigma_{ou}$ 
$$\&\circ_U \ll \circ_{UE} \ll \circ_{UE_0} \ll \circ_{U6} \ll \circ_{U_6}$$
$$\&\circ_v \ll \circ_{v \in \mathcal{V}}$$
$$\&\odot_3 < < \odot_{3C} < < \odot_{3L} < < \odot_{36} < < \odot_{3E}$$
$$\&\circ_L < \circ_L < \circ_N < \circ_\tau < \circ_\theta < \circ_\varepsilon < \circ_{\varepsilon_0}$$
$$\delta \circ_U \ll \circ_U \ll \circ_{U^*}$$

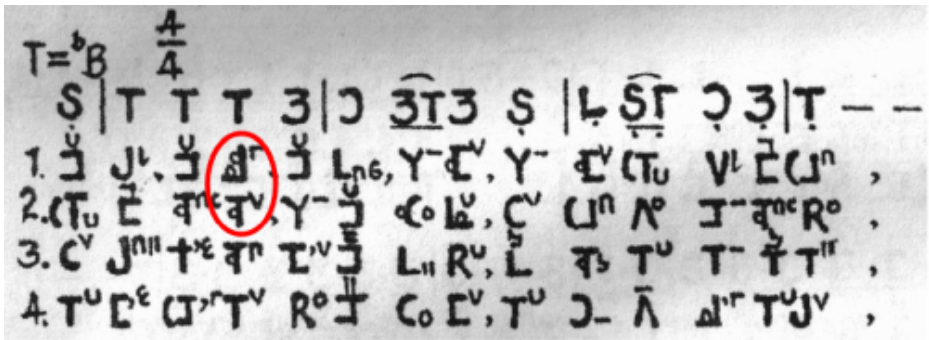
## Rendering

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  $\cup$  (instead of U+16F42  $\mathcal{U}$ ), and U+16F2F  $\mathcal{C}$  although they are not in Figure 10 L2/17-345.

Consonant onsets									
$\mathcal{J}$	$\mathcal{L}$	$\mathcal{D}$	$\mathcal{F}$	$\mathcal{V}$	$\mathcal{T}$	$\mathcal{I}$	$\mathcal{L}$	$\mathcal{C}$	$\mathcal{L}$
16F00	16F02	16F04	16F07	16F08	16F0A	16F0D	16F0E	16F10	16F16
$\mathcal{L}$	$\mathcal{J}$	$\mathcal{I}$	$\mathcal{G}$	$\mathcal{T}$	$\mathcal{I}$	$\mathcal{C}$	$\mathcal{J}$	$\mathcal{R}$	$\mathcal{t}$
16F18	16F1E	16F20	16F23	16F26	16F28	16F2E	16F33	16F35	16F37
$\mathcal{t}$	$\mathcal{S}$	$\mathcal{Z}$	$\mathcal{A}$	$\mathcal{U}$	$\mathcal{Y}$				
16F39	16F3A	16F3B	16F3D	16F42	16F43				

Modifiers	Consonant modifier bar	Nasalization	Aspiration
	$\mathcal{C}$	$\mathcal{C}$	$\mathcal{C}'$
	16F4F	16F50	16F51

*U+16F7A ☹, and U+16F7C ☹ although they are not in Figure 10 L2/17-345.*

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

$$\&\odot_U \ll \odot_{UI} \ll \odot_{UL} \ll \odot_{U=}$$





2017-10-03. Adrian Cheuk. [Proposal for additions to the Miao script](#)

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