

Typing Ge'ez Manuscript Symbols

With the EMUFI Ge'ez Manuscript Zemen Font v1.2

Introduction

This is a Ge'ez (ግዕዝ, ISO-639-2 gez) language mnemonic input method. The keyboard is designed to work with the [EMUFI](#) project's "Ge'ez Manuscript Zemen" font (v1.2) which in turn provides numerous punctuation, numerals, and letter forms found in manuscripts but not yet available under the Unicode standard. The font is provided with this package and installed automatically when the keyboard is installed.

In essence, this is the [GFF Ge'ez Keyboard](#) with the added ability to type over 1,000 additional symbols found in Ge'ez manuscripts. The accompanying manual "GeezTyping-English.pdf" covers typing of the regular Ge'ez letters, numbers, and punctuation. This manual will review how the typing of the additional symbols.

Caveats

The keyboard should *only* be used with the understanding that the accompanying "Ge'ez Manuscript Zemen" font is experimental and the additional symbols that it provides are *not* recognized by international standards at this time.

The consequence of using the font at this time is that, documents that use the "Ge'ez Manuscript Zemen" font are *not* guaranteed to work with future versions of the font, or with other fonts designed for Ge'ez. The additional symbols may then not be visible in the document with a later version of the font, or may appear as entirely different symbols.

The "Ge'ez Manuscript Zemen" font *is* guaranteed to be stable within a *major* version, meaning version 1.2 will be compatible with version 1.3, 1.4, etc. but may not be fully compatible with versions 2.0 and later. A document conversion utility is planned to assist with conversion from older to newer versions of the font.

Some of the added symbols may later be supported by the Unicode standard, in which case the adopted symbols will then become available under other Ge'ez fonts and the "Ge'ez Manuscript Zemen" font will be revised accordingly.

Numeral Styles

The specialized numerals can be entered by typing a regular number followed by the “Tab” key. Each number will have a selection “menu” available. Menus appear on screen in list within square brackets [] and an index number. Type the number that corresponds to the desired numeral form to select it. For example:

1. \bar{d} + TAB \Rightarrow [\bar{d} ① | \bar{d} ② | \bar{d} ③ | \bar{d} ④ | \bar{d} ⑤ | \bar{d} ⑥]
2. (type “3”)
3. \bar{d} appears on screen replacing \bar{d}

The table below depicts the typing of available numeral forms using the regular numeral \bar{d} as an example:

\bar{d}	TAB →	\bar{d}					
\bar{d}	TAB →	\bar{d}	\bar{d}	\bar{d}	\bar{d}	\bar{d}	\bar{d}
\bar{d}	TAB →	\bar{d}	\bar{d}	\bar{d}	\bar{d}		
\bar{d}	TAB →	\bar{d}	\bar{d}	\bar{d}			
\bar{d}	TAB →	\bar{d}	\bar{d}	\bar{d}	\bar{d}		
\bar{d}	TAB →	\bar{d}	\bar{d}	\bar{d}			

The same approach may be used with all numerals. An addition form of the numeral \bar{i} is also available, \bar{i} (conjunctive ten), which is typed with: $\bar{i}\omega$ TAB in keeping with its usage.

The complete set of available numeral forms is given in appendix at the end of this manual.

Punctuation & Marks

In the same way that a TAB is used to reveal menus for the numbers, it can similarly be used with punctuation marks. The index number will appear in a different style, for example:

1. $\# + \text{TAB} \Rightarrow [\text{⌘}_1 \text{⌘}_2 \text{⌘}_3 \text{⌘}_4 \text{⌘}_5 \text{⌘}_6 \text{⌘}_7]$
2. (type "1")
3. ⌘ appears on screen replacing $\#$

Available punctuation:

:	TAB→	⌘	⌘	⌘	⌘	⌘	
---	------	---	---	---	---	---	--

:	TAB→	⌘
---	------	---

⌘	TAB→	⌘	TAB→	⌘	⌘		
		⌘	TAB→	⌘	⌘	⌘	⌘
		⌘	TAB→	⌘	⌘	⌘	
		⌘	TAB→	⌘	⌘	⌘	

=	TAB→	⌘	⌘	⌘	⌘
---	------	---	---	---	---

^	TAB→	⌘	TAB→	⌘	⌘	⌘	⌘
		⌘					
		⌘					
		⌘					

*	TAB→	⌘	TAB→	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
		⌘	TAB→	⌘								
		⌘										
		⌘										
		⌘										
		⌘										
		⌘	TAB→	⌘	⌘							

⌘	TAB→	⌘	TAB→	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
⌘	TAB→	⌘	TAB→	⌘	⌘	⌘	⌘				
⌘	TAB→	⌘	TAB→	⌘	⌘	⌘					
⌘	TAB→	⌘	TAB→	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
⌘	TAB→	⌘	TAB→	⌘	⌘	⌘	⌘				
⌘	TAB→	⌘	TAB→	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
⌘	TAB→	⌘	TAB→	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘

A number of the punctuation marks can be extended with a combining “stylus drag” mark by typing “-” (minus) following the punctuation mark:

⌘ + - ⇒ ⌘ — ... ⌘ —
 ⌘ + - ⇒ ⌘ — ... ⌘ —
 ⌘ + - ⇒ ⌘ — ... ⌘ —
 ⌘ + - ⇒ ⌘ — ... ⌘ —

Rubricated full stop chaining is possible using the special joiner mark, ⌘, which is available in the “=” symbols menu:

⌘ + ⌘ + ⌘ ⇒ ⌘ ... ⌘

Haregs (Experimental)

Haregs are a more graphical than textual item and might best be added to a document using art drawing tools. Nonetheless, experimental textual hareg components are available to compose are hareg by placing red-black or black-red two-dot symbols together. Double dots along with the single dot marks can change an even sequence into an odd one. Examples:

Red-Black

⌘ + ⌘ ⇒ ⌘

Black-Red

⌘ + ⌘ ⇒ ⌘

Other

⌘ ⌘

Ligatures

Ligatures may be typed by entering the individual letters followed by a “@”. For example, with the “Ge’ez Manuscript Zemen” font selected:

ግዚ@ ⇒ ግዚ

ኀ	ኁ	ኂ	ኃ	ኄ	ኅ	ኆ	ኇ	ኈ	኉	ነ	ኑ	ኒ	ና	ኔ
ኖ	ኘ	ኙ	ዐ	ዑ	ዒ	ዓ	ዔ	ዕ	ዖ	ዘ	ዙ	ዛ	ዞ	ዟ

Variants

Variants can be typed in the same way as ligatures:

ቈ	቉	ከፈ	ደ	ጸ
---	---	----	---	---

Anqetse Haleita Bēt Markers

Similar to the ligatures, Bēt marks can be entered by typing the letter sequence followed by “=”. For example:

ይት= ⇒ ይት

Modern

ይት	ጌ	ዎ	ሻ	ጌ	ቱ	ቆ	ንጉ	ል	ጂ	ፎ	ዝኪ
ከሉ	ሃ	ዊ	ሀ	ቀዳ	ድ	አፀ	ዋ	ዝ	ቀ	ድየ	ጢ
ማሳ	ደ	ብ	ኒ	ሕ	ጸ	ሮ	ዝ	ቀደ	ገጂ	ሐ	ዘየ
ባኢ	አቀ	ማይ	ኒ	ረ	ቃል	ባኪ	ኩኑ	የጣ	ቀድ	ዊት	ምግ
ገድ	ከሉ	ደዋ	ስቡ	ፈ	ደ	ግበ	የማ	ደን	ሐቱ	ከሉ	የ
ያደ	መ	አረ	ናሁ	በኩ	ሁ	በአ	ለማ	ሁሕ	ዑ	ኪ	ጸቀ
ጠ	ኖመ	ቀጽ	ወሀ	በቶ	መለ	ኮኑ	ንካ	ውዳ	ሐነ	ትዌ	ይቤ
ማእ	ልዎ	አድ	ን	ንን	ጸገ	ዘል	ሮ	ሮሂ	ሥት	ያሁ	እሞ
ሐዋ	ቱዕ	ጂዕ	ያ	አቲ	ኩሰ	መሴ	ለመ	ኤል	መን	እነ	ቁሮ
ደም	ኑ	ራኒ						ግዕዝ	ዕዝል	ዓራራይ	የ

Historic Alternatives

ሎ	ማ	ም	ረ	ሮን	ቁ	ቁል	ቁሪ	ቁራ	ቡ
ቦ	ብፀዕ	ቻ	ኀ	ኀሥ	ኀደ	ኀኀ	አክ	አ	ከሉ
ከነ	ከ	ወረ	ወበ	ው	ዓበ	ዕ	ዕፀ	ዘመ	ዘማ
ዘድ	ዛቲ	ዝ	ዝሌ	ፕ	ጸ	ጸረ	ጸራ	ጸ	ፀቀ
ፀ	ሥኡ	መሰ	ተአ	ሰላ	ብፀ				

Marginal Markers

Marginalia is entered identically as with Bēt:

ⲓϥ	ⲙϥ	ⲕⲟ	ⲕⲣⲉⲛ	ⲓⲙ	ⲙⲥ
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Zaima Qirts

The extended qirts may be entered by typing one of the regular basic notes followed by the TAB key, then selection of the desired complex qirts from the “menu” that appears. The “menu” based composition works just as it did for numbers and punctuation. Most marks will have for several menu levels. For example:

⇒ **[.1:2:3**k**45678__90]** (type “5” to select 5)

⌞ + TAB ⇒ [⌞₁⌞₂⌞₃⌞₄⌞₅] (type “1” to select ⌞)

$\mathbb{C} + \boxed{\text{TAB}} \Rightarrow [\mathfrak{C}_1\mathfrak{C}_2\mathfrak{C}_3\mathfrak{C}_4]$ (type “4” to select \mathfrak{C})

Viewed another way, the selection process for typing $\dot{\mathfrak{C}}$ is depicted in this tabular view:

-										
→	· ₁	⋮ ₂	⋮ ₃	⋮ ₄	⋮ ₅	⋮ ₆	⋮ ₇	⋮ ₈	⋮ ₉	⋮ ₀
					TAB→	⋮ ₁	⋮ ₂	⋮ ₃	⋮ ₄	⋮ ₅
						TAB→	⋮ ₁	⋮ ₂	⋮ ₃	⋮ ₄

Extending Hidets

Some hidets can be extended by typing a “-” (minus) sign following the mark, for example:

— + - → — + - → —
 3 + - → 3 + - → 3
 4 + - → 4 + - → 4

The full inventory of qirts notes are shown in the following tables, all may be typed by using

Basic Qirts Notes (in the Unicode Standard)

.	:	⋮	†	∩	∪	,	⌋	⊥	≡
---	---	---	---	---	---	---	---	---	---

Extended Qirts Notes (Non-Standard)

[illegible]

Appendix: Numeral Form

Ethiopic Numerals Without a Lower Numeral Bar

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals Without Numeral Bars

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals with Rubricated Numeral Bars

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals with Rubricated Numeral Bars and Without a Lower Numeral Bar

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals with Rubricated Body

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals with Rubricated Body and Without a Lower Numeral Bar

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals with Rubricated Serifs

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals with Rubricated Serifs and Without a Lower Numeral Bar

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals Rubricated with Non-rubricated Numeral Bars

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals with Rubricated Body and Rubricated Serifs and Without a Lower Numeral Bar

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals Rubricated with Non-rubricated Serifs

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals Rubricated with Non-rubricated Serifs and Without a Lower Numeral Bar

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals with Rubricated Body and Rubricated Square Serifs

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals with Rubricated Body and Rubricated Square Serifs and Without a Lower Numeral Bar

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals with Rubricated Double Winged Serifs

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals with Rubricated Double Winged Serifs and Without a Lower Numeral Bar

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals with Rubricated Square Serifs

፩	፪	፫	፬	፭	፮	፯	፰	፱				
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽	፾

Ethiopic Numerals with Rubricated Square Serifs and Without a Lower Numeral Bar

፩	፪	፫	፬	፭	፮	፯	፰	፱			
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽

Ethiopic Numerals Rubricated with Non-rubricated Double Winged Serifs

፩	፪	፫	፬	፭	፮	፯	፰	፱				
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽	፿

Ethiopic Numerals Rubricated with Non-rubricated Double Winged Serifs and Without a Lower Numeral Bar

፩	፪	፫	፬	፭	፮	፯	፰	፱				
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽	፿

Ethiopic Numerals Sans Serifs

፩	፪	፫	፬	፭	፮	፯	፰	፱				
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽	፿

Ethiopic Numerals Sans Serifs and Without a Lower Numeral Bar

፩	፪	፫	፬	፭	፮	፯	፰	፱				
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽	፿

Ethiopic Numerals with Double Numeral Bars Sans Serifs

፩	፪	፫	፬	፭	፮	፯	፰	፱				
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽	፿

Ethiopic Numerals with Double Numeral Bars and Rubricated Upper Bars Sans Serifs

፩	፪	፫	፬	፭	፮	፯	፰	፱				
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽	፿

Ethiopic Numerals with Triple Numeral Bars and Rubricated Upper and Lower Bars Sans Serifs

፩	፪	፫	፬	፭	፮	፯	፰	፱				
፲	፳	፴	፵	፶	፷	፸	፹	፺	፻	፼	፽	፿

Numeral Styles Compared

[illegible]