

Ge'ez Berhan keyboard alphabets

Introduction

This is a Ge'ez Berhan mode (ዘግፅዝ-በርሃን ቅጽ ተራ-ፊደል) that works as a computer-keyboard input. It requires a font supporting the Unicode 4.1 standard, “AbyssinicaSIL” is recommended. This Ge'ez Berhan list mode is designed for the US English QWERTY (ቅወርቅድ) keyboard. This means that the acting keyboard requires to be in the US English keyboard-mode according to the US standard model.

Typing-in the Ge'ez Alphabet

The Ge'ez Alphabet explores all related lists of Ethio-Eritrean characters and symbols. For the excerpts look at the following examples.

The Ge'ez typing alphabet-list is ordered according to the imprint of the European keyboard mode in order to help the user to locate a similar sound from the Ge'ez alphabets. But the Eritrean and Ethiopian sound alphabet-lists that currently are used in these countries are beyond the European number-lists. Therefore, to embrace all Ge'ez alphabet spoken into these 2 countries, a wide list of alpha-list keystrokes are needed. To collect the wide list of Ge'ez alpha in one basket, a new mode of “shift or alpha-builder” is adopted. This additional mode of shift comes in to building those very basic-letter's shape of these numerous African alphabets. The new alpha-builder key is introduced with the letter “j”. therefore:

The Ge'ez-Berhan keyboard program has 3 important tasks that support the user to edit in an efficient ways and in an smoother strikes of keyboard.

- 1) The 1st task is to build the basic letter in no more than 2-keys, and this is for the most very common alphabets.
- 2) The 2nd role is to consider all Ge'ez alphabets as a consonant mode with no mixed tasks with vowels.
- 3) The 3rd important decision is to designate the vowels with a separate key-tasks. A single-key vowel is assigned to edit that specific level of alpha (from 1st to the 7th level). The Ge'ez alphabets need 6 separate keys for the vowels support. Therefore, to the 5 vowels available a new vowel is adopted in the letter of “v” (see the vowel table). So, in this program the “v” becomes a new vowel keys that produces the 5th level of each alphabet.

| The process to type-in the vowel is changed | Ge'ez vowel | Ge'ez alpha |
|---|---------------------|----------------------|
| These vowels work only to change the consonant into the 6 levels. | e u i a v id o | “አ አ አ አ አ አ አ አ” |
| When vowels are stricken no output will occur, but ‘beep’ sound only. | ‘beep’ | |
| To write the character consonant “አ” you need to press the ‘p’ key. | pe pu pi pa pv p po | አ አ አ አ አ አ አ |
| The “id” refers to all list of the basic Ge'ez alpha. | Note: id | “ id ” |

A. Using the normal-key

ናይ ገርሂ ተራ-ፊደል ጽሕፈት፡ ገር አጻጻፍ ፊደል (ተራ-ፊደል)፡

| | ከደነ | ክቡር | ሰላም | ሰማይ | ሰበር |
|----------------------|----------|-------------|-----------|---------|---------|
| Normal keyboard mode | ke de ne | k bu r | se la m | se ma y | se be r |
| | ገዳም | ገብርኤል | መልአክ | ከደ | ሄደ |
| | ge da m | ge b r pv l | me l pa k | ke de | hv de |

B. Using the base-key + “j”

ፊደል ምስ ሓናጺ መብረ-ፊደል “j”፡ ገር-ፊደል ከነ መለዮ አጻጻፍ-ፊደል፡

| | ሽክላ | መጽሓፍ | ሠመረ | ሽማግሌ | ቃለቤት |
|------------------|----------|------------|-----------|------------|------------|
| Base key + “ j ” | sje k la | me x hja f | rje me re | sj ma g lv | qa le bv t |
| | ሠናይ | ፀሓይ | ምዕራፍ | ባረኽ | ነደቐ |
| | Rje na y | Wje hj y | m pj ra f | ba re kje | ne de qje |

C. Using the shift-key + “ j ”

ፊደል ምስ መበረኽን “shift” መብረን “j” ተራ-ፊደል፡ ገር-ፊደል ከነ-ሽፍት እና የ“j” መለዮ-ፊደል፡

| | ሠናይ | ፀሓይ | ድኳ | ሽኳር | ጐበዝ |
|----------------------|---------|----------|---------|---------|----------|
| Shift + key or + “j” | rj na y | xj hja y | d Ka | sj Ka r | gje be z |
| | ቦኸሪ | መኰረ | ጌ, ኳ | ሊ, ሚ | ጾ, ኘ |
| | bo K ri | me Ke re | gjv, Kv | lA, mA | dO, lJO |

D. The symbol or character (consonant) “ኦ” is the letter “p”

ተራ-ፊደል “ኦ” ን“p” ጸቂጥካ ይጽሓፍ፤ “ኦ”-ፊደል ለመጻፍ “p” ተራ-ፊደል ንካ፡

| | እንጌራ | እንስሳ | አንበሳ | አብርሃ | ዓሳ |
|---------------------------|------------------------|-----------------------------|------------|-------------|---------------------------------|
| Letter ‘ኦ’ as a consonant | p n gv ra | p n s sa | pa n be sa | pe b r ha | pja sa |
| | ኤርትራ | ኢትዮጵያ | አፍሪቃ | እስያ | ኢንስቲትዩት |
| | pv r t ra (Eritrea) | pi t yo xj ya (Ethiopia) | pe f ri qa | p s ya Asia | Pi n s ti t yu t (Institute) |

E. Typing-in punctuations of Ge'ez language

ዛዛሚ-ስምዒት ረቂቅታ ሐበሬታ፡ የስሜት-ሐሳብ መዛዘምያ፡

| | | | | | | | | | | | | | | |
|--------------------------|-----------------------|---|----|---|---|---|---|---|---|---|---|----------|----------|----------|
| Keystrokes of symbols | Latin punctuations | ; | : | ‘ | “ | , | < | . | > | / | ? | , | . | ? |
| | ገዕዝ-ብርሃን ሕንጻጽ | ÷ | :- | ‘ | “ | : | < | # | > | / | : | , | . | ? |
| Press symbol + j | Codes for “, . /” + j | | | | | | | | | | | ⋮ + j | ⋮ + j | ⋮ + j |

F. Typing-in the Ge'ez-notes (Milikit) using normal numbers

ዜማ-ምልክት ብሐበሬታ ቊጽሪ ይጽሓፍ፡ ዜማ-ምልክት በቊጥር ይጻፋል፡

| | ይዘት | ጭረት | ቅናት | ሒደት | ድፍአት | ደረት | ርክርክ፡ ሐጺር | ርክርክ | ቁጥርጥ | ድርሰ |
|----------------------|---|-----|-----|-----|------|-----|-----------|------|------|-----|
| Numbers ቁጥር | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| Milikit ምልክት | . | , | — | ⌊ | ⌋ | ⌌ | : | ÷ | ℥ | ℥ |
| Press any number + o | Ex: “ $. = 1 + o$ ” “ $— = 3 + o$ ” “ $÷ = 8 + o$ ” “ $℥ = 9 + o$ ” | | | | | | | | | |

G. Editing the Ge'ez numbers using normal numbers

ግዕዝ አኃዛዊ-ቀዳሪ ብቸዳሪ ይጽፋል፡ የግዕዝ አኅዝብ-ቀዳሪ በቀዳሪ ይጻፋል፡

| | | | | | | | | | | |
|--------------------|---|-----|------|-------|----|----|----|----|----|----|
| | Edit any number followed by “u” char | | | | | | | | | |
| Numbers | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| ግዕዝ አኅዝ-ቁጥር | ፬ | ፩ | ፪ | ፫ | ፬ | ፭ | ፮ | ፯ | ፰ | ፱ |
| Numbers | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |
| ግዕዝ አኅዝ-ቁጥር | | ፲ | ፳ | ፴ | ፵ | ፶ | ፷ | ፸ | ፹ | ፺ |
| Numbers | | 100 | 1000 | 10000 | | | | | | |
| ግዕዝ አኅዝ-ቁጥር | | ፲፱ | ፲፱፻ | ፲፱፻፱ | | | | | | |
| Press a number + u | Ex: “2 + u = ፪” “4 + u = ፬” “8 + u = ፸” | | | | | | | | | |

Ge'ez Typing Table

| Codes | | Ge'ez alphabet list with codes | | | | | | | | | |
|--------|---------|--------------------------------|---|---|---|---|----|---|---------------|---|---|
| shift | letters | + Normal vowel | | | | | | | + Shift vowel | | |
| | Vowels | e | u | i | a | v | id | o | O | A | I |
| | h | ሀ | ሁ | ረ | ሃ | ሄ | ህ | ሆ | ሰ | | |
| | hj | ሐ | ሑ | ሒ | ሓ | ሔ | ሕ | ሖ | | ሐ | |
| | l | ለ | ሉ | ሊ | ላ | ሌ | ል | ሎ | ሎ | ሊ | |
| | lj | ኀ | ኁ | ከ | ኃ | ኄ | ኅ | ኆ | ኆ | | |
| shift+ | lj | ኸ | | ኹ | ኺ | ኻ | ኼ | | | | |
| | m | መ | ሙ | ሚ | ማ | ሜ | ም | ሞ | ሞ | | ሚ |
| | mj | ሻ | ሽ | ሺ | ጃ | ጄ | ጅ | ጆ | | | |
| shift+ | m | ሙ | | ሚ | ሚ | ም | | | | | |
| shift+ | mj | ኸ | | ኹ | ኺ | ኻ | | | | | |
| | r | ረ | ሩ | ሪ | ራ | ራ | ር | ሮ | ሮ | ራ | ሪ |
| | rj | ሠ | ሡ | ሢ | ሣ | ሤ | ሥ | ሦ | | ሢ | |
| | s | ሰ | ሱ | ሲ | ሳ | ሴ | ስ | ሶ | ሶ | ሲ | |
| | sj | ሸ | ሹ | ሺ | ሻ | ሼ | ሽ | ሾ | ሾ | ሺ | |
| shift+ | s | | ሱ | ሲ | ሳ | ሴ | ስ | ሶ | | | |
| shift+ | sj | ሸ | ሹ | ሺ | ሻ | ሼ | ሽ | ሾ | | | |
| | q | ቀ | ቁ | ቂ | ቃ | ቄ | ቅ | ቆ | ቆ | | |
| | qj | ቐ | ቑ | ቒ | ቃ | ቄ | ቅ | ቆ | | | |
| shift+ | q | ቁ | | ቂ | ቃ | ቄ | ቅ | | | | |
| shift+ | qj | ቐ | | ቒ | ቃ | ቄ | ቅ | | | | |
| | b | በ | ቡ | ቢ | ባ | ቤ | ብ | ቦ | ቦ | | |
| | bj | ቨ | ቩ | ቪ | ቫ | ቼ | ች | ቾ | | ቪ | |
| shift+ | b | ቡ | | ቢ | ባ | ቤ | ብ | | | | |
| | t | ተ | ቱ | ቲ | ታ | ቲ | ት | ቶ | ቶ | ቲ | |
| | tj | ቸ | ቹ | ቺ | ቻ | ቼ | ች | ቾ | ቾ | ቺ | |
| shift+ | tj | ቸ | ቹ | ቺ | ቻ | ቼ | ች | ቾ | | | |
| | n | ነ | ኑ | ኒ | ና | ኔ | ን | ኖ | ኖ | ኒ | |
| | nj | ኸ | ኹ | ኺ | ኻ | ኼ | ኽ | ኾ | ኾ | ኺ | |
| shift+ | n | ኸ | ኹ | ኺ | ኻ | ኼ | ኽ | ኾ | | | |
| shift+ | nj | ኸ | ኹ | ኺ | ኻ | ኼ | ኽ | ኾ | | | |
| | p | አ | ኡ | ኢ | ኣ | ኤ | አ | ኦ | ኦ | | አ |
| | pj | ዐ | ዑ | ዒ | ዓ | ዤ | ዐ | ዑ | | | |
| | k | ከ | ኩ | ኪ | ካ | ኬ | ክ | ኮ | ኮ | | |
| | kj | ኸ | ኹ | ኺ | ኻ | ኼ | ኽ | ኾ | | | |
| shift+ | k | ከ | | ኩ | ኪ | ኬ | ክ | | | | |
| shift+ | kj | ኸ | | ኹ | ኺ | ኬ | ኽ | | | | |
| | w | ወ | ዉ | ዐ | ዑ | ዒ | ወ | ዐ | | | |
| | wj | ፀ | ፁ | ፲ | ፳ | ፴ | ፀ | ፱ | | | |

| | | | | | | | | | | | |
|--------|----|----|----|----|----|----|----|----|----|----|---|
| shift+ | w | ሾ | ሼ | ሽ | ሾ | ሼ | ሽ | ሾ | | | |
| | z | ዘ | ዙ | ዚ | ዛ | ዞ | ዟ | ዠ | ዡ | ዢ | |
| | zj | ዘፑ | ዙፑ | ዚፑ | ዛፑ | ዞፑ | ዟፑ | ዠፑ | | ዢፑ | |
| shift+ | z | ዘፑ | ዙፑ | ዚፑ | ዛፑ | ዞፑ | ዟፑ | ዠፑ | | | |
| shift+ | zj | | ዙፑ | ዚፑ | ዛፑ | ዞፑ | ዟፑ | ዠፑ | | | |
| | y | የ | ዩ | ዪ | ያ | ዬ | ይ | ዮ | ዿ | | |
| | yj | ዩ | ዮ | ዪ | ያ | ዬ | ይ | ዮ | ዿ | ዺ | |
| shift+ | yj | | ዮ | ዪ | ያ | ዬ | ይ | ዮ | | | |
| | d | ደ | ዱ | ዲ | ዳ | ዴ | ድ | ዶ | ዸ | ዺ | |
| | dj | ደፑ | ዱፑ | ዲፑ | ዳፑ | ዴፑ | ድፑ | ዶፑ | ዸፑ | ዺፑ | |
| | g | ገ | ጉ | ጊ | ጋ | ጌ | ግ | ጎ | ጏ | | |
| | gj | ገፑ | | ጉፑ | ጋፑ | ጌፑ | ግፑ | | | | |
| shift+ | g | ጎፑ | ጉፑ | ጊፑ | ጋፑ | ጌፑ | ግፑ | ጎፑ | | | |
| | c | ጠ | ጡ | ጢ | ጣ | ጤ | ጥ | ጦ | ጰ | ጴ | |
| | cj | ጠፑ | ጡፑ | ጢፑ | ጣፑ | ጤፑ | ጥፑ | ጦፑ | ጰፑ | ጴፑ | |
| shift+ | c | ጠፑ | ጡፑ | ጢፑ | ጣፑ | ጤፑ | ጥፑ | ጦፑ | | | |
| shift+ | cj | ጠፑ | ጡፑ | ጢፑ | ጣፑ | ጤፑ | ጥፑ | ጦፑ | | | |
| | x | ጸ | ጹ | ጺ | ጻ | ጼ | ጽ | ጾ | | ጺ | |
| | xj | ጸፑ | ጹፑ | ጺፑ | ጻፑ | ጼፑ | ጽፑ | ጾፑ | ጸፑ | | |
| shift+ | x | ጸፑ | ጹፑ | ጺፑ | ጻፑ | ጼፑ | ጽፑ | ጾፑ | | | |
| | f | ፈ | ፋ | ፊ | ፋ | ፌ | ፍ | ፎ | | | ፊ |
| | fj | ፑፑ | ፑፑ | ፑፑ | ፑፑ | ፑፑ | ፑፑ | ፑፑ | ፑፑ | | |
| shift+ | f | ፊፑ | | ፊፑ | ፊፑ | ፊፑ | ፊፑ | | | | |
| shift+ | fj | ፑፑ | | ፑፑ | ፑፑ | ፑፑ | ፑፑ | | | | |

The keyboard Table of the computer

A. The keyboard table with references

ሥእሊ ተራ-ፊደል አብ ኮምፕዩተር፡ የኮምፕዩተር የአኅዝ-ፊደል ሥእል፡

| | | | | | | | | | | | |
|--|---|---|---|----|---|---------|---|---|----|---|-----|
| ለ | | | | | | | | | | | |
| ` | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | - = |
| ~ | ! | @ | # | \$ | % | ^ | & | * | (|) | _ + |
| q w e r t y u i o p [{ }] \ | | | | | | | | | | | |
| ቅ | ወ | አ | ር | ት | ይ | ኡ | ኢ | ኣ | እ | [|] |
| ቆ | ዐ | አ | ሥ | ቸ | ድ | ኡ | ኢ | ኣ | ዕ | { | } |
| a s d f g h j k l ; : ' " | | | | | | | | | | | |
| አ | ሰ | ድ | ፍ | ግ | ህ | መብረ-ፊደል | ከ | ል | ፤ | ' | |
| | ሽ | ጅ | ፕ | ጊ | ሕ | shift | ኸ | ኅ | ፡- | " | |
| z x c v b n m , < . > / | | | | | | | | | | | |
| ዝ | ጸ | ጥ | ኤ | ብ | ን | ም | : | , | :: | . | ፤ / |
| ኸ | ጸ | ጥ | ኤ | ብ | ን | ም | : | , | :: | . | ፤ / |

The above table shows:

- The 1st row in green area shows the result of the Ge'ez alphabet with the support of “+u” and “+o”.
- The following 2 rows are the keyboard number/symbol lists that will be common for Ge'ez and Latin.
- The 3 yellow other rows show the Latin alpha as a reference.
- The other pair rows of black and blue are the output of the alphabets. The black in normal key and the blue in “j” (like shift-key).
- The alpha in red colour are the 6 designated vowels.
- The additional 3 dot in red “ , . / ” are symbols list that become an output using the “j” support.
- The last column shows a memo to the main table.
 - 1) The 1st row forms the shape of the base alphabet using the normal key and with the support of the “j” letter.
 - 2) The 2nd follows the shift task to shape a base alphabet, using the normal key and with support of the “j” letter.
 - 3) The 3rd row represents the lists of alphabet with exceptions and form only one shape beginning the basic alpha. These are a form of 3rd, 4th, and 7th order from the common 7 orders the Ge'ez alphabets expands.

B. The reference shape of the list-keyboard

ሥሕሊ ተራ-ፊደል አብ ኮምፕዩተር፡ የኮምፕዩተር የአኅዝ-ፊደል ሥሕል፡

| | | | | | | | | | | | | |
|---|---|---|---|----|---|--------------|----|----|----|---|---|---|
| ` | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | - | = |
| ~ | ! | @ | # | \$ | % | ^ | & | * | (|) | _ | + |
| ቀ | ወ | አ | ር | ት | ይ | ኡ | ኢ | ኣ | እ | [|] | \ |
| ቐ | ዐ | | ሥ | ች | ድ | | | | ዕ | { | } | |
| አ | ስ | ድ | ፍ | ግ | ሀ | መብረ | ክ | ል | ፤ | ' | | |
| | ሽ | ጅ | ፐ | ጉ | ሕ | ራደል shift | ኸ | ኅ | ፡- | " | | |
| ዝ | ጸ | ጥ | ኤ | ብ | ን | ሞ | ፡, | ፡. | ፡/ | | | |
| ኸ | ጸ | ጭ | | ብ | ኝ | ኻ | < | > | ? | | | |

C. The Ge'ez alphabet lists in reference to the shape-development

ዝርዝር ፊደል-ግዕዝ አብ ሥርዓት-ቅርጽ፡ የአገዝ-ፊደል ሥርዓት-ቅርጽ በኮምፕዩተር፡

| | | | | | | | | | | |
|---|-----------------------------|--------------------|--------------------|--|--|---|---|-----------------|------------------|---|
| 1 | ሀ ለ ረ ሰ ቀ | በ ተ ነ አ ከ | ወ ዘ ደ ጠ ጸ | መ ፈ ገ የ | a | j | | +6 | | |
| | ሐ ጎ ሠ ሸ ቸ | ሸ ቸ ኘ ዐ ኸ | ፀ ዠ ጀ ጪ ጳ | ኘ ፒ ን ₅ ጅ | | | | | | |
| 2 | | ሉ ቈ በ | ሸ | ኰ ቸ ዠ | ጪ ጸ መ ፈ ኘ | A | j | | +5 / 6 / 7 | |
| | ን ₅ | ሸ ቈ _{7 5} | ቸ ኸ _{7 7} | ኰ ₅ ቸ ₇ ዠ ₇ | ጪ ₇ ጸ ₇ መ ₅ ፈ ₅ ኘ ₇ | | | | | ን ₅ ፒ ₅ ን ₆ ጅ ₆ |
| 3 | | ሐ ረ ሐ | ሸ ተ ና | ዘ ደ ጠ ጸ | a | j | A | 4 th | | |
| | ሐ | ሢ ሸ | ቸ ጀ | ዠ ጀ ጪ ጳ | | | | | ጅ | |
| | | ሪ | አ | | | | | | ሚ ኔ | |
| | ሀ ሉ ሮ ሰ ቃ ሰ ቃ ና አ ኰ ዎ ዘ ዶ ጠ | ዎ | ኃ ዮ | | | | | | | |
| | ና | ሸ | ቸ ና | ዎ | ጀ ጪ ጳ | ኃ | a | | I | 3 rd |
| | | | | | | j | O | 7 th | | |

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