Ethiopic Languages
==================

This section describes how to read and write Ethiopic languages (Ge'ez script languages) in Mule. To make Ethiopic the primary environment, the following line should be included in the '$MULE/lisp/site-init.el' file at the compile time:

```
(set-primary-environment 'ethio)
```

If your system administrator did not do this setting, you have to include the above line in your '~/.emacs' file.

To print Ethiopic text, see the online manual 'm2ps(1)' and
*Note m2ps: (m2ps)Top.

Ethiopic Fonts

Currently only 16 dot font is available for displaying Ethiopic. You can get it from Mule's FTP sites. The name of the font is 'ethiom16d75.bdf'.

You must invoke Mule as an X client if you want to use Ethiopic. First, make sure that the environment variable DISPLAY is properly set. Then invoke Mule from a shell window with the following command :

```
% mule -fn 16
```

If the Ethiopic font has been properly installed, you should be able to read the following text:

ከመጽሃፉ ”Taste of Ethiopia”

ከአገር ውጭ እንጀራ ለመጋገር የዳበረ ልምድ

የሚደባለቁት ተእህል አይነቶችና መጠኖች፤

- ሁለት ብርጭቆ የጤፍ ዱቄት
- ሁለት ብርጭቆ ነጭ የስንዴ ወይንም የገብስ ዱቄት
- አንድ ተኩል የስኳር ምንኪያ ቤኪይንግ ፓውደር
- አምስት ብርጭቆ ሞቅ ያለ ውሃ

፩) የጤፍ ዱቄቱ በሁለት ተኩል ብርጭቆ ውሃ ተቦክቶ
ይቀመጣል።

፪) የስንዴው ወይም የገብሱ ዱቄት ግማሽ የስኳር መንኪያ
ቤኪይንግ ፓውደር ይገባበትና በብሌንደር ውስጥ ተዋህዶ
በሳህን ውስጥ ይቀመጣል።

፫) ሁለቱ ቡኮዎች ተከድነው ከ2 እስከ 3 ቀን እንዲያቀሩ
ይቀመጣሉ።

፬) ቀኑ ከደረሰ በኋላ ቀስ ተብሎ የቀረረውን ውሃ ከሁለቱም
ሳህኖች ውስጥ ማፍሰስ።

፰) ሁለቱም እህል (ጤፍ እና ስንዴ/ገብስ) አቀላቅሎ መለውስና
እህሉ ከፍ እስኪል ድረስ ለ2 ሰዓት ያህል ማስቀመጥ።

፱) ከዚያ በኋላ 425 ዲግሪስ F በሞቀ መጋገሪያ አየር
እንዳይገባ ቶሎ እየከደኑ እንጀራውን መጋገር።

Bear in mind that all fonts used in Mule must be of fixed width. Furthermore, the width of the Ethiopic characters must be exactly twice as wide as the ASCII characters. For the detail of font specification, see *Note Font: (mule)Font.

Editing Ethiopic Text

Entering and Leaving Ethiopic mode

Use the Quail system to input Ethiopic. Hit 'C-]' to enter quail-mode. If you do not see the string 'ETHIO' in the mode-line, then hit 'M-s' and specify the package name 'ethio'. SPC works as the completion key. If you hit RET without specifying a package name, the default package (shown in the parentheses) will be used. To exit quail-mode, hit 'C-]' once again.

For the detail of the Quail system, see *Note Usage of Quail: (quail)Usage of Quail.

Fidel Input

ሀ. About Consonants

In quail-mode with the Ethipic package, you can input Ethiopic characters from the alphabetic region of the keyboard. To input ASCII characters you have to exit ethiopic-mode by hitting 'C-]'. A table of the first form consonants from the extended Fidel is given in the table below. The key assignments are made to the closest phonetical match between the Ethiopic and Latin letters.

he	=	ሀ	'ke	=	ከ
le	=	ለ	Ke	=	ኸ
He	=	ሐ	Xe	=	ዀ
me	=	መ	we	=	ወ
'se	=	ሠ	'e	=	ዐ
re	=	ረ	ze	=	ዘ
se	=	ሰ	Ze	=	ዠ
xe	=	ሸ	ye	=	የ
qe	=	ቀ	de	=	ደ
Qe	=	ቐ	De	=	ዸ
be	=	በ	je	=	ጀ
ve	=	ቨ	ge	=	ገ
te	=	ተ	Ge	=	ጘ
ce	=	ቸ	Te	=	ጠ

‘he	= ኀ		Ce	=	ጨ
ne	= ነ		Pe	=	ጰ
Ne	= ኘ		Se	=	ጸ
e,a	= አ		‘Se	=	ፀ
ke	= ከ		fe	=	ፈ

Characters beginning with “’ are usually a phonetic twin of some other letter in the Fidel and may be represented with a ‘2’ as shown below:

s2e = ‘se = ሠ

The extra character “’ or ‘2’ is given to the twin that occurs less commonly in typical modern writing. The “’ was found to be more natural to read in Latin vs ‘2’ (‘2’ will be easier to type on some keyboards).

In a few instances where uppercase keyboard letters would have no Ethiopic assignment, these keys (B, F, J, L, M, R, V, and Y) were made equivalent to their lowercase counter parts (i.e. L = l, m = M, etc).

ለ. About Vowels

When a key corresponding to a consonant is first struck, you will see the sixth form of the character appear on the screen with a small underline, ‘_’. You may then type a vowel to modify the syllabic form of the consonant, or type any non-vowel character to terminate the entry of the letter (the underline goes away). The new character typed will also appear on the screen. A small table for the input system is given now :

Consonants:

me	mu	mi	ma	mE	m	mo	mWa
መ	ሙ	ሚ	ማ	ሜ	ም	ሞ	ሟ

Independent Vowels:

e/a	u/U	i	A	E	I	o/O	e3
አ	ኡ	ኢ	ኣ	ኤ	እ	ኦ	ኧ

Independent Vowels Following a 6th Form Consonant:

	l'a	l'u	l'i	l'A	l'E	l'I	l'o
also -->	l'e	lU				lI	lO
	ልአ	ልኡ	ልኢ	ልኣ	ልኤ	ልእ	ልኦ

Consonants With 12 forms:

hWe	hWu/hW'	hWi	hWa	hWE
ኈ	ኍ	ኊ	ኋ	ኌ

[A NOTE ON FORMS 8 - 12] In different geographic regions, and at different times within the same region, people have been taught two different sounds for form 9 (‘ኍ’ in the above). Phonetical keyed input is permitted for both ways a person may have been taught.

In some Ethiopian languages extend Fidel glyphs for labiovelar forms are required. This is known to be true for the Gurage languages in particular. The complete set of additional characters required for these languages was not known to the makers of the Ethiopic extension for Mule at the of this release. Extended forms (8-12) of the ‘w’ series are provided to model the labiovelar sounds with a base consonant when a unique labiovelar glyph is not available for the consonant. For example : bWe -> ብዌ, pWE -> ፕዼ.

Once entered you may edit the vowel form of a letter by placing the cursor over the letter you wish to change and striking [F6]. See *Note Function keys for ethiopic::.

Ethiopic Punctuation input

All Ethiopic and Latin punctuations are available in quail-mode with the Ethiopic package. The Ethiopic punctuations may be entered by typing the Latin equivalent from the keyboard. Hitting the same punctuation key twice will replace the Ethiopic version with the Latin. A small table follows :

.	->	።
,	->	፣
;	->	፤
:	->	፥
*	->	፨
<<	->	«
>>	->	»
::	->	፡

In the last 4 cases in the table, Ethiopic punctuation is entered based upon the similarity between the appearence of the keyboard and Ethiopic symbols. The last item in the table is an input for an Ethiopic word separator (a space ” ”). Here two keystrokes of the the colon : key are required to enter the Ethiopic space, and 3 keystrokes of the colon are then required to return to the Latin ‘:’.

You may use the space bar to enter Ethiopic spaces by first going into an ”Ethiopic space mode”. To do so hit the [F2] key 2 times. Notice in the mode-line indicator near the bottom of the editor that each time you hit the [F2] key that the symbols ‘_’, ‘ ’, and ‘፡’ will change. These are your space-mode indicators. The first, ‘_’, is the default for Latin font width blank spaces (8 pixels) the 2nd is for Ethiopic font width blank spaces (16 pixels) and finally the last, ‘፡’, indicates to you that the space bar will now use the Ethiopic word separator.

You may change the word separator in a specified ”region” of text by ‘S-[F2]’. Doing so will convert all blank spaces into the Ethiopic word separators or, if you choose, to the double width Ethiopic blank space. You may convert among the 3 word separators within a region of text at any time.

Ethiopic Numeric Input

Both the Arabic (ASCII) and Ethiopic numerals are available in quail-mode with the Ethipic package. The Arabic numbers are the defualt when you strike the number keys of the keyboard. Enter the "Ethiopic number mode" by pressing [F1]. Notice that the Arabic '1' changes to the Ethiopic '፩' in the mode-line. This is your numeral mode indicator. Striking [F1] again returns you to the "Arabic numeral mode".

Typing the number keys in Ethiopic numeral mode will render the numerals on the screen. You may enter Ethiopic numbers like Arabic numbers with 0's to obtain the multiples of ten for numbers 1 - 9 up to a multiple of 100,000. This limit is chosen as it will be the largest value that two numbers together may represent.

Ethiopic Special Characters

Special icons, glyphs, and ligatures may be available at the end of your font's address table. You may enter them on screen, and into your document, with the [F8] key followed by a number. For this moment the available icons are African continent and the region in which Ge'ez script is native to (collectively, the nations of Eritrea and Ethiopia).

Basic SERA

When written systematically, ASCII files (a file composed with the characters avaialable from a common English keyboard) may be interpretted by Mule and viewed as Ethiopic text. Likewise, an Ethiopic document may be written out by Mule into ASCII for importation elsewhere.

Mule uses "SERA" (System for Ethiopic Representation in ASCII) as its Latin representation system of the Fidel to provide compatibility with other networks and PC softwares, and to allow users without Mule the ability to read easily Ethiopic documents composed with the editor. Though independent from file I/O, SERA has been applied as the input method (IM) for Mule as well, hence much of the system has already been discussed. Current documents on SERA with detailed explanation of the system can be found in the '/pub/languages/ethiopia/email' directory at the ftp.rpi.edu archive.

A sample text of SERA is given below. This is the transcription of the text in *Note Ethiopic Fonts::.

```
kemeSehafu \"Taste of Ethiopia"\

ke'ager wC Injera lemegager yedabere lmd

yemidebalequt teIhl aynetocna meTenoc;

- hulet brCqo yeTEf duqEt
- hulet brCqo neC yesndE weynm yegebs duqEt
```

- and tekul yeskWar mnkiya bEkiyng pawder
- amst brCqo moq yale wha

\1) yeTEf duqEtu behulet tekul brCqo wha tebokto yqemeTal.

\2) yesndEw weym yegebsu duqEt gmaxe yeskWar menkiya bEkiyng pawder ygebabetna beblEnder wsT tewahdo besahn wsT yqemeTal.

\3) huletu bukowoc tekednew ke2 Iske 3 qen Indiyaqeru yqemeTalu.

\4) qenu kederes behWala qes teblo yeqererewn wha kehuletum sahnoc wsT mafses.

\5) huletum Ihl (TEf Ina sndE/gebs) aqelaqlo melewsna Ihlu kuf Iskil dres le2 se'at yahl masqemeT.

\6) keziya behWala 425 digris \F \ bemoqe megageriya ayer Indaygeba tolo Iyekedenu Injerawn megager.

If struck alone, [F4] will convert the entire document into Ethiopic text. It is assumed that the text begins in Ethiopic. If the beginning of the document should start with Latin script, use 'C-u [F4]' to make the appropriate conversion. You may also use 'S-[F4]' to convert only the specified region. '[F5]', 'C-u [F5]', and 'S-[F5]' converts back into SERA-Latin with the same rules applying for [F4].

Mixed Script in SERA

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There are some special rules that apply when you mix both Latin and Ethiopic. The rules will be more important when composing a SERA file outside of Mule. At a glance, the escape rules given below may appear inconsistent. Their practical use should become apparent when working with them, as they are designed in part to go naturally with their frequency of use.

'\', except followed by some special characters described below, toggles the script interpretation mode (Ethiopic<->Latin). An alphabetic character may not be used as an escape sequence following the '\'. The predefined escape sequences may have different functions in the two script modes. When followed by a blank space ' ', the script mode toggles and the space is deleted.

\\

Sends '\' from either mode.

\.   \,   \;   \:

Sends the equivalent punctuation of the OTHER mode to the screen.

_   *   \<   \>   \1 ... \9

Sends the defined Ethiopic character from both modes.

\!

The "Hard Mode Toggle". The switch toggles modes but treats all text until the ending '\!' as one script. This allows extended use of '\' and '\~' without the requirement for '\\' and '\\~' but at the cost of using only one script within the text region.

\| \' \`

In Ethiopic mode '|', ''' or '`' is sent to the screen. In Latin mode, the toggle is made to Ethiopic and '|','`' or ''' is treated as the first char in the text segment and treated with the normal rules (i.e. just the stanard toggle into Ethiopic).

\~x

If 'x' is undefined in application, then 'x' is ignored. and nothing appears when transliterated. Also true if 'x' is a blank space ' '.

\~e \~E \~a \~A

Sends the icon of Ge'ez Homelands, its inverse image, African continent and its invers image, respectively.

Customising SERA
....

Fidel is a highly phonetical script set, but not perfect. In a few instances among the languages that use Fidel for its written script, a letter will not have a sound consistant with its form class. The clearest example for this is in Amharic where the first form "h"s will have a sound equivalent to that of the fourth form ('**ሀ**', '**ሐ**', '**ኀ**' sound the same as '**ሃ**', '**ሓ**', '**ኃ**'). To model in Latin the different sounds associated with a particular Fidel member, SERA allows for duplicity of the Latin representation. One such important instance is the choice of 'e' AND 'a' to represent the first lone vowel letter '**አ**'. 'a' is the natural choice in Amharic and 'e' is more logical in most languages. Both 'a' and 'e' are recoginized for '**አ**' when converting Latin->Ethiopic; but the user must decide on a choise of 'a' or 'e' for converting Ethiopic->Latin.

The default conversion in mule is to write '**አ**' as 'a'. You may set Mule to always convert '**አ**' as 'e' by adding the line below to your '~/.emacs' file:

```
(setq ethio-use-tigrigna-style t)
```

As discussed before (*Note Fidel Input::), the natural choise of 'Wu' or 'W'' for 9th form characters will differ between people. 'Wu' is the default conversion into Latin, but you may change this to 'W'' by adding the following line to your '~/.emacs' file:

```
(setq ethio-W-sixth-always t)
```

SERA also permits ''' as a separator between two Latin vowels when the user thinks it aids clarity. The deault in Mule is not to insert ''' between vowels, you may change this by again adding the following line to your '~/.emacs' file:

```
(setq ethio-quote-vowel-always t)
```

As discussed before (see *Note Ethiopic Numeric Input::), Ethiopic numerals may be written in several forms and interpreted in the same way. Likewise you have these same choices for SERA output.

For example, consider the Latin sequence '\10\9\100\80\7' for '፲፱፻፹፯'. The Latin form is considered to be in the lowest level of reduction, or "reduction-level 0". You can choose to write out in reduction-level 0 by including the following line in your '~/.emacs' file:

```
(setq ethio-numeric-reduction 0)
```

The next level in reduction is the form '\109100807' which can be set by:

```
(setq ethio-numeric-reduction 1)
```

The final level in reduction is the form '\10900807' which can be set by:

```
(setq ethio-numeric-reduction 2)
```

These three reduction levels for numbers are offered, because it can not be known at this time which may ultimately become the preferred form.

SERA for file I/O::

Whenever you find a file (by 'C-x C-f') whose name ends in '.sera', Mule assumes that the file is written in SERA, and automatically converts the contents into Fidel.

Likewise, if you save a buffer to a file with the '.sera' extension, the contents will be converted into SERA before actually written.

Note that the old two hooks for SERA I/O, i.e., 'fidel-to-sera-for-disksave' and 'sera-to-fidel-for-disksave', have been removed.

Ethiopic Mail

By default, Mule uses the *junet* coding-system for sending and receiving mail. It is a 7-bit coding with escape sequences, so there should be no difficulty in mail transmission unless the code 'ESC' is not removed by MTA (mail transfer agent).

Nonetheless, it would be safer to use the SERA format for mail transmission. In addition to the safety, users who do not have Mule will benefit from using SERA for mail.

If you include the line

```
(add-hook 'mail-send-hook 'fidel-to-sera-mail)
```

in your '~/.emacs' file, Ge'ez characters in mail body will be automatically converted into SERA when you send mail from mail-mode. You can write mail in the Ge'ez script and send it as if it were written in SERA. The markers '<sera>' and '</sera>' are automatically inserted at the beginning and the end of mail body so that the mail receiver can read it in Ge'ez, even without Mule, by using 'eview' program.

If you want to preview the SERA transcription before you actually send the mail, hit 'C-[F5]' in the '*mail*' buffer. Hit 'C-[F4]' to go back to Fidel.

Likewise, if you include the line

```
(add-hook 'rmail-show-message-hook 'sera-to-fidel-mail)
```

in your '~/.emacs' file, all mails that contain the '<sera>' marker are automatically converted into the Ge'ez script when you read them with 'rmail'.

When you receive mail in SERA but without '</sera>', you can convert it into Ge'ez by hitting 'C-[F4]'. In rmail-mode, this key is always active and you can use it even without setting the hooks above. 'C-[F4]' first searches the marker '<sera>' and the termination marker '</sera>'. If found, only the portion between the two markers is converted in Ge'ez. Otherwise it skips the header part by looking for the first blank line, then convert the rest of the buffer. If there is no blank line, it prints a message and no conversion is done.

For backward compatibility, Mule regards the markers '<ethiopic>' and '<>' as aliases of '<sera>' and '</sera>'. But the usage of '<ethiopic>' and '<>' is not recommended.

Configuration for Ethiopic

To use Ethiopic most easily, you may want to create the '~/.emacs' file in your home directory that contains the following line:

```
(set-primary-environment 'ethio)
```

Here are the lines that you might want to include in your '~/.emacs' file:

(setq ethio-use-tigrigna-style t)
: Writes SERA output with 'e' in place of 'a' for the first form vowel 'ኧ'.

(setq ethio-quote-vowel-always t)
: When writing SERA output ‘’’ is inserted between two adjacent vowels.

(setq ethio-W-sixth-always t)
: Writes SERA output with 9th form Fidel characters represented with ‘W’’ and not ‘Wu’.

(setq ethio-numeric-reduction #)
: Sets level of reduction for numeral representation in SERA. ‘#’ must be replaced by 0, 1 or 2. The Ethiopic number ‘፭፻’ will be ‘\5\100’ if # is 0, ‘\5100’ if 1, ‘\500’ if 2.

(add-hook 'rmail-show-message-hook 'sera-to-fidel-mail)
: When in rmail-mode will convert Ethiopic email marked by ‘<sera>’ immediately into Ge'ez text without waiting for the ‘C-[F4]’ key to be struck.

(add-hook 'mail-send-hook 'fidel-to-sera-mail)
: Will convert Ge'ez email into SERA when send it out from mail-mode.

Function keys for Ethiopic

Some function keys have been mentioned in the above. A complete list of the function keys available is presented separately here.

[F1] or ‘M-x ethio-toggle-digit’
: toggles Arabic digit input and Ethiopic digit input. The current input mode is indicated by the character ‘1’ or ‘፩’ in the mode line, next to the ‘ETHIO’ string. In Ethiopic mode, you can input up to 1000000 (\1000000) by continuous zeros. To input 2000000 (\2000000), for example, you have to type ‘21000000’. The default is Arabic digit. (Available only in quail-mode.)

[F2] or ‘M-x ethio-toggle-space’
: toggles space characters (one of the three below) for keyboard input.

  a. ‘ ’ - Single width ASCII space. Mode line Indicator is ‘_’.

  b. ‘　’ - Double width Ethiopic blank. Mode line Indicator is ‘　’.

  c. ‘፡’ - Ethiopic word separator. Mode line Indicator is ‘፡’.

: Each time you hit [F2], the space character changes a -> b -> c -> a and so on. The default is ASCII space. (Available only in quail-mode.)

[F3] or ‘M-x ethio-toggle-punctuation’
: toggles Latin punctuation input and Ethiopic punctuation input.

The mode line indicator is ‘.’ (Latin) and ‘።’ (Ethiopic). The default is Ethiopic punctuations. (Available only in quail-mode.)

[F4] or ‘M-x sera-to-fidel-buffer’
: performs SERA to Fidel conversion in the current buffer. It assumes that the buffer begins in Ethiopic. To convert a text which begins in Latin, use ‘C-u [F4]’. You can continuously enter any large Ethiopic numbers, for example, \55000000000000000000000000000000700000000000000000000.

S-[F4] or ‘M-x sera-to-fidel-region’
: performs SERA to Fidel conversion in the specified region. It assumes that the buffer begins in Ethiopic. To convert a text which begins in Latin, use ‘C-u S-[F4]’.

C-[F4] or ‘M-x sera-to-fidel-marker’
: If the buffer contains the markers ‘<sera>’ and ‘</sera>’, converts the segment between the two markers from SERA to Fidel in Ethio start mode. The markers will not be removed.

C-[F4] (in rmail-mode or Mali-mode) or ‘M-x sera-to-fidel-mail’
: Does SERA to FIDEL conversion for reading/writing mail. If the buffer contains the markers ‘<sera>’ and ‘</sera>’, converts the segment between the two markers in Ethio start mode and the ‘Subject:’ field in ASCII start mode. Conversion will be performed even if the current buffer is read-only.

  Usually, this function is used as a hook. When invoked interactively and there is no markers, it converts both the whole body and the ‘Subject:’ field in Ethio start mode.

  For backward compatibility, ‘<ethiopic>’ and ‘<>’ can be used instead of ‘<sera>’ and ‘</sera>’.

[F5] or ‘M-x fidel-to-sera-buffer’
: performs Fidel to SERA conversion in the current buffer. The converted region begins in Ethiopic mode. (If the first character of the original text is a Latin alphabet, ‘\ ’ will be inserted at the beginning to turn into Latin mode.) To produce a SERA text that begins in Latin, use ‘C-u [F5]’. By default, the first lone vowel ‘አ’ is transcribed by ‘a’. If you want it to be ‘e’, put the following line in your .emacs file:

```
(setq ethio-use-tigrigna-style t)
```

  Also by default, the lone vowels are preceded by an apostrophe ‘’’ only if the preceding character is a 6th form consonant. If you want the lone vowels always preceded by an apostrophe, put the following line in your ‘~/.emacs’ file:

```
(setq ethio-quote-vowel-always t)
```

S-[F5] or ‘M-x fidel-to-sera-region’
: performs Fidel to SERA conversion in the specified region. The converted region begins in Ethiopic mode. (If the first character of the original text is a Latin alphabet, ‘\ ’ will be inserted at

the beginning to turn into Latin mode.) To produce a SERA text that begins in Latin, use 'C-u S-[F5]'.

C-[F5] or 'M-x fidel-to-sera-marker'

If the buffer contains the markers '<sera>' and '</sera>', converts the segment between the two markers from Fidel to SERA in Ethio start mode. The markers will not be removed.

C-[F5] (in rmail-mode or Mail-mode) or 'M-x fidel-to-sera-mail'

Does Fidel to SERA conversion for reading/writing mail and news. Intended to be used for mail-send-hook and news-inews-hook, but can be invoked interactively, too.

If the buffer contains at least one Ethiopic character, then it

1) inserts the string '<sera>' right after the head-body separating line, 2) inserts '</sera>' at the end of the buffer, 3) converts the body into SERA in Ethiopic start mode, and 4) converts the 'Subject:' field in ASCII start mode.

If there is no separating line, '<sera>' will be put at the beginning of buffer and does not look for the 'Subject:' field.

[F6] or 'M-x ethio-modify-vowel'

is the vowel modification key. Hit this key when the cursor is on a Fidel letter. Then you will be asked a new vowel. Hit one of the seven characters below from the keyboard:

e u i a E ' o

You will get a new letter whose consonant is the same as the original, but with the new vowel that you selected. An apostrophe ''' changes the character to the sixth form (lone consonant).

If the cursor is on the Wa-form of letter having only 8 forms, selecting a vowel other than 'a' changes the original into the combination of two characters, namely, the sixth form of the original character and the wW utility letter whose vowel is the newly selected one. See *Note Fidel Input::.

[F7] or 'M-x ethio-replace-space'

replaces the spaces between two Ethiopic characters in the specified region. You will be asked the new space character. Answer by typing 1, 2 or 3. 1 means the single width ASCII space. 2 means the double width Ethiopic blank. 3 means the traditional Ethiopic word separater. This command is independent from the space selection for keyboard input.

[F8] or 'M-x ethio-input-special-character'

inputs graphical images in font file. A menu will appear in mini-buffer.