



DATE: 1998-09-11

ISO/IEC JTC1/SC2/WG2
Universal Multiple-Octet Coded Character Set (UCS) – ISO/IEC 10646
Secretariat: ANSI

DOC TYPE: National Body contribution
TITLE: **Proposal to encode Ethiopic Extensions in the BMP of ISO/IEC 10646**
SOURCE: Ethiopia and Ireland
PROJECT: JTC1.02.18.01
STATUS: Proposal.
ACTION ID: FYI
DUE DATE: --
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A. Administrative

1. Title	Proposal to encode Ethiopic Extensions in the BMP of ISO/IEC 10646
2. Requester's name	The Ethiopian Quality and Standards Authority, the Ethiopian Science and Technology Commission, the Ethiopian Computer Standards Association, and the National Standards Authority of Ireland
3. Requester type	Expert request
4. Submission date	1998-09-11
5. Requester's reference	
6a. Completion	This is a complete proposal.
6b. More information to be provided?	No

B. Technical -- General

1a. New script? Name?	No.
1b. Addition of characters to existing block? Name?	No. A new block "Extended Ethiopic" is proposed.
2. Number of characters	95
3. Proposed category	Category A
4. Proposed level of implementation and rationale	Level 1
5a. Character names included in proposal?	Yes.
5b. Character names in accordance with guidelines?	Yes.
5c. Character shapes reviewable?	Yes.
6a. Who will provide computerized font?	Michael Everson
6b. Font currently available?	Michael Everson
6c. Font format?	TrueType
7a. Are references (to other character sets, dictionaries, descriptive texts, etc.) provided?	Yes.
7b. Are published examples (such as samples from newspapers, magazines, or other sources) of use of proposed characters attached?	Not attached to this document but they will be available at the London meeting.
8. Does the proposal address other aspects of character data processing?	No. In Unicode terms, the properties of these characters as they are for other Ethiopic syllables (Amendment 10)

C. Technical -- Justification

1. Contact with the user community?	Yes, with regional administrative bureaus and peoples organizations.
2. Information on the user community?	Sebatbet (Chaha) speakers numbered over 1 million according to the 1994 Ethiopian Census, 20% living in Addis Ababa (Region 14), 70% in the Gurage Zone (Region 7) and 10% in Oromia (Region 4). Bench speakers live in the Bench-Maji Zone of Keffa around the city of Mizan Tefari. Agew speakers inhabit Gojjam (Region 3) and share orthographic needs with the Bilin (Ethiopian and Eritrean) with a collective population over 200,000.
3a. The context of use for the proposed characters?	Used to write the natural languages of the Agew, Bench, and Guragigna families.
3b. Reference	See Bibliography below.
4a. Proposed characters in current use?	Yes, by government bureaus, schools, and independent publishing institutes.
4b. Where?	Ethiopia.
5a. Characters should be encoded entirely in BMP?	Yes.
5b. Rationale	Accordance with the Roadmap.
6. Should characters be kept in a continuous range?	Yes.
7a. Can the characters be considered a presentation form of an existing character or character sequence?	No.
7b. Where?	
7c. Reference	
8a. Can any of the characters be considered to be similar (in appearance or function) to an existing character?	Some of them are phonemic relatives to members of the Ethiopic Basic Range, but all of them are unique Ethiopic characters with unique glyphs.
8b. Where?	
8c. Reference	
9a. Combining characters or use of composite sequences included?	No.
9b. List of composite sequences and their corresponding glyph images provided?	No.
10. Characters with any special properties such as control function, etc. included?	No.

D. SC2/WG2 Administrative

To be completed by SC2/WG2

1. Relevant SC 2/WG 2 document numbers:	
2. Status (list of meeting number and corresponding action or disposition)	
3. Additional contact to user communities, liaison organizations etc.	
4. Assigned category and assigned priority/time frame	
Other Comments	

Extensions for Guragigna

The requested extensions for the Gurage language Sebatbet (or *Chaha*) and its dialects are the laryngeal and labialized forms found in the range U+xx00 - U+xx47. The extensions are believed to have been first introduced in 1963-1964 and may be found in the first significant external publication that used them (Leslau, 1965). Other notable external and internal publications that have used these characters in the decades since are the Old and New Testaments, assorted tracts, and health literature. Publishing in Gurage languages is mostly ecclesiastical at the present time.

The 1995 team lead by Joseph Becker which composed the Ethiopic encoding proposal were aware of the 1965 reference but could not determine if the characters introduced then had been embraced by the community and had been adopted into writing practices since. The active use of the characters at the present time, and particularly after the change of governments in 1991, affirms that they are so.

Extensions for Bench

The requested extensions for the Bench language are the four retroflex series in SH, C, ZH, and CH (the 28 characters in the range U+xx48 - U+xx67 below). The glyph table shows the form used by Ethiopian typewriters and the SIL Premier Fonts. In hand rendered forms the practice of adding the "v" mark above the base letters (as per the Gurage series) is preferred.

The extensions are known to have been proposed as early as 1981 and have been in publishing use for at least 10 years. Notable

literature includes The Bench New Testament (*Qay Wog*), educational materials, and a dictionary in progress. Following the change of governments in Ethiopia in 1992, the Bench people, roughly 182,000 living in South Western Ethiopia's Region 4, began using the characters in their school systems in 1994.

The teams composing the previous Ethiopic encoding proposals, all of whom having worked outside of Ethiopia, were unaware of any extensions having been made for Bench.

Extensions for Agew and Bilin

The requested extensions for Agew are the characters in the range of U+xx68 - U+xx7F. These nasal vowels (U+xx68 - U+xx6E) are believed common to the Kambata language as well. The characters are known to be in use by the Ethiopian Region 3 Government Bureau. The three labialized extensions at U+xx70-U+xx72 are strictly Agew while the labialized series in GG (U+xx78 - U+xx7D) are common to both Agew and Bilin as are the base consonants (U+1318 - U+131E).

The labialized extensions in GG were discussed within the proposal team headed by Joseph Becker in 1995, however not enough supporting information was available at that time to include them. The other characters in this range were hitherto unknown to groups working on proposals for Ethiopic encoding.

The names list and glyphs are given below. High-quality images of the glyphs are found at <http://www.indigo.ie/egt/standards/iso10646/pdf/ethiopic-extensions.pdf>.

U+xx00	ETHIOPIC SYLLABLE QYA
U+xx01	ETHIOPIC SYLLABLE QYU
U+xx02	ETHIOPIC SYLLABLE QYI
U+xx03	ETHIOPIC SYLLABLE QYAA
U+xx04	ETHIOPIC SYLLABLE QYEE
U+xx05	ETHIOPIC SYLLABLE QYE
U+xx06	ETHIOPIC SYLLABLE QYO
U+xx07	(This position shall not be used)
U+xx08	ETHIOPIC SYLLABLE KYA
U+xx09	ETHIOPIC SYLLABLE KYU
U+xx0A	ETHIOPIC SYLLABLE KYI
U+xx0B	ETHIOPIC SYLLABLE KYAA
U+xx0C	ETHIOPIC SYLLABLE KYEE
U+xx0D	ETHIOPIC SYLLABLE KYE
U+xx0E	ETHIOPIC SYLLABLE KYO
U+xx0F	(This position shall not be used)
U+xx10	ETHIOPIC SYLLABLE XYA
U+xx11	ETHIOPIC SYLLABLE XYU
U+xx12	ETHIOPIC SYLLABLE XYI
U+xx13	ETHIOPIC SYLLABLE XYAA
U+xx14	ETHIOPIC SYLLABLE XYEE
U+xx15	ETHIOPIC SYLLABLE XYE
U+xx16	ETHIOPIC SYLLABLE XYO
U+xx17	(This position shall not be used)
U+xx18	ETHIOPIC SYLLABLE GYA
U+xx19	ETHIOPIC SYLLABLE GYU
U+xx1A	ETHIOPIC SYLLABLE GYI
U+xx1B	ETHIOPIC SYLLABLE GYAA
U+xx1C	ETHIOPIC SYLLABLE GYEE
U+xx1D	ETHIOPIC SYLLABLE GYE
U+xx1E	ETHIOPIC SYLLABLE GYO
U+xx1F	(This position shall not be used)
U+xx20	ETHIOPIC SYLLABLE GURAGE MWA
U+xx21	(This position shall not be used)
U+xx22	ETHIOPIC SYLLABLE GURAGE MWI
U+xx23	(This position shall not be used)
U+xx24	ETHIOPIC SYLLABLE GURAGE MWEE
U+xx25	ETHIOPIC SYLLABLE GURAGE MWE
U+xx26	(This position shall not be used)
U+xx27	(This position shall not be used)
U+xx28	ETHIOPIC SYLLABLE GURAGE BWA
U+xx29	(This position shall not be used)
U+xx2A	ETHIOPIC SYLLABLE GURAGE BWI
U+xx2B	(This position shall not be used)
U+xx2C	ETHIOPIC SYLLABLE GURAGE BWEE
U+xx2D	ETHIOPIC SYLLABLE GURAGE BWE
U+xx2E	(This position shall not be used)
U+xx2F	(This position shall not be used)
U+xx30	ETHIOPIC SYLLABLE GURAGE FWA
U+xx31	(This position shall not be used)
U+xx32	ETHIOPIC SYLLABLE GURAGE FWI
U+xx33	(This position shall not be used)
U+xx34	ETHIOPIC SYLLABLE GURAGE FWEE
U+xx35	ETHIOPIC SYLLABLE GURAGE FWE
U+xx36	(This position shall not be used)
U+xx37	(This position shall not be used)
U+xx38	ETHIOPIC SYLLABLE GURAGE PWA
U+xx39	(This position shall not be used)
U+xx3A	ETHIOPIC SYLLABLE GURAGE PWI
U+xx3B	(This position shall not be used)
U+xx3C	ETHIOPIC SYLLABLE GURAGE PWEE

U+xx3D ETHIOPIC SYLLABLE GURAGE PWE
 U+xx3E (This position shall not be used)
 U+xx3F (This position shall not be used)
 U+xx40 ETHIOPIC SYLLABLE GURAGE QWE
 U+xx41 ETHIOPIC SYLLABLE GURAGE KWE
 U+xx42 ETHIOPIC SYLLABLE GURAGE KXWE
 U+xx43 ETHIOPIC SYLLABLE GURAGE GWE
 U+xx44 (This position shall not be used)
 U+xx45 (This position shall not be used)
 U+xx46 (This position shall not be used)
 U+xx47 (This position shall not be used)
 U+xx48 ETHIOPIC SYLLABLE SSA
 U+xx49 ETHIOPIC SYLLABLE SSU
 U+xx4A ETHIOPIC SYLLABLE SSI
 U+xx4B ETHIOPIC SYLLABLE SSAA
 U+xx4C ETHIOPIC SYLLABLE SSEE
 U+xx4D ETHIOPIC SYLLABLE SSE
 U+xx4E ETHIOPIC SYLLABLE SSO
 U+xx4F (This position shall not be used)
 U+xx50 ETHIOPIC SYLLABLE CCA
 U+xx51 ETHIOPIC SYLLABLE CCU
 U+xx52 ETHIOPIC SYLLABLE CCI
 U+xx53 ETHIOPIC SYLLABLE CCAA
 U+xx54 ETHIOPIC SYLLABLE CCEE
 U+xx55 ETHIOPIC SYLLABLE CCE
 U+xx56 ETHIOPIC SYLLABLE CCO
 U+xx57 (This position shall not be used)
 U+xx58 ETHIOPIC SYLLABLE ZZA
 U+xx59 ETHIOPIC SYLLABLE ZZU
 U+xx5A ETHIOPIC SYLLABLE ZZI
 U+xx5B ETHIOPIC SYLLABLE ZZAA
 U+xx5C ETHIOPIC SYLLABLE ZZEE
 U+xx5D ETHIOPIC SYLLABLE ZZE
 U+xx5E ETHIOPIC SYLLABLE ZZO
 U+xx5F (This position shall not be used)
 U+xx60 ETHIOPIC SYLLABLE CCHA
 U+xx61 ETHIOPIC SYLLABLE CCHU
 U+xx62 ETHIOPIC SYLLABLE CCHI
 U+xx63 ETHIOPIC SYLLABLE CCHAA
 U+xx64 ETHIOPIC SYLLABLE CCHEE
 U+xx65 ETHIOPIC SYLLABLE CCHE
 U+xx66 ETHIOPIC SYLLABLE CCHO
 U+xx67 (This position shall not be used)
 U+xx68 ETHIOPIC SYLLABLE AN
 U+xx69 ETHIOPIC SYLLABLE UN
 U+xx6A ETHIOPIC SYLLABLE IN
 U+xx6B ETHIOPIC SYLLABLE AAN
 U+xx6C ETHIOPIC SYLLABLE EEN
 U+xx6D ETHIOPIC SYLLABLE EN
 U+xx6E ETHIOPIC SYLLABLE ON
 U+xx6F (This position shall not be used)
 U+xx70 ETHIOPIC SYLLABLE AGEW GLOTTAL WA
 U+xx71 ETHIOPIC SYLLABLE WWA
 U+xx72 ETHIOPIC SYLLABLE PHARYNGEAL WA
 U+xx73 (This position shall not be used)
 U+xx74 (This position shall not be used)
 U+xx75 (This position shall not be used)
 U+xx76 (This position shall not be used)
 U+xx77 (This position shall not be used)
 U+xx78 ETHIOPIC SYLLABLE GGWA
 U+xx79 (This position shall not be used)
 U+xx7A ETHIOPIC SYLLABLE GGWI
 U+xx7B ETHIOPIC SYLLABLE GGWAA
 U+xx7C ETHIOPIC SYLLABLE GGWEE
 U+xx7D ETHIOPIC SYLLABLE GGWE
 U+xx7E (This position shall not be used)
 U+xx7F (This position shall not be used)

	xx0	xx1	xx2	xx3	xx4	xx5	xx6	xx7
0	ቀ	ቁ	መ	ረ	ቄ	ቶ	ጩ	ኢ
1	ቀ	ቁ	ሙ	ረ	ክ	ቶ	ጩ	ደ
2	ቂ	ቃ	ሚ	ረ	ኸ	ቶ	ጪ	ደ
3	ቆ	ቇ			ባ	ቶ	ጫ	
4	ቈ	቉	ሜ	ሩ		ቶ	ጬ	
5	ቊ	ቋ	ሞ	ሩ		ቶ	ጭ	
6	ቌ	ቍ				ቶ	ጮ	
7								
8	ዘ	ሻ	ቡ	ገ	ሸ	ዘ	አ	ቶ
9	ዘ	ሻ	ቡ	ገ	ሸ	ዘ	አ	
A	ዘ	ሻ	ቡ	ገ	ሸ	ዘ	አ	ቶ
B	ዘ	ሻ			ሸ	ዘ	አ	ቶ
C	ዘ	ሻ	ቡ	ገ	ሸ	ዘ	አ	ቶ
D	ዘ	ሻ	ቡ	ገ	ሸ	ዘ	አ	ቶ
E	ዘ	ሻ			ሸ	ዘ	አ	
F								

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