ISO/IEC JTC1/SC2/WG2 N3941R
L2/10-382R
2010-10-06

Universal Multiple-Octet Coded Character Set
International Organization for Standardization
Organisation Internationale de Normalisation
Международная организация по стандартизации

Doc Type: **Working Group Document**
Title: **Final proposal for encoding the Bassa Vah script in the SMP of the UCS**
Source: **UC Berkeley Script Encoding Initiative (Universal Scripts Project)**
Authors: **Michael Everson and Charles Riley**
Status: **Liaison Contribution**
Action: **For consideration by JTC1/SC2/WG2 and UTC**
Date: **2010-10-06**

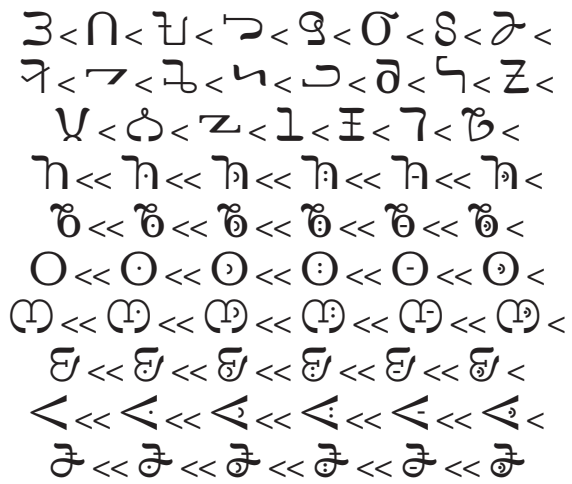
1. Introduction. The Vah script of the Bassa owes most of its development and current form to Thomas Flo Lewis, who worked with the typesetting of it beginning as early as 1907, producing various texts in the script through at least the 1930's. Dr Lewis, a Bassa from Liberia, studied in Syracuse for several years. There are traditions that trace the script's origin through contact between Lewis and Jenni Dirah, son of a slave who may have drawn on an older code of pictograms that was in use among the Bassa, for which there is little supporting documentary evidence. The Vah script and any of its possible antecedents are independent from another effort to develop an alphabet for the Bassa language that dates to the 1830's in the work of the missionary William Crocker.

Dr Lewis actively published while in Syracuse, and later in Dresden between 1915 and 1920. There is evidence of texts being produced in both places, although it is not known whether any of the texts from this period (1907-ca.1935) still exist. He returned for some time to Liberia in the 1910's and 1920's, and according to Dalby's record of an account of Abba G. Karnga, taught many students, including Barni Cheevehn, Jacob B. Logan, a Senator Morgan, and Representative Thomas H. Greeves. Graham Greene, on his travel through Liberia as recounted in his *Journey Without Maps*, reported having collected a fragment of a text in Bassa Vah script.

Since 1959, the script has been promoted through the Bassa Vah Association and United Bassa Organizations in the Americas (UNIBOA), and by individuals including Karnga, Dr Joseph M. N. Gbadyu, Dr Syrulwa Somah, and Varnie N'jola Karmo, among others.

2. Structure. Bassa Vah is a simple alphabetic script, written from left to right. Vowels in Bassa Vah are written as letters with obligatory diacritical marks which indicate the tone of the vowel. These marks are positioned on the interior of the largest partially or wholly enclosed space of each vowel glyph; the diacritic should be toward the center without touching the edges. Because the tone is obligatory (a Bassa word is misspelled without it) the un-marked vowels are never used alone, except in discussions of the alphabet itself. In section 3 below the correct positioning of the diacritics can be seen. Dalby's chart shows a number of glyph variants. These should be treated as Vai and Bamum glyph variants have been: that if they are required, either a dedicated font for them should be used, or OpenType tables to invoke alternate forms. The forms used in the chart are the primary ones given in Dalby. In some cases (such as that of letter VU) modern practice has altered the glyphs somewhat from those which are given in Dalby. (Dalby's tone-names also differ from those used today; see below under character names.)

3. Collating order. Collation order is as in the code chart, though the tone-marked letters sort at the second level under the unadorned letter. The order of the consonants is well-established: n, k, s, f, mb, ñ, g, d, kp, j, xw, w, z, gb, nɗ, c, hw, t, b, v, h, p, l. Dalby's charts use the order i, a, u, e, ɛ, ɔ, o—but the order a, ɔ, o, u, e, ɛ, i, found elswehere, has been used here. The sequence is given below. Letters are separated at the first level by <, and tone distinctions are separated at the second level by <<.



4. Character names. The usual UCS conventions are used, with DH representing *d*, D representing *ɖ*, EE representing *e,* E representing *ɛ,* OO representing *o,* and O representing *ɔ*. More consultation with Bassa speakers and elders will be needed to verify the phonetics and finalize decisions on the names as represented in the repertoire. The current names are based on the following: enni, ká, se, fá, mbe, yie, gah, dii, kpah, jɔ́, xwah, wa, zɔ́, gbù, ɖɔ, cè, uwu, tɔ̌, ba, vù, yèin, pa, waɖɖa.

The names of the tone marks are a source of some confusion. The character names are a compromise of these. The MID TONE ◌̄/◌̈ and the LOW-MID TONE ◌̆/◌̤ have glyph variants, the first of which have been used in this proposal.

glyph	Dalby	UBOA	Bertkau 1975	Bertkau 1976	Bassa	proposed
◌́	*high*	*high*	*stress the word (á)*	*high (á)*	*nɛ́ìn wuɖu dyi*	HIGH
◌̀	*low*	*grave*	*relax the word (à)*	*low (à)*	*ɖoɛ wuɖu ɓoúm*	LOW
◌̄/◌̈	*mid*	*mid-low*	*raise voice from low (ā)*	*mid (a)*	*kpa wuɖu dyií*	MID
◌̆/◌̤	*mid-low*	*drag*	*slant the word (ẵ)*	*low-mid rise (ă)*	*gbìàìn wuɖu dyi*	LOW-MID
◌̂	*high-low*	*double*	*double (áà)*	*high-low (â)*	*gbɛ̌ìn wuɖu mú*	HIGH-LOW

5. Linebreaking. Letters and combining marks behave as in Latin.

6. Punctuation and digits. The European FULL STOP and COMMA may be used, as are European quotaton marks. A Bassa Vah COMMA and FULL STOP are both found in fonts; they have been named COMMA and FULL STOP based on their encodings in Latin-1 hack fonts. The European punctuation and Bassa Vah punctuation were used more or less interchangeably by Joseph Gbadyu, though the latter are encoded uniquely as they are obviously not glyph variants of the generic FULL STOP and COMMA. European digits are used; there are no script-specific digits to be encoded.

7. Unicode Character Properties.

```
16AD0;BASSA VAH LETTER ENNI;Lo;0;L;;;;;N;;;;;
16AD1;BASSA VAH LETTER KA;Lo;0;L;;;;;N;;;;;
16AD2;BASSA VAH LETTER SE;Lo;0;L;;;;;N;;;;;
16AD3;BASSA VAH LETTER FA;Lo;0;L;;;;;N;;;;;
16AD4;BASSA VAH LETTER MBE;Lo;0;L;;;;;N;;;;;
16AD5;BASSA VAH LETTER YIE;Lo;0;L;;;;;N;;;;;
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16AD6;BASSA VAH LETTER GAH;Lo;0;L;;;;;N;;;;;
16AD7;BASSA VAH LETTER DHII;Lo;0;L;;;;;N;;;;;
16AD8;BASSA VAH LETTER KPAH;Lo;0;L;;;;;N;;;;;
16AD9;BASSA VAH LETTER JO;Lo;0;L;;;;;N;;;;;
16ADA;BASSA VAH LETTER HWAH;Lo;0;L;;;;;N;;;;;
16ADB;BASSA VAH LETTER WA;Lo;0;L;;;;;N;;;;;
16ADC;BASSA VAH LETTER ZO;Lo;0;L;;;;;N;;;;;
16ADD;BASSA VAH LETTER GBU;Lo;0;L;;;;;N;;;;;
16ADE;BASSA VAH LETTER DO;Lo;0;L;;;;;N;;;;;
16ADF;BASSA VAH LETTER CE;Lo;0;L;;;;;N;;;;;
16AE0;BASSA VAH LETTER UWU;Lo;0;L;;;;;N;;;;;
16AE1;BASSA VAH LETTER TO;Lo;0;L;;;;;N;;;;;
16AE2;BASSA VAH LETTER BA;Lo;0;L;;;;;N;;;;;
16AE3;BASSA VAH LETTER VU;Lo;0;L;;;;;N;;;;;
16AE4;BASSA VAH LETTER YEIN;Lo;0;L;;;;;N;;;;;
16AE5;BASSA VAH LETTER PA;Lo;0;L;;;;;N;;;;;
16AE6;BASSA VAH LETTER WADDA;Lo;0;L;;;;;N;;;;;
16AE7;BASSA VAH LETTER A;Lo;0;L;;;;;N;;;;;
16AE8;BASSA VAH LETTER O;Lo;0;L;;;;;N;;;;;
16AE9;BASSA VAH LETTER OO;Lo;0;L;;;;;N;;;;;
16AEA;BASSA VAH LETTER U;Lo;0;L;;;;;N;;;;;
16AEB;BASSA VAH LETTER EE;Lo;0;L;;;;;N;;;;;
16AEC;BASSA VAH LETTER E;Lo;0;L;;;;;N;;;;;
16AED;BASSA VAH LETTER I;Lo;0;L;;;;;N;;;;;
16AF0;BASSA VAH COMBINING HIGH TONE;Mn;1;NSM;;;;;N;;;;;
16AF1;BASSA VAH COMBINING LOW TONE;Mn;1;NSM;;;;;N;;;;;
16AF2;BASSA VAH COMBINING MID TONE;Mn;1;NSM;;;;;N;;;;;
16AF3;BASSA VAH COMBINING LOW-MID TONE;Mn;1;NSM;;;;;N;;;;;
16AF4;BASSA VAH COMBINING HIGH-LOW TONE;Mn;1;NSM;;;;;N;;;;;
16AF5;BASSA VAH COMMA;Po;0;L;;;;;N;;;;;
16AF6;BASSA VAH FULL STOP;Po;0;L;;;;;N;;;;;
```

8. Acknowledgements. This project was made possible in part by a grant from the U.S. National Endowment for the Humanities, which funded the Universal Scripts Project (part of the Script Encoding Initiative at UC Berkeley) in respect of the Bassa Vah encoding. Any views, findings, conclusions or recommendations expressed in this publication do not necessarily reflect those of the National Endowment of the Humanities.

9. Bibliography

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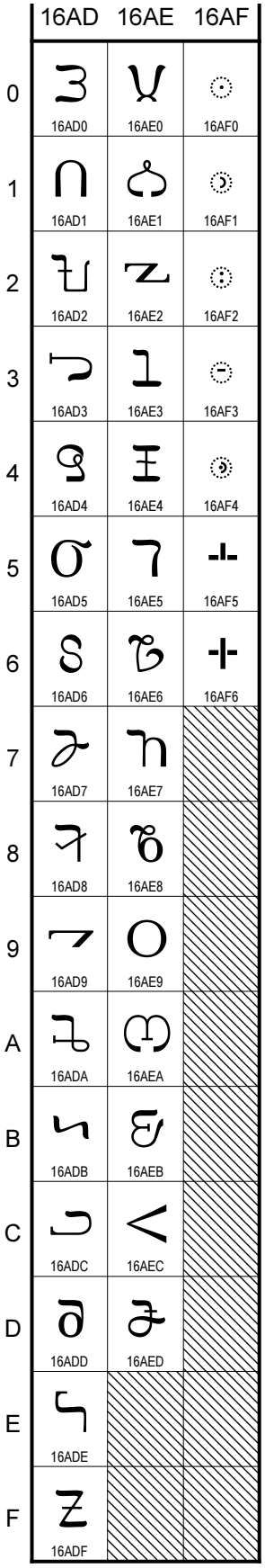

Consonant letters

16AD0 𖫐 BASSA VAH LETTER ENNI
16AD1 𖫑 BASSA VAH LETTER KA
16AD2 𖫒 BASSA VAH LETTER SE
16AD3 𖫓 BASSA VAH LETTER FA
16AD4 𖫔 BASSA VAH LETTER MBE
16AD5 𖫕 BASSA VAH LETTER YIE
16AD6 𖫖 BASSA VAH LETTER GAH
16AD7 𖫗 BASSA VAH LETTER DHII
16AD8 𖫘 BASSA VAH LETTER KPAH
16AD9 𖫙 BASSA VAH LETTER JO
16ADA 𖫚 BASSA VAH LETTER HWAH
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16ADC 𖫜 BASSA VAH LETTER ZO
16ADD 𖫝 BASSA VAH LETTER GBU
16ADE 𖫞 BASSA VAH LETTER DO
16ADF 𖫟 BASSA VAH LETTER CE
16AE0 𖫠 BASSA VAH LETTER UWU
16AE1 𖫡 BASSA VAH LETTER TO
16AE2 𖫢 BASSA VAH LETTER BA
16AE3 𖫣 BASSA VAH LETTER VU
16AE4 𖫤 BASSA VAH LETTER YEIN
16AE5 𖫥 BASSA VAH LETTER PA
16AE6 𖫦 BASSA VAH LETTER WADDA

Vowel letters

16AE7 𖫧 BASSA VAH LETTER A
16AE8 𖫨 BASSA VAH LETTER O
16AE9 𖫩 BASSA VAH LETTER OO
16AEA 𖫪 BASSA VAH LETTER U
16AEB 𖫫 BASSA VAH LETTER EE
16AEC 𖫬 BASSA VAH LETTER E
16AED 𖫭 BASSA VAH LETTER I

Combining tone marks

16AF0 ◌𖫰 BASSA VAH COMBINING HIGH TONE
16AF1 ◌𖫱 BASSA VAH COMBINING LOW TONE
16AF2 ◌𖫲 BASSA VAH COMBINING MID TONE
16AF3 ◌𖫳 BASSA VAH COMBINING LOW-MID TONE
16AF4 ◌𖫴 BASSA VAH COMBINING HIGH-LOW TONE

Punctuation

16AF5 𖫵 BASSA VAH COMMA
16AF6 𖫶 BASSA VAH FULL STOP

9. Figures.

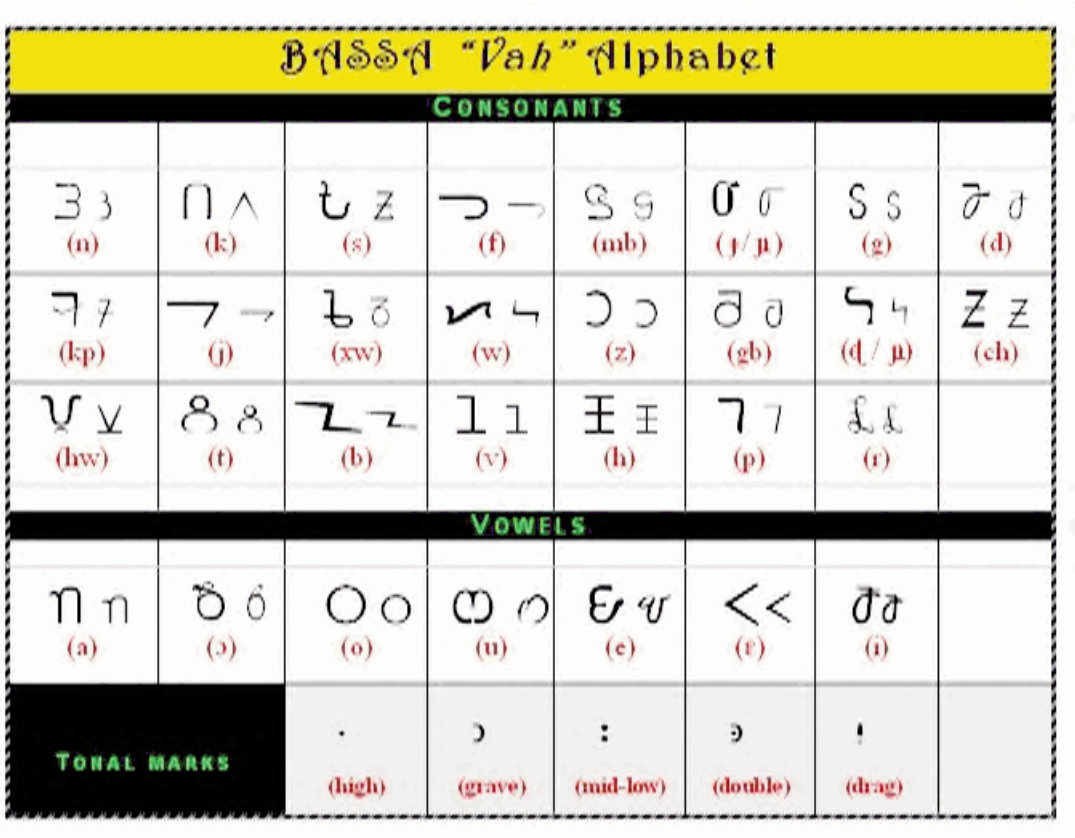

Figure 1. Chart of Bassa Vah. The large and small letters are *not* casing pairs, but rather two different styles of writing; the smaller letters reflect handwriting style. The vowels and tone marks in isolation. (The original scan here had the names "double" and "drag" reversed but this has been corrected.) Taken from **www.uniboa.org/bassalanguage.html**, on the "United Bassa Organizations in the Americas" website.

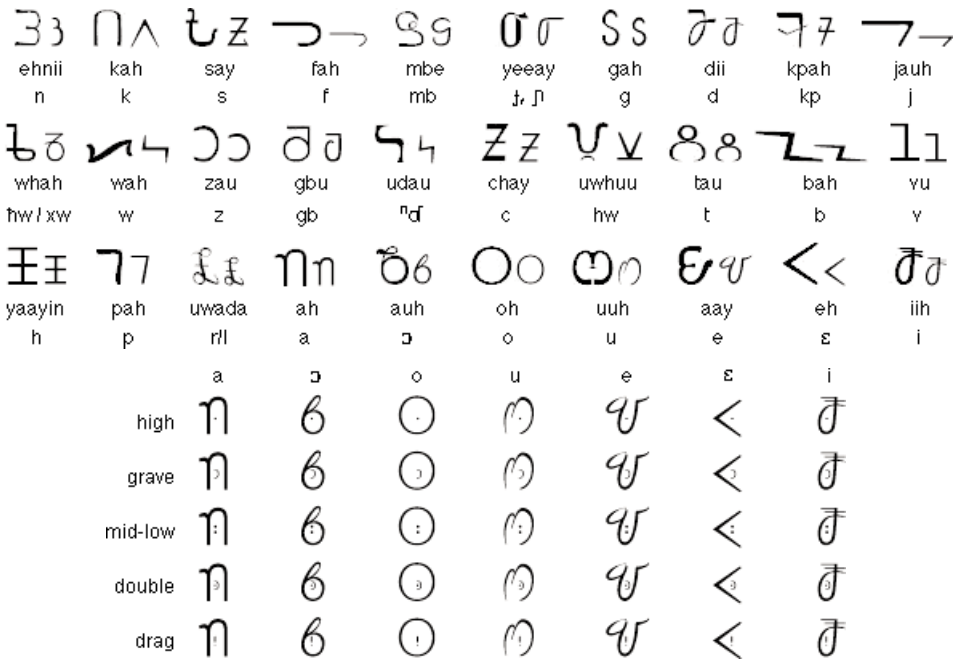

Figure 2. Chart of Bassa Vah showing pairs of letters, with the larger print-style to the left of each pair and the smaller handwriting-style to the right. The vowels and tone marks are also shown. Taken from **www.uniboa.org/bassalanguage.html**, on the "United Bassa Organizations in the Americas" website.

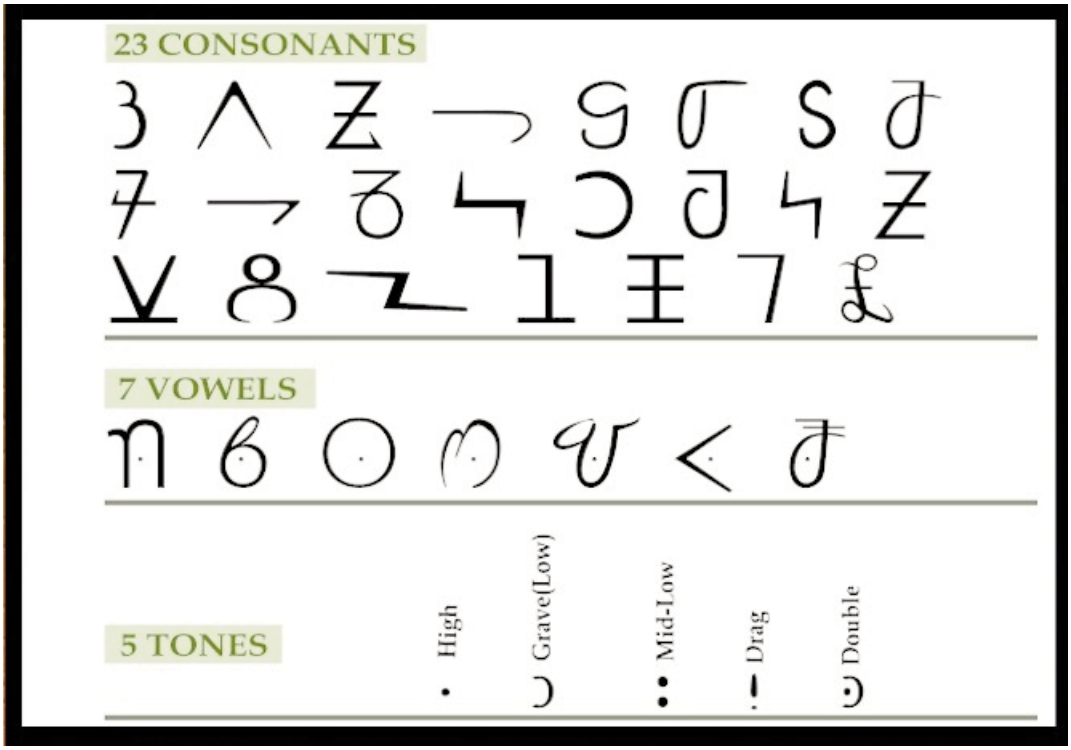

Figure 3. Sample of handwritten Bassa Vah text.

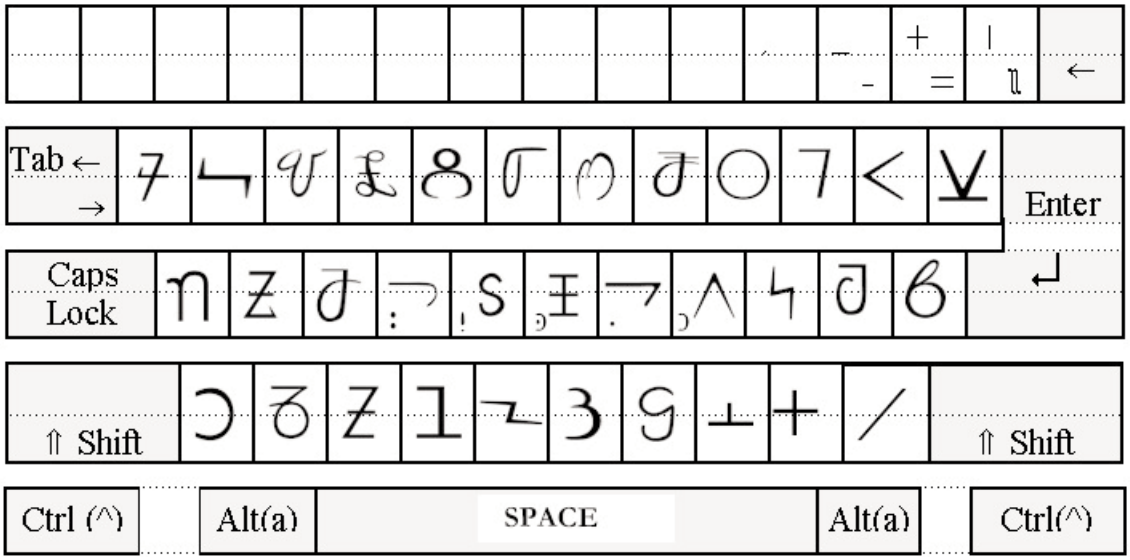

Figure 4 Bassa Vah keyboard layout with the handwritten style used for the letters. Note the COMMA and FULL STOP

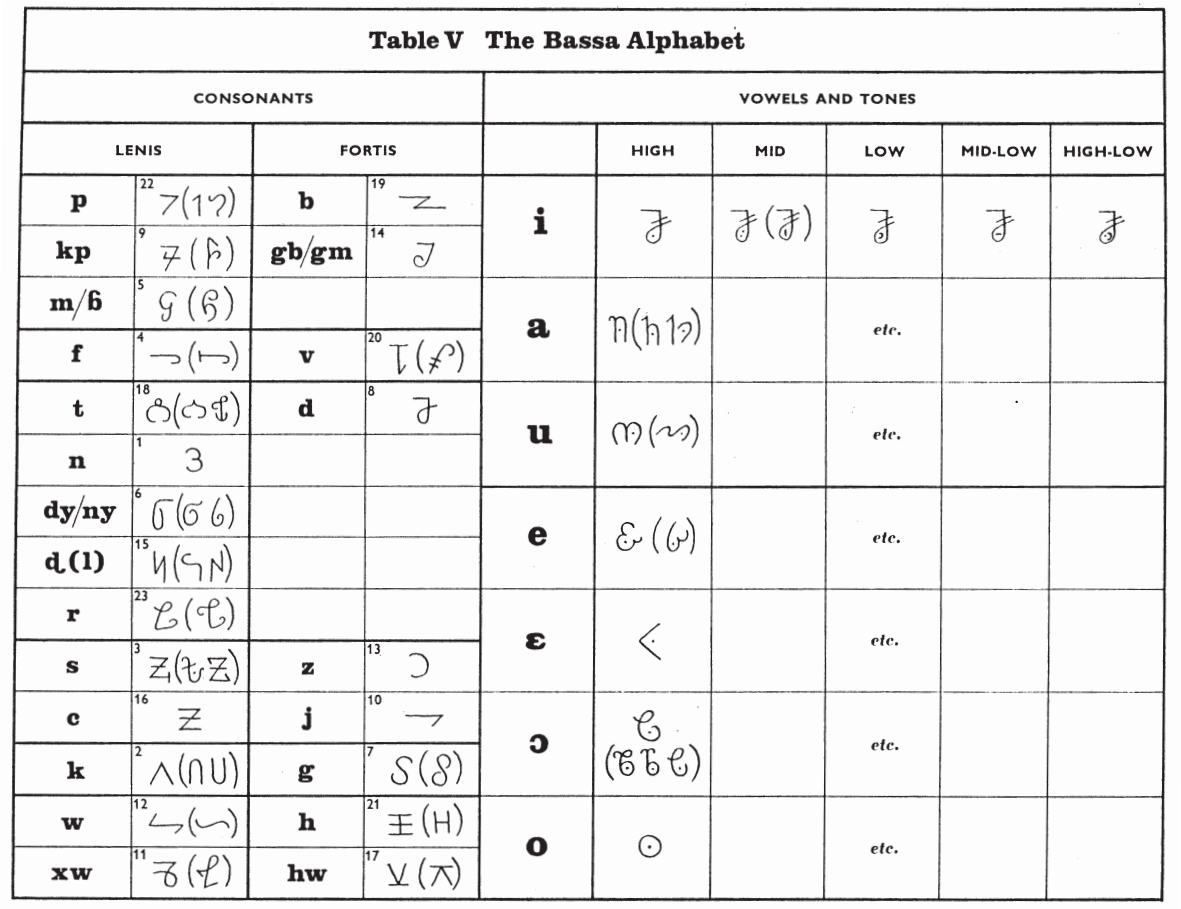

Table V The Bassa Alphabet

CONSONANTS				VOWELS AND TONES					
LENIS		FORTIS			HIGH	MID	LOW	MID-LOW	HIGH-LOW
p	22	b	19	i					
kp	9	gb/gm	14						
m/ɓ	5			a			etc.		
f	4	v	20						
t	18	d	8	u			etc.		
n	1								
dy/ny	6			e			etc.		
ɗ(l)	15								
r	23			ɛ			etc.		
s	3	z	13						
c	16	j	10	ɔ			etc.		
k	2	g	7						
w	12	h	21	o			etc.		
xw	11	hw	17						

Figure 5. Table of Bassa Vah syllables from Dalby 1967.

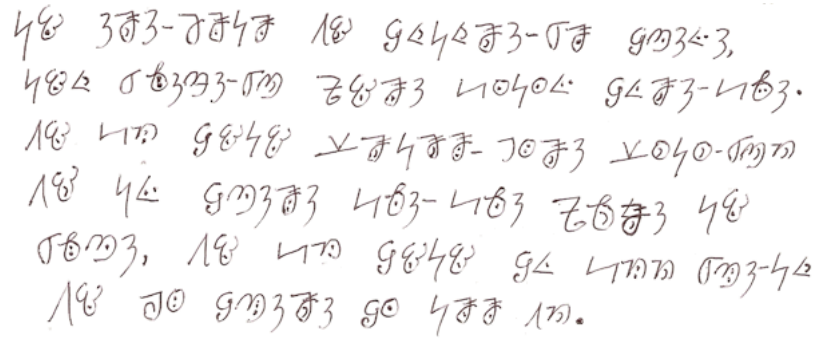

Figure 6. Sample of handwritten Bassa Vah text.
Text written by Peter Gorwor of Liberia, taken from **www.omniglot.com/writing/bassa.htm**

Figure 7. Sample of “classic” printed style Bassa Vah text.

Figure 8. Sample from a Bassa Vah primer, ca. 1975.

Figure 9. Sample of handwritten text, ca. 1975.

A. Administrative

1. Title

Proposal for encoding the Bassa Vah script in the SMP of the UCS

2. Requester's name

UC Berkeley Script Encoding Initiative (Universal Scripts Project)

3. Requester type (Member body/Liaison/Individual contribution)

Liaison contribution.

4. Submission date

2010-10-06

5. Requester's reference (if applicable)

6. Choose one of the following:

6a. This is a complete proposal

No.

6b. More information will be provided later

Yes.

B. Technical – General

1. Choose one of the following:

1a. This proposal is for a new script (set of characters)

Yes.

1b. Proposed name of script

Bassa Vah.

1c. The proposal is for addition of character(s) to an existing block

No.

1d. Name of the existing block

2. Number of characters in proposal

37.

3. Proposed category (A-Contemporary; B.1-Specialized (small collection); B.2-Specialized (large collection); C-Major extinct; D-Attested extinct; E-Minor extinct; F-Archaic Hieroglyphic or Ideographic; G-Obscure or questionable usage symbols)

Category A.

4a. Is a repertoire including character names provided?

Yes.

4b. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?

Yes.

4c. Are the character shapes attached in a legible form suitable for review?

Yes.

5a. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?

Jason Glavy and Michael Everson.

5b. If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used:

Michael Everson, FontLab.

6a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?

Yes.

6b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?

Yes.

7. Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?

Yes.

8. Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at http://www.unicode.org for such information on other scripts. Also see Unicode Character Database http://www.unicode.org/Public/UNIDATA/ UnicodeCharacterDatabase.html and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

See above.

C. Technical – Justification

1. Has this proposal for addition of character(s) been submitted before? If YES, explain.

No.

2a. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?

Yes.

2b. If YES, with whom?

Abba Karnga, Garmondeh Karnga, Tim Slager, Don Slager, Jana Bertkau, Bobby Gborgar Joe, Varnie N'jola Karmo, and Peter Gorwor

2c. If YES, available relevant documents

3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?
See above.
4a. The context of use for the proposed characters (type of use; common or rare)
Slightly common.
4b. Reference
5a. Are the proposed characters in current use by the user community?
Yes.
5b. If YES, where?
Scholars and some local use in Sierra Leone and Liberia.
6a. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?
No.
6b. If YES, is a rationale provided?
6c. If YES, reference
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?
Yes.
8a. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?
No.
8b. If YES, is a rationale for its inclusion provided?
8c. If YES, reference
9a. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?
Yes.
9b. If YES, is a rationale for its inclusion provided?
No.
9c. If YES, reference
10a. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character?
No.
10b. If YES, is a rationale for its inclusion provided?
10c. If YES, reference
11a. Does the proposal include use of combining characters and/or use of composite sequences (see clauses 4.12 and 4.14 in ISO/IEC 10646-1: 2000)?
Yes.
11b. If YES, is a rationale for such use provided?
Yes.
11c. If YES, reference
See above.
11d. Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?
Yes.
11e. If YES, reference
See code chart and Unicode properties.
12a. Does the proposal contain characters with any special properties such as control function or similar semantics?
No.
12b. If YES, describe in detail (include attachment if necessary)
13a. Does the proposal contain any Ideographic compatibility character(s)?
No.
13b. If YES, is the equivalent corresponding unified ideographic character(s) identified?