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

**Doc Type: Working Group Document** 

Title: Proposal for encoding the Bassa Vah script in the SMP of the UCS Source: UC Berkeley Script Encoding Initiative (Universal Scripts Project)

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Action: For consideration by JTC1/SC2/WG2 and UTC

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**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. Originally monocameral, a lower-case based on handwriting was introduced in the 1990s. The lower-case was based on handwritten forms, just as Latin capital letters derive from monumental forms while Latin small letters derive from miniscule. Figure 1 shows the casing pairs. Figure 4 shows a text in monumental style; this is an older text prepared before the lower-case was introduced.

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 the preliminary proposal, it was suggested to encode the vowel letters in precomposition with the tone marks, alongside the atomic parts should they be required for didactic discussion. In the Unicode character properties list the canonical decompositions were given. Discussion with UTC experts suggested that this means for encoding was not economical: either the script should be fully decomposed, requiring OpenType or similar tables within the fonts to guarantee correct rendering, or all characters should be encoded atomically, with no decompositions at all.

Keyboard input developed in the 1990s makes use of the atomic tone marks in dead-key sequences, so, depending on the style of deadkey implementation,  $' + \mathcal{V} = \mathcal{V}$  or  $\mathcal{V} + ' = \mathcal{V}$ . Either style is easy to implement on the Mac OS, or with Keyman or Windows keyboard layout software.

Dalby's chart shows a number of glyph variants. It is likely that 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.

**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:  $n, k, s, f, mb, \tilde{n}, g, d, kp, j, xw, w, z, gb, nd, c, hw, t, b, v, h, p, l. Dalby's charts use the order i, a, u, e, <math>\epsilon$ ,  $\delta$ , o—but the order a,  $\delta$ , o, u, e,  $\epsilon$ , i, found elswehere, has been used here. The sequence is given below. Letters are separated at the first level by <, tone distinctions are separated at the second level by <<, and case distinctions are separated at the third level by <<<.

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- **4. Character names.** The usual UCS conventions are used, with EE representing e, E representing  $\varepsilon$ , 00 representing o, and 0 representing o. 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, jó, xwah, wa, zó, gbù, dɔ, cè, uwu, tǒ, ba, vù, yèin, pa, wadda.
- **5. Linebreaking.** Letters behave as in Vai and Bamum.

**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.

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16A70; BASSA VAH CAPITAL LETTER ENNI; Lu; 0; L;;;;; N;;;; 16A71;
16A71; BASSA VAH SMALL LETTER ENNI; L1; 0; L;;;;; N;;; 16A70;; 16A70
16A72; BASSA VAH CAPITAL LETTER KA; Lu; 0; L;;;;; N;;;; 16A73;
16A73; BASSA VAH SMALL LETTER KA; Ll; 0; L;;;; N;;; 16A72;; 16A72
16A74; BASSA VAH CAPITAL LETTER SE; Lu; 0; L;;;;; N;;;; 16A74;
16A75; BASSA VAH SMALL LETTER SE; Ll; 0; L;;;;; N;;; 16A74;; 16A74
16A76; BASSA VAH CAPITAL LETTER FA; Lu; 0; L;;;;; N;;;; 16A77;
16A77; BASSA VAH SMALL LETTER FA; Ll; 0; L;;;;; N;;; 16A76;; 16A76
16A78; BASSA VAH CAPITAL LETTER MBE; Lu; 0; L;;;;; N;;;; 16A79;
16A79; BASSA VAH SMALL LETTER MBE; L1; 0; L;;;;; N;;; 16A78;; 16A78
16A7A; BASSA VAH CAPITAL LETTER YIE; Lu; 0; L;;;;; N;;;; 16A7B;
16A7B; BASSA VAH SMALL LETTER YIE; L1; 0; L;;;; N;;; 16A7A;; 16A7A
16A7C; BASSA VAH CAPITAL LETTER GAH; Lu; 0; L;;;;; N;;;; 16A7D;
16A7D; BASSA VAH SMALL LETTER GAH; L1; 0; L;;;;; N;;; 16A7C;; 16A7C
16A7E; BASSA VAH CAPITAL LETTER DHII; Lu; 0; L;;;;; N;;;; 16A7F;
16A7F; BASSA VAH SMALL LETTER DHII; L1; 0; L;;;;; N;;; 16A7E;; 16A7E
16A80; BASSA VAH CAPITAL LETTER KPAH; Lu; 0; L;;;;; N;;;; 16A81;
16A81; BASSA VAH SMALL LETTER KPAH; L1; 0; L;;;;; N;;; 16A80;; 16A80
16A82; BASSA VAH CAPITAL LETTER JO; Lu; 0; L;;;;; N;;;; 16A83;
16A83; BASSA VAH SMALL LETTER JO; L1; 0; L; ;; ;; N; ;; 16A82; ;16A82
16A84; BASSA VAH CAPITAL LETTER HWAH; Lu; 0; L;;;;; N;;;; 16A85;
16A85; BASSA VAH SMALL LETTER HWAH; L1; 0; L;;;;; N;;; 16A84;; 16A84
16A86; BASSA VAH CAPITAL LETTER WA; Lu; 0; L;;;;; N;;;; 16A87;
16A87; BASSA VAH SMALL LETTER WA; Ll; 0; L;;;;; N;;; 16A86;; 16A86
16A88; BASSA VAH CAPITAL LETTER ZO; Lu; 0; L;;;;; N;;;; 16A89;
16A89; BASSA VAH SMALL LETTER ZO; Ll; 0; L;;;;; N;;; 16A88;; 16A88
16A8A; BASSA VAH CAPITAL LETTER GBU; Lu; 0; L;;;;; N;;;; 16A8B;
16A8B; BASSA VAH SMALL LETTER GBU; L1; 0; L;;;;; N;;; 16A8A;; 16A8A
16A8C; BASSA VAH CAPITAL LETTER DO; Lu; 0; L;;;;; N;;;; 16A8D;
16A8D; BASSA VAH SMALL LETTER DO; Ll; 0; L;;;; N;;; 16A8C;; 16A8C
16A8E; BASSA VAH CAPITAL LETTER CE; Lu; 0; L;;;;; N;;;; 16A8F;
16A8F; BASSA VAH SMALL LETTER CE; Ll; 0; L;;;;; N;;; 16A8E;; 16A8E
16A90; BASSA VAH CAPITAL LETTER UWU; Lu; 0; L;;;;; N;;;; 16A91;
16A91; BASSA VAH SMALL LETTER UWU; L1; 0; L;;;;; N;;; 16A90;; 16A90
16A92; BASSA VAH CAPITAL LETTER TO; Lu; 0; L;;;;; N;;;; 16A93;
16A93; BASSA VAH SMALL LETTER TO; L1; 0; L;;;; N;;; 16A92;; 16A92
16A94; BASSA VAH CAPITAL LETTER BA; Lu; 0; L;;;;; N;;;; 16A95;
16A95; BASSA VAH SMALL LETTER BA; Ll; 0; L;;;;; N;;; 16A94;; 16A94
16A96; BASSA VAH CAPITAL LETTER VU; Lu; 0; L;;;;; N;;;; 16A97;
16A97; BASSA VAH SMALL LETTER VU; Ll; 0; L;;;; N;;; 16A96;; 16A96
16A98; BASSA VAH CAPITAL LETTER YEIN; Lu; 0; L;;;;; N;;;; 16A99;
16A99; BASSA VAH SMALL LETTER YEIN; L1; 0; L;;;; N;;; 16A98;; 16A98
16A9A; BASSA VAH CAPITAL LETTER PA; Lu; 0; L;;;;; N;;;; 16A9B;
16A9B; BASSA VAH SMALL LETTER PA; Ll; 0; L;;;; N;;; 16A9A;; 16A9A
16A9C; BASSA VAH CAPITAL LETTER WADDA; Lu; 0; L;;;;; N;;;; 16A9D;
16A9D; BASSA VAH SMALL LETTER WADDA; L1; 0; L;;;;; N;;; 16A9C;; 16A9C
16A9E; BASSA VAH CAPITAL LETTER A; Lu; 0; L;;;;; N;;;; 16A9F;
16A9F; BASSA VAH SMALL LETTER A; L1; 0; L;;;; N;;; 16A9E;; 16A9E
16AAO; BASSA VAH CAPITAL LETTER A HIGH TONE; Lu; 0; L;;;;; N;;;; 16AA1;
16AA1; BASSA VAH SMALL LETTER A HIGH TONE; L1; 0; L;;;; N;;; 16AA0;; 16AA0
16AA2; BASSA VAH CAPITAL LETTER A GRAVE TONE; Lu; 0; L;;;;; N;;;; 16AA3;
16AA3;BASSA VAH SMALL LETTER A GRAVE TONE;L1;0;L;;;;N;;;16AA2;;16AA2
16AA4; BASSA VAH CAPITAL LETTER A MID-LOW TONE; Lu; 0; L;;;;; N;;;; 16AA5;
16AA5; BASSA VAH SMALL LETTER A MID-LOW TONE; L1; 0; L;;;;; N;;; 16AA4;; 16AA4
16AA6; BASSA VAH CAPITAL LETTER A DRAG TONE; Lu; 0; L;;;;; N;;;; 16AA7;
16AA7; BASSA VAH SMALL LETTER A DRAG TONE; L1;0;L;;;;;16AA6;;16AA6
16AA8; BASSA VAH CAPITAL LETTER A DOUBLE TONE; Lu; 0; L;;;;; N;;;; 16AA9;
16AA9; BASSA VAH SMALL LETTER A DOUBLE TONE; L1; 0; L;;;;; N;;; 16AA8;; 16AA8
16AAA;BASSA VAH CAPITAL LETTER O;Lu;0;L;;;;N;;;;16AAB;
16AAB; BASSA VAH SMALL LETTER O; L1; 0; L;;;;; N;;; 16AAA;; 16AAA
16AAC; BASSA VAH CAPITAL LETTER O HIGH TONE; Lu; 0; L;;;;; N;;;; 16AAD;
16AAD; BASSA VAH SMALL LETTER O HIGH TONE; L1; 0; L;;;;; N;;; 16AAC;; 16AAC
16AAE; BASSA VAH CAPITAL LETTER O GRAVE TONE; Lu; 0; L;;;;; N;;;; 16AAF;
16AAF; BASSA VAH SMALL LETTER O GRAVE TONE; L1; 0; L; ;; ;; 16AAE; ;16AAE
16ABO; BASSA VAH CAPITAL LETTER O MID-LOW TONE; Lu; 0; L;;;;; N;;;; 16AB1;
16AB1;BASSA VAH SMALL LETTER O MID-LOW TONE;Ll;0;L;;;;N;;;16AB0;;16AB0
16AB2; BASSA VAH CAPITAL LETTER O DRAG TONE; Lu; 0; L;;;;; 16AB3;
16AB3; BASSA VAH SMALL LETTER O DRAG TONE; L1; 0; L;;;;; N;;; 16AB2;; 16AB2
16AB4; BASSA VAH CAPITAL LETTER O DOUBLE TONE; Lu; 0; L;;;;; N;;;; 16AB5;
16AB5; BASSA VAH SMALL LETTER O DOUBLE TONE; L1;0;L;;;;N;;;16AB4;;16AB4
16AB6; BASSA VAH CAPITAL LETTER OO; Lu; 0; L;;;;; N;;;; 16AB7;
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16AB7; BASSA VAH SMALL LETTER OO; Ll; 0; L;;;;; N;;; 16AB6;; 16AB6
16AB8; BASSA VAH CAPITAL LETTER OO HIGH TONE; Lu; 0; L;;;;; N;;;; 16AB9;
16AB9; BASSA VAH SMALL LETTER OO HIGH TONE; L1; 0; L; ;; ;; N; ;; 16AB8; ; 16AB8
16ABA; BASSA VAH CAPITAL LETTER OO GRAVE TONE; Lu; 0; L;;;;; N;;;; 16ABB;
16ABB; BASSA VAH SMALL LETTER OO GRAVE TONE; L1; 0; L;;;; N;;; 16ABA;; 16ABA
16ABC; BASSA VAH CAPITAL LETTER OO MID-LOW TONE; Lu; 0; L;;;;; N;;;; 16ABD;
16ABD; BASSA VAH SMALL LETTER OO MID-LOW TONE; L1;0;L;;;;;16ABC;;16ABC
16ABE; BASSA VAH CAPITAL LETTER OO DRAG TONE; Lu; 0; L;;;;; 1; 16ABF;
16ABF; BASSA VAH SMALL LETTER OO DRAG TONE; L1;0;L;;;;N;;;16ABE;;16ABE
16ACO; BASSA VAH CAPITAL LETTER OO DOUBLE TONE; Lu; 0; L;;;;; N;;;; 16AC1;
16AC1; BASSA VAH SMALL LETTER OO DOUBLE TONE; L1; 0; L;;;; N;;; 16AC0;; 16AC0
16AC2; BASSA VAH CAPITAL LETTER U; Lu; 0; L;;;;; N;;;; 16AC3;
16AC3; BASSA VAH SMALL LETTER U;L1;0;L;;;;;N;;;16AC2;;16AC2
16AC4; BASSA VAH CAPITAL LETTER U HIGH TONE; Lu; 0; L;;;;; N;;;; 16AC5;
16AC5; BASSA VAH SMALL LETTER U HIGH TONE; L1;0;L;;;;;16AC4;;16AC4
16AC6; BASSA VAH CAPITAL LETTER U GRAVE TONE; Lu; 0; L;;;;; N;;;; 16AC7;
16AC7; BASSA VAH SMALL LETTER U GRAVE TONE; L1;0; L;;;;; N;;; 16AC6;; 16AC6
16AC8; BASSA VAH CAPITAL LETTER U MID-LOW TONE; Lu; 0; L;;;;; N;;;; 16AC9;
16AC9; BASSA VAH SMALL LETTER U MID-LOW TONE; L1; 0; L;;;;; N;;; 16AC8;; 16AC8
16ACA; BASSA VAH CAPITAL LETTER U DRAG TONE; Lu; 0; L;;;;; N;;;; 16ACB;
16ACB; BASSA VAH SMALL LETTER U DRAG TONE; L1;0;L;;;;;;;;16ACA;;16ACA
16ACC; BASSA VAH CAPITAL LETTER U DOUBLE TONE; Lu; 0; L; ;; ;; N; ;; ;; 16ACD;
16ACD; BASSA VAH SMALL LETTER U DOUBLE TONE; L1;0;L;;;;N;;;16ACC;;16ACC
16ACE; BASSA VAH CAPITAL LETTER EE; Lu; 0; L;;;;; N;;;; 16ACF;
16ACF; BASSA VAH SMALL LETTER EE; Ll; 0; L;;;;; N;;; 16ACE;; 16ACE
16ADO; BASSA VAH CAPITAL LETTER EE HIGH TONE; Lu; 0; L;;;;; N;;;; 16AD1;
16AD1; BASSA VAH SMALL LETTER EE HIGH TONE; L1; 0; L;;;; N;;; 16AD0;; 16AD0
16AD2; BASSA VAH CAPITAL LETTER EE GRAVE TONE; Lu; 0; L; ;; ;; N; ;; ;; 16AD3;
16AD3; BASSA VAH SMALL LETTER EE GRAVE TONE; L1; 0; L;;;;; N;;; 16AD2;; 16AD2
16AD4; BASSA VAH CAPITAL LETTER EE MID-LOW TONE; Lu; 0; L;;;;; N;;;; 16AD5;
16AD5; BASSA VAH SMALL LETTER EE MID-LOW TONE; L1; 0; L;;;; N;;; 16AD4;; 16AD4
16AD6; BASSA VAH CAPITAL LETTER EE DRAG TONE; Lu; 0; L; ;; ;; ;; ;; ;16AD7;
16AD7; BASSA VAH SMALL LETTER EE DRAG TONE; L1; 0; L; ;; ;; 16AD6; ;16AD6
16AD8; BASSA VAH CAPITAL LETTER EE DOUBLE TONE; Lu; 0; L;;;;; N;;;; 16AD9;
16AD9; BASSA VAH SMALL LETTER EE DOUBLE TONE; L1;0;L;;;;;N;;;16AD8;;16AD8
16ADA; BASSA VAH CAPITAL LETTER E; Lu; 0; L;;;;; N;;;; 16ADB;
16ADB; BASSA VAH SMALL LETTER E; Ll; 0; L;;;;; N;;; 16ADA;; 16ADA
16ADC; BASSA VAH CAPITAL LETTER E HIGH TONE; Lu; 0; L;;;;; N;;;; 16ADD;
16ADD; BASSA VAH SMALL LETTER E HIGH TONE; L1; 0; L;;;;; N;;; 16ADC;; 16ADC
16ADE; BASSA VAH CAPITAL LETTER E GRAVE TONE; Lu; 0; L;;;;; N;;;; 16ADF;
16ADF; BASSA VAH SMALL LETTER E GRAVE TONE; Ll; 0; L;;;; N;;; 16ADE;; 16ADE
16AEO; BASSA VAH CAPITAL LETTER E MID-LOW TONE; Lu; 0; L;;;;; N;;;; 16AE1;
16AE1; BASSA VAH SMALL LETTER E MID-LOW TONE; L1; 0; L;;;;; N;;; 16AE0;; 16AE0
16AE2; BASSA VAH CAPITAL LETTER E DRAG TONE; Lu; 0; L; ;; ;; N; ;; ;16AE3;
16AE3; BASSA VAH SMALL LETTER E DRAG TONE; L1;0;L;;;;;N;;;16AE2;;16AE2
16AE4; BASSA VAH CAPITAL LETTER E DOUBLE TONE; Lu; 0; L;;;;; N;;;; 16AE5;
16AE5; BASSA VAH SMALL LETTER E DOUBLE TONE; L1; 0; L; ;; ;; N; ;; 16AE4; ;16AE4
16AE6; BASSA VAH CAPITAL LETTER I; Lu; 0; L;;;;; N;;;; 16AE7;
16AE7; BASSA VAH SMALL LETTER I; L1; 0; L;;;;; N;;; 16AE6;; 16AE6
16AE8; BASSA VAH CAPITAL LETTER I HIGH TONE; Lu; 0; L;;;;; 16AE9;
16AE9; BASSA VAH SMALL LETTER I HIGH TONE; L1;0;L;;;;;16AE8;;16AE8
16AEA; BASSA VAH CAPITAL LETTER I GRAVE TONE; Lu; 0; L;;;;; 16AEB;
16AEB; BASSA VAH SMALL LETTER I GRAVE TONE; Ll; 0; L;;;; N;;; 16AEA;; 16AEA
16AEC; BASSA VAH CAPITAL LETTER I MID-LOW TONE; Lu; 0; L;;;;; N;;;; 16AED;
16AED; BASSA VAH SMALL LETTER I MID-LOW TONE; L1; 0; L;;;;; N;;; 16AEC;; 16AEC
16AEE; BASSA VAH CAPITAL LETTER I DRAG TONE; Lu; 0; L;;;;; N;;;; 16AEF;
16AEF; BASSA VAH SMALL LETTER I DRAG TONE; L1; 0; L;;;; N;;; 16AEE;; 16AEE
16AF0; BASSA VAH CAPITAL LETTER I DOUBLE TONE; Lu; 0; L;;;;; N;;;; 16AF1;
16AF1; BASSA VAH SMALL LETTER I DOUBLE TONE; L1; 0; L;;;;; N;;; 16AF0;; 16AF0
16AF2; BASSA VAH HIGH TONE MARK; Lm; 0; L;;;;; N;;;;
16AF3; BASSA VAH GRAVE TONE MARK; Lm; 0; L;;;;; N;;;;;
16AF4; BASSA VAH MID-LOW TONE MARK; Lm; 0; L;;;;; N;;;;
16AF5; BASSA VAH DOUBLE TONE MARK; Lm; 0; L;;;;; N;;;;;
16AF6; BASSA VAH DRAG TONE MARK; Lm; 0; L;;;;; N;;;;
16AF7; BASSA VAH COMMA; Po; 0; L;;;;; N;;;;
16AF8; BASSA VAH FULL STOP; Po; 0; L;;;;; N;;;;
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	16A7	16A8	16A9	16AA	16AB	16AC	16AD	16AE	16AF
0	3 16A70	16A80	<b>V</b>	16AA0	6 16AB0	(i) 16AC0	16AD0	16AE0	16AF0
1	<b>3</b>	<b>7</b>	<u>V</u>	<b>1</b> 6AA1	<b>5</b>	① 16AC1	<b>&amp;</b> 16AD1	<b>←</b> 16AE1	<b></b> 16AF1
2	16A72	16A82	16A92	16AA2	<b>6</b>	16AC2		16AE2	• 16AF2
3	16A73	<b>-</b>	<b>೧</b>	<b>1</b> 6AA3	<b>5</b>	16AC3	<b>&amp;</b>		<b>)</b> 16AF3
4	16A74	16A84	16A94	16AA4	16AB4	16AC4	16AD4	16AE4	16AF4
5	<b>Z</b>	<b>7</b>	16A95	<b>7</b>	16AB5	16AC5	<b>&amp;</b> 16AD5	16AE5	• 16AF5
6	J	4	1	ী	О	(H)	<b>6</b>	₹	i
7	16A76	16A86	16A96 1	16AA6	16AB6	16AC6	16AD6	16AE6	16AF6
8	16A77	16A87	16A97 <b>王</b>	16AA7	16AB7	16AC7	16AD7	∌	16AF7
9	16A78 <b>G</b>	16A88 C	16A98 <b>王</b>	16AA8 <b>1</b>	16AB8	16AC8	16AD8	16AE8	16AF8
Α	16A79	16A89 <b>O</b>	16A99	16AA9 <b>6</b>	16AB9	16AC9	16AD9	16AE9	
В	16A7A	16A8A <b>J</b>	16A9A <b>7</b>	16AAA	16ABA	16ACA	16ADA	16AEA	
С	16A7B	16A8B	16A9B	16AAB	16ABB	16ACB	16ADB	16AEB	
D	16A7C	16A8C	16A9C	16AAC	16ABC	16ACC	16ADC	16AEC	
E	16A7D	16A8D	16A9D	16AAD	16ABD	16ACD	16ADD	16AED	
	16A7E	16A8E	16A9E	16AAE	16ABE	16ACE	16ADE	16AEE	
F	<b>Т</b>	<b>Z</b> 16A8F	<b>1</b> 6A9F	16AAF	<b>⊙</b> 16ABF	& 16ACF	<b>₹</b> 16ADF	<b>∄</b> 16AEF	

	404.45
Consonant letters	16AAF & BASSA VAH SMALL LETTER O GRAVE TONE
16A70 3 BASSA VAH CAPITAL LETTER ENNI	16ABO 6 BASSA VAH CAPITAL LETTER O MID-LOW TONE
16A71 3 BASSA VAH SMALL LETTER ENNI	
16A72 ∩ BASSA VAH CAPITAL LETTER KA	16AB1 & BASSA VAH SMALL LETTER O MID-LOW TONE 16AB2 <b>%</b> BASSA VAH CAPITAL LETTER O DRAG TONE
16A73 A BASSA VAH SMALL LETTER KA	16AB3 & BASSA VAH SMALL LETTER O DRAG TONE
16A74 1 BASSA VAH CAPITAL LETTER SE	16AB4 <b>6</b> BASSA VAH CAPITAL LETTER O DOUBLE TONE
16A75 Z BASSA VAH SMALL LETTER SE	16AB5 & BASSA VAH SMALL LETTER O DOUBLE TONE
16A76 > BASSA VAH CAPITAL LETTER FA	16AB6 O BASSA VAH CAPITAL LETTER OO
16A77 → BASSA VAH SMALL LETTER FA	16AB7 O BASSA VAH SMALL LETTER OO
16A78 9 BASSA VAH CAPITAL LETTER MBE	16AB8 O BASSA VAH CAPITAL LETTER OO HIGH TONE
16A79 9 BASSA VAH SMALL LETTER MBE	16AB9 O BASSA VAH SMALL LETTER OO HIGH TONE
16A7A O BASSA VAH CAPITAL LETTER YIE	16ABA O BASSA VAH CAPITAL LETTER OO GRAVE TONE
16A7B © BASSA VAH SMALL LETTER YIE	16ABB • BASSA VAH SMALL LETTER OO GRAVE TONE
16A7C S BASSA VAH CAPITAL LETTER GAH	16ABC O BASSA VAH CAPITAL LETTER OO MID-LOW
16A7D & BASSA VAH SMALL LETTER GAH	TONE
16A7E → BASSA VAH CAPITAL LETTER DHII	16ABD ○ BASSA VAH SMALL LETTER OO MID-LOW
16A7F 7 BASSA VAH SMALL LETTER DHII	TONE
16A80 국 BASSA VAH CAPITAL LETTER KPAH	16ABE O BASSA VAH CAPITAL LETTER OO DRAG TONE
16A81 7 BASSA VAH SMALL LETTER KPAH	16ABF O BASSA VAH SMALL LETTER OO DRAG TONE
16A82 BASSA VAH CAPITAL LETTER JO	16ACO O BASSA VAH CAPITAL LETTER OO DOUBLE
16A83 - BASSA VAH SMALL LETTER JO	TONE
16A84 3 BASSA VAH CAPITAL LETTER HWAH	16AC1 ○ BASSA VAH SMALL LETTER OO DOUBLE TONE
16A85 & BASSA VAH SMALL LETTER HWAH	16AC2 © BASSA VAH CAPITAL LETTER U
16A86 BASSA VAH CAPITAL LETTER WA	16AC3 © BASSA VAH SMALL LETTER U
16A87 → BASSA VAH SMALL LETTER WA	16AC4 (9) BASSA VAH CAPITAL LETTER U HIGH TONE
16A88 → BASSA VAH CAPITAL LETTER ZO	16AC5 © BASSA VAH SMALL LETTER U HIGH TONE
16A89 O BASSA VAH SMALL LETTER ZO	16AC6 © BASSA VAH CAPITAL LETTER U GRAVE TONE
16A8A 7 BASSA VAH CAPITAL LETTER GBU	16AC7 © BASSA VAH SMALL LETTER U GRAVE TONE
16A8B 7 BASSA VAH SMALL LETTER GBU	16AC8 © BASSA VAH CAPITAL LETTER U MID-LOW
16A8C 5 BASSA VAH CAPITAL LETTER DO	TONE
16A8D & BASSA VAH SMALL LETTER DO	16AC9 © BASSA VAH SMALL LETTER U MID-LOW TONE
16A8E Z BASSA VAH CAPITAL LETTER CE	16ACA © BASSA VAH CAPITAL LETTER U DRAG TONE
16A8F Z BASSA VAH SMALL LETTER CE	16ACB ® BASSA VAH SMALL LETTER U DRAG TONE
16A90 V BASSA VAH CAPITAL LETTER UWU	16ACC (19) BASSA VAH CAPITAL LETTER U DOUBLE TONE
16A91 ¥ BASSA VAH SMALL LETTER UWU	16ACD ® BASSA VAH SMALL LETTER U DOUBLE TONE
16A92 🖒 BASSA VAH CAPITAL LETTER TO	16ACE & BASSA VAH CAPITAL LETTER EE
16A93 & BASSA VAH SMALL LETTER TO	16ACF & BASSA VAH SMALL LETTER EE
16A94 Z BASSA VAH CAPITAL LETTER BA	16AD0 & BASSA VAH CAPITAL LETTER EE HIGH TONE
16A95 → BASSA VAH SMALL LETTER BA	16AD1 & BASSA VAH SMALL LETTER EE HIGH TONE
16A96 1 BASSA VAH CAPITAL LETTER VU	16AD2 & BASSA VAH CAPITAL LETTER EE GRAVE TONE
16A97 1 BASSA VAH SMALL LETTER VU	16AD3 & BASSA VAH SMALL LETTER EE GRAVE TONE
16A98 ± BASSA VAH CAPITAL LETTER YEIN	16AD4 & BASSA VAH CAPITAL LETTER EE MID-LOW
16A99 ± BASSA VAH SMALL LETTER YEIN	TONE  16ADE : DASSA MALLEMAN LETTER EE MID LOW TONE
16A9A 7 BASSA VAH CAPITAL LETTER PA	16AD5 & BASSA VAH SMALL LETTER EE MID-LOW TONE
16A9B 7 BASSA VAH SMALL LETTER PA	16AD6 & BASSA VAH CAPITAL LETTER EE DRAG TONE
16A9C B BASSA VAH CAPITAL LETTER WADDA	16AD7 & BASSA VAH SMALL LETTER EE DRAG TONE
16A9D & BASSA VAH SMALL LETTER WADDA	16AD8 & BASSA VAH CAPITAL LETTER EE DOUBLE TONE
10/100 D DISSIT VIII SWITEE EET TEK WINDDIT	16AD9 & BASSA VAH SMALL LETTER EE DOUBLE TONE
Vowel letters	16ADA < BASSA VAH CAPITAL LETTER E
16A9E n BASSA VAH CAPITAL LETTER A	16ADB < BASSA VAH SMALL LETTER E
16A9F 11 BASSA VAH SMALL LETTER A	16ADC   BASSA VAH CAPITAL LETTER E HIGH TONE
16AAO 7) BASSA VAH CAPITAL LETTER A HIGH TONE	16ADD   BASSA VAH SMALL LETTER E HIGH TONE
16AA1 7 BASSA VAH CAPITAL LETTER A HIGH TONE	16ADE     BASSA VAH SMALL LETTER E HIGH TONE
16AA2 79 BASSA VAH CAPITAL LETTER A GRAVE TONE	16ADF « BASSA VAH SMALL LETTER E GRAVE TONE
16AA3 % BASSA VAH SMALL LETTER A GRAVE TONE	16AEO   ← BASSA VAH SMALL LETTER E GRAVE TONE
16AA4 A BASSA VAH CAPITAL LETTER A MID-LOW	TONE
TONE	16AE1
16AA5 TO BASSA VAH SMALL LETTER A MID-LOW TONE	16AE2     BASSA VAHTSMALE LETTER E MID-LOW TONE
16AA6 A BASSA VAH CAPITAL LETTER A DRAG TONE	16AE3   BASSA VAH SMALL LETTER E DRAG TONE
16AA7 % BASSA VAH SMALL LETTER A DRAG TONE	16AE4 ≤ BASSA VAH CAPITAL LETTER E DOUBLE TONE
16AA8 7 BASSA VAH CAPITAL LETTER A DOUBLE TONE	16AE5   BASSA VAH SMALL LETTER E DOUBLE TONE
16AA9 % BASSA VAH SMALL LETTER A DOUBLE TONE	16AE6 → BASSA VAH CAPITAL LETTER I
16AAA 6 BASSA VAH CAPITAL LETTER O	16AE7 ₹ BASSA VAH SMALL LETTER I
16AAB & BASSA VAH SMALL LETTER O	16AE8 → BASSA VAH CAPITAL LETTER I HIGH TONE
16AAC 6 BASSA VAH CAPITAL LETTER O HIGH TONE	16AE9 ₹ BASSA VAH SMALL LETTER I HIGH TONE
16AAD & BASSA VAH SMALL LETTER O HIGH TONE	16AEA → BASSA VAH CAPITAL LETTER I GRAVE TONE
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16AAE 🄞 BASSA VAH CAPITAL LETTER O GRAVE TONE 16AEB ₹ BASSA VAH SMALL LETTER I GRAVE TONE

Date: 2010-05-08

Date: 2010-05-08

- 16AEC → BASSA VAH CAPITAL LETTER I MID-LOW TONE
- 16AED → BASSA VAH SMALL LETTER I MID-LOW TONE 16AEE → BASSA VAH CAPITAL LETTER I DRAG TONE
- 16AEF ₹ BASSA VAH SMALL LETTER I DRAG TONE
- 16AF0 → BASSA VAH CAPITAL LETTER I DOUBLE TONE
- 16AF1 ₹ BASSA VAH SMALL LETTER I DOUBLE TONE

# **Tone marks**

16AF2 · BASSA VAH HIGH TONE MARK 16AF3 - BASSA VAH GRAVE TONE MARK 16AF4 ^ BASSA VAH MID-LOW TONE MARK 16AF5 - BASSA VAH DOUBLE TONE MARK 16AF6 BASSA VAH DRAG TONE MARK

# **Punctuation**

16AF7 - BASSA VAH COMMA 16AF8 + BASSA VAH FULL STOP

# 9. Figures.

BASSA "Vah" Alphabet									
CONSONANTS									
33	∩_^ (k)	t <sub>(s)</sub> Z	(f)	S 9 (mb)	<b>σ</b> σ (y/μ)	S S	₹ ∂		
→ 7 (kp)	<del></del>	(xw)	(w)	) (z)	∂ ∂ (dg)	<b>5</b> Կ (վ/ յո)	Z Z		
$\bigvee_{(hw)} \underline{\vee}$	උ උ (t)	7_7_ (b)	1 <sub>(v)</sub>	<b>∃</b> ∃ (h)	7 (p)	£ £			
			Vowe	LS.			) )		
$\bigcap_{(a)} \bigcap$	Õ Ö	00	<mark>(n)</mark> ර	€ & &	<< (t)	₹₹ (i)			
TONAL I	WARKS	(high)	) (grave)	(mid-low)	) (double)	(drag)			

**Figure 1.** Chart of Bassa Vah showing casing pairs and the vowels and tone marks in isolation. (The original scan here had the names "double" and "drag" reversed but this has been corrected.)

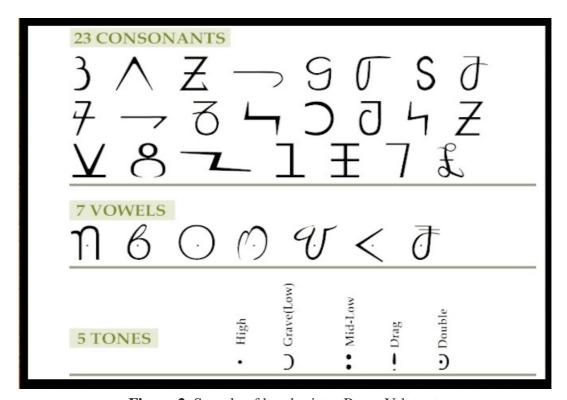


Figure 2. Sample of handwritten Bassa Vah text.

Table V The Bassa Alphabet											
	conso	NANTS		VOWELS AND TONES							
LI	ENIS	FORTIS			нібн	MID	LOW	MID-LOW	HIGH-LOW		
р	7(17)	b	19	i	7	<b>3</b> ( <b>3</b> )	7	7	7		
kp	* 7(F)	$\mathbf{g}\mathbf{b}/\mathbf{g}\mathbf{m}$	14 7	•	0	0 (0)	<u> </u>	9	7		
<b>m</b> /6	5 9 (8)			9	N(h19)		-4-				
f	<sup>4</sup> → (⊢)	v	<sup>20</sup> T (≠)	a	11(1) 19)		etc.				
t	ిది(ంచి)	d	8 7	-	(n)(vs)						
n	1 3			u	(17(29)		etc.				
<b>dy</b> / <b>ny</b>	(G6)			e	E. (b)		etc.				
<b>d</b> (1)	15 N (SN)						****				
r	23 L (L)			8	<i>(</i> :		etc.				
s	3 呂(七呂)	z	13	E			(10)				
c		j	10	э	(EFC)		etc.				
k	² \(\(\O\)\)	g	'S(8)								
w	12 (~)	h	<sup>21</sup> 王(H)	o	0		etc.				
xw	"7 (L)	hw	¹¹ ∨ (⊼)	•			eic.				

**Figure 3.** Table of Bassa Vah syllables from Dalby 1967.

**Figure 4.** Sample of upper-case or "monumental" (all caps) style Bassa Vah text. This particular text was written before case was innovated for the script.

The final character is the BASSA BAH COMMA.

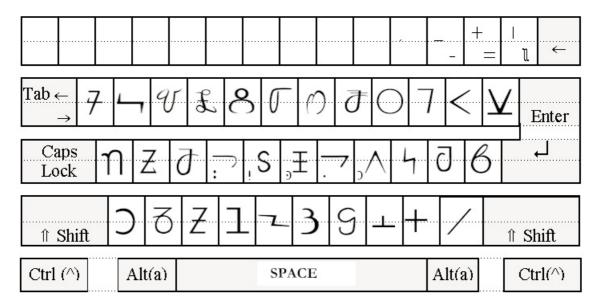


Figure 5. Bassa Vah keyboard layout. Note the COMMA and FULL STOP

### 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

2010-05-08

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

137.

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.)?

No.

2b. If YES, with whom?

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?

Yes.

9c. If YES, reference

# Canonical decompositions are given along with the base characters and script-specific diacritics.

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?