

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 additional Bamum characters in the SMP of the UCS

**Source: Bamum Scripts and Archives Project in the Palace of Bamum Kings,
& the UC Berkeley Script Encoding Initiative (Universal Scripts Project)**

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Status: Individual Contribution

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

Date: 2009-03-28

Replaces: N3472, N3564

0. Introduction. Bamum is spoken in Cameroon, chiefly in West Province, most of Noun Division around Foumban, as well as in the extreme north of Mifi Division and in the southeast of Bamboutos Division. It is a Benue-Congo language of the Grassfields branch. The Bamum script was devised around 1896 by Sultan Njoya and his scribes. The traditional Bamum corpus consists of many hundreds of manuscripts, chiefly of history texts, treatises on traditional medicine, local cartography, personal correspondence, and illustrated folktales. A comprehensive encoding of Bamum will ensure that manuscripts can be more accurately traced and identified. Many manuscripts—it is not known how many—have made their way into individual and institutional collections, often with scant traces of metadata in accompanying records to identify them. The most reliable records include references to accession numbers assigned to the manuscripts by Henri Labouret, but even so, current museum records often include only fragments of the original accession numbers, and little or no indication of the content of the actual text of the manuscript. A standardized encoding for the script will enable eventual inclusion of access points in Bamum for the catalog records, and full-text searching of any of the digital content. It would also facilitate the identification and processing of uncataloged materials, both in Foumban and in museums of African art worldwide. Note that the particular characters used in a manuscript can be an aid to dating a manuscript, because of the phases of script development mentioned below.

The characters proposed in this document are no longer used in modern Bamum orthography. Modern Bamum uses the characters currently balloting in FPDAM 6 in the BMP. The Bamum extensions in this proposal are archaic characters, whose encoding is essential for accurate representation of older Bamum documents. They are analogous in some ways to the medievalist characters encoded for the Latin script; most Bamum writers will not use them, but specialist linguists and historians will.

1. Development of the script. The history of the Bamum script ranges from its genesis as an ideographic/syllabic script, through a number of phases, toward its completion as a syllabic script. The modern Bamum script (currently balloting in FPDAM 6) represents the final phase, Phase G, of the development of the script. Phase A comprised the largest set of characters, many ideographic. Through successive amendments, the script developed through five more phases (B, C, D, E, F), gradually simplifying, both by removing characters and by re-assigning the values of some characters to positions in the evolving syllabary.

The transition from an ideographic script to a syllabary happens through a gradual net reduction in the number of characters between Phases A and E, which are largely ideographic, culminating in a marked shift between Phases E and F, where F is almost entirely syllabic. Most of the rotations and reflections of characters happen between Phases A and E.

The sudden reduction of the set between Phase E and Phase F means that many glyphs became available for re-use between those phases. For example, Ꞥ U+1696E BAMUM LETTER PHASE-E RAQ, is used for *ra*² ‘reconciled’ in Phases A through E, but becomes the phonetic syllable *ɲa* ‘here’ in Phase F. There is no relationship in semantics between the two—only a re-use of a glyph between phases.

Phase F texts make some use of the characters which are encoded in the BMP for modern Bamum orthography. In particular Phase F texts use U+A6F0 BAMUM COMBINING MARK KOQNDON rather widely.

Like the specialized medievalist characters, the archaic Bamum extension contains characters which are polyvalent. The extension is intended for representation of historic material only; no automatic conversion between old and new orthographies is intended by their encoding; there is no implementation expectation for spellcheckers to support anything but the modern Phase G Bamum orthography.

2. Sources and unification. The main source for the repertoire of Bamum extensions is the analysis made in Dugast and Jeffreys 1950. The names and glyphs have been based on that source, though the glyphs in Schmitt 1963 were used to check certain ambiguities in the Dugast and Jeffreys edition. Michael Everson made the first analysis of the repertoire, including its division into phases A, B, C, D, E, and F. This analysis was presented, character by character, individually, to Charles Riley and to Konrad Tuchscherer, and a consensus on the repertoire (and its unifications and disunifications) was reached. Finally, in June 2008 Konrad took the whole repertoire to the Bamum Scripts and Archives Project in the Palace of the Bamum Kings, where he and local experts spent several weeks going over the entire set, its glyphs and character names.

Significant glyph differences—significant enough to disunify—are easy to identify when the different phases are examined together. In general, flipping and rotation are not considered “significant”, though there are a few exceptions where a rotated glyph becomes used with a different value; in these cases a disunification has been made.

The glyphs in the chart reflect the earliest example of the Bamum characters; mostly, therefore, the glyphs are taken from Phase A. The encoding model proposed here is conservative, relative to the known use of the characters from the analyses of Dugast and Jeffreys, and of Schmitt. It provides a comprehensive way of accounting for all the characters they observed in the texts they had available to them, without disunifying beyond what is necessary to represent unique characters. Many of the texts remain in storage in Foumban and at the Quai Branly Museum; analysis of them is ongoing.

At the end of this proposal, a database is shown which contains relevant information about the association of the characters to the pages on which they appear in Dugast & Jeffreys 1950. The first column gives the proposed UCS code position; the second the phase number assigned for the purposes of character naming. The original IPA transcription is given, then the conventional English and French character names as derived from the transcription. (Some text in lower case follows some of those; this is used to generate comments in the names list.) The final column gives the page number and phase or phases to which the character belongs. Figures 1a and 1b show two of the pages from Dugast & Jeffreys and can be compared to the database. In the first four lines of Figure 1a the following is shown for the syllables *ʃɔ* and *ʃɔ*² respectively:

Phases A–E are covered by Ꞥ U+169F3 BAMUM LETTER PHASE-E SHO
Phase F is covered by ꞥ U+16A29 BAMUM LETTER PHASE-F SHO
Phase G is covered by Ꞧ U+A6D6 BAMUM LETTER SHO

Phases A–D are covered by ꞧ U+1695C BAMUM LETTER PHASE-D SHOQ
Phase E is covered by Ꞩ U+169F4 BAMUM LETTER PHASE-E SHOQ
Phase F is covered by ꞩ U+16A29 BAMUM LETTER PHASE-F SHO and U+A6F0 BAMUM COMBINING MARK KOQNDON
Phase G is covered by Ɦ U+A6D6 BAMUM LETTER SHO and U+A6F0 BAMUM COMBINING MARK KOQNDON

3. Structure. The modern Bamum script is a left-to-right script containing 80 base characters, two combining diacritics, and six punctuation marks. Bamum characters have left-to-right directionality. Traditional Bamum texts (the older ones which use the characters proposed here) do not use punctuation or digits—the latter are written out as words—though of course modern editors may add them for clarity.

4. Character names. Characters are ranged according to the last Phase in which they appear, and the element PHASE-X is inserted; this insures that PHASE-B KET and PHASE-C KET have unique names. In part because many of the syllabic characters of Phase F also carry a pre-existing ideographic value (for monosyllabic words) obtained in an earlier phase, there is no absolute distinction which can be made between ideographic and syllabic characters; accordingly, the term LETTER is used for all of these characters, in preference to IDEOGRAPH or SYLLABLE. (The characters in the modern Bamum syllabary are also called LETTER.) The transcription used in the character names follows the IPA forms given in Dugast and Jeffreys 1950. The following conventions are used:

Dugast	a	b	d	ɛ	e	ə	f	ɣ	g	i	k	l	m	n	ŋ	ɔ
English	<i>a</i>	<i>b</i>	<i>d</i>	<i>e</i>	<i>ee</i>	<i>ae</i>	<i>f</i>	<i>gh</i>	<i>g</i>	<i>i</i>	<i>k</i>	<i>l</i>	<i>m</i>	<i>n</i>	<i>ng</i>	<i>o</i>
French	<i>a</i>	<i>b</i>	<i>d</i>	<i>è</i>	<i>é</i>	<i>e</i>	<i>f</i>	<i>gh</i>	<i>g</i>	<i>i</i>	<i>k</i>	<i>l</i>	<i>m</i>	<i>n</i>	<i>ng</i>	<i>o</i>

Dugast	p	r	s	ʃ	t	u	ü	ɯ	v	w	x	y	z	ʒ	ʔ
English	<i>p</i>	<i>r</i>	<i>s</i>	<i>sh</i>	<i>t</i>	<i>u</i>	<i>ue</i>	<i>eu</i>	<i>v</i>	<i>w</i>	<i>x</i>	<i>y</i>	<i>z</i>	<i>j</i>	<i>q</i>
French	<i>p</i>	<i>r</i>	<i>s</i>	<i>sh</i>	<i>t</i>	<i>u</i>	<i>ü</i>	<i>ù</i>	<i>v</i>	<i>w</i>	<i>x</i>	<i>y</i>	<i>z</i>	<i>j</i>	'

5. Linebreaking. Letters and digits behave as in Modern Bamum, Canadian Syllabics, Latin, and so on.

6. Collating order. In this proposal, the characters are ordered as they are in Dugast & Jeffreys 1950 (though divided amongst the six Phases A through F). Since the names of all of these characters can be represented now in the modern syllabary, experts in the user community have written out the names on that basis and it may be the case that an eventual collation table could reflect that ordering (still within the six Phases).

7. Unicode Character Properties.

```
16800;BAMUM LETTER PHASE-A NGKUE MFON;Lo;0;L;;;;N;;;;;
..
16A38;BAMUM LETTER PHASE-F VUEQ;Lo;0;L;;;;N;;;;;
```

8. Bibliography.

Dugast, J. & M. D. W. Jeffreys. 1950. *L'écriture des bamum: sa naissance, son evolution, sa valeur phonétique, son utilisation*. Mémoires de l'Institut Français d'Afrique Noire, Centre du Cameroun.

Schmitt, Alfred. 1963. *Die Bamum-Schrift*. Band I: Text. Wiesbaden: Otto Harrassowitz.

9. Acknowledgements

This project was made possible in part by invaluable support from the Bamum Scripts and Archives Project in the Palace of Bamum Kings, Foumban, Cameroon, as well as by support from HRAF, the Human Relations Area Files, Inc. at Yale University, New Haven. 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). Any views, findings, conclusions or recommendations expressed in this publication do not necessarily reflect those of the National Endowment of the Humanities.

Figures

	A	B	C	D	E	F	G		Observations	
55	()	⌘	⌘		⌘	⌘	⌘	⌘	[a (phon.syll.) [a' ['], prête	
56	()	⌘	⌘	⌘	⌘	⌘	⌘	⌘	puə ['], la main pu' ['], le paquet	A à D signifient aussi "case de réception"; en E, le signe est commun avec "beauté". Chacun de ces mots se différencie de F à H.
57	()	⌘	⌘	⌘	⌘	⌘	⌘	⌘	fu[.], le remède fu' ['], cavité dans un tronc d'arbre	
58	()				⌘	⌘	⌘	⌘	fom[.], les ruines mvop['], poussière, poudre	
59	()	⌘	⌘	⌘	⌘	⌘	⌘	⌘	wa[.], (une fleur) wa' (phon.syll.)	
60	()	⌘	⌘	⌘	⌘	⌘	⌘	⌘	na['], "mais" et "cuis" na' ['], le boeuf	A à E sont communs aux 2 mots. A partir de F, "cuis" comporte 2 signes.
61	()	⌘	⌘	⌘	⌘	⌘	⌘	⌘	li['], le nom, l'oeil li' ['], le poison	
62	()	⌘	⌘	⌘	⌘	⌘	⌘	⌘	pi['], enlève pin['], la danse	

Figure 1a. Table showing the development of Bamum characters from Phase A through Phase G, from Dugast and Jeffreys 1950. The characters to be encoded are:

⌘	U+169F3	BAMUM LETTER PHASE-E SHO	
⌘	U+16A29	BAMUM LETTER PHASE-F SHO	
⌘	U+1695C	BAMUM LETTER PHASE-D SHOQ	
⌘	U+169F4	BAMUM LETTER PHASE-E SHOQ	
⌘	U+16A2A	BAMUM LETTER PHASE-F PUAE	
⌘	U+1695D	BAMUM LETTER PHASE-D PUQ	
⌘	U+169A0	BAMUM LETTER PHASE-E PU	
⌘	U+169F5	BAMUM LETTER PHASE-E FU REMEDY	
⌘	U+169D2	BAMUM LETTER PHASE-E FU CALL	
⌘	U+16A2B	BAMUM LETTER PHASE-F FOM	
⌘	U+1695E	BAMUM LETTER PHASE-D MVOP	
⌘	U+16A2C	BAMUM LETTER PHASE-F WA	
⌘	U+169F6	BAMUM LETTER PHASE-E NA	
⌘	U+A6DB	BAMUM LETTER NA	(used in modern orthography)
⌘	U+16855	BAMUM LETTER PHASE-A NAQ	
⌘	U+168EC	BAMUM LETTER PHASE-C NAQ	
⌘	U+16A2D	BAMUM LETTER PHASE-F LI	
⌘	U+168ED	BAMUM LETTER PHASE-C LIQ	
⌘	U+169F7	BAMUM LETTER PHASE-E PI	
⌘	U+169E1	BAMUM LETTER PHASE-E YUAEN	
⌘	U+168EE	BAMUM LETTER PHASE-C PIN	

	A	B	C	D	E	F	G		Observations
63	⊕	⊕	⊕	⊕	⊕	⊕	⊕	lɔ̃[ʔ], va-t-en	
	⊕	⊕	⊕	⊕	⊕	⊕	⊕	lɔ̃[ʔ], désobéissance	
64	∨	∨		kɔ̃ (phon.syll.)	
					∨	∨		kɔ̃' (" ")	
65	⊕	⊕	⊕	⊕	⊕	⊕	⊕	m̃bɛn[ʔ], le camp	
	⊕	⊕	⊕	⊕	⊕	⊕	⊕	pɛn[ʔ], le gateau de maïs	D avait désigné le gros tambour ndam en A à C. De D à G, ndam comporte plusieurs signes.
66	⊕	⊕	⊕	⊕	⊕	⊕	⊕	rɛn[ʔ], beaucoup	
					⊕	⊕	⊕	rɛn[ʔ], propre	
67	⊕	⊕	⊕	⊕	⊕	⊕	⊕	m̃ɛn[ʔ](phon.syll.)	
					⊕	⊕	⊕	m̃ɛn[ʔ](" ")	
68	⊕	⊕	⊕	⊕	⊕	⊕	⊕	m̃a[ʔ], tais-toi, et "a" (vers le bas)	
	⊕	⊕	⊕	⊕	⊕	⊕	⊕	m̃ɔ̃[ʔ], jette	
69	⊕	⊕	⊕	⊕	⊕	⊕	⊕	tɪ (phon.syll.)	
	⊕	⊕	⊕	⊕	⊕	⊕	⊕	tɛ (" ")	
70	⊕	⊕	⊕	⊕	⊕	⊕	⊕	kɪ[ʔ], regarde	
	⊕	⊕	⊕	⊕	⊕	⊕	⊕	kɪʔ[ʔ], la tortue	
71	⊕	⊕	⊕	⊕	⊕	⊕	⊕	m̃ɔ̃[ʔ], un	
	⊕	⊕	⊕	⊕	⊕	⊕	⊕	m̃ɔ̃n[ʔ], l'enfant	

Figure 1b. The same table continued.

⊕	U+1695F	BAMUM LETTER PHASE-D LOQ	
⊕	U+16A2E	BAMUM LETTER PHASE-F LOQ	
⊕	U+169F8	BAMUM LETTER PHASE-E LOQ	
•	U+169F9	BAMUM LETTER PHASE-E KO	
∨	U+16A2F	BAMUM LETTER PHASE-F KO	
⊕	U+16A30	BAMUM LETTER PHASE-F MBEN	
⊕	U+168EF	BAMUM LETTER PHASE-C PEN	
⊕	U+168D7	BAMUM LETTER PHASE-C NDAM	
⊕	U+16960	BAMUM LETTER PHASE-D REN MUCH	
⊕	U+16A31	BAMUM LETTER PHASE-F REN	
⊕	U+169FA	BAMUM LETTER PHASE-E MEN	
⊕	U+16969	BAMUM LETTER PHASE-E LAP	
⊕	U+1688C	BAMUM LETTER PHASE-B MA	
⊕	U+169FB	BAMUM LETTER PHASE-E MA	
⊕	U+16A32	BAMUM LETTER PHASE-F MA	
⊕	U+169FC	BAMUM LETTER PHASE-E MAQ	
⊕	U+16961	BAMUM LETTER PHASE-D TI	
⊕	U+168FB	BAMUM LETTER PHASE-D WUAEN	
⊕	U+169FD	BAMUM LETTER PHASE-E TEU	
⊕	U+169FE	BAMUM LETTER PHASE-E KI	
⊕	U+A6E5	BAMUM LETTER KOGHOM	(used in modern orthography)
⊕	U+1688D	BAMUM LETTER PHASE-B KIQ	
⊕	U+16A33	BAMUM LETTER PHASE-F MO	
⊕	U+169FF	BAMUM LETTER PHASE-E MON	

fu le ra ma na wa lam du ma ta ji fi ro ngam mi pen pen sa ka fi ro la sa pi ya ta ji
ti ta yu u su na nku tu tu pa na mbuam li su
si mi ji mi pen set du ma set ta ji fi ro i nga ge ya na ji la mu ji ta nga ngam mi pen pen
ya ya tu ngu u nga su na tuo yu ma nsi e ka nku tu tu
o ma ge ya ja pa ko se fi ki pi ta la si fi ki sa pa wa lam du ro ko se fi ki li pen set nyi pa
fa yu yu na pu ndi a pu yu wu la na pu ket nga ju
mu ji ta nga fi ki ta nga du ro ko se fi ki li pen set le pa sa ku ta nga ru ta ko se fi ki fi re
e ka pu ka la na pu ket nga yuo pa ka yet na pu na
du ma na ru wa wa lam pen pi ya sa ken ko se set fi ki li pen ta kwan le wa lam pen pi ya
u ma su wu tu li kpa na nga pu ket tu ma wu tu li
set fi ki li pen le set ren ko se ru li pen ko se pi m li pen le pa la si le ka sa mu set
nga pu ket ma nga puon na kua ket na ren ket yuo a pua pu ngu
fi pen ja pa le tu ka fi re a min
le yu ma nte na a men

Figure 2. Traditional Bamum text from Schmitt 1963

1
3
5
7
9
11
13
15
17

Figure 3. Traditional Bamum text from Schmitt 1963

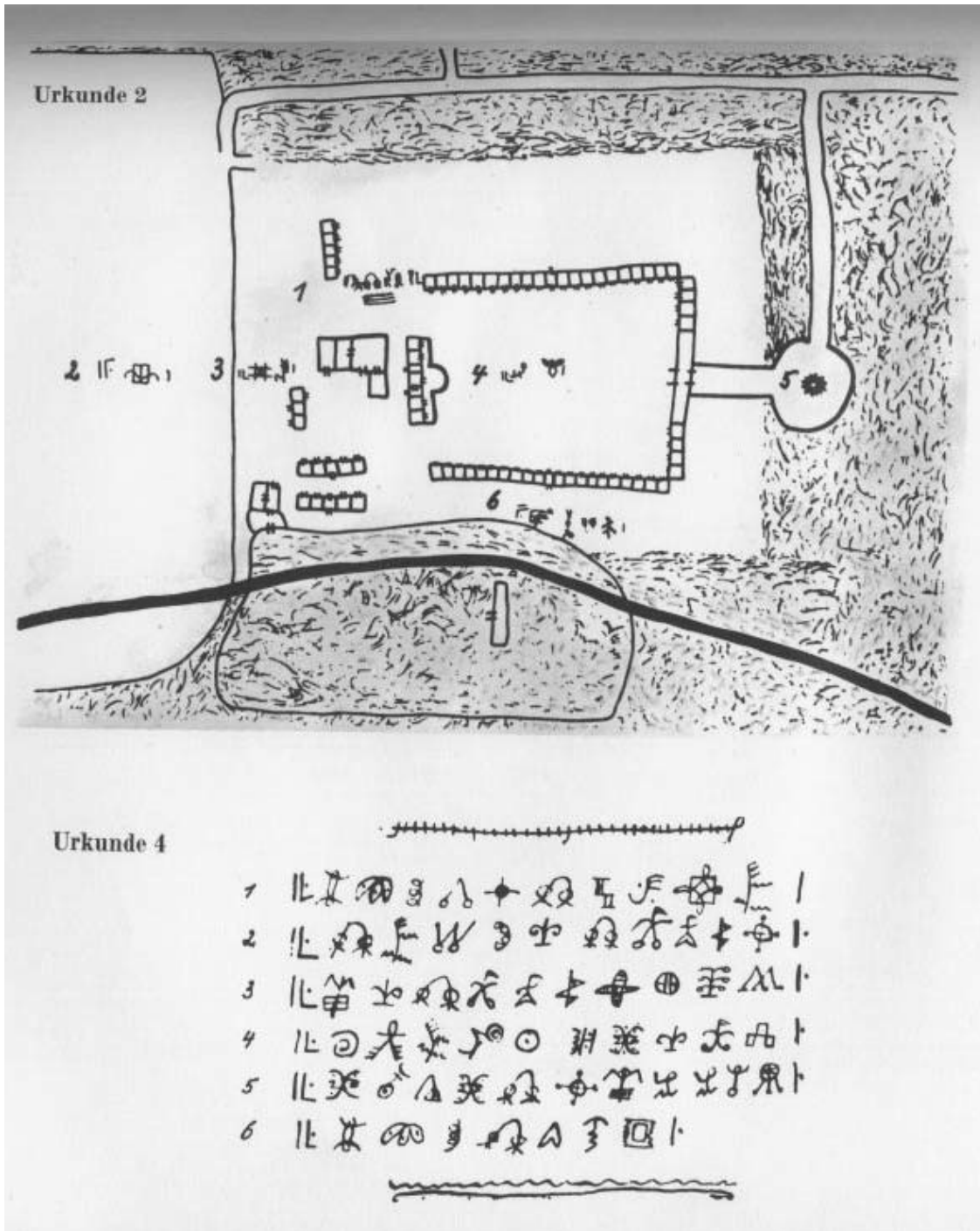


Figure 4. Traditional Bamum text from Schmitt 1963

Urkunde 3

- 1 ta ŋkus' ka rie na mfon mi yun mombie mo' puo
 (nom propre) (ind. passé) dit au roi que: achète femme autre de
- 2 ta ŋgu fi fe fa n'i Mfon yun na
 (nom propre) (nom propre) donne à lui (point). Roi achète avec
- 3 puon pi pa na pet n'ü' mbuon . ngi ma mē
 personnes deux et deux mille cauris. (titre nobiliaire) (nom propre)
- 4 wuon fa ŋkap n'i ŋgu h'kafut mon kwu'
 partit donner richesse à lui jour (nom propre), enfant petit
- 5 ŋa kpara' man na kus' mombie. mfon fa na taŋkus'
 et âge homme et jeune femme. roi donne à (nom propre)

Urkunde 5

- 1
- 2
- 3
- 4
- 5

Figure 5. Traditional Bamum text from Schmitt 1963

A. Administrative

1. Title

Proposal for encoding additional Bamum characters in the SMP of the UCS

2. Requester's name

Michael Everson, Charles Riley, Konrad Tuchscherer

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

Individual contribution.

4. Submission date

2009-03-28

5. Requester's reference (if applicable)

6. Choose one of the following:

6a. This is a complete proposal

Yes.

6b. More information will be provided later

No.

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

Bamum.

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

596.

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 B.2.

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, Fontographer.

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?

Experts in Fouban, Cameroon.

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?

People living in and near Foumban, Cameroon.

4a. The context of use for the proposed characters (type of use; common or rare)

Rare.

4b. Reference

5a. Are the proposed characters in current use by the user community?

Yes.

5b. If YES, where?

In historical documents.

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?

No.

9b. If YES, is a rationale for its inclusion provided?

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?

Only superficially.

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)?

No.

11b. If YES, is a rationale for such use provided?

11c. If YES, reference

11d. Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?

No.

11e. If YES, reference

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?

	1680	1681	1682	1683	1684	1685	1686	1687	1688	1689	168A	168B
0												
1												
2												
3												
4												
5												
6												
7												
8												
9												
A												
B												
C												
D												
E												
F												

	168C	168D	168E	168F	1690	1691	1692	1693	1694	1695	1696	1697
0	168C0	168D0	168E0	168F0	16900	16910	16920	16930	16940	16950	16960	16970
1	168C1	168D1	168E1	168F1	16901	16911	16921	16931	16941	16951	16961	16971
2	168C2	168D2	168E2	168F2	16902	16912	16922	16932	16942	16952	16962	16972
3	168C3	168D3	168E3	168F3	16903	16913	16923	16933	16943	16953	16963	16973
4	168C4	168D4	168E4	168F4	16904	16914	16924	16934	16944	16954	16964	16974
5	168C5	168D5	168E5	168F5	16905	16915	16925	16935	16945	16955	16965	16975
6	168C6	168D6	168E6	168F6	16906	16916	16926	16936	16946	16956	16966	16976
7	168C7	168D7	168E7	168F7	16907	16917	16927	16937	16947	16957	16967	16977
8	168C8	168D8	168E8	168F8	16908	16918	16928	16938	16948	16958	16968	16978
9	168C9	168D9	168E9	168F9	16909	16919	16929	16939	16949	16959	16969	16979
A	168CA	168DA	168EA	168FA	1690A	1691A	1692A	1693A	1694A	1695A	1696A	1697A
B	168CB	168DB	168EB	168FB	1690B	1691B	1692B	1693B	1694B	1695B	1696B	1697B
C	168CC	168DC	168EC	168FC	1690C	1691C	1692C	1693C	1694C	1695C	1696C	1697C
D	168CD	168DD	168ED	168FD	1690D	1691D	1692D	1693D	1694D	1695D	1696D	1697D
E	168CE	168DE	168EE	168FE	1690E	1691E	1692E	1693E	1694E	1695E	1696E	1697E
F	168CF	168DF	168EF	168FF	1690F	1691F	1692F	1693F	1694F	1695F	1696F	1697F

	1698	1699	169A	169B	169C	169D	169E	169F	16A0	16A1	16A2	16A3
0	16980	16990	169A0	169B0	169C0	169D0	169E0	169F0	16A00	16A10	16A20	16A30
1	16981	16991	169A1	169B1	169C1	169D1	169E1	169F1	16A01	16A11	16A21	16A31
2	16982	16992	169A2	169B2	169C2	169D2	169E2	169F2	16A02	16A12	16A22	16A32
3	16983	16993	169A3	169B3	169C3	169D3	169E3	169F3	16A03	16A13	16A23	16A33
4	16984	16994	169A4	169B4	169C4	169D4	169E4	169F4	16A04	16A14	16A24	16A34
5	16985	16995	169A5	169B5	169C5	169D5	169E5	169F5	16A05	16A15	16A25	16A35
6	16986	16996	169A6	169B6	169C6	169D6	169E6	169F6	16A06	16A16	16A26	16A36
7	16987	16997	169A7	169B7	169C7	169D7	169E7	169F7	16A07	16A17	16A27	16A37
8	16988	16998	169A8	169B8	169C8	169D8	169E8	169F8	16A08	16A18	16A28	16A38
9	16989	16999	169A9	169B9	169C9	169D9	169E9	169F9	16A09	16A19	16A29	16A39
A	1698A	1699A	169AA	169BA	169CA	169DA	169EA	169FA	16A0A	16A1A	16A2A	16A3A
B	1698B	1699B	169AB	169BB	169CB	169DB	169EB	169FB	16A0B	16A1B	16A2B	16A3B
C	1698C	1699C	169AC	169BC	169CC	169DC	169EC	169FC	16A0C	16A1C	16A2C	16A3C
D	1698D	1699D	169AD	169BD	169CD	169DD	169ED	169FD	16A0D	16A1D	16A2D	16A3D
E	1698E	1699E	169AE	169BE	169CE	169DE	169EE	169FE	16A0E	16A1E	16A2E	16A3E
F	1698F	1699F	169AF	169BF	169CF	169DF	169EF	169FF	16A0F	16A1F	16A2F	16A3F

Characters found through Phase A

16800	𐌀	BAMUM LETTER PHASE-A NGKUE MFON	16833	𐌳	BAMUM LETTER PHASE-A KET
16801	𐌁	BAMUM LETTER PHASE-A GBIEE FON	16834	𐌴	BAMUM LETTER PHASE-A NDAANGGEUAET
16802	𐌂	BAMUM LETTER PHASE-A PON MFON PIPAEMGBIEE	16835	𐌵	BAMUM LETTER PHASE-A KUOQ
16803	𐌃	BAMUM LETTER PHASE-A PON MFON PIPAEMBA	16836	𐌶	BAMUM LETTER PHASE-A MOOMEUT
16804	𐌄	BAMUM LETTER PHASE-A NAA MFON	16837	𐌷	BAMUM LETTER PHASE-A SHUM
16805	𐌅	BAMUM LETTER PHASE-A SHUENSHUET	16838	𐌸	BAMUM LETTER PHASE-A LOMMAE
16806	𐌆	BAMUM LETTER PHASE-A TITA MFON	16839	𐌹	BAMUM LETTER PHASE-A FIRI
16807	𐌇	BAMUM LETTER PHASE-A NZA MFON	1683A	𐌺	BAMUM LETTER PHASE-A ROM
16808	𐌈	BAMUM LETTER PHASE-A SHINDA PA NJI	1683B	𐌻	BAMUM LETTER PHASE-A KPOQ
16809	𐌉	BAMUM LETTER PHASE-A PON PA NJI PIPAEMGBIEE	1683C	𐌼	BAMUM LETTER PHASE-A SOQ
1680A	𐌊	BAMUM LETTER PHASE-A PON PA NJI PIPAEMBA	1683D	𐌽	BAMUM LETTER PHASE-A MAP PIEET
1680B	𐌋	BAMUM LETTER PHASE-A MAEMGBIEE	1683E	𐌾	BAMUM LETTER PHASE-A SHIRAE
1680C	𐌌	BAMUM LETTER PHASE-A TU MAEMBA	1683F	𐌿	BAMUM LETTER PHASE-A NTAP
1680D	𐌍	BAMUM LETTER PHASE-A NGANGU	16840	𐍀	BAMUM LETTER PHASE-A SHOQ NSHUT YUM
1680E	𐌎	BAMUM LETTER PHASE-A MAEMVEUX	16841	𐍁	BAMUM LETTER PHASE-A NYIT MONGKEUAEQ
1680F	𐌏	BAMUM LETTER PHASE-A MANSUAE	16842	𐍂	BAMUM LETTER PHASE-A PAARAE
16810	𐌐	BAMUM LETTER PHASE-A MVEUAENGAM	16843	𐍃	BAMUM LETTER PHASE-A NKAARAE
16811	𐌑	BAMUM LETTER PHASE-A SEUNYAM	16844	𐍄	BAMUM LETTER PHASE-A UNKNOWN
16812	𐌒	BAMUM LETTER PHASE-A NTOQPEN	16845	𐍅	BAMUM LETTER PHASE-A NGGEN
16813	𐌓	BAMUM LETTER PHASE-A KEUKEUTNDA	16846	𐍆	BAMUM LETTER PHASE-A MAESI
16814	𐌔	BAMUM LETTER PHASE-A NKINDI	16847	𐍇	BAMUM LETTER PHASE-A NJAM
16815	𐌕	BAMUM LETTER PHASE-A SUU	16848	𐍈	BAMUM LETTER PHASE-A MBANYI
16816	𐌖	BAMUM LETTER PHASE-A NGKUENZEUM	16849	𐍉	BAMUM LETTER PHASE-A NYET
16817	𐌗	BAMUM LETTER PHASE-A LAPAQ	1684A	𐍊	BAMUM LETTER PHASE-A TEUAEN
16818	𐌘	BAMUM LETTER PHASE-A LET KUT	1684B	𐍋	BAMUM LETTER PHASE-A SOT
16819	𐌙	BAMUM LETTER PHASE-A NTAP MFAA	1684C	𐍌	BAMUM LETTER PHASE-A PAAM
1681A	𐌚	BAMUM LETTER PHASE-A MAEKEUP	1684D	𐍍	BAMUM LETTER PHASE-A NSHIEE
1681B	𐌛	BAMUM LETTER PHASE-A PASHAE	1684E	𐍎	BAMUM LETTER PHASE-A MAEM
1681C	𐌜	BAMUM LETTER PHASE-A GHEUAERAE	1684F	𐍇	BAMUM LETTER PHASE-A NYI
1681D	𐌝	BAMUM LETTER PHASE-A PAMSHAE	16850	𐍈	BAMUM LETTER PHASE-A KAQ
1681E	𐌞	BAMUM LETTER PHASE-A MON NGGEUAET	16851	𐍉	BAMUM LETTER PHASE-A NSHA
1681F	𐌟	BAMUM LETTER PHASE-A NZUN MEUT	16852	𐍊	BAMUM LETTER PHASE-A VEE
16820	𐌠	BAMUM LETTER PHASE-A U YUQ NAE	16853	𐍋	BAMUM LETTER PHASE-A LU
16821	𐌡	BAMUM LETTER PHASE-A GHEUAEGHEUAE	16854	𐍌	BAMUM LETTER PHASE-A NEN
16822	𐌢	BAMUM LETTER PHASE-A NTAP NTAA	16855	𐍍	BAMUM LETTER PHASE-A NAQ
16823	𐌣	BAMUM LETTER PHASE-A SISA	16856	𐍎	BAMUM LETTER PHASE-A MBAQ
16824	𐌤	BAMUM LETTER PHASE-A MGBASA			
16825	𐌥	BAMUM LETTER PHASE-A MEUNJOMNDEUQ			
16826	𐌦	BAMUM LETTER PHASE-A MOOMPUQ			
16827	𐌧	BAMUM LETTER PHASE-A KAFA			
16828	𐌨	BAMUM LETTER PHASE-A PA LEERAEWA			
16829	𐌩	BAMUM LETTER PHASE-A NDA LEERAEWA			
1682A	𐌪	BAMUM LETTER PHASE-A PET			
1682B	𐌫	BAMUM LETTER PHASE-A MAEMKPEN			
1682C	𐌬	BAMUM LETTER PHASE-A NIKA			
1682D	𐌭	BAMUM LETTER PHASE-A PUP			
1682E	𐌮	BAMUM LETTER PHASE-A TUAEP			
1682F	𐌯	BAMUM LETTER PHASE-A LUAEP			
16830	𐌰	BAMUM LETTER PHASE-A SONJAM			
16831	𐌱	BAMUM LETTER PHASE-A TEUTEUWEN			
16832	𐌲	BAMUM LETTER PHASE-A MAENYI			

Characters found through Phase B

16857	𐍏	BAMUM LETTER PHASE-B NSHUET
16858	𐍐	BAMUM LETTER PHASE-B TU MAEMGBIEE
16859	𐍑	BAMUM LETTER PHASE-B SIEE
1685A	𐍒	BAMUM LETTER PHASE-B SET TU
1685B	𐍓	BAMUM LETTER PHASE-B LOM NTEUM
1685C	𐍔	BAMUM LETTER PHASE-B MBA MAELEE
1685D	𐍕	BAMUM LETTER PHASE-B KIEEM
1685E	𐍖	BAMUM LETTER PHASE-B YEURAE
1685F	𐍗	BAMUM LETTER PHASE-B MBAARAE
16860	𐍘	BAMUM LETTER PHASE-B KAM
16861	𐍙	BAMUM LETTER PHASE-B PEESHI
16862	𐍚	BAMUM LETTER PHASE-B YAFU LEERAEWA
16863	𐍛	BAMUM LETTER PHASE-B LAM NSHUT NYAM
16864	𐍜	BAMUM LETTER PHASE-B NTIEE SHEUOQ
16865	𐍝	BAMUM LETTER PHASE-B NDU NJAA
16866	𐍞	BAMUM LETTER PHASE-B GHEUGHEUAEM
16867	𐍟	BAMUM LETTER PHASE-B PIT

16868	𐞇	BAMUM LETTER PHASE-B TU NSIEE	1689D	𐞇	BAMUM LETTER PHASE-C NDOMBU
16869	+	BAMUM LETTER PHASE-B SHET NJAQ	1689E	𐞇	BAMUM LETTER PHASE-C MBAA CABBAGE-TREE
1686A	Δ	BAMUM LETTER PHASE-B SHEUAEQTU	1689F	𐞇	BAMUM LETTER PHASE-C KEUSHEUAEP
1686B	𐞇	BAMUM LETTER PHASE-B MFON TEUAEQ	168A0	𐞇	BAMUM LETTER PHASE-C GHAP
1686C	√	BAMUM LETTER PHASE-B MBIT MBAAKET	168A1	𐞇	BAMUM LETTER PHASE-C KEUKAQ
1686D	𐞇	BAMUM LETTER PHASE-B NYI NTEUM	168A2	𐞇	BAMUM LETTER PHASE-C YU MUOMAE
1686E	𐞇	BAMUM LETTER PHASE-B KEUQUQ	168A3	𐞇	BAMUM LETTER PHASE-C NZEUM
1686F	𐞇	BAMUM LETTER PHASE-B GHEUGHEN	168A4	𐞇	BAMUM LETTER PHASE-C MBUE
16870	𐞇	BAMUM LETTER PHASE-B KEUYEUX	168A5	𐞇	BAMUM LETTER PHASE-C NSEUAEN
16871	𐞇	BAMUM LETTER PHASE-B LAANAE	168A6	𐞇	BAMUM LETTER PHASE-C MBIT
16872	𐞇	BAMUM LETTER PHASE-B PARUM • nsen in Phases C-E	168A7	𐞇	BAMUM LETTER PHASE-C YEUQ
16873	𐞇	BAMUM LETTER PHASE-B VEUM	168A8	𐞇	BAMUM LETTER PHASE-C KPARAQ
16874	𐞇	BAMUM LETTER PHASE-B NGKINDI MVOP	168A9	𐞇	BAMUM LETTER PHASE-C KAA
16875	𐞇	BAMUM LETTER PHASE-B NGGEU MBU	168AA	𐞇	BAMUM LETTER PHASE-C SEUX
16876	𐞇	BAMUM LETTER PHASE-B WUAET	168AB	𐞇	BAMUM LETTER PHASE-C NDIDA
16877	𐞇	BAMUM LETTER PHASE-B SAKEUAE	168AC	𐞇	BAMUM LETTER PHASE-C TAASHAE
16878	𐞇	BAMUM LETTER PHASE-B TAAM	168AD	𐞇	BAMUM LETTER PHASE-C NJUEQ
16879	𐞇	BAMUM LETTER PHASE-B MEUQ	168AE	𐞇	BAMUM LETTER PHASE-C TITA YUE
1687A	∴	BAMUM LETTER PHASE-B NGGUOQ	168AF	𐞇	BAMUM LETTER PHASE-C SUAET
1687B	∴	BAMUM LETTER PHASE-B NGGUOQ LARGE	168B0	𐞇	BAMUM LETTER PHASE-C NGGUAEN NYAM
1687C	∴	BAMUM LETTER PHASE-B MFIY AQ	168B1	𐞇	BAMUM LETTER PHASE-C VEUX
1687D	𐞇	BAMUM LETTER PHASE-B SUE	168B2	𐞇	BAMUM LETTER PHASE-C NANSANAQ
1687E	𐞇	BAMUM LETTER PHASE-B MBEURI	168B3	𐞇	BAMUM LETTER PHASE-C MA KEUAERI
1687F	𐞇	BAMUM LETTER PHASE-B MONTIEEN	168B4	𐞇	BAMUM LETTER PHASE-C NTA A
16880	𐞇	BAMUM LETTER PHASE-B NYAEMAE	168B5	𐞇	BAMUM LETTER PHASE-C NGGUON
16881	𐞇	BAMUM LETTER PHASE-B PUNGAAM	168B6	𐞇	BAMUM LETTER PHASE-C LAP
16882	𐞇	BAMUM LETTER PHASE-B MEUT NGGEET	168B7	𐞇	BAMUM LETTER PHASE-C MBIRIEEN
16883	𐞇	BAMUM LETTER PHASE-B FEUX	168B8	𐞇	BAMUM LETTER PHASE-C MGBASAQ
16884	𐞇	BAMUM LETTER PHASE-B MBUOQ	168B9	𐞇	BAMUM LETTER PHASE-C NTEUNGBA
16885	𐞇	BAMUM LETTER PHASE-B FEE	168BA	𐞇	BAMUM LETTER PHASE-C TEUTEUX
16886	𐞇	BAMUM LETTER PHASE-B KEUAEM	168BB	𐞇	BAMUM LETTER PHASE-C NGGUM
16887	𐞇	BAMUM LETTER PHASE-B MA NJEU AENA	168BC	𐞇	BAMUM LETTER PHASE-C FUE
16888	𐞇	BAMUM LETTER PHASE-B MA NJUQA	168BD	𐞇	BAMUM LETTER PHASE-C NDEUT
16889	𐞇	BAMUM LETTER PHASE-B LET	168BE	𐞇	BAMUM LETTER PHASE-C NSA
1688A	∞	BAMUM LETTER PHASE-B NGGAAM	168BF	𐞇	BAMUM LETTER PHASE-C NSHAQ
1688B	𐞇	BAMUM LETTER PHASE-B NSEN	168C0	𐞇	BAMUM LETTER PHASE-C BUNG
1688C	𐞇	BAMUM LETTER PHASE-B MA	168C1	𐞇	BAMUM LETTER PHASE-C VEUAEPEN
1688D	𐞇	BAMUM LETTER PHASE-B KIQ	168C2	𐞇	BAMUM LETTER PHASE-C MBERAE
1688E	𐞇	BAMUM LETTER PHASE-B NGOM	168C3	∥	BAMUM LETTER PHASE-C RU
			168C4	𐞇	BAMUM LETTER PHASE-C NJAEM
			168C5	𐞇	BAMUM LETTER PHASE-C LAM
			168C6	𐞇	BAMUM LETTER PHASE-C TITUAEP
			168C7	𐞇	BAMUM LETTER PHASE-C NSUOT NGOM
			168C8	𐞇	BAMUM LETTER PHASE-C NJEEEE
			168C9	𐞇	BAMUM LETTER PHASE-C KET
			168CA	𐞇	BAMUM LETTER PHASE-C NGGU
			168CB	𐞇	BAMUM LETTER PHASE-C MAESI
			168CC	𐞇	BAMUM LETTER PHASE-C MBUAEM
			168CD	𐞇	BAMUM LETTER PHASE-C LU
			168CE	𐞇	BAMUM LETTER PHASE-C KUT
			168CF	𐞇	BAMUM LETTER PHASE-C NJAM
			168D0	𐞇	BAMUM LETTER PHASE-C NGOM
			168D1	𐞇	BAMUM LETTER PHASE-C WUP
			168D2	𐞇	BAMUM LETTER PHASE-C NGGUEET
			168D3	𐞇	BAMUM LETTER PHASE-C NSOM
			168D4	𐞇	BAMUM LETTER PHASE-C NTEN
			168D5	𐞇	BAMUM LETTER PHASE-C KUOP NKAARAE
			168D6	𐞇	BAMUM LETTER PHASE-C NSUN

Characters found through Phase C

1688F	𐞇	BAMUM LETTER PHASE-C NGKUE MAEMBA
16890	𐞇	BAMUM LETTER PHASE-C NZA
16891	𐞇	BAMUM LETTER PHASE-C YUM
16892	𐞇	BAMUM LETTER PHASE-C WANGKUOQ
16893	𐞇	BAMUM LETTER PHASE-C NGGEN
16894	𐞇	BAMUM LETTER PHASE-C NDEUAEREE
16895	𐞇	BAMUM LETTER PHASE-C NGKAQ
16896	𐞇	BAMUM LETTER PHASE-C GHARAE
16897	𐞇	BAMUM LETTER PHASE-C MBEEKEET
16898	𐞇	BAMUM LETTER PHASE-C GBAYI
16899	𐞇	BAMUM LETTER PHASE-C NYIR MKPARAQ MEUN
1689A	𐞇	BAMUM LETTER PHASE-C NTU MBIT
1689B	𐞇	BAMUM LETTER PHASE-C MBEUM
1689C	𐞇	BAMUM LETTER PHASE-C PIRIEEN

168D7	𐞇	BAMUM LETTER PHASE-C NDAM • pen in Phase D	1690F	𐞏	BAMUM LETTER PHASE-D KEUOT MBUAE
168D8	𐞈	BAMUM LETTER PHASE-C MA NSIEE	16910	𐞐	BAMUM LETTER PHASE-D NGKEURI
168D9	𐞉	BAMUM LETTER PHASE-C YAA	16911	𐞑	BAMUM LETTER PHASE-D TU
168DA	𐞊	BAMUM LETTER PHASE-C NDAP	16912	𐞒	BAMUM LETTER PHASE-D GHAA
168DB	𐞋	BAMUM LETTER PHASE-C SHUEQ	16913	𐞓	BAMUM LETTER PHASE-D NGKYEE
168DC	𐞌	BAMUM LETTER PHASE-C SETFON	16914	𐞔	BAMUM LETTER PHASE-D FEUFEUAET
168DD	𐞍	BAMUM LETTER PHASE-C MBI	16915	𐞕	BAMUM LETTER PHASE-D NDEE
168DE	𐞎	BAMUM LETTER PHASE-C MAEMBA	16916	𐞖	BAMUM LETTER PHASE-D MGBOFUM
168DF	𐞏	BAMUM LETTER PHASE-C MBANYI	16917	𐞗	BAMUM LETTER PHASE-D LEUAEP
168E0	𐞐	BAMUM LETTER PHASE-C KEUSEUX	16918	𐞘	BAMUM LETTER PHASE-D NDON
168E1	𐞑	BAMUM LETTER PHASE-C MBEUX	16919	𐞙	BAMUM LETTER PHASE-D MONI
168E2	𐞒	BAMUM LETTER PHASE-C KEUM	1691A	𐞚	BAMUM LETTER PHASE-D MGBEUN
168E3	𐞓	BAMUM LETTER PHASE-C MBAA PICKET	1691B	𐞛	BAMUM LETTER PHASE-D PUUT
168E4	𐞔	BAMUM LETTER PHASE-C YUWOQ	1691C	𐞜	BAMUM LETTER PHASE-D MGBIEE
168E5	𐞕	BAMUM LETTER PHASE-C NJEUX	1691D	𐞝	BAMUM LETTER PHASE-D MFO
168E6	𐞖	BAMUM LETTER PHASE-C MIEE	1691E	𐞞	BAMUM LETTER PHASE-D LUM
168E7	𐞗	BAMUM LETTER PHASE-C MUAE	1691F	𐞟	BAMUM LETTER PHASE-D NSIEEP
168E8	𐞘	BAMUM LETTER PHASE-C SHIQ	16920	𐞠	BAMUM LETTER PHASE-D MBAA
168E9	𐞙	BAMUM LETTER PHASE-C KEN LAW	16921	𐞡	BAMUM LETTER PHASE-D KWAET
168EA	𐞚	BAMUM LETTER PHASE-C KEN FATIGUE	16922	𐞢	BAMUM LETTER PHASE-D NYET
168EB	𐞛	BAMUM LETTER PHASE-C NGAQ	16923	𐞣	BAMUM LETTER PHASE-D TEUAEN
168EC	𐞜	BAMUM LETTER PHASE-C NAQ	16924	𐞤	BAMUM LETTER PHASE-D SOT
168ED	𐞝	BAMUM LETTER PHASE-C LIQ	16925	𐞥	BAMUM LETTER PHASE-D YUWOQ
168EE	𐞞	BAMUM LETTER PHASE-C PIN	16926	𐞦	BAMUM LETTER PHASE-D KEUM
168EF	𐞟	BAMUM LETTER PHASE-C PEN	16927	𐞧	BAMUM LETTER PHASE-D RAEM
168F0	𐞠	BAMUM LETTER PHASE-C TET	16928	𐞨	BAMUM LETTER PHASE-D TEEEE
			16929	𐞩	BAMUM LETTER PHASE-D NGKEUAEQ • faamae '8' in Phase F

Characters found through Phase D

168F1	𐞡	BAMUM LETTER PHASE-D MBUO	1692A	𐞪	BAMUM LETTER PHASE-D MFEUAE
168F2	𐞢	BAMUM LETTER PHASE-D WAP	1692B	𐞫	BAMUM LETTER PHASE-D NSIEET
168F3	𐞣	BAMUM LETTER PHASE-D NJI	1692C	𐞬	BAMUM LETTER PHASE-D KEUP
168F4	𐞤	BAMUM LETTER PHASE-D MFON	1692D	𐞭	BAMUM LETTER PHASE-D PIP
168F5	𐞥	BAMUM LETTER PHASE-D NJIEE	1692E	𐞮	BAMUM LETTER PHASE-D PEUTAE
168F6	𐞦	BAMUM LETTER PHASE-D LIEE	1692F	𐞯	BAMUM LETTER PHASE-D NYUE
168F7	𐞧	BAMUM LETTER PHASE-D NJEUT	16930	𐞰	BAMUM LETTER PHASE-D LET • lee in Phases E-F
168F8	𐞨	BAMUM LETTER PHASE-D NSHEE	16931	𐞱	BAMUM LETTER PHASE-D NGGAAM • mu in Phases E-F
168F9	𐞩	BAMUM LETTER PHASE-D NGGAAMAE	16932	𐞲	BAMUM LETTER PHASE-D MFIEE
168FA	𐞪	BAMUM LETTER PHASE-D NYAM	16933	𐞳	BAMUM LETTER PHASE-D NGGWAEN
168FB	𐞫	BAMUM LETTER PHASE-D WUAEN • ti in Phases E-F	16934	𐞴	BAMUM LETTER PHASE-D YUOM
168FC	𐞬	BAMUM LETTER PHASE-D NGKUN	16935	𐞵	BAMUM LETTER PHASE-D PAP
168FD	𐞭	BAMUM LETTER PHASE-D SHEE	16936	𐞶	BAMUM LETTER PHASE-D YUOP
168FE	𐞮	BAMUM LETTER PHASE-D NGKAP	16937	𐞷	BAMUM LETTER PHASE-D NDAM
168FF	𐞯	BAMUM LETTER PHASE-D KEUAETMEUN	16938	𐞸	BAMUM LETTER PHASE-D NTEUM
16900	𐞰	BAMUM LETTER PHASE-D TEUT	16939	𐞹	BAMUM LETTER PHASE-D SUAE
16901	𐞱	BAMUM LETTER PHASE-D SHEUAE	1693A	𐞺	BAMUM LETTER PHASE-D KUN
16902	𐞲	BAMUM LETTER PHASE-D NJAP	1693B	𐞻	BAMUM LETTER PHASE-D NGGEUX
16903	𐞳	BAMUM LETTER PHASE-D SUE	1693C	𐞼	BAMUM LETTER PHASE-D NGKIEE
16904	𐞴	BAMUM LETTER PHASE-D KET	1693D	𐞽	BAMUM LETTER PHASE-D TUOT
16905	𐞵	BAMUM LETTER PHASE-D YAEMMAE	1693E	𐞾	BAMUM LETTER PHASE-D MEUN
16906	𐞶	BAMUM LETTER PHASE-D KUOM	1693F	𐞿	BAMUM LETTER PHASE-D KUQ
16907	𐞷	BAMUM LETTER PHASE-D SAP	16940	𐟀	BAMUM LETTER PHASE-D NSUM
16908	𐞸	BAMUM LETTER PHASE-D MFEUT	16941	𐟁	BAMUM LETTER PHASE-D TEUN
16909	𐞹	BAMUM LETTER PHASE-D NDEUX	16942	𐟂	BAMUM LETTER PHASE-D MAENJET
1690A	𐞺	BAMUM LETTER PHASE-D MALEERI	16943	𐟃	BAMUM LETTER PHASE-D NGGAP
1690B	𐞻	BAMUM LETTER PHASE-D MEUT	16944	𐟄	BAMUM LETTER PHASE-D LEUM
1690C	𐞼	BAMUM LETTER PHASE-D SEUAEQ	16945	𐟅	BAMUM LETTER PHASE-D NGGUOM
1690D	𐞽	BAMUM LETTER PHASE-D YEN	16946	𐟆	BAMUM LETTER PHASE-D NSHUT
1690E	𐞾	BAMUM LETTER PHASE-D NJEUAE	16947	𐟇	BAMUM LETTER PHASE-D NJUEQ

16948	€	BAMUM LETTER PHASE-D GHEUAE	16979	𐌵	BAMUM LETTER PHASE-E TOO
16949	⋈	BAMUM LETTER PHASE-D KU	1697A	𐌶	BAMUM LETTER PHASE-E KUOP
1694A	𐌷	BAMUM LETTER PHASE-D REN OLD	1697B	#	BAMUM LETTER PHASE-E LOM
1694B	𐌸	BAMUM LETTER PHASE-D TAE	1697C	𐌹	BAMUM LETTER PHASE-E NSHIEE
1694C	𐌹	BAMUM LETTER PHASE-D TOQ	1697D	𐌺	BAMUM LETTER PHASE-E NGOP
1694D	𐌻	BAMUM LETTER PHASE-D NYI	1697E	𐌻	BAMUM LETTER PHASE-E MAEM
1694E	𐌼	BAMUM LETTER PHASE-D RII	1697F	𐌽	BAMUM LETTER PHASE-E NGKEUX
1694F	𐌾	BAMUM LETTER PHASE-D LEEEE	16980	𐌾	BAMUM LETTER PHASE-E NGOQ
16950	𐌿	BAMUM LETTER PHASE-D MEEEE • meq in Phase E	16981	𐌿	BAMUM LETTER PHASE-E NSHUE
16951	𐍀	BAMUM LETTER PHASE-D M	16982	𐍀	BAMUM LETTER PHASE-E RIMGBA
16952	𐍁	BAMUM LETTER PHASE-D SUU	16983	𐍁	BAMUM LETTER PHASE-E NJEUX
16953	𐍂	BAMUM LETTER PHASE-D MU	16984	𐍂	BAMUM LETTER PHASE-E PEEM
16954	+	BAMUM LETTER PHASE-D SHII	16985	𐍃	BAMUM LETTER PHASE-E SAA • used before 16963 𐍃 for samba '7' in Phases A-D
16955	⊕	BAMUM LETTER PHASE-D SHEUX	16986	𐍄	BAMUM LETTER PHASE-E NGGURAE
16956	𐍆	BAMUM LETTER PHASE-D KYEE	16987	𐍅	BAMUM LETTER PHASE-E MGBA
16957	𐍇	BAMUM LETTER PHASE-D NU	16988	𐍆	BAMUM LETTER PHASE-E GHEUX
16958	𐍈	BAMUM LETTER PHASE-D SHU	16989	𐍇	BAMUM LETTER PHASE-E NGKEUAEM
16959	⊖	BAMUM LETTER PHASE-D NTEE	1698A	𐍈	BAMUM LETTER PHASE-E NJAEMLI
1695A	⊗	BAMUM LETTER PHASE-D PEE	1698B	𐍉	BAMUM LETTER PHASE-E MAP
1695B	†	BAMUM LETTER PHASE-D NI	1698C	𐍊	BAMUM LETTER PHASE-E LOOT
1695C	⊘	BAMUM LETTER PHASE-D SHOQ	1698D	𐍋	BAMUM LETTER PHASE-E NGGEEEE
1695D	𐍌	BAMUM LETTER PHASE-D PUQ	1698E	𐍌	BAMUM LETTER PHASE-E NDIQ
1695E	⊙	BAMUM LETTER PHASE-D MVOP	1698F	𐍍	BAMUM LETTER PHASE-E TAEN NTEUM
1695F	‡	BAMUM LETTER PHASE-D LOQ	16990	𐍎	BAMUM LETTER PHASE-E SET
16960	⊚	BAMUM LETTER PHASE-D REN MUCH	16991	𐍏	BAMUM LETTER PHASE-E PUM • o in Phase F
16961	𐍐	BAMUM LETTER PHASE-D TI	16992	𐍐	BAMUM LETTER PHASE-E NDA SOFTNESS
16962	𐍑	BAMUM LETTER PHASE-D NTUU	16993	𐍑	BAMUM LETTER PHASE-E NGGUAESHAE NYAM • fee in Phase F
16963	𐍒	BAMUM LETTER PHASE-D MBAA SEVEN • used after 16985 𐍒 for samba '7' in Phases A-D	16994	𐍒	BAMUM LETTER PHASE-E YIEE
16964	𐍓	BAMUM LETTER PHASE-D SAQ	16995	𐍓	BAMUM LETTER PHASE-E GHEUN
16965	𐍔	BAMUM LETTER PHASE-D FAA • used before 16988 𐍔 for faamae '8' in Phases A-D	16996	𐍔	BAMUM LETTER PHASE-E TUAE
Characters found through Phase E					
16966	~	BAMUM LETTER PHASE-E NDAP • i in Phase F	16997	𐍕	BAMUM LETTER PHASE-E YEUAE
16967	𐍖	BAMUM LETTER PHASE-E TOON	16998	𐍖	BAMUM LETTER PHASE-E PO
16968	𐍗	BAMUM LETTER PHASE-E MBEUM	16999	𐍗	BAMUM LETTER PHASE-E TUMAE
16969	𐍘	BAMUM LETTER PHASE-E LAP • men in Phase F	1699A	𐍘	BAMUM LETTER PHASE-E KEUAE
1696A	𐍙	BAMUM LETTER PHASE-E VOM	1699B	⊖	BAMUM LETTER PHASE-E SUAEN
1696B	𐍚	BAMUM LETTER PHASE-E LOON	1699C	𐍙	BAMUM LETTER PHASE-E TEUAEQ
1696C	𐍛	BAMUM LETTER PHASE-E PAA	1699D	↓	BAMUM LETTER PHASE-E VEUAE
1696D	𐍜	BAMUM LETTER PHASE-E SOM	1699E	𐍚	BAMUM LETTER PHASE-E WEUX
1696E	𐍝	BAMUM LETTER PHASE-E RAQ • nga in Phase F	1699F	𐍛	BAMUM LETTER PHASE-E LAAM
1696F	𐍞	BAMUM LETTER PHASE-E NSHUOP • pa in Phase F	169A0	𐍜	BAMUM LETTER PHASE-E PU • also puq in Phase E
16970	𐍟	BAMUM LETTER PHASE-E NDUN • pue in Phase F	169A1	↕	BAMUM LETTER PHASE-E TAAQ
16971	𐍠	BAMUM LETTER PHASE-E PUAE • fae in Phase F	169A2	𐍝	BAMUM LETTER PHASE-E GHAAMAE
16972	𐍡	BAMUM LETTER PHASE-E TAM	169A3	𐍞	BAMUM LETTER PHASE-E NGEUREUT
16973	𐍢	BAMUM LETTER PHASE-E NGKA	169A4	𐍟	BAMUM LETTER PHASE-E SHEUAEQ
16974	𐍣	BAMUM LETTER PHASE-E KPEUX	169A5	𐍠	BAMUM LETTER PHASE-E MGBEN
16975	∩	BAMUM LETTER PHASE-E WUO	169A6	𐍡	BAMUM LETTER PHASE-E MBEE
16976	∞	BAMUM LETTER PHASE-E SEE	169A7	𐍢	BAMUM LETTER PHASE-E NZAQ
16977	𐍤	BAMUM LETTER PHASE-E NGGEUAET	169A8	𐍣	BAMUM LETTER PHASE-E NKOM • ten in Phase F
16978	𐍥	BAMUM LETTER PHASE-E PAAM	169A9	𐍤	BAMUM LETTER PHASE-E GBET
			169AA	𐍥	BAMUM LETTER PHASE-E TUM
			169AB	𐍦	BAMUM LETTER PHASE-E KUET
			169AC	𐍧	BAMUM LETTER PHASE-E YAP
			169AD	𐍨	BAMUM LETTER PHASE-E NYI CLEAVER

169AE	𐞀	BAMUM LETTER PHASE-E YIT	169E6	𐞖	BAMUM LETTER PHASE-E KEUX
169AF	𐞁	BAMUM LETTER PHASE-E MFEUQ	169E7	𐞗	BAMUM LETTER PHASE-E PEUX
169B0	𐞂	BAMUM LETTER PHASE-E NDIAQ	169E8	𐞘	BAMUM LETTER PHASE-E NJEE EPOCH
169B1	𐞃	BAMUM LETTER PHASE-E PIEEQ	169E9	𐞙	BAMUM LETTER PHASE-E PUE
169B2	𐞄	BAMUM LETTER PHASE-E YUEQ	169EA	𐞚	BAMUM LETTER PHASE-E WUE
169B3	𐞅	BAMUM LETTER PHASE-E LEUAEM	169EB	𐞛	BAMUM LETTER PHASE-E FEE
169B4	𐞆	BAMUM LETTER PHASE-E FUE	169EC	𐞜	BAMUM LETTER PHASE-E VEE
169B5	𐞇	BAMUM LETTER PHASE-E GBEUX	169ED	𐞝	BAMUM LETTER PHASE-E LU
169B6	𐞈	BAMUM LETTER PHASE-E NGKUP	169EE	𐞞	BAMUM LETTER PHASE-E MI
169B7	𐞉	BAMUM LETTER PHASE-E KET	169EF	𐞟	BAMUM LETTER PHASE-E REUX
169B8	◦	BAMUM LETTER PHASE-E MAE • used after 16965 𐞊 for faamae '8' in Phases A-D	169F0	𐞠	BAMUM LETTER PHASE-E RAE
169B9	⊙	BAMUM LETTER PHASE-E NGKAAMI	169F1	𐞡	BAMUM LETTER PHASE-E NGUAET
169BA	𐞋	BAMUM LETTER PHASE-E GHET	169F2	𐞢	BAMUM LETTER PHASE-E NGA
169BB	𐞌	BAMUM LETTER PHASE-E FA	169F3	𐞣	BAMUM LETTER PHASE-E SHO
169BC	𐞍	BAMUM LETTER PHASE-E NTUM	169F4	𐞤	BAMUM LETTER PHASE-E SHOQ
169BD	𐞎	BAMUM LETTER PHASE-E PEUT	169F5	𐞥	BAMUM LETTER PHASE-E FU REMEDY
169BE	𐞏	BAMUM LETTER PHASE-E YEUM	169F6	𐞦	BAMUM LETTER PHASE-E NA
169BF	𐞐	BAMUM LETTER PHASE-E NGGEUAE	169F7	𐞧	BAMUM LETTER PHASE-E PI
169C0	𐞑	BAMUM LETTER PHASE-E NYI BETWEEN	169F8	𐞨	BAMUM LETTER PHASE-E LOQ
169C1	𐞒	BAMUM LETTER PHASE-E NZUQ	169F9	•	BAMUM LETTER PHASE-E KO • used before 16A02 𐞩 for koghom '10' in Phases A-D • used before 16A38 𐞪 for kovue '9' in Phases A-D
169C2	𐞓	BAMUM LETTER PHASE-E POON	169FA	𐞫	BAMUM LETTER PHASE-E MEN
169C3	𐞔	BAMUM LETTER PHASE-E MIEE	169FB	𐞬	BAMUM LETTER PHASE-E MA
169C4	𐞕	BAMUM LETTER PHASE-E FUET	169FC	𐞭	BAMUM LETTER PHASE-E MAQ
169C5	𐞖	BAMUM LETTER PHASE-E NAE	169FD	𐞮	BAMUM LETTER PHASE-E TEU
169C6	𐞗	BAMUM LETTER PHASE-E MUAE	169FE	𐞯	BAMUM LETTER PHASE-E KI • koghom in Phase F
169C7	𐞘	BAMUM LETTER PHASE-E GHEUAE	169FF	∞	BAMUM LETTER PHASE-E MON
169C8	𐞙	BAMUM LETTER PHASE-E FU I	16A00	𐞰	BAMUM LETTER PHASE-E TEN
169C9	𐞚	BAMUM LETTER PHASE-E MVI	16A01	𐞱	BAMUM LETTER PHASE-E FAQ
169CA	𐞛	BAMUM LETTER PHASE-E PUAQ	16A02	𐞲	BAMUM LETTER PHASE-E GHOM • used after 169F9 • for koghom '10' in Phases A-D
169CB	○	BAMUM LETTER PHASE-E NGKUM	Characters found through Phase F		
169CC	𐞜	BAMUM LETTER PHASE-E KUT	16A03	𐞳	BAMUM LETTER PHASE-F KA
169CD	𐞝	BAMUM LETTER PHASE-E PIET	16A04	𐞴	BAMUM LETTER PHASE-F U
169CE	𐞞	BAMUM LETTER PHASE-E NTAQ	16A05	𐞵	BAMUM LETTER PHASE-F KU
169CF	𐞟	BAMUM LETTER PHASE-E YEUAET	16A06	𐞶	BAMUM LETTER PHASE-F EE
169D0	𐞠	BAMUM LETTER PHASE-E NGGUP	16A07	𐞷	BAMUM LETTER PHASE-F REE
169D1	𐞡	BAMUM LETTER PHASE-E PA PEOPLE	16A08	𐞸	BAMUM LETTER PHASE-F TAE
169D2	𐞢	BAMUM LETTER PHASE-E FU CALL	16A09	𐞹	BAMUM LETTER PHASE-F NYI
169D3	𐞣	BAMUM LETTER PHASE-E FOM	16A0A	𐞺	BAMUM LETTER PHASE-F LA
169D4	𐞤	BAMUM LETTER PHASE-E NJEE	16A0B	𐞻	BAMUM LETTER PHASE-F RII
169D5	𐞥	BAMUM LETTER PHASE-E A	16A0C	𐞼	BAMUM LETTER PHASE-F RIEE
169D6	𐞦	BAMUM LETTER PHASE-E TOQ	16A0D	𐞽	BAMUM LETTER PHASE-F MEEEE
169D7	𐞧	BAMUM LETTER PHASE-E O	16A0E	𐞾	BAMUM LETTER PHASE-F TAA
169D8	𐞨	BAMUM LETTER PHASE-E I	16A0F	𐞿	BAMUM LETTER PHASE-F NDAA
169D9	𐞩	BAMUM LETTER PHASE-E LAQ	16A10	𐟀	BAMUM LETTER PHASE-F NJAEM
169DA	𐞪	BAMUM LETTER PHASE-E PA PLURAL	16A11	𐟁	BAMUM LETTER PHASE-F M
169DB	𐞫	BAMUM LETTER PHASE-E TAA	16A12	𐟂	BAMUM LETTER PHASE-F SUU
169DC	𐞬	BAMUM LETTER PHASE-E TAQ	16A13	𐟃	BAMUM LETTER PHASE-F SHII
169DD	𐞭	BAMUM LETTER PHASE-E NDAA MY HOUSE	16A14	𐟄	BAMUM LETTER PHASE-F SI
169DE	𐞮	BAMUM LETTER PHASE-E SHIQ	16A15	𐟅	BAMUM LETTER PHASE-F SEUX
169DF	𐞯	BAMUM LETTER PHASE-E YEUX	16A16	𐟆	BAMUM LETTER PHASE-F KYEE
169E0	𐞰	BAMUM LETTER PHASE-E NGUAE	16A17	𐟇	BAMUM LETTER PHASE-F KET
169E1	𐞱	BAMUM LETTER PHASE-E YUAEN • pi in Phase F	16A18	𐟈	BAMUM LETTER PHASE-F NUAE
169E2	𐞲	BAMUM LETTER PHASE-E YOQ SWIMMING	16A19	𐟉	BAMUM LETTER PHASE-F NU
169E3	𐞳	BAMUM LETTER PHASE-E YOQ COVER			
169E4	𐞴	BAMUM LETTER PHASE-E YUQ			
169E5	A	BAMUM LETTER PHASE-E YUN			

16A1A	𐞀	BAMUM LETTER PHASE-F NJUAE
16A1B	𐞁	BAMUM LETTER PHASE-F YOQ
16A1C	𐞂	BAMUM LETTER PHASE-F SHU
16A1D	𐞃	BAMUM LETTER PHASE-F YA
16A1E	𐞄	BAMUM LETTER PHASE-F NSHA
16A1F	𐞅	BAMUM LETTER PHASE-F PEUX
16A20	𐞆	BAMUM LETTER PHASE-F NTEE
16A21	𐞇	BAMUM LETTER PHASE-F WUE
16A22	𐞈	BAMUM LETTER PHASE-F PEE
16A23	𐞉	BAMUM LETTER PHASE-F RU
16A24	𐞊	BAMUM LETTER PHASE-F NI
16A25	𐞋	BAMUM LETTER PHASE-F REUX
16A26	𐞌	BAMUM LETTER PHASE-F KEN
16A27	𐞍	BAMUM LETTER PHASE-F NGKWAEN
16A28	𐞎	BAMUM LETTER PHASE-F NGGA
16A29	𐞏	BAMUM LETTER PHASE-F SHO
16A2A	𐞐	BAMUM LETTER PHASE-F PUAE
16A2B	𐞑	BAMUM LETTER PHASE-F FOM
16A2C	𐞒	BAMUM LETTER PHASE-F WA
16A2D	𐞓	BAMUM LETTER PHASE-F LI
16A2E	𐞔	BAMUM LETTER PHASE-F LOQ
16A2F	𐞕	BAMUM LETTER PHASE-F KO
16A30	𐞖	BAMUM LETTER PHASE-F MBEN
16A31	𐞗	BAMUM LETTER PHASE-F REN
16A32	𐞘	BAMUM LETTER PHASE-F MA
16A33	𐞙	BAMUM LETTER PHASE-F MO
16A34	𐞚	BAMUM LETTER PHASE-F MBAA
16A35	𐞛	BAMUM LETTER PHASE-F TET
16A36	𐞜	BAMUM LETTER PHASE-F KPA
16A37	𐞝	BAMUM LETTER PHASE-F SAMBA
16A38	𐞞	BAMUM LETTER PHASE-F VUEQ

• used after 169F9 • for kovue '9' in Phases A-D