

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 Balinese script in the UCS

Source: Michael Everson and I Made Suatjana

Status: Individual Contribution

Replaces: N2856

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

Date: 2005-01-23

The Balinese script, or *aksara Bali*, is used for writing the Balinese language, the native language of the people of Bali, known locally as *basa Bali*. It is a descendent of the ancient Brahmi script of India, and so has many similarities with modern scripts of South Asia and Southeast Asia which are also members of that family. The Balinese script is used for writing Kawi, or Old Javanese, which had a strong influence on the Balinese language in the 11th century CE. Today the script is also used, with some modifications, to write the Sasak language, spoken on the island of Lombok to the east of Bali. Some Balinese words have been borrowed from Sanskrit, and Balinese script may also used to write that language. A number of the Sanskrit or Kawi consonants are rather poorly attested. The letter CA LACA ᮘ (cha) is only found in non-initial position as ᮘᮞ, and most of the retroflex series is often omitted in books about the script. The letter JA JERA ᮞ (jha) seems to be known from only one word, ᮞᮞᮞᮞ *nirjhara* ‘pond’. (It is possible that an original *ᮞ ai may have been lost in Balinese, to be replaced by the glyph for ᮞ jha; we distinguish the two glyphs ᮞ ai and ᮞ jha. Compare Javanese ᮞ e, ᮞ ai, and ᮞ jha.) Traditional Balinese texts are written on palm leaves; books of these bound together are called *lontar*.

Structure

Consonants have an inherent -a vowel sound. Consonants combine with following consonants in the usual Brahmic fashion: the inherent vowel is “killed” by the ADEG ADEG (*virama*), and the following consonant is subjoined or postfixed, often with a change in shape. The table below shows the base consonants and their conjunct forms. The set of extensions for the Sasak language is given at the end of this list (from *kaf* to *asyura*). Their conjunct forms remain to be verified.

ka	ᮏ	ᮏ	kha	ᮏ	ᮏ	ga	ᮒ	ᮒ	gha	ᮒ	ᮒ	nga	ᮓ	ᮓ
ca	ᮘ	ᮘ	cha	ᮘ	ᮘ	ja	ᮞ	ᮞ	jha	ᮞ	ᮞ	nya	ᮟ	ᮟ
tta	ᮛ	ᮛ	ttha	ᮛ	ᮛ	dda	ᮝ	ᮝ	ddha	ᮝ	ᮝ	nna	ᮞ	ᮞ
ta	ᮜ	ᮜ	tha	ᮜ	ᮜ	da	ᮞ	ᮞ	dha	ᮞ	ᮞ	na	ᮟ	ᮟ
pa	ᮠ	ᮠ	pha	ᮠ	ᮠ	ba	ᮡ	ᮡ	bha	ᮡ	ᮡ	ma	ᮢ	ᮢ
ya	ᮣ	ᮣ	ra	ᮤ	ᮤ	la	ᮥ	ᮥ	wa	ᮦ	ᮦ			
ssa	ᮧ	ᮧ	sha	ᮧ	ᮧ	sa	ᮨ	ᮨ	ha	ᮩ	ᮩ	r	᮪	᮪
kaf	᮫	᮫	khot	᮫	᮫	tzir	ᮬ	ᮬ	ef	ᮭ	ᮭ	ve	ᮮ	ᮮ
zal	ᮯ	ᮯ	asyura	᮰	᮰									

Dependant vowel signs are used in a manner similar to that employed by other Brahmic scripts.

ka 𑄓	kā 𑄓̄	kë 𑄓̣	kö 𑄓̥	ki 𑄓̇	kī 𑄓̇̄
ku 𑄓̣	kū 𑄓̣̄	krë 𑄓̣̣	krö 𑄓̣̥	klë 𑄓̣̣̣	klö 𑄓̣̣̥
ke 𑄓̣̣	kai 𑄓̣̣̄	ko 𑄓̣̣̣	kau 𑄓̣̣̣̄		

Independent vowels are used as in other Brahmic scripts as well, with a few differences. Some of them (at least AKARA and RA REPA) can be treated as consonants, that is, they can be followed by ADEG ADEG. In Sasak, for instance, AKARA can followed by explicit ADEG ADEG 𑄓̣̣̣̣ in word- or syllable-final position, where it indicates the glottal stop; other consonants can also be subjoined to it (see figure 3).

a 𑄓̣̣̣̣	ā 𑄓̣̣̣̣̄	ë 𑄓̣̣̣̣̣	ö 𑄓̣̣̣̣̥	i 𑄓̣̣̣̣̇	ī 𑄓̣̣̣̣̇̄
u 𑄓̣̣̣̣̣	ū 𑄓̣̣̣̣̣̄	rë 𑄓̣̣̣̣̣̣	rö 𑄓̣̣̣̣̣̥	lë 𑄓̣̣̣̣̣̣̣	lö 𑄓̣̣̣̣̣̥̣
e 𑄓̣̣̣̣̣̣	ai 𑄓̣̣̣̣̣̣̄	o 𑄓̣̣̣̣̣̣̣	au 𑄓̣̣̣̣̣̣̣̄		

Unique to Balinese is the behaviour of the characters used to represent RA and original RA REPA (vocalic *r*). The inherited Kawi form of the script used the 𑄓̣̣̣̣ SURANG or *repha* character in the same way as many Brahmic scripts do: it formed the first element of a syllable, so *dharma* was written 𑄓̣̣̣̣𑄓̣̣̣̣𑄓̣̣̣̣, DA-MADU + RA + ADEG-ADEG + MA, *dha-rma*. Because many syllables end in *-r* in the Balinese language, this written form was reanalyzed and so that word would be pronounced *damar*. Today, *dharma* must be written 𑄓̣̣̣̣𑄓̣̣̣̣ and encoded DA-MADU + SURANG + MA, *dhar-ma*. The sequence DA-MADU + RA + ADEG-ADEG + MA would yield *𑄓̣̣̣̣𑄓̣̣̣̣̣̣̣, though RA with subjoined MA never occurs in the writing system. (An interesting artifact of the older orthography is the spelling for *ryantuk* ‘because’. In Kawi this word is conventionally written 𑄓̣̣̣̣𑄓̣̣̣̣𑄓̣̣̣̣ *yyarntuk*, though in normal Balinese 𑄓̣̣̣̣𑄓̣̣̣̣ *ryantuk* is written.) In searching operations, SURANG should be equivalent to RA, so that word-forms like 𑄓̣̣̣̣𑄓̣̣̣̣ *daar* ‘eat’ and 𑄓̣̣̣̣𑄓̣̣̣̣𑄓̣̣̣̣ *daara* ‘eaten’ will be found together. (The same applies to two other characters in Balinese: 𑄓̣̣̣̣ CECEK should be equivalent to NGA, so that word forms like 𑄓̣̣̣̣𑄓̣̣̣̣ *baang* ‘give’ and 𑄓̣̣̣̣𑄓̣̣̣̣𑄓̣̣̣̣ *baanga* ‘given’ will be found together; and 𑄓̣̣̣̣ BISAH should be equivalent to HA, so that word forms like 𑄓̣̣̣̣𑄓̣̣̣̣ *natah* ‘yard’ and 𑄓̣̣̣̣𑄓̣̣̣̣𑄓̣̣̣̣ *natahe* ‘that yard’ will be found together.)

The unique behaviour of original vocalic *r* results from a reanalysis of the independent vowel letter as a consonant. In a compound word in which the first element ends in a consonant and the second element begins with an original RA + PEPET, such as *Pak Rërëh* 𑄓̣̣̣̣𑄓̣̣̣̣𑄓̣̣̣̣ ‘Mr Rërëh’, the postfixed form of 𑄓̣̣̣̣ RA REPA is used; this particular sequence is encoded KA + ADEG-ADEG + RA-REPA. In other contexts, however, where the RA REPA represents the original Sanskrit vowel, the VOWEL SIGN RA REPA is used, as in *Krësna* 𑄓̣̣̣̣𑄓̣̣̣̣ ‘Kṛṣṇa’. For information on sorting RA REPA, see the section on Ordering below. In older typography, 𑄓̣̣̣̣ RA REPA TEDUNG has been found written with what looks like a modified SIKU ILUT: 𑄓̣̣̣̣; this could be confused with the syllable 𑄓̣̣̣̣ *pū*.

Rendering

The vowel signs [u] and [u:] take different forms when combined with subscripted consonant clusters. The upper limit of consonant clusters is three, the last of which can be *-ya*, *-wa*, or *-ra*.

kyu 𑄓̣̣̣̣̣̣	kyū 𑄓̣̣̣̣̣̣̄	kwu 𑄓̣̣̣̣̣̣̣	kwū 𑄓̣̣̣̣̣̣̣̄	kru 𑄓̣̣̣̣̣̣̣̣	kūrū 𑄓̣̣̣̣̣̣̣̣̄
kryu 𑄓̣̣̣̣̣̣̣̣	kryū 𑄓̣̣̣̣̣̣̣̣̄	skru 𑄓̣̣̣̣̣̣̣̣̣̣	skrū 𑄓̣̣̣̣̣̣̣̣̣̣̄		

The combining mark REREKAN is used, as is a similar sign in Javanese, to extend the character repertoire for foreign sounds. Attested in Library of Congress transliterations and in earlier Sasak orthography are:

ꦲ [x], ꦛ [y], ꦱ [ŋ], ꦱꦶ [z], ꦱꦶꦏ [f], ꦱꦶꦏꦩ [v], and ꦱꦶꦏꦩꦃ [h]; ꦱꦶꦏꦩꦃ could be used for one-to-one transliteration for Javanese ꦱꦶꦏꦩꦃ [d]. In rendering, the dots of these letters appear above the top character, which can cause some ambiguity in reading; ꦱꦶꦏꦩꦃ could be *xja* KA + REREKAN + ADEG ADEG + JA, or *kza* KA + ADEG ADEG + JA + REREKAN, or indeed *xza* KA + REREKAN + ADEG ADEG + JA + REREKAN. In practice these combinations are probably rather rare. In recent times, Sasak users abandoned the use of the Javanese-influenced REREKAN in favour of the series of modified letters given in the last two lines of the chart on the first page of this document, making use, in addition, of some of unused Kawi letters for these Arabic sounds. In place of ꦱꦶꦏꦩꦃ KA + REREKAN and ꦱꦶꦏꦩꦃ GA + REREKAN for [x] and [y], for instance, the new fusion (of ꦱꦶꦏꦩꦃ *ka* and ꦱꦶꦏꦩꦃ *ha*) ꦱꦶꦏꦩꦃ KHOT SASAK and the Kawi letter ꦱꦶꦏꦩꦃ GA GORA are used.

Ordering

The traditional order *ha na ca ra ka | da ta sa wa la | ma ga ba nga | pa ja ya nya* is taught in schools, though van der Tuuk followed the Javanese order *pa ja ya nya | ma ga ba nga* for the second half. (The Javanese order is *hana caraka, data sawala, padha jayanya, maga bathanga*, a sentence which means ‘There were (two) emissaries, they began to fight, their valour was equal, they both fell dead’; Balinese ordering ends with valour (*jayanya*) rather than death!) The arrangement of characters in the code table here follows the Brahmic ordering, for transparency to implementors of ISO/IEC 10646 and Unicode. Balinese experts have decided that a Balinese locale should offer two ordering choices to Balinese users. One is derived from the *hanacaraka* order in van der Tuuk’s 1892-1912 dictionary (ending in *jayanya*), though for modern users a strictly alphabetic ordering is preferred to his syllabic ordering:

A > Ā > Ē > Ö > I > Ī > U > Ū > E > AI > O > AU >

ha (bisah) > ha-rerekan > na > nna > ca > cha > ra ([ra-repa = rē], surang) > ka > ka-rerekan > kaf-sasak > khot-sasak > kha > da > da-rerekan > dha > dda > ddha > ta > tzir-sasak > tha > tta > ttha > sa > zal-sasak > asyura-sasak > sha > ssa > wa > wa-rerekan > ve-sasak > la ([la-lenga = lē]) > ma (uli ricem) > ga > ga-rerekan > gha > ba > bha > nga (cecek, ulu candra) > nga-rerekan > pa > pa-rerekan > ef-sasak > pha > ja > ja-rerekan > jha > ya > nya >

The other order is based on the standard Sanskrit ordering as found in Menaka’s 1990 Kawi-Bali dictionary:

A > Ā > Ē > Ö > I > Ī > U > Ū > RĒ > RÖ > LĒ > LÖ > E > AI > O > AU >

ka > ka-rerekan > kaf-sasak > khot-sasak > kha > ga > ga-rerekan > gha > nga (cecek, ulu candra) > nga-rerekan > ca > cha > ja > ja-rerekan > jha > nya > tta > ttha > dda > ddha > nna > ta > tzir-sasak > tha > da > da-rerekan > dha > na > pa > pa-rerekan > ef-sasak > pha > ba > bha > ma (uli ricem) > ya > ra (surang) > la > wa > wa-rerekan > ve-sasak > sha > ssa > sa > zal-sasak > asyura-sasak > ha (bisah) > ha-rerekan >

One feature of this ordering should be noted. Original Sanskrit vocalic *r* is ordered as a vowel and words beginning with this appear between words beginning in ꦱꦶꦏꦩꦃ- *u*- and words beginning in ꦱꦶꦏꦩꦃ- *e*- on pp. 77-78. Non-Sanskrit words with RA + PEPET are ordered as normal and words beginning with this appear between words beginning in ꦱꦶꦏꦩꦃ- *ra*- and words beginning in ꦱꦶꦏꦩꦃ- *ri*- on pp. 347-350. In effect, because the two sounds fell together, an orthographic congress at some point decided that words in ꦱꦶꦏꦩꦃ should always be written ꦱꦶꦏꦩꦃ. In order to account for this anachronistic behaviour, fonts should render RA + PEPET as ꦱꦶꦏꦩꦃ, though an option to override this rendering should be made available to represent ꦱꦶꦏꦩꦃ.

Punctuation

Both ꦱꦶꦏꦩꦃ PANTI and ꦱꦶꦏꦩꦃ PAMADA are used to begin a section in text. ꦱꦶꦏꦩꦃ CARIK PAMUNGKAH is used as a colon, and ꦱꦶꦏꦩꦃ CARIK SIKI and ꦱꦶꦏꦩꦃ CARIK PAREREN are used as comma and full stop respectively. At the end of a section, ꦱꦶꦏꦩꦃ *pasalinan* and ꦱꦶꦏꦩꦃ *carik agung* may be used (depending on what sign began the section). These are encoded using the punctuation ring ꦱꦶꦏꦩꦃ WINDU together with ꦱꦶꦏꦩꦃ CARIK PAREREN and ꦱꦶꦏꦩꦃ PAMADA. In some texts, “holy letters” or *modre* symbols are made by using ꦱꦶꦏꦩꦃ ULU CANDRA with these: ꦱꦶꦏꦩꦃ, ꦱꦶꦏꦩꦃ, ꦱꦶꦏꦩꦃ.

Hyphenation

In *lontar* texts where a word must be broken at the end of a line (always after a full syllable), the sign ³ PAMENENG is inserted. This sign is not used as a word-joining hyphen; it is used only in linebreaking.

Musical symbols

Bali is well-known for its rich musical heritage. A number of related notation systems are used. To represent degrees of a scale, the syllables DING DONG DANG DENG DUNG are used, in the same way that *do re mi fa so la ti* is used in Western tradition. The symbols used to represent these are based on the vowel matras (together with some other symbols). Unlike the regular vowel matras, however, these are stand-alone, spacing characters which themselves take diacritical marks; they also have different positions and sizes relative to the baseline. Encoded here from U+1B61-U+1B6A are those matra-like symbols along with a modified AIKARA – other spacing letters which are used in some notation systems (such as ᳚ UKARA and ᳛ PA) are not separately encoded. It should be noted that ᳞ ULU CANDRA can also be used with (at least) U+1B62 ᳟ DENG and U+1B68 ᳠ DEUNG and to indicate *modre* symbols (see “Issues” below). It remains to be confirmed whether these should have “Letter-Other” or “Symbol-Other” Unicode properties.

A range of diacritical marks is used with these musical notation base characters in order to indicate metrical information. Some additional combining marks indicate the instruments used; four of these may often look superficially like PLUS SIGN (or THAI MAI CHATTAWA), MACRON (or other horizontal lines), CIRCUMFLEX, and CARON, but they must be encoded as a set – note in particular how two of the members of that set are combinations of the first three. Accordingly, the whole set is proposed for encoding at U+1B6B-U+1B73. Finally, a set of symbols describing certain features of performance are encoded at U+1B74-U+1B7C. These describe the use of the right or left hand, the open or closed hand position, and the “male” or “female” drum (of the pair) which is struck and the quality of the striking.

Issues

While the characters proposed here support 95% of Balinese writing, a range of “holy letters” called *modre* symbols is known. Most of these letters can be composed out of the constituent parts proposed already in this code table; examples mentioned above are ᳞, ᳟, ᳠, ᳡, and ᳢. A number of additional characters, known to be used inline in text (as opposed to decoratively on drawings), remains under study and those characters are expected to be proposed as Balinese extensions in due course.

Unicode Character Properties

```
1B00;BALINESE SIGN ULU RICEM;Mn;0;NSM;;;;;N;ardhacandra;;;
1B01;BALINESE SIGN ULU CANDRA;Mn;0;NSM;;;;;N;candrabindu;;;
1B02;BALINESE SIGN CECEK;Mn;0;NSM;;;;;N;anusvara;;;
1B03;BALINESE SIGN SURANG;Mn;0;L;;;;;N;repha;;;
1B04;BALINESE SIGN BISAH;Mc;0;L;;;;;N;visarga;;;
1B05;BALINESE LETTER AKARA;Lo;0;L;;;;;N;a;;;
1B06;BALINESE LETTER AKARA TEDUNG;Lo;0;L;;;;;N;aa;;;
1B07;BALINESE LETTER IKARA;Lo;0;L;;;;;N;i;;;
1B08;BALINESE LETTER IKARA TEDUNG;Lo;0;L;;;;;N;ii;;;
1B09;BALINESE LETTER UKARA;Lo;0;L;;;;;N;u;;;
1B0A;BALINESE LETTER UKARA TEDUNG;Lo;0;L;;;;;N;uu;;;
1B0B;BALINESE LETTER RA REPA;Lo;0;L;;;;;N;vocalic r;;;
1B0C;BALINESE LETTER RA REPA TEDUNG;Lo;0;L;;;;;N;vocalic rr;;;
1B0D;BALINESE LETTER LA LENGGA;Lo;0;L;;;;;N;vocalic l;;;
1B0E;BALINESE LETTER LA LENGGA TEDUNG;Lo;0;L;;;;;N;vocalic ll;;;
1B0F;BALINESE LETTER EKARA;Lo;0;L;;;;;N;e;;;
1B10;BALINESE LETTER AIKARA;Lo;0;L;;;;;N;ai;;;
1B11;BALINESE LETTER OKARA;Lo;0;L;;;;;N;o;;;
1B12;BALINESE LETTER OKARA TEDUNG;Lo;0;L;;;;;N;au;;;
1B13;BALINESE LETTER KA;Lo;0;L;;;;;N;ka;;;
1B14;BALINESE LETTER KA MAHAPRANA;Lo;0;L;;;;;N;kha;;;
1B15;BALINESE LETTER GA;Lo;0;L;;;;;N;ga;;;
1B16;BALINESE LETTER GA GORA;Lo;0;L;;;;;N;gha;;;
1B17;BALINESE LETTER NGA;Lo;0;L;;;;;N;nga;;;;
```

1B18;BALINESE LETTER CA;Lo;0;L;;;;N;;;;;
1B19;BALINESE LETTER CA LACA;Lo;0;L;;;;N;cha;;;
1B1A;BALINESE LETTER JA;Lo;0;L;;;;N;;;;;
1B1B;BALINESE LETTER JA JERA;Lo;0;L;;;;N;;jha;;;
1B1C;BALINESE LETTER NYA;Lo;0;L;;;;N;;;;;
1B1D;BALINESE LETTER TA LATIK;Lo;0;L;;;;N;tta;;;
1B1E;BALINESE LETTER TA MURDA MAHAPRANA;Lo;0;L;;;;N;ttha;;;
1B1F;BALINESE LETTER DA MURDA ALPAPRANA;Lo;0;L;;;;N;dda;;;
1B20;BALINESE LETTER DA MURDA MAHAPRANA;Lo;0;L;;;;N;ddha;;;
1B21;BALINESE LETTER NA RAMBAT;Lo;0;L;;;;N;nna;;;
1B22;BALINESE LETTER TA;Lo;0;L;;;;N;;;;;
1B23;BALINESE LETTER TA TAWA;Lo;0;L;;;;N;tha;;;
1B24;BALINESE LETTER DA;Lo;0;L;;;;N;;;;;
1B25;BALINESE LETTER DA MADU;Lo;0;L;;;;N;dha;;;
1B26;BALINESE LETTER NA;Lo;0;L;;;;N;;;;;
1B27;BALINESE LETTER PA;Lo;0;L;;;;N;;;;;
1B28;BALINESE LETTER PA KAPAL;Lo;0;L;;;;N;pha;;;
1B29;BALINESE LETTER BA;Lo;0;L;;;;N;;;;;
1B2A;BALINESE LETTER BA KEMBANG;Lo;0;L;;;;N;bha;;;
1B2B;BALINESE LETTER MA;Lo;0;L;;;;N;;;;;
1B2C;BALINESE LETTER YA;Lo;0;L;;;;N;;;;;
1B2D;BALINESE LETTER RA;Lo;0;L;;;;N;;;;;
1B2E;BALINESE LETTER LA;Lo;0;L;;;;N;;;;;
1B2F;BALINESE LETTER WA;Lo;0;L;;;;N;;;;;
1B30;BALINESE LETTER SA SAGA;Lo;0;L;;;;N;sha;;;
1B31;BALINESE LETTER SA SAPA;Lo;0;L;;;;N;ssa;;;
1B32;BALINESE LETTER SA;Lo;0;L;;;;N;;;;;
1B33;BALINESE LETTER HA;Lo;0;L;;;;N;;;;;
1B34;BALINESE SIGN REREKAN;Mn;7;NSM;;;;N;nukta;;;
1B35;BALINESE VOWEL SIGN TEDUNG;Mc;0;L;;;;N;aa;;;
1B36;BALINESE VOWEL SIGN ULU;Mn;0;L;;;;N;i;;;
1B37;BALINESE VOWEL SIGN ULU SARI;Mn;0;L;;;;N;ii;;;
1B38;BALINESE VOWEL SIGN SUKU;Mn;0;NSM;;;;N;u;;;
1B39;BALINESE VOWEL SIGN SUKU ILUT;Mn;0;NSM;;;;N;uu;;;
1B3A;BALINESE VOWEL SIGN RA REPA;Mn;0;NSM;;;;N;vocalic r;;;
1B3B;BALINESE VOWEL SIGN RA REPA TEDUNG;Mc;0;NSM;;;;N;vocalic rr;;;
1B3C;BALINESE VOWEL SIGN LA LENGGA;Mn;0;NSM;;;;N;vocalic l;;;
1B3D;BALINESE VOWEL SIGN LA LENGGA TEDUNG;Mc;0;NSM;;;;N;vocalic ll;;;
1B3E;BALINESE VOWEL SIGN TALING;Mc;0;NSM;;;;N;e;;;
1B3F;BALINESE VOWEL SIGN TALING REPA;Mc;0;NSM;;;;N;ai;;;
1B40;BALINESE VOWEL SIGN TALING TEDUNG;Me;0;NSM;;;;N;o;;;
1B41;BALINESE VOWEL SIGN TALING REPA TEDUNG;Me;0;NSM;;;;N;au;;;
1B42;BALINESE VOWEL SIGN PEPET;Mn;0;L;;;;N;;;;;
1B43;BALINESE VOWEL SIGN PEPET TEDUNG;Mc;0;L;;;;N;;;;;
1B44;BALINESE SIGN VIRAMA;Mc;9;NSM;;;;N;;;;;
1B45;BALINESE LETTER KAF SASAK;Lo;0;L;;;;N;;;;;
1B46;BALINESE LETTER KHOT SASAK;Lo;0;L;;;;N;;;;;
1B47;BALINESE LETTER TZIR SASAK;Lo;0;L;;;;N;;;;;
1B48;BALINESE LETTER EF SASAK;Lo;0;L;;;;N;;;;;
1B49;BALINESE LETTER VE SASAK;Lo;0;L;;;;N;;;;;
1B4A;BALINESE LETTER ZAL SASAK;Lo;0;L;;;;N;;;;;
1B4B;BALINESE LETTER ASYURA SASAK;Lo;0;L;;;;N;;;;;
1B50;BALINESE DIGIT ZERO;Nd;0;L;0;0;0;N;;;;;
1B51;BALINESE DIGIT ONE;Nd;0;L;1;1;1;N;;;;;
1B52;BALINESE DIGIT TWO;Nd;0;L;2;2;2;N;;;;;
1B53;BALINESE DIGIT THREE;Nd;0;L;3;3;3;N;;;;;
1B54;BALINESE DIGIT FOUR;Nd;0;L;4;4;4;N;;;;;
1B55;BALINESE DIGIT FIVE;Nd;0;L;5;5;5;N;;;;;
1B56;BALINESE DIGIT SIX;Nd;0;L;6;6;6;N;;;;;
1B57;BALINESE DIGIT SEVEN;Nd;0;L;7;7;7;N;;;;;
1B58;BALINESE DIGIT EIGHT;Nd;0;L;8;8;8;N;;;;;
1B59;BALINESE DIGIT NINE;Nd;0;L;9;9;9;N;;;;;
1B5A;BALINESE PANTI;Po;0;L;;;;N;section;;;
1B5B;BALINESE PAMADA;Po;0;L;;;;N;honorific section;;;
1B5C;BALINESE WINDU;Po;0;L;;;;N;punctuation ring;;;
1B5D;BALINESE CARIK PAMUNGKAH;Po;0;L;;;;N;colon;;;
1B5E;BALINESE CARIK SIKI;Po;0;L;;;;N;danda;;;
1B5F;BALINESE CARIK PAREREN;Po;0;L;;;;N;double danda;;;
1B60;BALINESE PAMENENG;Po;0;L;;;;N;line-breaking hyphen;;;
1B61;BALINESE MUSICAL SYMBOL DONG;So;0;L;;;;N;;;;;
1B62;BALINESE MUSICAL SYMBOL DENG;So;0;L;;;;N;;;;;
1B63;BALINESE MUSICAL SYMBOL DUNG;So;0;L;;;;N;;;;;
1B64;BALINESE MUSICAL SYMBOL DANG;So;0;L;;;;N;;;;;
1B65;BALINESE MUSICAL SYMBOL DANG SURANG;So;0;L;;;;N;;;;;
1B66;BALINESE MUSICAL SYMBOL DING;So;0;L;;;;N;;;;;
1B67;BALINESE MUSICAL SYMBOL DAENG;So;0;L;;;;N;;;;

1B68;BALINESE MUSICAL SYMBOL DEUNG;So;0;L;;;;N;;;;;
 1B69;BALINESE MUSICAL SYMBOL DAING;So;0;L;;;;N;;;;;
 1B6A;BALINESE MUSICAL SYMBOL DANG GEDE;So;0;L;;;;N;;;;;
 1B6B;BALINESE MUSICAL SYMBOL COMBINING TEGEH;Mn;0;NSM;;;;N;;;;;
 1B6C;BALINESE MUSICAL SYMBOL COMBINING ENDEP;Mn;0;NSM;;;;N;;;;;
 1B6D;BALINESE MUSICAL SYMBOL COMBINING KEMPUL;Mn;0;NSM;;;;N;;;;;
 1B6E;BALINESE MUSICAL SYMBOL COMBINING KEMPLI;Mn;0;NSM;;;;N;;;;;
 1B6F;BALINESE MUSICAL SYMBOL COMBINING JEGOGAN;Mn;0;NSM;;;;N;;;;;
 1B70;BALINESE MUSICAL SYMBOL COMBINING KEMPUL WITH JEGOGAN;Mn;0;NSM;;;;N;;;;;
 1B71;BALINESE MUSICAL SYMBOL COMBINING KEMPLI WITH JEGOGAN;Mn;0;NSM;;;;N;;;;;
 1B72;BALINESE MUSICAL SYMBOL COMBINING BENDE;Mn;0;NSM;;;;N;;;;;
 1B73;BALINESE MUSICAL SYMBOL COMBINING GONG;Mn;0;NSM;;;;N;;;;;
 1B74;BALINESE MUSICAL SYMBOL RIGHT-HAND OPEN DUG;So;0;L;;;;N;;;;;
 1B75;BALINESE MUSICAL SYMBOL RIGHT-HAND OPEN DAG;So;0;L;;;;N;;;;;
 1B76;BALINESE MUSICAL SYMBOL RIGHT-HAND CLOSED TUK;So;0;L;;;;N;;;;;
 1B77;BALINESE MUSICAL SYMBOL RIGHT-HAND CLOSED TAK;So;0;L;;;;N;;;;;
 1B78;BALINESE MUSICAL SYMBOL RIGHT-HAND OPEN PANG;So;0;L;;;;N;;;;;
 1B79;BALINESE MUSICAL SYMBOL RIGHT-HAND OPEN PUNG;So;0;L;;;;N;;;;;
 1B7A;BALINESE MUSICAL SYMBOL RIGHT-HAND CLOSED PLAK;So;0;L;;;;N;;;;;
 1B7B;BALINESE MUSICAL SYMBOL RIGHT-HAND CLOSED PLUK;So;0;L;;;;N;;;;;
 1B7C;BALINESE MUSICAL SYMBOL RIGHT-HAND OPEN PING;So;0;L;;;;N;;;;;

Bibliography

- Medra, I Nengah, et al. 2003. *Pedoman Pasang Aksara Bali*. Denpasar: Dinas Kebudayaan Propinsi Bali.
- Menaka, Made. 1990. *Kamus Kawi-Bali*. Singaraja: Yayasan Kawi Sastra Mandala.
- Nasa, I Ketoet. 1923. *Balinesch leesboekje*. Weltevreden Lansdrukkerij.
- Parman, G. 1994. *Pada maca 2*. Mataram: Departemen Pendidikan dan Kebudayaan.
- Sastro, Mas Niti. 1918. *Balinesche schrijftaal*. Batavia: Landsdrukkerij.
- Schwartz, H J. E. F. 1931. *Oeger-oeger: Aksara saha pasang sasobatan basa bali kapara*. Batavia: Landsdrukkerij.
- Simpn, I Wayan. 1973/1979. *Pasang Aksara Bali*. Denpasar: Dinas Pengajaran Daerah Tingkat I Bali.
- Sukrata, I Ketut & I Gusti Ketut Ranuh. 1957. *Edjaan Bahasa Bali dengan Huruf Latin dan Huruf Bali*. Singaradja: Widyalaya.
- Tinggen, I Nengah. 1976/1994. *Pedoman Perubahan Ejaan Bahasa Bali dengan Huruf Latin dan Huruf Bali*. Singaraja: Rhika Dewata.
- Tinggen, I Nengah. 2004. *Sejarah Perkembangan Pasang Akasara Bali*. Singaraja: [s.n.].
- van der Tuuk, D. H. N. 1892-1912. *Kawi-Balinesch-Nederlandsch woordenboek*. Deel I (ꦱꦺꦴꦭꦺꦤ꧀, enz.)-ꦏꦏꦶꦭꦶ) 1892; deel II (ꦱꦺꦴꦭꦺꦤ꧀ꦏꦏꦶꦭꦶ) 1899; deel III (ꦱꦺꦴꦭꦺꦤ꧀ꦏꦏꦶꦭꦶ) 1901; deel IV (ꦱꦺꦴꦭꦺꦤ꧀ꦏꦏꦶꦭꦶ) 1912). Batavia: Landsdrukkerij.

Acknowledgements

This project was made possible by a grant from the Initiative B@bel project of UNESCO, which funded the Script Encoding Initiative in respect of the Balinese encoding. Support for Balinese encoding also comes from the U.S. National Endowment for the Humanities. Yayasan Bali Galang (Bright Bali Foundation) organized the technical discussion sessions in Bali. In particular thanks are due to Ida Bagus Adi Sudewa, I Nyoman Suarka, Donny Harimurti, Tudy Harimurti, and Nyoman Sugiarta for their enthusiasm, expertise, and support.

Figures



Figure 1. Lontar showing the line-breaking hyphen PAMENENG at the end of lines 3a, 4a, and 2b.

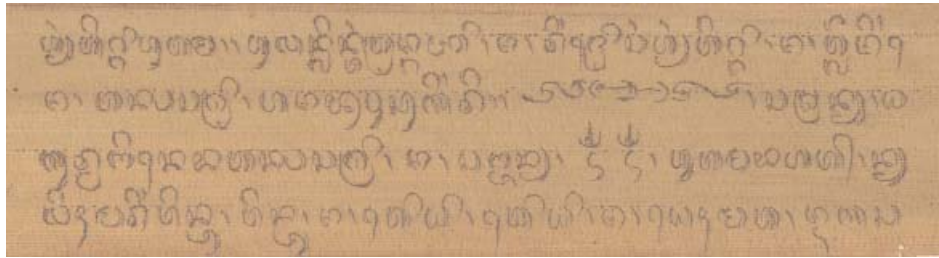


Figure 2. Lontar showing some in-text *modre* symbols: two turned OMKARAS 𑄆𑄓𑄗𑄓 in the second line and two DEUNG symbols with ULU CANDRA 𑄆𑄓 in the third. The text here is from a lontar held in the Bali documentation Centre, Denpasar, entitled *Tutur Hanacaraka*, from Padangkerta, Karangasem

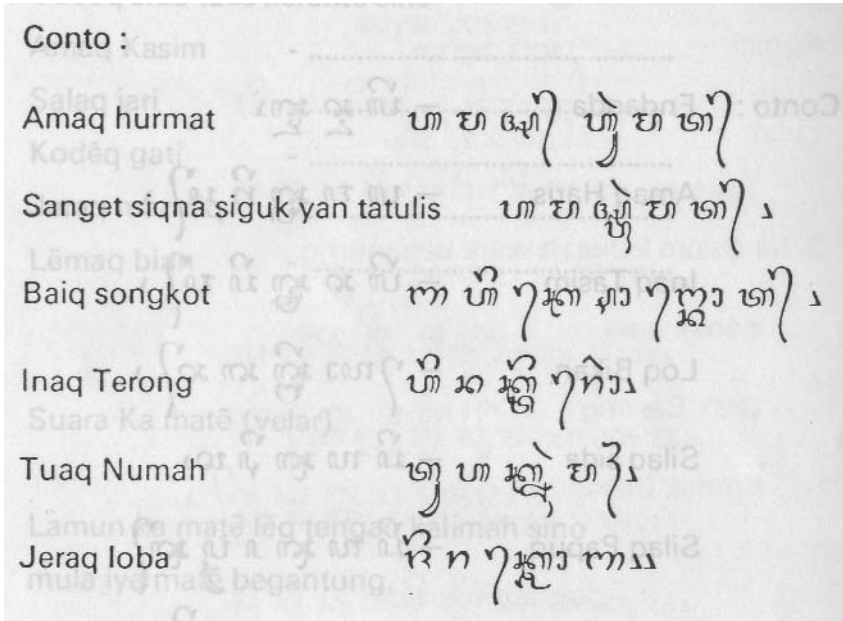


Figure 3. Text in Sasak showing Sasak glyph variants (note the size of BISAH and shape of ADEG ADEG). Shown in the second line is AKARA with subjoined HA. The text of the first two lines is the same; AKARA in final position is used for a final glottal (written *q* in the transcription). In syllabic transcription with ? representing ADEG ADEG, the texts read *ha-ma-q?* *hur-ma-t?* and *ha-ma-qhur-ma-t?*. Also shown is Sasak letter KAF.



Figure 4. A *jegogan*, the instrument represented by U+1B6F 𑄆 COMBINING JEGOGAN.

d. Laras Pelog sistim tujuh (7) nada

Tinggi	ᮊ	ᮋ	ᮌ	ᮍ	ᮎ	ᮏ	ᮐ
Sedang	ᮑ	ᮒ	ᮓ	ᮔ	ᮕ	ᮖ	ᮗ
Mendah	ᮘ	ᮙ	ᮚ	ᮛ	ᮜ	ᮝ	ᮞ
Cara Baca	DONG	DENG	DEUNG	DUNG	DANG	DAING	DING

Bentuk-bentuk notasi yang tidak memakai aksara Bali ini penulis kutip dari sebuah buku "Tabuh Bali Kaasik Pegongan" oleh KOKAR Bali 1973.

Tanda	Cara Baca	Untuk Alat
a. (.)	Gur/ Gir	Gong Lanang, Wadon
b. +	Pur	Kempul
c. -	Teng	Kempli
d. ^	sesuai dengan nadanya	Jegogan
e. *	-	Kempul dengan jegogan
f. X	-	Kempli dengan Jegogan.
g. (X)	-	Gong, Kempul dan Jegogan
h. ^	Dug	Kendang Lanang
i. X	tek	Kendang Lanang ditutup dengan tangan kiri
y. -	Ka, pak	Tangan kiri kendang lanang
k. o	Dag	Kendang Wadon
l. ó	Tek	Kendang Wadon ditutup
m. <	Ka, Pak	Kendang Wadon tangan kiri.
		Tanda Ulang.

Figure 5. Part of a text discussing musical notation.

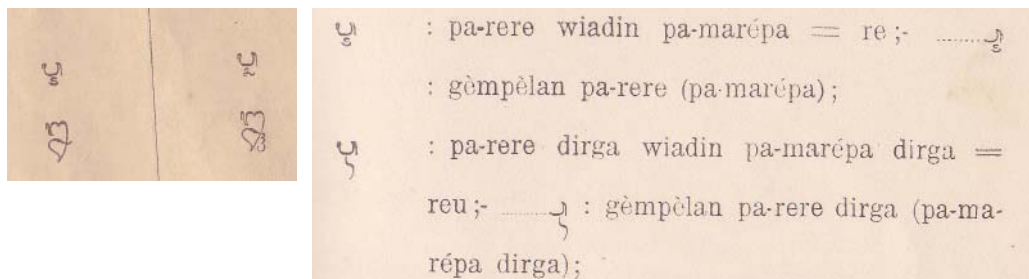


Figure 6. On the left, text from Sastro 1918 showing the variant form ᮑ of ᮑ RA REPA TEDUNG. On the right, text from Schwartz 1931 showing the same.

WARGA AKSARA

No	Aksara Warga	Alpa Prana	Maha Prana	Alpa Prana	Maha Prana	Anu Suara	Arda Suara	Usma	Wi-Sarga
1	Kantia	𑀓 ka	𑀓 kha*)	𑀓 ga	𑀓 gha	𑀓 nga	-	-	𑀓 ha
2	Tala-wia	𑀓 ca	𑀓 cha	𑀓 ja	𑀓 jha	𑀓 ñ	𑀓 ya	𑀓 sa	-
3	Murda-nia	𑀓 ta	𑀓 tha*)	𑀓 da	𑀓 dha*)	𑀓 na	𑀓 ra	𑀓 sa	-
4	Dantia	𑀓 ta	𑀓 tha	𑀓 da	𑀓 dha	𑀓 na	𑀓 la	𑀓 sa	-
5	Ostia	𑀓 pa	𑀓 pha	𑀓 ba	𑀓 bha	𑀓 ma	𑀓 wa	-	-

Keterangan :

- Aksara yang berisi tanda x) dalam pengajaran di sekolah jarang digunakan dan aksara kha berubah menjadi ka = 𑀓 𑀓
Umpama : su : kha suka - 𑀓 𑀓 𑀓
- Lambang : 𑀓 dapat dibaca : ai dan juga jha (lihat hubungan kalimatnya).

Figure 7. Table from Tinggen 2004, showing the full complement of Brahmic consonants. Tinggen does not distinguish between the glyphs for 𑀓 TA LATIK and 𑀓 TA MURDA MAHAPRANA, between the glyphs for 𑀓 DA MADU, 𑀓 DA MURDA ALPAPRANA, and 𑀓 DA MURDA MAHAPRANA, or between the glyphs for 𑀓 AIKARA and 𑀓 JA JERA.

TABLE XX - Row 1B: BALINESE DRAFT

	1B0	1B1	1B2	1B3	1B4	1B5	1B6	1B7
0	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ
1	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ
2	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ
3	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ
4	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ
5	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ
6	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ
7	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ
8	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ
9	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ
A	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ
B	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ
C	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ		ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ
D	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ		ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	
E	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ		ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	
F	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ		ꦱꦺꦴꦱꦠꦗꦤ	ꦱꦺꦴꦱꦠꦗꦤ	

G = 00
P = 00

TABLE XX - Row 1B: BALINESE DRAFT

hex	Name	hex	Name
00	BALINESE SIGN ULU RICEM (ardhacandra)	59	BALINESE DIGIT NINE
01	BALINESE SIGN ULU CANDRA (candrabindu)	5A	BALINESE PANTI (section)
02	BALINESE SIGN CECEK (anusvara)	5B	BALINESE PAMADA (honorific section)
03	BALINESE SIGN SURANG (repha)	5C	BALINESE WINDU (punctuation ring)
04	BALINESE SIGN BISAH (visarga)	5D	BALINESE CARIK PAMUNGKAH (colon)
05	BALINESE LETTER AKARA (a)	5E	BALINESE CARIK SIKI (danda)
06	BALINESE LETTER AKARA TEDUNG (aa)	5F	BALINESE CARIK PAREREN (double danda)
07	BALINESE LETTER IKARA (i)	60	BALINESE PAMENENG (line-breaking hyphen)
08	BALINESE LETTER IKARA TEDUNG (ii)	61	BALINESE MUSICAL SYMBOL DONG
09	BALINESE LETTER UKARA (u)	62	BALINESE MUSICAL SYMBOL DENG
0A	BALINESE LETTER UKARA TEDUNG (uu)	63	BALINESE MUSICAL SYMBOL DUNG
0B	BALINESE LETTER RA REPA (vocalic r)	64	BALINESE MUSICAL SYMBOL DANG
0C	BALINESE LETTER RA REPA TEDUNG (vocalic rr)	65	BALINESE MUSICAL SYMBOL DANG SURANG
0D	BALINESE LETTER LA LENGGA (vocalic l)	66	BALINESE MUSICAL SYMBOL DING
0E	BALINESE LETTER LA LENGGA TEDUNG (vocalic ll)	67	BALINESE MUSICAL SYMBOL DAENG
0F	BALINESE LETTER EKARA (e)	68	BALINESE MUSICAL SYMBOL DEUNG
10	BALINESE LETTER AIKARA (ai)	69	BALINESE MUSICAL SYMBOL DAING
11	BALINESE LETTER OKARA (o)	6A	BALINESE MUSICAL SYMBOL DANG GEDE
12	BALINESE LETTER OKARA TEDUNG (au)	6B	BALINESE MUSICAL SYMBOL COMBINING TEGEH
13	BALINESE LETTER KA	6C	BALINESE MUSICAL SYMBOL COMBINING ENDEP
14	BALINESE LETTER KA MAHAPRANA (kha)	6D	BALINESE MUSICAL SYMBOL COMBINING KEMPUL
15	BALINESE LETTER GA	6E	BALINESE MUSICAL SYMBOL COMBINING KEMPLI
16	BALINESE LETTER GA GORA (gha)	6F	BALINESE MUSICAL SYMBOL COMBINING JEGOGAN
17	BALINESE LETTER NGA	70	BALINESE MUSICAL SYMBOL COMBINING KEMPUL WITH JEGOGAN
18	BALINESE LETTER CA	71	BALINESE MUSICAL SYMBOL COMBINING KEMPLI WITH JEGOGAN
19	BALINESE LETTER CA LACA (cha)	72	BALINESE MUSICAL SYMBOL COMBINING BENDE
1A	BALINESE LETTER JA	73	BALINESE MUSICAL SYMBOL COMBINING GONG
1B	BALINESE LETTER JA JERA (jha)	74	BALINESE MUSICAL SYMBOL RIGHT-HAND OPEN DUG
1C	BALINESE LETTER NYA	75	BALINESE MUSICAL SYMBOL RIGHT-HAND OPEN DAG
1D	BALINESE LETTER TA LATIK (tta)	76	BALINESE MUSICAL SYMBOL RIGHT-HAND CLOSED TUK
1E	BALINESE LETTER TA MURDA MAHAPRANA (ttha)	77	BALINESE MUSICAL SYMBOL RIGHT-HAND CLOSED TAK
1F	BALINESE LETTER DA MURDA ALPAPRANA (dda)	78	BALINESE MUSICAL SYMBOL LEFT-HAND OPEN PANG
20	BALINESE LETTER DA MURDA MAHAPRANA (ddha)	79	BALINESE MUSICAL SYMBOL LEFT-HAND OPEN PUNG
21	BALINESE LETTER NA RAMBAT (nna)	7A	BALINESE MUSICAL SYMBOL LEFT-HAND CLOSED PLAK
22	BALINESE LETTER TA	7B	BALINESE MUSICAL SYMBOL LEFT-HAND CLOSED PLUK
23	BALINESE LETTER TA TAWA (tha)	7C	BALINESE MUSICAL SYMBOL LEFT-HAND OPEN PING
24	BALINESE LETTER DA	7D	(This position shall not be used)
25	BALINESE LETTER DA MADU (dha)	7E	(This position shall not be used)
26	BALINESE LETTER NA	7F	(This position shall not be used)
27	BALINESE LETTER PA		
28	BALINESE LETTER PA KAPAL (pha)		
29	BALINESE LETTER BA		
2A	BALINESE LETTER BA KEMBANG (bha)		
2B	BALINESE LETTER MA		
2C	BALINESE LETTER YA		
2D	BALINESE LETTER RA		
2E	BALINESE LETTER LA		
2F	BALINESE LETTER WA		
30	BALINESE LETTER SA SAGA (sha)		
31	BALINESE LETTER SA SAPA (ssa)		
32	BALINESE LETTER SA		
33	BALINESE LETTER HA		
34	BALINESE SIGN REREKAN (nukta)		
35	BALINESE VOWEL SIGN TEDUNG (aa)		
36	BALINESE VOWEL SIGN ULU (i)		
37	BALINESE VOWEL SIGN ULU SARI (ii)		
38	BALINESE VOWEL SIGN SUKU (u)		
39	BALINESE VOWEL SIGN SUKU ILUT (uu)		
3A	BALINESE VOWEL SIGN RA REPA (vocalic r)		
3B	BALINESE VOWEL SIGN RA REPA TEDUNG (vocalic rr)		
3C	BALINESE VOWEL SIGN LA LENGGA (vocalic l)		
3D	BALINESE VOWEL SIGN LA LENGGA TEDUNG (vocalic ll)		
3E	BALINESE VOWEL SIGN TALING (e)		
3F	BALINESE VOWEL SIGN TALING REPA (ai)		
40	BALINESE VOWEL SIGN TALING TEDUNG (o)		
41	BALINESE VOWEL SIGN TALING REPA TEDUNG (au)		
42	BALINESE VOWEL SIGN PEPET (ae)		
43	BALINESE VOWEL SIGN PEPET TEDUNG (oe)		
44	BALINESE ADEG ADEG (virama)		
45	BALINESE LETTER KAF SASAK		
46	BALINESE LETTER KHOT SASAK		
47	BALINESE LETTER TZIR SASAK		
48	BALINESE LETTER EF SASAK		
49	BALINESE LETTER VE SASAK		
4A	BALINESE LETTER ZAL SASAK		
4B	BALINESE LETTER ASYURA SASAK		
4C	(This position shall not be used)		
4D	(This position shall not be used)		
4E	(This position shall not be used)		
4F	(This position shall not be used)		
50	BALINESE DIGIT ZERO		
51	BALINESE DIGIT ONE		
52	BALINESE DIGIT TWO		
53	BALINESE DIGIT THREE		
54	BALINESE DIGIT FOUR		
55	BALINESE DIGIT FIVE		
56	BALINESE DIGIT SIX		
57	BALINESE DIGIT SEVEN		
58	BALINESE DIGIT EIGHT		

A. Administrative

1. Title

Proposal for encoding the Balinese script in the UCS.

2. Requester's name

Michael Everson and I Made Suatjana

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

Individual contribution.

4. Submission date

2005-01-23

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.

Proposed name of script

Balinese.

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

No.

1c. Name of the existing block

2. Number of characters in proposal

121

3. Proposed category (see section II, Character Categories)

Category B.1.

4a. Proposed Level of Implementation (1, 2 or 3) (see clause 14, ISO/IEC 10646-1: 2000)

Level 2

4b. Is a rationale provided for the choice?

Yes.

4c. If YES, reference

Balinese requires Level 2 implementation as other Brahmic scripts do.

5a. Is a repertoire including character names provided?

Yes.

5b. If YES, are the names in accordance with the character naming guidelines in Annex L of ISO/IEC 10646-1: 2000?

Yes.

5c. Are the character shapes attached in a legible form suitable for review?

Yes.

6a. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?

Michael Everson.

6b. If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used:

Michael Everson, Fontographer.

7a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?

Yes.

7b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?

Yes.

8. 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.

9. 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.

Yes. See N2856, the preliminary proposal which is replaced by the present document.

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?

Project script committee: Ida Bagus Adi Sudewa, I Made Suatjana, I Nyoman Suarka, Donny Harimurti, Tudy Harimurti, Nyoman Sugiarta. *Participants in the script technical discussion:* I Gusti Ketut Anom (Denpasar), Ida Bagus Made Suasta (Denpasar), I Nengah Tinggen (Singaraja), Made Riken (Denpasar), I Wayan Suardiana (Udayana University), I Gede Nala Antara (Udayana University), Thomas Moog (Vienna). *Participants in the musical notation technical discussion:* Made Riken (Denpasar), I Wayan Tapa (Penatih), I Wayan Suardiana (Udayana University), I Wayan Suteja (Udayana University), I Gede Nala Antara (Udayana University), I Wayan Madra Ariayasa (Seniman), Ida Bagus Rai Putra (Udayana University), Suarbhawa (Denpasar), Ketut Astita (Denpasar)

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?

Balinese is used on the islands of Bali and Lombok in Indonesia.

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

Used to write the Balinese, Sasak, and Kawi languages.

4b. Reference

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

Yes.

5b. If YES, where?

In Bali and Lombok.

6a. After giving due considerations to the principles in Principles and Procedures document (a WG 2 standing document) must the proposed characters be entirely in the BMP?

Yes. Positions 1B00-1B7F are proposed.

6b. If YES, is a rationale provided?

Yes.

6c. If YES, reference

Contemporary use and accordance with the Roadmap.

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?

Yes, but only superficially so.

10b. If YES, is a rationale for its inclusion provided?

Yes.

10c. If YES, reference

Some additional combining marks indicate the instruments used; four of these may often look superficially like PLUS SIGN (or THAI MAI CHATTAWA), MACRON (or other horizontal lines), CIRCUMFLEX, and CARON, but they must be encoded as a set – note in particular how two of the members of that set are combinations of the first three. Accordingly, the whole set is proposed for encoding at U+1B6B-U+1B73. Note that some genuinely generic diacritical marks *are* used with Balinese (the Western MUSICAL TIE characters, for example).

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

Brahmic vowels.

12a. Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?

No.

12b. If YES, reference

13a. Does the proposal contain characters with any special properties such as control function or similar semantics?

No.

13b. If YES, describe in detail (include attachment if necessary)

14a. Does the proposal contain any Ideographic compatibility character(s)?

No.

14b. If YES, is the equivalent corresponding unified ideographic character(s) identified?