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(UCS)

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A Users' Agreement Related to Phags-pa Script

At the China-Mongolia Meeting held in Hohhot, China on March 31 – April 2, 2004, on the Encoding of the Phags-pa Script, experts of both sides consider it necessary to stipulate *A Users' Agreement Related to Phags-pa Script* in order to standardize certain technical details in the use of the Phags-pa encoding which are not included in the *UCS*, and at the second China-Mongolia Meeting held in Changsha, China on October 24 – 25, 2004, on the Encoding of the Phags-pa Script, experts of both sides revised it again.

The present Agreement includes: (I) General Principle for the Encoding of Phags-pa Script; (II) Nominal Glyphs and Their Names in the Phags-pa Script; (III) Variant Presentation Glyphs and Their Names in Phags-pa Script; and (IV) The Reference Table.

I General Principle for the Encoding of Phags-pa Script

(1) Method of Encoding: The majority of letters in Phags-pa writing have their respective “variant presentation forms”, the only difference being that some letters have relatively more variant presentation forms, others have fewer. So, according to relevant regulations in the *UCS*, a method called “nominal glyph” should be used to encode the Phags-pa script, i.e., at first, we have to divide each letter in Phags-pa script into “nominal glyph” and “variant presentation glyph”, and then to encode each "nominal glyph." At the same time, we have to prepare “a variant presentation glyph set” and “regulations on the use of control symbol”.





(2) Nominal Glyph: According to the *UCS*, the "nominal glyph" is a glyph "to be used to denote, transmit, exchange, handle, input and present the written forms as well as additional signs of

various languages". The majority of Phags-pa letters have a few variants for one and the same sound, from which one should be chosen as its "nominal glyph". It is above all the isolate form of a letter which is chosen, or, in the case of there being a few isolate forms, the one which appears the most frequently is to be chosen.

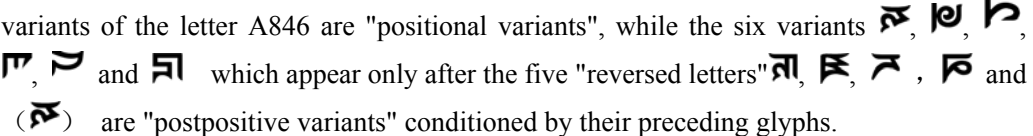
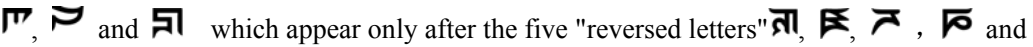

- (a) Each of the letters ༀ A840, ༆ A841, ༇ A842, ༈ A844 and ༉ A84B has only one isolate form, which is naturally chosen as its nominal glyph.
- (b) Letters like ༌ A853 and ། A85F have each two isolate forms ༌ །, ༎ ༏. Out of which we choose as nominal glyphs ༌ and ། which have a high frequency of appearance, ། and ༏ should be free variants of ༌ A853 and ། A86F.
- (c) The three letters ༐ A866, ༑ A867 and ༒ A868 have no isolate forms, so we adopt forms ༐, ༑ and ༒ which appear the most frequently.
- (d) ༔ A869, 'OE' and ༕ A86A 'UE' are two indispensable basic vowels in the Mongolian

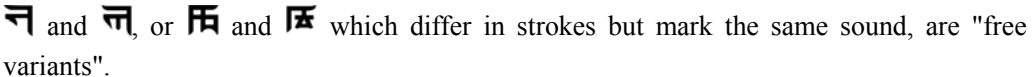
language. Although their variant presentation glyphs are "compound letters" each consisting of two or three "lexeme", they are regarded in numerous academic monographs (e.g., N. Poppe, 1941,1957; B.Rinchen, 1956; L.Ligeti, 1964,1972; D.Čojjilsüreng, 1974; Č. Šagdarsüreng, 1981, 2001; B. Bulag, 1983; Bao Xiang, 1984; A. Damdinsüreng, 1985, Tulgaguri, 1998; Y. Jančiw, 2002 et al) as compound yet isolate letters listed in their respective alphabet. Other scholars who have not included these two letters in alphabet, also say that "sometimes a double letter is used to represent one sound". The forms of the two vowel letters ༔ and ༕ in the Phags-pa system are based on the forms that represent the two vowel letters in Mongolian writing. The sounds they mark are not the mere combinations of their original glyphs A+E+O and A+E+U, instead what they mark are two other simple sounds ö and ü which have nothing to do with them. It is very much like the letter ༖ A864 of N2719. Therefore, it is necessary, like the handling of the letter ༖, to distinguish them as two independent vowel letters instead of anything like "compound vowels" even in terms of information treatment; if not, these two vowel letters which take up 14.8% of the total number of letters, would cause numerous inconveniences in retrieval and sequential arrangement. ༔ OE ༕ UE under "Mongol" in the UCS are handled in such a way, too. The same is true if we take into consideration the "automatic transliteration of Phags-pa text into Latin alphabet".

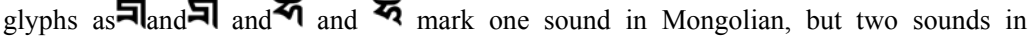

(3) **Variant Presentation Glyph:** As is regulated in the *UCS*, the "variant presentation glyph" shows, "in presenting certain characters, the graphic symbol of an individual glyph; this symbol depends on the position of the given glyph with relation to other glyphs."


(a) Strictly speaking, each Phags-pa letter has several "variant presentation forms". The majority of consonants can be divided into four variants which somewhat differ from each other, viz., isolate form, initial (in syllable or word) form, medial (in syllable or word) form and final (in syllable or word) form. For example, the letter A846 has its isolate form , syllable-initial form , syllable-medial form  and syllable-final form . A few letters each have less than four variants. Owing to different styles of script, there may appear cases in which several variants have the same form.

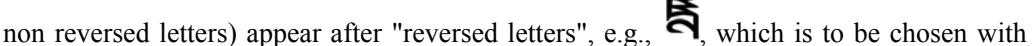
(b) The "variant presentation forms" of the Phags-pa script are divided into "conditional variants" and "free variants" so far as different conditions of their appearance are concerned.

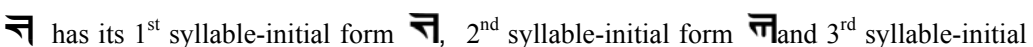
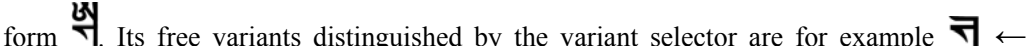

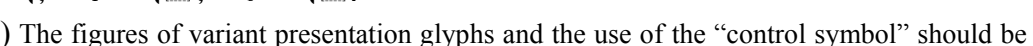
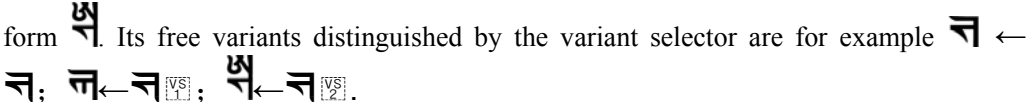
“**Conditional variants**” are those that appear "with relation to the position of other glyphs", which include in turn "positional variant" and "postpositive variant". The four variants of the letter A846 are "positional variants", while the six variants  which appear only after the five "reversed letters"  and  are "postpositive variants" conditioned by their preceding glyphs.

“**Free variants**” are those of one and the same letter that appear under the same condition.  which differ in strokes but mark the same sound, are "free variants".

(c) Certain glyphs mark two sounds in one language, but one sound in another language. The former are two different letters; the latter two free variants of one letter. Such pairs of glyphs as  and  mark one sound in Mongolian, but two sounds in Chinese texts. In our encoding, we'd better handle such glyphs as individual letters.

(d) By the "stroke variants" are meant variants slightly different in their size, thickness, length or sharpness of turn in the stroke. Glyph figures like  which do not mark different sounds, nor any variant of a letter in certain cases, show only slight difference in calligraphy. Such "stroke variants" are not expressed in our encoding system.

(e) A vowel letter has more "positional variants". Apart from its normal isolate, syllable-initial, syllable-medial and syllable-final forms, it also has "postpositive variants" which appear after "reversed letters". One may distinguish a postpositive variant through its preceding letter. Still, there are cases in which normal letter variants (i.e., variants of non reversed letters) appear after "reversed letters", e.g., , which is to be chosen with the "variant selector".

(f) Various "free variants" are to be chosen with the "variant selector". For example, the letter  has its 1st syllable-initial form , 2nd syllable-initial form  and 3rd syllable-initial form . Its free variants distinguished by the variant selector are for example .

(g) The figures of variant presentation glyphs and the use of the “control symbol” should be

regulated in “A Users` Agreement Related to Phags-pa Script” so as to facilitate common use by various kinds of users (See the Supplement “A Users` Agreement” itself.)

(4) Control Symbols: The encoding of Phags-pa script requires several control symbols:

- (a) Three "free variant" selectors are needed in order to distinguish different “free variants” of a glyph that appear under the same conditions. The three variant selectors in UCS may be used, viz., $\overline{\text{VS1}}$ (U+FE00), $\overline{\text{VS2}}$ (U+FE01) and $\overline{\text{VS3}}$ (U+FE02).
- (b) A "syllable delimiter" should be designed so as to distinguish the limit of a syllable and that of a word. It means that the limit of the syllables in a word ought to have a gap equal to one third of a space.. We may use the narrow non-break space in the UCS $\overline{\text{NNB/SP}}$ (U+202F). རྩམ་པའི་མཚན་ལྟར་ (of which རྩམ་པའི་ is a disyllabic word, and མཚན་ལྟར་ is a trisyllabic word) ought to be recorded like མཚན་ $\overline{\text{NNB/SP}}$ རྩམ་ $\overline{\text{NNB/SP}}$ ལྟར་ $\overline{\text{NNB/SP}}$.
- (c) In order to present the positions of certain letters, we choose from the *General Punctuation* of the UCS the following two punctuation marks: $\overline{\text{ZWJ}}$ (ZERO WIDTH JOINER, U+200D) and $\overline{\text{ZWNJ}}$ (ZERO WIDTH NON-JOINER, U+200C).

$\overline{\text{ZWJ}}$ (ZERO WIDTH JOINER, U+200D) is used as follows:

- 1. Independent form: (letter) , e.g., མ → མ; གམ → གམ
- 2. Syllable-initial form: (letter) $\overline{\text{ZWJ}}$, e.g., མ $\overline{\text{ZWJ}}$ → མ; གམ $\overline{\text{ZWJ}}$ → གམ
- 3. Syllable-medial form: $\overline{\text{ZWJ}}$ (letter) $\overline{\text{ZWJ}}$, e.g., $\overline{\text{ZWJ}}$ མ $\overline{\text{ZWJ}}$ → མ; $\overline{\text{ZWJ}}$ གམ $\overline{\text{ZWJ}}$ → གམ
- 4. Syllable-final form: $\overline{\text{ZWJ}}$ (letter), e.g., $\overline{\text{ZWJ}}$ མ → མ; $\overline{\text{ZWJ}}$ གམ → གམ

ZERO WIDTH NON-JOINER (U+200C) is used as follows:

is used in recording when normal positions are violated. Thus, a syllable-initial form at the end of a syllable can be recorded like: མ $\overline{\text{ZWNJ}}$ མ → མམ, or the common མ when $\overline{\text{ZWNJ}}$ is not used.

(5) Punctuation Marks: Very few punctuation marks are used in Phags-pa writing. Judging by the monuments and sources now extant, we find the following marks, whose figures are the same as Mongolian and Chinese punctuation marks, which can be borrowed for use from the UCS.

- (1) ◆ (1802)
- (2) ✦ (1803)
- (3) ✧ (1805)
- (4) ◦ (02DA)

(6) Joiner. Since in Phags-pa script, the syllable is the unit for joining, so the letters in one

syllable should be joined together. While the majority of joined parts are on the right side of a letter, there are individual letters whose joined parts are on each letter's left side. The right joined parts after the non reversed letters and the left joined parts after the reversed letters are common joining, so there is no need to register the joiner, instead, one may make automatic

selection, using the preceding and following glyphs as the condition. For example, །ྱ ← འུ, །ྱ ← འུ, །ྱ ← འུ, །ྱ ← འུ and །ྱ ← འུ, །ྱ ← འུ, །ྱ ← འུ, །ྱ ← འུ, །ྱ ← འུ. But the right joined parts after the “reversed letters” and the left joined parts

after non “reversed letters” are special joining, there is need for special selection of the joiner, thus, །ྱ ← འུ 'vs' །ྱ, །ྱ ← འུ 'vs' །ྱ and །ྱ ← འུ 'vs' །ྱ. Only when the letter

ྱ is to be joined with its preceding glyph or with its following glyph, medial part connection is required; however, seeing that it is difficult to standardize the length of the joiner, we can design no medial joiner, and instead, handle it by means of such variants as །ྱ །ྱ. To use the joiner will facilitate the connection of various letters, and also enable us to select the joined parts, moreover, it will decrease the number of variant presentation glyphs.

- (a) The right joiner (།ྱ) is on the right side of a glyph and is used between glyphs joined on the right.
- (b) The left joiner (།ྱ) is on the left side of a glyph and is used between glyphs joined on the left side.

(7) Signs of Indication:

- (a) The Phags-pa punctuation marks are preceded by the sign PHAGS-PA.
- (b) Letters of a given language are spelt in Latin letters close to the pronunciation of that language.
- (c) In the note for the name of a glyph, the different languages printed in the Phags-pa letters are indicated as Mon. (Mongolian), Han. (Chinese), Tib. (Tibetan), San. (Sanskrit), Uig. (Uighur) respectively.

(8) Order of Encoding: The letters of the Phags-pa alphabet are arranged in quite different orders by various schools; hence, there has never existed, so to speak, a standard and universally acknowledged alphabet for the Phags-pa script.





















































The Phags-pa script is a writing system designed for multilingual purposes, just like Latin, Cyrillic, Arabic and Mongolian. So we may well consider the following principles:

- (a) Following the example of Mongolian encoding, the vowel letters are to be arranged before the consonant letters.
- (b) Consonant letters found in the “original alphabet” are arranged according to their accepted order, while the “newly added consonant letters” are arranged in the order of their similar letters and after the consonant letters of the “original alphabet”.
- (c) The punctuation marks are put in the preceding line of letters (A840-A84F), as is the regular practice in the UCS.

(9) Styles of Script: The letter figures found in Phags-pa monuments can be classified under three styles, viz., regular style, decorative style and square style. We think it's preferable to adopt a style which has been frequently used in monuments written in Phags-pa letters and at the same time to some extent standardized and look smooth and beautiful. In the present encoding of Phags-pa script, we advocate using the Khubilai style because this style is not only the style of the original texts of Emperor Khubilai's edicts (1277-1289), it has also been used for nearly 20 years in the computerized composing system in Mongolia.

II Nominal Glyphs and Names in the Pags-pa Script

PHAGS-PA

	A84	A85	A86	A87
0	 A840	 A850	 A860	 A870
1	 A841	 A851	 A861	 A871
2	 A842	 A852	 A862	 A872
3	 A843	 A853	 A863	 A873
4	 A844	 A854	 A864	 A874
5	 A845	 A855	 A865	
6	 A846	 A856	 A866	
7	 A847	 A857	 A867	
8	 A848	 A858	 A868	
9	 A849	 A859	 A869	
A	 A84A	 A85A	 A86A	
B	 A84B	 A85B	 A86B	
C	 A84C	 A85C	 A86C	
D	 A84D	 A85D	 A86D	
E	 A84E	 A85E	 A86E	
F	 A84F	 A85F	 A86F	

A840

- A840** ཀ PHAGS-PA LETTER KA
Use: Han. Tib. San.
→ 0F40 ཀ tibetan letter ka
- A841** ཁ PHAGS-PA LETTER KHA
Use: Mon. Han. Tib. San. Uig.
- A842** ག PHAGS-PA LETTER GA
Use: Mon. Han. Tib. San. Uig.
- A843** ཁྱ PHAGS-PA LETTER NGA
Use: Mon. Han. Tib. San. Uig.
- A844** ཅ PHAGS-PA LETTER CA
Use: Han. Tib.
→ 0F45 ཅ tibetan letter ca
- A845** ཆ PHAGS-PA LETTER CHA
Use: Mon. Han. Tib. Uig.
→ 0F46 ཆ tibetan letter cha
- A846** ཇ PHAGS-PA LETTER JA
Use: Mon. Han. Tib. Uig.
→ 0F47 ཇ tibetan letter ja
- A847** ཉ PHAGS-PA LETTER NYA
Use: Han. Tib. San.
→ 0F49 ཉ tibetan letter nya
- A848** ཏ PHAGS-PA LETTER TA
Use: Mon. Han. Tib. San.
- A849** ཐ PHAGS-PA LETTER THA
Use: Mon. Han. Tib. San. Uig.
→ 0F50 ཐ tibetan letter tha
- A84A** ད PHAGS-PA LETTER DA
Use: Mon. Han. Tib. San. Uig.
→ 0F51 ད tibetan letter da
- A84B** དྷ PHAGS-PA LETTER NA
Use: Mon. Han. Tib. San. Uig.
→ 0F53 དྷ tibetan letter na
- A84C** ན PHAGS-PA LETTER PA
Use: Han. Tib. San. Uig.
→ 0F54 ན tibetan letter pa
- A84D** པ PHAGS-PA LETTER PHA
Use: Han. Tib. San. Uig.
- A84E** ཕ PHAGS-PA LETTER BA
Use: Mon. Han. Tib. San. Uig.
Use: Mon. Han. Tib. San. Uig.
→ 0F56 ཕ tibetan letter ba

PHAGS-PA

- A84F** བ PHAGS-PA LETTER MA
Use: Mon. Han. Tib. San. Uig.
→ 0F58 བ tibetan letter ma
- A850** བྷ PHAGS-PA LETTER TSA
Use: Han. Tib. San.
→ 091E བྷ devanagari letter nya
- A851** མ PHAGS-PA LETTER TSHA
Use: Han. Tib. San.
→ 091C མ devanagari letter ja
- A852** ཙ PHAGS-PA LETTER DZA
Use: Han. Tib. San.
- A853** ཚ PHAGS-PA LETTER WA
Use: Mon. Han. Tib. San.
- A854** ཛ PHAGS-PA LETTER ZHA
Use: Han. Tib.
→ 0F5E ཛ tibetan letter zha
- A855** ཛྷ PHAGS-PA LETTER ZA
Use: Mon. Han. Tib.
→ 0F5F ཛྷ tibetan letter za
- A856** ཞ PHAGS-PA LETTER MINUSCULE A
Use: Mon. Han. Tib. San. Uig.
→ 0F60 ཞ tibetan letter -a
- A857** ཟ PHAGS-PA LETTER YA
Use: Mon. Han. Tib. San. Uig.
→ 0F61 ཟ tibetan letter ya
- A858** འ PHAGS-PA LETTER RA
Use: Mon. Han. Tib. San. Uig.
→ 0F62 འ tibetan letter ra
- A859** ཡ PHAGS-PA LETTER LA
Use: Mon. Han. Tib. San. Uig.
→ 0F63 ཡ tibetan letter la
- A85A** ར PHAGS-PA LETTER SHA
Use: Mon. Han. Tib. San. Uig.
≡ 0F64 ར tibetan letter sha
- A85B** ལ PHAGS-PA LETTER SA
Use: Mon. Han. Tib. San. Uig.
→ 0F66 ལ tibetan letter sa
- A85C** ཤ PHAGS-PA LETTER HA Use: Mon.
Use Han. Tib. San. Uig.
→ 0F67 ཤ tibetan letter ha

A85C

A85D

- A85D** ཨ PHAGS-PA LETTER A
Use: Mon. Han. Tib. San. Uig.
→ 0F68 ཨ tibetan letter a
- A85E** ཨ I PHAGS-PA LETTER I
Use: Mon. Han. Tib. San. Uig.
→ 0F72 ཨ tibetan vowel sign i
- A85F** ཨ U PHAGS-PA LETTER U
Use: Mon. Han. Tib. San. Uig.
→ 0F74 ཨ tibetan vowel sign u
- A860** ཨ E PHAGS-PA LETTER E
Use: Mon. Han. Tib. San. Uig.
≡ 090F ए devanagari letter e
- A861** ཨ O PHAGS-PA LETTER O
Use: Mon. Han. Tib. San. Uig.
→ 0F7C ཨ tibetan vowel sign o
- A862** ཨ QA PHAGS-PA LETTER QA
Use: Mon. Han. Tib. San. Uig.
→ 0F41 ཨ tibetan letter kha
- A863** ཨ XA PHAGS-PA LETTER XA
Use: Han.
- A864** ཨ FA PHAGS-PA LETTER FA
Use: Han.
- A865** ཨ QA PHAGS-PA LETTER QA
Use:
→ 0F42 ཨ tibetan letter ga
- A866** ཨ EE PHAGS-PA LETTER EE
Use: Mon. Han. Tib. San. Uig.
- A867** ཨ SUBJOINED WA PHAGS-PA LETTER SUBJOINED WA
Use: Han. Tib. San.
→ 18A6 ཨ mongolian letter ag half u
→ 0FAD ཨ tibetan subjoined letter wa
- A868** ཨ SUBJOINED YA PHAGS-PA LETTER SUBJOINED YA
Use: Han. Tib. San.
→ 18A7 ཨ mongolian letter ag half ya
→ 0FB1 ཨ tibetan subjoined letter ya
- A869** ཨ OE PHAGS-PA LETTER OE
Use: Mon. Han.
≡ 0911 ओ DEVANAGARI LETTER CANDRA O

PHAGS-PA

- A86A** ཨ UE PHAGS-PA LETTER UE
Use: Mon. Han.
- A86B** ཨ TTA PHAGS-PA LETTER TTA
Use: San.
= reversed ta
- A86C** ཨ TTHA PHAGS-PA LETTER TTHA
Use: San.
= reversed tha
→ 0F4B ཨ tibetan letter ttha
- A86D** ཨ DDA PHAGS-PA LETTER DDA
Use: San.
= reversed da
→ 0F4C ཨ tibetan letter dda
- A86E** ཨ NNA PHAGS-PA LETTER NNA
Use: San.
= reversed na
→ 0F4E ཨ Tibetan letter nna
- A86F** ཨ OA PHAGS-PA LETTER OA
Use: Han.
≡ 0F61 ཨ tibetan letter ya
- A870** ཨ VOICELESS SHA PHAGS-PA LETTER VOICELESS SHA
Use: Han.
- A871** ཨ HA PHAGS-PA LETTER VOICED HA
Use: Mon. Han. Tib. San. Uig.
≡ 0F67 ཨ tibetan letter ha
- A872** ཨ ASPIRATED FA PHAGS-PA LETTER ASPIRATED FA
Use: Han.
- A873** ' PHAGS-PA JOINER
Use: Mon. Han. Tib. San. Uig.
- A874** ཨ CANDARABINDU
Use: Tib. San.
- A875** (This position shall not be used)
- A876** (This position shall not be used)
- A877** (This position shall not be used)
- A878** (This position shall not be used)
- A879** (This position shall not be used)
- A87A** (This position shall not be used)
- A87B** (This position shall not be used)
- A87C** (This position shall not be used)

A87C

A87D

PHAGS-PA

A87F

A87D (This position shall not be used)

A87E (This position shall not be used)

A87F (This position shall not be used)

III Variant Presentation Glyphs and Their Names in Pags-pa Script

Phags-pa Presentation Characters

	000	001	002	003	004	005
0	𑖀	𑖁	𑖂	𑖃	𑖄	𑖅
1	𑖆	𑖇	𑖈	𑖉	𑖊	𑖋
2	𑖌	𑖍	𑖎	𑖏	𑖐	𑖑
3	𑖒	𑖓	𑖔	𑖕	𑖖	𑖗
4	𑖘	𑖙	𑖚	𑖛	𑖜	𑖝
5	𑖞	𑖟	𑖠	𑖡	𑖢	𑖣
6	𑖤	𑖥	𑖦	𑖧	𑖨	𑖩
7	𑖪	𑖫	𑖬	𑖭	𑖮	𑖯
8	𑖰	𑖱	𑖲	𑖳	𑖴	𑖵
9	𑖶	𑖷	𑖸	𑖹	𑖺	𑖻
A	𑖼	𑖽	𑖾	𑖿	𑗀	𑗁
B	𑗂	𑗃	𑗄	𑗅	𑗆	𑗇
C	𑗈	𑗉	𑗊	𑗋	𑗌	𑗍
D	𑗎	𑗏	𑗐	𑗑	𑗒	
E	𑗓	𑗔	𑗕	𑗖	𑗗	
F	𑗘	𑗙	𑗚	𑗛	𑗜	

Names of Phags-pa Presentation Characters

0000	PHAGS-PA	0045	
0000 ཀ	phal. ka initial, medial form	0025 ཨ	phal. a initial form
0001 ཁ	phal. kha initial, medial form	0026 ཨཱ	phal. i first initial form
0002 ག	phal. ga initial, medial form	0027 ཨཱཱ	phal. I initial second form
0003 ཇ	phal. nga initial, medial form	0028 ཨཱཱཱ	phal. i medial form
0004 ཅ	phal. ca initial, medial form	0029 ཨཱཱཱཱ	phal. i reversed medial form
0005 ཇཱ	phal. cha initial, medial form	002A ཨཱཱཱཱཱ	phal. i final form
0006 ཇཱཱ	phal. ja initial, medial form	002B ཨཱཱཱཱཱཱ	phal. i reversed final form
0007 ཇཱཱཱ	phal. nya initial, medial form	002C ཨཱཱཱཱཱཱཱ	phal. u first initial form
0008 ཇཱཱཱཱ	phal. ta first initial, medial form	002D ཨཱཱཱཱཱཱཱཱ	phal. u second initial form
0009 ཇཱཱཱཱཱ	phal. tha initial, medial form	002E ཨཱཱཱཱཱཱཱཱཱ	phal. u third initial form
000A ཇཱཱཱཱཱཱ	phal. da initial, medial form	002F ཨཱཱཱཱཱཱཱཱཱཱ	phal. u medial form
000B ཇཱཱཱཱཱཱཱ	phal. na initial, medial form	0030 ཨཱཱཱཱཱཱཱཱཱཱཱ	phal. u final form
000C ཇཱཱཱཱཱཱཱཱ	phal. pa initial, medial form	0031 ཨཱཱཱཱཱཱཱཱཱཱཱཱ	phal. u reversed final form
000D ཇཱཱཱཱཱཱཱཱཱ	phal. pha first initial, medial form	0032 ཨཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. e second isolate form
000E ཇཱཱཱཱཱཱཱཱཱཱ	phal. ba isolate, final form	0033 ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. e first initial form
000F ཇཱཱཱཱཱཱཱཱཱཱཱ	phal. ma isolate, final form	0034 ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. e second initial form
0010 ཇཱཱཱཱཱཱཱཱཱཱཱཱ	phal. tsa isolate, final form	0035 ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. e third initial form
0011 ཇཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. tsha isolate, final form	0036 ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. e first medial form
0012 ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. dza first initial, medial form	0037 ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. e second medial form
0013 ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. wa second isolate, final form	0038 ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. e first final form
0014 ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. wa first initial, medial form	0039 ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. e second final form
0015 ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. wa second initial, medial form	003A ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. e first reversed final form
0016 ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. nya second initial, medial form	003B ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. e second reversed final form
0017 ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. za second initial, medial form	003C ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. o first initial form
0018 ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. va initial, medial form	003D ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. o second initial form
0019		003E ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. o medial form
001A ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. ya initial, medial form	003F ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. o first final form
001B ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. ra first initial, medial form	0040 ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. qa initial, medial form
001C ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. ra second initial form	0041 ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. xa initial, medial form
001D ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. ra second medial form	0042 ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. fa initial, medial form
001E ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. ra second final form	0043 ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. qa initial-medial form
001F ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. la initial, medial form	0044 ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. ee first initial, medial form
0020 ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. sha initial, medial form	0045 ཨཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. subjoined wa initial form
0021 ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. sa initial, medial form		
0022 ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. ha initial, medial form		
0023 ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. ha reversed medial form		
0024 ཇཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱཱ	phal. ha reversed final form		

0046

PHAGS-PA

005F

- 0046 ་ phal. subjoined wa medial form
- 0047 ་ phal. subjoined wa final form
- 0048 ་ phal. subjoined ya medial form
- 0049 ་ phal. subjoined ya second medial form
- 004A ་ phal. subjoined ya final form
- 004B ་ phal. subjoined ya second final form
- 004C ་ phal. subjoined ya reversed final form

- 004D ་ phal. oe initial form
- 004E ་ phal. oe first medial form
- 004F ་ phal. oe first final form

- 0050 ་ phal. ue initial form
- 0051 ་ phal. ue first medial form
- 0052 ་ phal. ue first final form

- 0053 ་ phal. tta initial, medial form
- 0054 ་ phal. ttha first initial, medial form
- 0055 ་ phal. ttha second initial, medial form
- 0056 ་ phal. dda initial, medial form
- 0057 ་ phal. nna initial, medial form
- 0058 ་ phal. 0a initial, medial form
- 0059 ་ phal. voiceless sha initial, medial form
- 005A ་ phal. voiced ha initial, medial form

- 005B ་ phal. aspirated fa initial, medial form
- 005C ་ vpha. left joiner
- 005D (This position shall not be used)
- 005E (This position shall not be used)
- 005F (This position shall not be used)


pha. = phags-pa
 phal.= phags-pa letter

IV The Reference Table for Pags-pa Script

Explanations:

The present Reference Table is prepared in order that our users may use the Control Symbols in one and the same way and are provided with detailed regulations for the recording of individual variant presentation glyph.








Theoretically, each HPhags-pa letter has two or more “variant presentation glyphs”. Generally speaking, the majority of consonant letters have fewer variants and differ slightly in their figures. The vowel letters, however, have more variants and differ more clearly in their figures. From such a point of view, the HPhags-pa letters can be divided into “regular letters” and “multi-variant letters”.

By regular letters we mean those variant glyphs which do not differ much in their figures and have at most “isolate-syllable-final form” and “syllable-initial and syllable-medial form” (Due to the features of various styles of writing, a letter may have different numbers of variant glyphs in writing), but do not have “free variant”, so there is no need to use “control symbol” letters for regular recording. The following 38 letters are “regular letters”: ཨ ཁ ཁ་ ཁྱ ཁྲ ཁླ ཁྴ ཁྵ ཁྶ ཁྷ ཁྸ ཁྐྵ ཁྺ ཁྻ ཁྼ ཁ྽ ཁ྾ ཁ྿ ཁྺྱ ཁྺྲ ཁྺླ ཁྺྴ ཁྺྵ ཁྺྶ ཁྺྷ ཁྺྸ ཁྺྐྵ ཁྺྺྱ ཁྺྺྲ ཁྺྺླ ཁྺྺྴ ཁྺྺྵ ཁྺྺྶ ཁྺྺྷ ཁྺྺྸ ཁྺྺྐྵ. According to the *UCS* regulations, it suffices to use the  to record individual variant presentation glyph of such letters.

By “multi-variant letters” are meant letters which differ more clearly in their figures and have more than three “positional variants” or have “free variants”, and require the use of the “control symbol” letters to get recorded in a regular way. In the following table such “multi-variant letters” are clearly explained. The table includes two parts: nominal glyphs and variant presentation glyphs. The part of “nominal glyphs” repeats the part of HPhags-pa script in the *UCS*. In the part of “variant presentation glyphs” are found the number of each variant presentation glyph of a letter; figure of each variant presentation glyph and the name of each variant presentation glyph (such names are printed in minuscule so as to distinguish them from the names of the nominal glyphs in the *UCS*); and the method of how to record individual glyph of that variant presentation glyph.

(1) The number of each variant presentation glyph indicates the order of that glyph in that letter;

(2) The name in minuscule in the “NAME” column is that of the variant presentation glyph, while in the brackets () are nominal glyphs used as variant presentation glyphs.







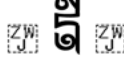











(3) In the column “PRESENTATION RULE” for the variant presentation glyphs is shown how to record individual glyph of the variant presentation glyphs. For regular presentation (writing of words or syllables) we may just remove the zero-break joiner  but retain the variant selectors ,  and . The “variant selectors” in the brackets () ,  and  are used only to write individual glyphs and we should remove the “variant selectors” in the brackets during regular presentation.

Reference Table

BASIC CHARACTERS			PRESENTATION CHARACTERS			
№	GRAPHIC SYMBOL	NAME	№	GRAPHIC SYMBOL	NAME	PRESENTATION RULE
A853	𑄚	PHAL. WA	000		(first isolate-final form)	𑄚
			001	𑄚	phal. wa second isolate-final form	𑄚 FVSI
			002	𑄚	phal. wa first initial, medial form	𑄚 ZW
			003	𑄚	phal. wa second initial-medial form	𑄚 FVSI ZW
A856	𑄛	PHAL. MINUSCUE A	000		(isolate-final form)	𑄛
			001	𑄛	phal. minuscul a initial-medial form	𑄛 ZW
			002	𑄛	phal. minuscul a reversed initial-medial form	𑄛 FVSI ZW
A858	𑄜	PHAL. RA	000		(first isolate-final form)	𑄜
			001	𑄜	phal. ra first initial-medial form	𑄜 ZW
			002	𑄜	phal. ra second initial form	𑄜 FVSI ZW
			003	𑄜	phal. ra second medial form	ZW 𑄜
			004	𑄜	phal. ra second final form	ZW 𑄜 FVSI
A85C	𑄝	PHAL. HA	000		(isolat-final form)	𑄝
			001	𑄝	phal. ha initial-medial form	𑄝 ZW
			002	𑄝	phal. ha reversed medial form	ZW 𑄝 FVSI ZW
			003	𑄝	phal. ha reversed final form	ZW 𑄝 FVSI
A85E	𑄞	PHAL. I	000		(isolate form)	𑄞
			001	𑄞	phal. i first initial form	𑄞 ZW
			002	𑄞	phal. i second initial form	𑄞 FVSI ZW

BASIC CHARACTERS			PRESENTATION CHARACTERS			
No	GRAPHIC SYMBOL	NAME	No	GRAPHIC SYMBOL	NAME	PRESENTATION RULE
			003	୨	phal. i medial form	
			004	୨	phal. i reversed medial form	
			005	୨	phal. I final form	
			006	୨	phal. i reversed final form	
A85F	ଉ	PHAL. U	000		(first isolate form)	ଉ
			001	ଉ	phal. u first initial form	ଉ
			002	ଉ	phal. u second initial form	ଉ
			003	ଉ	phal. u third initial form	ଉ
			004	ଉ	phal. u medial form	
			005	ଉ	phal. u final form	
			006	ଉ	phal. u reversed final form	
A860	ଏ	HPHAL. E	000		(first isolate form)	ଏ
			001	ଏ	hphal. e second isolate form	ଏ
			002	ଏ	hphal. e first initial form	ଏ
			003	ଏ	phal. e second initial form	ଏ
			004	ଏ	phal. e third initial form	ଏ
			005	ଏ	phal. e first medial form	
			006	ଏ	phal. e second medial form	
			007	ଏ	phal. e first final form	
			008	ଏ	phal. e second final form	
			009	ଏ	phal. e first reversed final form	
			00A	ଏ	phal. e second reversed final form	
A861	ଠ	PHAL. O	000		(first isolate form)	ଠ

BASIC CHARACTERS			PRESENTATION CHARACTERS			
N ^o	GRAPHIC SYMBOL	NAME	N ^o	GRAPHIC SYMBOL	NAME	PRESENTATION RULE
			001	𐌲	phal. o first initial form	𐌲 [ZW]
			002	𐌳	phal. o second initial form	𐌳 [FVS1] [ZW]
			003	𐌴	phal. o medial form	[ZW] 𐌴 [ZW]
			004	𐌵	phal. o final form	[ZW] 𐌵
A867	𐌶	PHAL. SUBJOINED WA	000		(final form)	𐌶
			001	𐌷	phal. subjoined wa initial form	𐌷 [ZW]
			002	𐌸	phal. subjoined wa medial form	[ZW] 𐌸 [ZW]
			003	𐌹	phal. subjoined wa final form	[ZW] 𐌹
A868	𐌺	PHAL. SUBJOINED YA	000		(first final form)	𐌺
			001	𐌻	phal. subjoined ya half i first medial form	[ZW] 𐌻 [ZW]
			002	𐌼	phal. subjoined ya second medial form	[ZW] 𐌼 [FVS1] [ZW]
			003	𐌽	phal. subjoined ya first final form	[ZW] 𐌽
			004	𐌾	phal. subjoined ya second final form	[ZW] 𐌾 [FVS1]
			005	𐌿	phal. subjoined ya reversed final form	[ZW] 𐌿 [FVS2]
A869	𐌿	PHAL. OE	000		(isolate form)	𐌿
			001	𐍀	phal. oe initial form	𐍀 [ZW]
			002	𐍁	phal. oe first medial form	[ZW] 𐍁 [ZW]
			003	𐍂	phal. oe second medial form	[ZW] 𐍂 [FVS1] [ZW]
			004	𐍃	phal. oe first final form	[ZW] 𐍃

BASIC CHARACTERS			PRESENTATION CHARACTERS			
№	GRAPHIC SYMBOL	NAME	№	GRAPHIC SYMBOL	NAME	PRESENTATION RULE
			005	↖	phal. oe second final form	
A86A		PHAL. UE	000		(isolate form)	
			001		phal. ue initial form	
			002		phal. ue first medial form	
			003		phal. ue second medial form	
			004		phal. ue first final form	
			005		phal. ue second final form	
186C		PHAL. TTHA	000		(isolate-final form)	
			001		phal. ttha first initial-medial form	
			002		phal. ttha second initial-medial form	