

**THE TECHNICAL JUSTIFICATION OF THE PROPOSAL TO  
AMEND THE KOREAN CHARACTER PART OF ISO/IEC 10646-1  
TO BE PROPOSED BY D.P.R. OF KOREA AT 38TH MEETING OF  
ISO/JIC1/SC2/WG2**

This proposal is limited to the addition and rearrangement of some of the Korean character part of ISO/IEC 10646-1(UCS2).

There exist several different coded character sets for Korean language which have been adopted as national standards by 3 ISO members, D.P.R of Korea, the South Korea and P.R of China.

And several other code sets for Korean language are adopted and used as industrial standards.

These code sets differ in the arrangement and the number of characters. This is due to the features of the Korean character in use.

It is contradictory to the fairness and scientific nature of the standard and the idea of ISO/IEC 10646-1 to satisfy one existing standard when there're already several different encoding standards for Korean characters.

There fore, to include a more reasonable Korean coded character set in ISO/IEC 10646-1 in the aspect of technical points and relation with all the existing Korean coded character sets, proves to be an urgent matter in realizing the universality of code sets and the world wide smooth information interchange and improving the actual usage efficiency of the code sets.



The 2 arrangement orders of characters above differ from each other mainly in the order of conjoining characters and that by and large derived from the different views over the number of main Korean alphabets.

The number of the Korean alphabets were 28 when the "HunminJeongum" was created and, later, 24 since the 4 letters of “çæ”, “αÕ”, “αÖ”, “ιϕ” became unavailable.

And then, with the development of the language five conjoining consonants of "α<sup>-</sup>", "α<sup>o</sup>", "α<sup>±</sup>", "α<sup>2</sup>", "α<sup>3</sup>" and eleven conjoining vowels "α<sup>3/4</sup>", "α<sub>ι</sub>", "α<sup>À</sup>", "α<sup>Á</sup>", "α<sup>Â</sup>", "α<sup>Ã</sup>", "α<sup>Ä</sup>", "α<sup>Å</sup>", "α<sup>Æ</sup>", "α<sup>Ç</sup>", "α<sup>È</sup>" settled down in the literal life and there're now 40 Korean alphabets.

Only when the arrangement order of alphabets were exactly determined, the syllabic character can be clearly arranged.

This is also required in the arrangement order of Korean characters (1100-11FF) in ISO 10646-1(UCS 2) which considers even the expression of ancient characters, and here, the same arranging principal should be applied at the same time.

A character is, in all cases, a morphological symbol of a language so it would be suitable to handle the characters on the basis of morphological principle and in that respect, it would be of nature to follow the order of arranging the 24 basic alphabets at first, which is flowed by the 2-alphabet-conjoining characters and then 3.

This order also conforms to the historical habit of arranging the consonants before the vowels or arranging the 24 basic alphabets at front.



Korean character that has been developed from “Humminjongum” began to be called as “Hangul” from early 1900s.

But in recent years, the “Hangul” is misunderstood as the character name that is used in South Korea not the Korean character name.

In general a national language or character bears a name of its nation. It is kind of a custom,

In ISO 639-88 the code for language name representation, the North and South Korea both represents the name of Korean character as Korean. And in ISO/IEC TR 11941-96 Transliteration of Korean script in to Latin Characters, both the North and South Korea represents the Korean character as “Korean script”.

On the other hand, the Korean alphabet is represented as Korean character in the English version of Chinese national standard GB 12052-89 the catalogue of Korean character code for information interchange.

There fore, in this document, we propose to replace the expression “Hangul” with “Korean character” and “Jamo” with “Korean Alphabet”.

This amendment is expected to be suitable for the worldwide recognition and identification of Korean character.

3) The explanation of the proposal to add some special symbolic characters in KPS 9566-97 to the appropriate position in ISO 10646-1(UCS2)

79 special symbolic characters in KPS 9566-97 (not included in ISO 10646-1(UCS2)) are shown in the following.

1.	'	A1C1	30.	§»	A7BB	59.	¬¼	ACBC
2.	¡À	A1C0	31.	§¼	A7BC	60.	¬½	ACBD
3.	¡Â	A1C2	32.	§½	A7BD	61.	¬À	ACC0
4.	¡¼	A1C3	33.	§¾	A7BE	62.	¬Á	ACC1
5.	¡Å	A1C5	34.	§ú	A7FA	63.	¬Â	ACC2
6.	¡Û	A1DC	35.	§û	A7FB	64.	¬Ã	ACC3
7.	¡Ý	A1DD	36.	§ü	A7FC	65.	¬Ä	ACC4
8.	¡Á	A1DE	37.	§ý	A7FD	66.	¬Å	ACC5
9.	¡ß	A1DF	38.	§þ	A7FE	67.	¬Æ	ACC6
10.	¡à	A1E0	39.	¨¡	A8A6	68.	¬Ç	ACC7
11.	¡á	A1E1	40.	¨¸	A8B8	69.	¬È	ACC8
12.	¢ñ	A2F1	41.	¨¹	A8B9	70.	¬É	ACC9
13.	¢ò	A2F2	42.	¨º	A8BA	71.	¬Ë	ACCF
14.	¢ó	A2F3	43.	¨»	A8DF	72.	¬Ò	ACD2
15.	¢ô	A2F4	44.	¨à	A8E0	73.	¬Ô	ACD4
16.	¢õ	A2F5	45.	¨ñ	A8F1	74.	¬Ö	ACD6
17.	¢ö	A2F6	46.	¨÷	A8F7	75.	¬×	ACD7
18.	¤è	A4E8	47.	¨ú Ú	A8FA	76.	¬Ø	ACD8
19.	¤é	A4E9	48.	¨û	A8FB	77.	¬Ù	ACD9
20.	¤ê	A4EA	49.	¬¡	ACA1	78.	¬Ú	ACDA
21.	¤ë	A4EB	50.	¬¢	ACA2	79.	¬Û	ACDC
22.	¤ì	A4EC	51.	¬¡	ACA6			
23.	¤í	A4ED	52.	¬©	ACA9			
24.	§µ	A7B5	53.	¬ª	ACAA			
25.	§¶	A7B6	54.	¬Ý	ACDD			
26.	§·	A7B7	55.	¬ß	ACDF			
27.	§¸	A7B8	56.	¬à	ACE0			
28.	§¹	A7B9	57.	¬º	ACBA			
29.	§º	A7BA	58.	¬»	ACBB			

The symbolic characters above are now widely used in the electronic publication and application of database in D.P.R of Korea.

The reasons of the usage of these symbolic characters are:

Firstly, it is better for them to be printed and screen displayed as one symbolic character and they're now widely used in D.P.R. of Korea according to KPS 9566-97 where the symbolic characters are specified.

Secondly the users are accustomed to its usage "ㄹㄹㄹ" and "ㄹㄹㄹ" are pictorial characters making an aesthetic shape when the 2 3-character-compounds are made respectively, not for any inscription of pronunciation.

Those symbolic characters have been used in a great deal of publication and almost every language processing software has got the function of processing the symbolic characters in D.P.R of Korea.

Thus we propose to add such special symbolic characters to the appropriate position in ISO 10646-1(UCS2) through necessary practical procedures.

4) The explanation about the proposal to add to the CJK Unified Ideographs code table of ISO 10646-1 the encoding representations corresponding to each ideographs (Korean HanJa) in KPS 9566-97 and publish it and to add Korean HanJa to HanJa extended area C on the second plane of ISO 10646-2.

(1) At present, the column for G,T, J,K,V contains the example of Hanja from the original standard of character sets and at the same time its encoding representation.

We expect to insert to the item for Korean HanJa the encoding representation of HanJa of K.P.R of Korea, identified on the basis of KPS 9566-97 and the HanJa extended set of KPS.

Example: the detailed item of code table for the CJK unified Ideographs.

Row Cell	C	J	K
Hex code	G-Hanzi-T	kanji	Hanja
078/000			
4E00			
	0-523B 1-4421	0-306C	0-6C69 0-FCD6
	0-5027 1-3601	0-1676	0-7673 0-9254

- (2) We propose to register the Korean Hanja in the extended area C in addition to the HanJa in the extended area B of the Basic Multilingual Plane and the second plane.

With respect to this, we intend to follow the necessary procedures of IRG, and hope the close corporation with IRG.

In addition to the proposals above, we submit the following proposals.

§j The proposal to supplement to the Ridu and Gugyol character used historically in our country.

The Ridu and Gugyol characters are similar to Han character in their forms but are independent characters distinguished from HanJa fundamentally.



These characters were used to represent Korean language or to read "Hamum" in Korean style and are now widely used in the study of history and culture, So they have a great cultural value.

The number of these characters is about 300-400 respectively and the studies to determine their correct arrangement order and character number are now intensified.

§ç The proposal about the transliteration of Korean script in to Latin characters.

Two methods for the transliteration of Korean script in to Latin characters were proposed in ISO/IEC TR 11941-96 but in the table 35 and 36 of ISO 10646-1:2000, only one method is applied unilaterally.

So we consider it desirable to apply both the 2 methods in ISO/IEC TR 11941-96 or not to apply to avoid any confusion until any one of the methods is adopted as the standard.

The transliteration method of Korean script in to Latin characters is one of very important matters to be agreed as soon as possible.

As the technical problems above are related with a national language, we hope the attentive efforts of ISO/IEC JIC1/SC2/WG2 for the impartial and perfect solution of the problems and we are ready to cooperate with WG2

References:

Document N2056 ofWG2

The NP submitted to subcommittee 2 by the committee for standardization of D.P.R of Korea.

## Attachment to JTC1/SC2/WG2 N 2170

ISO/IEC JTC1/SC 2/WG2  
**PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS  
FOR ADDITONS TO THE REPertoire OF ISO/IEC10646**

Please fill all the sections A, B and C below

### A. Administrative

1. Title: Addition of 79 symbolic characters
2. Requesters name: The Committee for Standardization of D.P.R of Korea
3. Requester type (Member body/Liaison/Individual contribution): NB
4. Submission date: 2000-02-10
5. Requesters reference (if applicable):
6. (Choose one the following):
  - This is complete proposal: Yes
  - More information will be provided later:

### B: Technical-General

1. (Choose one the following):
  - a. This proposal is for a new script (set of characters): No
  - b. The proposal is for addition of character(s) to an existing block: Yes  
Name of the existing block:
2. Number of characters in proposal: 79
3. Proposed category (see section 4, Character Categories): A
4. Proposed Level of Implementation (see clause 15, ISO/IEC 10646-1): 3  
Is a rationale provided for the choice?  
If "Yes", reference:
5. Is a repertoire including character names provided? Yes
  - a. If YES, are the names in accordance with the "character naming guidelines" In Annex K of ISO/IEC 10646-1? Yes
  - b. Are the character shapes attached in a reviewable form? Yes
6. Who will provide the appropriate computerized font (ordered preference: True type, Postscript or 96\*96 bit-mapped format) for publishing the standard?  
Korean Computer Centre  
If available now, identity source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used: Korean Computer Centre
7. References:
  - a. Are references (to other character sets, dictionaries, descriptive texts etc,) provided? Yes
  - b. Are published examples (such as samples from newspapers, magazines, or Other sources) of use of proposed characters attached? Yes
8. Special encoding issues:

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)?

**C. Technical-Justification:**

1. Has this proposal for addition of character(s) been submitted before? No  
If YES explain
2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?  
If YES, with whom?  
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?  
Reference:
4. The context of use for the proposed characters (type of use; common or rare)  
Reference: Common
5. Are the proposed characters in current use by the user community?  
If YES, where? Reference: Document Editing, Database application, Desktop print
6. After giving due considerations to the principles in “Principles and Procedures” document (a WG2 standing document) must the proposed characters be entirely in the BMP? Yes  
IF YES, is a rationale provided? Yes  
IF YES, reference: Enclosed
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)? No
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence? No  
If YES, is a rationale for its inclusion provided?  
If YES, reference:
9. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character? Yes  
If YES, is a rationale for its inclusion provided?  
If YES, reference: Enclosed
10. Does the proposal include use of combining characters and/or use of composite sequences (see clauses 4.11 and 4.13 in ISO/IEC 10646-1)?  
If YES, is a rationale for such use provided?  
If YES, reference:  
Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?  
If YES, reference:
11. Does the proposal contain characters with any special properties such as control function or similar semantics?  
If YES, describe in detail (include attachment if necessary)