

**Subject:** Korea-origin chars and glyphs in G and J columns of ISO\_IEC\_10646\_2020\_CD\_Amd2.3

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**Related documents:**

- IRG N2549\_KRRResp1 Changing glyphs and IDs of 97 KR Hanja chars containing 'ㄷ' (U+53F1)
- WG2 N5186-Request to change glyphs of 63 K-source Hanja chars in UCS.pdf
- WG2 N5221-Request for 36422 Horizontal Extensions in the J-column for JMJ sources.pdf
- SC2 N4876 (ISO\_IEC\_10646\_2020\_CD\_Amd2.3 voting)

## 1. Background

### 1.1 KR's request: dagger (ㄷ, U+5315) -> seven (ㄷ, U+4E03) [IRG N2549\_KRRResp1, WG2 N5186]

- KR requested that the component dagger (ㄷ, U+5315) in 63 Korea-origin Hanja chars in UCS be changed to seven (ㄷ, U+4E03). (See IRG N2549KRRResp1.pdf, WG2 N5186-Request to change glyphs of 63 K-source Hanja chars in UCS.pdf) on 2022-10-19.

- The complete list of screen shots of the 66 chars (63 chars in CJK main ~ ExtG, 3 chars in CJK ExtH (formerly, WS2021)) is shown in Appendix 1.

- A Korea-origin Hanja char is a Hanja char coined in Korea. Some Korea-origin Hanja chars are used for expressing Korean syllable (sound) or changing the reading of Hanja chars.

### 1.2 JP's request of a horizontal extension of 36422 JMJ chars [WG2 N5221]

- Japan requested a horizontal extension of 36422 JMJ chars to UCS (see WG2N5221-Request for 36422 Horizontal Extensions in the J-column for JMJ sources.pdf) on 2023-04-24. These chars came from MOJI-JOHO-KIBAN IDEOGRAPHS-2018.

## 2. Issues to be discussed in this document

Three issues will be discussed below. The first two issues are closely related.

- 1) 13 G glyphs containing a dagger/seven component (ㄷ, U+5315; ㄷ, U+4E03)
  - possibly changing a dagger (ㄷ, U+5315) -> seven (ㄷ, U+4E03) in 13 G (GK, GE) glyphs
- 2) 31 J (JMJ) glyphs containing a dagger/seven component (ㄷ, U+5315; ㄷ, U+4E03)
  - possibly changing a dagger (ㄷ, U+5315) -> seven (ㄷ, U+4E03) in 31 J (JMJ) glyphs
- 3) Some JMJ glyphs containing components 乙 (bird, U+4E59), ㅇ (Hangul syllable-final IEUNG, U+11BC), or ㅛ (Hangul syllable-final KIYEOK, U+11A8)
  - Real usage of some JMJ glyphs which seem based on or related with Korea-origin chars?

## 2.1 13 (Thirteen) G glyphs containing a dagger component (匕, U+5315; 匕, U+4E03)

- KR requested that the component dagger (匕, U+5315) in 63 Korea-origin Hanja chars in UCS be changed to seven (匕, U+4E03). (See IRG N2549KRRResp1.pdf, WG2 N5186).

- Among the 63 chars shown in IRG N2549KRRResp1, each of the following 13 Hanja chars has only two glyphs in UCS:2020/ed. 6: K and G glyphs.

U+517A, 5391, 54DB, 551C, 551F, 55B8, 55ED, 591E, 5DFC, 5EE4, 65D5, 83BB, 848A

- A screen shot of U+517A is shown below as an example.

(The complete list of screen shots of the 13 chars is in Appendix 1.1.)



Note. There are five KP glyphs among the 13 chars. However, since the KP glyphs were not submitted by DPRK NB, KP glyphs are not taken into consideration in this discussion.

- Among the 13 G glyphs, the source of the 12 G glyphs is GK, which is "GB12052-89 Korean Character Coded Character Set for Information Interchange". The source for the G glyph of U+551C is GE, GB16500-95.

- The set of these 13 chars is actually a subset of "92 Korean 'Idu' characters" as mentioned in the clause 27.1 of the first edition of UCS:2003.

G1 GB12345-90 with 58 Hong Kong and 92 Korean "Idu" characters (the first edition)

GK GB12052-89 Korean Character Coded Character Set for Information Interchange (the sixth edition)

- 'Idu' is a set of Korea-origin Hanja chars coined in Korea for special purposes (For details, see IRG N2549KRRResp1).

- Considering that the source of these G chars (i.e., GK) and the 13 chars are 'Idu', we can conclude that the 13 G glyphs are Korea-origin Hanja chars.

- Therefore, KR suggests that China NB consult with the Korean experts in China to see if it is better to modify the component dagger (匕, U+5315) in the 13 chars to seven (匕, U+4E03).

- KR suggests that this issue be discussed by IRG experts at the next IRG meeting.

## 2.2 31 (Thirty-one) JMJ glyphs containing dagger/seven component (匕, U+5315; 七, U+4E03)

- Japan requested a horizontal extension of 36422 JMJ chars to UCS (see WG2N5221-Request for 36422 Horizontal Extensions in the J-column for JMJ sources.pdf). These chars came from MOJI-JOHO-KIBAN IDEOGRAPHS-2018.

- Among them, each of the 31 JMJ chars (listed below) in UCS (CJK main and CJK ExtA) currently has a Korea-origin glyph where the component dagger (匕, U+5315) was changed to seven (七, U+4E03).

CJK main (11 chars): U+517A, 54DB, 551C, 551F, 55B8, 55ED, 5DFC, 5EE4, 65D5, 83BB, 848A  
CJK ExtA (20 chars): U+357E, 358B-358E, 3599-359D, 35AF-35B0, 35B2-35B3, 35DF-35E1, 35EF, 360F, 3612

- U+517A is shown below as an example.



(For the screen shots of all the 31 chars, see Appendices 1.1 (CJK main) and 1.2 (CJK ExtA)).

- 1) KR would like to see the actual usage of these 31 chars.
- 2) If these 31 JMJ chars are based on or related with Korea-origin glyphs, KR suggests that Japan NB investigate the possibility of changing the component dagger (匕, U+5315) in the 31 chars to seven (七, U+4E03).
- 3) If these 31 JMJ chars are NOT based on or related with Korea-origin glyphs, K glyphs and J glyphs seem non-cognate. Therefore, it might be better NOT to make a horizontal extension; instead, we could consider the possibility of disunifying K glyphs and J glyphs and assigning separate code positions to J glyphs.
- 4) KR will investigate this issue more carefully and, if necessary, will submit further comments.
- 5) KR suggests that this issue be discussed by IRG experts at the next IRG meeting.

## 2.3 Some JMJ glyphs containing components 乙 (bird, U+4E59), ㅊ (Hangul syllable-final IEUNG, U+11BC), or ㅊ (Hangul syllable-final KIYEOK, U+11A8)

- Among the 36422 JMJ chars proposed for a horizontal extension in the document WG2N5221, each of some JMJ chars (7 chars are shown as examples below) in UCS:2020 (ed. 6) currently has a Korea-origin glyph which includes components 乙 (bird, U+4E59), ㅊ (Hangul syllable-final IEUNG, U+11BC), or ㅊ (Hangul syllable-final KIYEOK, U+11A8).

- Components 乙 (bird, U+4E59, reading = EUL), ㅊ (IEUNG, U+11BC), or ㅊ (KIYEOK, 11A8) in these seven Korea-origin glyphs represents the Korean syllable-final sound ㅞ (RIEUL, U+11AF), ㅊ (IEUNG, U+11BC), or ㅊ (KIYEOK, 11A8), respectively.

2	U+3407	3407 乙 5.2 K3-2123	ㄱ	JMJ-067953	ㄱ
3	U+3408	3408 乙 5.2 K3-2124	ㄴ	JMJ-067954	ㄴ
4	U+3409	3409 乙 5.2 K3-2125	ㄷ	JMJ-067955	ㄷ
5	U+340A	340A 乙 5.3 K3-2126	ㄹ	JMJ-067956	ㄹ
6	U+340B	340B 乙 5.3 K3-2127	ㅁ	JMJ-067957	ㅁ
184	U+3514	3514 力 19.4 K3-222C	ㅊ	JMJ-067980	ㅊ
185	U+3516	3516 力 19.4 K3-222B	ㅋ	JMJ-067981	ㅋ

- 1) KR would like to see the actual usage of these 7 chars shown as examples above.
- 2) KR wonders if Japan NB considers that these 7 JMJ chars are based on or related with Korea-origin glyphs.
- 3) KR expects that there are more JMJ chars based on or related with the Korea-origin glyphs. Due to the time limit, KR could not find all such JMJ chars.
- 4) KR will investigate this issue more carefully and, if necessary, will submit further comments.

### 3. Conclusions

- Comments from IRG experts are welcome, especially from China and Japan NBs.

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## Appendix 1. K Hanja glyphs where the component dagger to be changed to seven

- IRGN2549KRResp1.pdf

WG2N5186-Request to change glyphs of 63 K-source Hanja chars in UCS.pdf

The number of K glyphs in each block where the component dagger is changed to seven

CJK block	# Hanja glyphs changed
CJK main	13
CJK ExtA	20
CJK ExtC	3
CJK ExtF	11
CJK ExtG	16
CJK ExtH	(= WS2017) 3
total (CJK mACFGH)	66

### Appendix 1.1 13 (Thirteen) K Hanja glyphs in CJK main block

- left: UCS 6ed;

(13 G glyphs; 0 J glyphs)

right: 6ed CD Amd2.3

(13 G glyphs; 11 J (JMJ) glyphs)

517A 八 12.8 龕 GK-683F	龕 K2-2426	517A 八 12.8 龕 GK-683F	龕 JMJ-068024 龕 K2-2426 龕 KP1-395B
5391 冫 27.5 厖 GK-6876	厖 K2-2576	5391 冫 27.5 厖 GK-6876	厖 K2-2576
54DB 口 30.6 𠂇 GK-685E	𠂇 K2-2729	54DB 口 30.6 𠂇 GK-685E	𠂇 JMJ-068025 𠂇 K2-2729
551C 口 30.7 𠂇 GE-3356	𠂇 K0-5845	551C 口 30.7 𠂇 GE-3356	𠂇 JMJ-068026 𠂇 K0-5845 𠂇 KP0-DACD
551F 口 30.7 𠂇 GK-677E	𠂇 K2-2747	551F 口 30.7 𠂇 GK-677E	𠂇 JMJ-068027 𠂇 K2-2747
55B8 口 30.9 𠂇 GK-685C	𠂇 K2-2827	55B8 口 30.9 𠂇 GK-685C	𠂇 JMJ-068028 𠂇 K2-2827
55ED 口 30.10 𠂇 GK-6857	𠂇 K2-2842	55ED 口 30.10 𠂇 GK-6857	𠂇 JMJ-068029 𠂇 K2-2842
591E 夕 36.7 𠂇 GK-6878	𠂇 K2-284E	591E 夕 36.7 𠂇 GK-6878	𠂇 K2-284E 𠂇 KP1-395C
5DFC 己 49.7 𠂇 GK-685A	𠂇 K2-2F7B	5DFC 己 49.7 𠂇 GK-685A	𠂇 JMJ-068032 𠂇 K2-2F7B 𠂇 KP1-395F
5EE4 广 53.12 𠂇 GK-6822	𠂇 K2-3071	5EE4 广 53.12 𠂇 GK-6822	𠂇 JMJ-068033 𠂇 K2-3071 𠂇 KP1-3A40
65D5 方 70.9 𠂇 GK-6870	𠂇 K2-3840	65D5 方 70.9 𠂇 GK-6870	𠂇 JMJ-068035 𠂇 K2-3840
83BB 艹 140.7 𠂇 GK-6827	𠂇 K2-577C	83BB 艹 140.7 𠂇 GK-6827	𠂇 JMJ-068044 𠂇 K2-577C 𠂇 KP1-395B
848A 艹 140.9 𠂇 GK-6821	𠂇 K2-5873	848A 艹 140.9 𠂇 GK-6821	𠂇 JMJ-068045 𠂇 K2-5873

## Appendix 1.2 20 (Twenty) K Hanja glyphs in CJK ExtA block

- left: UCS 6ed;  
(0 J glyph)
- right: 6ed CD Amd2.3  
(20 J (JMJ) glyphs)

357E □ 30.5 小 K3-2247	357E □ 30.5 小 小 JMJ-067982 K3-2247
358B □ 30.6 介 K3-224A	358B □ 30.6 介 介 JMJ-067983 K3-224A
358C □ 30.6 仇 K3-224B	358C □ 30.6 仇 仇 JMJ-067994 K3-224B
358D □ 30.6 斗 K3-224D	358D □ 30.6 斗 斗 JMJ-067985 K3-224D
358E □ 30.6 芥 K3-224E	358E □ 30.6 芥 芥 JMJ-067986 K3-224E
3599 □ 30.7 加 K3-2250	3599 □ 30.7 加 加 JMJ-067987 K3-2250
359A □ 30.7 付 K3-2251	359A □ 30.7 付 付 JMJ-067988 K3-2251
359B □ 30.7 尙 K3-2252	359B □ 30.7 尙 尙 JMJ-067989 K3-2252
359C □ 30.7 尙 K3-2253	359C □ 30.7 尙 尙 JMJ-067990 K3-2253
359D □ 30.7 尙 K3-2254	359D □ 30.7 尙 尙 JMJ-067991 K3-2254
35AF □ 30.8 同 K3-225A	35AF □ 30.8 同 同 JMJ-067992 K3-225A
35B0 □ 30.8 尙 K3-225B	35B0 □ 30.8 尙 尙 JMJ-067993 K3-225B
35B2 □ 30.8 如 K3-225D	35B2 □ 30.8 如 如 JMJ-067994 K3-225D
35B3 □ 30.8 洳 K3-225E	35B3 □ 30.8 洳 洳 JMJ-067995 K3-225E
35DF □ 30.10 洳 K3-2265	35DF □ 30.10 洳 洳 JMJ-067996 K3-2265
35E0 □ 30.10 始 K3-2266	35E0 □ 30.10 始 始 JMJ-067997 K3-2266
35E1 □ 30.10 蓆 K3-226C	35E1 □ 30.10 蓆 蓆 JMJ-067998 K3-226C
35EF □ 30.11 耄 K3-226D	35EF □ 30.11 耄 耄 JMJ-067999 K3-226D
360F □ 30.15 道 K3-2276	360F □ 30.15 道 道 JMJ-068000 K3-2276
3612 □ 30.16 種 K3-2278	3612 □ 30.16 種 種 JMJ-068001 K3-2278

### Appendix 1.3 33 K Hanja glyphs in CJK ExtC, ExtF, ExtG, and ExtH (<- WS2017)

- In the 33 chars shown below, there is only a K glyph; neither G nor J (JMJ) glyphs.

#### a) 3 (Three) K Hanja glyphs in CJK ExtC block

2A741 人 9.7 仍 K5-005E	2A741 人 9.7 仍 K5-005E
2B173 老 125.5 老 K5-00A5	2B173 老 125.5 老 K5-00A5
2B490 金 167.5 金 K5-000F	2B490 金 167.5 金 K5-000F

#### b) 11 (Eleven) K Hanja glyphs in CJK ExtF block

2D1CC 口 30.4 刀 K5-04881	2D1CC 口 30.4 刀 K5-04881
2D1CD 口 30.4 九 K5-06069	2D1CD 口 30.4 九 K5-06069
2D1DD 口 30.5 山 K5-06070	2D1DD 口 30.5 山 K5-06070
2D1E4 口 30.6 牛 K5-04887	2D1E4 口 30.6 牛 K5-04887
2D1F7 口 30.7 可 K5-04891	2D1F7 口 30.7 可 K5-04891
2D203 口 30.7 处 K5-04888	2D203 口 30.7 处 K5-04888
2D256 口 30.9 尾 K5-04893	2D256 口 30.9 尾 K5-04893
2D266 口 30.10 具 K5-04898	2D266 口 30.10 具 K5-04898
2D2A2 口 30.12 馬 K5-04902	2D2A2 口 30.12 馬 K5-04902
2D2AC 口 30.12 葦 K5-06101	2D2AC 口 30.12 葦 K5-06101
2D2DA 口 30.13 訥 K5-04903	2D2DA 口 30.13 訥 K5-04903

c) 16 (Sixteen) K Hanja glyphs in CJK ExtG block

301D4 □ 30.6 𪛗 KC-00414	301D4 □ 30.6 𪛗 KC-00414
301D9 □ 30.6 𪛘 KC-00411	301D9 □ 30.6 𪛘 KC-00411
301E4 □ 30.7 𪛙 KC-00434	301E4 □ 30.7 𪛙 KC-00434
301E8 □ 30.7 𪛚 KC-00436	301E8 □ 30.7 𪛚 KC-00436
301FF □ 30.9 𪛛 KC-00472	301FF □ 30.9 𪛛 KC-00472
30200 □ 30.9 𪛜 KC-00476	30200 □ 30.9 𪛜 KC-00476
30205 □ 30.9 𪛝 KC-00458	30205 □ 30.9 𪛝 KC-00458
3020C □ 30.9 𪛞 KC-00474	3020C □ 30.9 𪛞 KC-00474
30211 □ 30.10 𪛟 KC-00486	30211 □ 30.10 𪛟 KC-00486
30215 □ 30.10 𪛠 KC-00480	30215 □ 30.10 𪛠 KC-00480
30216 □ 30.10 𪛡 KC-00490	30216 □ 30.10 𪛡 KC-00490
30217 □ 30.10 𪛢 KC-00493	30217 □ 30.10 𪛢 KC-00493
30220 □ 30.11 𪛣 KC-00502	30220 □ 30.11 𪛣 KC-00502
30234 □ 30.13 𪛤 KC-00523	30234 □ 30.13 𪛤 KC-00523
30235 □ 30.13 𪛥 KC-00547	30235 □ 30.13 𪛥 KC-00547
30237 □ 30.14 𪛦 KC-00546	30237 □ 30.14 𪛦 KC-00546

d) 3 (Three) K Hanja glyphs in CJK ExtH block (<- WS2017)

314B9 □ 30.7 𪛧 KC-07781	314B7 □ 30.7 𪛧 KC-07781
31543 □ 30.13 𪛨 KC-07384	31542 □ 30.13 𪛨 KC-07384
31568 □ 30.17 𪛩 KC-07915	31569 □ 30.17 𪛩 KC-07915

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