**Title**: CJK & Unihan Group Recommendations for UTC #167 Meeting
**Author**: Ken Lunde
**Date**: 2021-04-26

This document provides the CJK & Unihan Group recommendations for UTC #167 based on a meeting that took place from 6 to 7:30PM PDT on 2021-04-16, which was attended by Eiso Chan, Lee Collins, John Jenkins, Ken Lunde, William Nelson, Xieyang Wang, and Yifán Wáng via Zoom. The Chair of the CJK & Unihan Group, Ken Lunde, chaired the meeting with John Jenkins as Vice-Chair.

The CJK & Unihan Group reviewed public feedback and documents that were received since UTC #166. Comments are marked in **green**, and Copy&Paste-ready Recommendations to the UTC are marked in **red**.

## 1) UAX #45 / U-Source Public Feedback

The single item of public feedback from PRI #420 (*Proposed Update UAX #45*) that is in this section was discussed by the group.

```
Date/Time: Sun Apr 11 05:37:38 CDT 2021
Name: Wang Yifan
Report Type: Error Report
Opt Subject: PRI #420 comments

Regarding Sections 1.1 and 2.4:

IRG is going to change its procedure from the next working set that:

(1) Submitters must provide glyphs in the TrueType format

(2) Fill 0 in the first stroke field if the character has no residual strokes

Should the description be altered to have proposers strictly follow the re-
quirements?
```

**Comments**: The group reviewed this feedback, and agreed that the first residual stroke value 0 (*zero*), which is now an IRG procedure, should be added to UAX #45 Section 2.4. The verbiage in UAX #45 Section 1.1 about providing glyphs was deemed sufficient for the Unicode Consortium's purposes.

**Recommendations** (**Unihan-UTC167-R01**): The group recommends to the UTC the following disposition ⇨ **Action Item for John Jenkins**: Adjust Section 2.4 of UAX #45 by adding the following text after the numbered list: *If an ideograph has no residual strokes, its first residual stroke value shall be set to 0 (zero).* See PRI #420 feedback dated 2021-04-11 and Unihan-UTC167-R01 in document L2/21-072.

# 2) UAX #38 / Unihan Database Public Feedback

The four items of public feedback from L2/21-068 that are in this section were discussed by the group.

```
Date/Time: Mon Feb 8 09:16:42 CST 2021
Name: Jaemin Chung
Report Type: Other Question, Problem, or Feedback
Opt Subject: kMandarin values for some traditional characters

I suggest that these kMandarin values be added.

U+255FD kMandarin   lán # 礦; from U+2C497 礦
U+289C0 kMandarin   dù  # 鉳; from U+2CB4A 铣
U+28A0F kMandarin   bō  # 鏺; from U+2CB5B 铍
U+28B4E kMandarin   xǐ  # 鐳; from U+2CB73 镨

Adding these would completely cover the traditional equivalents of the charac-
ters in kTGH (通用规范汉字表).
```

**Comments**: The group reviewed this feedback, and agreed that the suggested *kMandarin* property value additions are appropriate.

**Recommendations** (**Unihan-UTC167-R02**): The group recommends to the UTC the following disposition ⇨ **Action Item for Peter Edberg**: Ask the CLDR-TC to check the proposed *kMandarin* property values for U+255FD, U+289C0, U+28A0F, and U+28B4E, then report back to the UTC. See document L2/21-068 and Unihan-UTC167-R02 in document L2/21-072. **Action Item for Ken Lunde**: Convey to the feedback submitter the CJK & Unihan Group comments in document L2/21-072.

```
Date/Time: Tue Feb 16 01:26:03 CST 2021
Name: William He
Report Type: Error Report
Opt Subject: Minor kDefinition Error

The kDefinition for 窸 (U+7A78) appears incorrect. It says, "the gloom of the
grave a tomb or grave; death" which may be missing a semicolon after the first
instance of "grave". That said, "the gloom of the grave" is unclear regard-
less.
```

**Comments**: The group reviewed this feedback, and agreed that the *kDefinition* property value for U+7A78 窸 is missing a semicolon after the first instance of "grave," but that no other changes are necessary. This is a provisional property, so John Jenkins already made the change in the Unihan database for Unicode Version 14.0.

**Recommendations** (**Unihan-UTC167-R03**): The group recommends to the UTC the following disposition ⇨ **Action Item for Ken Lunde**: Convey to the feedback submitter the CJK & Unihan Group comments in document L2/21-072.

```
Date/Time: Mon Mar 22 14:18:10 CDT 2021
Name: Ryusei Yamaguchi
Report Type: Public Review Issue
Opt Subject: PRI #421 UNIHAN proposed update feedback

In the description of kPhonetic property, kPhonetic value of U+8753 is mi-
styped:

> An asterisk is appended when a character has the given phonetic class but is
not explicitly included in the character list for that class. For example, 蝓
(U+8753) belongs to the class 1161 but is not explicitly listed in that class.
Its kPhonetic value is therefore "1161*".

Correct kPhonetic value of U+8753 is "1611*".
```

**Comments**: The group reviewed this PRI #421 (*Proposed Update UAX #38*) feedback, and agreed that the suggested changes in the revised description of the *kPhonetic* property are appropriate. John Jenkins already changed "1161" to "1611" and "1161*" to "1611*" in the description of the *kPhonetic* property in the proposed update of UAX #38.

**Recommendations** (**Unihan-UTC167-R04**): The group recommends to the UTC the following disposition ⇨ **Action Item for Ken Lunde**: Convey to the feedback submitter the CJK & Unihan Group comments in document L2/21-072.

```
Date/Time: Wed Apr 14 06:17:42 CDT 2021
Name: Štěpán Zídek
Report Type: Submission (FAQ, Tech Note, Case Study)
Opt Subject: KP0-E5A9 mapping

Mr. Jaemin Jung proposed to change the mapping of KP0-E5A9 to U+67FF (柿) in-
stead of current U+676E (柮) in document L2/21-059. KP0-E5A9 should be mapped
to U+67BE (枾, read as 시 too) rather than to U+67FF (柿). This mapping would
be more accurate, since the character '枾', coded as E5A9, is used in Sam-
Hung 3.0 multilingual dictionary, which originates from North Korea and uses
KPS9566 coding. I can provide font bitmaps from SamHung 3.0 to support my
claim.
```

**Comments**: The group reviewed this feedback, which is for document L2/21-059, and agrees with what is recorded in the IRG #56 Editorial Report (see Section 11, *Remapping of Sources*, on page 6 of L2/21-062), specifically that the source reference change proposed in L2/21-059 should not be made without first contacting DPRK (aka North Korea), which is virtually impossible.

**Recommendations** (**Unihan-UTC167-R05**): The group recommends to the UTC the following disposition ⇨ **Action Item for Ken Lunde**: Convey to the feedback submitter the CJK & Unihan Group comments in document L2/21-072.

# 3) UAX #38 / Unihan Database Documents

The documents in this section were discussed by the group, and for convenience, the *Unihan-additions-20210416.txt* and *Unihan-changes-20210416.txt* (PDF attachments) files include all of the recommended Unihan database changes based on those documents.

## L2/21-076R: Proposal to modify source references of V-Source ideographs (IRG N2490R)

**Comments**: The group discussed this document, which proposes to change a total of 1,118 *kIRG_VSource* property values, 1,043 of which currently use the "VU" prefix that should be reserved for flagging orphaned ideographs. The proposed property values were compared with those in the Unicode Version 14.0 Alpha, and were confirmed to be appropriate. This proposal introduces a new source reference prefix, "VN," meaning that the Syntax and Description fields of the *kIRG_VSource* property need to be updated in UAX #38. Due to the large number of property values, they are not shown inline in this document.

**Recommendations** (**Unihan-UTC167-R06**): The group recommends to the UTC the following disposition ⇨ Accept the 1,118 *kIRG_VSource* property value changes as specified in the fourth column of the *kIRG_VSource_update.txt* data file that is attached to L2/21-076R, based on Unihan-UTC167-R06 in document L2/21-072, for Unicode Version 14.0. **Action Item for John Jenkins and Michel Suignard**: Update the 1,118 *kIRG_VSource* property values in the Unihan database, based on document L2/21-076R and Unihan-UTC167-R06 in document L2/21-072, for Unicode Version 14.0. **Action Item for John Jenkins**: Update the Syntax and Description fields of the *kIRG_VSource* property in the proposed update of UAX #38, based on document L2/21-076R and Unihan-UTC167-R06 in document L2/21-072, for Unicode Version 14.0.

## L2/21-077: Identical or very similar glyph pairs with different code points in code charts

**Comments**: The group discussed this document, which lists 62 ideograph pairs whose code chart entries exhibit identical or similar representative glyphs for one or more columns. While some of these ideograph pairs may be appropriate as new or updated *kZVariant* property values, which is contingent on them being cognate, all of them are appropriate as new *kSpoofingVariant* property values, if they do not already have that property value. The data was checked, and the only pair whose ideographs currently have a *kSpoofingVariant* property value are U+5668 器 and U+20F96 器. After removing that pair, along with one of the U+20C6C 周 and U+2055B 周 pairs because it appears twice, and filtering out pairs that already have a *kZVariant* property value, what remains are ideographs to which a *kSpoofingVariant* property value can be assigned. Because *kSpoofingVariant* is a provisional property, John Jenkins already updated the Unihan database accordingly.

**Recommendations** (**Unihan-UTC167-R07**): The group recommends to the UTC the following disposition ⇨ **Action Item for Ken Lunde**: Convey to the document author the CJK & Unihan Group comments in document L2/21-072.

| | | |
|---|---|---|
| U+34A8 | kSpoofingVariant | U+20457 |
| U+418B | kSpoofingVariant | U+9F9D |
| U+4620 | kSpoofingVariant | U+889A |
| U+48B4 | kSpoofingVariant | U+9097 |
| U+4C17 | kSpoofingVariant | U+29C18 |
| U+5098 | kSpoofingVariant | U+20302 |
| U+53F1 | kSpoofingVariant | U+20B9F |
| U+55A6 | kSpoofingVariant | U+5D52 |
| U+5794 | kSpoofingVariant | U+212B9 |
| U+58B6 | kSpoofingVariant | U+2143F |
| U+5AB2 | kSpoofingVariant | U+2180C |
| U+5D52 | kSpoofingVariant | U+55A6 |
| U+5DFD | kSpoofingVariant | U+22049 |
| U+652C | kSpoofingVariant | U+2D8C4 |
| U+65B3 | kSpoofingVariant | U+230B7 |
| U+69F1 | kSpoofingVariant | U+2ACDD |
| U+6B04 | kSpoofingVariant | U+237EC |
| U+6F78 | kSpoofingVariant | U+23F7D |
| U+6FC2 | kSpoofingVariant | U+6FD3 |
| U+6FD3 | kSpoofingVariant | U+6FC2 |
| U+7361 | kSpoofingVariant | U+2486F |
| U+7422 | kSpoofingVariant | U+24968 |
| U+7464 | kSpoofingVariant | U+7476 |
| U+7468 | kSpoofingVariant | U+24A01 |
| U+7476 | kSpoofingVariant | U+7464 |
| U+7589 | kSpoofingVariant | U+24D01 |
| U+7714 | kSpoofingVariant | U+25133 |
| U+7A81 | kSpoofingVariant | U+2592E |
| U+7B93 | kSpoofingVariant | U+25B7C |
| U+7BF9 | kSpoofingVariant | U+25CBB |
| U+7C06 | kSpoofingVariant | U+25C83 |
| U+7C51 | kSpoofingVariant | U+25D89 |
| U+8034 | kSpoofingVariant | U+2652E |
| U+809E | kSpoofingVariant | U+2E30B |
| U+81ED | kSpoofingVariant | U+26900 |
| U+81F4 | kSpoofingVariant | U+26936 |
| U+81F4 | kSpoofingVariant | U+26936 |
| U+8200 | kSpoofingVariant | U+2695D |
| U+821D | kSpoofingVariant | U+246C9 |
| U+82B2 | kSpoofingVariant | U+30C28 |
| U+8412 | kSpoofingVariant | U+26CC6 |
| U+8481 | kSpoofingVariant | U+26CEF |
| U+8637 | kSpoofingVariant | U+27144 |
| U+8641 | kSpoofingVariant | U+27144 |
| U+8695 | kSpoofingVariant | U+27255 |
| U+889A | kSpoofingVariant | U+4620 |
| U+8B39 | kSpoofingVariant | U+27AF4 |
| U+9097 | kSpoofingVariant | U+48B4 |
| U+9459 | kSpoofingVariant | U+28BBA |
| U+9819 | kSpoofingVariant | U+29460 |
| U+985E | kSpoofingVariant | U+29516 |
| U+9F9D | kSpoofingVariant | U+418B |
| U+200C1 | kSpoofingVariant | U+24C6E |
| U+20302 | kSpoofingVariant | U+5098 |
| U+20457 | kSpoofingVariant | U+34A8 |

| | | |
|---|---|---|
| U+20500 | kSpoofingVariant | U+2232C |
| U+20553 | kSpoofingVariant | U+21D0A |
| U+2055B | kSpoofingVariant | U+20C6C |
| U+20727 | kSpoofingVariant | U+20730 |
| U+20730 | kSpoofingVariant | U+20727 |
| U+20B9F | kSpoofingVariant | U+53F1 |
| U+20C6C | kSpoofingVariant | U+2055B |
| U+212B9 | kSpoofingVariant | U+5794 |
| U+2143F | kSpoofingVariant | U+58B6 |
| U+2180C | kSpoofingVariant | U+5AB2 |
| U+21D0A | kSpoofingVariant | U+20553 |
| U+21D0C | kSpoofingVariant | U+24C12 |
| U+22049 | kSpoofingVariant | U+5DFD |
| U+2232C | kSpoofingVariant | U+20500 |
| U+230B7 | kSpoofingVariant | U+65B3 |
| U+23386 | kSpoofingVariant | U+26760 |
| U+237EC | kSpoofingVariant | U+6B04 |
| U+23CEB | kSpoofingVariant | U+23D6D |
| U+23D6D | kSpoofingVariant | U+23CEB |
| U+23F7D | kSpoofingVariant | U+6F78 |
| U+246C9 | kSpoofingVariant | U+821D |
| U+2486F | kSpoofingVariant | U+7361 |
| U+24968 | kSpoofingVariant | U+7422 |
| U+24A01 | kSpoofingVariant | U+7468 |
| U+24C12 | kSpoofingVariant | U+21D0C |
| U+24C6E | kSpoofingVariant | U+200C1 |
| U+24D01 | kSpoofingVariant | U+7589 |
| U+25133 | kSpoofingVariant | U+7714 |
| U+251D7 | kSpoofingVariant | U+251E4 |
| U+251E4 | kSpoofingVariant | U+251D7 |
| U+25864 | kSpoofingVariant | U+25871 |
| U+25871 | kSpoofingVariant | U+25864 |
| U+2592E | kSpoofingVariant | U+7A81 |
| U+25B7C | kSpoofingVariant | U+7B93 |
| U+25C83 | kSpoofingVariant | U+7C06 |
| U+25CBB | kSpoofingVariant | U+7BF9 |
| U+25D89 | kSpoofingVariant | U+7C51 |
| U+2652E | kSpoofingVariant | U+8034 |
| U+26760 | kSpoofingVariant | U+23386 |
| U+26900 | kSpoofingVariant | U+81ED |
| U+26936 | kSpoofingVariant | U+81F4 |
| U+26936 | kSpoofingVariant | U+81F4 |
| U+2695D | kSpoofingVariant | U+8200 |
| U+26B60 | kSpoofingVariant | U+26B6B |
| U+26B6B | kSpoofingVariant | U+26B60 |
| U+26CC6 | kSpoofingVariant | U+8412 |
| U+26CEF | kSpoofingVariant | U+8481 |
| U+26EA4 | kSpoofingVariant | U+26F69 |
| U+26F69 | kSpoofingVariant | U+26EA4 |
| U+27144 | kSpoofingVariant | U+8637 U+8641 |
| U+27255 | kSpoofingVariant | U+8695 |
| U+277F1 | kSpoofingVariant | U+277F5 |
| U+277F5 | kSpoofingVariant | U+277F1 |
| U+27AF4 | kSpoofingVariant | U+8B39 |
| U+28BBA | kSpoofingVariant | U+9459 |

```
U+29460     kSpoofingVariant        U+9819
U+29516     kSpoofingVariant        U+985E
U+29C18     kSpoofingVariant        U+4C17
U+2ACDD     kSpoofingVariant        U+69F1
U+2D8C4     kSpoofingVariant        U+652C
U+2E30B     kSpoofingVariant        U+809E
U+30C28     kSpoofingVariant        U+82B2
```

## 4) IRG-related Documents

The documents in this section were discussed by the group, and for convenience, the *Unihan-additions-20210416.txt*, *Unihan-removals-20210416.txt*, *Unihan-changes-20210416.txt*, and *USource-changes-20210416.txt* (PDF attachments) files include all of the recommended Unihan database and *USourceData.txt* additions, removals, and changes based on those documents. These recommended Unihan database and *USourceData.txt* additions, removals, and changes are also shown inline, following the Recommendations.

### L2/21-045: T source issues for U+3777 and U+6AC0 (IRG N2448)

**Comments**: The group discussed this proposal to change the T-Source representative glyphs for U+3777 尋 and U+6AC0 欀. TCA's response to L2/21-045, which is included in the document, agreed with the changes. In addition, TCA requested that U+21B36 尋 be horizontally-extended to add TA-3A4B as its *kIRG_TSource* property value. This was discussed during IRG #56, and TCA already provided an updated font to Michel Suignard.

**Recommendations** (**Unihan-UTC167-R08**): The group recommends to the UTC the following disposition ⇨ **Action Item for John Jenkins and Michel Suignard**: Update the Unihan database to add TA-3A4B as the *kIRG_TSource* property value for U+21B36 尋, based on document L2/21-045 and Unihan-UTC167-R08 in document L2/21-072, for Unicode Version 14.0.

```
U+21B36     kIRG_TSource            TA-3A4B
```

### L2/21-046: Disunification of U+2F83A (IRG N2447)

**Comments**: The group discussed this proposal to disunify U+2F83A 吡, which is a de facto UNC (*Urgently Needed Character*) proposal. The group agreed that the justification for disunification is sound based on semantics, as did the IRG during IRG #56. The next available code point is U+2B738 (Extension C). In addition to assigning T5-2160 as the *kIRG_TSource* property value of U+2B738, its *kRSUnicode* and *kTotalStrokes* property values were determined, along with a *kMandarin* property value of *huà*, which needs to be checked by CLDR prior to adding to the Unihan database. The *kIRG_TSource* property value of U+2F83A needs to be changed to TU-2F83A to flag it as an orphaned ideograph. The proposal also suggests that China can horizontally-extend U+2B738 with the *kIRG_GSource* property value GHZR-20619.05 which they did in L2/21-095.

**Recommendations** (**Unihan-UTC167-R09**): The group recommends to the UTC the following disposition ⇨ Accept the disunification proposed in L2/21-046, and encode the disunified ideograph at code point U+2B738 with Unihan database changes, based on Unihan-UTC167-R09 in document L2/21-072, for Unicode Version 14.0. **Action Item for Ken Whistler**: Update the pipeline to add the disunified ideograph with code point U+2B738. See Unihan-UTC167-R09 in document L2/21-072. **Action Item for Peter Edberg**: Ask the CLDR-TC to check the proposed *kMandarin* property value for U+2B738, *huà*, then report back to the UTC. See document L2/21-046 and Unihan-UTC167-R09 in document L2/21-072. **Action Item for John Jenkins and Michel Suignard**: Update the Unihan database by adding and changing property values, based on documents L2/21-046 and L2/21-095, and Unihan-UTC167-R09 in document L2/21-072, for Unicode Version 14.0.

```
Add:
U+2B738     kIRG_GSource         GHZR-20619.05
U+2B738     kIRG_TSource         T5-2160
U+2B738     kRSUnicode           30.2
U+2B738     kTotalStrokes        5
Change:
U+2F83A     kIRG_TSource         TU-2F83A
```

## L2/21-047: US/Unicode Activity Report for IRG #56 (IRG N2460)

**Comments**: This is an FYI document.

## L2/21-053: Additional repertoire for a future version of Unicode (post Unicode 14.0) (IRG N2469 & WG2 N5156)

**Comments**: This is an FYI document.

## L2/21-059: KP0-E5A9 should be mapped to U+67FF instead of U+676E (IRG N2479)

**Comments**: The group reviewed this proposal, and agrees with what is recorded in the IRG #56 Editorial Report (see Section 11, *Remapping of Sources*, on page 6 of L2/21-062), specifically that the proposed source reference change should not be made without first contacting DPRK, which is virtually impossible.

**Recommendations** (**Unihan-UTC167-R10**): The group recommends to the UTC the following disposition ⇨ **Action Item for Ken Lunde**: Convey to the proposal submitter the CJK & Unihan Group comments in document L2/21-072.

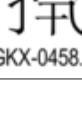## L2/21-061: IRG Meeting #56 Recommendations and Action Items (IRG N2450)

**Comments**: The group discussed this document, and the key items about which the UTC should be aware are as follows:

- The IRG #57 (Fall 2021) and IRG #58 (Spring 2022) meetings will be virtual (Zoom).

- Although not stated in L2/21-061, post–COVID-19, the Spring meeting will be virtual (Zoom), and the Fall meeting will be face-to-face. The tentative host for a face-to-face IRG #59 meeting is Netflix (Los Gatos, California, USA).
- Extension H (aka IRG Working Set 2017) is expected to be ready to be included in Unicode Version 15.0 (2022).
- The IRG Working Set 2021 submission deadline is 2021-05-07.
- Two horizontal extension proposals—K-Source (six ideographs) and T-Source (one ideograph)—were accepted.
- A disunification proposal—T-Source (one ideograph)—was accepted.
- The UNC proposal (one ideograph) and the disunification proposals (two ideographs) that were accepted during UTC #166 were accepted.

## L2/21-062: Editorial Report (IRG N2463)

**Comments**: The individual documents in the IRG #56 editorial report were either discussed during UTC #166 or are included in this document. Appendix B includes suggested horizontal extensions for IRG member bodies based on unification decisions made during the development of IRG Working Set 2017. Included in this appendix are 20 U-Source ideographs for which a horizontal extensions is suggested, which would affect 18 of the 20 corresponding UAX #45 *USourceData.txt* records. The table below constitutes a 20-ideograph U-Source horizontal extension proposal:

| Code Point | Code Chart Excerpt—Version 13.0 | U-Source | |
| --- | --- | --- | --- |
| | | Source Reference | Representative Glyph |
| U+452D | 452D 艸 140.12   G3-6A7E   T4-5277 | UTC-03106 | 薵 |
| U+4C05 | 4C05 髟 190.9   G5-7931   T3-5B72 | UTC-03104 | 鬚 |
| U+525E | 525E 刀 18.8   G0-585E   HB2-D0E9   T2-2E2C   J0-5170   K1-5B65 | UTC-03083 | 剞 |
| U+69CB | 69CB 木 75.10   G1-3939   HB1-BA63   T1-692C   J0-393D   K0-4F30   V2-8D37 | UTC-03115 | 構 |
| U+9E01 | 9E01 鳥 196.13   G3-5E41   HB2-F8E3   T2-7071   K2-7356 | UTC-03126 | 鸁 |
| U+22D87 | 22D87 手 64.13   UCS2003   GKX-0458.14   T7-2E32 | UTC-03090 | 揽 |

| Code Point | Code Chart Excerpt—Version 13.0 | U-Source | |
| --- | --- | --- | --- |
| | | Source Reference | Representative Glyph |
| U+232EF | 232EF<br>日 72.14<br>醶 UCS2003 · 醶 GHZ-21539.16 · 醶 T7-3F78 | UTC-03111 | 醶 |
| U+2348B | 2348B<br>木 75.7<br>桿 UCS2003 · 桿 GHC | UTC-03091 | 桿 |
| U+247DD | 247DD<br>犬 94.9<br>猵 UCS2003 · 猵 GKX-0714.11 · 猵 T5-3A26 | UTC-03127 | 猵 |
| U+25EF3 | 25EF3<br>米 119.10<br>縡 UCS2003 · 縡 GHZ-53156.03 · 縡 T7-312E | UTC-03149 | 縡 |
| U+26E1C | 26E1C<br>艸 140.11<br>薔 UCS2003 · 薔 GKX-1054.36 · 薔 T7-276B | UTC-03098 | 薔 |
| U+274A2 | 274A2<br>虫 142.13<br>蠱 UCS2003 · 蠱 GKX-1100.22 · 蠱 T7-4966 | UTC-03120 | 蠱 |
| U+27A60 | 27A60<br>言 149.8<br>諷 UCS2003 · 諷 GHZ-63990.02 · 諷 T7-287A | UTC-03128 | 諷 |
| U+27FF8 | 27FF8<br>足 157.5<br>跟 UCS2003 · 跟 GKX-1223.24 · 跟 T6-4F38 | UTC-03138 | 跟 |
| U+284F3 | 284F3<br>辵 162.8<br>逌 UCS2003 · 逌 GKX-1259.27 · 逌 T4-3B58 | UTC-03136 | 逌 |
| U+28559 | 28559<br>辵 162.9<br>邊 UCS2003 · 邊 GHZ-80039.26 | UTC-03134 | 邊 |
| U+29A50 | 29A50<br>骨 188.7<br>骺 UCS2003 · 骺 G4K-18458 | UTC-03110 | 骺 |
| U+29A77 | 29A77<br>骨 188.9<br>骹 UCS2003 · 骹 GHC | UTC-03109 | 骹 |
| U+2E785 | 2E785<br>辵 162.4<br>迓 JMJ-058844 · 迓 SAT-05274 | UTC-03135 | 迓 |

| Code Point | Code Chart Excerpt—Version 13.0 | U-Source | |
| | | Source Reference | Representative Glyph |
| --- | --- | --- | --- |
| U+309AE | 309AE 石 112.5 砈 T13-2F45 | UTC-03121 | 砈 |

**Recommendations** (**Unihan-UTC167-R11**): The group recommends to the UTC the following disposition ⇨ Accept the 20-ideograph U-Source horizontal extension, based on Appendix B of document L2/21-062 and Unihan-UTC167-R11 in document L2/21-072, for Unicode Version 14.0. **Action Item for John Jenkins and Michel Suignard**: Update the Unihan database to add *kIRG_USource* property values to 20 ideographs, based on Appendix B of document L2/21-062 and Unihan-UTC167-R11 in document L2/21-072, for Unicode Version 14.0.

```
U+452D      kIRG_USource            UTC-03106
U+4C05      kIRG_USource            UTC-03104
U+525E      kIRG_USource            UTC-03083
U+69CB      kIRG_USource            UTC-03115
U+9E01      kIRG_USource            UTC-03126
U+22D87     kIRG_USource            UTC-03090
U+232EF     kIRG_USource            UTC-03111
U+2348B     kIRG_USource            UTC-03091
U+247DD     kIRG_USource            UTC-03127
U+25EF3     kIRG_USource            UTC-03149
U+26E1C     kIRG_USource            UTC-03098
U+274A2     kIRG_USource            UTC-03120
U+27A60     kIRG_USource            UTC-03128
U+27FF8     kIRG_USource            UTC-03138
U+284F3     kIRG_USource            UTC-03136
U+28559     kIRG_USource            UTC-03134
U+29A50     kIRG_USource            UTC-03110
U+29A77     kIRG_USource            UTC-03109
U+2E785     kIRG_USource            UTC-03135
U+309AE     kIRG_USource            UTC-03121
```

**Action Item for John Jenkins**: Update the corresponding UAX #45 *USourceData.txt* records, based on Appendix B of document L2/21-062 and Unihan-UTC167-R11 in document L2/21-072, for Unicode version 14.0.

```
UTC-03083;U;U+525E;18.9;;;□竒 刂;UTCDoc L2/17-204;;11;4
UTC-03090;B;U+22D87;64.12;;;□扌 觕;UTCDoc L2/17-204;;15;4
UTC-03091;B;U+2348B;75.7;;;□木呈;UTCDoc L2/17-204;;11;2
UTC-03098;B;U+26E1C;140.11;;;□艹啚;UTCDoc L2/17-204;;15 14;2
UTC-03104;A;U+4C05;190.9;;;□髟頁;UTCDoc L2/17-204;;19;1
UTC-03106;A;U+452D;140.12;;;□艹寚;UTCDoc L2/17-204;;16 15;4
UTC-03109;B;U+29A77;188.7;;;□骨□产〈;UTCDoc L2/17-204;;17 16;4
UTC-03110;B;U+29A50;188.6;;;□骨肎;UTCDoc L2/17-204;;16 15;5
UTC-03111;B;U+232EF;72.14;;;□昏荒;UTCDoc L2/17-204;;18 17;3
UTC-03115;U;U+69CB;75.8;;;□木□艹井;UTCDoc L2/17-204;;12;1
UTC-03126;U;U+9E01;196.13;;;□亼口□月鳥凡;UTCDoc L2/17-204;;24;3
UTC-03127;B;U+247DD;94.8;;;□犭□□卜乛七巾;UTCDoc L2/17-204;;11;2
UTC-03128;B;U+27A60;149.7;;;□言凨;UTCDoc L2/17-204;;14;3
UTC-03134;B;U+28559;162.9;;;□辶□&P7-03;刀;UTCDoc L2/17-204;;13 12;3
```

```
UTC-03135;F;U+2E785;162.4;;⿱辶⿱一丿乚⿰丶丿;UTCDoc L2/17-204;;8 7;3
UTC-03136;B;U+284F3;162.9;;⿱辶⿱木目;UTCDoc L2/17-204;;13 12;1
UTC-03138;B;U+27FF8;157.4;;⿰足⿰;UTCDoc L2/17-204;;11;5
UTC-03149;B;U+25EF3;119.9;;⿰籴粂;UTCDoc L2/17-204;;15;3
```

## L2/21-063: A Horizontal Extension of 6 K6 (KS X 1027-5) chars (IRG N2468)

**Comments**: The group reviewed this proposal, which is a six-ideograph K-Source horizontal extension proposal, and had no objections, and neither did the IRG during IRG #56. The group did note that two of the ideographs—U+5AB4 娴 and U+74A4 瑤—currently lack a *kHangul* property value.

**Recommendations** (**Unihan-UTC167-R12**): The group recommends to the UTC the following disposition ⇨ **Action Item for Ken Lunde**: Contact the ROK National Body to request Korean readings for U+5AB4 娴 and U+74A4 瑤. **Action Item for John Jenkins and Michel Suignard**: Update the Unihan database to add *kIRG_KSource* property values to six ideographs, based on L2/21-063 and Unihan-UTC167-R12 in document L2/21-072, for Unicode Version 14.0.

```
U+5AB4      kIRG_KSource         K6-0004
U+741F      kIRG_KSource         K6-0005
U+74A4      kIRG_KSource         K6-0006
U+74B8      kIRG_KSource         K6-0007
U+7807      kIRG_KSource         K6-0008
U+7A66      kIRG_KSource         K6-0009
```

## L2/21-064: Request for changing T-Sources of two Ideographs (IRG N2471)

**Comments**: The group reviewed this proposal, and agrees with the IRG that the existing source references of U+2F8A4 悚 and U+2F936 畨 should be moved to the following—and still draft—Extension H code points, respectively: U+317B2 ⿰忄束 (IRG Working Set 2017 serial number 01318) and U+31C34 ⿱巛田 (IRG Working Set 2017 serial number 02728). The existing source references for the two now-orphaned compatibility ideographs should be changed accordingly. In addition, the U-Source source reference for U+2F936, UTC-00121, should be removed. Note that these two Extension H ideographs were submitted by the UTC for IRG Working Set 2017 as UTC-02972 ⿰忄束 and UTC-01159 ⿱巛田.

**Recommendations** (**Unihan-UTC167-R13**): The group recommends to the UTC the following disposition ⇨ **Action Item for Ken Lunde**: Attempt to contact the DPRK National Body to inform them of the *kIRG_KPSource* property value change for U+2F936. **Action Item for John Jenkins and Michel Suignard**: Update the Unihan database to change the source references of two compatibility ideographs, and to remove the U-Source source reference from U+2F936, based on L2/21-064 and Unihan-UTC167-R13 in document L2/21-072, for Unicode Version 14.0.

```
Change:
U+2F8A4     kIRG_TSource         TU-2F8A4
U+2F936     kIRG_KPSource        KPU-2F936
U+2F936     kIRG_TSource         TU-2F936

Remove:
U+2F936     kIRG_USource         UTC-00121
```

**Action Item for John Jenkins**: Update the UAX #45 *USourceData.txt* record for UTC-00121 to remove "U+2F936" from Field 2, based on L2/21-064 and Unihan-UTC167-R13 in document L2/21-072, for Unicode version 14.0.

```
UTC-00121;UTC-01159;;102.4;;⬚巛田;DYC 041.311;;9;5
```

## 5) IRG Working Set 2021 Submission

UTC experts are currently preparing the UTC's submission for IRG Working Set 2021 whose submission deadline is 2021-05-07. The submission currently includes 153 U-Source ideographs that are included in UAX #45. While preparing the candidate UAX #45 ideographs for submission, it was determined that four of them can be unified with existing ideographs in the URO, and another is identical to an ideograph in IRG Working Set 2017—UTC-00635 ⬚扌小 is identical to IRG Working Set 2017 serial number 01390—and can therefore be horizontally-extended in the future. There is also a pending horizontal extension per UTC #165 Action Item 165-A2b that can be included. The table below constitutes a five-ideograph U- and UK-Source horizontal extension proposal:

| Code Point | Code Chart Excerpt—Version 13.0 | U-Source | |
|---|---|---|---|
| | | Source Reference | Representative Glyph |
| U+62F6 | 62F6 手 64.6 — 撎 G0-5E59, HB2-CEDF, T2-2A60, J0-3B22, K1-6E54 | UTC-00491 | 撎 |
| U+6DF0 | 6DF0 水 85.8 — 淰 G3-5465, HB2-D5F9, T2-365D, J1-4763, K2-4127 | UTC-00688 | 淰 |
| U+81C1 | 81C1 肉 130.13 — 臁 G0-6C21, H-99AA, T4-5827, J4-7552, V3-372B | UTC-00735 | 臁 |
| U+9B81 | 9B81 魚 195.5 — 鮁 G1-7651, H-9A75, T4-5543, K2-705A | UTC-03189 | 鮁 |
| U+289B1 | 289B1 金 167.7 — 鉐 UCS2003, GKX-1308.03, T7-2A40 | UK-02829 | 鉐 |

**Recommendations** (**Unihan-UTC167-R14**): The group recommends to the UTC the following disposition ⇨ Accept the five-ideograph U- and UK-Source horizontal extension, based on Unihan-UTC167-R14 in document L2/21-072, for Unicode Version 14.0. **Action Item for Ken Lunde**: Prepare and submit to the IRG no later than 2021-05-07 the UTC's submission for IRG Working Set 2021. **Action Item for John Jenkins and Michel Suignard**: Update the Unihan database to add *kIRG_USource* or *kIRG_UKSource* property values to five ideographs, based on Unihan-UTC167-R14 in document L2/21-072, for Unicode Version 14.0.

```
U+62F6      kIRG_USource        UTC-00491
U+6DF0      kIRG_USource        UTC-00688
```

```
U+81C1       kIRG_USource            UTC-00735
U+9B81       kIRG_USource            UTC-03189
U+289B1      kIRG_UKSource           UK-02829
```

**Action Item for John Jenkins**: Update the corresponding UAX #45 *USourceData.txt* records, based on Unihan-UTC167-R14 in document L2/21-072, for Unicode version 14.0.

```
UTC-00491;U;U+62F6;64.7;;⬚扌 ⬚巛一夕;kMeyerWempe 2530a;;10;3
UTC-00688;U;U+6DF0;85.8;;⬚氵 念;kCheungBauerIndex 434.01;;11;3
UTC-00735;U;U+81C1;130.13;;⬚月廉;kCheungBauerIndex 454.05;;17;4
UTC-03189;U;U+9B81;195.5;;⬚魚�;UTCDoc L2/18-288 11;;16;3
UK-02829;B;U+289B1;167.7;;⬚金囪;UTCDoc L2/15-260 1517;;15;4
```

# 6) Other Unihan-related Topics

The Unicode Consortium is in the process of establishing a formal liaison relationship with the SAT (*SAṃgaṇikīkṛtaṃ Taiśotripiṭakaṃ*) Daizōkyō Text Database Committee (aka SAT). Ken Lunde has agreed to serve as the Unicode Consortium's liaison contact.

In terms of the status of licensing the Moji Jōhō Kiban Database from CITPC (*Character Information Technology Promotion Council*) to 1) establish the new provisional *kMojiJoho* property as proposed in L2/20-146; 2) improve and expand the existing provisional *kMorohashi* property as proposed in L2/21-032; and 3) establish a new provisional *kJapanese* property that provides Japanese readings expressed in hiragana and katakana, the Unicode Consortium received a draft license agreement from CITPC on 2021-01-23. After consulting with Legal, feedback was provided to CITPC on 2021-03-07. These Unihan database additions and enhancements are now targeted for Unicode Version 15.0 (2022).

In terms of the overhaul of the still-provisional *kCantonese* property whose primary goal is to provide a single authoritative Cantonese reading, John Jenkins and other Cantonese experts continue to work on resolving the approximately 2,000 ideographs for which a Cantonese reading is known to exist, but whose Cantonese reading has not been confirmed by an authoritative source.

Lastly, a total of 8,571 new values have been added to the provisional *kPhonetic* property. These new values were derived from existing IDS data and *kMandarin* property values, and represent a significant increase in the coverage of this property.

That is all.