

**ISO/IEC JTC 1/SC 2**  
**Coded Character Sets**  
Secretariat: **Japan (JISC)**

<b>DOC. TYPE</b>	Summary of Voting/Table of Replies						
<b>TITLE</b>	Summary of Voting on ISO/IEC JTC 1/SC 2 N 3914 : ISO/IEC 10646:2003/PDAM 4, Information technology -- Universal Multiple-Octet Coded Character Set (UCS) -- AMENDMENT 4: Lanna, Cham, Game Tiles, CJK Unified Ideographs Extension C, and other characters						
<b>SOURCE</b>	SC 2 Secretariat						
<b>PROJECT</b>	JTC1.02.10646.00.04						
<b>STATUS</b>	This document is forwarded to WG 2 for resolution of comments. WG 2 is requested to prepare a disposition of comments report, revised text and a recommendation for further processing						
<b>ACTION ID</b>	FYI						
<b>DUE DATE</b>							
<b>DISTRIBUTION</b>	P, O and L Members of ISO/IEC JTC 1/SC 2 ; ISO/IEC JTC 1 Secretariat; ISO/IEC ITTF						
<b>ACCESS LEVEL</b>	Def						
<b>ISSUE NO.</b>	266						
<b>FILE</b>	<table border="1"><tr><td><b>NAME</b></td><td>02n3920.pdf</td></tr><tr><td><b>SIZE (KB)</b></td><td></td></tr><tr><td><b>PAGES</b></td><td>18</td></tr></table>	<b>NAME</b>	02n3920.pdf	<b>SIZE (KB)</b>		<b>PAGES</b>	18
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**Summary of Voting on  
ISO/IEC JTC 1/SC 2 N 3914 :  
ISO/IEC 10646:2003/PDAM 4, Information technology -- Universal Multiple-Octet Coded  
Character Set (UCS) -- AMENDMENT 4: Lanna, Cham, Game Tiles, CJK Unified  
Ideographs Extension C, and other characters**

**Q1 : PDAM**





	Q1			Not yet voted	Comments Reasons
	Approve	Disapprove	Abstention		
<b>P-Member</b>					
Belgium				X	
Canada	X				
China		X#			Attachment
Egypt				X	
Finland	X				
France				X	
Germany			X		
Greece				X	
Iceland				X	
India				X	
Indonesia				X	
Iran, Islamic Republic of				X	
Ireland	X*				Attachment
Italy	X				
Japan		X#			Attachment
Kazakhstan				X	
Korea, Democratic People's Republic				X	
Korea, Republic of	X				
Mongolia				X	
Morocco			X		
Norway	X				
Poland	X				
Romania				X	
Russian Federation				X	
Serbia				X	
Singapore	X				
Sweden			X		
Thailand	X				
Tunisia				X	
United Kingdom		X#			Attachment
USA		X#			Attachment
<b>Total (31)</b>	<b>9</b>	<b>4</b>	<b>3</b>	<b>15</b>	

\*: Approve with comments

#: Acceptance of the reasons and appropriate changes in the text will change the vote to approval.

Template for comments and secretariat observations

Date:	Document:
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1	2	(3)	4	5	(6)	(7)
MB <sup>1</sup>	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of comment <sup>2</sup>	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
CN	33 / 2	Table 62 - Row 1A: Lanna	ge	Name of the script:  Lanna is a regional name which is named by foreign scholars for a kind of script in Tai land. Actually, the script is used internationally. It is now used or was used in not only Tai Land, but also China, Myanmar and Laos. The script is given different names in different regions although there is no remarkable differences among them. The script is even called in various names rather than Lanna in Tai Land. Thus, another name which can be accepted by all parties is needed.	Not ready yet.	
CN	33 / 2	Table 62 - Row 1A: Lanna	te	Characters:  The script was improved by users respectively after it was introduced to various regions in south-east Asia. In order to meet the demands of users of the script in various regions, more encoded characters are needed. For use in China, there are about 10 more consonants should be encoded.	A proposal will be submitted to ISO/IEC JTC1/SC2/WG2#50.	
CN	33 / 2	Table 236 - Row F0: Mahjong Tiles	te	The following 5 glyphs should be changed to that like traditional Mahjong tiles style:  1F010 MAHJONG TILE ONE OF BAMBOOS (tiao) 1F022 MAHJONG TILE PLUM (mei) 1F023 MAHJONG TILE ORCHID (lan) 1F024 MAHJONG TILE BAMBOO (zhu) 1F025 MAHJONG TILE CHRYSANTHEMUM (ju)		
CN	33 / 2	Plane 02 CJK Unified Ideographs Extension C	te	The following 16 glyphs should be corrected, or should be confirmed by their submitters:	2A77D (source: V04-414D) should be  rather than   2A825 (source: V04-4272) should be  rather than 	

1 MB = Member body (enter the ISO 3166 two-letter country code, e.g. CN for China; comments from the ISO/CS editing unit are identified by \*\*)

2 Type of comment: ge = general te = technical ed = editorial

NOTE Columns 1, 2, 4, 5 are compulsory.

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1	2	(3)	4	5	(6)	(7)
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					<p>去廣 2A8AB (source: TE-4633) should be 聽 rather than 聽</p> <p>2AB23 (source: V04-4839) should be 慍 rather than 慍</p> <p>2ABB1 (source: V04-4946) should be 剛 rather than 斥</p> <p>2ABF6 (source: V04-497B) should be 散酒 rather than 散酒</p> <p>2AC09 (source: V04-4A25) should be 斜 rather than 斜</p>	

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					<p>2ACF3 (source: JK-65293) should be 啄 rather than 啄</p> <p>2AF72 (source: V04-4E31) should be 底 rather than 底</p> <p>2B000 (source: V04-4F4B) should be 砱 rather than 砱</p> <p>2B028 (source: V04-4F58) should be 砱 rather than 砱</p> <p>2B04B (source: TD-4223) should be 襴 rather than 襴</p> <p>2B0CE (source: V04-5035) should be 筭 rather than 筭</p>	

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					<p>2B187 (source: V04-5142) should be 羴 rather than 羴</p> <p>2B3BF (source: V04-544F) should be 罍 rather than 罍</p> <p>2B70A (source: JK-66061) should be 鵠 rather than 鵠</p>																																																																																																	
CN	33 / 2	Plane 02 CJK Unified Ideographs Extension C	ed	The last digit of some code points are missing:	<table border="1"> <tr><td>2AACA</td><td>2AACB</td><td>2AACC</td><td>2AACD</td><td>2AACE</td><td>2AACF</td></tr> <tr><td>2AADA</td><td>2AADB</td><td>2AADC</td><td>2AADD</td><td>2AADE</td><td>2AADF</td></tr> <tr><td>2AAEA</td><td>2AAEB</td><td>2AAEC</td><td>2AAED</td><td>2AAEE</td><td></td></tr> <tr><td>2AAFA</td><td>2AAFB</td><td>2AAFC</td><td>2AAFD</td><td></td><td></td></tr> <tr><td>2ABAA</td><td>2ABAB</td><td>2ABAC</td><td>2ABAD</td><td>2ABAE</td><td>2ABAF</td></tr> <tr><td>2ABBB</td><td>2ABBB</td><td>2ABBC</td><td>2ABBD</td><td>2ABBE</td><td>2ABBF</td></tr> <tr><td>2ABCA</td><td>2ABCB</td><td>2ABCC</td><td>2ABCD</td><td>2ABCE</td><td>2ABCF</td></tr> <tr><td>2ABDA</td><td>2ABDB</td><td>2ABDC</td><td>2ABDD</td><td>2ABDE</td><td>2ABDF</td></tr> <tr><td>2ABEA</td><td>2ABEB</td><td>2ABEC</td><td>2ABED</td><td>2ABEE</td><td></td></tr> <tr><td>2ABFA</td><td>2ABFB</td><td>2ABFC</td><td>2ABFD</td><td></td><td></td></tr> <tr><td>2ACAA</td><td>2ACAB</td><td>2ACAC</td><td>2ACAD</td><td>2ACAE</td><td>2ACAF</td></tr> <tr><td>2ACBA</td><td>2ACBB</td><td>2ACBC</td><td>2ACBD</td><td>2ACBE</td><td>2ACBF</td></tr> <tr><td>2ACCA</td><td>2ACCB</td><td>2ACCC</td><td>2ACCD</td><td>2ACCE</td><td>2ACCF</td></tr> <tr><td>2ACDA</td><td>2ACDB</td><td>2ACDC</td><td>2ACDD</td><td>2ACDE</td><td>2ACDF</td></tr> <tr><td>2ACEA</td><td>2ACEB</td><td>2ACEC</td><td>2ACED</td><td>2ACEE</td><td></td></tr> <tr><td>2ACFA</td><td>2ACFB</td><td>2ACFC</td><td>2ACFD</td><td></td><td></td></tr> </table>	2AACA	2AACB	2AACC	2AACD	2AACE	2AACF	2AADA	2AADB	2AADC	2AADD	2AADE	2AADF	2AAEA	2AAEB	2AAEC	2AAED	2AAEE		2AAFA	2AAFB	2AAFC	2AAFD			2ABAA	2ABAB	2ABAC	2ABAD	2ABAE	2ABAF	2ABBB	2ABBB	2ABBC	2ABBD	2ABBE	2ABBF	2ABCA	2ABCB	2ABCC	2ABCD	2ABCE	2ABCF	2ABDA	2ABDB	2ABDC	2ABDD	2ABDE	2ABDF	2ABEA	2ABEB	2ABEC	2ABED	2ABEE		2ABFA	2ABFB	2ABFC	2ABFD			2ACAA	2ACAB	2ACAC	2ACAD	2ACAE	2ACAF	2ACBA	2ACBB	2ACBC	2ACBD	2ACBE	2ACBF	2ACCA	2ACCB	2ACCC	2ACCD	2ACCE	2ACCF	2ACDA	2ACDB	2ACDC	2ACDD	2ACDE	2ACDF	2ACEA	2ACEB	2ACEC	2ACED	2ACEE		2ACFA	2ACFB	2ACFC	2ACFD			
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MB <sup>1</sup>	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of com- ment <sup>2</sup>	Comment (justification for change) by the MB	Proposed change by the MB						Secretariat observations on each comment submitted	
					2ADAA	2ADAB	2ADAC	2ADAD	2ADAE	2ADAF		
					2ADBA	2ADBB	2ADBC	2ADBD	2ADBE	2ADBF		
					2ADCA	2ADCB	2ADCC	2ADCD	2ADCE	2ADCF		
					2ADDA	2ADDB	2ADDC	2ADDD	2ADDE	2ADDF		
					2ADEA	2ADEB	2ADEC	2ADED	2ADEE			
					2ADFA	2ADFB	2ADFC	2ADFD				
					2AECA	2AECB	2AECC	2AECD	2AECE			
					2AEDA	2AEDB	2AEDC	2AEDD	2AEDE			
					2AFAA	2AFAB	2AFAC	2AFAD				
					2AFBA	2AFBB	2AFBC	2AFBD				
					2AFCA	2AFCB	2AFCC	2AFCD				
					2AFDA	2AFDB	2AFDC	2AFDD				

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2 **Type of comment:** **ge** = general **te** = technical **ed** = editorial

**NOTE** Columns 1, 2, 4, 5 are compulsory.

# Irish comments on PDAM-4 for ISO/IEC 10646:2003

Reference: SC2 N3914

Closes: 2007-03-13

Date: 2007-02-27

Ireland **disapproves** the draft with the technical and editorial comments given below. Acceptance of these comments and appropriate changes to the text will change our vote to approval.

## Technical comments

T1. **Page 14, Table 62 - Row 1A: Lanna.** With reference to ISO/IEC JTC1/SC2/WG2 N3207 “Revised proposal for encoding the Lanna script in the BMP of the UCS”, Ireland requests that the characters ໘ LANNA LETTER KHUN HIGH CHA and ໙ LANNA SIGN CAANG be added to the PDAM at positions U+1A29 (moving the following characters down one position to U+1A5F) and U+1AAD respectively. Ireland also requests that the character names as given in N3207 be used for all characters, replacing the names used in the PDAM. (This will correct some errors arising from the PDAM names apparently being taken from N3121 instead of from N3121R.)

T2. **Page 18, Table 110 - Row 2D: Cyrillic Extended-A.** With reference to ISO/IEC JTC1/SC2/WG2 N3194 “Proposal to encode additional Cyrillic characters in the BMP of the UCS”, Ireland requests that the character names and glyphs for the characters listed in this chart be changed to those shown on pages 16 and 17 of N3194. The names should reflect the UCS names for the Cyrillic base letters, not the Church Slavic names for these characters. The glyphs should be in Roman style (*graždanka*), not in Slavonic style. This change will also affect the the characters 2DE0 .. 2DF5 in the “List of combining characters” on page 6 of the PDAM.

Regarding the other Cyrillic characters proposed in N3194, Ireland would favour the addition of these to the PDAM, but does not make this a condition for changing our vote to approval.

## Editorial comments

E1. **Page 22, Table 201 - Row 01: Ancient Symbols.** Ireland requests that the winding error in the glyph for U+10194 be corrected. We would also like clarification: should the header of the table not be listed as “Row 101”?

E2. **Page 24, Table 236 - Row F0: Mahjong Tiles.** The glyphs for U+1F010 MAHJONG TILE ONE OF BAMBOOS, U+1F022 MAHJONG TILE PLUM, U+1F023 MAHJONG TILE ORCHID, and U+1F025 MAHJONG TILE CHRYSANTHEMUM, should be improved. We propose the following glyphs (showing the tile for U+1F024 MAHJONG TILE BAMBOO for comparison with the other flowers):



The bird represents a sparrow, or Chinese *máquè*, another name for *májiàng* ‘mahjong’. We would also like clarification: should the header of the table not be listed as “Row 1F0”?



Japan votes against SC2 N3914 (ISO/IEC 10646:2003 PDAM 4) with the following comments. Japan will change its vote if they are accepted accordingly.

#### JP1 (Technical) Removal of implementation levels

Japan supports the idea of removing implementation levels from ISO/IEC 10646. However, the way the standard is revised to do so under the current draft is considered inappropriate. The following arrangements are suggested:

- All references to the term "implementation level" should be removed from normative text, including historical references to implementation level 3.
- Informative references to "implementation level" should also be removed as much as possible.
- The control functions for identification of coded representation forms with implementation level 3 should be redefined as identification of coded representation forms, and the phrase "with implementation level 3" should be removed from the definitions.
- Japan wants to add an informative annex to explain implementation level in the past standards, including something for control functions to identify implementation levels 1 and 2, the unique spelling rule (for Indic scripts), and collection's "automatic removal" based on designated implementation levels.

#### JP2 (Technical) Correction to CJK Unified Ideographs Extension C

Japan found some problems in the current code chart for CJK Unified Ideographs extension C. Details of the the problems are listed in the attachment. The code chart should be updated.

Japan wants WG2 to instruct IRG to evaluate the attached comments and to provide corrected code chart.

#### JP3 (Editorial) V source reference

In 27.3, change "V4-4876" to "V04-4876" in the figure to align with the actual code chart.

(END OF DOCUMENT)

[ATTACHMENT: Details of CJK-C code chart problems]

In CJK extension C code chart, V-column glyphs listed below have some differences from IRG's internal review document. Japan requests IRG to verify and confirm the shapes.

2a719, 2a71b, 2a77d, 2a825, 2a949

2aa11, 2aa84, 2ab23, 2abf6, 2ae25

2aebe, 2aec3, 2af7c, 2b000, 2b028

2b09b, 2b0ce, 2b16c, 2b187, 2b23c

2b3bf, 2b40e, 2b642, 2b644

2abb1 V-column glyph is wrong. Japan request IRG to confirm.

2b151 U-column glyph is wrong. Japan request IRG to confirm.

The chart has some printing problems. In particular, some code position values on "Ucode" column lack the last hexadecimal digit. For example, the code position "2AAAA" is printed as "2AAA". The overall margins and/or positionings should be adjust appropriately.

The REVISED UK Vote on SC2 N3914 is as follows:

The UK votes to DISAPPROVE the amendment, with the following technical and editorial comments. If our comments are satisfactorily resolved we will change our vote to APPROVAL.

## TECHNICAL COMMENTS

T.1 page 15 Lanna

We request the following changes to Lanna.

1. Rename the following characters. NB The changes marked with an asterisk are not reflected in N3207.

1A22 LANNA LETTER HIGH XA => LANNA LETTER HIGH KXA  
1A23 LANNA LETTER LOW GA => LANNA LETTER LOW KA  
1A24 LANNA LETTER LOW KHA => LANNA LETTER LOW KXA  
1A25 LANNA LETTER LOW KHAA => LANNA LETTER LOW KHA  
1A26 LANNA LETTER LOW NGA => LANNA LETTER NGA \*  
1A28 LANNA LETTER HIGH SA => LANNA LETTER HIGH CHA  
1A29 LANNA LETTER LOW CHA => LANNA LETTER LOW CA  
1A2A LANNA LETTER NORTHERN THAI LOW CHA => LANNA LETTER  
NORTHERN THAI LOW CA  
1A2D LANNA LETTER LOW SAA => LANNA LETTER LOW CHA  
1A2E LANNA LETTER HIGH NYA => LANNA LETTER NYA \*  
1A2F LANNA LETTER LATA => LANNA LETTER RATA  
1A30 LANNA LETTER HIGH LATHA => LANNA LETTER HIGH RATHA  
1A31 LANNA LETTER LADA => LANNA LETTER DA  
1A32 LANNA LETTER LOW LATHA => LANNA LETTER LOW RATHA  
1A33 LANNA LETTER LANA => LANNA LETTER RANA  
1A41 LANNA LETTER LOW NYA => LANNA LETTER LOW YA  
1A42 LANNA LETTER YA => LANNA LETTER HIGH YA  
1A44 LANNA LETTER RU => LANNA LETTER RUE  
1A46 LANNA LETTER LU => LANNA LETTER LUE  
1A48 LANNA LETTER HIGH SAA => LANNA LETTER HIGH SHA  
1A4A LANNA LETTER HIGH SSAA => LANNA LETTER HIGH SA  
1A4C LANNA LETTER LAA => LANNA LETTER LLA  
1A56 LANNA LETTER LE => LANNA LETTER LAE  
1A5A LANNA SIGN KHUN MAI KANG LAI => LANNA SIGN KHUEN MAI KANG  
LAI \*  
1A5D LANNA CONSONANT SIGN HIGH LATHA OR LOW PA => LANNA  
CONSONANT SIGN HIGH RATHA OR LOW PA  
1A6D LANNA VOWEL SIGN ONG => LANNA VOWEL SIGN O  
1A6E LANNA VOWEL SIGN OH => LANNA VOWEL SIGN OA BELOW  
1A71 LANNA VOWEL SIGN EE => LANNA VOWEL SIGN AE  
1A75 LANNA VOWEL SIGN O => LANNA VOWEL SIGN OA ABOVE  
1A79 LANNA SIGN KHUN TONE-3 => LANNA SIGN KHUEN TONE-3 \*  
1A7A LANNA SIGN KHUN TONE-4 => LANNA SIGN KHUEN TONE-4 \*  
1A7B LANNA SIGN KHUN TONE-5 => LANNA SIGN KHUEN TONE-5 \*  
1A7C LANNA SIGN LAHAAM => LANNA SIGN RA HAAM  
1AA0 LANNA SIGN WIANGWAAK => LANNA SIGN WIANG

1AA1 LANNA SIGN WIANG => LANNA SIGN WIANGWAAK  
1AA6 LANNA SIGN REVERSED ROTATED LANA => LANNA SIGN REVERSED  
ROTATED RANA  
1AA8 LANNA SIGN GAAN => LANNA SIGN KAAAN  
1AA9 LANNA SIGN GAANGUU => LANNA SIGN KAANKUU  
1AAA LANNA SIGN SATGAAN => LANNA SIGN SATKAAAN  
1AAB LANNA SIGN SATGAANGUU => LANNA SIGN SATKAANKUU

2. Move the following characters, as per N3207:

1A29..1A5E => 1A2A..1A5F

3. Add the following new characters, as per N3207:

1A29 LANNA LETTER KHUEN HIGH CHA (NB suggested name differs from  
N3207)  
1AAD LANNA SIGN CAANG

4. There is some doubt over the need to encode the following two  
characters and whether they are equivalent to the decomposition  
sequences assigned to them in N3207. We therefore suggest removing them  
from Amd.4 pending further investigation.

1A65 LANNA VOWEL SIGN AM  
1A66 LANNA VOWEL SIGN TALL AM

5. Move the following characters to fill the gap left by the removal of  
1A65..1A66:

1A67..1A7D => 1A65..1A7B

T.2 page 48 : CJK Unified Ideographs Extension C U+2A988

We believe that according to the CJK unification rules U+2A988 should be  
unified with the already encoded U+2177B. The difference between  
U+2177B and U+2A988 is that the righthand component of U+2177B is  
written as U+4E8F whereas the righthand component of U+2A988 is written  
as U+4E90. The following examples demonstrate that U+4E8F and  
U+4E90 are unifiable components:

U+2A746. In Amd.4 source glyph TC-4375 is written with U+4E90, whereas  
source glyph V04-4126 is written with U+4E8F.

U+28706. In Super CJK Version 14.0  
<[http://www.cse.cuhk.edu.hk/~irg/irg/CJK/SuperCJK140\\_IRGN802.zip](http://www.cse.cuhk.edu.hk/~irg/irg/CJK/SuperCJK140_IRGN802.zip)> page  
1729 U+28706 is written with both U+4E8F and U+4E90 as its righthand  
component.

Furthermore, ISO/IEC 10646:2003 Annex S (page 1413) gives U+6C5A (U+4E90  
component) and U+6C61 (U+4E8F component) as an example of two characters  
which would have been unified according to the unification rules given

in S.1 but for the fact that they come under the source separation rule (S.1.6).

We therefore request that U+2A988 be removed from the amendment, and the characters 2A989..2B77A be renumbered accordingly.

#### T.3 page 65 : CJK Unified Ideographs Extension C U+2ABB1

The glyph shown for U+2ABB1 (V04-4946) is completely incorrect (wrong radical and five strokes instead of 14). The source glyph is also shown incorrectly in N3134A1 page 67 (#09682), although the reference image is shown correctly here. In IRG N898 <[http://www.cse.cuhk.edu.hk/~irg/irg/irg19/N898-VietNam\\_C1.zip](http://www.cse.cuhk.edu.hk/~irg/irg/irg19/N898-VietNam_C1.zip)> page 11 V04-4946 is shown with the correct source glyph.

We therefore request that that the glyph for U+2ABB1 be changed to reflect the source glyph V04-4946 given in the original submission by Vietnam.

#### T.4 page 106 CJK Unified Ideographs Extension C U+2B0CE

The glyph shown for U+2B0CE (V04-5035) appears to be incorrect (nine residual strokes instead of eleven). The source glyph is also shown incorrectly in N3134A2 page 140 (#16060), although the reference image is shown correctly here. In IRG N898 <[http://www.cse.cuhk.edu.hk/~irg/irg/irg19/N898-VietNam\\_C1.zip](http://www.cse.cuhk.edu.hk/~irg/irg/irg19/N898-VietNam_C1.zip)> page 18 V04-5035 is shown with the correct source glyph (eleven residual strokes rather than nine).

We therefore request that that the glyph for U+2B0CE be changed to reflect the source glyph V04-5035 given in the original submission by Vietnam.

#### T.5 page 91 CJK Unified Ideographs Extension C U+2AEEF

The glyph for U+2AEEF is the same as the glyph for the compatibility ideograph U+2F927, which is canonically equivalent to U+24814. The righthand component of U+2AEEF (i.e. U+8C9F) is a common glyph variant of the righthand component of U+24814 (i.e. U+54E1), and we believe that these two components are normally unifiable. For example, ISO/IEC 10646:2003 Annex S (page 1411) gives U+570E (U+8C9F component) and U+5713 (U+54E1 component) as an example of two characters which would have been unified according to the unification rules given in S.1 but for the fact that they come under the source separation rule (S.1.6). Nevertheless, there are some examples of CJK-B characters with the U+8C9F component that do correspond to characters with the U+54E1 component (U+202CF & U+508A, U+21396 & U+5864, U+27D80 & U+27D8A, U+291B9 & U+291C2, U+2A0F0 & U+9DB0), but in none of these cases is there a corresponding compatibility ideograph.

We therefore request clarification as to whether it is necessary and appropriate to encode U+2AEEF in addition to U+2F927.

## EDITORIAL COMMENTS

E.1 page 4 : Page 1351, annex A.1

<quote>

In the list of collections numbers and names, after

307 UNICODE 5.0 see A6.5 \*

insert the new entry:

308 UNICODE 5.1 see A6.6 \*

</quote>

308 Unicode 5.1 is already defined in Amd.3. This should be:

<quote>

308 UNICODE 5.1 see A6.6 \*

insert the new entry:

309 UNICODE 5.2 see A6.7 \*

</quote>

E.2 pages 4-5 : Page 1357, Annex A.6 Unicode Collections

<quote>

At the end of Annex A.6, add new clause A.6.6 as follows.

A.6.6 308 UNICODE 5.1

308 The fixed collection UNICODE 5.2 consists of a fixed collection. The collection list is arranged by planes as follows.

</quote>

This should be:

<quote>

At the end of Annex A.6, add new clause A.6.7 as follows.

A.6.7 309 UNICODE 5.2

309 The fixed collection UNICODE 5.2 consists of a fixed collection. The collection list is arranged by planes as follows.

</quote>

At bottom of page 5

<quote>

NOTE - The collection 309 UNICODE 5.1 can also be determined by using another fixed collection from A.6 and several ranges of code positions.

Plane 00-10

Collection number and name

308 UNICODE 5.0

</quote>

should be:

<quote>

NOTE - The collection 309 UNICODE 5.2 can also be determined by using another fixed collection from A.6 and several ranges of code positions.

Plane 00-10

Collection number and name

308 UNICODE 5.1

</quote>

E.3 page 25 : Table 236 - Row F0: Mahjong Tiles

1F02A MAHJONG TILE JOKER

We suggest adding the Chinese name of this tile as an annotation:

1F02A MAHJONG TILE JOKER (baida)

E.4 pages 28-159 : CJK Unified Ideographs Extension C

The codepoints for the following ranges of characters are printed with the last hexadecimal digit missing:

2AAAA..2AAAF printed as 2AAA (page 57)

2AABA..2AABF printed as 2AAB (page 57)

2AACA..2AACF printed as 2AAC (page 58)

2AADA..2AADF printed as 2AAD (page 58)

2AAEA..2AAEE printed as 2AAE (page 59)

2AAFA..2AAFD printed as 2AAF (page 59)

2ABAA..2ABAF printed as 2ABA (page 65)

2ABBA..2ABBF printed as 2ABB (page 65)

2ABCA..2ABCF printed as 2ABC (page 66)

2ABDA..2ABDF printed as 2ABD (page 66)

2ABEA..2ABEE printed as 2ABE (page 67)

2ABFA..2ABFD printed as 2ABF (page 67)

2ACAA..2ACAF printed as 2ACA (page 73)

2ACBA..2ACBF printed as 2ACB (page 73)

2ACCA..2ACCF printed as 2ACC (page 74)

2ACDA..2ACDF printed as 2ACD (page 74)

2ACEA..2ACEE printed as 2ACE (page 75)

2ACFA..2ACFD printed as 2ACF (page 75)

2ADAA..2ADAF printed as 2ADA (page 81)

2ADBA..2ADBF printed as 2ADB (page 81)

2ADCA..2ADCF printed as 2ADC (page 82)

2ADDA..2ADDF printed as 2ADD (page 82)

2ADEA..2ADEE printed as 2ADE (page 83)

2ADFA..2ADFD printed as 2ADF (page 83)

2AEAA..2AEAE printed as 2AEA (page 89)  
2AEBA..2AEBE printed as 2AEB (page 89)  
2AECA..2AECE printed as 2AEC (page 90)  
2AEDA..2AEDE printed as 2AED (page 90)  
2AEEA..2AEED printed as 2AEE (page 91)  
2AFAA..2AFAD printed as 2AFA (page 97)  
2AFBA..2AFBD printed as 2AFB (page 97)  
2AFCA..2AFCD printed as 2AFC (page 98)  
2AFDA..2AFDD printed as 2AFD (page 98)



Title:	Comments accompanying the US negative vote on PDAM4 to ISO/IEC 10646:2003
Source:	INCITS/L2
Action:	Forward to INCITS

The US National body is voting No with comments on the following SC2 ballot. Satisfying technical comment T.1 would change the vote into a Yes.

SC2N3914: Information technology -- Universal Multiple-Octet Coded Character Set (UCS) -- AMENDMENT 4: Lanna, Cham, Game Tiles, CJK Unified Ideographs Extension C, and other characters

### **Technical Comments:**

#### **T.1 Character removal (Lanna)**

The US is asking for the removal of the following characters:

1A65 LANNA VOWEL SIGN AM  
1A66 LANNA VOWEL SIGN TALL AM

The rationale for their inclusion is provided in WG2 N3121:

The presence of [LANNA VOWEL SIGN] AM (and [LANNA VOWEL SIGN] TALL AM) follows the Thai convention of ensuring that a final consonant is not stored before the vowel it follows. This is the only situation in which it could occur and so [LANNA VOWEL SIGN] AM is encoded to alleviate the problem.

It is again clarified in WG2 N3207:

The written representation of /am/ involves two visual components: ◌◌ VOWEL SIGN AA (or ◌◌ VOWEL SIGN TALL AA) and ◌ MAI KANG, which, if /am/ were not used, would be stored in that order (since final consonants are always stored after their vowels). In the case of /am/ the MAI KANG is often rendered as part of the preceding cluster to VOWEL SIGN AA. In order to ensure grapheme cluster integrity (see UAX#29 section 3) the unitary characters ◌◌ and ◌◌ for /am/ are proposed, following Thai practice. Note that /am/ is the only situation in which this occurs. The use of a sequence for AM would break the opportunity for a cluster boundary before AA. The characters may (if the UTC thinks it wise) be given compatibility decompositions to AA + MAI KANG and TALL AA + MAI KANG respectively. (In Thai, the decomposition for U+0E33 SARA AM is to 0E4D NIKHAHIT + U+0E32 SARA AA; this seems to be opposite, but Thai encodes in visual order so since the models are different this is not really relevant.)

The AM characters are an example of how sometimes more than one solution can be proposed for an encoding problem. It could be argued that these are “duplicate” characters, though the compatibility decomposition mitigates against that. One of the chief problems is that Northern Thai treats AM similarly to Thai AM; it places the MAI KANG glyph to the left of the -AA vowel (whether over the previous cluster or between the clusters): ◌◌, ◌◌. In Khün and Lue, the MAI KANG render the MAI KANG over the -AA vowel: ◌◌, ◌◌. Without an encoded AM, it would be likely that Northern Thai users would confuse AA + MAI KANG and MAI KANG + AA, even though the latter is logically incorrect for the underlying phonemes. This is not a problem for Khün and Lue, which treat it as a vowel + final, but Northern Thai users think of it as equivalent to Thai AM.

Potentially, MAI KANG and AA may also occur with MAI KANG properly preceding AA, in different syllables.

For example /kam.wa:/ might be written  $\text{ꨀꨃ} = \text{KAL} + \text{MAI KANG} + \text{TONE-1} + \text{SAKOT} + \text{WA} + \text{TALL AA}$  while  
 /kwa:m/ would be written  $\text{ꨀꨃ} = \text{KAL} + \text{SAKOT} + \text{WA} + \text{TONE-1} + \text{TALL AM}$ .

The explicitly-encoded AM gets around the problems of the re-ordering and ligation that would have to be solved if there were no AM, and would add a complexity that is not present in any of the surrounding scripts that contribute to the encoding milieu [sic] of the intended user community.

However all that long and detailed explanation does not remove the fact that these two characters are in fact equivalent to sequences of characters which are also proposed for encoding in the same document.

<U+1A63, U+1A76> for LANNA VOWEL SIGN AM, and  
 <U+1A64, U+1A76> for LANNA VOWEL SIGN TALL AM.

Proposing compatibility decomposition makes them even less useful as they will be filtered out by all processes using normalization form KC. It also makes them unsuitable for identifiers where the alternate sequences would be the only allowed representation.

In all cases, duplicate encoding should not happen in new proposals.

## T.2 Addition of 2 Lanna characters

The US is also supporting the addition of the following Lanna characters as proposed by document WG2 N3207:  
 1A29 LANNA LETTER KHUN HIGH CHA  
 1AAD LANNA SIGN CAANG

## T.3 Name and glyph changes for the new Cyrillic Extended-A

The US is in favor of the glyph and name changes as proposed in WG2 N3194 for the characters in the range U+2DE0..U+2DF5 (code position as originally presented in document SC2 N3914).

## T.4 Addition of 7 CJK Unified Ideographs

The US is also supporting the addition of 7 CJK Unified ideographs as proposed by document L2/07-67 (WG2 TBD) in positions U+9FBC through U+9FC2. At its last meeting, the IRG did not object to the fast-tracking of those characters, nor to their inclusion in Amendment 4. However, the IRG asked that those seven characters not be interleaved in Extension C, hence the proposed code points

These ideographs are present in the K-JIS and Sha-ken character collections. The K-JIS collection is developed by 共同通信社 and 配信先新聞社 for writing newspaper articles in Japan. The Sha-ken collection is part of a proprietary typesetting system widely used in Japan. These characters are also present in the Adobe-Japan1 collection, which is the basis for many desktop fonts, and at the time of this proposal are the only characters of that collection not present in Unicode / ISO/IEC 10646.

Glyph	Source collection	USource	Adobe-Japan1 CID	Proposed code point
壻	K-JIS #4431	UTC00836	15431	U+9FBC
燠	K-JIS #2191	UTC00835	15429	U+9FBD
𪗇	K-JIS #5304	UTC00837	15434	U+9FBE
萑	Sha-ken Index 7666	UTC00838	20068	U+9FBF
薺	Sha-ken Index 7614	UTC00839	20069	U+9FC0
誥	Sha-ken Index 7163	UTC00840	20070	U+9FC1
鶉	Sha-ken Index 7907	UTC00841	20071	U+9FC2

---End of US comments