

**Universal Multiple-Octet Coded Character Set  
(UCS)**

ISO/IEC JTC 1/SC 2 N\_\_\_\_\_  
ISO/IEC JTC 1/SC 2/WG 2 N4404R  
Date: 2013-06-25

<b>Source:</b> WG 2 meeting 61, Holiday Inn, Vilnius, Lithuania; 2013-06-10/14
<b>Title:</b> Resolutions of WG 2 meeting 61
<b>Action:</b> For approval by SC 2 and for information to WG 2
<b>Status:</b> Adopted at meeting 61 of WG 2
<b>Distribution:</b> ISO/IEC JTC 1/SC 2 and WG 2

Experts from Canada, China, Finland, Ireland, IRG, Japan, JTC1/SC35 (Liaison), Korea (Republic of), Lithuania, SEI - UC Berkeley (Liaison), TCA (Liaison), the Unicode Consortium (Liaison), UK and USA were present when the following resolutions were adopted (see attached attendance list).

*Character count **110181** in 3<sup>rd</sup> edition  
Addition of **1769** in Amd.1 to 3<sup>rd</sup> edition  
Addition of **1177** in PDAM 2 to 3<sup>rd</sup> edition  
Addition of **7437** in CD of 4<sup>th</sup> edition*

*(Note: the count is adjusted down from 7438 to 7437 due to deletion of one duplicate character 124D2 CUNEIFORM SIGN KA TIMES U in the CD after the last meeting prior to issuing the ballot.)*

*(Adjusted) Character count **120564** (total at end of CD of 4<sup>th</sup> edition)*

*(Note: This revision has corrections in resolutions M61.02h, M61.02i and M61.03; the changes are shown in Bold Italic.)*

**RESOLUTION M61.01 (Disposition of ballot comments and progression of Amd. 2):**

**Unanimous**

WG2 accepts the disposition of DAM 2 ballot comments in document [N4453](#). The following significant changes are noted:

- A7AE LATIN SMALL LETTER INVERTED ALPHA is moved to code position AB64.
- A7AF LATIN LETTER SMALL CAPITAL OMEGA is moved to code position AB65 and renamed to GREEK LETTER SMALL CAPITAL OMEGA.
- Rename 115C4 from SIDDHAM SEPARATOR-1 to SIDDHAM SEPARATOR DOT.
- Rename 115C5 from SIDDHAM SEPARATOR-2 to SIDDHAM SEPARATOR BAR.
- In the block name and all character names in the block 1E800..1E8DF - replace MENDE with MENDE KIKAKUI.
- Move 'Hungarian' out of Amendment 2 into the 4th edition reverting its name to 'Old Hungarian'.
- Remove 'Old Hungarian' from the title page of the Amendment.
- Addition of a new bullet and associated text on use of FF1F to indicate an 'undescribed component' in an Ideographic Description Sequence in Annex I.1.
- Addition of 20BC MANAT SIGN, with its glyph from document [N4445](#).

WG2 further instructs its project editor to prepare and to forward the final text of Amendment 2 to the 3<sup>rd</sup> Edition, along with the final disposition of comments (document [N4453](#)) to the SC2 secretariat for processing as an FDAM ballot. The final code positions, glyphs and names are in the charts in document [N4458](#).

**count: 1177+1-108 = 1070 additions in Amendment 2**

**RESOLUTION M61.02 (Disposition of ballot comments of CD of 4th edition):**

**Unanimous**

WG2 accepts the disposition of CD ballot comments in document [N4454](#). The following significant changes are noted:

- a. Insert the 108 characters of 'Hungarian' that was removed from Amendment 2, into 4th edition with name of the block and the characters in the block reverted to 'Old Hungarian'.
- b. Correct the following source references for ideographs:
  - G source of 03828 from GHZ-10810.02 to GHZ-101810.03
  - Remove G source for 0400B (keep its T source reference)
  - Remove G source for 03ABF (keep its T and J source references)
- c. Rename A78F from LATIN LETTER MIDDLE DOT to LATIN LETTER SINOLOGICAL DOT, with its glyph changed to be a larger dot.
- d. Move the range of characters 124D3...12544 up by one position to 124D2...12543, in the Early Dynastic Cuneiform block.
- e. Rename 145B1 from ANATOLIAN HIEROGLYPH A383 COMBINING RA OR RI to ANATOLIAN HIEROGLYPH A383 RA OR RI.
- f. In Hatran block:
  - Delete four characters - 108F3 HATRAN LETTER RESH, 108F9 HATRAN NUMBER TWO, 108FA HATRAN NUMBER THREE and 108FB HATRAN NUMBER FOUR.
  - Rename 108E3 from HATRAN LETTER DALETH to HATRAN LETTER DALETH-RESH.
  - Move 108F8 HATRAN NUMBER ONE to vacated code position 108FB.
- g. Create additional information related to Ideographs in Annex P in a format suitable to accommodate the ballot comments from Japan.

- h. Reallocate five characters in Sharada block (**based on** document N4417):  
 Move SHARADA CONTINUATION **SIGN** from 111CE to 111DD.  
 Move SHARADA HEADSTROKE from 111DB to 111DC.  
 Move SHARADA SIGN SIDDHAM from 111DC to 111DB.  
 Move SHARADA SECTION MARK-1 from 111DD to 111DE.  
 Move SHARADA SECTION MARK-2 from 111DE to 111DF.
- i. CJK Extension E (per document N4439):
- Delete six characters 2C7E1, 2B934, 2BBCF, 2C163, 2C156, and 2C1BF.
  - Rearrange the chart to remove vacated code positions.
  - Correct the attribute for 2B8A9 from 9.7 to 41.6, **and any associated reordering.**  
*count: 7437-10+108 = 7535 additions in 4th editon*

**RESOLUTION M61.03 (Subheadings in the nameslist in 4th edition):**

**Unanimous**

WG2 accepts the following subheading insertions and replacements (from attachment 3 in document N4409) in the nameslist for the 4th edition of the standard:

- Insert 'Old *initial consonants*' between lines for 1112 and 1113.
- Insert 'Old *medial vowels*' between lines for 1175 and 1176.
- Insert 'Old *final consonants*' between lines for 11C2 and 11C3.
- Replace 'Initial *consonants*' with 'Old *initial consonants*' before the line for A960.
- Replace 'Medial *vowels*' with 'Old *medial vowels*' before the line for D7B0.
- Replace 'Final *consonants*' with 'Old *final consonants*' before the line for D7CB.
- Replace 'Modern *letters*' with 'Consonant *letters*' before the line for 3131.
- Insert 'Vowel *letters*' before the line for 314F.
- Replace 'Old *letters*' with 'Old *consonant letters*' before the line for 3165.
- Insert 'Old *vowel letters*' before the line for 3187.

**RESOLUTION M61.04 (Clause 22.1 in 4th edition):**

**Unanimous**

WG2 accepts the following change (proposed in document N4411) in clause 22.1 in the 4th edition of the standard:

Replace

"In rendering ... (from ... 11FF) is displayed ..."

With

"In rendering ... (from ... 11FF, HANGUL JAMO EXTENDED-A block: A960 to A97F and HANGUL JAMO EXTENDED-B block: D7B0 to D7FF) is displayed ..."

**RESOLUTION M61.05 (Clause 23.1 in 4th edition):**

**Unanimous**

WG2 accepts replacing the list of Hanja K sources with the following (per discussion on document N4411) in clause 23.1 in the 4th edition of the standard:

- K0 KS C 5601-1987 (now known as KS X 1001:2004).
- K1 KS C 5657-1991 (now known as KS X 1002:2001).
- K2 PKS C 5700-1 1994 (Reedited and standardized as KS X1027-1:2011).
- K3 PKS C 5700-2 1994 (Reedited and standardized as KS X1027-2:2011).
- K4 PKS 5700-3: 1998 (Reedited and standardized as KS X1027-3:2011).
- K5 Korean IRG Hanja Character Set 5th Edition: 2001  
 (Reedited and standardized as KS X1027-4:2011).

and, deleting the current Note 4.

**RESOLUTION M61.06 (New data format for CJK data files for 4th edition):**

**Unanimous**

WG2 accepts the proposed reformatting (based on document N4436) of the CJK data files, allowing merging CJK\_U, CJK\_C and IICORE.txt files into a single file, and instructs its project editor to implement the new format along with any associated explanatory text in the 4th edition of the standard.

**RESOLUTION M61.07 (Fonts for showing standardized variants in 4th edition):**

**Unanimous**

WG2 accepts the project editor's proposal (in document N4434) to use STIX font for showing the glyphs for standardized Math variants in the list of names. Glyphs for standardized variants for other scripts can be shown if an appropriate font is available. The standardized variants for compatibility Ideographs will continue to show only a single nominal glyph of the corresponding CJK Unified ideograph (that was used in the Unicode Standard before the multiple column charts were implemented in the charts for the Unicode Standard).

**RESOLUTION M61.08 (Fonts for Mongolian and Phags-pa for 4th edition):**

**Unanimous**

WG2 accepts the project editor's proposal (in document N4435) to use fonts based on horizontal writing orientation as reference for generating the charts for Mongolian and Phags-pa scripts in the 4th edition.

**RESOLUTION M61.09 (Additional characters for CD of 4th edition):****Unanimous**

WG2 accepts the following additional characters for the 4th edition of the standard:

- a. Following 6 Siddham variant characters (with their glyphs from document N4407R) in Siddham block:
  - 115E0 SIDDHAM LETTER I VARIANT FORM A
  - 115E1 SIDDHAM LETTER I VARIANT FORM B
  - 115E2 SIDDHAM LETTER II VARIANT FORM A
  - 115E3 SIDDHAM LETTER U VARIANT FORM A
  - 115E4 SIDDHAM VOWEL SIGN U VARIANT FORM A
  - 115E5 SIDDHAM VOWEL SIGN UU VARIANT FORM A
 (note: 115E4 and 115E5 are combining characters).
- b. Following 14 Siddham section marks (from document N4336 modified with names in document N4457) in Siddham block:
  - 115CA SIDDHAM SECTION MARK WITH TRIDENT AND U-SHAPED ORNAMENTS
  - 115CB SIDDHAM SECTION MARK WITH TRIDENT AND DOTTED CRESCENTS
  - 115CC SIDDHAM SECTION MARK WITH RAYS AND DOTTED CRESCENTS
  - 115CD SIDDHAM SECTION MARK WITH RAYS AND DOTTED DOUBLE CRESCENTS
  - 115CE SIDDHAM SECTION MARK WITH RAYS AND DOTTED TRIPLE CRESCENTS
  - 115CF SIDDHAM SECTION MARK DOUBLE RING
  - 115D0 SIDDHAM SECTION MARK DOUBLE RING WITH RAYS
  - 115D1 SIDDHAM SECTION MARK WITH DOUBLE CRESCENTS
  - 115D2 SIDDHAM SECTION MARK WITH TRIPLE CRESCENTS
  - 115D3 SIDDHAM SECTION MARK WITH QUADRUPLE CRESCENTS
  - 115D4 SIDDHAM SECTION MARK WITH SEPTUPLE CRESCENTS
  - 115D5 SIDDHAM SECTION MARK WITH CIRCLES AND RAYS
  - 115D6 SIDDHAM SECTION MARK WITH CIRCLES AND TWO ENCLOSURES
  - 115D7 SIDDHAM SECTION MARK WITH CIRCLES AND FOUR ENCLOSURES
- c. Following 4 characters (with their glyphs from document N4213R) in Latin Extended-E block:
  - AB60 LATIN SMALL LETTER SAKHA YAT
  - AB61 LATIN SMALL LETTER IOTIFIED E
  - AB62 LATIN SMALL LETTER OPEN OE
  - AB63 LATIN SMALL LETTER UO
- d. Following 4 arrows (with their glyphs from document N4318) in Miscellaneous Symbols and Arrows block:
  - 2BEC LEFTWARDS TWO-HEADED ARROW WITH TRIANGLE ARROWHEADS
  - 2BED UPWARDS TWO-HEADED ARROW WITH TRIANGLE ARROWHEADS
  - 2BEE RIGHTWARDS TWO-HEADED ARROW WITH TRIANGLE ARROWHEADS
  - 2BEF DOWNWARDS TWO-HEADED ARROW WITH TRIANGLE ARROWHEADS
- e. 1F54F BOWL OF HYGIEIA (with its glyph from document N4393) in the Miscellaneous Symbols and Pictographs block
- f. A69E COMBINING CYRILLIC LETTER EF (with its glyph from document N4390) in the Cyrillic Extended-B block  
 (note: several of the proposal documents referenced above have proposed annotations or changes to existing annotation in the names list)

**count: 7535+30 = 7565 additions in 4th edition****RESOLUTION M61.10 (Progression of 4th edition):****Unanimous**

WG2 instructs its project editor to prepare and to forward the final text of 4th edition of the standard, which will include the changes arising from resolution **M61.02 to M61.09** above, along with the final disposition of comments (document N4454) to the SC2 secretariat for processing as a DIS ballot. The final code charts will be in document N4459. The target starting dates are unchanged: DIS 2013-08 and FDIS 2014-03.

**count: 7565 additions in DIS of 4th edition****RESOLUTION M61.11 (Tamil and Tamil Supplement)****Unanimous**

WG2 resolves to accept the following for inclusion in a future amendment to the 4th edition of the standard:

- a. Add the following six Tamil characters (with their glyphs based on document N4430) in the Tamil block:
  - 0BDF TAMIL CURRENT SIGN
  - 0BFB TAMIL TRADITIONAL NUMBER SIGN
  - 0BFC TAMIL TRADITIONAL CREDIT SIGN
  - 0BFD TAMIL AND ODD SIGN
  - 0BFE TAMIL SPENT SIGN
  - 0BFF TAMIL TOTAL SIGN
- b. Create a new block named Tamil Supplement in the range 11FC0...11FFF and populate it with **49** characters with their glyphs, names and code positions from sections 3 and 4 in document N4430.

**count: 55 additions in first Amd to 4th edition**

**RESOLUTION M61.12 (Character additions for a future amendment to 4th edition)****Unanimous**

WG2 accepts to add the following in a future amendment to the 4th edition of the standard:

- 1032F OLD ITALIC LETTER TTE as proposed in document N4395.
- 0C5A TELUGU LETTER RRRRA with its glyph based on what is shown in section 1 of doc N4215.
- **Two** characters - 218A TURNED DIGIT TWO and 218B TURNED DIGIT THREE (with their glyphs from document N4399) in the Number Forms block.
- **Ten** Malayalam minor fractions (with their glyphs from document N4429) in the Malayalam block:  
0D58 MALAYALAM FRACTION ONE ONE-HUNDRED-AND-SIXTIETH  
0D59 MALAYALAM FRACTION ONE FORTIETH  
0D5A MALAYALAM FRACTION THREE EIGHTIETHS  
0D5B MALAYALAM FRACTION ONE TWENTIETH  
0D5C MALAYALAM FRACTION ONE TENTH  
0D5D MALAYALAM FRACTION THREE TWENTIETHS  
0D5E MALAYALAM FRACTION ONE FIFTH  
0D76 MALAYALAM FRACTION ONE SIXTEENTH  
0D77 MALAYALAM FRACTION ONE EIGHTH  
0D78 MALAYALAM FRACTION THREE SIXTEENTHS
- A8FD DEVANAGARI JAIN OM (with its glyph from document N4408) in the Devanagari Extended block.
- 0D4F MALAYALAM LETTER CHILLU LLL (with its glyph from document N4428) in the Malayalam block.
- **Two** characters - 11350 GRANTHA OM (with its glyph from document N4431), and 1137D GRANTHA SIGN COMBINING ANUSVARA ABOVE (with its glyph from document N4432), in the Grantha block.

(note: several of the proposal documents referenced above have proposed annotations or changes to existing annotation in the names list)

*count: 55+17= 72 additions in future first Amd. to 4th edition***RESOLUTION M61.13 (Project subdivision for future first amendment to 4th edition):****Unanimous**

WG2 instructs its convener and project editor to create a project subdivision proposal document (will be document N4465) for creation of an amendment to ISO/IEC 10646 4<sup>th</sup> edition, to include the additions accepted in resolutions M61.11 and M61.12 above. The schedule for the Amendment will be determined by the project editor. WG2 notes that Nushu, Mongolian Square, Soyombo and Marchen are some candidate scripts close to maturity.

**RESOLUTION M61.14 (Nushu):****Unanimous**

WG2 invites China, Ireland and SEI to produce a revised proposal, working with other interested parties, taking into consideration the recommendations in the Nushu ad hoc report in document N4461. The resulting document would be candidate for inclusion in the next amendment to the 4th edition of the standard.

**RESOLUTION M61.15 (Roadmap snapshot):****Unanimous**

WG2 instructs its convener to post the updated snapshot of the roadmaps (in document N4415) to the WG2 web site and communicate the same to SC2 secretariat.

**RESOLUTION M61.16 (Future meetings):****Unanimous**

WG2 endorses the following schedule for future meetings of WG2 and of IRG:

WG2 meetings:

Meeting 62 – 2014-02-24/28, Adobe, San Jose, CA, USA (host: the Unicode Consortium)

Meeting 63 – 2014-09-29/10-03 (or 2014-09-22/26) (date to be confirmed), Colombo, Sri Lanka; (with China as backup) (co-located with SC2)

Meeting 64 - 2015 (late April or early June); looking for host (Europe?)

IRG meetings:

IRG Meeting 41, Japan, 2013-11-18/22

IRG Meeting 42, Qingdao, China, 2014-05-19/23

IRG Meeting 43, USA, 2014-11-17/21

**RESOLUTION M61.17 (Appreciation to DKUUG for web site support):****By Acclamation**

WG2 thanks DKUUG and its staff for its continued support of the web site for WG2 document distribution and the e-mail server.

**RESOLUTION M61.18 (Appreciation to Host):****By Acclamation**

WG2 thanks the Lithuanian Standards Board and its members, in particular Messrs. Algirdas Krupovnickas, Valteris Mūžas, Genadijus Kulvietis, Vladas Tumasonis, Virginijus Dadurkevičius, and Ms. Grasilda Blažienė, for hosting the meeting, providing excellent meeting facilities, for the tour of the Institute of the Lithuanian Language, and for their kind hospitality and dinner.

Character count **110181** in 3<sup>rd</sup> edition  
Addition of **1769** in Amd. 1 to 3<sup>rd</sup> edition  
Addition of **1070** in DAM 2 to 3<sup>rd</sup> edition  
Addition of **7565** in DIS of 4<sup>th</sup> edition  
Character count **120585** (total at end of CD of 4<sup>th</sup> edition  
**72** additions in future first Amd to 4<sup>th</sup> edition  
Character count **120657** (total allocated to date)

**Attendance List**

**JTC1/SC2/WG2 Meeting 61, Vilnius, Lithuania, 2013-06-10/14**

The following **32** attendees representing **9** national bodies, and **4** liaison organizations were present at different times during the meeting.

<b>Name</b>	<b>Representing</b>	<b>Affiliation</b>
LU Qin	.IRG Rapporteur	Hong Kong Polytechnic University
Bear S. TSENG	.TCA – Liaison	Computing Center, Academia Sinica
Kuang-Shun (Rick) LIN	.TCA – Liaison	Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs
Lin-Mei WEI	.TCA – Liaison	Chinese Foundation for Digitization Technology
Suh-Chyin CHUANG	.TCA – Liaison	Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs
Alain LABONTÉ	Canada; Editor 14651; SC35 - Liaison (acting)	Independent
V. S. (Uma) UMAMAHESWARAN	Canada; Recording Secretary	IBM Canada Limited
CHEN Zhuang	China	Chinese Electronics Standardization Institute
FAN Xiaoming	China	Xinjiang Government
LI Guoying	China	Beijing Normal University
NIE Hongyin	China	Institute of Ethnology and Anthropology, Chinese Academy of Social Sciences
SUN Bojun	China	Institute of Ethnology and Anthropology, Chinese Academy of Social Sciences
Woushour SILAMU	China	Xinjiang University
ZHAO Liming	China	Tsing Hua University, Beijing
ZHOU Xiaowen	China	Beijing Normal University
Tero AALTO	Finland	CSC-IT Center for Science
Michael EVERSON	Ireland; Contributing Editor	Evertime
Satoshi YAMAMOTO	Japan	Hitachi Ltd.
Taichi KAWABATA	Japan	NTT Corporation
KIM Kyongsok	Korea (Republic of)	Busan National University
Algirdas KRUPOVNICKAS	Lithuania	Lithuanian Standards Board
Genadijus KULVIETIS	Lithuania	Vilnius Gediminas Technical University
Grasilda BLAZIENÉ	Lithuania	Institute of the Lithuanian Language
Valteris MŪŽAS	Lithuania	Lithuanian Standards Board
Virginijus DADURKEVIČIUS	Lithuania	JSC „Fotonija“
Vladas TUMASONIS	Lithuania	Vilnius University
Andrew WEST	UK	Independent
Lisa MOORE	USA	IBM Corporation
Ken WHISTLER	USA; Contributing Editor	SAP America, Inc.
Michel SUIGNARD	USA; Project Editor; Acting Meeting Convener	Independent
Deborah ANDERSON	USA; SEI, UC Berkeley – Liaison	Dept. of Linguistics, Univ. of California, Berkeley
Peter CONSTABLE	USA; Unicode Consortium – Liaison	Microsoft Corporation