Universal Multiple-Octet Coded Character Set
(UCS)

ISO/IEC JTC 1/SC 2 N4928
ISO/IEC JTC 1/SC 2/WG 2 N5254
Date: 2024-06-14

Source:	WG 2 meeting 71, Charles University, Prague, Czech Republic; 2024-06-10/14
Title:	Recommendations from WG 2 meeting 71
Action:	For approval by SC 2 and for information to WG 2
Status:	Adopted at meeting 71 of WG 2
Distribution:	ISO/IEC JTC 1/SC 2 and WG 2

Experts accredited (or invited) by the national bodies or liaison organizations for Canada, China, Czech Republic, Germany, India, Ireland, Japan, UK, USA, SC34 (Liaison), SEI - UC Berkeley (Liaison), TCA (Liaison), and the Unicode Consortium (Liaison), were present (either in person or via Zoom call) when the following recommendations were adopted (see attached attendance list).

Recommendation M71.01 (Disposition of comments of CDAM 2.4)

WG2 recommends that SC2 accept the disposition of ballot comments on CDAM 2.4 to 6th edition in document N5274. The following significant changes are noted in the disposition document:

a. Add a formal name alias of type "correction" BAMUM LETTER PHASE-A MAEMGBIEE for U+1680B BAMUM LETTER PHASE-A MAEMBGBIEE

b. Remove the following two characters:
0CDC KANNADA ARCHAIC SHRII
0C5C TELUGU ARCHAIC SHRII

Consensus

Recommendation M71.02 (Additions and changes in AMD2)

WG2 recommends that SC2 accept the following changes to CDAM 2.4 based on WG2 N5275 (=SC2 N4916):

a. Change the name of 31E4 from CJK STROKE HZXG to CJK STROKE HXG, based on document L2/24-044

b. Swap the reference glyphs for 12326 CUNEIFORM SIGN UN and 12327 CUNEIFORM SIGN UN GUNU, based on L2/24-074

c. Add a formal name alias formal name alias CUNEIFORM SIGN KALAM of type "correction" for 12327 CUNEIFORM SIGN UN GUNU, based on L2/24-074

d. Add two formal name aliases of type "correction":

• MENDE KIKAKUI SYLLABLE M172 MBO for 1E899 MENDE KIKAKUI SYLLABLE M172 MBOO

• MENDE KIKAKUI SYLLABLE M174 MBOO for 1E89A MENDE KIKAKUI SYLLABLE M174 MBO.

Consensus

Recommendation M71.03 (Progression of Amendment 2)

WG2 recommends that the Project Editor prepare the final text of DAM2 of the 6th edition of the standard, which will include the changes arising from recommendations M71.01 through M71.02 above, along with the final disposition of comments (document N5274), and forward it to the SC2 secretariat to circulate for balloting. The charts are in document N5281. The target starting dates are DAM2 2024-06-15, FDAM2 2025-02-01, AMD2 2025-05-01.

Consensus

Recommendation M71.04 (Project Subdivision for creation of ISO/IEC 10646 - 7th edition)

WG2 recommends that SC2 accept to start a project subdivision for a new edition to ISO/IEC 10646. The

supporting document is N5279 and the starting repertoire is detailed in N5249R. The target dates are: CD: 2024-08-01, DIS 2026-07-01, FDIS 2027-02-01, IS 2027-07-01.

Consensus

Recommendation M71.05 (Sidetic script)
WG2 recommends that the Project Editor add 29 characters for the Sidetic script at code points 10940..1095C; in a new block in the range 10940..1095F named 'Sidetic', based on the proposal in document L2/23-019.

Consensus

Recommendation M71.06 (Tolong Siki script)
WG2 recommends that the Project Editor add 54 characters for the Tolong Siki script at code points 11DB0..11DDB, 11DE0..11DE9; in a new block in the range 11DB0..11DEF named 'Tolong Siki', based on the proposal in document L2/23-024.

Consensus

Recommendation M71.07 (Chisoi script)
WG2 recommends that the Project Editor add 40 characters for the Chisoi script at code points 16D80..16D9D, 16DA0..16DA9; in a new block in the range 16D80..16DAF named 'Chisoi', based on the proposal in document L2/22-218R3.

Consensus

Recommendation M71.08 (Beria Erfe script)
WG2 recommends that the Project Editor add 50 characters for the Beria Erfe script at code points 16EA0..16EB8, 16EBB..16ED3; in a new block in the range 16EA0..16EDF named 'Beria Erfe', based on the proposal in document L2/24-004R.

Consensus

Recommendation M71.09 (Tai Yo script)
WG2 recommends that the Project Editor add 55 characters for the Tai Yo script at code points 1E6C0..1E6DE, 1E6E0..1E6F5, 1E6FE..1E6FF; in a new block in the range 1E6C0..1E6FF named 'Tai Yo', based on the proposal in document L2/22-289R, as corrected in document N5249R.

Consensus

Recommendation M71.10 (Character Additions)
WG2 recommends that the Project Editor add the following additions to existing scripts with following new characters with their glyphs as referenced in document N5249R for future encoding in the standard:

a. Bengali 09FF BENGALI LETTER SANSKRIT BA (based on document L2/22-268R, with name change reflected in N5249R).

b. Oriya/Odia additions (based on document L2/24-106R):
0B53 ORIYA SIGN DOT ABOVE
0B54 ORIYA SIGN DOUBLE DOT ABOVE

c. Latin additions

- Two Latin characters (based on document N5225)
A7D2 LATIN CAPITAL LETTER DOUBLE THORN
A7D4 LATIN CAPITAL LETTER DOUBLE WYNN

- One Latin character (based on document L2/24-081):
  A7F1 MODIFIER LETTER CAPITAL S.

d. Arabic additions
  - 088F ARABIC LETTER NOON WITH RING ABOVE (based on document L2/24-046)

  - Twenty-five Arabic honorifics: FBC3..FBD2, FD91, 10ED1..10ED8 (based on document L2/24-077)

  - Eight Arabic honorifics: FD90, FDC8..FDCE (based on document L2/24-002)

  - 10EC5 ARABIC SMALL YEH BARREE WITH TWO DOTS BELOW (based on document L2/22-281R)

  - 10EC6 ARABIC LETTER THIN NOON (based on document L2/23-121)

  - 10EC7 ARABIC LETTER YEH WITH FOUR DOTS BELOW for Swahili (based on document L2/24-055)

  - 10ED0 ARABIC BIBLICAL END OF VERSE (based on document L2/23-103R)

  - 10EFA ARABIC DOUBLE VERTICAL BAR BELOW (based on document L2/23-248)

  - 10EFB ARABIC SMALL LOW NOON (based on document L2/22-281R)

e. Sharada additions
  Eight Sharada vowel signs for Kashmiri, 11B60..11B67, in a new block in the range 11B60..11B7F named 'Sharada Supplement' (based on document L2/23-122).

f. Tangut additions
  - 28 Tangut ideographs 187F8..187FF, 18D09..18D1C (based on document N5217R)
  - 115 Tangut components 18D80..18DF2, in a new block in the range 18D80..18DFF named 'Tangut Components Supplement' (based on documents N5217R and N5218R3).

g. Phonetic diacritic characters
  - 1ACF COMBINING DOUBLE CARON (based on document L2/24-105)
  - Six compound tone diacritics 1AD0..1AD5 (based on document L2/23-188)
  - Three compound tone diacritics 1AD6..1AD8 (based on document L2/23-208)
  - Five Harrington diacritics 1AD9..1ADD (based on document L2/23-206R, noting that 1ADC has a name changed to COMBINING DIAERESIS WITH RAISED LEFT DOT as reflected in N5249R)

h. Symbols
  - One chess symbol 2B96 EQUALS SIGN WITH INFINITY ABOVE (based on document L2/24-018, noting that the code point was changed to 2B96)
  - Two small form CJK characters for Chinese (based on document L2/23-284)
  - 16FF2 CHINESE SMALL SIMPLIFIED ER
  - 16FF3 CHINESE SMALL TRADITIONAL ER
  - Three extended Suzhou Numeral-like letters for Cantonese music 16FF4..16FF6 (based on document N5267)
  - Ten symbols disunified from emoji 1CCFA..1CCFC, 1CEBA..1CEBF, 1FBFA (based on document L2/23-252)
  - 21 Historical asteroid symbols 1CEC0..1CED0, 1F777..1F77A (based on document L2/23-207)
  - 16 Geomantic figures 1CEE0..1CEEF (based on document L2/23-218)

- Ten Chemical symbols 1CEF0, 1F8D0..1F8D8 (based on document L2/23-193R2, noting that 1F8D6 has a name corrected in N5249R)
- Four Shatranj symbols 1FA54..1FA57 (based on document L2/24-020)

Consensus

Recommendation M71.11 (Mongolian addition for Manchu)
WG2 recommends that the Project Editor add the following new character with the glyph as referenced in document N5249R for future encoding in the standard (based on document L2/24-025):
1879 MONGOLIAN LETTER MANCHU ALTERNATE UE

Disagreement from expert from China

Recommendation M71.12 (Telugu addition)
WG2 recommends that the Project Editor add the following new character with the glyph as referenced in document N5249R for future encoding in the standard (based on document L2/22-006):
0C5C TELUGU ARCHAIC SHRII
Note: This character was moved out of CDAM 2.4 per Disposition of Comments on CDAM 2.4 (N5274) and is noted above in M71.01.

Consensus

Recommendation M71.13 (Kannada addition)
WG2 recommends that the Project Editor add the following new character with the glyph as referenced in document N5249R for future encoding in the standard (based on document L2/22-006):
0CDC KANNADA ARCHAIC SHRII.
Note: This character was moved out of CDAM 2.4 per Disposition of Comments on CDAM 2.4 (N5274) and is noted above in M71.01.

Consensus

Recommendation M71.14 (CJK Unified Ideographs Extension J)
WG2 recommends that the Project Editor add 4300 CJK unified ideographs at code points 323B0...3347B; in a new block in the range 323B0...3347F named 'CJK Unified Ideographs Extension J', based on the proposal in document N5257R.

Consensus

Recommendation M71.15 (Jamo short name corrections)
WG2 recommends that the Project Editor change 588 Jamo short names for B77C..B9C7 from initial L- to R- in HangulSy.txt, based on N5260.

Consensus

Recommendation M71.16 (CJK disunification and one new character addition)
WG2 recommends the Project Editor implement the IRG recommendation M62.07 in N5255 disunifying 5CC0 and encoding 〼山田 separately at 2B73A at the end of the CJK Unified Ideographs Extension C block. This will involve moving the T-source (T4-2634) and representative glyph of 5CC0 to 2B73A, moving the T-source (TF-2662) and representative glyph of 2F879 to 5CC0, adding a new G-source (GKX-1594.81) and representative glyph to 2B73A, and changing the T-source of 2F879 to TU-2F879 (no change to its representative glyph).

WG2 further requests TCA and China to provide updated fonts to the Project Editor by 2024-06-21.

Consensus

Recommendation M71.17 (CJK change of radical)

WG2 requests the Project Editor to implement IRG recommendation M62.09 in N5255 changing the radical of 2ECAB in the CJK Unified Ideographs Extension I block from 74 to 130. This was already done in DAM2.

Consensus

Recommendation M71.18 (Character Additions)

WG2 recommends the Project Editor consider the following additional characters for the "bucket":

a. Armenian additions
   Three Armenian superscript characters 0558, 058B, 058C (based on document L2/24-107)

b. Phonetic letter additions
   - Twelve combining diacritics 1AE0..1AEB (based on L2/24-080)
   - Eight affricate ligatures 1DF1F..1DF24, 1DF2B..1DF2C (based on document L2/24-051)
   - Fourteen letters with palatal hook 1DF2D..1DF3A (based on document L2/24-050)
   - Five modifier click characters 107BB..107BF (based on document L2/24-052R)

c. Musical symbols
   - Three musical symbols 1D127..1D128, 1D1FF (based on document L2/23-278R)
   - Twelve Stein-Zimmermann symbols 1D1EB..1D1F6 (based on document L2/23-276)
   - Eight digits with slashes used in figured bass 1D1F7..1D1FE (based on document L2/23-277)

Consensus

Recommendation M71.19 (Jurchen script)

WG2 recommends that the Project Editor consider for future encoding 914 characters for the Jurchen script at code points 18E00..19191, in a new block in the range 18E00..1919F named 'Jurchen', based on the proposal in document N5261R; and 51 Jurchen radicals 191A0..191D2 in a new block in the range 191A0..191DF named 'Jurchen Radicals', based on proposal in document N5278.

Consensus

Recommendation M71.20 (Small Seal script)

WG2 recommends that SC2 note the progress made by the experts from China, TCA, Japan and the US on several revised proposals submitted at this meeting, including completion of the comparison of THX and CCZ at WG2 #71. WG2 encourages the experts to continue their cooperative effort towards a consolidated contribution for encoding the script in the near future.

Consensus

Recommendation M71.21 (Other proposals)

WG2 recommends National Bodies and liaison organizations review the following proposals before WG2 meeting #72:
   - English Phonotypic Alphabet (EPA) (N5269)
   - Historic Scientific Characters (Leibniz) (N5277)

Consensus

Recommendation M71.22 (Additions to the 7th edition before next WG2 meeting)

WG2 recognizes that some scripts and additional characters which are under preparation as potential additions to the standard could become mature and will have consensus among WG2 experts to include in the standard. The Project Editor should be able to add these to the balloted texts, after exercising due diligence. Candidates include, but are not limited to:

- Jurchen (914 Jurchen ideographic characters and 51 Jurchen radicals), mentioned in recommendation M71.19
- Small Seal, mentioned in recommendation M71.20
- Other characters, mentioned in recommendations M71.18 and M71.21 above.

Consensus

Appreciation M71.23 (Appreciation to Dr. Lu)
WG2 thanks Dr. Lu Qin for her 20 years of service and significant contribution as IRG Convenor.

Acclamation

Recommendation M71.24 (IRG Convenor)
WG2 recommends to SC2 that Dr. Ken Lunde be appointed to replace Dr. Lu Qin as IRG Convenor.

Consensus

Recommendation M71.25 (Future meetings)
WG2 endorses the following schedule for future meetings:
WG2 Meeting #72, 2025-06-23/27, Niigata, Japan (co-located with SC2)
WG2 Meeting #73, 2026-06, Dundee, Scotland, UK or Paris, France (co-located with SC2)
IRG #63, Seoul, Korea, 2024-10-21/25
IRG #64, Online Zoom (Unicode), 2025-03-17/21
IRG #65, Guangzhou, China, 2025-10-13/17
IRG #66, Online Zoom (Unicode), 2026-03-16/20

Consensus

Appreciation M71.26 (Appreciation to DKUUG for web site support)
WG2 thanks DKUUG and its staff for its past support of the web site for the older WG2 documents.

Acclamation

Appreciation M71.27 (Appreciation to Unicode Consortium)
WG2 thanks the Unicode Consortium and its staff for providing the web site, for its assistance in code chart productions, and other support for WG2.

Acclamation

Appreciation M71.28 (Appreciation to Host)
WG2 thanks the Czech National Body, the Institute of Asian Studies, Charles University, for hosting the meeting. In addition, WG 2 thanks Dr. Jan Kučera, and supporting staff from Charles University, especially Jan Koubek for technical support. WG2 also appreciates the Institute of South and Central Asia Students for hosting of the enjoyable dinner on Wednesday evening.

Acclamation

Attendance List (For Checking By Attendees)
JTC1/SC2/WG2 Meeting 71, Charles University, Prague, Czech Republic + Virtual; 2024-06-10 /
14

The following **36** experts accredited (or invited) by 9 national bodies and **4** liaison organizations were present at different times during the meeting, either in person or via zoom call.

Name	Accreditation	Affiliation
Qin LU	.IRG Convener	Hong Kong Polytechnic University [retired] / HKITF
Masaru TAKECHI	.SC 2 Chairperson	NHK Foundation
Ayuko NAGASAWA	.SC 2 Secretariat	IPSJ/ITSCJ
Toshiya SUZUKI	.SC34 (liaison)	Hiroshima University
Lin Mei WEI	.TCA (Cat. C Liaison)	Chinese Foundation for Digitization Technology/TCA
Michel SUIGNARD	.WG 2 Convenor; USA	Unicode, Inc.
Karljürgen FEUERHERM	Canada	Wilfrid Laurier University
V.S. (Uma) UMAMAHESWARAN	Canada	Independent
Eddie Antonio SANTOS	Canada	Independent
Joshua TSAI	Canada	Independent
Zhuang CHEN	China	CESI
Shanshan HUANG	China	CESI
YANG Lei	China	CESI
SIM, CheonHyeong	China	East China University of Science and Technology
Wang Lijun	China	Beijing Normal University
Lin Lin	China	Microsoft
Sun Bojun	China	Chinese Academy of Social Sciences
Eiso CHAN	China	Culture and Art Publishing House
HU JiaJia	China	Beijing Normal University; Small Seal expert
Wushour Silamu	China	Xinjiang University
Jan KUČERA	Czech Republic	Charles University
Karl PENTZLIN	Germany	DIN
Andreas STÖTZNER	Germany	A. Stötzner Gestaltung
Deolekar DEVANSH	India	BIS
Swaran LATA	India	BIS
Michael EVERSON	Ireland	Evertype
Shuichi TASHIRO	Japan	Kaishi Professional University
Andrew WEST	UK	Independent
Craig CUMMINGS	USA	Unicode, Inc.
Ken LUNDE	USA	Apple Inc.

Craig CUMMINGS	USA	Independent
Deborah ANDERSON	USA, UC Berkeley (Cat. C Liaison)	University of California, Berkeley
Anushah HOSSAIN	USA, UC Berkeley (Cat. C Liaison)	University of California, Berkeley
Peter CONSTABLE	USA, Unicode (Cat. A Liaison)	Microsoft Corp.
LIANG Hai	USA	Unicode, Inc.
Robin LEROY	USA	Google