

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

ISO/IEC JTC 1/SC 2 N4867
ISO/IEC JTC 1/SC 2/WG 2 N5234
Date: 2023-06-23

Source: WG 2 meeting 70, Wilfrid Laurier University, Waterloo, ON, Canada; 2023-06-19/23
Title: Recommendations from WG 2 meeting 70
Action: For approval by SC 2 and for information to WG 2
Status: Adopted at meeting 70 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, Ireland, Japan, Republic of Korea, UK, SC34 (Liaison), SEI - UC Berkeley (Liaison), the Unicode Consortium (Liaison), and USA, were present (either in person or via Zoom call) when the following recommendations were adopted (see attached attendance list).

*Character count in 6th edition: **143925**
5327 additions in DAM1 of next edition (end of meeting 69)
1135 additions in CDAM2 of next edition (after meeting 69, prior to meeting 70)
Character count **150387** (total allocated till prior to meeting 70)*

Recommendation M70.01 (Disposition of ballot comments of FDAM 1 to 6th Edition):

WG2 notes that FDAM 1 to 6th edition has been approved per voting results in document ([SC2/N4854](#)), with one editorial correction, and the corrected version will be sent for publication.

Noted.

Recommendation M70.02 (Disposition of comments of CDAM 2.2):

WG2 recommends that SC2 accept the disposition of ballot comments on CDAM2.2 to 6th edition in document [N5233](#). The following significant changes are noted in the disposition document:

- a. 603 urgently needed CJK unified ideographs:
2EBF0..2EE4A in a new block in the range 2EBF0..2EE4F named 'CJK Unified Ideographs Extension I'
- b. 1 Kawi character
11F5A KAWI SIGN NUKTA
- c. 44 Ol Onal characters in a new block
1E5D0..1E5FA and 1E5FF in a new block in the range 1E5D0..1E5FF, named 'Ol Onal'
- d. 2 Tulu-Tigalari characters
113D2 TULU-TIGALARI GEMINATION MARK
113D3 TULU-TIGALARI SIGN PLUTA

+650 characters

Disagreement from expert from Republic of Korea

Recommendation M70.03 (Feedback on CJK Extension I):

In consideration of preliminary feedback that China will request some changes to the draft repertoire in CJK Unified Ideographs Extension I, and noting China's urgent need for these characters, WG2 recommends that SC2 invite China to submit a document with comments on CJK Unified Ideographs Extension I to SC2 by end of June 2023, to incorporate changes into the next draft of CDAM2 prior to circulation for comments.

Disagreement from expert from Republic of Korea

Recommendation M70.04 (CJK Horizontal Extensions):

WG2 recommends that SC2 accept the following CJK Horizontal extensions for existing characters to be included in the standard:

- a. Addition of 134 K Hanja character proposed in document [N5197](#).
- b. Adding K source reference KU-03E02 for code point 3E02, as proposed in document [N5198](#).
- c. Addition of 36422 Kanji extensions for JMJ sources, based on document [N5221](#).

Disagreement from expert from Republic of Korea

Recommendation M70.05 (Glyph Corrections):

WG2 recommends that SC2 accept the glyph corrections in the standard, for seven out of eight (excluding glyph for code point 18171) Tangut ideographs as proposed in document [N5206](#), and for four more Tangut ideographs as proposed in document [N5237](#).

Consensus

Recommendation M70.06 (Progression of CDAM2.2):

WG2 recommends that the Project Editor prepare the final text of CDAM2.3 of the 6th edition of the standard, which will include the changes arising from recommendations **M70.02** through **M70.05** above, along with the final disposition of comments (document [N5233](#)), and forward it to the SC2 secretariat for circulating for commenting. The charts are in document [N5235](#). The target starting dates are CDAM2.3 2023-08-01, DAM2 2024-06-01, FDAM2 2025-02-01, AMD2 2025-05-01.

Count: 1135 +650=1785

Disagreement from expert from Republic of Korea

Recommendation M70.07 (Egyptian Hieroglyphs)

WG2 recommends to SC2 to accept in principle for future encoding the proposal for Egyptian Hieroglyphs Extension A in document [N5215](#), and invites the author to revise the document based on discussion at this meeting.

Count: 3945 (Not Firm).

Consensus

Recommendation M70.08 (Chisoi script)

WG2 recommends to SC2 to accept for future encoding of **40** characters for 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](#).

Count: +40

Consensus

Recommendation M70.09 (Tai Yo script)

WG2 recommends to SC2 to accept for future encoding of **55** characters for 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](#).

Count: +55

Consensus

Recommendation M70.10 (Sidetic script)

WG2 recommends to SC2 to accept for future encoding of **29** characters for 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](#).

Count: +29

Consensus

Recommendation M70.11 (Tolong Siki script)

WG2 recommends to SC2 to accept for future encoding of **54** characters for 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](#).

Count: +54

Consensus

Recommendation M70.12 (Character Additions)

WG2 recommends to SC2 to accept for future encoding the following additional characters:

- a. Two Quranic Arabic characters (based on document [L2/22-281R](#)):
10EFB ARABIC SMALL LOW NOON
10EC5 ARABIC SMALL YEH BARREE WITH TWO DOTS BELOW
(Note: the project editor has the glyphs)
- b. Arabic Biblical End Of Verse (based on document [L2/23-103](#)):
10ED0 ARABIC BIBLICAL END OF VERSE
- c. Blank character for Khitan Small script (based on document [N5205](#)):
18CFF KHITAN SMALL SCRIPT CHARACTER-18CFF
- d. Bengali Letter Alternate BA (based on document [L2/22-268R](#)):
09FF BENGALI LETTER ALTERNATE BA
- e. Two characters for Middle English (based on document [N5225](#)):
A7D2 LATIN CAPITAL LETTER DOUBLE THORN
A7D4 LATIN CAPITAL LETTER DOUBLE WYNN

Count: +7

Consensus

Recommendation M70.13 (Additions to Amendment 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, Egyptian Hieroglyphs (approx. **3945** characters) mentioned in recommendation M70.07, or other **185** additional characters (captured in document [N5236](#)) mentioned in recommendations M70.08 to M70.12 above.

Consensus

Recommendation M70.14 (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, and encourages these experts to continue their co-operative effort towards a consolidated contribution for encoding the script.

Consensus

Recommendation M70.15 (Future meetings):

WG2 endorses the following schedule for future meetings:

- WG2 Meeting 71 – 2024-06 17 / 21 Prague, Czech Republic (co-located with SC2)
- WG2 Meeting 72 – 2025-06 – Seeking Host
- IRG#61, Yale University, New Haven, CT, USA; 2023-10-16/20
- IRG#62, Online Zoom (Unicode), 2024-03-18/22

Consensus

Appreciation M70.16 (Appreciation to DKUUG for web site support):

WG2 thanks DKUUG and its staff for its continued support of the web site for the older WG2 documents.

Acclamation

Appreciation M70.17 (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 M70.18 (Appreciation to Host):

WG2 thanks the national body of Canada and Wilfrid Laurier University, for hosting the meeting. In addition, WG 2 thanks Dr. Jonathan Newman (VP of Research), Dr. Karljürgen Feuerherm, and supporting staff, especially Ms. Susan Mackenzie, Carolyn Morrison, Anthony Trinh and Umar Rasool, as well as the staff from the Wilfrid Laurier University Food Services. WG2 also appreciates the Wilfrid Laurier University for hosting of the enjoyable dinner on Wednesday evening.

Acclamation

*Character count in 6th edition: **143925***

***5327** additions in FDAM1 of 6th edition (end of meeting 70)*

***1785** additions in CDAM2 of 6th edition (end of meeting 70)*

***4230** (approx.) accepted as future additions*

*Character count **155267** (total allocated till prior to meeting 70)*

Attendance List (For Checking By Attendees)

JTC1/SC2/WG2 Meeting 70, Wilfred Laurier University, Waterloo, ON, Canada + Virtual; 2023-06-19 / 23

The following **24** experts accredited (or invited) by 8 national bodies and **4** liaison organizations were present at different times during the meeting, either in person or via zoom call.

Name	Accreditation	Affiliation
Abdul-Rahman Mawlood-Yunis	.Guest – Canada	Wilfrid Laurier University
HU JiaJia	.Guest – China	Beijing Normal University; Small Seal expert
Omar Aden	.Guest – Sweden	Independent; Somali expert
Richard COOK	.Guest - Unicode	Independent; Small Seal expert
Qin LU	.IRG Convener	Hong Kong Polytechnic University [retired]
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
Yen Ling TSENG	.TCA (Cat. C Liaison)	Chinese Foundation for Digitization Technology
Michel SUIGNARD	.WG 2 Convenor; USA	Unicode, Inc.
Karljürgen FEUERHERM	Canada	Wilfrid Laurier University
V.S. (Uma) UMAMAHESWARAN	Canada	Independent
Zhuang CHEN	China	CESI
Jan KUČERA	Czech Republic	Charles University
Michael EVERSON	Ireland	Evertime
Shuichi TASHIRO	Japan	Kaishi Professional University
Kyongsok KIM	Korea	Pusan National University
Petra Fogelberg	Sweden	SIS
Andrew WEST	UK	Independent
Craig CUMMINGS	USA	Unicode
Ken LUNDE	USA	Apple, Inc.
Deborah ANDERSON	USA, UC Berkeley (Cat. C Liaison)	University of California, Berkeley
Peter CONSTABLE	USA, Unicode (Cat. A Liaison)	Microsoft Corp.