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MONGOLIAN NATIONAL INSTITUTE FOR STANDARDIZATION AND METROLOGY

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MNISM

To: Brannon, Keith ISO Central Secretariat ^{date: 28/08/1995} Our reference: *MON-3*
Fax: 41 22 733 3430

Dear Mr. Brannon, Keith

Thank you for your fax dated 8/21/95 and also the fax (From Convener of ISO/IEC/JTC1/SC2/WS2) dated 8/11/95, which was addressed to MNISM. I am sorry to have taken so long to reply. I was away on a trip.

Now I will reply to your letter.

First: In 1993 we presented two new work item proposals (NP) of Mongolian Script to the Central Secretariat of ISO and also to the concerned committees. The new proposals:

1/ Transliteration and transcription of Mongolian characters into Latin characters.

2/ Coded Mongolian characters sets for bibliographical information exchange (this NP may be as an amendment to an existing standard, for example: to ISO 10646.1 See Annex "N")

The above mentioned first Mongolian NP dealt with respective steps in the field of ISO/TC46/SC2/WG10) and designated a project leader from MNISM. A second NP was held up a long time between the two committees (ISO/TC46/SC4/WG1 and ISO/IEC/JTC1/SC2/WG2).

In the past we were unclear about which committee to deal with in regard to character sets (ISO/IEC/JTC1 or ISO/TC46). Now we understand and MNISM.

MNISM has sent a letter to Mrs. M.A.Zawler (Chair of ISO/IEC/JTC1) concerning the NP of Mongolian script.

Secondly: We think that the committees will inform one another about the NP of Mongolian script, because the ISO/IEC/JTC1/SC2 is connected with ISO/TC46/SC4/WG1 (liaison) on character sets in the field.

Besides Mr. J.Bavusurens, Director General of MNISM, has sent the official text of new work item proposal (NP) of Mongolian script and his letter of 12/14/93 (GH/90) was sent to the Central Secretariat of ISO. We also agree to be responsible for the definition of the Mongolian script for inclusion in ISO 10646.1.

Third, We are sending you a copy our of NP and letter of 12/14/93 193.

Fourth, MNISM wants to participate actively in the work, and to enter "P" membership status of the SC2/WG2 of ISO/IEC/JTC1.

Fifth, We are planning to participate in the meeting of the JTC1/SC2/WG2, which is in Tokyo, from 6-10 November, 1995.

We deeply appreciate your thoughtfulness.

With verybest regards.

Sincerely *O. Chilkhaasuren* Chilkhaasuren. O
Director for Standardization Department

c.c Mike Ksar
⊗ JTC1/SC2/WG2 Convener

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MNISM

Our date: 12/14/93 Our reference: GH/90

To: Central Secretariat of ISO.

From: MNISM (Mongolia)

Sub: New work ITEM proposal (NP)

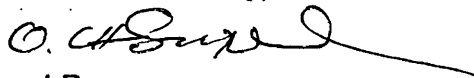
Dear Sir,

We are sending you proposal draft of Mongolian characters set for Universal Multiple-Octet Coded Character set (UCS).

As we have no experience in the development of the character code set we ask you to help us how to do this better.

The proposal draft of MNISM may be complimented to International Standards (ISO-10646).

Yours sincerely,



for J. Bavusuren
Director General.

CODE SYSTEM FOR THE MONGOLIAN SCRIPT.

Recently we have designed a code standard to be used with the written Mongol script.

The international "Multi-Octet-Coding - SYS-tem is now being studied for this purpose. Currently the official written script in Mongolian is cyrillic. But the government resolution was issued, that traditional Mongol script will be used as official script in the country.

We have designed a code system for the 32 letters and special symbols of the Mongolian script.

The letters of the Mongolian script have no special forms for capital and small letters but all of the letters have different written forms, depending on whether they are written at the beginning, in the middle or at the end of a word.

Every letter has one code for its pronunciation sound. This code also has six different subcodes corresponding to, where the letter appears in the word, at the beginning, in the middle or at the end, and whether or not there are other special helping symbols (see table 1).

The letters, which have the same symbols, but different pronunciations should have different codes on the screen and for printing. For example:

1. The letter (A) has a basic code of 64. At the beginning of a word the letter (A) has code 64; By adding 32 on to the 64 we are creating code 96 for a letter (A) that appears in the middle of a word; By adding 32 on to 96 we are creating code 128 for a letter (A), again in the middle of a word, but after a letter with a rising or falling arc and so on.

By using this method, code 160 is used for (A) at the end of a word as a tail (SUUL): code 192 is used for an (A) at the end of a word as a reversed tail (ORKHITS): code 224 is used for an (A) at the end of a word after a letter with arising or talling arc.

$(64 \bmod 32) = (96 \bmod 32) = (128 \bmod 32) = (160 \bmod 32) = (192 \bmod 32) = (224 \bmod 32)$

2. Letter (O) has basic code of 67. At the beginning of a word it has code 67, in the middle of a word it has code 99, in the middle of a word, after a letter with arising or falling arc, it has code 131. The symbols at the end of a word have codes 163, 195 and 227.

If you divide 32 into 67, 99, 131, 163, 195, 227 you should have a remainder of 3. This identifies the letter as (O). $64 + (M \text{ code } 32)$

We have used 256 codes (from 0 to 255) for the Mongolian script, as used in the modified ASCII code.

(0 - 31) for special characters

(32 - 63) for numbers and related symbols

(64 - 255) for the letters

For the letters there were 191 codes available (from 64 to 255) and we are using only 136 codes. In addition we are using only 95 symbol-codes, so we have the flexibility of making some modifications in our program.

TABLE-11

	00	10	20	30	40	50	60	70
0					F	55	7	6F
1					1	4	60	7
2					1	4	7	4
3					1	7	4	53
4					43	7	63	7
5					1	7	9	7
6					45	4	63	7
7					1	4	7	4
8					4	48	48	58
9					7	4	7	59
A					A2	4	A2	5A
B					7	4	7	5B
C					A2	7	A2	5C
D					7	4	4	5
E					7	4	7	5E
F					4	7	7	5

TABLE-12

	80	90	A0	B0	C0	D0	E0	F0
0	7	9	7	9	7	9	7	
1	80	77	A0	9			E0	
2			9		7			
3	9		9	9	9		9	
4	83		A3	7			E3	
5	9		9	7	9		9	
6	83		A3	7		7	E3	
7	60		C0	9			7	
8	9		9	9	9	9		
9	7			9		9		
A				7	9		9	
B	69		C9	7	7		7	
C	9		7	9		9	E9	9
D				7				
E				9			A2	
F			9			7		

TABLE-2.1

000	00		054	36	
001	01		055	37	
002	02		056	38	
003	03		057	39	
004	04		058	3A	
005	05		059	3B	
006	06		060	3C	
007	07		061	3D	
008	08		062	3E	
009	09		063	3F	
010	0A		064	40	Mongolia beginning letter a
011	0B		065	41	Mongolia beginning letter c
012	0C		066	42	Mongolia beginning letter i
013	0D		067	43	Mongolia beginning letter o
014	0E		068	44	Mongolia beginning letter u
015	0F		069	45	Mongolia beginning letter ö
016	10		070	46	Mongolia beginning letter ü
017	11		071	47	Mongolia beginning letter n
018	12		072	48	Mongolia beginning letter b
019	13		073	49	Mongolia beginning letter q
020	14		074	4A	Mongolia beginning letter k
021	15		075	4B	Mongolia beginning letter y
022	16		076	4C	Mongolia beginning letter g
023	17		077	4D	Mongolia beginning letter j
024	18		078	4E	Mongolia beginning letter y
025	19		079	4F	Mongolia beginning letter t
026	1A		080	50	Mongolia beginning letter d
027	1B		081	51	Mongolia beginning letter m
028	1C		082	52	Mongolia beginning letter c
029	1D		083	53	Mongolia beginning letter r
030	1E		084	54	Mongolia beginning letter s
031	1F		085	55	Mongolia beginning letter s
032	20		086	56	Mongolia beginning letter l
033	21		087	57	Mongolia beginning letter v
034	22		088	58	Mongolia beginning letter p
035	23		089	59	Mongolia beginning letter f
036	24		090	5A	Mongolia beginning letter z
037	25		091	5B	Mongolia beginning letter c
038	26		092	5C	Mongolia beginning letter k
039	27		093	5D	Mongolia beginning letter h
040	28		094	5E	Mongolia beginning letter z
041	29		095	5F	Mongolia beginning letter ng
042	2A		096	60	Mongolia meddle letter a first form
043	2B		097	61	Mongolia meddle letter e first form
044	2C		098	62	Mongolia meddle letter i
045	2D		099	63	Mongolia meddle letter o first form
046	2E		100	64	Mongolia meddle letter u first form
047	2F		101	65	Mongolia meddle letter ö first form
048	30		102	66	Mongolia meddle letter ü first form
049	31		103	67	Mongolia meddle letter n first form
050	32		104	68	Mongolia meddle letter b
051	33		105	69	Mongolia meddle letter q first form
052	34		106	6A	Mongolia meddle letter k
053	35		107	6B	Mongolia meddle letter y first form

TABLE-2.2

108	6C	Mongolia meddle letter g first form	162	A2	Mongolia ending letter i first form
109	6D	Mongolia meddle letter j	163	A3	Mongolia ending letter o
110	6E	Mongolia meddle letter y	164	A4	Mongolia ending letter u
111	6F	Mongolia meddle letter t	165	A5	Mongolia ending letter ö first form
112	70	Mongolia meddle letter d first form	166	A6	Mongolia ending letter ü first form
113	71	Mongolia meddle letter m first form	167	A7	Mongolia ending letter n first form
114	72	Mongolia meddle letter c	168	A8	Mongolia ending letter b
115	73	Mongolia meddle letter r	169	A9	
116	74	Mongolia meddle letter s	170	AA	
117	75	Mongolia meddle letter š	171	AB	Mongolia ending letter γ first form
118	76	Mongolia meddle letter l	172	AC	Mongolia ending letter g first form
119	77	Mongolia meddle letter v	173	AD	
120	78	Mongolia meddle letter p	174	AE	
121	79	Mongolia meddle letter f	175	AF	Mongolia ending letter t
122	7A	Mongolia meddle letter z	176	B0	Mongolia ending letter d first form
123	7B	Mongolia meddle letter c	177	B1	Mongolia ending letter m first form
124	7C	Mongolia meddle letter k	178	B2	
125	7D	Mongolia meddle letter h	179	B3	Mongolia ending letter r
126	7E	Mongolia meddle letter ž	180	B4	Mongolia ending letter s
127	7F	Mongolia meddle letter ng	181	B5	Mongolia ending letter š
128	80	Mongolia meddle letter a second form	182	B6	Mongolia ending letter l
129	81	Mongolia meddle letter e second form	183	B7	Mongolia ending letter v
130	82		184	B8	Mongolia ending letter p
131	83	Mongolia meddle letter o second form	185	B9	Mongolia ending letter f
132	84	Mongolia meddle letter u second form	186	BA	Mongolia ending letter z
133	85	Mongolia meddle letter ö second form	187	BB	Mongolia ending letter c
134	86	Mongolia meddle letter ü second form	188	BC	Mongolia ending letter k
135	87	Mongolia meddle letter n second form	189	BD	Mongolia ending letter h
136	88		190	BE	Mongolia ending letter ž
137	89	Mongolia meddle letter q second form	191	BF	
138	8A		192	C0	Mongolia ending letter a second form
139	8B	Mongolia meddle letter γ second form	193	C1	Mongolia ending letter e second form
140	8C	Mongolia meddle letter g second form	194	C2	Mongolia ending letter i second form
141	8D		195	C3	Mongolia ending letter o second form
142	8E		196	C4	Mongolia ending letter u second form
143	8F		197	C5	Mongolia ending letter ö second form
144	90	Mongolia meddle letter d second form	198	C6	Mongolia meddle letter ü third form
145	91	Mongolia meddle letter m second form	199	C7	Mongolia meddle letter n third form
146	92		200	C8	Mongolia meddle letter b third form
147	93		201	C9	Mongolia ending letter q
148	94		202	CA	Mongolia meddle letter k
149	95		203	CB	Mongolia meddle letter γ third form
150	96		204	CC	Mongolia meddle letter g third form
151	97		205	CD	Mongolia meddle letter j
152	98		206	CE	Mongolia ending letter y
153	99		207	CF	
154	9A		208	D0	Mongolia ending letter d second form
155	9B		209	D1	Mongolia meddle letter m third form
156	9C		210	D2	
157	9D		211	D3	
158	9E		212	D4	
159	9F		213	D5	
160	A0	Mongolia ending letter a first form	214	D6	Mongolia meddle letter l
161	A1	Mongolia ending letter e first form	215	D7	

TABLE-2.3.

216	D8	Mongolia meddle letter p	236	EC	
217	D9	Mongolia meddle letter f	237	ED	
218	DA		238	EE	Mongolia ending letter y
219	DB		239	EF	
220	DC	Mongolia meddle letter k	240	F0	
221	DD		241	F1	
222	DE		242	F2	
223	DF	Mongolia ending letter ng	243	F3	
224	E0	Mongolia ending letter a third form	244	F4	
225	E1	Mongolia ending letter e third form	245	F5	
226	E2		246	F6	
227	E3	Mongolia ending letter o third form	247	F7	
228	E4	Mongolia ending letter u third form	248	F8	
229	E5	Mongolia meddle letter ö third form	249	F9	
230	E6	Mongolia ending letter ü second form	250	FA	
231	E7	Mongolia ending letter n second form	251	FB	
232	E8		252	FC	
233	E9		253	FD	
234	EA	Mongolia meddle letter k third form	254	FE	
235	EB	Mongolia ending letter y second form	255	FF	