

Universal Multiple-Octet Coded Character Set
 International Organization for Standardization
 Organisation internationale de normalisation
 Международная организация по стандартизации

Doc Type: Working Group Document**Title: Proposal to encode two symbols for Armenian in the UCS****Source: Michael Everson****Status: Individual Contribution****Action: For consideration by JTC1/SC2/WG2 and UTC****Date: 2010-09-24**

The Armenian Eternity Sign. In ISO/IEC JTC1/SC2 N4156, SARM, the Armenian National Institute of Standards made in its comments a request for the encoding of the Armenian Eternity Sign. This document proposes the character formally and includes the proposal summary form. Some of the text here is based on the SARM comments.

The Armenian Eternity Sign is the ancient national symbol of Armenia. Its glyph may have either a clockwise or an anti-clockwise orientation, which is composed with curves running from the centre of the symbol. Typically, the sign has eight such curves, a number which symbolizes revival, rebirth, and recurrence.

The sign is known to be distinguished with both right and left rotations, which represent (more or less) activity and passivity, similarly to the *svasti* sign used in Hinduism and Buddhism. For example, a cradle or cot for a baby boy may be decorated with the right whirling eternity sign and a cradle or cot for a baby girl with the left whirling eternity sign. The Armenian Eternity Sign symbolizes the identity of the Armenian nation.

The eternity sign can be found everywhere in Armenian architecture; on doors, walls, and so on. The sign was carved on numerous *xačk'ar* (*խաչքար*, 'cross-stones') and church walls in ancient Armenia.

In computing an Armenian Eternity Sign has been encoded in 7-bit and 8-bit standard and ad-hoc encodings since at least 1992.

This document proposes to encode two characters, the LEFT-FACING ARMENIAN ETERNITY SIGN, to be mapped to ArmSCII entity "armeternity", as well as the RIGHT-FACING ARMENIAN ETERNITY SIGN.



05BD RIGHT-FACING ARMENIAN ETERNITY SIGN



05BE LEFT-FACING ARMENIAN ETERNITY SIGN

Unicode Character Properties

05BD;RIGHT-FACING ARMENIAN ETERNITY SIGN;Po;0;ON;;;;;N;;;;;

05BE;LEFT-FACING ARMENIAN ETERNITY SIGN;Po;0;ON;;;;;N;;;;;

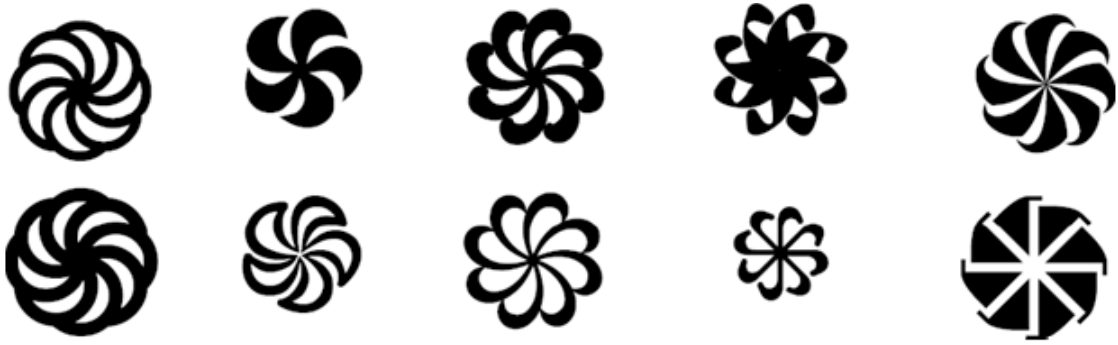


Figure 1. A variety of ARMENIAN ETERNITY SIGNS. The first of these is the LEFT-FACING ARMENIAN ETERNITY SIGN, and the others are RIGHT-FACING ARMENIAN ETERNITY SIGNS.



Figure 2. On the left above, a *xačk'ar* with a RIGHT-FACING ARMENIAN ETERNITY SIGN, from the village of Martiros, Yeghegnadzor Province, built in 1499 CE; on the right above, a *xačk'ar* with a LEFT-FACING ARMENIAN ETERNITY SIGN, from Vardenis in Dashkend, built in 1539 CE.

Figure 3. To the left, a *xačk'ar* with a LEFT-FACING ARMENIAN ETERNITY SIGN, originally from Jugha and now in Echmiadzin, Armenia dated 1603 CE.




3.2. Cross Reference of Coding Tables

Table 2. Cross reference

- 1 - Short name
- 2 - ArmSCII-7
- 3 - ArmSCII-8
- 4 - ArmSCII-8A
- 5 - Unicode Version 2.1

	1	2	3	4	5
⊙	armeternity	21	A1	DC	-
Լ	armew	22	A2	15	0587
§	armsection	-	-	-	00A7
:	armfullstop	23	A3	3A	0589
)	amparenright	24	A4	29	0029
(	amparenleft	25	A5	28	0028
»	armquotright	26	A6	AF	00BB
«	armquotleft	27	A7	AE	00AB
—	armemdash	28	A8	2D	2014
.	armdot	29	A9	2E	002E
\	armsep	2A	AA	60	055D
,	armcomma	2B	AB	2C	002C

Figure 4. A listing of mappings in ArmSCII-7 (7-bit), ArmSCII-8 (8-bit), and ArmSCII-8A (Mac OS 8-bit), showing that the character is not encoded in Unicode and ISO/IEC 10646.

AST 34.005:1997 (ArmSCII-7)																
7-bit coded character set for Armenian.																
	x0	x1	x2	x3	x4	x5	x6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x	<i>unused</i>															
1x	<i>unused</i>															
2x	<u>SP</u>		Է / Տ	:)	(»	«	—	·	`	,	-	-	...	´
3x	՛	՛	Ա	ա	Բ	բ	Գ	գ	Դ	դ	Ե	ե	Զ	զ	Է	է
4x	Ը	ը	Թ	թ	Ժ	ժ	Ի	ի	Լ	լ	Խ	խ	Ս	ս	Կ	կ
5x	Հ	հ	Չ	ձ	Ղ	ղ	Ճ	ճ	Մ	մ	Յ	յ	Ն	ն	Շ	շ
6x	Ո	ո	Չ	չ	Պ	պ	Ջ	ջ	Ռ	ր	Ս	ս	Վ	վ	Տ	տ
7x	Ր	ր	Ց	ց	Ի	լ	Փ	փ	Ք	ք	Օ	օ	Ֆ	ֆ	՝	


AST 34.002:1997 (ArmSCII-8)																
8-bit coded character set for Armenian.																
	x0	x1	x2	x3	x4	x5	x6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x	<i>unused</i>															
1x	<i>unused</i>															
2x	<u>SP</u>	!	"	#	\$	%	&	'	()	*	+	,	=	.	/
3x	0	1	2	3	4	5	6	7	8	9	:	;	<=	=	>=	?
4x	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5x	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
6x	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7x	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	
8x	<i>unused</i>															
9x	<i>unused</i>															
Ax	<u>NB SP</u>		Է / Տ	:)	(»	«	—	·	`	,	-	-	...	´
Bx	՛	՛	Ա	ա	Բ	բ	Գ	գ	Դ	դ	Ե	ե	Զ	զ	Է	է
Cx	Ը	ը	Թ	թ	Ժ	ժ	Ի	ի	Լ	լ	Խ	խ	Ս	ս	Կ	կ
Dx	Հ	հ	Չ	ձ	Ղ	ղ	Ճ	ճ	Մ	մ	Յ	յ	Ն	ն	Շ	շ
Ex	Ո	ո	Չ	չ	Պ	պ	Ջ	ջ	Ռ	ր	Ս	ս	Վ	վ	Տ	տ
Fx	Ր	ր	Ց	ց	Ի	լ	Փ	փ	Ք	ք	Օ	օ	Ֆ	ֆ	՝	

Figure 5. ArmSCII 7-bit and 8-bit encodings, showing LEFT-FACING ARMENIAN ETERNITY SIGN.

Տեղեկատվական տեխնոլոգիաներ
Գրանշանների հավաքածուներ եւ տեղեկատվության կոդավորում
8 բիթով կոդավորված գրանշանների հավաքածուներ

Информационные технологии
Наборы символов и кодирование информации
8 БИТНЫЕ КОДЫ НАБОРОВ СИМВОЛОВ

Information technologies
Character set and information encoding
8 bit encoding character sets

Figure 6. Title page of Armenian Standard AST 34.002-98

ԱՐՏՈՒՍԱԿ 1 - գրանշանների կոդավորման հիմնական հավաքածու

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	NUL	DLE	SP	0	@	P	`	p			Պ	՛	Շ	Հ	Ո	Ր
1	SOH	DC1	!	1	A	Q	a	q			Պ	՛	Շ	Հ	Ո	Ր
2	STX	DC2	"	2	B	R	b	r			Պ	՛	Շ	Հ	Ո	Ր
3	ETX	DC3	#	3	C	S	c	s			Պ	՛	Շ	Հ	Ո	Ր
4	EOT	DC4	\$	4	D	T	d	t			Պ	՛	Շ	Հ	Ո	Ր
5	ENQ	NAK	%	5	E	U	e	u			Պ	՛	Շ	Հ	Ո	Ր
6	ACK	SYN	&	6	F	V	f	v			Պ	՛	Շ	Հ	Ո	Ր
7	BEL	ETB	'	7	G	W	g	w			Պ	՛	Շ	Հ	Ո	Ր
8	BS	CAN	(	8	H	X	h	x			Պ	՛	Շ	Հ	Ո	Ր
9	HT	EM	)	9	I	Y	i	y			Պ	՛	Շ	Հ	Ո	Ր
10	LF	SUB	*	:	J	Z	j	z			Պ	՛	Շ	Հ	Ո	Ր
11	VT	ESC	+	;	K	[	k	{			Պ	՛	Շ	Հ	Ո	Ր
12	FF	FS	,	<	L	\	l	|			Պ	՛	Շ	Հ	Ո	Ր
13	CR	GS	—	=	M	]	m	}			Պ	՛	Շ	Հ	Ո	Ր
14	SO	RS	.	>	N	^	n	~			Պ	՛	Շ	Հ	Ո	Ր
15	SI	US	/	?	O	_	o	DEL			Պ	՛	Շ	Հ	Ո	Ր

Figure 7. ArmSCII-8 table in Armenian Standard AST 34.002-98.

ԱՂՅՈՒՍԱԿ 2 - գրանշանների կոդավորման ալլոնորանջային հավաքածու

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	NUL	DLE	SP	0	@	P	`	p	Ա	Թ	Չ				Ո	Ր
1	SOH	DC1	!	1	A	Q	a	q	ա	թ	ձ				ո	ր
2	STX	DC2	"	2	B	R	b	r	բ	Թ	ղ				ո	թ
3	ETX	DC3	#	3	C	S	c	s	բ	Թ	ղ				ո	թ
4	EOT	DC4	\$	4	D	T	d	t	բ	Թ	ղ				ո	թ
5	ENQ	␣	%	5	E	U	e	u	բ	Թ	ղ				ո	թ
6	ACK	SYN	&	6	F	V	f	v	բ	Թ	ղ				ո	թ
7	BEL	ETB	'	7	G	W	g	w	բ	Թ	ղ				ո	թ
8	BS	CAN	(	8	H	X	h	x	բ	Թ	ղ				ո	թ
9	HT	EM	)	9	I	Y	i	y	բ	Թ	ղ				ո	թ
10	LF	SUB	*	:	J	Z	j	z	բ	Թ	ղ				ո	թ
11	VT	ESC	+	;	K	[	k	{	բ	Թ	ղ				ո	թ
12	FF	FS	=	<	L	\	l	|	բ	Թ	ղ				ո	թ
13	CR	GS	-	=	M	]	m	~	բ	Թ	ղ				ո	թ
14	SO	RS	.	>	N	^	n	~	բ	Թ	ղ				ո	թ
15	SI	US	/	?	O	_	o	DEL	բ	Թ	ղ				ո	թ

Figure 8. ArmSCII-8A table in Armenian Standard AST 34.002-98.

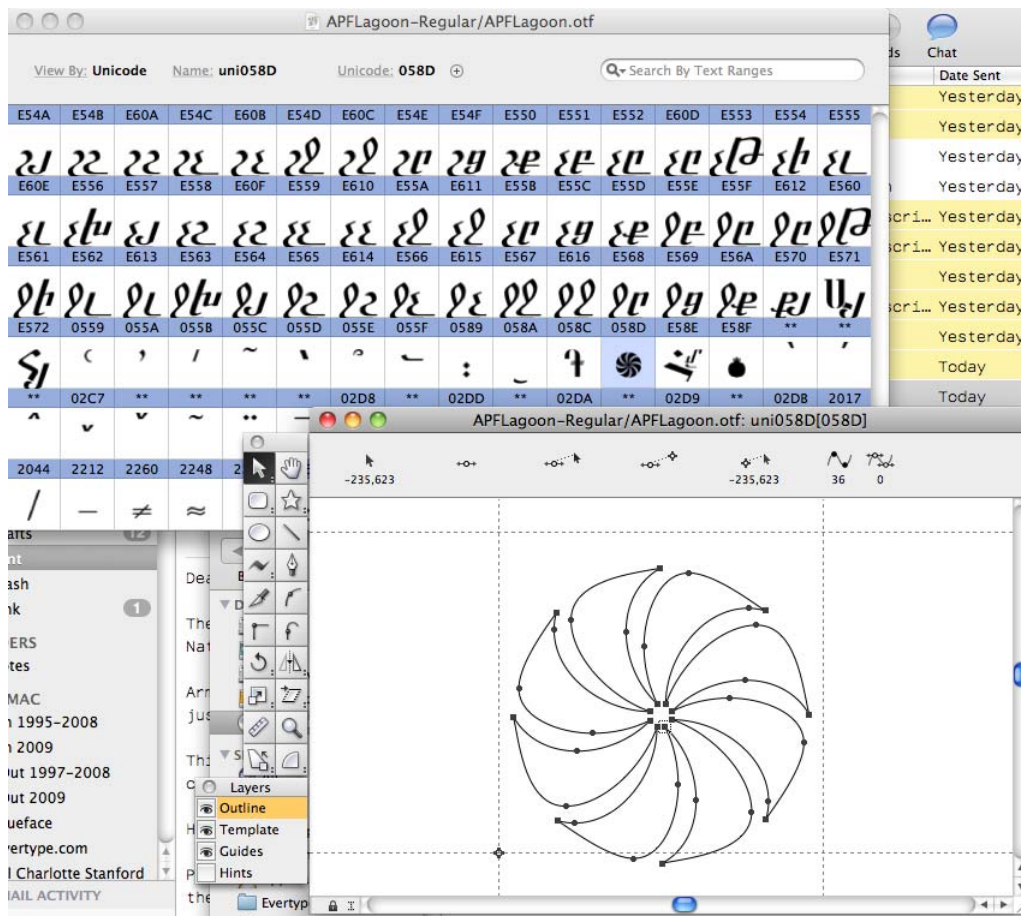


Figure 9. A modern font showing RIGHT-FACING ARMENIAN ETERNITY SIGN, here encoded within the Armenian block (despite the fact that this is not recommended).

My Heart's In The Highlands ❁



My heart's in the Highlands, my heart is not here,
My heart's in the Highlands a-chasing the deer -
A-chasing the wild deer, and following the roe;
My heart's in the Highlands, wherever I go.



Farewell to the Highlands, farewell to the North
The birth place of Valour, the country of Worth;
Wherever I wander, wherever I rove,
The hills of the Highlands for ever I love.



Farewell to the mountains high cover'd with snow;
Farewell to the Straths and green valleys below;
Farewell to the forests and wild-hanging woods;
Farewell to the torrents and loud-pouring floods.



My heart's in the Highlands, my heart is not here,
My heart's in the Highlands a-chasing the deer
Chasing the wild deer, and following the roe;
My heart's in the Highlands, wherever I go.

* Famous Armenian writer William Saroyan's poem by Robert Burns

Figure 10. Example of a text in English using the character as a dingbat, provided in the original SARM comment on the ballot for CD 10646:2011.

A. Administrative

1. Title

Proposal to encode two symbols for Armenian in the UCS.

2. Requester's name

Michael Everson

3. Requester type (Member body/Liaison/Individual contribution)

Individual contribution.

4. Submission date

2010-09-24

5. Requester's reference (if applicable)

6. Choose one of the following:

6a. This is a complete proposal

Yes.

6b. More information will be provided later

No.

B. Technical – General

1. Choose one of the following:

1a. This proposal is for a new script (set of characters)

No.

Proposed name of script

1b. The proposal is for addition of character(s) to an existing block

Yes.

1c. Name of the existing block

Armenian.

2. Number of characters in proposal

2

3. Proposed category (A-Contemporary; B.1-Specialized (small collection); B.2-Specialized (large collection); C-Major extinct; D-Attested extinct; E-Minor extinct; F-Archaic Hieroglyphic or Ideographic; G-Obscure or questionable usage symbols)

Category A.

4. Is a repertoire including character names provided?

Yes.

4a. If YES, are the names in accordance with the "character naming guidelines"

Yes.

4b. Are the character shapes attached in a legible form suitable for review?

Yes.

5. Fonts related:

5a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?

Michael Everson.

5b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):

Michael Everson, Fontlab and Fontographer.

6. References:

6a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?

Yes, including Armenian Standard AST 34.002-98..

6b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?

Yes.

7. Special encoding issue: Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?

Yes. Unicode character properties above.

8. Additional Information: Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script.

See above.

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before? If YES explain

No.

2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?

Yes. Hrant Papazian.

2a. If YES, available relevant documents

3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?

People in Armenia and in diaspora.

4a. The context of use for the proposed characters (type of use; common or rare)

Common.

4b. Reference

5a. Are the proposed characters in current use by the user community?

Yes.

5b. If YES, where?

In Armenia and in diaspora.

6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?

Yes.

6a. If YES, is a rationale provided?

Yes.

6b. If YES, reference

Contemporary use and accordance with the Roadmap.

7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?

Yes.

8a. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?

No.

8b. If YES, is a rationale for its inclusion provided?

8c. If YES, reference

9a. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?

No.

9b. If YES, is a rationale for its inclusion provided?

9c. If YES, reference

10a. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character?

No.

10b. If YES, is a rationale for its inclusion provided?

10c. If YES, reference

11a. Does the proposal include use of combining characters and/or use of composite sequences?

Yes.

11b. If YES, is a rationale for such use provided?

No.

11c. If YES, reference

11d. Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?

No.

11e. If YES, reference

12a. Does the proposal contain characters with any special properties such as control function or similar semantics?

No.

12b. If YES, describe in detail (include attachment if necessary)

13a. Does the proposal contain any Ideographic compatibility character(s)?

No.

13b. If YES, is the equivalent corresponding unified ideographic character(s) identified?