

**PROPOSAL SUMMARY FORM****A. Administrative****1. Title**

Proposal to encode Ancient Greek Musical Symbols in the UCS

**2. Requester's name**

Thesaurus Linguae Graecae Project (University of California, Irvine)

**3. Requester type**

Expert contribution

**4. Submission date:**

2002-11-07

**5. Requester's reference****6. Completion**

This is a complete proposal.

**B. Technical - General****1. The proposal is for addition of a new character block:****If yes, proposed name:**

Archaic Greek Musical Notation (1D200-1D24F)

**2. Number of characters in proposal:**

70

**3. Proposed category**

Category B.2

**4. Proposed Level of Implementation:**

Level 1 for characters 1-66 and 70.

Level 3 for characters 67-69.

**5a. Character names provided?**

Yes.

**5b. Character names in accordance with guidelines**

Yes.

**5c. Character shapes reviewable?**

Yes.

**6a. Who will provide the appropriate computerized font for publishing the standard?**

David Perry, James Kass, TLG Project

**6b. Font currently available?**

Yes.

**6c. Font format**

True Type

**7a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?**

Yes.

**7b. Are published examples of proposed characters attached?**

Yes.

**8. Does the proposal address other aspects of character data processing?**

No.

### C. Technical - Justification

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

No.

**2. Has contact been made to members of the user community?**

Yes. The TLG has been in contact with a great number of experts. Earlier versions of this proposal have been posted online and received comments by members of the profession. The proposal was extensively reviewed by Professor William Johnson, University of Cincinnati and Dr. David Creese, University of St. Andrews, Scotland.

**3. Information on the user community for the proposed characters**

Scholarly community.

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

Use varies. Some characters are common in extant Greek texts. Some appear less often.

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

Yes. Characters are present in various editions of Greek texts and used extensively by scholars and students of Greek as well as individuals interested in the study of ancient Greek music.

**6. After giving due considerations to the principles in *Principles and Procedures document*, must the proposed characters be entirely in the BMP?**

No, Plane 1 (SMP).

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

Yes.

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

No.

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

No.

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

Yes, three of the proposed characters resemble (but are not identical) to Greek or Roman alphabetic characters.

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

Yes (combining characters).

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

No. Too numerous to list.

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

No.

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

No.

# Proposal

## Introduction

Ancient Greeks developed their own distinct system of musical notation for both vocal and instrumental melody. These characters appear in a large number of ancient texts<sup>1</sup> and their modern publications as well as in modern studies on ancient music. UCS has already encoded Western and Byzantine Musical Symbols in Plane 1. With the addition of the Ancient Greek Musical Symbols all characters needed for the encoding of Greek music will be present in the Standard.

Several ancient Greek musical symbols resemble standard Greek letters and are not included in this proposal. The musical symbols that are formed from inverted or rotated Greek letters are proposed because they are distinct characters and should not be confused with standard Greek letters. Three symbols that are similar but not identical to already encoded Greek or Roman letters are proposed as separate codepoints.

## Ancient Greek Musical Notation

The Greeks had two systems of musical notation which correspond note for note with each other: one for the vocal and one for the instrumental melody (see overview of the two systems of notation below). The whole scheme covers a little over three octaves. The symbols form groups of three. The bottom symbol in each triad represents a ‘natural’ note on a diatonic scale. The modern notes shown in the boxes are the conventional equivalents used in most scholarly literature. The other two symbols in each triad represent successive sharpenings of the ‘natural’ note.<sup>2</sup> There is no distinction in this system between enharmonic and chromatic scales.

## Greek Vocal Notation

The characters proposed here represent simple rotations or reflections of the characters of the standard Greek alphabet. Greek Vocal Notation Symbols 1-24 are a set of variants on the whole Greek alphabet in reverse order. Greek Vocal Notation Symbols 49-54 are further variants of the last six letters of the standard Greek alphabet, again in reverse order.

## Greek Instrumental Notation

The first two triads are variations on the last six letters of the Greek alphabet. The following twelve triads are formed thus: the first character is either a standard Greek letter or is a variant thereof; the second character in the triad is the first character rotated 90° counter-clockwise; the third is the first character reflected in the y-axis. The final three triads proposed all have variants of 039D GREEK CAPITAL LETTER ETA as

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<sup>1</sup> Ranging from a fragment of Euripides’ *Orestes* to Christian hymns.

<sup>2</sup> West (1992) 255

their first symbol. The second and third symbols in each are based on diagonal slashes.<sup>3</sup> Instrumental symbols that overlap with vocal, even at different pitches have not been included in this proposal. Also symbols that overlap with Greek alphabetic characters have not been repropoed.

### **The Font Used in this Proposal**

The font used in this proposal was designed by David Perry with technical assistance by James Kass. The vast majority of the characters are variant forms of standard upper case Greek letters. We have created a font without serifs for reasons of clarity and because scholars usually type musical characters in fonts without serifs in order to distinguish them from standard letters usually represented with a serified font. It is not, however, prescriptive to represent Musical Symbols in a font without serifs.

### **Naming Conventions**

We propose the standard names widely used by modern scholars. The naming convention is simple: Vocal Notation Symbol 1, Vocal Notation Symbol 2, etc. There is no standardized ancient system for naming these characters.

### **Character Properties**

Characters 1D200-1D241 and 1D245 : “Symbol, other” (So)

Characters 1D242-1D244 : “Mark, nonspacing” (Mn).

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<sup>3</sup> See Winnington-Ingram (1978) 241-248

## **Bibliography**

- Barker, A., "Music" in *OCD*<sup>3</sup> (Oxford University Press, Oxford, 1996) 1003-1012
- Barker, A., *Greek Musical Writings. Volume II: Harmonic and Acoustic Theory* (Cambridge, 1989)
- Bellermann, F., *Die Tonleitern und Musiknoten der Griechen* (Wiesbaden, 1969)
- Jan, K., *Musici scriptores Graeci* (Hildesheim, 1962)
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- Larfeld, W., *Handbuch der griechischen Epigraphik 2.2. Die attischen Inschriften* (Leipzig, 1902)
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- Najock, D., *Anonyma de musica scripta Bellermanniana*. (Teubner, 1975)
- Pöhlmann, E., *Denkmäler altgriechischer Musik* (Nuremberg, 1970)
- West, M.L., *Ancient Greek Music* (Oxford, 1992)
- Winnington-Ingram, R.P., "The First Notational Diagram of Aristides Quintilianus", in *Philologus* 117 (1973) 244-249
- Winnington-Ingram, R.P., "Two studies in Greek musical notation" in *Philologus* 122 (1978) 237-248
- Winnington-Ingram, R.P., *Aristides Quintiliani de musica libri tres* (Leipzig, 1963)

## Overview of Archaic Greek Musical Notation<sup>4</sup>

Modern Equivalent	Notation Number	Vocal Characters	Instrumental Characters	Modern Equivalent	Notation Number	Vocal Characters	Instrumental Characters	Modern Equivalent	Notation Number	Vocal Characters	Instrumental Characters	Modern Equivalent	Notation Number	Vocal Characters	Instrumental Characters
					54	⊥	↘		33	Π	⊙		12	∩	⊞
					53	λ	↗		32	ρ	⊕		11	≍	⊞
			<i>a'</i>	52	⊕	↘		<i>a</i>	31	Ϸ	Ϸ	<i>A</i>	10	φ	⊞
					51	⊗	↘		30	τ	Ϸ		9	⊥	⊗
					50	⊞	↘		29	γ	⊞		8	⊞	⊞
<i>g''</i>	70	⊙	⊥	<i>g'</i>	49	⊙	⊥	<i>g</i>	28	ϕ	⊞	<i>G</i>	7	⊗	⊞
	69	Α'	↘		48	Α	↘		27	Χ	ι		6	⊥	τ
	68	Β'	↘		47	Β	↘		26	Ψ	⊥		5	↘	γ
<i>f''</i>	67	Γ'	Ζ'	<i>f'</i>	46	Γ	Ζ	<i>f</i>	25	Ω	ι	<i>F</i>	4	⊞	ρ
	66	Δ'	⊥		45	Δ	⊥		24	Υ	ι		3	⊗	⊗
	65	Ε'	⊥		44	Ε	⊥		23	Ρ	⊥		2	Ϸ	⊞
<i>e''</i>	64	Ζ'	Γ'	<i>e'</i>	43	Ζ	Γ	<i>e</i>	22	ι	Γ	<i>E</i>	1	⊞	⊞
	63	Η'	Υ'		42	Η	Υ		21	∇	⊥				
	62	Θ'	Υ'		41	Θ	Υ		20	Ϝ	⊥				
<i>d''</i>	61	Ι'	Λ'	<i>d'</i>	40	Ι	Λ	<i>d</i>	19	ζ	τ				
	60	Κ'	Δ'		39	Κ	Δ		18	⊞	⊞				
	59	Λ'	Δ'		38	Λ	Δ		17	⊞	⊞				
<i>c''</i>	58	Μ'	Υ'	<i>c'</i>	37	Μ	Υ	<i>c</i>	16	↘	⊞				
	57	Ν'	Υ'		36	Ν	Υ		15	κ	⊥				
	56	Ξ'	Κ'		35	Ξ	Κ		14	ν	⊞				
<i>b'</i>	55	Ο'	Κ'	<i>b</i>	34	Ο	Κ	<i>B</i>	13	ω	⊞				

<sup>4</sup> Not including combining characters: Diseme, Triseme, Tetraseme and Pentaseme.

# Archaic Greek Musical Notation: Characters Proposed

Full documentation available at: <http://www.tlg.uci.edu/Uni.prop.html>





































































Number		Name	Unicode	Comment
<b>Ancient Greek Vocal Notation</b>				
1	Ϝ	Greek Vocal Notation Symbol 1	1D200	= vocal E
2	ϝ	Greek Vocal Notation Symbol 2	1D201	= vocal first sharp of E
3	Ϟ	Greek Vocal Notation Symbol 3	1D202	= vocal second sharp of E · Greek Instrumental Notation Symbol 3 = instrumental second sharp of E
4	ϟ	Greek Vocal Notation Symbol 4	1D203	= vocal F
5	Ϡ	Greek Vocal Notation Symbol 5	1D204	= vocal first sharp of F
6	ϡ	Greek Vocal Notation Symbol 6	1D205	= vocal second sharp of F · Greek Instrumental Notation Symbol 21 = instrumental second sharp of d
7	Ϣ	Greek Vocal Notation Symbol 7	1D206	= vocal G · Greek Instrumental Notation Symbol 9 = instrumental second sharp of G
8	ϣ	Greek Vocal Notation Symbol 8	1D207	= vocal first sharp of G
9	Ϥ	Greek Vocal Notation Symbol 9	1D208	= vocal second sharp of G · Greek Instrumental Notation Symbol 44 = instrumental first sharp of e'
10	ϥ	Greek Vocal Notation Symbol 10	1D209	= vocal A  This is a modification of 038F, and is therefore not the same as 03D8.
11	Ϧ	Greek Vocal Notation Symbol 11	1D20A	= vocal first sharp of A
12	ϧ	Greek Vocal Notation Symbol 12	1D20B	= vocal second sharp of A
13	Ϩ	Greek Vocal Notation Symbol 13	1D20C	= vocal B
14	ϩ	Greek Vocal Notation Symbol 14	1D20D	= vocal first sharp of B · Greek Instrumental Notation Symbol 41 = instrumental first sharp of d'  Similar to 0056 LATIN CAPITAL LETTER V
15	Ϫ	Greek Vocal Notation Symbol 15	1D20E	= vocal second sharp of B · Greek Instrumental Notation Symbol 35 = instrumental first sharp of b
16	ϫ	Greek Vocal Notation Symbol 16	1D20F	= vocal c  This character has two glyph variants: — and \. Therefore this character may not be unified with Greek Instrumental Notation Symbol 48. These glyph variants appear in different sources.
17	Ϭ	Greek Vocal Notation Symbol 17	1D210	= vocal first sharp of c
18	ϭ	Greek Vocal Notation Symbol 18	1D211	= vocal second sharp of c · Greek Instrumental Notation Symbol 15 = instrumental second sharp of B
19	Ϯ	Greek Vocal Notation Symbol 19	1D212	= vocal d

20	Ϝ	Greek Vocal Notation Symbol 20	1D213	= vocal first sharp of d · Greek Instrumental Notation Symbol 28 = instrumental g  This is a modification of 0395, and is therefore not the same as 0046
21	ϝ	Greek Vocal Notation Symbol 21	1D214	= vocal second sharp of d
22	Ϟ	Greek Vocal Notation Symbol 22	1D215	= vocal e
23	Ϛ	Greek Vocal Notation Symbol 23	1D216	= vocal first sharp of e  This is a modification of 0392, and is therefore not the same as 0052
24	ϛ	Greek Vocal Notation Symbol 24	1D217	= vocal second sharp of e
25	Ϝ	Greek Vocal Notation Symbol 50	1D218	= vocal first sharp of g´
26	ϝ	Greek Vocal Notation Symbol 51	1D219	= vocal second sharp of g´
27	Ϟ	Greek Vocal Notation Symbol 52	1D21A	= vocal a´
28	Ϛ	Greek Vocal Notation Symbol 53	1D21B	= vocal first sharp of a´
29	ϛ	Greek Vocal Notation Symbol 54	1D21C	= vocal second sharp of a´ · Greek Instrumental Notation Symbol 20 = instrumental first sharp of d
<b>Ancient Greek Instrumental Notation</b>				
30	Α	Greek Instrumental Notation Symbol 1	1D21D	= instrumental E
31	Β	Greek Instrumental Notation Symbol 2	1D21E	= instrumental first sharp of e
32	Γ	Greek Instrumental Notation Symbol 4	1D21F	= instrumental F
33	Δ	Greek Instrumental Notation Symbol 5	1D220	= instrumental first sharp of F
34	Ε	Greek Instrumental Notation Symbol 7	1D221	= instrumental G
35	Ϝ	Greek Instrumental Notation Symbol 8	1D222	= instrumental first sharp of G
36	ϝ	Greek Instrumental Notation Symbol 11	1D223	= instrumental first sharp of A
37	Ϟ	Greek Instrumental Notation Symbol 12	1D224	= Instrumental second sharp of A
38	Ϛ	Greek Instrumental Notation Symbol 13	1D225	= instrumental B
39	ϛ	Greek Instrumental Notation Symbol 14	1D226	= instrumental first sharp of B
40	Ϝ	Greek Instrumental Notation Symbol 17	1D227	= instrumental first sharp of c
41	ϝ	Greek Instrumental Notation Symbol 18	1D228	= instrumental second sharp of c
42	Ϟ	Greek Instrumental Notation Symbol 19	1D229	= instrumental d
43	Ϛ	Greek Instrumental Notation Symbol 23	1D22A	= instrumental first sharp of e
44	ϛ	Greek Instrumental Notation Symbol 24	1D22B	= instrumental second sharp of e
45	Ϝ	Greek Instrumental Notation Symbol 25	1D22C	= instrumental f
46	ϝ	Greek Instrumental Notation Symbol 26	1D22D	= instrumental first sharp of f
47	Ϟ	Greek Instrumental Notation Symbol 27	1D22E	= instrumental second sharp of f
48	Ϛ	Greek Instrumental Notation Symbol 29	1D22F	= instrumental first sharp of g
49	ϛ	Greek Instrumental Notation Symbol 30	1D230	= instrumental second sharp of g
50	Ϝ	Greek Instrumental Notation Symbol 32	1D231	= instrumental first sharp of a
51	ϝ	Greek Instrumental Notation Symbol 36	1D232	= instrumental second sharp of b
52	Ϟ	Greek Instrumental Notation Symbol 37	1D233	= instrumental c´
53	Ϛ	Greek Instrumental Notation Symbol 38	1D234	= instrumental first sharp of c´
54	ϛ	Greek Instrumental Notation Symbol 39	1D235	= instrumental second sharp of c´
55	Ϝ	Greek Instrumental Notation Symbol 40	1D236	= instrumental d´
56	ϝ	Greek Instrumental Notation Symbol 42	1D237	= instrumental second sharp of d´



57	⏏	Greek Instrumental Notation Symbol 43	1D238	= instrumental e´
58	⏏	Greek Instrumental Notation Symbol 45	1D239	= instrumental second sharp of e´
59	/	Greek Instrumental Notation Symbol 47	1D23A	= instrumental first sharp of f´ Similar but not identical to 002F
60	\	Greek Instrumental Notation Symbol 48	1D23B	= instrumental second sharp of f´ Similar but not identical to 005C
61	⏏	Greek Instrumental Notation Symbol 49	1D23C	= instrumental g´
62	/	Greek Instrumental Notation Symbol 50	1D23D	= instrumental first sharp of g´
63	\	Greek Instrumental Notation Symbol 51	1D23E	= instrumental second sharp of g´
64	⏏	Greek Instrumental Notation Symbol 52	1D23F	= instrumental a´
65	/	Greek Instrumental Notation Symbol 53	1D240	= instrumental first sharp of a´
66	\	Greek Instrumental Notation Symbol 54	1D241	= instrumental second sharp of a´
<b>Further Greek Musical Notation Symbols</b>				
67	⏏	Greek Musical Triseme	1D242	Nonspacing
68	⏏	Greek Musical Tetraseme	1D243	Nonspacing
69	⏏	Greek Musical Pentaseme	1D244	Nonspacing
70	⏏	Greek Musical Leimma	1D245	

**TABLE 1D200-1D25F: ARCHAIC GREEK MUSICAL NOTATION**

	1D20	1D21	1D22	1D23	1D24
0	 1D200	 1D210	 1D220	 1D230	 1D240
1	 1D201	 1D211	 1D221	 1D231	 1D241
2	 1D202	 1D212	 1D222	 1D232	 1D242
3	 1D203	 1D213	 1D223	 1D233	 1D243
4	 1D204	 1D214	 1D224	 1D234	 1D244
5	 1D205	 1D215	 1D225	 1D235	 1D245
6	 1D206	 1D216	 1D226	 1D236	 1D246
7	 1D207	 1D217	 1D227	 1D237	 1D247
8	 1D208	 1D218	 1D228	 1D238	 1D248
9	 1D209	 1D219	 1D229	 1D239	 1D249
A	 1D20A	 1D21A	 1D22A	 1D23A	 1D24A
B	 1D20B	 1D21B	 1D22B	 1D23B	 1D24B
C	 1D20C	 1D21C	 1D22C	 1D23C	 1D24C
D	 1D20D	 1D21D	 1D22D	 1D23D	 1D24D
E	 1D20E	 1D21E	 1D22E	 1D23E	 1D24E
F	 1D20F	 1D21F	 1D22F	 1D23F	 1D24F

**TABLE 1D200-1D24F: ARCHAIC GREEK MUSICAL NOTATION**

hex	Name	hex	Name
1D200	Greek Vocal Notation Symbol 1	1D240	Greek Instrumental Notation Symbol 53
1D201	Greek Vocal Notation Symbol 2	1D241	Greek Instrumental Notation Symbol 54
1D202	Greek Vocal Notation Symbol 3	1D242	Greek Musical Triseme
1D203	Greek Vocal Notation Symbol 4	1D243	Greek Musical Tetraseme
1D204	Greek Vocal Notation Symbol 5	1D244	Greek Musical Pentaseme
1D205	Greek Vocal Notation Symbol 6	1D245	Greek Musical Leimma
1D206	Greek Vocal Notation Symbol 7		
1D207	Greek Vocal Notation Symbol 8		
1D208	Greek Vocal Notation Symbol 9		
1D209	Greek Vocal Notation Symbol 10		
1D20A	Greek Vocal Notation Symbol 11		
1D20B	Greek Vocal Notation Symbol 12		
1D20C	Greek Vocal Notation Symbol 13		
1D20D	Greek Vocal Notation Symbol 14		
1D20E	Greek Vocal Notation Symbol 15		
1D20F	Greek Vocal Notation Symbol 16		
1D210	Greek Vocal Notation Symbol 17		
1D211	Greek Vocal Notation Symbol 18		
1D212	Greek Vocal Notation Symbol 19		
1D213	Greek Vocal Notation Symbol 20		
1D214	Greek Vocal Notation Symbol 21		
1D215	Greek Vocal Notation Symbol 22		
1D216	Greek Vocal Notation Symbol 23		
1D217	Greek Vocal Notation Symbol 24		
1D218	Greek Vocal Notation Symbol 50		
1D219	Greek Vocal Notation Symbol 51		
1D21A	Greek Vocal Notation Symbol 52		
1D21B	Greek Vocal Notation Symbol 53		
1D21C	Greek Vocal Notation Symbol 54		
1D21D	Greek Instrumental Notation Symbol 1		
1D21E	Greek Instrumental Notation Symbol 2		
1D21F	Greek Instrumental Notation Symbol 4		
1D220	Greek Instrumental Notation Symbol 5		
1D221	Greek Instrumental Notation Symbol 7		
1D222	Greek Instrumental Notation Symbol 8		
1D223	Greek Instrumental Notation Symbol 11		
1D224	Greek Instrumental Notation Symbol 12		
1D225	Greek Instrumental Notation Symbol 13		
1D226	Greek Instrumental Notation Symbol 14		
1D227	Greek Instrumental Notation Symbol 17		
1D228	Greek Instrumental Notation Symbol 18		
1D229	Greek Instrumental Notation Symbol 19		
1D22A	Greek Instrumental Notation Symbol 23		
1D22B	Greek Instrumental Notation Symbol 24		
1D22C	Greek Instrumental Notation Symbol 25		
1D22D	Greek Instrumental Notation Symbol 26		
1D22E	Greek Instrumental Notation Symbol 27		
1D22F	Greek Instrumental Notation Symbol 29		
1D230	Greek Instrumental Notation Symbol 30		
1D231	Greek Instrumental Notation Symbol 32		
1D232	Greek Instrumental Notation Symbol 36		
1D233	Greek Instrumental Notation Symbol 37		
1D234	Greek Instrumental Notation Symbol 38		
1D235	Greek Instrumental Notation Symbol 39		
1D236	Greek Instrumental Notation Symbol 40		
1D237	Greek Instrumental Notation Symbol 42		
1D238	Greek Instrumental Notation Symbol 43		
1D239	Greek Instrumental Notation Symbol 45		
1D23A	Greek Instrumental Notation Symbol 47		
1D23B	Greek Instrumental Notation Symbol 48		
1D23C	Greek Instrumental Notation Symbol 49		
1D23D	Greek Instrumental Notation Symbol 50		
1D23E	Greek Instrumental Notation Symbol 51		
1D23F	Greek Instrumental Notation Symbol 52		