

ISO
INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ORGANISATION INTERNATIONALE DE NORMALIZATION

ISO/IEC JTC1/SC2/WG2
Universal Multiple-Octet Coded Character Set (UCS)

ISO/IEC JTC1/SC2/WG2 N 1582
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Title:	3rd revision of a proposal concerning inclusion into ISO/JTC1 10646-1 of the Repertoire of Greek Byzantine Musical Notation System
Source:	ELOT, the Hellenic Standards Body
Action:	For SC2/WG2 decision
Distribution:	SC2/WG2 members

Please find attached a third revision of the proposal concerning the Greek_ Byzantine Musical notation system. as requested by SC2/WG2 at the Copenhagen meeting.

The Hellenic Organization for Standardization submits the attached list of characters for inclusion into ISO/IEC 10646-1. The name of this list is "Greek-Byzantine musical signs". The Hellenic National Technical Committee ELOT TE74 and especially its Working Group 5, which deals with this issue, have prepared the proposal.

In this third revision we have tried to address the comments delivered to us during the discussion of this script in various meetings of JTC1/SC2 in a different way. No more background and supporting material will be distributed to the members of ISO/JTC1/SC2, as according to our understanding, the documents already distributed, e.g. documents N1208 and N1375, cover this issue satisfactorily.

Instead, ELOT, the Hellenic Organization for Standardization, has decided to prepare a draft Hellenic Standard, ΣΕΠ ΕΛΟΤ 1373, containing the information needed for the repertoire and coding of Greek_ Byzantine Musical Signs. ELOT submits a translation of this draft Hellenic Standard as the sole supporting document of this revised proposal.

In the draft ΕΛΟΤ 1373, the SC2 members will find no major changes from the repertoire of the last version of our proposal. The repertoire has been regrouped to better reflect its internal structure and, following some comments from delegates, small modifications to the names of characters have been done. Since there are no major changes in this third version, and since clarifications have been already given in several meetings of the past we kindly ask SC2/WG2 members to consider again this application in the Crete meeting, June/July 97.

Yours, Sincerely,



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THE GREEK BYZANTINE MUSICAL NOTATION SYSTEM

1 SCOPE AND FIELD OF APPLICATION

This Hellenic Standard specifies a set of 246 coded graphic characters identified as Greek Byzantine Musical Signs.

This set of graphic characters is intended for use in Information Technology applications dealing with the Greek Byzantine Music, such as musical applications, data and text processing of musical documents, conversion between different musical systems and typography. It can also be used for relevant information interchange.

Since this Hellenic Standard mainly identifies a repertoire of graphic characters, it does not impose any particular restrictions on its coding. Thus, this set of graphic characters can be used in any coding environment, like for example the ISO/IEC 2022 environment, as a part of ISO/IEC 8859 or as registered sets according to ISO 2375, or in the ISO/IEC 10646 environment. It must be noted though, that this Standard has been prepared using ISO/IEC 10646-1 as a basis.

2 CONFORMANCE

The conformance clause (clause 2) of ISO/IEC 10646-1:1993 applies.

Note 1: If this set is used in an 8-bit environment, then the relevant conformance clauses from ISO/IEC 8859 and ISO/IEC 2022 apply.

3 NORMATIVE REFERENCES

The following standards contain provisions which, through reference in this text, constitute provisions of this Hellenic Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on the Hellenic Standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. ELOT maintains registers of currently valid International Standards.

ISO/IEC 2022: Information technology – Character code structure and extension techniques.

ISO/IEC 4873: Information technology - ISO 8-bit code for information interchange - Structure and rules for implementation

ISO/IEC 6429: Information technology – Control functions for coded character sets.

ISO/IEC 10646-1: Information technology - Universal Multiple – Universal multiple coded Character Set (UCS) - Part 1: Architecture and Basic Multilingual Plane

4 DEFINITIONS

For the purposes of this Hellenic Standard the definitions of section 4 of ISO/IEC 10646-1 apply.

5. Guidelines on the layout of the code table and list of names. Guidelines on the use of characters.

5.1 Layout of the code table.

Since the exact coding of the graphic character set defined in this Standard is not yet known (pending registration in relevant International Standards), the code tables have been constructed in an abstract way. The final code positions will appear in the final version of this Hellenic Standard.

The code table defined consists of 256 positions, arranged in 16 columns and 16 rows, thus occupying one Row of ISO/IEC 10646-1. The columns and the rows are numbered 0 to F (in Hex notation).

Each graphic character is thus identified within the code table by a *xy* notation, where *x* is the column number and *y* is the row number.

5.2 List of names.

This Hellenic Standard assigns a unique name to each graphic character. The guidelines of Annex K of ISO/IEC 10646-1 have been used in the construction of the names of characters.

The names chosen to denote the graphic characters are intended to reflect their customary meaning. The graphic characters defined in this Standard are uniquely identified by their names, and, in the final version, by their UCS, or other, identifiers.

The glyphs used in the code table can be considered as typical optical representations of the corresponding graphic characters. However, this Hellenic Standard does not attempt to define the exact representation of each character, or a particular style or font design, since this issue is outside of its scope.

This Hellenic Standard also does not define and does not restrict the meanings of graphic characters.

5.3 Guidelines on the use of the Greek_ Byzantine Music Signs.

5.3.1 This Hellenic Standard is not meant to be a complete handbook of the Greek Byzantine Music. Anyone wishing to know the details of the use of the Byzantine Musical Signs should consult the bibliography in Annex A and possibly, other relevant books.

5.3.2 Grouping of signs.

In the coding table the graphic characters (musical signs) have been grouped according to their function, in the following categories:

No.	Group name (transcribed)	Code position	Group name (original)
a.	<i>Prosodies</i>	00-02	Προσωδιες
b.	<i>Ekfontika</i>	03-14	Εκφωνητικά
c.	<i>Melodimata</i>	15-45	Μελωδήματα
d.	<i>Phonitika</i>	46-56	Φωνητικά
e.	<i>Aphona or Ypostaseis</i>	57-7E	Άφωνα ή Υποστάσεις
f.	<i>Argies</i>	7F-89	Άργιες
g.	<i>Leimmata or Siopes</i>	8A-8E	Λείμματα ή σιωπές
h.	<i>Synagmata or Gorgotites</i>	8F-99	Συνάγματα ή Γοργότητες
i.	<i>Agogika</i>	9A-A1	Αγωγικά
j.	<i>Ichimata and Martyrika</i>	A2-B4	Ηχήματα και Μαρτυρικά
k.	<i>Fthores</i>	B5-C9	Φθορές
l.	<i>Alloioiseis</i>	CA-D8	Αλλοιώσεις
m.	<i>Rythmika</i>	D9-E4	Ρυθμικά
n.	<i>Grammata</i>	E5-EF	Γράμματα
o.	<i>Specials</i>	F0-F5	Ειδικά

5.3.2 Relative position of signs (the three-stripe effect).

The Byzantine musical signs are treated more or less like ordinary characters. There are signs that can be combined and there are standalone signs. Like ordinary diacritical marks and characters, there are basic signs, and signs that appear above or below the basic signs.

Thus the Greek Byzantine Musical Notation System makes use of the so-called "three_stripe" effect. There are signs that appear in the **Middle or Basic Stripe (MS)**, and there are characters that can be stacked either horizontally or vertically in the **Upper Stripe (US)** or in the **Lower Stripe (LS)**. There are also some signs known as musical characters (MC), which appear in the textual part of the notation system. Signs can appear in each stripe in combinations or as standalone characters. Table 1 is used to identify the stripe in which every character may appear.

Just because signs in the upper or lower stripe may interact in presentation, it is necessary to apply the rules of ISO 10646-1, section 23.3, in the CC-data-element produced. In short, the way the combining characters are stacked is determined by the order of the coded representations of the combining characters. Also, the appropriate control characters for presentation (like for example the SPD) from ISO/IEC 6429, may be used.

A brief explanation of the use of each stripe is given below, while more information can be found in the bibliography (Annex A).

Note 3: The following paragraphs (5.3.2.1 to 5.3.2.3) merely explain, in textual form, the same information that appears in table 1.

- 5.3.2.1 The "*Phonitika*" (phonetic) signs are placed in the **Middle Stripe**, i.e. those that indicate lowering or increasing of the voice. These signs belong either to the Proto-Byzantine or to Middle and Post-Byzantine periods. They can be used either in combinations (especially the signs of the Middle or the Modern period) or as standalone characters, and they are found always in the middle stripe. "*Leimmata* or *Siopes*" and "*Ichimata* and *Martyrika*" are also placed in the Middle Stripe, along with one sign from "*Aphona* or *Ipostaseis*", which is VAREIA.
- 5.3.2.2 Signs identified as "non-vocal" ("*Aphona* or *Ipostaseis*") are placed in the **Lower Stripe**, except VAREIA, as mentioned above. Three of these signs (namely PARAKLITIKI, ANTIKENOMA and PIASMA) may also be placed in the Upper Stripe, for orthography reasons. The "non-vocal" signs can not be combined with each other and are found only as standalone characters in the Lower Stripe. These signs are used as attributes to the phonetic signs that are in the Middle Stripe above them, in cases of course that such a vertical combination of phonetic and "non-vocal" signs is appropriate. Also, "*Argies*" must be placed in the Lower Stripe, as well as some signs (signs representing some sort of diesis) from "*Fthores*".
- 5.3.2.3 "*Synagmata* or *Gorgotites*" are placed in the **Upper Stripe**. These signs indicate collections of 2 or 3 phonetic signs in one tempo. These are signs indicating fast or slow tempo, signs indicating changes in tempo etc. Also, as mentioned before, some "non-vocal" signs (namely PARAKLITIKI, ANTIKENOMA and PIASMA) may also be placed in the Upper Stripe. Most of the signs belonging to "*Fthores*" (e.g. yfesis signs etc.) and "*Agogika*" must also be placed in the Upper Stripe.

6. Coded representation of characters

This Hellenic Standard specifies 246 characters allocated to the various positions of the code table (table 1).

The repertoire of the graphic characters defined in this Standard is to be proposed to ISO/JTC1/SC2, to become a new and separate collection of graphic characters in ISO 10646-1, under the provisional name "Greek Byzantine Musical Signs". When this is accomplished, the correct and final notation will substitute the notation mentioned in paragraph 5.1.

ANNEX A

BIBLIOGRAPHY

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17. Psachou : I parasimantiki tis Byzantinis mousikis (1917)